27

STANDING COMMITTEE ON COMMUNICATIONS AND INFORMATION TECHNOLOGY (2025-26)

EIGHTEENTH LOK SABHA

MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY

‘IMPACT OF EMERGENCE OF ARTIFICIAL INTELLIGENCE AND RELATED ISSUES’

TWENTY-SEVENTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI

March, 2026/ Chaitra, 1948 (Saka)

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MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY

'IMPACT OF EMERGENCE OF ARTIFICIAL INTELLIGENCE AND RELATED ISSUES'

Presented to Lok Sabha on. 30.03.2026

Laid in Rajya Sabha on 30.03.2026

LOK SABHA SECRETARIAT

NEW DELHI

March, 2026/ Chaitra, 1948 (Saka)

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Composition of the Standing Committee on Communications and Information Technology (2024-25)

Dr. Nishikant Dubey - Chairperson
Lok Sabha

2. Shri C.N. Annadurai
3. Shri Anil Baluni
4. Dr. Rabindra Narayan Behera
5. Shri Anup Sanjay Dhotre
6. Shri Gurmeet Singh Meet Hayer
7. Shri Sanjay Haribhau Jadhav
8. Shri S. Supongmeren Jamir
9. Shri Appalanaidu Kalisetti
10. Smt. Poonamben Hematbhai Maadam
11. Ms. Mahua Moitra
12. Shri G. Kumar Naik
13. Shri Shafi Parambil
14. Dr. M.K. Vishnu Prasad
15. Ms. Kangna Ranaut
16. Shri Radheshyam Rathiya
17. Shri Ramasahayam Raghuram Reddy
18. Shri Arun Kumar Sagar
19. Shri Devesh Shakya
20. Shri Vishnu Datt Sharma
21. Shri Rajesh Verma

Rajya Sabha

22. Shri Saket Gokhale*****
23. Smt. Priyanka Chaturvedi
24. Shri Ilaiyaraaja
25. Shri Amar Pal Maurya
26. Dr. Sasmit Patra
27. Shri V. Vijayendra Prasad
28. Shri S. Niranjan Reddy
29. Shri Kartikeya Sharma
30. Shri Lahar Singh Siroya
31. Shri K.T.S. Tulsi

Committee constituted w.e.f. 26th September, 2024 vide Para No.833 of Bulletin Part-II dated 26th September, 2024.

* Shri Saket Gokhalehas been nominated *vide* Para No. 853 of Bulletin Part –II dated 03rd October, 2024.

Composition of the Standing Committee on Communications and Information Technology (2025-26)

Dr. Nishikant Dubey - Chairperson

Lok Sabha

2. Shri C.N. Annadurai
3. Shri Anil Baluni
4. Dr. Rabindra Narayan Behera
5. Shri Anup Sanjay Dhotre
6. Shri Gurmeet Singh Meet Hayer
7. Shri Sanjay Haribhau Jadhav
8. Shri S. Supongmeren Jamir
9. Shri Appalanaidu Kalisetti
10. Smt. Poonamben Hematbhai Maadam
11. Shri G. Kumar Naik
12. Shri Shafi Parambil
13. Dr. M.K. Vishnu Prasad
14. Ms. Kangna Ranaut
15. Shri Radheshyam Rathiya
16. Shri Ramasahayam Raghuram Reddy
17. Shri Arun Kumar Sagar
18. Shri Devesh Shakya
19. Shri Vishnu Datt Sharma
20. Shri Rajesh Verma
21. Vacant

Rajya Sabha

22. Smt. Priyanka Chaturvedi
23. Shri Saket Gokhale
24. Shri Sujeet Kumar
25. Shri Amar Pal Maurya
26. Dr. Sasmit Patra
27. Shri Kanad Purkayastha
28. Shri S. Niranjan Reddy
29. Shri Kartikeya Sharma
30. Shri Lahar Singh Siroya
31. Shri K.T.S. Tulsi

SECRETARIAT

1.	Shri Harish Chandra Bist	—	Joint Secretary
2.	Smt. A. Jyothirmayi	—	Director
3.	Shri Salil Saroj	—	Under Secretary

Committee constituted w.e.f. 26th September, 2025 vide Para No.3282 of Bulletin Part-II dated 01st October, 2025.

INTRODUCTION

I, the Chairperson, Standing Committee on Communications and Information Technology (2025-26), having been authorized by the Committee to present the Twenty Seventh Report on the subject 'Impact of emergence of Artificial Technology and related issues' relating to the Ministry of Electronics and Information Technology.

2. The Standing Committee on Communications and Information Technology (2025-26) selected this subject for detailed examination and Report to the Parliament. The representatives of the Ministry of Electronics and Information Technology deposed before the Committee on 9th January, 2025. The representatives of the Ministry of Electronics and Information Technology, Ministry of New and Renewable Energy, Department of Financial Services and Department of Revenue deposed before the Committee on the subject on 5th March, 2025. On 26th June, 2025 the representatives of the Ministry of Electronics and Information Technology, Ministry of Home Affairs, Ministry of Defence and Defence Research and Development Organisation and Ministry of Power deposed before the Committee on the subject. The representatives of the Ministry of Electronics and Information Technology, Department of Telecommunications alongwith representatives from Ministry of Tourism, Ministry of Culture, Department of Legal Affairs, Department of Agriculture and Farmers Welfare and Department of Sports deposed before the Committee on the subject on 5th January, 2026. On 27th January, 2026 the representatives of the Ministry of Electronics and Information Technology, with representatives from Ministry of Civil Aviation, Airport Authority of India, Directorate General of Civil Aviation, Bureau of Civil Aviation Security, Ministry of Corporate Affairs, Serious Fraud Investigation Office, Department of Revenue, Directorate of Enforcement, Central Board of Direct Taxes, Central Board of Indirect Taxes and Customs, Department of Personnel and Training and Central Bureau of Investigation deposed before the Committee on the subject.

3. The Committee at their Sitting held on 27th March, 2026 considered and adopted the Report.

4. The Committee wish to express their thanks to the representatives of all the Ministries for furnishing written information/ views and/ or appearing before the Committee, which was of immense help in the examination of the Subject and Report.

5. The Committee also place on record their appreciation for the invaluable assistance rendered by the officials of Lok Sabha Secretariat attached to the Committee.

6. For facility of reference and convenience the Observations/Recommendations of the Committee have been printed in bold in Part-II of the Report.

New Delhi;
27 March, 2026
6 Chaitra, 1948 (Saka)

DR. NISHIKANT DUBEY,
Chairperson,
Standing Committee on
Communications and Information Technology.

REPORT
Part-I
(Narration Analysis)

CHAPTER-I

Introductory

The emergence of Artificial Intelligence (AI) offers a powerful means to overcome traditional developmental constraints and drive socio-economic progress at an unprecedented scale. AI has proven to be instrumental in supporting inclusive development, enhancing public service delivery, refining policy-making, and increased citizen engagement.AI stands as a cornerstone in India's efforts to achieve its ambitious economic and societal goals, with an estimated contribution of upto $ 500 billion to India's GDP by 2025. Recognizing the transformative potential offered by AI, the Government of India has undertaken concrete steps to encourage the domestic adoption of AI in a responsible manner and build public trust in the use of this technology, placing the idea of 'AI for All' at its very core. The productivity gains offered by leveraging AI as well as its potential to empower citizen participation in governance has made it ubiquitous in India's approach to governance and public service delivery.

2. Recognizing the importance of promoting the growth of the domestic AI innovation ecosystem, India intends to adopt a balanced approach to the governance of AI. Striking the delicate balance between ensuring adequate safeguards for protecting citizen interests and fostering innovation is paramount to harnessing the full potential of AI while safeguarding against unintended consequences.

3. The Government of India is pioneering the approach of harnessing the power of AI for social good, applying AI in education, healthcare, agriculture, languages, and other critical sectors:

- UMANG (Unified Mobile Application for New-Age Governance): UMANG serves as a unified platform, offering all Indian citizens a singular point of access to pan India e-government services, spanning from central to local government bodies. The platform provides access to 1836 vital government services encompassing a wide spectrum of areas such as education, COVID-19 vaccinations, public transport, employment guidance, passport applications, utilities, cybercrime reporting, and more.
- DigiYatra: The DigiYatra initiative, spearheaded by the Ministry of Civil Aviation, marks a revolutionary step towards leveraging artificial intelligence (AI) to enhance the air travel experience for Indian citizens. The DigiYatra initiative, implemented through the DigiYatra App, revolutionizes the air travel experience with a seamless registration process. The streamlined process is

expected to enhance airport throughput, providing a more efficient and secure travel experience for passengers while minimizing queuing times and maximizing the utilization of resources.

- Digital India Bhashini: Digital India Bhashini (National Language Translation Mission) is an initiative launched by the Ministry of Electronics and Information Technology that aims to build speech-to-speech machine translation systems for various Indian languages and dialects and evolve a Unified Language Interface (ULI). The mission will work towards creating a 'voice-based internet' that is accessible in vernacular Indian languages and building multilingualism as well by developing the next generation of 'conversational' government apps and websites.
- NAYAN AI (Urban Governance): NAYAN AI has collaborated with various government departments in India, such as Delhi Police, the Ministry of Road Transport and Highways, and the Ministry of Micro, Small and Medium Enterprises to provide near real-time monitoring of traffic and infrastructure of the city. The AI model for infrastructure and traffic monitoring employs advanced image recognition and sensor data analysis to detect and report issues such as potholes, damaged manhole covers, non-functional traffic lights and streetlights.
- ATMAN AI: DRDO's Centre for Artificial Intelligence and Robotics (CAIR) developed ATMAN AI, an AI-based-COVID detection application software using chest X-rays (CXRs) which can classify the images into normal, COVID-19 and pneumonia classes using a limited number of sample images. This secure, web-based solution was developed to optimise chest X-rays for rapid detection of COVID-19 triggered lung abnormalities.
- AI-Based Attendance Monitoring (Shiksha Setu): The Government of Assam has developed a mobile application called 'Shiksha Setu' for recording the digital attendance of both students and teachers. Through this system proxy attendance has been eliminated, and teachers who used to either not come to school or arrive late now attend punctually. The system has also identified and removed 4 lakh ghost students. This has resulted in significant cost savings for the government in PM Poshan, school uniforms, and textbook supplies.

4. Artificial Intelligence is a kinetic enabler to leapfrog traditional development barriers and catalyse large-scale socio-economic transformation in the country. AI is expected to add 47 Lakh new tech jobs by 2027 in India. AI is expected to add USD $ 967 Billion to the Indian economy by 2035 accounting for 10% of the country’s USD 5 trillion GDP target. AI became a national priority with the NITI Aayog’s National Strategy for AI (2018), promoting AI-driven innovation in healthcare, agriculture, education, and governance.Since then India has taken major, formative steps towards facilitating the creation of a world-leading ecosystem for Trustworthy AI, particularly with the launch of the IndiaAI Mission in March 2024.

The success of the government's initiatives and approach is evident from India's **rising position in global AI rankings and indexes.**

- India is ranked at 4th position in the Global AI leaders after US, China & UK as per the report of the Stanford AI Index 2024 published by Stanford Institute for Human-Centreed AI which is measures a country's AI ecosystem on key indicators including research papers, private investment, patents, and more. Our Country has been ranked **1st for AI Skill Penetration and 1st in Number of GitHub AI Projects as per the Stanford AI Index report 2024.**

- Furthermore, in the **Tortoise Global Artificial Intelligence Index 2024, India has entered the top ten for the first time, improving its ranking from 14th in 2023 to 10th globally.** This remarkable advancement is attributed to India's strong and diverse AI workforce, supported by favourable demographics and academic excellence.

- <u>Rising Digitisation and Data Potential</u>

  - India is the largest connected nation with more than 900 million internet users – second largest online market in the world;
  - Implementation of Digital Programmemes is at the Population Scale; eg. Aadhaar is the largest biometric ID system in the world

- <u>Large Technical Talent Pool</u>

  - India ranks 1st in AI skill penetration – Stanford AI Index 2023 and 2024
  - India hosts second largest talent pool of highly-skilled AI, machine learning and big data talent

- Growing Start-up & Innovation Ecosystem

  - India ranks 5th in the Number of Newly Funded AI Companies by Geographic Area – Stanford AI Index 2023
  - India's AI leadership collectively raised $760 million for generative AI start-ups in the first half of 2024 (Statista).

- <u>Emerging Digital Infrastructure</u>

India's notable achievements in the recently released **Network Readiness Index 2024** include:

  - **1st Rank:** AI Scientific Publications, AI Talent Concentration and ICT

Services Exports

- **2nd Rank:** FTTH (Fiber to the Home) / Building Internet Subscriptions, Mobile Broadband Internet Traffic within the Country, International Internet Bandwidth

The government's extensive initiatives such as IndiaAI Mission, Digital India, BharatNet, and Startup India, along with its forward-looking Bharat 6G Vision, play an instrumental role in positioning India as a global leader in the digital realm.

5. When the Committee asked the Ministry about the roadmap of investments in AI, itwas submitted by the Ministry that:

> "The IndiaAI Mission was approved by Union Cabinet led by Hon'ble Prime Minister Shri Narendra Modi ji on 7th March 2024 with a total outlay of Rs. 10,371.92 Cr for a period of 5 years. The mission is driven by a vision to position India as a global leader in artificial intelligence by focussing on seven key pillars:

i. **IndiaAI Compute**: The IndiaAI compute pillar envisions building a high-end scalable AI computing ecosystem comprising AI compute infrastructure of 10,000 or more Graphics Processing Units (GPUs).
ii. **IndiaAI Innovation Centre (IAIC):** The AI Innovation centre aims to develop and deploy indigenous Large Multimodal Models (LMMs) trained on India-specific data.
iii. **IndiaAI Datasets Platform:** The IndiaAI Datasets Platform (IDP) seeks to enhance access, quality, and utilization of public sector datasets to make them AI-ready.
iv. **IndiaAI Application Development Initiative:** The IndiaAI Application Development Initiative aims to develop, scale, and promote the adoption of impactful AI solutions to effectively tackle significant problem statements.
v. **IndiaAI FutureSkills:** IndiaAI FutureSkills Pillar envisions augmenting the number of graduates, post-graduate and PhDs in AI domain. Further, it envisions setting up Data and AI Labs in Tier 2 and Tier 3 cities across India, to impart foundational-level courses in Data and AI.
vi. **IndiaAI Startup Financing:** For providing support to AI startups at all stages.
vii. **Safe & Trusted AI**: This pillar enables the implementation of Responsible AI projects including the development of indigenous tools and frameworks, self-assessment checklists for innovators, and other guidelines and governance frameworks".

The budget allocated for five years across the seven pillars is as follows:

Components	Total Expenditure (₹ Cr)
IndiaAI Compute Capacity	4563.36
IndiaAI Innovation Centre (IAIC)	1971.37

IndiaAI Datasets Platform	199.55
IndiaAI Application Development Initiative	689.05
IndiaAI FutureSkills	882.94
IndiaAI Startup Financing	1942.5
Safe & Trusted AI	20.46
IndiaAI Overheads and Contingency @1%	102.69
Total	10,371.92

6. When the Committee asked the Ministry about the sectors that are going to be impacted hugely by the advent of AI and subsequently its utilization in day-to-day works, the Ministry provided the following:

- "Government has published the National Strategy for Artificial Intelligence (NSAI) in June 2018 and proposes to develop an ecosystem for the research and adoption of Artificial Intelligence. The NSAI emphasizes the potential of AI to solve social challenges faced by its citizens in areas such agriculture, health, education, Smart Cities and Infrastructure and Smart Mobility and Transportation etc.
- To build AI use cases for large scale socio-economic transformation in such operational areas, IndiaAI has launched the **first Innovation Challenge** in August 2024 to address problem statements in **5 critical sectors**, namely, Agriculture, Healthcare, Governance, Assistive technologies for learning disabilities, and Climate Change and disaster management for 13 problem statements.
- **IndiaAI CyberGuard AI Hackathon:** An AI Hackathon launched in partnership with the Indian Cybercrime Coordination Centre (I4C) to create AI-driven solutions for cybersecurity has been launched on 16th October 2024. This initiative which has received 263 responses, seeks to leverage advanced AI technologies like Natural Language Processing (NLP) and predictive analytics to guide citizens in filing cybercrime reports on the National Cyber Crime Reporting Portal (NCRP)".

7. The Committee when asked the Ministry to elaborate upon the role which AI can play in contributing towards India's economic growth, development and technological innovations in important sectors like finance, industry, healthcare, agriculture, and education, the following submission was made:

"India is consistently leveraging AI to drive economic growth, development, and technological innovation across critical sectors such as finance, industry,

healthcare, agriculture, and education through active government support, public-private collaborations, and significant investments in research and development for cutting edge technologies.

AI is expected to add USD 967 billion to the Indian economy by 2035 and USD 450–500 billion to India's GDP by 2025—accounting for 10% of the country's USD 5 trillion GDP target.

Finance:

- AI is playing a crucial role in enhancing financial inclusion and streamlining banking services in India. AI-powered tools enable personalised financial products, fraud detection, and risk assessment, making banking more accessible and secure for millions of citizens. The adoption of AI in fintech is revolutionising digital payments and lending, with platforms like **UPI and AI-driven** credit scoring systems empowering small businesses and individuals with easier access to credit and seamless transactions. Additionally, regulatory compliance and fraud prevention are being strengthened through AI, as banks and financial institutions deploy AI models to monitor transactions in real-time. ***InsurTech*** companies use technologies such as AI/ML, Internet of Things (IoT), etc. to develop and deliver customer-centric and efficient products at an affordable premium by minimizing the operation cost. These companies automate underwriting by processing customers' records, reports, etc. to evaluate their risk and develop products for them within no time, ensuring faster approval of applications. Insurance Regulatory and Development Authority (IRDAI) has played an active role in supporting innovation in the Insurance Sector with the introduction of Regulatory Sandbox in the year 2019. Pension Fund Regulatory and Development Authority (PFRDA) has envisioned a project comprising of automation of its internal processes, Regulatory and Supervisory framework and Data Analytics. PFRDA-TRACE (Tracking Reporting Analytics & Compliance e-Platform) is expected to facilitate efficient data processing, reduction in manual processes, document handling, analysis, reporting, retrieval, management, and reorganization through collaboration & automated workflows.

- In December, 2024 **RBI announced a Committee focussed on AI in finance** is called the "Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI)" Committee, which is tasked with developing a framework for the ethical adoption of AI in the financial sector.

Industry:

- India is integrating AI into manufacturing and supply chain management to boost productivity and efficiency. AI-driven predictive maintenance, quality control, and automation are reducing costs and improving output in industries such as automotive, textiles, and electronics. The government is promoting **AI-based start-ups and innovation hubs** under initiatives like **the National AI Strategy and Digital India**. The IndiaAI mission's Startup Financing Pillar

supports AI startups and innovation by creating funding mechanisms and fostering AI research in universities and industry.

Healthcare:

- AI is significantly improving healthcare accessibility and affordability in India. AI-powered diagnostic tools, telemedicine platforms, and predictive analytics are bridging the gap between urban and rural healthcare services. AI supports diagnostics, patient management, and operational efficiency in healthcare facilities. This can particularly address critical healthcare gaps in underserved areas.

- The government is supporting AI research for disease detection and treatment, with projects like **AI-based cancer screening and tuberculosis detection** saving lives and reducing the burden on healthcare infrastructure.

- India's **Ayushman Bharat Digital Mission (ABDM)** is catalysing AI to revolutionise the healthcare sector by creating a robust digital health ecosystem. The mission aims to develop AI-powered tools such as federated learning platforms and open benchmarking systems to enhance disease diagnosis and treatment planning by integrating AI with digital health infrastructure.

- Moreover, AI has been incredibly useful whilst being deployed for pandemic preparedness and management, as seen during the **COVID-19** crisis, where AI models were used to predict outbreaks and optimize vaccine distribution, enhancing India’s healthcare response capabilities.

Agriculture:

- AI is transforming India’s agriculture sector by empowering farmers with data-driven solutions. AI-based technologies like crop monitoring, weather forecasting, and soil health analysis are increasing yields and reducing risks for farmers. AI powered precision farming tools, pest and disease detection tools, supply chain management tools have potential to enhance agricultural productivity and sustainability.

- The government is promoting AI-driven agri-tech startups to provide farmers with real-time insights on market prices, pest control, and irrigation management. Furthermore, AI is enabling precision farming and sustainable practices, ensuring food security and reducing the environmental impact of agriculture, which is crucial for a country with a large agrarian economy.

Education:

- AI is transforming education and skill development in India by providing personalised learning experiences and addressing gaps in access to quality education. AI-powered platforms enable adaptive learning, catering to diverse learning needs and improving educational outcomes. Additionally, AI is being used to promote multilingual education and vocational training, empowering

students and workers with skills relevant to the 21st-century economy and strengthening India's human capital.

- Key government initiatives include the establishment of a Centre of Excellence in AI for Education, backed by a ₹500 crore allocation, which aims to enhance skill development and personalize learning experiences. The National Education Policy 2020 emphasizes integrating technology to modernize education, and AI is being introduced as a subject in school curricula across various States. Additionally, the All India Council for Technical Education (AICTE) has declared 2025 as the "Year of Artificial Intelligence," focussing on integrating AI into technical education to equip students with future-ready skills.

IndiaAI Innovation Challenge

- Under IndiaAI Application Development Initiative, the first set of 14 indicative problem statements has been **launched** on 13th August 2024 calling for development, deployment and adoption of AI applications in 5 critical sectors, namely, **Climate Change** and **disaster management, Healthcare, Agriculture, Governance, and Assistive technologies for learning disabilities.**

- The Innovation Challenge is open to Indian innovators, startups, non-profit organisations, students, academic/R&D organizations, and companies. Winners will receive up to **INR 1 Crore as award** and the opportunity to deploy their solutions at a national scale.

- A total of 900 applications were received. **30 teams have qualified for stage 2.** Each selected team has been awarded up-to INR 25 Lakhs to build/fine-tune their solution. Top 3 to qualify for final round and the winners will receive up to **INR 1 Crore as award** and the opportunity to deploy their solutions at a national scale".

8. When asked whether the Ministry consulted the organizations (public and private), which have already started using AI in its 'Core Business Affairs' and whether any study has been conducted on its impact, the Ministry stated as under:

"The Ministry of Electronics and Information Technology (MeitY) in India has actively engaged with both public and private organizations that have integrated Artificial Intelligence (AI) into their core business operations. MeitY has conducted studies and consultations to assess AI's impact across various sectors.

- The Government has constituted 7 expert groups to deliberate and prepare a design document on IndiaAI. The first edition of IndiaAI expert group report detailed out the operational aspects of establishing Centres of Excellence (CoEs) on AI, and the institutional framework on governing data collection, management, processing and storage by the National Data Management Office (NDMO). The report also recommends on how India can leverage its demographic dividend and play to its strengths as an IT superpower to further the penetration of IndiaAI skills in the

country, strengthening the IndiaAI compute infrastructure in India to support IndiaAI innovation through public-private partnerships (PPPs).

- Under the Safe and Trusted AI pillar, a **stakeholder consultation** including researchers, start-ups, and thinktanks was also held to evaluate the merits of establishing an **IndiaAI Safety Institute** to rigorously assess AI models, evaluate risks, and ensure effective safeguards.
- A multi-stakeholder advisory committee was **constituted by MeitY under the chairmanship of the Principal Scientific Advisor (PSA)** to provide guidance and recommendations on India's approach to governance of AI. **The report has now been published for public consultation** to guide the development of a trustworthy and accountable AI ecosystem in India.
- In January 2025, MeitY, in collaboration with UNESCO and other partners, organized a two-day consultation on **AI Readiness Assessment Methodology (RAM)**. The consultation aims to draft an India-specific AI policy report that identifies strengths and opportunities for growth within India's thriving AI ecosystem. This consultation involved various stakeholders, including representatives from public and private organizations utilizing AI".

9. The Committee noted the fact that Public governance and public services is an area which needs a major improvement in service delivery, efficiency and innovation. Hence, the Committee asked the Ministry to elaborate upon the role which AI can play in enhancing Public governance and public services delivery in the country. The Ministry replied:

> "Public governance and service delivery in India require significant improvements in efficiency, transparency, and innovation. Artificial Intelligence (AI) has the potential to revolutionize these areas by optimizing decision-making, streamlining processes, and enhancing citizen engagement. The IndiaAI Mission has recently come up with the AI Competency *Framework for Public Sector Leadership* which serves as a structured approach to integrate AI into governance effectively.
>
> AI is driving digital transformation in governance by enabling data-driven policymaking, automated public service delivery, and efficient resource management. Key areas of impact include:
>
> - AI-powered predictive analytics assists policymakers in resource allocation, public infrastructure planning, and disaster management.
> - AI-driven real-time monitoring systems enhance transparency and reduce corruption in public administration.
> - AI Chatbots & Virtual Assistants: Automating grievance redressal, reducing bureaucratic delays, and providing 24/7 citizen support (e.g., MyGov AI chatbot).
> - Automated Document Processing: AI simplifies verification for government schemes (e.g., Aadhaar authentication, tax filing, and subsidy disbursement).

- AI-driven cybersecurity measures help protect sensitive government data and citizen privacy.
- AI-powered telemedicine platforms provide healthcare access in remote areas.
- AI-based fraud detection ensures fair allocation of welfare benefits under schemes like PM Kisan and Ayushman Bharat.
- AI-driven case law analysis speeds up judicial processes.
- Automated document retrieval helps courts and legal departments manage case records efficiently.

India AI mission under its IndiaAI Application Development Initiative has been looking at developing population scale solutions to address these needs. Under the First round of the Innovation Challenge, 30 solutions were shortlisted under Climate, Healthcare, Governance, Agriculture and Learning Disabilities.

The Government of India is committed to responsible AI adoption, ensuring transparency, fairness, and accountability through:

- IndiaAI Safe & Trusted AI Pillar: Developing governance tools to audit AI algorithms and mitigate bias.
- Digital Personal Data Protection Act (DPDPA), 2023: Strengthening privacy laws to protect citizens from AI-driven risks.
- Inter-Ministerial AI Coordination Committee (IMACC): Overseeing AI deployment across sectors for public benefit".

10. When the Committee wanted to know about the steps taken/envisaged to be taken by the Ministry for the domestic adoption of AI, the Ministry replied:

"To promote the adoption of AI and to develop a robust, safe and trusted AI innovation ecosystem in the country, the Government has undertaken several initiatives as follows:

i). Government has published the National Strategy for Artificial Intelligence in June 2018 and proposes to develop an ecosystem for the research and adoption of Artificial Intelligence i.e. #AI for ALL.

ii). MeitY has undertaken implementation of IndiaAI Mission which is a comprehensive Programmeme for leveraging transformative technologies to foster inclusion, innovation and adoption for social impact as well as to make India a global leader in the Al space and ensure responsible and transformational use of Al for All. It aims to catalyze the AI innovation ecosystem in the country and help ensure the global competitiveness of India's Al startups, researchers and industry. The strategy is to bridge the gaps in the existing AI ecosystem viz-a-viz Compute infrastructure, Data, AI financing, Research and Innovation, targeted Skilling, developing foundational AI models, sector-specific AI projects

and institutional capacity for Data to maximize the potential of AI to advance India's progress.

iii). MeitY has established Centres of Excellence in various emerging technologies including Artificial Intelligence to explore opportunities in these specialized fields. These centres provide start-ups with premium plug-and-play co-working spaces and access to the ecosystem.

iv). MeitY has launched the "National AI Portal" (https://indiaai.gov.in/) which serves as a comprehensive repository of Artificial Intelligence (AI) initiatives in the country. The portal acts as a single point of reference for individuals, researchers, and industry professionals seeking information about AI initiatives in India, including academic research, startups, policy initiatives, and other related information.

v). GPAI is an international and multi-stakeholder initiative to guide the responsible development and use of AI, grounded in human rights, inclusion, diversity, innovation, and economic growth. India is a founding member of GPAI, having joined the multi-stakeholder initiative on June 15, 2020. Since then, India has signicantly contributed to the GPAI goals and objectives and is working on various domestic initiatives for the responsible development, deployment, and adoption of AI. As one of the largest Global South economies leading the AI race, India nominated itself for the position of incoming council chair of GPAI. India received more than two-thirds of preference votes and was therefore elected as the Incoming Council Chair in November 2022. India served as the Incoming Chair in 2023, then subsequently Lead Chair in 2024.

vi). MeitY has initiated **'FutureSkills PRIME**' a Programmeme for Re-skilling/Up-skilling of IT Manpower for Employability in 10 new/emerging technologies. These include AI, Blockchain, Robotics, Big Data & Analytics, IoT, Virtual Reality, Cybersecurity, Cloud Computing, 3D Printing and Web 3.0.

vii). Government has initiated '**Visvesvaraya PhD Scheme**' with the objective to enhance the number of PhDs in Electronics System Design & Manufacturing (ESDM) and IT/IT Enabled Services (IT/ITES) sectors including AI and Emerging Technologies.

viii). **YuvAi initiative for Skilling and Capacity Building**: MeitY has collaborated with the All-India Council for Technical Education (AICTE) and META, to launch the "YuvAi initiative for Skilling and Capacity Building". This Programmeme aims to bridge the AI talent gap in the country by empowering students and young developers aged 18-30 to leverage open-source large language models (LLMs) to address real-world challenges. It aims to build capacity in generative AI skills, utilizing open-source LLMs while fostering AI innovation across key sectors. This goal is to train numerous developers, and entrepreneurs, contributing significantly to India's AI ecosystem across critical sectors such as healthcare, education, agriculture, smart cities, and financial inclusion.

ix). MeitY along with CDAC has also initiated a project on AIRAWAT (AI Research, Analytics and Knowledge Dissemination Platform) for providing a common compute platform for AI research and knowledge assimilation. This AI Computing infrastructure will be used by all Technology innovation hubs, Research Labs, Scientific Communities, Industry, and Start-Ups institutions with National Knowledge Network. AIRAWAT is developed with 200 petaflops Mix Precision AI Machine which will be scalable to a peak compute of One AI Exaflop.

x). MeitY, through IndiaAI, conducted multiple workshops on the use of AI in public service delivery. The workshop brought together representatives from central and state governments with the objective of helping Ministries and Departments assess their data capabilities, explore ways to leverage data for AI applications, and identify key problem statements that can be addressed through AI-driven solutions".

11. While replying to the framework of the approach of the Government of India in quantifying datasets used in AI, the Ministry submitted in the written reply that:

"Quantification of datasets used in AI refers to methods for measuring and assessing AI datasets based on their size, quality, diversity, bias, representativeness, and relevance. The availability of high-quality, structured, and interoperable datasets is necessary for developing robust AI solutions. Quantifying AI datasets helps ensure transparency, fairness and efficiency in development of AI solutions, enabling regulatory compliance and performance optimization.

Recognising data as the foundation of AI solutions, Government of India, under the IndiaAI Mission is set to launch the IndiaAI Datasets Platform—a unified platform focussed on providing Indian startups and researchers with streamlined access to high-quality, non-personal and anonymized datasets for AI research and innovation. This platform shall enable:

- **Diverse Access**: Aggregate datasets from Ministries, Departments, and Public Sector entities;
- **AI-Readiness**: AI readiness assessment; Standardized data formats; improved metadata quality, and interoperability;
- **Data Discoverability**: Secure, structured data repository to support AI research, start-ups, and public-sector AI applications;
- **Sector-Specific Data Curation/Relevance**: Curated datasets across key sectors such as healthcare, agriculture, governance, disaster management, infrastructure etc".

12. Replying regarding plan to implement the idea of 'AI for All' while taking into account the fact that workforce disruption that AI will bring could render large numbers from potential assets to liabilities if right structures are not put in place, the Ministry stated that:

> "The Government of India emphasizes the concept of 'AI for All,' aligning with the Prime Minister's vision to foster and promote the use of cutting-edge technologies across the country. Addressing the AI Action Summit at the Grand Palais in Paris, the Prime Minister said, ***"Loss of jobs is AI's most feared disruption, but history has shown that work does not disappear due to technology, only its nature changes. We need to invest in skilling and re-skilling our people for an AI-driven future."***
>
> Aligning with the vision of PM Modi, Government of India aims to ensure that AI benefits all sectors of society, driving innovation and growth. The Government is committed to harnessing the power of Artificial Intelligence (AI) for the good of our people in sectors like healthcare, agriculture, education, Governance, DPI and others. Some of the initiatives by the Government of India to meet the growing demand for professionals in emerging fields like data science and Artificial Intelligence (AI) are as under:

- MeitY has initiated **'FutureSkills PRIME'** a Programmeme for Re-skilling/Up-skilling of IT Manpower for Employability in new/emerging technologies namely Artificial Intelligence, Robotic Process Automation, Augmented/Virtual Reality, Internet of Things, Big Data Analytics, Additive Manufacturing/ 3D Printing, Cloud Computing, Social & Mobile, Cyber Security, and Blockchain. Under the Future Skills Prime Programmeme, there are 157 courses specifically focussed on the cutting-edge fields of Artificial Intelligence (AI). In which, so far 1.68 Lakh+ individuals have been trained in various AI-related courses. Also, 2994 Government Officials have been trained in AI under the said Programmeme.
- **IndiaAI FutureSkills** Pillar of the IndiaAI Mission envisions augmenting the number of graduate and post-graduate in AI domain by awarding IndiaAI fellowship to B.Tech and M.Tech students of all the All-India Council for Technical Education (AICTE) recognized engineering institutions. Further, top NIRF ranked research institutes were approached to intake new PhD scholars under IndiaAI PhD fellowship.
- Additionally, Under the IndiaAI FutureSkills, **IndiaAI Data Labs** are being setup as infrastructure in Tier 2 and Tier 3 cities across India, to impart foundational-level courses in Data and AI such as Annotation, Data Cleaning, Data Analytics, etc. IndiaAI has established one model IndiaAI Data Lab on National Institute of Electronics & Information Technology's (NIELIT's) premises at Karkardooma Institutional Area, Delhi which will act as a reference point for the infrastructure to be set up as a part of the initiative. Additionally, IndiaAI in collaboration with

NIELIT is establishing 27 IndiaAI data labs in Tier 2 and Tier 3 cities across the country.

- National e-Governance Division (NeGD), MeitY in collaboration with industry partners (Intel & Meta), has launched **'YUVAi: Youth for Unnati and Vikas with AI'**- A National Programmeme for School Students with an objective of enabling school students from classes 8th to 12th with AI tech and social skills in an inclusive manner. A total of 1200+ students were oriented on the basics of AI and the top 200 students were shortlisted. Further, in next phase of the Programmeme MeitY along with All-India Council for Technical Education (AICTE) targets to empower 100,000 students and young developers aged 18-30 across critical sectors such as healthcare, education, agriculture, smart cities, and financial inclusion. Additionally, this initiative will also include the establishment of a Gen AI Resource Hub with courses, case studies, and open datasets; an LLM for Young Developers Course designed by Meta; and Master Training Activation Workshops to introduce participants to foundational AI concepts.
- IndiaAI, IBD under the Digital India Corporation, has signed a Memorandum of Understanding (MoU) with Microsoft in January 2025 to drive the adoption and development of Artificial Intelligence (AI) in India. This strategic partnership is aligned with the core objectives of India AI Mission. This collaboration aims to train 5,00,000 individuals, including students, educators, developers, government officials, and women entrepreneurs, by 2026. Microsoft under this collaboration will also establish "AI Catalysts- Centre of Excellence", to promote rural AI innovation in Tier 2 and Tier 3 cities and equip 1,00,000 AI innovators and developers through hackathons, community building. Additionally, Microsoft will also set up AI Productivity Labs in 20 National Skill Training Institutes (NSTIs)/NIELIT centres across 10 States to train 20,000 educators and empower 100,000 students with foundational AI courses in 200 Industrial Training Institutes (ITIs).
- MeitY has launched **Visvesvaraya PhD Scheme** in 2014**,** with the objective of enhancing the number of PhDs in the country to compete globally in the knowledge intensive sectors of Electronics System Design and Manufacturing (ESDM) and IT/IT Enabled Services (IT/ITES). Under the scheme, financial support is provided to Full-time & Part-time PhD candidates and Young Faculty who are undertaking research and technology development. The Scheme also provides infrastructure support to institutions. Under the Visvesvaraya PhD Scheme: Phase-I (2014-2023), a total of 1423 PhD candidates have been supported. With the objective of covering more scholars, Phase- II of Visvesvaraya PhD Scheme (2021-2030) has been initiated for a duration of 9 years to support 1000 Full-time PhD candidates, 150 Part-time PhD candidates, 50 Young Faculty Research Fellowships and 225 Post-Doctoral Fellowships.
- Government has launched **Responsible AI for Youth 2022**. The Programmeme was designed to reach out to students from Government schools on pan India

basis and provide them with an opportunity to become part of the skilled workforce in an inclusive manner. The Programmeme impacted 52000+ students across 35 States and UTs, empowering youth with necessary AI skill sets, who had limited or no access to the latest technologies and resources, and 2,536 teachers from 2,252 schools were oriented on the basic knowledge of AI".

13. The Committee, when asked to brief on the progress made so far under projects like machine unlearning, synthetic data generation for bias mitigation, AI bias mitigation in healthcare systems and AI algorithm audition tools, the Ministry furnished the following reply:

"A call for Expression of Interest (EOI) for building tools and frameworks on Responsible AI, with a focus on 10 themes was launched and over 2000 responses were received for the first Expression of Interest (EoI) from which eight Responsible AI Projects has been selected.

The themes and the details of the winners under each theme can be found in the table below:

THEME	PROJECT TITLE	ORGANISATION(S)
Machine Unlearning	Machine Unlearning in Generative Foundation Models	IIT, Jodhpur
Synthetic Data Generation	Design and Development of Method for Generating Synthetic Data for Mitigating Bias in Datasets and Framework for Mitigating Bias in ML Pipeline for Responsible AI	IIT, Roorkee
AI Bias Mitigation	Development of Responsible Artificial Intelligence for Bias Mitigation in Healthcare Systems	NIT, Raipur
Algorithm Auditing Tools	ParakhAI - An open-source framework and toolkit for Participatory Algorithmic Auditing	Civic Data Labs

As part of the "Synthetic Data Generation" theme, the project "Design and Development of Method for Generating Synthetic Data for Mitigating Bias in Datasets and Framework for Mitigating Bias in ML Pipeline for Responsible AI"

led by IIT Roorkee has developed an initial pre-processing method to balance training datasets based on class labels and sensitive attributes.”

CHAPTER- II

Impact of Emergence of Artificial Intelligence in the Ministries/Departments/Organisations/Agencies of the Government

A. Ministry of Electronics and Information Technology (MeitY)

14. As the proliferation of AI in citizen-centric public services accelerates, the imperative for establishing robust ethical guardrails becomes increasingly evident to safeguard against potential misuse and ensure responsible deployment. To ensure that adequate guardrails are in place to protect citizens, India is adopting a multi-stakeholder approach to design and adopt policies, and legal mechanisms for the development, deployment, and use of AI that is safe and accessible for all. India, as the largest Global South economy leading the AI race, stands in a unique position to lead efforts towards global cooperation on AI, ensuring that the global discourse around AI is more balanced, and inclusive, and takes into account the needs and priorities of the Global South.

15. India – AI Impact Summit 2026

India hosted the India - AI Impact Summit from 16 to 20 February 2026 at Bharat Mandapam, New Delhi, focussing on **impact of AI on People, Planet, and Progress** and it was the fourth in a series of global AI summits. The Summit was guided by the three aforementioned *Sutras* and the seven *Chakras* – Human Capital; Inclusion for Social Empowerment; Safe & Trusted AI; Resilience, Innovation & Efficiency; Science, Democratizing AI Resources; and Economic Growth & Social Good.

The India – AI Impact Summit 2026 featured a series of flagship initiatives, including the AI Pitch Fest (UDAAN); Global Innovation Challenges for Youth, Women, and Other Participants; Research Symposium; and the AI Expo.

16. As AI capabilities and diffusion accelerate, participating organizations recognize the importance of collaborating with a wide range of stakeholders, including governments and civil society to a) promote greater understanding of AI usage and its impacts to advance evidence based policymaking, and readiness for technological change; and b) broaden access to AI's transformative benefits across languages, cultures, and use cases, including through improving context-relevant multilingual evaluation techniques. To the extent practicable and appropriate, participating organizations will report progress on the New Delhi Frontier AI Impact commitments outlined below through established transparency mechanisms, such as the Hiroshima AI Process Reporting Framework.

17. Commitment 1: Advance Analysis on Real-World AI Usage: Participating organizations recognize that building rich measures of where and how AI is diffusing across the global economy helps to (a) shed light on the future of work and human-AI collaboration; (b) support the development of evidence-based policymaking in areas

such as workforce development and education; (c) enable meaningful comparison over time: and (d) help advance adoption and opportunity. Outcome 1: Participating organizations will work to enhance analysis regarding global AI adoption for economic purposes. Consistent with user privacy commitments, organizations will: Publish - by the next AI Summit - statistical insights derived from anonymised, aggregated and taxonomized usage data, either directly or (where relevant) through contributions to international efforts.

18. Commitment 2: Strengthen Multilingual and Use-Case Evaluations Participating organizations recognize that cross-lingual support is helpful for democratizing AI and aspire to improve AI performance and high-quality experiences for users across the globe. Furthermore, they recognize the value of partnerships with governments and local ecosystems that have or may develop datasets and expertise that support the evaluation of AI systems for local cultural contexts and use cases. Outcome 2: Participating organizations will work to advance the evaluation of AI systems for global contexts. They will: 1) Evaluate multilingual capabilities on a subset of languages and cultural contexts while preserving flexibility on the choice of tools, benchmarks, as well as AI systems prioritised for this work. 2) Collaborate with local ecosystems for the development and application of evaluations for under-represented languages and cultural contexts.

19. When asked about the key AI Programmemes/initiatives launched and being implemented by Central Government and various State Governments in India in the field of Electronics & IT Sector, Home Affairs and Internal Security, Defence sector and Power sector and to provide details and the current progress status, the Ministry of Electronics and Information Technology submitted:

"India has launched a comprehensive set of AI Programmemes and initiatives at both the central and state levels, aiming to position the country as a global leader in artificial intelligence while ensuring inclusive growth and societal transformation.

- Government of India had published the **National Strategy for Artificial Intelligence** in June 2018 which proposed to develop an ecosystem for the research and adoption of Artificial Intelligence. In similar efforts, MeitY had created 7 expert groups on AI who published **IndiaAI 2023 Expert Working Groups Report-** First Edition AI in Oct 2023 focussing on a precise and cohesive strategy to bridge the gaps in existing AI ecosystem viz-a-viz Compute infrastructure, Data, AI financing, Research and Innovation, targetted Skilling and institutional capacity for Data to maximize the potential of AI for advancing India's progress.
- The Union Cabinet had approved the **IndiaAI Mission** on March 7, 2024. IndiaAI Mission aims to propel innovation and build domestic capacities to ensure the tech sovereignty of India. IndiaAI Mission comprises of 7 pillars namely- IndiaAI

Compute Capacity, IndiaAI Innovation Centre (IAIC), IndiaAI Dataset Platform, IndiaAI Application Development Initiative (IADI), IndiaAIFutureSkills, IndiaAI Startup Financing, Safe & Trusted AI.

- The IndiaAI Mission stands out as the national flagship initiative. Launched with a budget of ₹10,371.92 crore, this mission focusses on building a robust AI ecosystem. It covers critical areas such as compute infrastructure, datasets, innovation, skilling, startup support, and the promotion of ethical AI. In its first year, IndiaAI Mission had already:
    a. Established national compute power exceeding 34,000 GPUs.
    b. Initiated 4 foundation models from SARVAM AI, Soket AI, Gnani ai and Gan AI.
    c. Selected 30 AI solutions in the domain of Healthcare, Agriculture, Governance, Assistive Learning Technologies and Climate & Disaster Management and
    d. Building 8 solutions for Safe and Trusted AI.
    e. Launched AI Safety Institute
    f. Launched AIKosh the unified datasets platform with more than 1000 datasets and 200 models already available on the platform
    g. 200+ Fellowships granted to UG, PG and PhD scholars
    h. Establishing 27 Data and AI Labs in Tier 2 and Tier 3 cities, expanding opportunities for AI education and innovation beyond major urban centres
- Under the IndiaAI Mission the **Centre for Generative AI, Srijan (सृजन),** was established at IIT, Jodhpur in collaboration with Meta. This centre focusses on advancing open-source AI in India, supporting the development of indigenous AI applications and research capabilities. Complementing this is the YuvAI Initiative for Skilling and Capacity Building, launched in partnership with the All India Council for Technical Education (AICTE). YuvAI aims to empower students and young professionals with skills in AI research, development, and responsible deployment, ensuring a steady pipeline of AI talent for the country.
- The **National e-Governance Division (NeGD**) has launched the **'Artificial Intelligence in Governance'** Training Programme at **IIT, Delhi**. This initiative aims to equip government officials with the knowledge and skills to responsibly harness AI in public administration, covering policy frameworks, ethical considerations, and practical applications in service delivery
- **BharatGen** - an open-source, multilingual, India-centric foundation model. Funded by the Department of Science and Technology, BharatGen aims to reduce reliance on foreign AI models and foster public-private partnerships. It

was launched in September 2024, with completion targeted for 2026, and is supported by the IndiaAI Compute Facility and major cloud providers.

- **The Digital India Bhashini initiative** is focussed on language technology, providing AI-driven solutions for all 22 scheduled Indian languages. It enables voice-based access to digital services and content creation, with over 350 AI-based language models and more than 17 language services already operational, in collaboration with over 70 research institutes.
- **AI Centres of Excellence:** The Department of Higher Education, Ministry of Education, has established three Centres of Excellence (CoEs) in Artificial Intelligence with a focus on advancing research and innovation in Healthcare, Agriculture, and Sustainable Cities. These CoEs are part of the government's vision to "**Make AI in India and Make AI work for India,"** and represent a strategic step to strengthen India's global position in AI-driven research and innovation. Furthermore, in the education sector, a new Centre of Excellence in AI for Education has been announced with a ₹500 crore allocation in the Union Budget 2025–26. This centre aims to drive personalized learning and skill development, fostering collaboration between academia and industry to develop AI-driven educational solutions.
- **AIRAWAT PARAM Sidhi:** MeitY has initiated a pilot project on **AIRAWAT (AI Research, Analytics, and Knowledge Dissemination Platform)** for providing a common compute platform for AI research and knowledge assimilation. AIRAWAT along with Param Siddhi AI constitutes 410 petaflops Mix Precision AI Machine and has secured 75th position in Top500 Global Supercomputing List. Through AIRAWAT the Government of India wants to provide accessibility to compute infrastructure to the AI startup ecosystem in the country. Empowering startups, MSMEs, industries, and research/academic institute will enable the creation of indigenous AI-based solutions tailored to solve India's real-life challenges with cutting-edge computational resources.
- Under the **Visvesvaraya PhD Scheme of MeitY**: Phase-I (2014-2023), a total of 1423 PhD candidates have been supported. With the objective of covering more scholars, Phase- II of Visvesvaraya PhD Scheme (2021-2030) has been initiated for duration of 9 years to support 1000 Full-time PhD candidates, 150 Part-time PhD candidates, 50 Young Faculty Research Fellowships and 225 Post-Doctoral Fellowships.
- The **FutureSkills Prime** platform, a joint endeavour by the Government of India and the Industry, is a significant step towards democratizing access to AI skills. Offering courses in 10 emerging areas such as Cloud Computing and Artificial Intelligence, the platform provides mid-career professionals with an opportunity to upskill/re-skill.
- The Central Board for Secondary Education (CBSE), in partnership with Intel, offers the free **"AI for All"** online course. Designed for learners with little or no

prior knowledge of AI, it has reached over 3 million people available in 11 languages. The course aligns with the National Education Policy's aim to prepare everyone for an AI-driven economy.

- **The India Semiconductor Mission**, with a budget of ₹76,000 crore, underpins the hardware needs of the AI ecosystem, with six major projects approved and five under construction as of May 2025.
- At the state level, several governments have launched their own targeted AI missions and policies.
    a. Tamil Nadu has initiated the Tamil Nadu Artificial Intelligence Mission (TNAIM), a five-year plan to make the state a national AI hub, focussing on social good, e-governance, and economic development.
    b. Andhra Pradesh is collaborating with Google to develop Amaravati as an AI city, with a focus on agriculture, healthcare, skill development, and sustainability.
    c. Karnataka has introduced the Shiksha Co-pilot, a generative AI-powered assistant for teachers, and a policy to attract 500 Global Capability Centres, aiming to create 3,50,000 jobs by 2029.
    d. Telangana has launched its own Telangana AI Mission a conscious strategy backed with the right investments to develope Hyderabad as a global AI Innovation hub. It has partnered with Meta to enhance e-governance using generative AI and is planning an AI-centric World Trade Centre in Hyderabad.
    e. Odisha recently approved its AI Policy-2025, establishing a mission with a two-tier governance structure to drive AI adoption across health, agriculture, education, disaster management, and governance, with an emphasis on ethical AI and data governance.
    f. Maharashtra has launched the MahaAgri-AI 2025–29 policy to support AI-driven agriculture and related technologies, and has signed an MoU with Google to promote AI in agriculture, healthcare, and education, including the creation of a Centre of Excellence in AI, IoT, robotics, and Industry 4.0."

20. When the Committee sought to know about existence of any Inter-Ministerial Co-ordination Committee for AI planning and implementation created, the Ministry replied as under:

"Recognizing AI's transformative potential across various sectors, a multistake holder committee to synergize AI initiatives across Government of India has been

constituted under the **chairmanship of the Principal Scientific Adviser (PSA)** on 2nd June 2025. The Committee's terms of reference include:

i) To map and review the existing AI initiatives undertaken by various Ministries, Departments and institutions:
ii) To identify areas of potential convergence, synergy, and collaboration:
iii) To recommend mechanisms for coordination, standardization, andknowledge-sharing among different Government AI initiatives; and
iv) To avoid duplication of efforts and ensure optimal use of resources."

21. When the Ministry was asked about collaborations, if any, with other countries and International organizations by Government of India in the field of AI development, funding and R&D, the following was submitted:

"India AI Mission is being implemented by the Government of India with the objective of addressing key issues that can help India take the global leadership in building applications using AI. To achieve these ambitious goals, the Government of India has actively pursued collaborations with various countries and international organizations. Some of the key partnerships include MoUs with Intel, Microsoft, Meta, Japan International Cooperation Agency (JICA), Gates Foundation, IBM, Data.org, Intel, OpenAI, Wadhwani AI etc. These partnerships will enable development of indigenous AI applications, advance skill development in AI, boost research capabilities, build Indic datasets, support Indian AI Startups etc. with the aim of contributing to India's AI mission to ensure tech sovereignty and the vision of building AI solutions that are tailor made for India.

Further, the IndiaAI Mission, in collaboration with Station F (Paris, France) and HEC Paris, announced an ambitious acceleration Programme for Indian AI startups. This Programme aims to support 10 Indian AI startups, as a cohort, in scaling globally by leveraging the European market's vast opportunities. Through this partnership, selected startups have undergone a 4-month immersive onsite acceleration Programme at Station F, the world's largest startup campus. The Programme, designed by HEC Paris, Europe's leading business school, provided startups with unparalleled access to resources, mentorship and networking opportunities."

22. While responding to the query about impact on the economy of India due to fast changing landscape and ever changing technologies owing to emergence of AI in all walks of life, the Ministry stated that:

"Artificial Intelligence (AI) is fast moving from hype to a reality in our day-to-day life. Insights from the RBI Director General and reports from EYand Accenture suggests

that by early-2030s AI could add upto $359 bn-$438 bn to India's GDP equivalent to 5-7% of baseline GDP, to India's economic output. The adoption of AI in production processes by Indian firms has risen from 8 per cent in 2023 to 25 per cent in 2024. To meet the potential India needs to accelerate adoption of AI while managing risks to jobs, enduring skill development, and focus on inclusion of all.

Additionally, ICRIER econometric work finds a unit rise in AI intensity lifts the Total Factor Productivity (Measure of how efficiently inputs like labour and capital are used to produce output) to 0.3% in India's top firms, implying $67-70 bn immediate value.There are several factors that play an important contribution in India's advantage in AI.

Also, the Government of India has approved the IndiaAI Mission in March of 2024. ₹10,300 crore have been allocated over a period of five years. The IndiaAI Mission aims to create a robust ecosystem that accelerates AI innovation through strategic initiatives and collaborations spanning both public and private domains. The mission aims to democratize access to computing resources, enhance data quality, nurture home grown AI expertise, foster industry partnerships, support startup ventures, promote socially impactful AI projects, and emphasizing ethical practices, the mission seeks to foster responsible and inclusive growth within India's AI landscape.

The availability and adoption of World-class digital public infrastructure such as Aadhaar, UPI and ONDC lowers data-sharing friction and transaction costs and provide an ideal testbed for AI deployment.

A youthful, tech-savvy workforce—median age 29—supplies 1.4 million IT graduates annually, the largest AI-talent base outside the US and China.

Additionally, a significant impact is estimated in the below industry sectors -

1. Financial services: With a rise in digital payments, it is estimated that AI-led credit scoring and fraud analytics will add to NPA risk.
2. Manufacturing: Gen-AI-driven design plus predictive maintenance could raise factory efficiency by10-15% and add $200 bn Gross Value by 2030.
3. Agriculture: AI weather analytics and drone-based phenotyping can lift yields 8-10%, narrowing the 30% food-supply chain loss.
4. Healthcare: Start-up diagnostics/tele-ICU platforms forecast $6-7 bn cost savings by 2030 while expanding rural reach.

In terms of the labour market, EY's report states that 42% of tasks will be augmented with AI and 24% will be fully automated. Around 38 million jobs are expected to be transformed by 2030 due to AI.

Bain projects 2.3 million new AI positions by 2027. However, the present talent supply (~1.2 million) falls short, leaving 1.1 million-plus gap.

Prominent fast growing job roles include AI/ML & Gen-AI Specialist, Big-Data Engineer, Prompt Engineer & LLMOps and AI Security Management Specialist."

23. In response to the query made by the Committee that in some of the media reports concerns have been raised about data authenticity and biasness in giving answers by many foreign AI models like GROK, Chat GPT and DEEPSEEK, foreign AI companies have access to local data to train their AI Models and whether there is a need to restrict or limit the foreign AI models in Indian market, the Ministry submitted:

"Foreign AI companies do have access to Indian data for training their AI models. However, traditionally these models were often trained on datasets primarily sourced from English-speaking countries or global internet corporation, which did not adequately represent India's linguistic, cultural, and demographic diversity. The reasons for the same may be attributed to the easy accessibility of large volumes of digitized data in English, which is essential for developing these models, and the fact that a large number of consumers of these models are expected to be digital natives or tech savvy, who would have at least an intermediate knowledge of the English language. However, the need for adapting AI solutions and models for the Indian context has been highlighted in recent years and efforts are being made regarding the same.

With respect to leveraging data of Indian users for training models for the Indian context, the government favors a pro-innovation approach with appropriate safeguards to ensure that data owners are protected. This balanced approach is owing to the fact that the government recognized that access to diverse AI platforms is crucial for fostering research and technological competitiveness. At the same time, it is important to ensure that foreign AI companies do not have unchecked access to local data. Instead of restrictive measures that could limit India's AI research capabilities; this approach **balances innovation with robust data protection** through **technical safeguards** and **regulatory oversight**.

Regulatory Framework for Data Protection

The **Digital Personal Data Protection Act (DPDP) 2023** provides fundamental protections for Indian citizens using AI platforms including foreign models like ChatGPT, GROK, and DeepSeek. The Act requires **explicit user consent** for data processing, mandates **transparent privacy policies**, and establishes **data subject rights** including access and deletion. **Restrictions on cross-border data transfers** apply only to countries restricted by the Central Government. Entities storing data on foreign territories need to ensure that adequate protection for data processed outside India is in place. These provisions apply to **all AI platforms operating in India** regardless of origin. Additionally, **CERT-In's Technical Guidelines on AI Bill of Materials (AIBOM)** mandates **comprehensive documentation for AI systems** including model architecture, training data sources, known vulnerabilities, and security requirements, enabling systematic evaluation against established security criteria.

Indigenous AI Development Strategy

The IndiaAI Mission's ₹10,300 crore investment demonstrates the government's commitment to building indigenous AI models which would be leveraged and consumed

as an alternative to existing solutions available from foreign entities. This dual approach accessing foreign AI while building domestic capabilities represents **pragmatic recognition of current technological realities**. India's strategy focusses on **reducing foreign platform dependency** through accelerated indigenous development.

With intent to develop indigenous AI models, The IndiaAI Mission had published a Call for Proposals on 30th January 2025. 506 proposals were received in response to the Call for Proposals. Out of these, IndiaAI has selected a portfolio of capable teams to build a diverse and specialized sovereign AI ecosystem.These initiatives are collectively working to address India's unique linguistic diversity, cultural context, and sector-specific needs, aligning with the vision of a self-reliant and inclusive AI-powered nation as envisaged by the IndiaAI Mission. A brief overview of the teams building these is provided below:

- **Sarvam AI (Sarvam-Large):** This proposal aims to train a family of multi-modal foundation models from scratch, with the primary goal of delivering Sarvam-Large, a 70-120 billion parameter LLM. The project is a deep collaboration with leading researchers from IIT, Madras and focusses on achieving state-of-the-art accuracy in all 22 scheduled Indian languages. The initiative will also build population-scale applications, including a citizen-helpline voice agent ("2047") and a government project monitoring system ("AI4Pragati").
- **Soket AI (Project EKA):** This project will create a next-generation 120 billion parameter Sparse Mixture of Experts (MoE) foundation model. Project EKA is designed for inclusivity, computational efficiency, and defense readiness, supporting major South Asian script families to serve over 2 billion people. By adopting an "open source" and "build in public" philosophy, the project aims to foster a collaborative ecosystem.
- **Gan.ai (Superhuman TTS):** This initiative focusses on a foundational Text-to-Speech (TTS) model rather than a traditional LLM. Building on their commercially successful Myna v1 model that supports all 22 official Indian languages, Gan.ai proposes to develop a 70B-parameter "Superhuman TTS" model. Leveraging LLM-style reasoning, the model aims to achieve natural, expressive and emotionally aware speech synthesis across 22 Indian and 18 foreign languages, surpassing current global benchmarks.
- **Gnani.ai (Foundational Voice AI):** This project is centreed on building an end-to-end, agentic Speech-to-Speech foundational model, eliminating the dependency on intermediate text transcription. The architecture fuses a 14B parameter LLM with a 616M parameter audio encoder, optimized for real-time, low-bandwidth conversations in over 12 major Indian languages. Gnani.ai will leverage its existing proprietary dataset of millions of hours of Indian language speech data. The total project cost is ₹180 Crore, for which Gnani.ai seeks a ₹50 Crore GPU grant and ₹60 Crore in funding from the Mission.

Key Commercial and Large-Scale Ventures

Several private sector entities are also developing large-scale, multilingual models aimed at both consumer and enterprise markets.

- **Ola Krutrim:** Positioned as "India's own AI," Krutrim is developing a full stack from indigenous silicon to a family of frontier AI models. Their flagship Krutrim-3 is envisioned as a family of models, including a 700B parameter Mixture-of-Experts (MoE) model and smaller dense models (30B, 70B), designed to be multimodal and highly efficient for Indic use cases. Ola Krutrim aims to make its sovereign AI 70% cheaper for Indic use cases compared to global competitors.
- **Tech Mahindra (Project Indus):** Having already developed Project Indus, a 1.2 billion parameter model focussed on Hindi and 37 of its dialects, Tech Mahindra proposes to build upon this experience. Their forward-looking strategy involves creating new foundation models (~3 Billion parameters) for languages not yet covered by existing open-source efforts. A key part of their vision is to develop an Indic Agentic AI framework and a Model Orchestration System to manage a "Model Garden" of diverse Indian FMs, enabling India to leapfrog directly to applied, real-world AI solutions.
- **AI4Bharat (IIT Madras):** A pioneering research lab at IIT Madras, AI4Bharat has been instrumental in building open-source datasets and models for Indic languages. Their work serves as a foundational pillar for many other indigenous AI efforts. They are focussed on creating public digital goods and fostering a collaborative ecosystem for Indian language technologies."

24. The Committee also wanted to know about centralized AI law in India if any and if there is any authority or a person who conducts periodic audits of the AI models to check for their accuracy. To this, the Ministry answered:

"**Government of India's Approach to AI regulation**

- India recognizes the transformative potential of AI to drive large-scale socio-economic change, and thus, its approach to AI governance is **balanced, pro-innovation, and contextually grounded**. India's goal is to ensure that AI fosters inclusive growth, strengthens public services, and enhances economic opportunities, while also addressing risks in a **pragmatic and forward-looking manner**.
- Various risks associated with AI, such as bias, privacy concerns, misinformation and disinformation, are adequately **covered under existing legal frameworks** such as the Information Technology Act, 2000, the Bharatiya Nyaya Sanhita, 2023, the Copyright Act, 1957 etc. Complementing these safeguards, India is also **actively developing indigenous** tools, frameworks, and guidelines for AI governance grounded in Indian datasets and local socio-cultural realities.

- India has long pioneered **techno-legal approaches to digital governance**. The Data Empowerment and Protection Architecture (DEPA) is one such globally recognised model.
- The Ministry of Electronics and Information Technology (MeitY) has invited Expressions of Interest (EoIs) for the development of techno-legal tools and frameworks for responsible AI. The first round of selected projects, covering areas such as privacy preservation, explainability, and bias mitigation, is already underway, while a second round is currently under evaluation.
- India has also launched its **IndiaAI Safety Institute** to advance **science-based and indigenous** research on AI governance, pioneering innovative approaches to AI safety that are relevant to the developing world. The Institute follows a **Hub-and-Spoke** model, and a Call for Partnerships has been issued to onboard relevant stakeholders across academia, industry, and civil society. The proposals received are also currently under evaluation.
- In parallel, a multi-stakeholder Advisory Group, chaired by **the Principal Scientific Advisor** of India and comprising representatives from relevant Ministries, was constituted to develop an 'AI for India-Specific Regulatory Framework.' Under its guidance, a **Sub-Committee on 'AI Governance and Guidelines Development'** was established. The Sub-Committee's draft report was released for public consultation, with the process concluded on February 27, 2025.
- The Government of India remains firmly committed to ensuring that AI technologies are deployed in a manner that upholds **constitutional values** and adheres to the principles of **fairness, transparency, and proportionality**. Through a combination of legal safeguards, institutional mechanisms, and research-led interventions, India is taking a balanced and forward-looking approach to the ethical use of AI.

Audits for AI Models

- Under the **Safe & Trusted AI Pillar** of the IndiaAI Mission, several projects have been approved to develop techno-legal tools for AI governance. In parallel, various sectoral regulators and public authorities have begun issuing their own AI-related guidelines and consultation papers. For instance, the **Comptroller and Auditor General of India (**CAG) released an Artificial Intelligence Strategy Framework in April 2025 which, *inter alia*, provides a framework for auditing AI systems deployed in the public sector. Similarly, the **Securities and Exchange Board of India** (SEBI) released a consultation paper in June 2025 on guidelines for the responsible use of AI/ML in Indian securities markets, emphasising the need for governance, oversight, and auditability of AI models used in financial services."

25. The Committee wanted the Ministry to explain about AI-Vani, to which the following was furnished:

- "AI VANI "Virtual Assistance by NIC" is a Chatbot framework developed by NIC and copyrighted and hosted as a service on Meghraj National Cloud of NIC. AI VANI helps you to build layered, modular, pluggable chatbots that can be integrated as a chatbot widget within an existing web application. The VANI framework consists of various modules that can perform API integration with back-end systems, queue management, agent monitoring, and live handovers to human agents and can be added to the chatbot as required. Using this framework, multiple chats, and voice can be deployed to interact with the back-end engine by maintaining individual sessions, thus ensuring the privacy of each conversation.
- VANI chatbot services are facilitated by NLU (Natural Language Understanding) & generation of response (Natural Language Processing) which allows Intent based answers to most queries to citizens asking about any scheme or projects of the Central or State Governments. At the backend it is facilitated by Generative AI based models, so most of the user requests can be serviced from CPU based VMs instead of expensive GPUs.
- As the naming and purpose of intents and action parameters of individual bots can differ from case to case, the business layers of the bots can be customized to suit the purposes of the user organization or Department's requirements. The chatbots and voice bots take the necessary precautions to ensure the confidentiality and privacy of the user data by handling the data flow exclusively through the user application and restricting the data flow between the user and other third-party AI engines. NIC services many chatbots through its internal conversational AI engine.
- Multilingual Support is facilitated even if the website is not available in Indian Languages - AI VANI chatbot supports 22 official Indian languages in text, and 10 Indian languages voice support streaming – Bengali, English, Hindi, Gujarati, Kannad, Marathi, Malayalam, Odiya, Tamil & Telugu. As an add-on service for this, users are provided with AI Panini and AI Matra services. Using AI Matra Transliteration services, the end user of the chatbot can type using the standard QWERTY keyboard for any non-English language, eliminating the need to learn or map new language keyboards. AI Panini facilitates the translation of the text entered by the user to English, Query the AI engine and give response back in the text language to be displayed. These services are facilitated through Meghraj cloud of NIC."

26. When the Committee asked the Ministry about its concurrence with the new analysis by the International Monetary Fund (IMF) that AI is going to affect nearly 40 per cent of all jobs and whether the Ministry is proposing to introduce Artificial Intelligence (AI) in the working of various Departments across the Country and If yes, the details

thereof along with the Departments in which the Government has already introduced it and if not, the reasons thereof, the following was replied:

"The Government of India emphasizes the concept of 'AI for All,' aligning with the Hon'ble Prime Minister's vision to democratise use of technology. This initiative aims to ensure that AI benefits all sectors of society, driving innovation and growth.

India is regarded as the skills capital in technology and Artificial Intelligence. The most reliable ranking in AI is placing India among the top countries with AI Skills, AI capabilities, and policies to use AI. Stanford University has ranked India among the top three countries along with the US and China in the Global and National AI vibrancy ranking based on 42 indicators. Leads the world in AI talent acquisition, with an annual hiring rate of about 33%, ranks among the top countries globally in AI skill penetration and has seen AI talent concentration grow more than threefold since 2016.

Government is committed to harnessing the power of Artificial Intelligence (AI) for the good of our people in sectors like healthcare, agriculture and education. At the same time, the Government is cognizant of the risks posed by AI.

Artificial Intelligence is increasingly being used in Governance and public services by various Central and State Government Departments and Organizations, such as those in Agriculture, Healthcare, Education, Railways, Governance & Administration, Earth Science, Energy & Power, Rural Development & Panchayati Raj, Transportation and Law & Justice. It helps automate repetitive tasks, improve transparency, and enhance communication between citizens and the Government. AI is being applied through image and video analytics for decision-making, speech synthesis and recognition for voice-based services, natural language processing for translation and document summarization, and generative AI-based bots for efficient and interactive citizen services. These advancements aim to make governance more efficient, transparent, and citizen-friendly. At the same time, the Government is cognizant of the risks posed by AI.

The advent of Artificial Intelligence is not leading to any job losses instead it is being used as a tool for augmenting capability. AI may result in automating some routine jobs but will also result in job creation in various streams like data science, data curation, etc. India has a distinct advantage globally when it comes to having a workforce trained in Artificial Intelligence. This will require reskilling and upskilling, for which the Government has taken various initiatives:

i). IndiaAI Mission: Union Cabinet led by Hon'ble Prime Minister has approved the IndiaAI Mission on 7th March 2024, a strategic initiative to establish a robust and inclusive AI ecosystem that aligns with the country's development goals. This mission is driven by a vision to position India as a global leader in artificial intelligence by focussing on seven foundational pillars.

One of the key pillars of IndiaAI Mission is **IndiaAI Future Skills** which envisions augmenting the number of graduate and post-graduates in the AI domain by awarding IndiaAI fellowships to UG, PG and PhD students for undertaking project work and research in the field of AI and related subjects.

IndiaAI has established IndiaAI Data Lab in National Institute of Electronics & Information Technology's (NIELIT's) 28 centre's, ICET Nagaland, Mokokchung, Mhow, and CDAC Mohali.

FutureSkills PRIME: MeitY in collaboration with IT/ITeS Sector Skills Council-NASSCOM has initiated a Programmeme titled FutureSkills PRIME (Programmeme for Re-skilling/Up-skilling of IT Manpower for Employability). FutureSkills PRIME is an 'aggregator of aggregators' platform comprising various online skills providers to provide digital skills training on a national scale in online mode. The Programmeme is aimed at re-skilling/ up-skilling of IT professionals in 10 new/emerging technologies namely Artificial Intelligence, Big Data Analytics, Robotic Process Automation, Additive Manufacturing/ 3D Printing, Cloud Computing, Social & Mobile, Cyber Security, Augmented/Virtual Reality, Internet of Things and Blockchain. Besides the online mode, 40 centres of CDAC and NIELIT are also implementing the Blended Learning mode, Training of Trainers, and Government Official training Programmemes."

27. In response to whether it was a fact that India stood at 80th spot at the Artificial Intelligence (AI) preparedness Index across 174 countries based on several indicators across four dimensions viz. digital infrastructure, human capital, technological innovation and legal framework, the Ministry stated that:

"The 2024 IMF study, ranked India 72nd, more recent 2025-2026 analysis highlights India as a top-3 contender due to rapid advancement, the same Standford AI Index also states that in India the relative penetration of AI skills was 2.5 times greater than the global average across the same set of occupations.

In the Tortoise Global Artificial Intelligence Index 2024, India has entered the top ten for the first time, improving its ranking from 14th in 2023 to 10th globally in 2024. The Tortoise Global AI Index is based on 122 indicators collected from 24 different public and private data sources and 83 government sources. These indicators are divided across seven sub-pillars: Talent, Operating Environment, Infrastructure, Research, Development, Government Strategy, and Commercial Ecosystem.

28. Regarding future course of action, the Ministry has submitted as:

"AI technologies have a tremendous potential to transform societies and individuals. To develop a robust, safe and trusted AI innovation ecosystem in the country, Government has taken following necessary steps in policies and infrastructure:

The Government of India has approved the IndiaAI Mission on 7th March 2024, a strategic initiative to establish a robust and inclusive AI ecosystem that aligns with the country's development goals. This mission is driven by a vision to position India as a global leader in artificial intelligence by focussing on seven foundational pillars. The mission is poised to catalyse the AI ecosystem through its seven key pillars. The following pillars to maximize the potential of AI for advancing India's progress:

- **IndiaAI Compute:** The IndiaAI compute pillar envisions building a high-end scalable AI computing ecosystem comprising AI compute infrastructure of 10,000 or more Graphics Processing Units (GPUs).
- **IndiaAI Innovation Centre (IAIC) (IndiaAI Foundation Models):** The AI Innovation Centre aims to develop and deploy indigenous Large Multimodal Models (LMMs) trained on India-specific data.
- **IndiaAI Datasets Platform (AIKosh):** Launched on March 6, 2025, the platform has made strides in democratizing data access for AI development by onboarding 10,000+ datasets and 277 AI models from more than 55 entities across 20 sectors.
- **IndiaAI Application Development Initiative:** The IndiaAI Application Development Initiative aims to develop, scale, and promote the adoption of impactful AI solutions to effectively tackle significant problem statements.
- **IndiaAIFutureSkills:** IndiaAIFutureSkills Pillar envisions augmenting the number of graduate and post-graduate in AI domain. Further, it envisions setting up Data and AI Labs in Tier 2 and Tier 3 cities across India, to impart foundational-level courses in Data and AI.
- **IndiaAI Startup Financing:** A spectrum of startup development stages starting from product development to commercialization are to be supported.
- **Safe & Trusted AI:** This pillar enables the setup of AI Safety Institute and implementation of Responsible AI projects including the development of indigenous tools and frameworks, self-assessment checklists for innovators, and other guidelines and governance frameworks.

MeitY has established Centres of Excellence in various emerging technologies including Artificial Intelligence to explore opportunities in these specialized fields. These centres provide start-ups with premium plug-and-play co-working spaces and access to the ecosystem."

29. To a pointed query as to whether it was true that sensitive data of our Country could reach foreign servers with the use of Chat-GPT and other Artificial Intelligence (AI) tools and whether the Government was working towards developing indigenous AI tools

so that sensitive data remains safe within the Country, the Ministry, in their written reply, submitted as under:

"The Union Cabinet, led by the Hon'ble Prime Minister, approved the IndiaAI Mission on 7th March 2024, as a strategic initiative to establish a robust and inclusive AI ecosystem aligned with India's development goals. The mission aims to position India as a global leader in artificial intelligence by fostering innovation, enhancing domestic capabilities, and ensuring the country's tech sovereignty. The mission focusses on seven foundational pillars including the IndiaAI Foundation Models pillar. This pillar underscores the importance of building India's own Large Multimodal Models (LMMs) trained on Indian datasets and languages, to ensure sovereign capability and global competitiveness in generative AI. Twelve startups have been selected till date to develop India's foundation models including **Sarvam AI, Soket AI, Gnani AI**, and **Gan AI**, **Avatar AI, IIT Bombay Consortium (BharatGen), GenLoop, Zentieq, Intellihealth, Shodh AI, Fractal Analytics Ltd**. and **Tech Mahindra Maker's Lab.** These models are being developed and deployed on data centres hosted within India.

Additionally, the IndiaAI Compute pillar under the mission is focussing on creating a high-end, scalable AI computing ecosystem to deliver Compute-as-a-Service for India's rapidly growing AI startups and research community. 38,231 GPUs through 14 empanelled vendors, over 3 rounds of empanelment, are being made accessible at subsidized rates, facilitating increased accessibility and affordability for tech developers through **datacentres hosted in India**.

Under the mission, a RFP has also been published on 31st October 2025 for setting up a sovereign compute at Shastri Park, NIC Data centre with a compute power of 1.1 Exa Flops. The RFP is presently in evaluation stage. A government-controlled GPU cluster is also being developed which will house 3,000 next-generation GPUs, which will cater primarily to sovereign and strategic requirements."

30. On being asked whether AI innovations were still stuck at a nascent stage with huge resource constraints and were lagging way behind the frontrunners in scale, innovation and research, the Ministry submitted:

"India has demonstrated significant and globally recognized strengths in the AI domain. The nation's ecosystem is vibrant and growing rapidly, a fact substantiated by multiple independent and credible sources:

- Our rankings speak of our readiness: As per **Stanford University's Global AI Vibrancy Rankings 2025,India ranks 3rd in AI competitiveness after US and China**, a rise from the **fourth** position in the Stanford Global AI Vibrancy 2024 Index. It highlights how India's fast-growing tech ecosystem and strong talent base are helping the country play a key role in the global AI race.
- According to the **Stanford AI Index Report 2025, India leads** the world in **AI talent acquisition** with an annual hiring rate of 33% and ranks second globally in AI skill penetration, just behind the United States.

- As per a report by NASSCOM, **India's AI market is projected to reach USD 17 billion by 2027,** growing at an annualized rate of 25%-35% between 2024 and 2027.
- India's GenAI startup ecosystem has seen roughly a **3.7x surge and close to USD 1 billion** in cumulative GenAI funding, making it one of the fastest-growing GenAI hubs globally, even if still smaller than US/China in absolute capital.
- India ranked **tenth in the Tortoise Global AI Index 2024**, with a particularly strong and diverse AI workforce, driven by demographics and academic excellence.
- The 2025 Technology and Innovation Report, issued by UN Trade and Development (UNCTAD), states that **India ranked 36th in 2024 on the 'Readiness for Frontier Technologies'** index, improving its position from 48th in 2022.
- **India continues to lead South and Central Asia** from past 2 years, in the region's AI readiness, and ranks well globally, 21st with a score of 67.88, in **The Government AI Readiness Index 2025."**

31. To a specific query by the Committee as to whether the Government had instituted any accountability and audit mechanisms for Artificial Intelligence (AI) systems that process or collect users' personal data, the Ministry replied as:

"The Digital Personal Data Protection Act, 2023 ("DPDP Act") is a technology-agnostic data protection law that governs the processing of digital personal data, including where such processing is carried out through Artificial Intelligence (AI) or automated systems. The Act does not create AI-specific audit or certification regimes; however, it establishes a comprehensive accountability framework that applies equally to AI systems when they process personal data.

The Act places clear obligations on Data Fiduciaries that determine the purposes and means of processing personal data. The core obligations on them include:

i. Issuing notices and obtaining consent prior to data processing;

ii. Securing verifiable parental or guardian's consent for children or persons with disabilities;

iii. Implementing technical and organizational safeguards to prevent breaches;

iv. Notifying the Data Protection Board and affected individuals in the event of a breach; and

v. Setting up mechanism for providing rights to individuals in digital manner.

Data Fiduciaries remain accountable for the data processing activities done by their Data Processors, and liable for paying any financial penalty as imposed by the adjudicatory body, i.e., Data Protection Board. Also, additional obligations for the organizations classified as Significant Data Fiduciaries, include conducting periodic Data Protection Impact Assessments, appointing Data Auditors and Data Protection Officers.

To operationalize the Act, the Ministry of Electronics and Information Technology (MeitY) notified the Act, and the Digital Personal Data Protection Rules, 2025 ("Rules") on 13 November, 2025. The Act and Rules mandate that personal data be processed only for lawful purposes with free, informed, specific and unambiguous consent, preceded or accompanied with the notice of data collection and its intended purposes. It requires Data Fiduciaries to implement strong security safeguards, erase personal data upon withdrawal of consent unless retention is legally required and comply within an 18-month transition period.

Moreover, adopting a Digital-by-Design approach in the functioning of the Data Protection Board offers significant advantages to both Data Fiduciaries and the individuals. This approach not only streamlines compliance processes by enabling digital submission of documents, faster reporting of data breaches, and automated tracking of case progress. This approach also enhances transparency and accountability through robust audit trails and data logs and fosters greater trust, improves responsiveness, and builds a modern, future-ready governance model for data protection.

While the DPDP Act, 2023 does not prescribe AI-specific accountability or audit mechanisms, however, entities deploying AI that processes personal data are therefore subject to the same statutory compliance, audit, and enforcement regime as any other data processing technology.

Pending full operationalisation of the Digital Personal Data Protection Act, 2023 and stabilisation of compliance across ecosystem entities and legacy systems, continued adherence to the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011 ("SPDI Rules"), issued under section 43A of the Information Technology Act, 2000 ("IT Act"), provides an established interim framework for accountability in systems, including Artificial Intelligence (AI) systems, that process personal data. In particular, the SPDI Rules mandate implementation of documented information security Programmemes, reasonable security practices commensurate with the nature of data processed, privacy policies governing collection and use of information, and periodic independent audits of security controls. These requirements collectively support traceability, governance oversight, and auditability of AI-driven data processing activities, thereby ensuring continuity of accountability safeguards."

32. When the Committee wanted to know if the Ministry concurred with the view that a lack of “clean, quality, usable data” was perceived as the single largest challenge to implementing AI at scale, the following was submitted:

“The Ministry recognizes that implementing AI at scale faces three fundamental barriers: compute, grassroots-level skills, and datasets. In the Indian context, data accessibility and availability are perceived as the single most significant challenges, followed closely by concerns regarding the cleanliness and quality of existing datasets.

33. On plans to tackle the above challenge, the Ministry submitted the following:

“The Strategic Solution: Addressing Barriers through the IndiaAI Mission

To build a scalable and inclusive AI ecosystem, the Department is executing a structured, multi-pronged approach.

- **Unlocking Data Accessibility:**
    - The Ministry is unlocking high-value datasets through **AIKosh** to solve the problem of data silos.
    - This initiative makes over **10,000 datasets** accessible to the public.
    - To ensure high usability, these datasets utilize **standardized metadata**.
    - The platform employs **API-based ingestion mechanisms**, which significantly lower the entry barriers for startups, researchers, and industry players to innovate.
- **Ensuring Data Quality and Usability:**
    - Beyond mere accessibility, the Department places a strong emphasis on "gold-standard" data generation to ensure the data is clean and actionable.
    - **Healthcare Initiatives:** The Department has launched the **INDEED Programme** in collaboration with the Indian Council of Medical Research (ICMR) to create high-quality, validated medical datasets.
    - **Linguistic Empowerment:** Large-scale annotation partnerships have been formed with **Bhashini** to ensure diverse linguistic data is prepared for AI training.
    - **Resource Support:** AIKosh provides specific tools and resources dedicated to effective data management, ensuring that data pipelines remain robust and efficient.

- **Building a Trusted Foundation:**
    - The ultimate goal of these combined initiatives is to construct a **robust and trusted data foundation**.

MeitY had developed meta data and data standard (MDDS) for various sectors."

34. Regarding the adoption level of our indigenous AI models so far as 'Sarvam' or 'Bhashini' was concerned, the Ministry apprised of the Committee as under:

"The National Language Technology Mission (Digital India Bhasini) of Ministry of Electronics and IT aimed at addressing language barriers in the digital medium through the development of speech and text processing technologies for 22 scheduled Indian languages. The platform has expanded to support 36+ languages, offers 23+ language services, and hosts 350+ indigenous AI models, enabling multilingual content delivery across a wide range of government portals and applications. BHASHINI has recorded 1.2 million+ mobile app downloads, facilitated 5 billion+ inferences, and supports 100+ use cases with 450+ active customers. The platform has participation from 45+ Central Ministries, 24+ States, 300+ startups, 15+ industries, 90+ linguistic experts, and 85+ academic and research institutions."

35. The Committee sought clarifications regarding how Deep-fakes were defined and what were the mechanisms to regulate these so as to minimize damages that occur especially to women. In reply, the Ministry submitted:

- "MeitY, in exercise of the powers conferred under the Information Technology Act, 2000 issued the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 (IT Rules, 2021) on 25th February 2021 in supersession of the erstwhile Information Technology (Intermediary Guidelines) Rules, 2011, which were subsequently amended on 28th October 2022, 6th April 2023 and 22nd October 2025.
- The IT Act, read with the rules made thereunder, is a technology-neutral legislation that does not distinguish between computer resources in general and those that use Artificial Intelligence or any other emerging technologies. Accordingly, the provisions of the IT Act apply uniformly to all computer resources, including those leveraging AI or similar technologies.
- The IT Act and the IT Rules, 2021, together, have put in place a stringent framework to prevent the hosting or transmission of unlawful and harmful content in the digital space and impose clear obligations on intermediaries, including social media intermediaries, to ensure accountability. These provisions require intermediaries to publish user-facing rules/terms, privacy policy and user agreement, implements grievance redressal mechanisms, and take expeditious action on unlawful content as per the provisions of law.

- In this context, the IT Rules, 2021 mandate intermediaries to observe due diligence and not to host or transmit unlawful information, whether generated by them or by users, including information that is obscene, pornographic, invasive of another's privacy, insulting or harassing on the basis of gender, racially or ethnically objectionable, or promoting hate or violence, or impersonates another person, or is harmful to child, or deceives or misleads the addressee about the origin of the message or knowingly and intentionally communicates any misinformation or information which is patently false and untrue or misleading in nature, or violates any law for the time being in force.
- The IT Rules, 2021 further require intermediaries to periodically inform their users, at least once every year, that in case of non-compliance with the rules and regulations, privacy policy or user agreement for access or usage of the computer resource of such intermediary, it has the right to terminate access or usage rights immediately or remove non-compliant information or both, as the case may be.
- The IT Rules, 2021 have a clear objective of enhancing online safety of users, particularly women & children by empowering them to exercise their rights towards safety, trust and modesty by enabling them to report grievances against various online harms and offences which are violative of any extant law and seek time-bound redressal from the intermediaries including social media intermediaries concerned whose computer resources are misused for hosting, publishing or sharing, uploading, etc. or making viral any unlawful information or content including any act which is defamatory and obscene in nature.

36. Further, taking cognisance of the fact that Images posted on internet continue to circulate through Airdrop, WhatsApp, and other platforms and by the time the image is deleted from one social media platform, it has already spread across the Country and the world causing immense harm. Hence, the Committee wanted to know how MeitY proposed to check this. In reply, it was submitted bythe Ministry:

- "In order to address such violations, intermediaries are required to take action on content infringing user rights upon receipt of a complaint by an affected user through the grievance redressal mechanism of the intermediary.
- The IT Rules, 2021 further prescribe specific timelines for the redressal of user grievances. In the event of non-resolution of a grievance by the intermediary within the stipulated timeframe, a user may file an appeal before the Grievance Appellate Committee (GAC). The Government has also established Grievance Appellate Committees (GACs) under the IT Rules, 2021 to allow users and victims to appeal online on www.gac.gov.in against decisions taken by the Grievance Officers of intermediaries in case they are dissatisfied with the decision of the Grievance Officer.

- Therefore, the IT Rules, 2021 have a clear objective of enhancing online safety of users and enable users, including parents and guardians, to report grievances against various online harms and offences which are violative of any extant law and seek time-bound redressal from the intermediaries including social media intermediaries.
- In case of failure of the intermediaries to observe the legal obligations as provided in the IT Rules, 2021, they lose their exemption from third party information provided under section 79 of the IT Act and shall be liable for consequential action or prosecution as provided under any extant law.
- Recognising the increasing availability of generative AI tools and the resulting proliferation of synthetically generated information (SGI) (commonly known as deepfakes), as well as the potential misuse of such technologies to create or generate SGI of obscene, vulgar, sexually explicit nature, including CSEAM, which may cause user harm, spread misinformation, manipulate elections, or enable impersonation of individuals, MeitY has prepared draft amendments to the IT Rules, 2021. The draft aims to strengthen due diligence obligations for intermediaries, particularly social media intermediaries (SMIs) and significant social media intermediaries (SSMIs), as well as for platforms that enable the creation or modification of synthetically generated content. The strengthened due diligence framework envisages that intermediaries offering computer resources enabling the creation or dissemination of such content shall deploy reasonable and appropriate technical measures, including automated tools, and adopt safeguards such as prominent labelling/disclosure of synthetically generated information and embedding of metadata/provenance mechanisms, to the extent technically feasible, to ensure accountability and user safety. The Ministry has invited feedback on the draft amendments to the IT Rules, 2021.
- The proposed SGI regulatory framework is envisaged to carefully provide exceptions so that routine good-faith editing/enhancement, accessibility improvements, and educational/training content are not treated as SGI, provided it does not materially distort or misrepresent the content or create false records. This ensures safeguards against misuse while supporting innovation and creativity.
- The IT Act also provides penal provisions for various cyber offences including identity theft (section 66C), cheating by personation (section 66D), privacy violation/NCII (section 66E), and publication/transmission of obscene/sexually explicit/CSEAM content (section 67/67A/67B). Additionally, IT Rules, 2021 [Rule 3(2)(b)] mandate intermediaries to remove certain categories of harmful content including impersonation/nudity/NCII expeditiously within prescribed timelines [24 hours] and provide grievance redressal.
- Further, in October 2025, MeitYhas issued a Standard Operating Procedure (SoP) to Curtail Dissemination of NCII Content under Rule 3(2)(b) of IT Rules,

2021, inter alia, providing a clear victim-centric protocol for reporting and takedown of NCII content, including:

(i) multiple reporting channels such as One Stop Centres (OSCs), intermediary grievance mechanism/report buttons, National Cyber Crime Reporting Portal (NCRP) and LEAs;

(ii) mandatory removal/disablement of flagged NCII content by intermediaries within 24 hours of complaint;

(iii) requirement for SSMIs to deploy crawler/hash-matching type measures to identify and take down re-uploaded/resurfaced NCII content;

(iv) coordination with I4C through NCRP/Sahyog Portal for creation/maintenance of secure NCII hash bank to prevent resurfacing;

(v) de-indexing by search engines and coordinated action by CDNs/DNRs/ISPs to render access inaccessible within timelines."

The said SoP to curtail dissemination of NCII Content may be accessed at the following link:

37. Elaborating the key provisions under IT Rules, 2021, the Ministry submitted the following:

Provision	**Details**
Restricted information under Rule 3(1)(b)	Restricts hosting, storing, transmitting, displaying or publishing information/content that, among other things: • belongs to another person and to which the user does not have any right; • is obscene, pornographic, invasive of another's privacy, insulting or harassing on the basis ofgender, racially or ethnically objectionable, or promoting hate or violence; • is harmful to child; • infringes any patent, trademark, copyright or other proprietary rights; • deceives or misleads the addressee about the origin of the message or knowingly and intentionally communicates any misinformation or information which is patently false and untrue or misleading in nature;

Provision	Details
	• impersonates others; • threatens national security or public order; • violates any applicable law.
User Awareness Obligations	Intermediaries must clearly inform users through terms of service and user agreements about the consequences of sharing unlawful content, including content removal, account suspension, or termination.
Accountability in Content Removal	Intermediaries must act expeditiously to remove unlawful content upon court orders, reasoned intimations from appropriate government, or user grievances, within prescribed timelines.
Grievance Redressal	• Intermediaries to appoint Grievance Officers • Mandates to resolve complaints through removal of unlawful content within 15 days or 72 hours, as the case may be, as prescribed under the rules. • Content violating privacy, impersonating individuals, or showing nudity must be removed within 24 hours against any such complaint.
Grievance Appellate Committees (GACs) Mechanism	Users can appeal online if their complaints are not addressed by the intermediaries' Grievance Officers. GACs ensure accountability and transparency of content moderation decisions.
Assistance by Intermediaries to Government Agencies	Intermediaries must provide information under their control or assistance to authorised Government agencies for identity verification, or for the prevention, detection, investigation, or prosecution of offences, including cyber security incidents.
Additional Obligations of significant social media intermediaries (SSMIs) (i.e., social media intermediaries having 50 lakhs or	• SSMIs offering messaging services must help law enforcement trace originators of serious or sensitive content. • SSMIs to use automated tools to detect and limit spread of unlawful content.

Provision	Details
above registered user base in India)	• SSMIs to publish compliance reports, appoint local officers (Chief Compliance Officers, Nodal Contact Persons, Resident Grievance Officers), and share physical address based in India for compliances and law enforcement coordination. • SSMIs are required to ensure that information hosted or transmitted on their computer resource is clearly identifiable as being advertised, marketed, sponsored, owned, or exclusively controlled, where such information is promoted for direct financial benefit or where the intermediary owns copyright, exclusive licensing, or contractual control over the publication or transmission of such information. • SSMIs to offer voluntary user verification, internal appeals, and fair hearing before taking *suo-moto* action.

38. According to the Ministry, an Advisory Group, chaired by the Principal Scientific Advisor, was constituted to undertake the development of an 'AI for India-Specific Regulatory Framework'. Under the guidance of the Advisory Group, a Subcommittee on 'AI Governance and Guidelines Development' was to provide actionable recommendations for AI governance in India. The Subcommittee's report on AI Governance, now published for public consultation, aims to guide the development of a trustworthy and accountable AI ecosystem in India. When the Committee wanted the Ministry to elaborate on the finer details of the Report, the following was submitted:

- "The India AI Governance Guidelines, released on 5 November 2025, establish a comprehensive national framework to ensure the safe, responsible, and inclusive development of AI across sectors. The guidelines propose a robust governance framework to foster cutting-edge innovation, and safely develop and deploy AI for all while mitigating risks to individuals and society.The framework comprises four key components:

  - ✓ **Seven guiding principles (Sutras)** for ethical and responsible AI.
  - ✓ **Key recommendations across six pillars** of AI governance.
  - ✓ **An action plan** mapped to short, medium, and long-term timelines.

- ✓ **Practical guidelines** for industry, developers, and regulators to ensure transparent and accountable AI deployment.

- At the core of the framework lie **seven guiding principles (Sutras): Trust, People First, Innovation over Restraint, Fairness & Equity, and Accountability, Understandable by Design and Safety, Resilience & Sustainability.**

  - ✓ They are designed to be technology agnostic and applicable across all sectors. These principles emphasize human-centric development, ethical use, and the prevention of harms such as deepfakes, bias, misinformation, and discrimination.

- The guidelines organize recommendations across **six governance pillars**: **Infrastructure expansion, capacity building, policy and regulation, risk mitigation, accountability, and institutional oversight.**

- These are envisioned as a foundational reference for policymakers, researchers, and industry to foster greater national and international cooperation for safe, responsible, and inclusive AI adoption."

39. Since capitalizing on the transformative potential of AI required a whole-of-ecosystem approach to drive innovation and democratize access to AI infrastructure and resources, the Committee wanted to know how the Ministry proposed to achieve this. In reply, the Ministry submitted:

- " Guided by the vision of *"Making AI in India and Making AI Work for India"*, the Cabinet approved the **India AI Mission** in March 2024, with a budget outlay of ₹10,372 crore over five years. The mission marks a defining step towards making India a global leader in Artificial Intelligence.

- The IndiaAI mission will establish a comprehensive ecosystem catalyzing AI innovation through strategic Programmes and partnerships across the public and private sectors. By democratizing computing access, improving data quality, developing indigenous AI capabilities, attracting top AI talent, enabling industry collaboration, providing startup risk capital, ensuring socially impactful AI projects and bolstering ethical AI, it will drive responsible, inclusive growth of India's AI ecosystem.

- The IndiaAI Mission is being implemented through **seven key pillars:**

➢ **IndiaAI Compute:**

- For democratizing access to AI infrastructure, IndiaAI launched a request for empanelment of agencies for offering AI services on cloud on August 16th, 2024.

- Under this pillar, **14 empaneled AI Cloud Service providers will enable access to more than 38,231 GPUs** across Intel, AMD, NVIDIA, and AWS architectures. The GPUs are being made available at competitive **L1 rates of Rs. 65, including 40% subsidy,** through the IndiaAI Compute portal. An additional 24,000 GPUs are expected to be empaneled in the ongoing 4th round of empanelment

➢ **IndiaAI Application Development Initiative:**

- The pillar aims to support the development, scaling, and promotion of impactful AI solutions that address real-world challenges.

- 30 solutions are being developed across 14 themes in 5 pivotal sectors climate change, disaster management, healthcare, agriculture, governance, and assistive technologies for learning disabilities. 5 applications for national rollout have been selected across 5 pivotal sectors

- IndiaAI has also partnered with ministries such as **AYUSH, MSME and National Financial Reporting Authority (NFRA)** to identify high-impact AI use cases

- Sector-specific hackathons have been organized with the Indian **Cybercrime Coordination Centre, the Geological Survey of India** and **National Cancer Grid (NCG)** to further encourage focussed AI solution development.

- Four more hackathons are being organized by IndiaAI. They are **IndiaAI Financial Reporting Compliance Challenge**, **IndiaAI Intelligent Document Processing Challenge**, **IndiaAI Face Authentication Challenge,** and **IndiaAI Innovation Challenge for Transforming Governance** in partnership with Govt. of Andhra Pradesh.

➢ **AIKosha - IndiaAI Datasets Platform:**

- AIKosh develops large datasets for training AI models. It provides secure access to high-quality, non-personal datasets and AI models, along with an integrated development environment.

- The platform has over **10016+ datasets and 277 AI Models** onboarded from **66+ organizations** across **20 sectors**.The platform also features access to **35 use cases and 25 toolkits**.

  ✓ **29,757 dataset downloads**

  ✓ **5,569** models downloaded

  ✓ **19,560** registered users

- AIKosh integrates data from government and non-government sources such as Government, Academia, Startups, Corporates

- **IndiaAI FutureSkills:**

  - The IndiaAI FutureSkills Pillar aims to expand AI Skilling Programmes and create pathways for entry-level with Fellowship Programmes to support **500 PhD fellows, 8,000 undergraduate students, and 5,000 postgraduate students** across a variety of disciplines. Furthermore, **570 Data and AI Labs** will be established across Tier 2 and Tier 3 cities in India, of which **27 labs** in collaboration with the National Institute of Electronics & Information Technology (NIELIT) are already launched

  - To prepare the workforce for the future, MeitY launched Future Skills PRIME, a national Programmeme focussed on reskilling and upskilling IT professionals in **10 new and emerging technologies, including AI.** As of Feb 2026, the portal has more than **28.8 lakhs registered users, 17.65 lakhs student enrollments, and over 7 lakhs badge holders.**

  - Meity also launched the **'YuvAI for All'** course in Nov 2025, to make AI literacy accessible to everyone. The course aims to equip 1-crore people with basic AI skills. As of Feb 2026, the course has over **377,902 enrollments.**

  - **YUVAi (Youth for Unnati and Vikas with AI):** National e-Governance Division (NeGD), MeitY in collaboration with industry partners (Intel & Meta), has launched **'YUVAi: Youth for Unnati and Vikas with AI'**- A National Programmeme for School Students with an objective of enabling school students from classes 8th to 12th with AI tech and social skills in an inclusive manner.

- **IndiaAI Startup Financing:**

  - This pillar addresses the critical need for risk capital across the entire lifecycle of AI startups—from prototyping to commercialization.

  - The IndiaAI Startups Global Initiative, launched in collaboration with Station F (Paris) and HEC Paris, aims to support 10 cutting-edge Indian AI startups in expanding into the European market. It aims to establish 58 state/UT-level Centres of Excellence in AI alongside industry, academia, and research partners, aiming to further strengthen local AI ecosystems.

- **IndiaAI Foundation Models:**

  - The pillar aims to catalyze AI development by supporting 15 to 20 startups in developing LLMs and SLMs. These startups would receive full compute usage and additional funding covering up to 25% of compute expenditure.

  - In the first and second phase, twelve startups were selected: Sarvam AI, Soket AI, Gnani AI, Gan AI, Avaatar AI, IIT Bombay consortium – BharatGen, Zenteiq, Gen Loop, Intellihealth, Shodh AI, Fractal Analytics, Tech Mahindra Maker's Lab.

- **Safe & Trusted AI:**

  - **Eight projects** focussing on diverse themes have been selected through an EOI process and are currently under development, the second round of EOI was launched covering critical themes such as **Watermarking & Labelling, Ethical AI Frameworks, AI Risk Assessment & Management, Stress Testing Tools, and Deepfake Detection Tools**, promoting a comprehensive approach to AI governance, in which **Five projects have been selected of the 400+ applications received**.

  - AI Safety Institute launched with over 90 applications received for partnering institutes."

40. The IndiaAI IDP (IndiaAI Intelligent Document Processing) challenge, in partnership with public institutions, will utilize AI/ML technologies to streamline public services processes by enabling intelligent document processing for a high-volume of text-heavy documents across varying levels of quality and formats. The Committee, in this regard, asked about the progress made by MeitY so far and the following was received in response:

"The IndiaAI IDP Challenge, under the IndiaAI Mission of MeitY, is a key step towards deploying AI-driven intelligent document processing to enhance access to public service delivery.

Through this initiative, IndiaAI is catalysing solutions that can handle large volumes of multi-format, low-quality and multi-lingual documents using advanced OCR and NLP, and convert them into structured, machine-readable outputs for governance workflows. This is directly aligned with the IndiaAI objectives of strengthening data-driven decision-making and improving the efficiency, accuracy and transparency of citizen-facing services.

The evaluation committee comprising senior representatives from IndiaAI, Ministry of Finance, Union Public Service Commission, National e-Governance Division, Software Technology Parks of India and Ministry of Electronics and Information Technology,

completed the Stage 1 evaluation basis of the reports shared by the teams as part of their application process and shortlisted top 10 teams for Stage 2 evaluation process.

The shortlisted teams, post the execution of the NDAs received encrypted access to representative public-sector document datasets to test their solution performance. The shortlisted teams were given 17 days to process the datasets and submit the outputs in the standardised template by 10 February 2026

To conclude Stage 2, the teams will present and demonstrate their solutions' capabilities to the Evaluation Committee, showcasing use cases such as automated extraction, classification and validation of fields from text-heavy records, forms and registers for potential pilot deployment with partner public institutions."

41. When asked whether crimes committed with the assistance of Artificial Intelligence are treated as Cyber crime and If so, what steps have been taken by the Ministry to address these emerging challenges and the following was submitted in response:

• "The Indian cyberspace is primarily regulated through the **Information Technology Act, 2000 ("IT Act")** and the rules thereunder. As the principal legislation regulating digital platforms and online activities, the IT Act provides the legal foundation for ensuring accountability of intermediaries and safeguarding users from a range of cyber offences. There are 18 sections under the IT Act which cover various forms of cyber offences, out of which 6 offences are non-bailable and 12 offences are bailable.

• The IT Act provides for punishment against various offences considered as cybercrimes such as identity theft, cheating by personation, violation of privacy, publishing/transmitting material that is obscene/ containing sexually explicit act, etc., depicting children in sexually explicit act/transmitting/ browsing child sexual abuse material, cyber terrorism etc. The IT Act penalises various cyber offences relating to computer resources, including—

- tampering with computer source documents (section 65),
- dishonestly or fraudulently accessing a computer resource without the permission of its owner commonly referred to as hacking (section 66),
- identity theft (section 66C),
- cheating by impersonation (section 66D),
- violation of bodily privacy (section 66E),
- cyber terrorism (section 66F),
- publishing or transmitting of obscene material in electronic form (section 67), and publishing or transmission of material containing sexually explicit act or CSAM in electronic form (section 67A and 67B)

- non-compliance with the direction for interception or monitoring or decryption of any information on certain grounds like public order, national security, etc. (section 69),
- non-compliance with the direction for blocking access of information by public on certain grounds like public order, national security, etc. (section 69A),
- non-compliance with the direction for providing technical assistance and extending all facilities to enable monitoring and collecting traffic data or information (section 69B),
- making or attempt to unauthorised access to protected system (CII) (section 70),
- non-compliance with CERT-In's direction or call for information (section 70B), etc.

• Each such cybercrime is punishable with imprisonment for a period that may extend to one year to life imprisonment, and as per section 77B of the IT Act, an offence punishable with imprisonment of three years and above shall be cognizable and the offence punishable up to imprisonment of three years shall be bailable. Further, a police officer not below the rank of Inspector is empowered to investigate any offence under the IT Act under section 78.

• It may also be noted that the IT Act, read with the rules made thereunder, is **a technology-neutral legislation** that does not distinguish between computer resources in general and those that use Artificial Intelligence ("AI") or any other emerging technologies. Accordingly, the provisions of the IT Act apply uniformly to all computer resources, including those leveraging AI or similar technologies. Further, the IT Act does not distinguish between any information that is generated using AI tools or any other technology and those which are generated by users themselves for the purpose of defining offences.

• Accordingly, offences such as computer-related offences (Section 66 read with Section 43), identity theft (Section 66C), cheating by personation (Section 66D), violation of privacy (Section 66E), and publication or transmission of obscene, sexually explicit or child sexual exploitative and abuse material (Sections 67, 67A and 67B) apply equally where AI tools are used in the commission of the offence.

42. The Committee asked how the Ministry, in context of Artificial Intelligence, addresses the regulatory vacuum, wherein statutory recognition may not yet exist, but AI-related issues enter jurisprudence and are subjected to legislative and judicial scrutiny. In reply of both the queries, the Ministry furnished the reply as under:

• "The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 ("**IT Rules, 2021**") lay down the statutory due diligence framework governing intermediaries and significant social media intermediaries. In view of the rapid advancement, accessibility and increasing misuse of generative artificial intelligence technologies, particularly in the creation and dissemination of highly realistic synthetic audio, visual and audio-visual content and deepfakes, the Ministry of Electronics and Information Technology (MeitY), in exercise of the powers given under the Information

Technology Act, 2000 ("IT Act"), notified [1]**the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2026 relating to synthetically generated information (SGI)**, *vide* Gazette notification number G.S.R. 120(E), dated 10th February, 2026, which came into force on **20th February, 2026**.

• The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2026 amends the IT Rules, 2021 to further strengthen the due diligence framework for intermediaries, particularly in relation to **synthetically generated information (SGI)** and associated online harms.

- The amendments introduce definitions relating to audio, visual or audio-visual information and SGI; strengthen user awareness and compliance timelines; introduce a dedicated SGI due diligence framework under Rule 3(3); and impose additional obligations on Significant Social Media Intermediaries (SSMIs), including user declaration, technical verification and prominent labelling of SGI. The amendments, *inter alia*, cover the following broad areas:

  - insertion of definitions relating to **"audio, visual or audio-visual information"** and **"synthetically generated information (SGI)"**, along with specific exclusions of certain categories information from the definition of SGI;
  - clarification that, for purposes of these Rules, references to **"information"** in the context of unlawful acts shall include **SGI**;
  - clarification that removal/disablement of information including SGI in compliance with the Rules (including through reasonable technical measures / automated tools) shall **not** amount to violation of section 79(2)(a) or 79(2)(b) conditions;
  - strengthening of **user awareness obligations**, including periodic user information at least once every three months, and additional warnings for intermediaries facilitating SGI creation;
  - strengthening of **timelines for compliance**, including reduced timelines for removal of unlawful information upon actual knowledge and for grievance redressal (including special categories such as nudity/impersonation etc.);
  - introduction of a dedicated SGI due diligence framework under **Rule 3(3)**, including:
    - measures to prevent unlawful/prohibited SGI; and
    - labelling/metadata/identifier obligations for permissible SGI;

- additional due diligence obligations for **Significant Social Media Intermediaries (SSMIs)**, including user declaration and technical verification before publishing SGI, and prominent labelling of SGI.

• A brief summary of the key provisions of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2026 is given below:

Brief Summary of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2026:

A. *Definition of Synthetically Generated Information (SGI)*

SGI is defined as artificially or algorithmically created, generated, modified or altered audio, visual or audio-visual information appearing real. [Rule 2(1)(wa)]

Exclusions: The definition excludes:

- Routine or good-faith editing, formatting, enhancement, colour correction, transcription;
- Draft, illustrative or conceptual content;
- Accessibility improvements such as translation or clarity enhancement.

B. *Dedicated SGI Due Diligence Framework*

Intermediaries facilitating creation or generation of SGI must:

- Deploy reasonable technical measures to prevent unlawful SGI; [Rule 3(3)(a)(i)]
- Ensure visible labelling and metadata embedding; [Rule 3(3)(a)(ii)]
- Inform users of legal consequences of unlawful SGI.[Rule 3(3)(b)]

C. *Strengthened User Accountability*

Users must be informed that unlawful SGI may attract penalties under laws including [Rule 3(1)(c), 3(1)(ca), 3(1)(cb)]:

- Information Technology Act, 2000
- Bharatiya Nyaya Sanhita, 2023
- Protection of Children from Sexual Offences Act, 2012
- Representation of the People Act, 1951
- Indecent Representation of Women (Prohibition) Act, 1986
- Sexual Harassment of Women at Workplace Act, 2013
- Immoral Traffic (Prevention) Act, 1956

Contravention may lead to:

- Immediate removal;
- Suspension/termination of account without vitiating evidence;
- Identification and lawful disclosure to victims;
- Mandatory reporting to authorities where required.

D. *Additional Obligations for Significant Social Media Intermediaries (SSMIs)* [Rule 4(1A) 4(4)]

- Mandatory user declaration before publishing SGI;
- Technical verification mechanisms;
- Prominent labelling;
- Strengthened compliance architecture for large platforms.

E. *Safe Harbour Clarification*

Clarifies that removal or disablement of information, including SGI, in compliance with the Rules does not affect protection under Section 79(2) of the Information Technology Act, 2000. [Rule 2(1B)]

F. *Time-Bound Enforcement Reform*

1. Reduction of Removal/disablement Timeline

   Removal/disablement timeline reduced from **36 hours to 3 hours** upon valid reasoned intimation from the Appropriate Government. [Rule 3(1)(d)]

2. Reduction of Grievance Redressal Timelines

   - General grievances: reduced from 72 hours to 36 hours; [First Proviso to Rule 3(2)(a)(i)]
   - Special category harms (nudity, impersonation, sexually explicit content etc.): reduced from 24 hours to 2 hours. [Rule 3(2)(b)]"

43. Asked about AI readiness in the Country, particularly with regard to software and hardware infrastructure', the role of India AI mission in this regard and steps taken to develop State-Level data centres as full-fledged data centres, in addition to data centres located in Delhi, the reply by the Ministry was:

- "Under the IndiaAI mission, MeitY has implemented various initiatives with regards to software and hardware infrastructure that will act as an enabler of socio-economic development. MeitY has democratized access to AI

infrastructure, making the AI infrastructure: compute, datasets and foundational modelsaccessible, affordable and available to a wide set of users.

- **IADI:** The IndiaAI Application Development Initiative (IADI) is engineered to promote the creation and implementation of at least 25 significant AI solutions capable of driving large-scale socio-economic transformation. Launched in 2024, the first Innovation Challenge focussed on pivotal sectors such as climate change, disaster management, healthcare, agriculture, governance, and assistive technologies for learning disabilities.

  - ✓ Thirty applications have reached the prototyping stage, with a second iteration of the challenge planned in conjunction with the Ministry of Education. Additionally, sector-specific hackathons/ Innovation Challenges have been organized with the Indian Cybercrime Coordination Centre, the Geological Survey of India and National Cancer Grid (NCG) to further encourage focussed AI solution development. Five applications for national rollout have been selected across 5 pivotal sectors

- **Foundation Models:** The IndiaAI Foundation Models pillar aims to catalyze AI development by supporting 15 to 20 startups in developing LLMs and SLMs. These startups would receive full compute usage and additional funding covering up to 25% of compute expenditure. The financial support is structured as a mix of grants (40% of compute costs) and 60% equity to be realized at future valuation rounds. From 506 proposals received, four proposals from Sarvam AI, Soket AI, Gnani AI, and Gan AI have been selected in the first phase to develop India's foundation models. In phase 2, additional 8 proposals selected for building Foundation Models – Avatar AI, IIT Bombay Consortium (BharatGen), GenLoop, Zentieq, Intellihealth, Shodh AI, Fractal Analytics Ltd. and Tech Mahindra Maker's Lab.

- **Access to Compute:** The national GPU pool being expanded by the IndiaAI Mission is accessible through a government-supported cloud infrastructure. The IndiaAI Compute Portal operates over 38,231 GPUs. This is available at subsidised rates of under Rs. 65/hour, compared to the global rates of more than Rs. 200/ hour.

  - ✓ To empanelment the latest GPUs and empanelment a greater number of AI Services, the 4th round of empanelment has been made live on 6th November 2025. In India AI Impact Summit 2026, Union Minister for Electronics and Information Technology Ashwini Vaishnaw announced that India will expand its compute capacity beyond the existing 38,000 Graphics Processing Units (GPUs), with an additional 20,000 GPUs to be added in the coming weeks.

- ✓ At present, more than 270 users have already registered, and subsidy valued at approximately ₹1085 crores has been allocated. A significant development includes the construction of a **government-controlled GPU cluster** set to house **3,000 next-generation GPUs**, which will cater primarily to **sovereign and strategic requirements for state governments**. The first RFP for setting up a sovereign compute at Shastri Park, NIC Datacentre has been published on 31st October 2025.

- **AIKOSH**: In 2025, IndiaAIKosh was launched under the IndiaAI Mission. It aims to serve as a national repository of AI datasets, models and tools. The platform organises datasets in 20 sectors, covering a wide range of domains critical to India's development. As of Feb 2026, it has onboarded 10016+ datasets and 277 AI models from 66+ entities across 20 sectors. The platform provides permission-based access, allowing contributors to retain control over data usage while facilitating AI development.A notable feature of this platform is its permission-based access, allowing data contributors to maintain control over download, thereby balancing data sharing with privacy concerns."

44. Elaborating the ways to develop a framework to ensure equity in the use of datasets by both public and the private sectors and apply them uniformly across sectors such as healthcare and across different Departments. The Ministry submitted the following:

"The Ministry is developing a comprehensive framework to ensure equity in dataset usage through a combination of Digital Public Infrastructure (DPI), inclusive access policies, and sector-specific governance. This strategy ensures that high-quality data is not a siloed asset but a shared resource for national innovation.

Initiatives and Scope

The primary initiative driving this direction is the **IndiaAI Datasets Platform** -**AIKosh**, which aim to democratize access to the building blocks of AI.

- **Inclusive Open Access:** The framework provides free, open access to a national repository containing **10,000+ datasets** and **250+ AI models**.
- **Data Sourcing:** The repository hosts **non-personal data** sourced from both the public and private sectors.
- **Sovereign Model Development:** Private entities are encouraged to leverage these public datasets, combining them with external data to develop indigenous and **sovereign AI models** like BharatGen.
- **Balanced Participation:** The scope includes Public-Private Partnerships (PPPs) designed to co-create and share data, ensuring that smaller startups and researchers have the same access as large industry players.

Equity via Governance and Sectoral Guidelines

To ensure that access translates into fair and ethical outcomes, the Ministry has established overarching **AI Governance guidelines**.

- **Cross-Sectoral Applicability:** These guidelines serve as a foundational blueprint that can be uniformly applied across various departments to standardize data-sharing protocols and ethics.
- **Healthcare Integration (SAHI):** The Ministry of Health and Family Welfare has launched the **Strategy for Artificial Intelligence in Healthcare for India (SAHI)**, which focusses on:
    - **Data Strategy and Utilization:** Strategic use of the **Ayushman Bharat Digital Mission (ABHA)** ecosystem to ensure data-driven healthcare delivery.
    - **Ethical Standards:** Mandating consent-based data use, transparency, and accountability to prevent algorithmic bias.

Strategic Impact

By integrating **non-personal data accessibility** with **stringent governance**, the Ministry ensures that the AI ecosystem remains resilient, trusted, and inclusive. This framework allows India to move from theoretical principles to actionable, real-world AI impact, as demonstrated during the **IndiaAI Impact Summit 2026** where these sovereign models and datasets were showcased to a global audience."

45. When the Committee wanted to know about the consultation papers that were available for review prior to deliberation on the AI Summit, the following submission was made:

"The AI Impact Summit 2026 discussions were organised through **seven thematic working groups** each focussed on a key dimension of the AI ecosystem. These working groups produced **outcome documents outlining voluntary frameworks, cooperation mechanisms, and practical initiatives.**

In addition, the summit adopted a **Summit Declaration** and **the New Delhi Frontier AI Impact Commitments**, capturing the shared principles and areas of cooperation.

For the reference of the Committee, the key documents emerging from the Summit are enclosed in this submission.

1. AI Impact Summit Declaration

The declaration outlines the collective understanding reached by participating countries and organisations on advancing AI for public good. It summarises the core principles

guiding cooperation across areas such as access to AI resources, trustworthy AI systems, AI for science, inclusive adoption, human capital development and economic growth.

2. Charter for the Democratic Diffusion of AI (Democratizing AI Resources Working Group)

This charter proposes a voluntary framework to improve global access to foundational AI resources such as compute, datasets, models and talent. It emphasises equitable participation in AI development, support for multilingual datasets, and collaborative infrastructure initiatives to reduce barriers to entry.

3. Framework for the Trusted AI Commons (Safe & Trusted AI Working Group)

This framework proposes the creation of a shared repository of technical AI safety resources, including tools, benchmarks and standards.

4. Guidance Note on AI Governance (Safe & Trusted AI Working Group)

The guidance note outlines practical approaches for governments to design AI governance systems.

5. Network of AI for Science Institutions (Science Working Group)

This initiative proposes a collaborative international network to support the use of AI in scientific research. It focusses on enabling cross-border collaboration, sharing tools and datasets, and strengthening participation of institutions across regions.

6. Alliance for Advancing Inclusion through AI (Inclusion for Social Empowerment Working Group)

The alliance aims to promote AI solutions that improve access to services, opportunities and information for underserved communities. It includes a platform to document use cases, share implementation practices and support scaling of inclusive AI initiatives.

7. Voluntary Guiding Principles for Skilling and Reskilling in the Age of AI (Human Capital Working Group)

These principles focus on strengthening workforce preparedness for the AI era through AI literacy, reskilling initiatives and inclusive access to learning opportunities, particularly for vulnerable and underserved groups.

8. New Delhi Frontier AI Impact Commitments

This document outlines voluntary commitments by participating organisations to improve transparency on real-world AI usage and strengthen multilingual evaluation of AI systems to support broader and more inclusive adoption."

B. Ministry of New and Renewable Energy

46. Artificial Intelligence based applications and learning models are gradually being suitably used to identify the risky areas, risk patterns, probability and impact of the risk envisaged. Some of the major use cases for power sector include use of Al for detection and analysis of Information Security risk at real-time basis as well as for post-facto forensic.GRID-INDIA has established a Next Generation Security Operation Centre (SOC) for monitoring the network activities of its 6 control centres (viz. NLDC & 5 RLDCs) and is operating the same since October 2022. Artificial Intelligence (AI)-based behavioral analysis models are used in the established SOC modules viz. User Entity Behavior Analysis (UEBA) and Network Behaviour Anomaly Detection (NBAD) which identify deviation from general behavioural patterns/ profiles of the User/ Network component thereby generating alerts to the concerned security team for further investigations. Al-driven challenges in cyberspace are increasing and utilities are being targeted for the massive impact of such activities. Cyber Security Al-driven challenges include Advanced Persistent Threats (APT) and reconnaissance activity by embedded Malware that can adapt, evolve, and evade detection. Such threats can be mitigated through Deep packet inspections, hardened security design and enforcement of strict security policies. GRID-INDIA being ISO27001:2022 certified has implemented suitable controls to protect its Critical Information Infrastructure (CII) installations at NLDC & RLDCs from Al-based threats. Also, robust incidence response and recovery mechanisms with periodic audits and drills help in necessary control and emergency preparedness.

47. When asked if the Ministry of New & renewable Energy was working together with the Indian Meteorological Department to get early insights on where there might be a chance of solar power going down or wind frequency going down, which could affect the power grid, the Ministry replied:

"India has set ambitious target of renewable energy, aiming for 500 GW capacity by 2030. Integrating solar and wind power into the grid requires precise power forecasting for effective grid management, energy planning, and maintaining a stable and reliable power supply. The main weather parameters utilized for RE generation forecast are (a) Precipitation (b) Atmospheric Pressure (c) Relative humidity (d) Solar irradiation (e) Temperature (f) Wind speed & direction. The following steps have been undertaken in the area of weather forecasting to ensure grid stability: (i) Central Electricity Authority (CEA) has constituted a core group comprising members from the Indian Meteorological Department (IMD), National Centre for Medium Range Weather Forecasting (NCMRWF), GRID-INDIA, National Institute of Wind Energy (NIWE), National Institute of Solar Energy (NISE), Solar Energy Corporation of India Ltd (SECI) and experts from the wind and solar sector to develop a methodology to improve data collection and forecasting for enhanced renewable energy (RE) prediction. (ii) Joint meetings have been organised by Ministry of Power & Ministry of Earth Sciences

(MoES) have been held with stakeholders to improve localized weather forecasts. (iii) IMD has agreed to share key inputs including Precipitation, Atmospheric Pressure, Relative humidity, Solar iradiation, Temperature, Wind speed & direction. (iv) Forecasts will be based on a l2xl2 km GFS model grid, with l0-day forecasts at 00 and l2 UTC, 3-day forecasts at 06 and l8 UTC, and hourly resolution up to 36 hours, followed by 3-hour intervals. IMD is also working to enable sub-hourly (1s-minute) forecasting capabilities. (v) IMDNCMRWF will provide weather forecasts for RE rich states at one-hour intervals with enhanced grid resolution of4x4 km or better". (vi) They will provide weather forecasts at LS-minute interval to Grid-lndia using MoES model data, with a grid size of 4x4 km and a refresh rate of twice-daily. By June 2025, the refresh rate will be increased to hourly, subject to availability of actual data from Automated Weather Stations (AWS) installed at RE plants. (vii) Additionally, IMDNCMRWF will provide satellite-based products for nowcasting cloud, fog and storm movements, enabling solar radiation fluctuation predictions up to three hours in advance, starting February - March 2025. (viii) IMD is currently sharing specialized solar and wind energy forecasts to help optimize power supply strategies during extreme weather conditions. The forecast resolution has been improved from 25x25 km to l2x 12 km and the forecast frequency has been increased from once daily to four times a day. (ix) weather forecasting services are being provided to power sector through a dedicated portal, offering weather forecasts, nowcast warnings, all India Weather forecasts & meteograms, satellite & RADAR datq and severe weather alerts."

48. During deposition before the Committee, the Secretary of MeitY submitted:

"करेंट्ली डेटा सेन्टर्स का लगभग 1020 मेगावाट लगा हुआ है। दो वर्ष में वह डबल हो जाएगा। यह लगभग दो हजार से ऊपर चला जाएगा। हो सकता है कि चार-पाँच वर्षों में चार-पाँच गीगावाट पावर की जरूरत पड़ेगी। अभी इसकी प्लानिंग करनी है। More than that, distribution network has to be planned because they need to be close to a 400-kilowatt sub-station. इसलिए उसकी प्लानिंग भी चल रही है। We have had two or three rounds of discussions with all stakeholders".

49. He further submitted:

"इसे बढ़ा रहे हैं क्योंकि इसमें दो रिक्वायरमेंट्स हैं। एक पावर की रिक्वायरमेंट है और दूसरी कनेक्टिविटी की रिक्वायरमेंट है। जहाँ पर अंडर-सी केबल आता है, यह उसके पास रहता है। लेकिन इंटर्नल कंट्री का डेटा है, तो उसमें दो तरह के और डेटा सेन्टर्स आएंगे। जैसे नोएडा वगैरह में डेटा सेन्टर्स लग रहे हैं। यहाँ डोमेस्टिक रिक्वायरमेंट मीट करने के लिए भी डेटा सेन्टर की जरूरत होती है और एज़ डेटा सेन्टर्स भी लग रहे हैं, क्योंकि स्पेशियली एआई और लोकली कम्प्यूट करने के लिए इसकी जरूरत पड़ती है"।

C. Ministry of Finance

Department of Financial Services/Department of Revenue/Directorate of Enforcement (ED)/Central Board of Direct Taxes (CBDT)/Central Board of Indirect Taxes and Customs (CBIC)

50. In the Financial sector, the challenges like growing third-party dependencies and market concentration; increased correlation due to widespread use of similar AI models leading to financial stability risks; lack of interpretability of AI models and data quality concerns; Data privacy, cybersecurity concerns, and use of AI for spreading disinformation; the use of AI in cybersecurity can significantly strengthen our defenses against cyber threats however cyber attackers can also leverage AI to enhance their methods, making them more effective and difficult to counter, are being encountered.

51. With respect to role played by AI in improving and boosting cyber security measures in India and checking cyber-crimes along with improving law enforcement and prevention of crime in India, it was further submitted that:

"**(1) Cyber security threats and cyber-crime is a major area of concern in India:** Cyber-crime and online financial frauds are crimes committed using the internet to deceive or defraud individuals or organizations for financial gain:

(i) Automated Transactions;
(ii) Account Takeovers;
(iii) Deep fake and Identity Fraud;
(iv) Cryptocurrency Manipulation;
(v) AI-Generated Shell Companies.

(2) Role of AI in improving law enforcement, preventing cyber-crime and combating online financial frauds;

(i) Real-time fraud detection and prevention: AI can detect or prevent fraud through Real-time Transaction Monitoring. The AI-powered systems can analyse huge amounts of transaction data in real time, lagging suspicious activities or anomalies e.g. AI systems can detect unusual deviation in patterns / behaviour such as large, uncharacteristic withdrawals or transactions in unusual locations). AI can also use behavioural biometrics (such as typing speed, mouse movements, and navigation patterns) to monitor user behaviour and identify inconsistencies.

(ii) Identity verification and authentication: AI can use facial recognition and voice biometrics for secure, frictionless authentication. This ensures that only authorized users can access their financial accounts, reducing the risk of identity theft.

(iii) Predictive Analytics for Fraud Prevention: By examining historical data, AI models can predict which transactions are most likely to be fraudulent and alert authorities or banks to take preventive action. Predictive models can also identify risky patterns or high-risk individuals, helping financial institutions take proactive steps to mitigate fraud.

(iv) Anomaly Detection with Machine Learning: Machine learning algorithms can be trained to detect unusual patterns in user behaviour or financial transactions. These algorithms continuously learn from new data, allowing them to identify and respond to emerging fraud tactics e.g. if a user typically makes small, domestic transactions but suddenly attempts an international transfer of a large sum, the AI system would flag this as an anomaly and prompt additional verification.

(v) Fraudulent Account Detection: AI can help detect synthetic identity fraud, where criminals create fake identities using a combination of real and fabricated information. Machine learning models can cross-check various data points across multiple platforms to uncover discrepancies and identify such fraudulent accounts.

(vi) Analysis of huge data: AI can analyse huge amount of data/information which are collected during investigation such as bank statements, financial reports, email dumps etc. in real time basis.

(vii) Detection of hidden assets: In criminal cases especially cyber and crypto fraud cases, criminals not only commit illegal activities but also hide their illicit assets/funds in a hidden wallet. In this respect, a well-trained AI with analysis capabilities can help in tracing such hidden assets and the same can be recovered".

52. Regarding the role of AI in combating online financial frauds in India, it was submitted that:

"**CBDT**

AI can play an effective role in combating online financial frauds in the context of ITD by protecting its IT-systems from cyber threats and attacks and responding to such threats in real-time. Machine learning algorithms can predict cyberattacks by recognizing unusual network behavior, while natural language processing helps decode phishing attempts or malicious code. AI-driven automation can patch security gaps, manage access controls, and reduce human error.

CBIC

AI can be effectively used in the following ways to combat online financial frauds in India

- AI can be used in Data Analytics of large data in a short time and the analytics report generated by AI can be used in combating online financial fraud including tax related fraud.
- The AI Modules can be used to identify the pattern in the related data using users' profile, transactional history and the compliance data, and pattern can be used to identify alert and risky financial fraud.
- Artificial Intelligence/Machine Learning models trained on transaction patterns can detect anomalies and flag suspicious activities like phishing attempts in real-time.
- AI-powered AML (Anti-Money Laundering) Tools can be used to monitor large volumes of transactions and create alerts.
- AI-driven Cybersecurity Tools can be used to detect malware, ransomware, and fraud vectors in digital payment ecosystems.
- AI Chatbots & Virtual Agents can be used to create awareness among customers on financial frauds.
- AI can be utilized to detect and prevent trade-based money laundering by analysing patterns and anomalies in customs data.

FIU-IND

AI can play a vital role in understanding the legal requirement and business dynamics and thus may help in optimising the effective targeted RFIs, enhancing the precision of suspicious transaction detection. AI can help identify emerging risks and trends in financial crime, enabling proactive measures to be taken. AI can be used to monitor transactions for suspicious patterns, such as structured transactions, shell company usage, or unusual transaction amounts. AI can assist in verifying client identities and assessing their risk profiles during the onboarding process especially in VKYC etc.

2. By leveraging machine learning and data analytics, AI can dynamically adjust thresholds settings with data-driven adjustments based on real-time fraud trends, transactional behaviors, and risk profiles, reducing manual intervention and ensuring greater accuracy in alert generation. AI-powered systems can monitor transactions in real-time, enabling faster detection and response to suspicious activities. AI can support the development and maintenance of dynamic financial crime risk assessments, allowing for continuous monitoring of changes in risk profiles. Unlike static threshold based RFIs, AI enables

personalized risk assessment e.g. High-risk customers are subject to lower transaction thresholds whereas Low-risk individuals face fewer unnecessary alerts, reducing compliance burden.

3. AI can adapt to the changing scenarios quickly and thereby enhance RFI effectiveness, improving AML/CFT compliance by increasing detection accuracy, reducing false positives, and adapting in real-time to evolving financial crimes with AI-powered intelligence, Reporting Entities can strengthen AML/CFT systems and enhances financial fraud detection. The new age financial crimes such as phishing, identity theft, Investment scam etc. may be quickly detected by the enhanced use of AI/ML. Al's ability to process large amounts of data quickly and accurately enables faster and more efficient AML/CFT processes.

4. The AI tools/technology such as Machine Learning (ML) Algorithms, Behavioral Biometrics, Natural Language Processing (NLP), Predictive Analytics, Fraud Management Platforms, AI-Driven Chatbots, Network Graph Analytics, Deep Learning, Simulation Modelling helps in the detection of anomalies in transaction patterns (e.g., unusual spending, logins), analyze user behavior (typing speed, mouse movements) to detect takeovers, identify phishing attempts in emails, SMS, and social media, forecast potential fraud using historical data and trends, real-time, cross-channel fraud detection and AML using neural networks, transaction monitoring to detect money laundering and mule networks, analyze card transactions to reduce fraud and false declines, simulate fraud scenarios to test and refine detection systems etc. Al algorithms can analyse large volumes of transaction data to identify anomalies and patterns that might indicate money laundering or terrorist financing activities, which can be difficult for humans to detect. Hence, developments in AI research in the field of AML and financial frauds, could lead to prevention and reduction in the instances of financial crimes in India.

Directorate of Enforcement (ED)

(1) Cyber security threats and cyber-crime is a major area of concern in India: Cyber-crime and online financial frauds are crimes committed using the internet to deceive or defraud individuals or organizations for financial gain. Methods used by criminal for money-laundering which may arise as a challenge for India as well with the help of AI are briefly categorised as under:

(i) Automated Transactions: The use of AI by criminals to automate transactions is a growing concern in cybersecurity and financial sectors. Criminals can leverage AI to improve the efficiency, scale, and sophistication of their illicit activities, including fraud, money laundering, and cybercrime. For example, the criminals use AI to automate the process of testing stolen credit card details by trying multiple combinations of credit card numbers, expiration dates, and CVVs on various online stores. AI-powered bots can execute thousands of

small transactions across different jurisdictions, making it harder for traditional anti-money laundering (AML) systems to detect anomalies.

(ii) Account Takeovers: AI can help criminals automate the process of taking over bank or e-commerce accounts. AI bots can be Programmemed to attempt login using stolen credentials (often obtained through phishing or data breaches) and use various methods to bypass multi- factor authentication (MFA) systems, such as AI-powered phone number spoofing, or even impersonating legitimate users.

(iii) Deep fake and Identity Fraud: Deep fakes involve the use of AI to create hyper-realistic but fabricated images, videos, or audio recordings, making it challenging, even to experts, to distinguish them from authentic content. This technology poses significant threats to financial institutions and individuals alike. AI-generated fake identities and deep fake videos can be used to bypass Know Your Customer (KYC) verification systems.

(iv) Cryptocurrency Manipulation: AI algorithms can execute sophisticated trades across crypto exchanges to obscure illicit funds through complex transactions. The AI-generated profiles help launder illicit funds by enabling the conversion of cryptocurrencies into fiat currencies without revealing the perpetrators' true identities.

(v) AI-Generated Shell Companies: AI can automate the creation of fake businesses as AI can swiftly produce realistic documents such as invoices and contracts, facilitating the creation of fake business activities. AI enables the analysis and execution of complex transaction patterns, such as layering funds through multiple shell companies. This process involves moving money through various accounts to obscure its origin, complicating detection efforts.

(2)Role of AI in improving law enforcement, preventing cyber-crime and combating online financial frauds: AI-powered tools can analyse emails, messages, or websites for signs of phishing attacks or scams. It can detect subtle differences in language that indicate fraud, such as urgent messages, requests for personal details, or suspicious links. AI can also automatically flag fraudulent communication attempts, protecting users from falling victim to common social engineering scams. AI can help in combating online financial frauds by following ways:

(i) Real-time fraud detection and prevention: AI can detect or prevent fraud through Real-time Transaction Monitoring. The AI-powered systems can analyse huge amounts of transaction data in real time, lagging suspicious activities or anomalies e.g. AI systems can detect unusual deviation in patterns / behaviour such as large, uncharacteristic withdrawals or transactions in unusual locations). AI an also use behavioural biometrics (such as typing speed, mouse

movements, and navigation patterns) to monitor user behaviour and identify inconsistencies.

(ii) Identity verification and authentication: AI can use facial recognition and voice biometrics for secure, frictionless authentication. This ensures that only authorized users can access their financial accounts, reducing the risk of identity theft.

(iii) Predictive Analytics for Fraud Prevention: By examining historical data, AI models can predict which transactions are most likely to be fraudulent and alert authorities or banks to take preventive action. Predictive models can also identify risky patterns or high-risk individuals, helping financial institutions take proactive steps to mitigate fraud.

(iv) Anomaly Detection with Machine Learning: Machine learning algorithms can be trained to detect unusual patterns in user behaviour or financial transactions. These algorithms continuously learn from new data, allowing them to identify and respond to emerging fraud tactics e.g. if a user typically makes small, domestic transactions but suddenly attempts an international transfer of a large sum, the AI system would flag this as an anomaly and prompt additional verification.

(v) Fraudulent Account Detection: AI can help detect synthetic identity fraud, where criminals create fake identities using a combination of real and fabricated information. Machine learning models can cross-check various data points across multiple platforms to uncover discrepancies and identify such fraudulent accounts.

(vi) Analysis of huge data: AI can analyse huge amount of data/information which are collected during investigation such as bank statements, financial reports, email dumps etc. in real time basis.

(vii) Detection of hidden assets: In criminal cases especially cyber and crypto fraud cases, criminals not only commit illegal activities but also hide their illicit assets/funds in a hidden wallet. In this respect, a well-trained AI with analysis capabilities can help in tracing such hidden assets and the same can be recovered".

53. When the Committee asked about the role of AI in streamlining public services like Aadhaar and GST and collection of direct and indirect taxes in India and widening the tax base, it was submitted that:

"**Direct Taxes**

AI can play a significant role in enhancing the collection of direct taxes and widening the tax base, through the following measures:

- **Personalized Taxpayer Assistance**: AI chatbots can assist taxpayers with address their queries and guide taxpayers to resolve mismatches to ensure filing of Income tax Returns (ITRs) and other Statements in a streamlined manner. This would reduce compliance burden and potential grievances. AI can also proactively notify taxpayers about mismatches between reported incomes and information in the Annual Information Statement (AIS), promoting voluntary compliance.
- **Automated Scrutiny & Risk Profiling**: AI can analyze ITR and non-ITR forms to identify high-risk taxpayers, improving scrutiny selection, benchmarking sectors and ensuring identification of instances of under-reporting or use of excessive deduction within taxpayer categories. The capability to fine tune case selection model based on previous orders/decisions can also be enhanced using AI. Predictive analytics for fraud detection, real-time monitoring, and AI assisted tax receipt matching and information can also help identify tax evasion and ensure compliance.

- **Outlier Analysis**: AI can be used for outlier analysis, which helps in establishing taxpayer profiles and spotting deviations in behavior, such as abrupt drops in declared income or drastic increases in assets, etc.

- **Campaign efficacy**: AI can also help in graded communications for fine-tuning of campaign models based on learnings of earlier campaigns.

- **Predictive Tax Compliance Measures**: AI can identify sectors with low tax compliance and suggest targeted policy interventions at a sectoral level. It can also be used for predicting income, Advance Tax payable, etc. on the basis of analysis of historical data and trends.

Indirect Taxes

AI plays the following role in streamlining public services like Aadhaar and GST, and collection of direct and indirect taxes in India and widening the tax base:

- The public services can be made more friendly and accessible by using A.I. in user interface to make instruction vernacular based and in conversant language.

- Data for multiple uses including income tax, banking and other financial transaction can be analysed through A.I to identify areas requiring government intervention or enforcement action to improve compliance.

- A.I. can be used as an active assistant in return filling and providing help to taxpayers.

- To identify suspicious patterns in GST Registration Applications, returns filing, flagging potential tax evasion AI could be used.

- AI models can predict potential non-compliant taxpayers based on historical data, transaction patterns and financial behaviour.

- AI chatbots can guide taxpayers through GST registration, returns filing and payments.

- AI can be used to improve user experience and to further enhance the ease of doing business. At present, there is Chatbot 'Vaani" which has AI features. Using these tool users can very easily search regarding any of the keywords such as Registration, Import, and Export etc on the ICEGATE portal. The tool is trained to reply with all relevant items such as User Manual, Advisory etc related the keyword. As with any AI tool, it becomes more intelligent with continued usage. Therefore, promoting this tool further among users will lead to a better interactive experience for the Importers/Exporters and other users.

- AI algorithms can analyse GST data to detect fraudulent transactions, fake invoices, and cases of tax evasion. Advanced analytics can identify circular trading, input tax credit fraud, and suspicious patterns in large-scale transactions. AI-powered dashboards can monitor GST compliance in real time, assigning risk scores to businesses for proactive inspections. AI-powered systems can auto-assess tax returns, verify claims, and flag inconsistencies. This reduces human intervention and processing time.

- Leverage AI tools to help traders accurately identify the correct Customs Tariff Heading (CTH) number for their goods.

- This will reduce classification errors, streamline customs procedures, and promote compliance with trade regulations.

- Stopping Fraud & Duplication: AI can detect fake Aadhaar IDs, bogus GST cl aims, and shell companies involved in tax fraud.

- Simplifying Tax Filing: AI-powered assistants can help businesses and individuals file GST and income tax easily, reducing errors and delays.

- Expanding the Tax Base: AI can analyze transactions to identify potential taxpayers who aren’t currently in the tax net.

- Faster Compliance & Support: AI chatbots can provide instant help for tax-related queries, making compliance smoother.

- AI can make the GST and customs related matters like classification and valuation of goods more transparent and bring uniformity”.

54. Further, the Ministry apprised the Committee about the status of co-ordination between FIU and GSTN for Data analytics, roles of combined synergy and coordination

likely to be played in Ministry of Finance and the likely benefits for the stake holders as under:

"**GSTN**

For the purpose of analytics, GSTN inter alia utilises various third-party data sources. This information is utilized to design use cases for the benefit of GST tax officers, with the objectives of aiding ongoing tax investigations, strengthening financial fraud detection and refining system-based risk assessment process.
For receiving information from FIU, GSTN has been notified by the Department of Revenue as a 'recipient' entity. The legal framework for FIU to provide information to GSTN is thus in place, using which, GSTN can seek data from FIU based on its requirements for data analytics.

FIU-IND

Goods and Services Tax Network (GSTN) has been notified as the 26th agency under Section 66 of the Prevention of Money Laundering Act (PMLA) for information sharing with Financial Intelligence Unit (FIU-India), aiming to enhance intelligence sharing and to combat financial crimes.

Memorandum of Understanding has also been signed by FIU with GSTN for mutual sharing of data and intelligence between the two Organizations. In addition during data analysis, additional details wherever required, are sought and shared expeditiously between the two organizations".

55. Regarding the mechanism developed by Income Tax Department for solving the issues related to data dependency on private vendors and system crashing/demolition once the vendors are no longer associated with the Department, it was apprised as under:

"To ensure a smooth vendor transition, the Income Tax Department (ITD) has implemented safeguards to mitigate data dependency on private vendors with system stability. Infrastructure pertaining to the project is procured by the Managed Service Provider (MSP) but the application and infrastructure is owned by the ITD. The MSP is responsible for design, development, implementation, operation and maintenance of the projects with defined contractual obligations. The ITD also has a technical cadre (Electronic Data Processing (EDP) cadre) for an in-house understanding of the technology involved. Additionally, the ITD ensures proper exit management and knowledge transfer during transitions to maintain continuity and efficiency. Exit Management is one of the crucial phases in the project involving the transfer of the project from one service provider to another. During this phase, a smooth transition of the project documentation and artefacts, configuration items, databases and regulated assets is ensured

between the existing and the new MSP while ensuring continuity and quality of critical services".

56. When asked about the databases that are currently being used by FIU and Revenue Department, the following was submitted:

"**CBDT**

The various projects in the ITD are using databases of DB2, Oracle and Postgres technologies. The choice of database depends on the functional requirements, technical bid proposals submitted by the MSP and past experience.

Databases capture data from various sources from within and outside the ITD. The risk detection exercise happens through different scenarios on the broad database. Therefore, there does not seem to be a risk of bias coming on the database level in the ITD.

CBIC

The Following Databases are used in the DG Systems.

Oracle, MySQL, Db2, Enterprise Postgres Advanced Server
Hbase
IIAS Appliance (Db2)
Hive (Warehouse), mariadb
Neo4j Graph DB

Data is transactional and not based on past cases or certain patterns. So, there is no bias in output. Analytical output in DG Systems is based on business rules approved by the Department. For AI related model output, proper training data is prepared on the basis of business rules and patterns observed in transactional data so as to mitigate any chances of biasness in analysis.

FIU-IND

FIU-India has its own database which contains various reports including Suspicious Transaction Reports. Further, FIU also uses information from various other extemal databases like CBDT, MCA, NPCI, GSTN, NSDL, CDSL to enrich the information reported by the Reporting Entities.

Every report that is reported to FIU-India undergoes a process of Entity Resolution to extract entity and their related attributes from reports and apply Entity Resolution Rules on each entity. The entity enrichment is then done using external databases followed by identification of possible relationships between entities based on the attributes extracted from the reports. FINnet 2.0 deploys Al / ML tools and algorithms to enable accurate resolution.

The Al & ML model is also used for LEA prediction. The Al/ ML model has been trained on the historical data and it also uses pattern recognition and classification models to identify patterns to make informed decisions and predictions".

57. When asked to elaborate on the impact of use of AI in various Programmemes run by the Department and future course of action for integration of AI in the functioning of the Department, the following was submitted:

"**Financial Intelligence Unit-India (FIU-IND):**

FINnet 2.0, the state-of-the-art IT system of FIU-India, uses Al/ML to generate accurate linkages and create enriched profiles of reported entities for improving quality, support deeper analysis, visualize the network & uncover hidden relationships.

Goods and Services Tax Network (GSTN):

AI/ML is being used in system-based risk assessment, flags fraudulent Input Tax Credit (ITC) claims, and identifies tax evasion networks, ensuring robust revenue protection. In future, GSTN seeks to utilize Generative AI for grievance redressal of tickets raised by taxpayers, helping draft notices under human supervision, and helping tax officers in use of various analytical tools and in training.

Central Board of Direct Taxes (CBDT):

At present, the use of Artificial Intelligence in the Income Tax Department (ITD) is limited to basic Natural Language Processing (NLP) for processing unstructured data and selective Machine Learning (ML) for refining case selection models. In future, the Income Tax Department envisages wider AI integration including use of AI powered chatbots, predictive analytics, anomaly detection, trend identification, classification, fraud detection and pattern recognition, etc.

Central Board of Indirect Taxes and Customs (CBIC):

For future integration of AI in functioning of Department, CBIC is Implementing a new AI powered Customs Integrated System for end-to-end digitization of all Customs processes to promote faster dwell time and ease of doing business.

The National Customs Target Centre (NCTC) is using AI in Image Analytics for analysis of X-ray images generated by scanning of containerized cargo. This AI model helps

provide a prediction of the cargo that may potentially be inside the container. The future course of action is to integrate this model with ICEGATE using APIs, so that the model can ingest images from all scanners located across the country, and the predictions can be provided directly to the officer who is located on the field.

AI/ML is being used in system-based risk assessment, flags fraudulent Input Tax Credit (ITC) claims, and identifies tax evasion networks, ensuring robust revenue protection. In future, CBIC seeks to utilize Generative AI for grievance redressal of tickets raised by taxpayers, drafting notices under human supervision, and helping tax officers in use of various analytical tools and in training."

58. When asked whether the Department would be able to save exchequer with the assistance of AI in its functioning; the Ministry submitted that:

"**Goods and Services Tax Network (GSTN):**

AI/ML AI systems have the potential to assist in proactively detecting fake invoices and fraudulent refund claims, significantly reducing revenue leakages and securing funds for the exchequer before they are lost. Further, AI may help in increasing productivity of officers thereby contributing savings to exchequer.

Central Board of Direct Taxes (CBDT):

AI is envisaged to improve risk identification, campaigns and case lifecycle, leading to better resource utilisation and strengthened voluntary compliance, thereby supporting improved revenue outcomes.

As the economy grows and the numbers of taxpayers increase, there will be a need to cater to a larger user base both in terms of services as well as verifications. AI assistance will help in more effective utilization of existing manpower as well as physical infrastructure, and lessen the need for a corresponding increase in spending for creation of such capacities, thus saving on exchequer.

Central Board of Indirect Taxes and Customs (CBIC)

The use of AI in Image Analytics will help enhance the department's performance by assisting officers in the analysis of scanned images, thereby helping them avoid human errors and cognitive load, and increasing accuracy of image analysis. This will help in acting against revenue & non-revenue risks, thereby augmenting Customs duty and saving the exchequer.

CBIC aims to evolve from rule-based processing to predictive, intelligence-led targeting. This will lead to better utilisation of current resources for pin pointed, high value investigations thereby leading to higher revenue realisation.

AI systems has the potential to assist in proactively detecting fake invoices and fraudulent refund claims, significantly reducing revenue leakages and securing funds for the exchequer before they are lost. Further, AI may help in increasing productivity of officers thereby contributing savings to exchequer."

59. The Committee wanted to know if it was a humungous task to disseminate the use of AI in the Revenue offices widely spread across the Country and also due to want

of technically trained experts, to which the Department replied:

"**Goods and Services Tax Network (GSTN):**

GSTN is achieving dissemination of output of AI/ML use through a centralized analytics portal where complex AI/ML processing occurs at the backend, while field officers utilize simplified, intuitive risk dashboards. Continuous capacity-building Programmes are actively deployed to bridge any technical skill gaps.

Central Board of Direct Taxes (CBDT):

Capacity building and targeted training Programmemes can be undertaken through iGOT Karmayogi courses and specialised Programmemes at National Academy of Direct Taxes (NADT) and its regional training centres for the field formations as and when required. This will support wider awareness and understanding of AI and AI enabled services.

The departmental manpower works extensively on its digital systems, and is therefore well-versed in their usage. There are established mechanisms to train the personnel for any changes in the departmental digital procedures. The challenge of the task in AI adoption for the Department lies primarily in devising systems such that the AI-related changes integrate seamlessly in the existing processes, without negatively affecting the working of either the taxpayers or the Department personnel.

Central Board of Indirect Taxes and Customs (CBIC)

The targeting initiatives of CBIC are centrally run through dedicated CBIC data centre. The processed output in form of actionable intelligence is then made available to CBIC field offices for assistance in investigations. At present enough technically trained experts are available centrally in various functional verticals for carrying out the targeting and citizen centric initiatives of CBIC.

CBIC is achieving dissemination of output of AI/ML use through a centralized analytics portal where complex AI/ML processing occurs at the backend, while field officers utilize simplified, intuitive risk dashboards. Continuous capacity-building Programmes are actively deployed to bridge any technical skill gaps."

60. Elaborating on the impact of use of AI in various Programmemes run by the Directorate of Enforcement and the future course of action for integration of AI in the functioning of the Directorate, the submission of the Department was as under:

"As of now, ED is not using any AI tools for money laundering investigations. Decisions on large scale use of AI are policy matters to be taken by the Central Government and other competent authorities, not by ED alone. ED has noticed that criminals are using AI to improve their laundering methods, so it stays alert and, with FIU, MCA etc., closely watches new AI based frauds and processes data to find shell companies, suspicious transactions and red flags. In future, AI can help ED dispose of cases faster by quickly analysing large volumes of data and highlighting high risk cases for priority action."

61. Since the Directorate of Enforcement was a multi-disciplinary organization mandated with investigation of offence of money laundering and violations of foreign exchange laws and enforcement under various Acts, the Committee wished to know about the scope of use of AI in this field and the reply was:

"In this area, AI has a lot of potential, but ED has not yet developed or used any AI based models, and it mainly focusses on investigation while bodies like FIU and RBI handle the regulatory side. AI tools can be a game changer by spotting patterns and red flag indicators more accurately, which can help agencies investigate shell companies, black money and benami transactions more effectively."

62. During the course of examination, the Committee found that till date, amongst the Prosecution Cases filed by ED, presently at various stages of trial, delays in the adjudication of these cases were due to inherent complexity of investigations as well as the procedural linkages with the trial of the predicate offence. Hence, the Committee wished to know if AI could assist the ED so as to fast track the cases pending at various stages. The reply was provided as under:

"In theory, AI can help ED dispose of cases faster by quickly analysing large volumes of data and highlighting high risk cases for priority action. It can link and analyse corporate records, tax and property data, banking transactions and land records to detect hidden income, undeclared assets and benami ownership. At present, ED does not use such AI tools, and any future use to speed up cases would require following evidentiary rules, human supervision and legal decisions."

63. When asked to elaborate on the impact of use of AI in various Programmemes run by CBDT and CBIC and also regarding integration of AI in the functioning of CBDT and CBIC, the following submission was made:

"**Central Board of Direct Taxes (CBDT):**

AI-based predictive modelling and anomaly detection can help identify potentially ineligible/suspicious deduction/exemption claims through pattern recognition and risk profiling, supporting targeted compliance measures.

Artificial Intelligence (AI) offers significant potential to address the challenge of understatement of income by enabling a shift from traditional post-facto enforcement to preventive, technology-driven compliance. The Income-tax Department has already moved in this direction through NUDGE (Non-intrusive Usage of Data to Guide and Enable) campaigns, which are data-centric initiatives that leverage analytics, behavioural insights and digital communication to improve voluntary compliance and tax collection efficiency.

The implementation of NUDGE initiatives is guided by the SAK.SHAM framework, a seven-stage strategy comprising

I) Sankalan (systematic compilation of data from diverse sources),
2) Anusandhan (research and risk analysis),
3) Kriyanvyan (actionable interventions),
4) Sampark (targeted communication),
5) Hastak (handholding and facilitation)
6) Adhikaar (ensuring transparency and taxpayer trust), and
7) Mulyankan (continuous monitoring and evaluation).

Under these campaigns, AI-driven risk engines analyse large datasets to identify instances of possible under-reporting, such as non-disclosure of foreign assets or income, incorrect claims of deductions under sections like 800, 80GGC or 80E, and excess exemptions. Sometimes, AI is also used to make information machine compatible to be used in further analysis. Targeted communications are then sent to selected taxpayers encouraging them to review and update their Income-tax Returns.

Going forward, AI can further strengthen compliance by better risk profiling and AI-enabled chatbots and virtual assistants can provide step-by-step guidance filing, helping taxpayers correctly report income and deductions.

Additionally, predictive analytics can identify emerging patterns of non-compliance, anomaly detection in high-risk sectors, and adaptive risk scoring, enabling timely nudges and awareness measures. However, these predictive analytics should be guided by prescriptive approach to facilitate taxpayers. These predictive cum prescriptive interventions can be in the form of personalized compliance reminders or guidance frameworks. Together, these measures can create a transparent, facilitative and nonintrusive compliance ecosystem that reduces understatement of income while making it easier for taxpayers to meet their obligations accurately.

Income Tax Department is planning the next phase of the Integrated e-Filing and CPC (IEC) project i.e. IEC 3.0, for which the new Managed Service Provider is expected to be on-boarded in the year 2027.

This upcoming project will use advanced technologies like Artificial Intelligence (AI) and Machine Learning to make the system smarter and more efficient. Through AI-Assisted seamless filing, taxpayer's support and grievance redressal mechanism, Management Information System and robust Governance mechanism, IEC 3.0 aims to create a more secure, transparent, and future-ready tax administration system for both taxpayers and the Department.

Central Board of Indirect Taxes and Customs (CBIC):

Central Board of Customs and Indirect Taxes (CBIC) aims to minimize official intervention and minimize dwell time of cargo by focussing efforts on potentially non-compliant consignments while facilitating lawful trade. The Risk Management System (RMS), central to this design, screens cargo using extensive risk rules. Consignments flagged as risky undergo examination and assessment, while non-risky ones are processed automatically with minimal human intervention leading to faster turnaround time. With increasing AI integration, RMS is evolving from rule-based processing to predictive, intelligence-led targeting, aligned with the National Trade Facilitation Action Plan (NTFAP) 2020-23 to facilitate 90% of all imports and exports. This will significantly enhance ease of doing business for importers and exporters.

CBIC has developed ADVAIT (Advanced Analytics in Indirect Taxes) tool that uses machine learning, a subset of AI, to cover use cases related to preventive and predictive work. This includes Predictive Analytics of new GST Registrations and new Customs Licenses, Pattern and Behavior Modelling of Suppliers and Buyers networks, Demographic Clustering and Connections lookups across GST, Customs, Central Excise and Income Tax databases.

CBIC aims to broad base delivery of citizen centric services and remove impediments of language / legal efficiency in assessing services. In this regard CBIC has developed AI enabled Chatbots: Atithi Mitra (For International Passengers) and Vaani (For importers/exporters) The chatbots provide quick responses to user queries related to international passengers and imports/exports, reducing the need for direct helpdesk interaction. It includes a quick menu for trade categories, machine learning logic for query interpretation and FAQ-based responses.

CBIC is setting-up the Advanced Targeting System for Passengers (ATS-P) to facilitate legitimate travel for passengers while managing the threat posed by risky passengers that may require additional scrutiny prior to entering or exiting all international airports in India. ATS-P will leverage technological advancements in data processing and big data to develop analytical models which will facilitate seamless, non-intrusive and faster handling of passengers at the airports. The new system will leverage AI / ML models such as Anomaly Detection, Clustering, Graph based Network Analysis, and Pattern Mining to analyze passenger data and facilitate risk assessment. Facial Recognition System (FRS) will also be leveraged for matching potential suspects or select high risk passengers only. ATS-P will be supported by a centralized Integrated Command and Control Centre (ICCC) set up in Delhi NCR - National Customs Targeting Centre (Passenger) - NCTC Pax. The system will capture data from different sources and provide necessary inputs to NCTC Pax under DGARM on potential risks, smuggling of contraband, drugs etc., while also enabling passenger facilitation through reduced manual intervention & screening of passengers. The risk analysis will encompass incoming/outgoing as well as transit passengers.

CBIC/GSTN implements Automated Registration Risk Assessment based on the recommendations of the GST Council and in accordance with relevant provisions of Rule 8(4A) and 9(1) of the CGST Rules, 2017. GSTN assigns a real time risk score to the registration application based on data analysis and risk parameters. Thereafter, based on such assessment, the registration application is channeled through appropriate levels of authentication and scrutiny before approval or rejection by the proper officer. High risk applications are mandatorily directed to carry out Biometric based Aadhar authentication and Document Verification at a designated facilitation centre. In addition, they are also marked for field visit verification.

Further, for faster container movement, CBIC, has designed & developed the Container Image Analytics Centre (CIAC). The CIAC is a central system, which obtains images scanned by scanners in near-real-time, processes these images through a image analytics AI model, and gives a prediction about the potential nature of the goods back to the officer. This system detects concealed compartments, unusual density signatures, and other anomalies that may indicate concealment. The Automated image analysis reduces the reliance on manual interpretation and enables faster yet more reliable screening, thereby strengthening enforcement while supporting timely clearance.

Furthermore, CBIC is Implementing a new AI powered Customs Integrated System for end-to-end digitization of all Customs processes to promote faster dwell time and ease of doing business.

AI adoption in CBIC is increasing across the domains of Risk Assessment and Predictive Analytics and is being harnessed for increasing efficiency and ease of doing business."

64. While examining the subject, the Committee found that CBDT had started an initiative to encourage taxpayers to voluntarily review deduction/exemption claims identified as potentially ineligible. When the Committee asked the Department to showcase the scope of using AI to mitigate these challenges to overcome the problem of understatement of income, the reply of the Department was same as furnished above:

65. Seeing the rapid changes in administration of direct taxes, during the last decades; the Committee sought to know how CBDT proposed to meet the new challenges and overcome them with the help and adoption of AI in their functioning. The submission made by the CBDT is as under:

"Some of the challenges which are emerging due to development of economy as well as advancement in information technology:

a. Growth in data sources
b. Development of complex tax evasion techniques
c. Globalisation and mobility of capital
d. Increasing compliance burden due to complex economic ecosystem involving multiple stakeholders.
e. Growth in number of taxpayers

AI can assist in meeting these challenges through

a. AI based Advanced data analytics using data from different sources to identify non-compliance and revenue leakage. Integration can be done on the basis of common identifier across databases; however, in cases where common identifier is missing, AI can assist in building up of algorithm to find the most suitable match.

b. AI can assist in identification of non-genuine transaction using advanced statistical models or machine learning based which is generally not possible through rule based algorithms based on domain expertise.

c. AI can assist in doing ease of compliance like intelligent validation checks during filing, AI chatbots for taxpayer assistance, Personalised compliance reminders and Faster processing and refunds and similar initiatives.

d. Cross border coordination - Technological initiative can also assist in cross border coordination through exchange of information or automatic reporting standards.

e. Serving large taxpayers - AI driven initiatives like SAKSHAM NUDGE can assist in facilitating taxpayers through communications and assistance services for doing the targeted compliance. These initiatives will be based on Trust-based administration with data-driven verification.

ITD envisages wider AI use in predictive analytics, anomaly detection, trend identification, classification, fraud detection, pattern recognition, chatbot support and analysis of unstructured data. AI has the potential to function as a decision-support tool within the legal framework and will assist the ITD towards better taxpayer services as well as promoting voluntary compliance."

66. When specifically asked about how AI could help CBIC in 'Ease of Doing Business', the Committee was informed:

"CBIC aims to broad base delivery of citizen centric services and remove impediments of language / legal efficiency in assessing services. In this regard CBIC has developed AI enabled Chatbots: Atithi Mitra (For International Passengers) and Vaani (For importers/exporters) The chatbots provide quick responses to user queries related to international passengers and imports/exports, reducing the need for direct helpdesk interaction. It includes a quick menu for trade categories, machine learning logic for query interpretation and FAQ-based responses.

AI may facilitate faster processing of registrations, returns and refunds through automated validation and risk-based assessment. It may reduce unnecessary scrutiny for compliant taxpayers; improve transparency and lower compliance burden, thereby supporting Ease of Doing Business. AI/ ML can help in targeting of risk and minimizing manual departmental interventions for honest taxpayers. In last 6 months, for ease of doing business, risk-based sanction of provisional refund for zero-rated and inverted duty refund applications has been introduced. Risk based grant of registration is also in place, which provides for simpler process flow for low-risk applicants. AI/ML can help in furthering providing risk based simplified process for promoting ease of doing business.

CBIC aims to minimize official intervention and minimize dwell time of cargo by focussing efforts on potentially non-compliant consignments while facilitating lawful trade. The Risk Management System (RMS), central to this design, screens cargo using extensive risk rules. Consignments flagged as risky undergo examination and assessment, while non-risky ones are processed automatically with minimal human intervention leading to faster turnaround time. With increasing AI integration, RMS is evolving from rule-based processing to predictive, intelligence-led targeting, aligned with the National Trade Facilitation Action Plan (NTFAP) 2020-23 to facilitate 90% of all imports and exports. This will significantly enhance ease of doing business for importers and exporters."

67. When asked if AI was playing any role in identifying the fraudsters and criminals functioning near the open borders of the Country, the Department replied as:

"**Central Board of Direct Taxes (CBDT):**

The IT Department has significantly improved its use of technology and data analytics to identify potential tax evaders and high-risk taxpayers. With technological advancements, the collection of financial data in respect of the taxpayers has commendably improved. The analysis of data to find tax evasion clubbed with market intelligence has improved the selection of tax evaders for intrusive investigations.

These actions are initiated only after thorough discrete surveillance/investigations, use of technology and data analytics and gathering credible information regarding tax evasion and undisclosed income & assets of an assessee from various channels.

It may be noted that ITD receives information regarding tax evasion through various channels, viz. information sharing platforms between various Government Agencies/ organisations like Central Economic Intelligence Bureau (CEIB) and Regional Economic Intelligence Committee (REIC), Tax evasion petitions (TEPs), information received through informers, information filed with ITD in form of Specified Financial Transactions (SFTs), Suspicious Transaction Reports (STRs) received regularly through FIU-IND, etc.

By analysing transactional patterns and cross-referencing multiple data sources, AI can support the identification of potential fraudsters and suspicious financial activities.AI-enabled analytics can analyse large datasets and utilise enhanced capabilities such as fund flow analysis to identify suspicious patterns, hidden relationships, circular transactions and layered fund transfers.

Central Board of Indirect Taxes and Customs (CBIC):

The NCTC's AI image analytics model works primarily on images obtained from X-ray scanning of containerized cargo. It applies computer vision and deep learning techniques to detect anomalies or hidden compartments, identify prohibited or suspicious items and flag unusual density patterns or shapes."

68. On being asked about steps been envisaged to help the taxpayers (Direct and Indirect) to fill their returns without falling prey to online frauds and lose huge amount of money, the submission of the Department was:

"**Central Board of Direct Taxes (CBDT):**

Income Tax Department is planning the next phase of the Integrated e-Filing and CPC (IEC) project i.e. IEC 3.0, for which the new Managed Service Provider is expected to be on-boarded in the year 2027. IEC 3.0 intends to use Al/ ML to incorporate Risk Based Multi Factored Authentication for more secured access to e-filing portal.

Central Board of Indirect Taxes and Customs (CBIC):

GST returns are filed in GSTN portal which is secure and seamlessly handles millions of return every month without any such issues."

69. In response to a query as to why AI was primarily a reactive mechanism when there could be more predictive or preventive AI model to check revenue leakage, the Department submitted:

"**Central Board of Direct Taxes (CBDT):**

In future, the ITD envisages wider AI integration including predictive analytics, anomaly detection, trend identification, classification, fraud detection and pattern recognition etc.to plug revenue leakages.

Predictive analytics can significantly strengthen income-tax administration by enabling authorities to anticipate non-compliance and revenue leakages before they occur. By analyzing historical filings, third-party financial data, transaction patterns, and behavioral indicators, predictive models can identify high-risk taxpayers, sectors, or activities, allow targeted scrutiny while leave compliant taxpayers undisturbed. It also supports pre-filing alerts, faster refunds for low-risk cases, and more accurate revenue forecasting. Overall, predictive analytics shifts tax administration from reactive enforcement to proactive, non-intrusive compliance management, improving both revenue protection and taxpayer trust. However, mechanisms have to be drawn to balance the predictive analytics with due diligence to avoid false positives so that honest taxpayers are not aggrieved.

Central Board of Indirect Taxes and Customs (CBIC):

CBIC has developed ADVAIT (Advanced Analytics in Indirect Taxes) tool that uses machine learning, a subset of AI, to cover use cases related to preventive and predictive work. This includes Predictive Analytics of new GST Registrations and new Customs Licenses, Pattern and Behavior Modelling of Suppliers and Buyers networks, Demographic Clustering and Connections lookups across GST, Customs, Central Excise and Income Tax databases. AI adoption in CBIC is increasing across the domains of Risk Assessment and Predictive Analytics and is being harnessed for increasing efficiency and ease of doing business."

70. Regarding steps being taken to use AI in terms of simplifying tax compliance at the Tax Returns filing level by individuals and corporate companies, the following submission was made by the Department:

"**Central Board of Direct Taxes (CBDT)**

AI enabled chatbots and multilingual graded communications as part of campaigns will help in improved taxpayer compliances.

Central Board of Indirect Taxes and Customs (CBIC)

CBIC/GSTN is planning to use AI in disseminating information to taxpayers and to nudge them towards more compliant behaviour."

D. Ministry of Home Affairs

71. Artificial Intelligence (AI) is emerging as a critical enabler in strengthening the internal security architecture of India, particularly in enhancing the operational capabilities of the Ministry of Home Affairs, police forces, paramilitary units, and other law enforcement agencies. AI facilitates real-time surveillance, predictive policing, behavioural analysis, and crime pattern recognition, enabling faster and more informed decision-making. Indian Cyber Crime Coordination Centre (I4C) has taken following steps to use AI in assisting detection and investigation of cybercrimes:

i. A Data Analysis Lab has been set-up at I4C. It is actively engaged in utilizing AI and ML tools to analyse complaints reported on the portal. It collaborates with various organizations and institutions to facilitate knowledge sharing in the field of AI and ML.
ii. To modernize cybercrime reporting and investigation, the Indian Cyber Crime Coordination Centre (I4C), in collaboration with IndiaAI and MeitY, organized the CyberGuard AI Hackathon to develop an AI solution for automatic classification of cybercrime complaints on the National Cybercrime Reporting Portal (NCRP). The winning model, currently under implementation and fine-tuning, analyses complaint descriptions and uploaded evidence to assist law enforcement in prioritizing and investigating cases more effectively. This initiative aims to improve the efficiency and responsiveness of Law Enforcement Agencies (LEAs).
iii. I4C is also planning to implement an AI-assisted complaint registration system for the 1930 cybercrime helpline, which will reduce the time required for lodging complaints and improve user experience through guided interaction.
iv. Additionally, I4C, in collaboration with IIT Bombay, is exploring the use of AI to assign suspect scores to mule accounts by analysing behavioural and transactional patterns to help identify confirmed mule accounts. I4C is also engaging with the Reserve Bank Innovation Hub (RBIH) to develop a model that provides real-time suspect scoring for financial transactions, enabling banks to flag and potentially stop fraudulent transactions proactively, thus offering a robust layer of defence against financial cybercrimes.
v. PMT (Proactive Monitoring Tool): An AI-based tool developed by CDAC Mumbai is currently being used to screen and verify Child Sexual Exploitative and Abuse Material (CSEAM) content in cyber tiplines received via the National Centre for Missing & Exploited Children (NCMEC) before they are forwarded to Law Enforcement Agencies (LEAs). The AI model is under fine-tuning, and it is proposed to be extended to crawl the open web for proactive identification of CSEAM content.
vi. I4C uses AI-based tools to monitor dark web, scam websites, and fraud networks for tracking cybercrime discussions, phishing campaigns, and suspicious financial transactions.
vii. In cybercrime commando course curriculum, AI&ML topics have also been covered.

AI can also be used in Automatic Number Plate Recognition (ANPR), AI-powered Facial Recognition Technology (FRT) with CCTV surveillance for identifying wanted criminals as well as for efficient traffic management.

AI is also helping security agencies in enhancing their capabilities for intelligence gathering and counter-terrorism efforts by rapidly analyzing vast datasets, detecting anomalies, predicting patterns, cross linkages etc., thereby improving decision-making, speed and accuracy in such areas of operations.

There is an increasing impact of AI in the domain of Police. For CCTNS2.0 Application under development, NCRB has envisaged many usages of AI as under:

Features	Brief Description
AI based Acts & Section Prediction	Automatically predicts Acts & Section from FIR content using Custom trained AI-LLM model (Capable of evaluating existing act/section applied on FIR)
Multilingual Intelligent QnA on	Capable of answering multi-lingual and cross-lingual queries on ingested FIR and case diary data this will help

FIR and Case Diary Data	the user to get precise and actionable insight in a time efficient manner.
AI-NLP driven Spelling & Grammar Checker	Automatically corrects grammatical (sentence construction) mistakes and spelling of given texts.
Auto-classification of Major/Minor Head & Modus Operandi	Based on pre-defined major/minor head,the upgraded model is LLM based & capable of depicting Modus Operandi of crime based on available FIR data
AI Chatbot for Citizen	Capable of guiding on complaint related and other tasks. Citizen will be able to leverage the QnA facility to get precise information about law and order.
Entity Resolution and Criminal Profiling	Based on FIR data present across various police stations within and across states, system can "resolve" different cases to a common suspect and complete an overall criminal profile of a person. This can also be integrated with Dossier.
Crime Hotspot Detection	Geo-spatial mapping with feature such as crime heat-map, intensity, patrol route optimiser and alerts (i.e., Multiple address, Festival/Event Risk etc.) Predictive Policing
Predictive Policing	**Place-Based:** Facilitates in predicting where crimes might happen and provide beat planning. Using **Risk Terrain Modeling (RTM)**, combining crime history, social or cultural events and other local factors (e.g., drug hotspots) **Person-Based:** Criminal Suspect Profiling, NER and identifying repeat offenders (history-sheeters) using AI techniques, ingesting offender lists & predicting **risk scores** for **entities**

Part-I: ASUMP scheme

i. Although 'Police' and 'Public Order' are State subjects as per the Seventh Schedule of the Constitution, the efforts of the States for equipping and modernizing their police forces has been supplemented under the scheme of "Assistance to States & UTs for Modernization of Police".
ii. Under the scheme, central assistance is provided to all the State/UT Governments for procurement of weapons; equipment for Information Technology, Communication, Training, etc.
iii. Each year, State/UT Governments formulate Action Plans as per their requirements and strategic priorities. These Action Plans are considered by the High-Powered Committee (HPC) in the Ministry. Subsequently, funds are released to the States/UTs in accordance with the release guidelines issued by the Department of Expenditure from time to time.
iv. In the F.Y 2025-26, State Government of Kerala and Andhra Pradesh have projected their requirement of funds for undertaking Artificial Intelligence related projects/equipment in their Action plan 2025-26.

As regards application of AI by CAPFs, the role and impact AI can play in paramilitary forces can be encapsulated in numerous terms/advantages depending upon the operational preparedness and requirements. AI in paramilitary forces can bring transforming changes in intelligence gathering from various sources, resource identification, and optimal mobilization. Future possibilities can be predicted on present

and past recurrences and data i.e. intrusion routes, terrain analysis, operational planning of border patrols. It can help in better inventory management and optimal distribution based on deficiencies, due benefits etc.

2. AI based solutions have been envisaged to enhance operation/administrative efficiency in field of manpower deployment, robotics, autonomous system, crowd analytics, smart surveillance systems, facial & object recognition, security operation centre, phishing and malware detection, simulation training etc.

3. AI Powered CCTV surveillance system, drone integration systems, command and control centre, utilization of defense forces on porous borders gender analytics, vehicle analytics, vehicles forensic research, automatic number plate recognition technology, suspicious vehicle detection, seizure item wise analytics, crowd control are few benefits generated/provided by AI based solutions to increase operational efficiency in paramilitary forces.

Paramilitary forces viz. AR, BSF, CISF, CRPF, and NSG have suggested application of AI in their respective domain as under:

AR: Artificial Intelligence (AI) can play an increasingly transformative role in managing paramilitary forces, and internal security in India. Certain roles that AI can play are as enumerated below:

i. Border Surveillance: AI-powered drones and computer vision systems can monitor border areas for intrusion detection and terrain analysis.
ii. Threat Detection: AI can assist in identifying suspicious behavior or objects in high-risk zones using real-time video analytics.
iii. Operational Planning: Machine learning models can optimize troop deployment and logistics based on terrain, threat level, and historical data.
iv. Cyber Security: Cyber security agencies can use AI to detect phishing, ransomware, and digital threats, AI also can help in deepfake detection and fraud prevention.
v. Counter-Terrorism: AI can analyze social media, communication patterns, and financial transactions to identify potential threats and radicalization.
vi. Surveillance & Intelligence: AI can enhance data fusion from multiple sources like CCTV, drones, telecom, to build actionable intelligence for internal security operations.

BSF:

(a) AI-Powered Surveillance Systems:

- Identifying and detecting potential threats and unauthorized crossings in real-time through:
  - AI-driven cameras
  - Object detection
  - Behavior analysis
- Robots or drones for intercepting threats like smugglers or intruders, minimizing risk to human lives.
- Robotic mules offer a modern, AI-powered alternative to enhance operational efficiency and reduce human dependency.

(b) Predictive Data Analytics:

- Legacy Ops incident database can be processed and used to train AI models for;
- Identifying patterns
- Predicting potential hotspots for illegal crossings, smuggling, or infiltration
- Improve Domination Plan

(c) AI driven Enhanced Decision-making with Data Analytics:

- Automated Reports and Insights: AI to generate actionable insights from raw data.
- Scenario Simulation and Risk Assessment: AI simulations can model different scenarios (e.g., high influx of refugees, armed infiltration, border war-gaming) to prepare contingency plans.

CISF:

Centralized AI Surveillance & Monitoring: Centralized AI-enabled Monitoring of CCTV feeds from various airports at Airport Sector Hqrs, Control Room at Mahipalpur for real-time data and informed decision making, leading to improved security and operational efficiency.

Facial Recognition and Predictive Threat Alerts: Automated Identification and generation of alerts for suspected persons and unattended baggage Supports anomaly detection in crowd behavior and provides predictive threat alerts.

AI-Powered Baggage Screening: AI-enabled baggage scanners. These scanners use advanced AI algorithms to detect potential threats in baggage, enhancing the efficiency and accuracy of security checks.

AI-Driven Cyber Defense: Proactive use of AI for detecting phishing, malware, disinformation campaigns and state-sponsored cyber threats, ensuring a secure digital environment.

CRPF:

1. Crowd Forecasting Models: Improves deployment planning for CAPFs during national elections or high-risk public events, preventing violence or stampedes.
2. Facial Recognition at Sensitive Locations: Helps identify wanted criminals, known insurgents, or imposters entering restricted areas, aiding CAPFs operations.
3. Real-time Threat Monitoring: Enables pre-emptive response by CAPFs to communal flare-ups or insurgent propaganda.
4. Geospatial AI: Critical for CAPFs to monitor border activities, in jungle warfare and counter-insurgency.
5. Multilingual NLP (Natural Language Processing): Improves the decoding of local communications, insurgent manifestos, or intercepted messages, especially in linguistically diverse areas.
6. Fake New Monitoring: Supports information dominance and protects the integrity of paramilitary operations in politically sensitive areas.

7. AI for Fake News & Deepfake Detection: Essential for CAPFs in conflict zones, during VIP security and critical infrastructure protection.

NSG:

a. Use of AI can enhance command and control by providing real-time situational awareness, predictive analysis, and faster decision-making through rapid data processing from multiple sources. It can ensure secure communication, integrate autonomous systems and reduces human error thereby improving operational efficiency and mission effectiveness of the force.

b. AI models can analyze vast datasets to identify patterns, and trends in terrorist activities, thus enabling predictive analysis of potential threats and radicalization.

c. AI-powered surveillance can help monitor public spaces and critical infrastructure for suspicious activities, identifying anomalies that may indicate a planned attack.

d. AI can facilitate the integration of vast amounts of data from diverse sources, enabling a more comprehensive understanding of complex terrorist networks that would be impossible with traditional methods.

Following steps/initiatives have already been taken:

At present CRPF is using AI in identifying narratives/sentiment analysis on Open Source (Social Media Platforms).

An AI driven Intelligence fusion centre is in final stage of deployment. It will ingest huge amount of structured and unstructured data and provide analysis, creation of decision support system which can help in smart explorative interpretations, and solutions for operational requirements of CRPF.

NSG is developing National IED data management software (NIDMS) for collection, analysis, visualization and dissemination of IED/Bomb-related data towards a collective endeavour to enhance national security. This software will incorporate AI tools for enhanced language processing with image and object detection.

NSG has planned to develop other organizational specific software in collaboration with BISAG-N which will include AI tools for human resources management/inventory management and other specific application required by NSG.

"Draft Guidelines for establishing AI/ ML Labs at the Nodal Centres in States/UTs" have been prepared by BPR&D incorporating vital segments like infrastructure setup, Hardware/ Software requirements, Data acquisition and management, etc. Also, the tools pertaining to Data Security, Data Quality, data analytics, and indicative terms of reference for skilled manpower were included. In addition to above, Arcan be used in policing in following areas:

i. Predictive mapping of crime to identify the hotspot.

ii. Resource optimization for efficient staffing, shifts and patrol routes

iii. Automated report writing for administrative efficiency.

iv. Managing emergencies call centre to Al.

v. Al in digital forensic, CCTV and drones to identify suspects, tracking missing people etc.

vi. At in tracking and detecting financial frauds, money laundering by identifying suspicious monetary patterns."

72. On being asked as to how AI could support the Ministry of Home Affairs in strategic planning, intelligence gathering & analysis and law enforcement coordination, the Ministry responded as under:

"Artificial Intelligence (AI) can help by providing data-backed insights for planning, decision-making and automatically analysing information from various sources to identify potential threats through predictive tools, which can enhance decision making and policy formation. It can enhance the capabilities of analysing the existing data and co-relating it with the emerging patterns of activity to forecast and prepare for impending national security scenarios.

AI can play a transformative role in enhancing the Ministry of Home Affairs' capacity for strategic planning, intelligence management, and coordination among law enforcement agencies. In the area of strategic planning, AI can support data-driven decision-making by identifying long-term threat patterns, risk zones, and resource optimization models through advanced analytics. It enables the Ministry to simulate various internal security scenarios, forecast emerging risks, and prioritize interventions more effectively.

In intelligence gathering and analysis, AI can automate the processing of vast and diverse data sources including communication records, open-source intelligence, financial transactions, and surveillance feeds. This allows for quicker identification of threats, detection of anomalies, and linkage analysis across different data points. Natural Language processing tools can be used for multilingual monitoring, including regional dialects, aiding in decoding sensitive content from open and dark web sources. For law enforcement coordination, AI enables centralized crime data integration, real-time alert generation, and operational dashboards that support faster communication and case handling across states and agencies. The Indian Cyber Crime Coordination Centre (I4C) is already leveraging such capabilities, including AI-based classification of cybercrime complaints on the NCRP platform and development of models to detect mule accounts and prevent financial frauds in near real-time."

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73. Elaborating upon the impact of Artificial Intelligence (AI) in cybercrime, the following submission was made by the Ministry:

"The growing capabilities of Artificial Intelligence (AI) have significantly impacted the cybercrime ecosystem, both in the complexity of attacks and the speed at which they can be executed. Cybercriminals are increasingly exploiting AI for generating deepfake videos, voice clones, and synthetic media to impersonate individuals for fraud, misinformation, and identity theft. AI tools are being used to craft phishing emails, create fake banking applications, and deploy adaptive malware with minimal human effort. Criminals are also leveraging AI for large-scale data scraping, personalized targeting, and behavioural manipulation. Of particular concern is the use of AI to generate Child

Sexual Exploitative and Abuse Material (CSEAM) and deepfake imagery for sextortion and blackmail, making detection and prevention more difficult through traditional methods."

74. The Ministry was specifically asked whether the existing laws were able to cope up with the challenges generated by AI and if not, what additional laws had been enacted or being envisaged to counter the risks posed by AI on the safety, security and privacy of citizens due to increased digital and social media interface. The Committee also wanted to know that if the Ministry felt that the laws currently in use were competent enough to meet the challenges created by AI like misuse of videos, then how the Ministry dealt with such menace. To these, the Ministry provided a consolidated reply as under:

"The existing legal and regulatory framework is gradually evolving to address the emerging challenges posed by Artificial Intelligence (AI), especially in areas impacting safety, security, and privacy due to the growing interface of AI with digital and social media. Following salient points may be noted in this regard:

1. Strengthening through Existing and New Legal Frameworks: India's legal ecosystem has responded proactively to the evolving threat landscape associated with AI misuse. Key legislations and frameworks include:

i. Information Technology Act, 2000: The IT Act continues to provide the foundational digital legal framework. Under Sections 66, 66B, 66C, 66D, 66E, 66F and 67, 67A, 67B and 72 etc., offences such as unauthorised access, identity theft, cheating by personation, data tampering, and online obscenity, increasingly perpetrated using AI tools, are punishable. The Act is actively used to address AI-related harms like deepfake pornography, AI-generated phishing, and synthetic media fraud.

ii. New Criminal Laws (2023):

a) Bharatiya Nyaya Sanhita, 2023:
The newly enacted Bharatiya Nyaya Sanhita (BNS), 2023, includes provisions dealing with technology-enabled crimes such as organised crime including cybercrime (Section -111), petty organised crime (Section 112), cyberstalking (Section 78), online harassment (Section 75), and publishing sexually explicit content (Section 294), spreading misinformation (Section 353) etc. These are relevant to AI-generated harms such as non-consensual AI-generated intimate imagery or deepfake pornography, personating, AI-generated impersonation for fraud or character assassination, automated cyberstalking, phishing, and scam campaigns, synthetic disinformation through deepfakes or chatbots spreading false narratives etc.

b) Bharatiya Sakshya Adhiniyam, 2023 (New Evidence Act): This law gives recognition to electronic evidence, digital signatures, and metadata, which is crucial when investigating crimes involving AI-based systems or algorithmic decisions. It strengthens the admissibility of AI-generated content when used as evidence, provided authenticity is established.

c) Bharatiya Nagarik Suraksha Sanhita, 2023: The new criminal procedure code emphasizes technologically enabled investigation. This includes video

recording of statements, digital arrest warrants, and electronic data retrieval — important tools for dealing with AI-facilitated crimes.

iii. Digital Personal Data Protection (DPDP) Act, 2023: The Digital Personal Data Protection Act, 2023 marks a foundational shift in India's data governance framework by establishing data privacy as a statutory right and by holding entities accountable for how they collect, process, store, and share personal data. The Act ensures individual autonomy and control over personal data by enforcing a consent-based model of data processing, requiring that personal data be collected and used only for lawful, specific, and clearly defined purposes, and with the explicit knowledge and permission of the data principal (the individual).

The DPDP Act is particularly significant in the context of Artificial Intelligence (AI) systems, which frequently rely on large datasets — often including personal and sensitive data — for training, profiling, decision-making, and personalization. The Act prohibits unauthorized or excessive data collection, and ensures that AI systems and the entities deploying them must adhere to the principles of data minimization, purpose limitation, and fairness. This has direct implications for preventing unlawful AI profiling, algorithmic discrimination, and AI-based surveillance by both private platforms and state actors.

Moreover, the Act introduces obligations on Data Fiduciaries, including developers and operators of AI systems, to implement reasonable safeguards, such as data security measures, grievance redressal mechanisms, and transparency in automated decision-making. It also empowers individuals to seek redress if they believe their personal data has been misused, which includes misuse by automated tools that may impact a person's rights, reputation, or opportunities.

Another key value addition in the DPDP framework is the provision for significant penalties for non-compliance, including fines up to ₹250 crore for failing to prevent data breaches or using data for unauthorized purposes — which is crucial in deterring reckless or opaque deployment of AI technologies.

iv. Digital India Act (DIA): DIA is currently under formulation to replace the IT Act and introduce new central legal framework to deal with emerging issues of AI.

MeitY oversees the policy related to AI and it has issued certain guidelines related to AI. Specific laws for AI are yet to be enacted in India. However, existing laws such as Information Technology Act, 2000 provides important legal oversight to meet the challenges created by AI like misuse of videos.

When the Ministry was asked to elaborate on the need for strong legal frameworks for AI, building of AI-powered national Cyber Security platforms and need for development and enforcement of national standards and SOPs for AI usage in India and the submission was as under:

"Robust legal frameworks are needed to address AI's ethical and societal implications as well as national cyber security platforms are essential for safeguarding

AI systems from cyber threats. Further, national standards and SOPs are crucial for ensuring safe, reliable, and responsible AI development and deployment across India.

MeitY has constituted an Advisory Group on AI for India Specific Regulatory AI Framework under the chairmanship of Principal Scientific Advisor to GoI. The ToR of the committee inter-alia includes advice to GoI on AI regulation and draft policies and regulations that balance innovation and regulations and to draft contextualized ethical guidelines adoptable in India."

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75. Elaborating upon measures to be taken to ensure responsible and ethical AI use in internal security while maintaining human oversight, privacy and accountability, the Ministry furnished the following:

"There is a need to have inter-ministerial consultations to examine key issues related to AI governance in India, conduct a gap analysis of existing frameworks, and propose recommendations in the form of Mandatory guidelines for a comprehensive approach to ensure the trustworthiness and accountability of building and using AI systems in India. Necessary regulatory frameworks also need to be enacted for safe and ethical usage of AI in India."

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76. When sought to know what role AI could play in real-time surveillance and facial recognition systems for enhancing security in India and for crowd monitoring and riot control in high-risk zones or during public events, the following was submitted by the Ministry:

"AI can play a crucial role in enhancing security in India by automating real-time surveillance and facial recognition systems, allowing for more efficient monitoring of high-risk zones or public events. Advanced facial recognition systems powered by AI can help in quick identification of individuals with relatively high degree of accuracy, helping to prevent crimes like theft and assault, while also analysing crowd behaviour to detect potential hot spots for violence or unrest. This may enable authorities to respond swiftly to emerging situations, reducing the risk of incidents and improving overall situational awareness."

77. The Ministry, while elaborating upon the potential of AI usage in enhancing border security and controlling cross-border smuggling and infiltration and effectiveness of AI-based surveillance drones/ robotics in assisting in hazardous /risky internal security operations, submitted:

"AI has vast potential in enhancing border security and countering cross-border threats such as smuggling and infiltration across India's diverse frontiers. It enables intelligent surveillance by integrating and analyzing real-time data from multiple sources, including cameras, sensors, drones, and UAVs. AI models can recognize suspicious patterns, detect human and object movement, and support predictive risk assessments by combining historical trends with live feeds.

In challenging terrains—whether riverine, dense forests, high-altitude areas, or open and porous stretches—AI-powered drones, robotics, and smart surveillance systems

provide persistent monitoring and early warnings, improving operational readiness while reducing risk to personnel. These solutions can be deployed to detect threats in remote, hazardous, or difficult-to-access locations where human patrolling is difficult or dangerous.

AI-enabled tools such as facial recognition systems, reverse facial recognition, attribute-based searches, and automatic number plate recognition can help identify suspicious individuals and vehicles. Network-centric surveillance grids capable of integrating feeds from diverse equipment enhance the speed and accuracy of threat detection. AI can also be applied to make border check posts smarter, improve permit verification systems, and monitor the real-time progress of field operations.

By reducing human error and response time, AI acts as a true force multiplier in border management—enhancing the safety, efficiency, and effectiveness of security personnel in high-risk environments."

78. The Ministry of Home Affairs was aksed to explain the steps taken to use AI for intelligence gathering and counter terrorism. The Ministry in response submitted as:

"AI is helping security agencies in enhancing their capabilities for intelligence gathering and counter-terrorism efforts by rapidly analysing vast datasets, detecting anomalies, predicting patterns, cross linkages etc., thereby improving decision-making, speed and accuracy.

AI is being used for intelligence gathering and counter intelligence. Key application includes face recognition, social media parsing and network analysis, Natural Language Processing for analysis of structured and unstructured data, pattern analysis and hidden connection etc. Additionally, AI is used for entity resolution enabling accurate identification and correlation of individuals across multiple data sources."

79. When explaining about the possibility of Digital Fencing with the aid of AI where our borders are porous, the Ministry informed the Committee as:

"AI-based digital fencing offers significant potential for managing porous borders by enabling continuous, automated monitoring and rapid threat detection. Integrated with sensors, communication systems, and real-time alert mechanisms, such solutions can provide early warnings of unauthorized cross-border movement and trigger instant alerts to security forces. Predictive analytics further strengthen proactive deployment and resource optimization in vulnerable stretches.

The effectiveness of AI-enabled digital fencing depends on terrain and infrastructure readiness. While open and accessible areas allow for straightforward deployment, dense forests, hilly terrain, and high-altitude zones require specialized equipment, robust and redundant communication networks, and reliable power supply. Where physical barriers are impractical due to political, environmental, or socio-economic considerations, virtual monitoring systems can serve as effective alternatives.

By combining AI, sensors, and predictive analytics within a network-centric architecture, digital fencing can become a powerful tool for secure and efficient border

management—maximizing coverage, minimizing human risk, and enhancing overall operational readiness."

80. In view of lots of illegal activities on dark web, the Committee wished to know about the steps been taken/being taken to curb these and also whether the Ministry was contemplating any AI research system for controlling such activities on the dark web. The Ministry in its reply stated that:

"The dark web poses complex challenges for law enforcement due to its encrypted and anonymous environment, which facilitates a wide range of illicit activities such as the sale of narcotics, firearms, stolen data, CSEAM, counterfeit documents, and financial fraud using cryptocurrencies. Unlike the surface web, the dark web lacks standard indexing, making it difficult to monitor, trace actors, or extract timely intelligence using traditional methods. It also serves as a marketplace for cybercrime-as-a-service, including ransomware toolkits, phishing kits, and access credentials of compromised systems.

To address these threats, the Ministry of Home Affairs, through the Indian Cyber Crime Coordination Centre (I4C), has constituted a specialised team under the National Cybercrime Threat Analytics Unit (NCTAU) to monitor dark web activities. NCTAU is actively scanning the dark web for data breaches involving Indian citizens, organizations, and critical infrastructure. Reports generated are regularly shared with relevant stakeholders for investigation and mitigation. The unit is in the process of enhancing its capacity by enrolling more skilled manpower and expanding the scope of monitoring. In parallel, the Ministry is also exploring the use of advanced AI-based tools to automate the identification of hidden threats, illicit marketplaces, and suspicious communications on the dark web."

81. Examining further, the Committee wished to ascertain whether AI was being misused for creating caste and class rift in the society and hence used for creating social disharmony and problems of law and order. In this regard, it was submitted that:

"AI tools can be weaponized to inflame social rifts and fake narratives through deepfakes and misinformation campaigns leading to law & order issues. Section 69A of the IT Act, 2000 empowers the Designated Officer to issue orders to intermediaries for blocking of data or communication links on specified grounds of: (i) interest of sovereignty and integrity of India, (ii) defence of India, (iii) security of the State, (iv) friendly relations with foreign States or (v) public order or (vi) for preventing incitement to the commission of any cognizable offense relating to above. The due process being followed is defined in the Information Technology (Procedure and safeguards for blocking for access of information by public) Rules, 2009.

MeitY issues blocking orders under Section 69A of the IT Act upon receipt of a written request from Nodal Officers designated for Ministries/Departments at the Centre and Departments at the State level as well as from notified agencies of the Central Government under section 69A of the IT Act for blocking of illegal information on specific grounds as laid down in section 69A (1) of the IT Act.

Section79(3)(b) of IT Act read with Rule 3(1)(d) of IT Rules, 2021, mandates the platforms to ensure expeditious action, well within the timeframes stipulated (as early as possible but not later than 36 hours) under the IT Rules, 2021, to remove or disable access to information/content (such as VPN URLs)that violates the provisions of the IT Rules, 2021, upon receipt of court orders or notice from the Appropriate Government or its authorised agency or upon receipt of complaint made by the impersonated individual or person authorised by him in this behalf.

The Ministry of Home Affairs ("MHA") vide G.S.R. 193(E) dated 13th March, 2024 has designated the Indian Cyber Crime Coordination Centre (I4C), to be the agency of the MHA to perform the functions under section 79(3)(b) of the IT Act and to notify the instances of information, data or communication link residing in or connected to a computer resource controlled by the intermediary being used to commit the unlawful act."

82. On being questioned whether the Ministry thinks that AI can mislead any personal data or any subject matter for information, the comments made by the Ministry:

"Artificial Intelligence (AI), when misused or inadequately regulated, can mislead individuals by generating false, deceptive, or manipulated content. AI systems trained on biased, incomplete, or malicious datasets may produce misleading outputs that distort facts or misrepresent individuals and events. One of the major concerns is the use of AI-generated deepfake videos, which are increasingly being misused by fraudsters in investment scams. These videos often impersonate eminent personalities to create a false sense of trust and credibility, misleading victims into making financial commitments based on fabricated endorsements.

To address these risks, the Ministry, through the Indian Cyber Crime Coordination Centre (I4C), is taking proactive steps to detect and counter such misuse including the monitoring and takedown of malicious AI-generated content, development of early detection tools, and engagement with social media platforms to strengthen their content moderation mechanisms.

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83. When guage by the Committee if AI can affect a person's ability of learning given the unlimited dimensions to the limited knowledge, the following was submitted:

"AI can affect a person's ability to learn—both positively and negatively—especially in the context of "unlimited dimensions" (AI capabilities) and "limited knowledge" (human capacity and cognitive constraints).

Positive Effects: Enhancing Human Learning

i. Personalization & Adaptivity: AI can tailor content to a learner's level, pace, and style—something traditional education often fails to do. This adaptive learning boosts engagement and retention.

ii. Access to Vast Knowledge: AI can expose learners to ideas and perspectives far beyond what a single teacher or textbook can offer, essentially removing barriers to entry in nearly any subject.

iii. Instant Feedback & Support: Language models, tutoring systems, and educational platforms can give real-time corrections, explanations, and encouragement—reducing frustration and improving confidence.
iv. Simulation of Complex Systems: AI can model abstract concepts (like quantum mechanics, economic models, or psychological theories) through simulations, making the "unlimited dimensions" of complex domains more digestible.

Negative Effects: Undermining Human Learning

i. Cognitive Laziness & Dependency: If learners over-rely on AI for answers, they may not develop deep reasoning or critical thinking skills. It's the "calculator effect" applied to thinking.
ii. Surface-Level Understanding: AI often provides high-level summaries or simplified explanations. Learners may think they understand something deeply when they've only skimmed the surface.
iii. Overwhelm from Information Overload: The sheer volume of AI-generated content can drown learners in options, making it hard to focus, reflect, or retain. Human cognition thrives under constraints, not unlimited input.
iv. Loss of Epistemic Curiosity: When answers come too easily, the struggle of learning—which is essential for forming lasting knowledge structures—may be bypassed. This can dull intrinsic motivation.

In conclusion, we can state that AI can represent unbounded knowledge dimensions, but humans still learn best when information is

i. scaffolded (built layer by layer),
ii. emotionally engaging,
iii. socially contextualized,
iv. and effortfully processed.

The danger is in confusing access to knowledge with understanding. AI can flood learners with the former, but deep learning requires careful curation and intentional practice. AI is a tool, not a substitute for human learning. If used intentionally—to challenge, support, and engage—it can unlock deeper, broader learning than ever before. But if used passively—to replace thinking or shortcut effort—it can stunt true intellectual growth."

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84. Wanting to know how mule accounts multiply and populate so fast that it escaped the ambit of laws, the Committee asked the Ministry if it had been able to identify whether there were insiders within the system who were facilitating this massive population of mule accounts. Further, the Committee wanted to know what was being done in terms of punitive measures and if MHA had any AI tools or methods that were being used for detecting mule SIM card accounts alongwith any system where the Ministry was able to detect the owners of the SIM cards. The submission made by MHA was as under:

"Fraudsters exploit the existing infrastructure briefed below in various ways:

i. Banking (Mule Accounts, Virtual Accounts, Payment Aggregator, Payment Gateway, Misuse of CBDC, Cryptocurrency etc.)
ii. Telecom (Mule SIM, Rogue POS Agents, Simbox, SMS Headers, Call Spoofing etc.)

iii. IT Infrastructure (Google, Meta, Instagram, Telegram, Facebook, etc.)
iv. Human Resources (Agent, Sub-Agent, Scam Centre, etc.)

The response of I4C to the above method adopted by cyber fraudster is as below:

i. The National Cybercrime Reporting Portal (NCRP) was launched in August 2019 by the Ministry of Home Affairs (MHA) to set up a mechanism to facilitate reporting of all types of cybercrime including Cyber-Enabled Financial crimes. The portal has two components; the first is for citizens to report cybercrime-related complaints online without needing to visit a police station, and the second component is for police agencies, banks and financial intermediaries, and other stakeholders to monitor and act upon those complaints expeditiously. The second component has a module called the Citizen Financial Cybercrime Reporting and Management System (CFCFRMS) under CFMC, as a part of the National Cybercrime Reporting Portal (NCRP) integrates LEAs, major Banks and Financial Intermediaries on a single platform. As of June 2025, Financial Institutions comprising of 431 Banks, 34 Wallets/Payment Aggregators (PA)/ Payment Gateways (PG), 27 Merchants, 2 Insurance Companies, 7 Crypto Exchanges/ VAPs, 2 Stock trading and 4 major Telecom Service Providers have been onboarded on NCRP-CFCFRMS Portal. The financial crimes reported over the NCRP after verification by concerned LEA's via CFCFRMS module are being sent to the Banks/Financial Intermediaries in order to warrant action by banks/FIs to save the fraudulent transaction within the financial digital ecosystem.I4C provides banks with visibility into mule bank accounts through the NCRP Portal, enabling them to take necessary actions.

ii. A State-of-the-Art Cyber Fraud Mitigation Centre (CFMC) has been established at I4C where representatives of major banks, Financial Intermediaries, Payment Aggregators, Telecom Service Providers, IT Intermediaries and representatives of States/UTs Law Enforcement Agency working together for immediate action and seamless cooperation to tackle cybercrime. CFMC is committed to developing robust mechanisms to combat cyber financial fraud in near real-time. By bringing together financial institutions, CFMC aims to detect, prevent and mitigate the cyber financial frauds by preventing the dissemination of fraudulent funds across various financial sectors. As of June 2025, Representatives from top 45 Banks/Financial Institutions (FI), all major TSPs (Airtel, Jio, Vodafone Idea, BSNL), and 12 LEAs form different states are co-located in CFMC. These representatives coordinate closely using extensive dashboards to combat cyber criminals and to halt crime proceeds within the digital ecosystem.

iii. Furthermore, to ensure inter-bank visibility all particular entities including DFS, RBI, Banks, Financial Institution are being provided with the visibility of their respective layer wise mule accounts reported on NCRP- CFCFRMS platform, additionally a Suspect Registry mechanism has been implemented, which enables Banks and Financial institution to flag mule accounts and related identifiers across the participating entities, thus assisting the Bank/FIs in mitigation of cyber financial frauds. Suspect Registry will share the relevant information with the participating entities, for taking necessary action (i) to verify the credentials of new customers before onboarding, ii) monitor the ongoing transactions in real time, (iii) check historical accounts and transactions to identify suspect mule accounts.

iv. Additionally, a draft MOU is under process between RBI Innovation Hub and I4C to enhance the efficiency of mule hunter application. Mule hunter is an in-house AI/ML-based solution which is better suited than a rule-based system to identify suspected

mule accounts. Advanced ML algorithms can analyse transaction and account detail related datasets to predict mule accounts with higher accuracy and greater speed than typical rule-based systems. This machine learning based approach has enabled the detection of more mule accounts within a bank's system. Additionally, RBIH's Mulehunter.ai model provides AI/ML-based solutions for identifying and mitigating risks related to mule accounts, significantly enhancing fraud detection capabilities across the banking system. The integration of same with I4C's NCRP-CFCFRMS/Suspect Registry will assist in faster and more accurate mitigation measures against cyber financial Fraud.

v. It is also intimated that all Banks/FIs including their regulators (DFS/ RBI/ NABARAD) are being regularly sensitized regarding the possibility of collusion and are advised to take necessary precautionary action against the same.

vi. As regards detection of mule sim cards, the same falls under the domain of Department of Telecommunications (DoT)."

vii.

85. When specifically asked if the Ministry had a dashboard that showed the CALL numbers for awareness about '1930' (a cloud telephony system using AI to help the callers) so that if someone required to use, then it was accessible and timely responded across all villages and districts, MHA submitted the following:

"I4C is planning to implement an AI-assisted complaint registration system for the 1930 cybercrime helpline, which will reduce the time required for lodging complaints and improve user experience through guided interaction. It will be compatible with most of the regional/native languages.

Further, I4C, MHA runs a Social Media Handle "Cyberdost" which effectively promotes the cybercrime helpline number 1930 and the reporting portal www.cybercrime.gov.in. The posts are in English and Hindi and also in regional languages from time to time. An app is in the process of development. Action starts immediately with registering of the complaint, as it is immediately forwarded to the LEAs and Banks etc."

86. On being asked how the Ministry of Home Ministry Affairs dealt with the issue of privacy while scraping through the internet and through social media, the Committee was apprised as:

""Scraping" under consideration generally refers to using computer Programmes, tools or software (called web scrapers) to automatically browse public web pages or social media posts; extract specific information (e.g., names, phone numbers, keywords, hashtags, trends, images); store or analyse that information for law enforcement or intelligence purposes.

Type of data that can be scraped by the authorised security agencies only from publicly available sources using open-source Intelligence (OSINT) technique may include the following:

Type of data	Examples
Social media posts	Public tweets, Facebook posts, YouTube videos
Deepfake or morphed media	Altered or impersonated images or videos of any person including public figures
Fake news or	Viral instigating content spreading communal hatred or

misinformation	affecting sovereignty, security of the State or public order
Hashtags and trends	Scraping YouTube channels and Telegram groups for Radical Content/ Posts using etc. that promote extremist ideologies or that share propaganda videos or bomb-making tutorials.
Scam websites or links	Online gambling, fake job scams, fake investment scams, etc. Public posts or ads on sites like OLX, QuikrJobs, or even LinkedIn are scraped to flag job scams. Scraping of URLs, Domain names, Keywords like "govt job 2025", "army vacancy", etc. to flag fake job alerts using names/logos of ministries or govt. organisations. Links and data from Google search, Telegram channels, or websites hosting betting content like IPL gambling apps are gathered.
Scraping Matrimonial and Dating Platforms (for honeytraps or frauds)	Public profiles on matrimonial/dating sites may be scraped in cybercrime investigations where people are blackmailed or trapped into sharing sensitive data.
Scraping Dark Web Marketplaces	Extraction of Cryptocurrency wallet addresses

Publicly available information on the internet and social media platforms is used for intelligence gathering. No private or personal Information is gathered from Social Media.Hence, privacy is never violated."

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87. In terms of Surakshini (a centre run by the Ministry of Home Affairs, which keeps an eye on the crimes related to children and women and helps in removing vulgar contents), the Ministry has a 'hash' value that is being shared. When the Committee wanted to know what had been the response time of the social media intermediaries in actually responding to it and taking them down, the following was submitted:

"Currently, the Online Cybercrime against Women and Children (OCWC) team under I4C identifies complaints related to Child Sexual Exploitation and Abuse Material (CSEAM) and Non-Consensual Intimate Imagery (NCII) received through the National Cybercrime Reporting Portal (NCRP). OCWC team share URLs and links reported in the complaints with Social Media Intermediaries (SMIs) via the SAHYOG platform for content takedown. These requests are followed up to ensure compliance and timely removal.

Under the proposed SURAKSHINI initiative, a dedicated Mitigation Centre will be established to strengthen this process. Once operational, SURAKSHINI will facilitate the creation of a comprehensive hashbank for CSEAM and NCII content. This will allow SMIs to proactively detect and prevent the upload of such harmful content using automated hash-matching, thereby shifting from a reactive takedown approach to a preventive content moderation model. Additionally, the SURAKSHINI dashboard will provide end-to-end visibility into complaint status, takedown timelines, and FIR

registration, helping improve coordination and accountability across platforms and law enforcement agencies."

88. Regarding illegal online gaming and gambling, the Committee were given to understand that was quite rampant and sometimes it took a long time before they were actually pulled down because they were on VPNs and outside our domain. So the Committee wanted to know how the Ministry was planning to actually take them down when they are not part of our network and were being operated through private VPNs. The reply furnished was as under:

"The Information Technology Act, 2000(IT Act) along with the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 ("IT Rules, 2021"), provides a legal framework to regulate unlawful online content. Intermediaries including telecom service providers, network service providers, and internet service providers are obligated to exercise due diligence and take necessary action for the removal or disabling of such content upon receipt of lawful directions from the Appropriate Government or its authorised agency.

- Legal provisions that may be applicable in relation to any Virtual Private Network (VPN) service providers:
  - VPN services can be termed as Intermediary under IT Act, 2000
  - Regulated under Section 70B (CERT-in Directions) and Section 79 (Intermediary liability)
  - Under 69A of IT Act, 2000, VPN services can be blocked through ISPs/App stores for national security, public order, etc.
  - Under Section 79(3)(b) of IT Act, 2000 & IT (Intermediary) Rules, 2021
    - Under Rule 3(1)(d), ISPs/App stores can be ordered to remove VPN URLs
  - VPN details must be shared upon legal request [Rule 3(1)(j)]
  - Logs and user info retained for 180 days [Rule 3(1)(h)]
  - Applies also to ISPs and intermediaries
- Section 69A of the IT Act, 2000 empowers the Designated Officer to issue orders to intermediaries for blocking of data or communication links on specified grounds of: (i) interest of sovereignty and integrity of India, (ii) defence of India, (iii) security of the State, (iv) friendly relations with foreign States or (v) public order or (vi) for preventing incitement to the commission of any cognizable offense relating to above. The due process being followed is defined in the Information Technology (Procedure and safeguards for blocking for access of information by public) Rules, 2009.
- MeitY issues blocking orders under Section 69A of the IT Act upon receipt of a written request from Nodal Officers designated for Ministries/Departments at the Centre and Departments at the State level as well as from notified agencies of the Central Government under section 69A of the IT Act for blocking of illegal information on specific grounds as laid down in section 69A (1) of the IT Act.
- Section79(3)(b) of IT Act read with Rule 3(1)(d) of IT Rules, 2021, mandates the platforms to ensure expeditious action, well within the timeframes stipulated (as early as possible but not later than 36 hours) under the IT Rules, 2021, to remove or disable access to information/content (such as VPN URLs)that violates the provisions of the IT Rules, 2021, upon receipt of court orders or notice from the Appropriate Government or its authorised agency or upon receipt of complaint made by the impersonated individual or person authorised by him in this behalf.

- Rule 3(1)(j) of the IT Rules, 2021 mandates the intermediaries to provide information regarding VPN under its control or possession, or assistance to the Government agency which is lawfully authorised for investigative or protective or cyber security activities, for the purposes of verification of identity, or for the prevention, detection, investigation, or prosecution, of offences under any law for the time being in force, or for cyber security incidents, well within the timeframes stipulated (as soon as possible but not later than 72 hours).
- Under Rule 3(1)(h) of the IT Rules, 2021, intermediary is required to retain user's registration information for 180 days after cancellation or withdrawal of his registration.
- CERT-In directions dated 28.04.2022 mentions that VPN service providers, shall be required to register the following accurate information which must be maintained by them for a period of 5 years or longer duration as mandated by the law after any cancellation or withdrawal of the registration as the case may be:
  - **a.** Validated names of subscribers/customers hiring the services
  - **b.** Period of hire including dates
  - **c.** IPs allotted to/being used by the members
  - **d.** Email, IP & time stamp used at the time of registration/on-boarding
  - **e.** Purpose for hiring services
  - **f.** Validated address and contact numbers

All entities to enable ICT system slogs, retain it for 180 days, keep logs in India and share with CERT-In when required.CERT-In directions dated 28.04.2022 is accessible via the following link:

https://www.cert-in.org.in/PDF/CERT-In_Directions_70B_28.04.2022.pdf

- The Ministry of Home Affairs ("MHA") *vide* G.S.R. 193(E) dated 13th March, 2024 has designated the Indian Cyber Crime Coordination Centre (I4C), to be the agency of the MHA to perform the functions under section 79(3)(b) of the IT Act and to notify the instances of information, data or communication link residing in or connected to a computer resource controlled by the intermediary being used to commit the unlawful act.
- I4C is also the central agency implementing the SAHYOG Portal, developed to route notices issued under section 79(3)(b) of the IT Act r/w Rule 3(1)(d) of the IT Rules, 2021.
- The portal is developed in collaboration with Ministry of Home Affairs, Ministry of Electronics and Information Technology and Department of Telecommunications. The portal facilitates lawful, automated routing of takedown notices related to cybercrimes/cyberspace between authorised agencies of the respective Appropriate Government, designated nodal officers, and intermediaries.
- I4C can monitor and track compliance by intermediaries with such takedown notices routed through the portal, ensuring transparency and accountability in the process.
- The word 'SAHYOG', meaning cooperation, reflects the portal's objective of enabling seamless coordination for swift removal of unlawful content.
- As per established norms, authorised agencies in the respective Appropriate Government issuing such notices for content removal may invoke the relevant laws that are being violated due to the continued presence of unlawful content on intermediary platforms even after notices are issued.

- In addition to the regulatory framework under the IT Act, the suppliers of online money gaming are also being regulated under the Integrated Good and Services Tax Act, 2017 ("IGST Act") and are required to obtain a single registration under the Simplified Registration Scheme referred to in the IGST Act.
- The Directorate General of GST Intelligence Headquarters ("DGGI") is empowered as appropriate government/agency under the IT Act and the IGST Act to direct intermediaries to disable access to unregistered online money gaming platforms including offshore online money gaming platforms violating the IGST Act. The Gazette Notification issued by the Department of Revenue, Ministry of Finance, *vide* S.O. 95(E) dated 6th January, 2025 is available at the following link: https://egazette.gov.in/WriteReadData/2025/259972.pdf

DGGI is also investigating offshore entities involved in the supply of online money gaming/betting/gambling. As per the PIB Press Release by the Ministry of Finance, dated 22nd March, 2025, 357 websites/URLs of illegal/non-compliant offshore online money gaming entities have been blocked by the DGGI, in coordination with MeitY, under the IT Act.

The Indian Cyber Crime Coordination Centre (I4C), in exercise of the powers conferred under clause (b) of sub-section (3) of Section 79 of the Information Technology Act, 2000, has issued statutory notices to the concerned Information Technology (IT) intermediaries, for removal/disabling of access to 1345 URLs/websites/accounts disseminating content pertaining to online gambling and betting, which has been found to be unlawful.

Pursuant to the said notices under Section 79(3)(b) of the IT Act, the concerned Internet Service Providers (ISPs) and IT intermediaries—including search engines, social media platforms, e-commerce entities, and instant messaging applications—have acted in compliance by removing the specified content. This ensures that such unlawful material remains inaccessible to users, including attempts made through Virtual Private Networks (VPNs)."

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89. Given that Law and order is a State subject, the Committee wanted to know to what extent databases from States were being integrated by the Ministry of Home Affairs and whether the Ministry had been able to access UIDAI and other databases for facial recognition at State levels. To this, MHA replied as under:

"The Criminal Procedure (Identification) Act, 2022 authorise taking measurements of convicts and other persons for the purposes of identification and investigation in criminal matters."measurements" includes finger-impressions, palm-print impressions, footprint impressions, photographs, iris and retina scan, physical, biological samples and th1eir analysis, behavioural attributes including signatures, handwriting or any other examination referred to in section 53 or section 53A of the Code of Criminal Procedure, 1973.

In order to facilitate the above, CrPI System is being rolled out which will capture photographs, Iris and DNA as per the provisions of the Act. The captured photographs will be processed and will be ingested in a facial recognition system for matching purpose also.

A proposal has been initiated to integrate AI on SAMANVAYA platform in which data of arrested cybercriminals has been uploaded by States/UTs for interstate linkages. There is no access to UIDAI or other database for facial recognition at I4C."

90. When asked if there was any AI mechanism or tool that was being used by the Ministry for detecting forged government documents, the Ministry replied:

"All the forensic departments functioning under the Ministry of Home Affairs, are duly competent and sufficiently equipped to conduct examinations in respect of all categories of document forgery. These institutions are equipped with state-of-the-art forensic technologies, such as the Video Spectral Comparator, Projectina, advanced digital stereomicroscopes, Traso Scan, ProScope, and other specialized instruments, and are duly supported by trained and qualified personnel possessing the requisite expertise.

Artificial Intelligence–based tools are presently being deployed in forensic investigations pertaining to digital and cybercrime by the forensic institutions functioning under the administrative control of the Ministry of Home Affairs. Use of Artificial Intelligence in document forgery examination has not yet been operationalized, as the technology remains at a nascent stage and requires further validation for efficacy."

91. When the Committee sought to know if the Bureau of Immigration was using AI to detect unwanted people entering the Country or people who might be wanted for crimes in other countries but were not yet on an Interpol list, and if the Ministry was indulging in collaboration with international agencies beyond Interpol for data sharing, the Ministry submitted:

"The BoI is currently not using AI for immigration process. However, the future implementation plan for the Mission Mode Project i.e. Immigration, Visa Foreigners Registration and Tracking (IVFRT) (Version 3.0), commencing on 01.04.2026, envisions a comprehensive transformation of India's immigration, visa, and traveller management ecosystem by leveraging emerging technologies such as Artificial Intelligence (AI) and Machine Learning (ML) for intelligent traveler profiling, and exploring Blockchain to enhance the authenticity and security of digital records. As far as international collaboration for data sharing is concerned, currently there is no collaboration with any country. However, the UAE has proposed an MOU in this regard which is under consideration."

92. While trying to understand the parameters and the procedures which have been built to identify deep fake; the Committee wanted to know if the Ministry was proposing any plan of action to enlarge its gambit and also whether the Ministry was taking any measures for the usage of AI tools and its best-case practices. The reply of the Ministry was:

"The proliferation of deepfake content, particularly videos and audio manipulated using artificial intelligence, presents a serious concern in the domain of cyber-enabled crimes. Such content is increasingly being used for investment scams, impersonation, misinformation, and public deception, often involving fabricated endorsements by eminent personalities. These sophisticated fakes erode public trust and can lead to large-scale financial and reputational harm.

The Indian Cyber Crime Coordination Centre (I4C) is actively working to detect and address the misuse of deepfake technologies. The National Cybercrime Threat Analytics Unit (NCTAU) under I4C regularly identifies deepfake content being circulated on various platforms. These cases are shared with Social Media Intermediaries (SMIs) for timely takedown. In this regard, I4C has also conducted meetings with SMIs and conveyed the need to train their AI-based content moderation systems to proactively detect and flag deepfake content.

Further, acting under clause (b) of sub-section (3) of section 79 of the Information Technology Act, 2000, I4C has issued notices to the concerned intermediaries for removal or disabling of access to 175 URLs that hosted unlawful deepfake or other AI-generated content."

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93. On being asked if the Ministry was going to have a relook at the entire SOP of the financial transaction itself and ensure that there is AI assistance available to the institutions, so that financial frauds could be prevented at the very place of its origin, the Ministry while replying elaborated as under:

"Basically, matter pertains to the Ministry of Finance; however, the same can be achieved in the following manner:

a. Strong authentication on login/initiation: It is suggested to ensure that when a user initiates a new login sessions or transactions, robust authentication is in place requiring password and mandatory "auto read" OTP for accessing payment functionality. It is also suggested that while using internet banking, the system should be able to detect the presence of third-party application such as TeamViewer of AnyDesk. In case, the system detects any such application, internet banking login should not be authenticated/permitted.

b. Device Binding: At transaction origin, banking application must verify that the device is binded and has been in regular use. The banking application should ensure that transactions should be sent only from a bound device (one that the user has previously registered). If an attempt comes from an unauthorized device, transaction attempted can be treated as high risk and disallowed/deferred until the device is verified and bound.

c. Transaction Limits: At the origin of a transaction, banks should apply standard customer rules for new users. For example, new customers (e.g. >30 days since onboarding), lower default limits on transaction amount or volume must be kept. If an account had multiple failed login or PIN reset attempts, bank may restrict high-value outward transfers for a cooling off period unless the user authenticates.

d. Behavioural prompts: At the point of initiating specific transaction types known for fraud (like transfers to a new payee or sending money in response to a scam prone context available through TAU reports of I4C) a confirmation prompt may be introduced like "This is a new payee proceed with caution." The user must explicitly confirm to continue. This measure can prevent fraud by prompting the user to reconsider the transaction.

e. Embedded fraud check in the origination flow: Banking applications especiallyThird-Party Application Providers (TPAPs) can incorporate checks during the input phase before final submission using DoTs Financial Fraud Risk Indicator (FRI) database. As soon as the user enters the beneficiary account or UPI ID, the system can do a

lookup against blacklists and the transaction can be denied or user may be warned as “Beneficiary is flagged of fraud-transaction not allowed”.

f. Transaction pattern: If the amount entered is high, relative to the normal transaction patterns of the user, he/she maybe prompted for reconfirmation or the transaction may be deferred.

g. Activity Control: If the transaction is of a type the customer has never done before, it should be treated for higher scrutiny by default. For example, a first ever international transfer or withdrawal in foreign ATM, or first use of the mobile app to send money could automatically trigger a step-up check at origin. The first such transactions should be mandated requiring a call-back verification or a branch visit (depending on severity). After confirming it was legitimate, subsequent smart transactions can be treated as normal.

h. Split transaction control: Sometimes fraudsters try to break a large amount into many small ones to avoid detection rules. A control at origin can detect if a user is executing multiple transfers to the same beneficiary in the same session that sums to a large total.

Based on the inputs of I4C, RBI has issued a comprehensive advisory to all banks on use of money mule accounts for cyber enable frauds vide their advisory reference no. CO. DOS. RSD. No. 56058/11-01-00612024-2025 dated 19.11.2024.

The advisory covers strict adherence to the directions on introduction of new technologies, as contained in Paragraph 62 of the Master Direction - Know Your Customer (KYC) Directions, 2016. Banks/FIs shall identify and assess the ML / TF risks prior to the launch of new products, services etc., including in case of those products / services offered in collaboration with Fintechs / Third-party Service Providers.

It also emphasizes that banks should ensure deployment and adoption of robust software for real-time transaction monitoring and use of AI / ML tools in detecting suspicious and fraudulent transaction patterns as well as use of network analytics in identifying mule networks. Setting up of a dedicated centralised unit at the bank-level may also be considered for a harmonised and time bound response in countering cyber-enabled frauds.”

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94. On being asked if MHA had considered the feasibility of posting cyber experts directly in the police stations to handle cybercrimes, the Ministry replied as under:

“I4C has requested States/UTs/CAPFs & CPOs to utilise trained cyber commandos in cyber related fields at Cyber Police stations.

Training to selected cyber commandos is being imparted in a phased manner. It is proposed to train 5000 cyber commandos for such purpose during the next 5 years.

First batch of cyber commandos is already undergoing training at different training institute of repute.”

E. Ministry of Defence and Defence Researchh and Development Organisation(DRDO)

95. Initiatives taken

DPSUs and CAIR, DRDO have taken up various AI projects under the domains/technology areas such as Command, Control, Communications, Computer and Intelligence, Surveillance and Reconnaissance Systems (C4ISR) Systems; Autonomous/ Unmanned/ Robotic Systems; Intelligent Monitoring Systems; Manufacturing and Maintenance; Operational Data Analytics; Perimeter Security systems; Speech / Voice analysis using NLP; Generative AI (LLM based Virtual Assistants) solutions. etc.

Further, significant R&D efforts are also being made by DPSUs/ Organizations/ Academia's/ Startups across following new domains/ projects: AI Platform Automation; Cyber Security; Human Behavioral analysis; Lethal Autonomous weapon systems; Logistics & Supply Chain management; AI enabled Simulators, etc.

Some of the DRDO initiatives include

(i) Developing the framework, toolkit and methodology for ensuring Trustworthiness of AI Systems.

(ii) Developed portable AI system for Mandarin to Hindi/English speech translation on the edge - enabling automated Mandarin data translation in network denied environment.

Challenges posed by AI in the Defence Sector

a) Data, Infrastructure & Integration

- **Fragmented and Classified Data**: Military data lacks standardization, is often compartmentalized or classified, limiting large-scale AI training (e.g., in object detection or battlefield simulation).
- **Infrastructure Shortfalls**: India's defence sector faces
  - i. lack of digitized data causing non-reliable, less generalized and poor performance in deployed environment.
  - ii. computing infrastructure and high implementation costs in establishing advanced data centres or retrofitting legacy platforms.
- **Legacy System Integration**: Older platforms (tanks, aircraft, artillery) weren't built for AI integration, making upgrades complex and expensive.

b) Ethical, Legal & Normative Concerns

- **Opacity:** Lack of transparency in decision making
- Ethical concerns in autonomous systems
- **Over-reliance**: Reduced human judgment & accountability

c) Adversarial attacks throughout AI pipeline (Evasion, Poisoning & Information Extractions)

Plans to counter challenges

These challenges can be addressed through various means such as Data Management, engaging Private Sector, Cost-effective solutions, stringent security measures etc.

a) Institutional Mechanisms & Funding

- **iDEX, TDF, and DIO**: These bodies provide funding, institutional backing, and a collaborative platform for AI innovation through startups, academia, and private firms.
- **Short term & Long-termplans**: By committing to short term & long-term projects and modernization centreed on AI and next-gen systems, labs like DYSL-AI are ensuring technological readiness.

b) Ensuring AI integration and infrastructure sharing to enhance R&D & cross collaboration

- **DRDO–Tri service Collaboration**: DRDO has established the DRDO Young Scientist Laboratory-Artificial Intelligence (DYSL-AI), which is actively engaging with Tri services and other agencies to initiate cross collaboration and cater to current defence AI requirements.
- **Centre of excellence has been established at various IITs to promote** cross-disciplinary collaboration.

c) Building Technological Independence

- **Indigenous AI Systems:** Projects like Human Machine Teaming and other AI based projects is being taken up to build capacity for next-gen autonomous warfare solutions.

d) Evaluation Framework (ETAI Framework) for Trustworthy AI systems in Defence has already been developed & released in Oct 2024

e) Maintain Human oversight in critical operations

f) Ensure logging and monitoring post deployment

96. When the Committee wanted to know how AI was helping the Ministry of Defence in meeting its requirements of State-of-the-Art Technology for producing indigenous Defence Equipment and what policy changes and investments were essentially required to strengthen India's AI preparedness in the Defence sector, the Ministry elaborated:

i. **"**There is a definite gap in the availability of learnable datasets that can be used to build reliable and effective AI based solutions. The datasets when not available need to be created in volume, variety and dynamicity for building effective models. An end-to-end pipeline that can bring domain experts, data scientists, data

engineers and AI experts needs to be institutionalized and established. This will require necessary amendments to the GFR based on complete appreciation of the ROI.

ii. India has strategic dependence on imported Accelerators (GPU) which are critical for AI. This strategic dependence has to be broken through GoI initiative.

iii. LLMs for Strategic applications is the need of nation. The LLMs needed for Strategic Applications are different for Government to Government and Government to Citizen Applications. This requires investment and sharing of Data sets in possession of various GoI departments.

iv. AI is crucial for India's "Aatmanirbhar Bharat" in defence sector, accelerating indigenous equipment production through faster R&D, advanced simulation, and AI-powered quality control. It also enables predictive maintenance, enhancing the operational readiness of indigenously produced assets.

The Policy changes and investments essential to strengthen AI preparedness include plans built on DAIC/DAIPA, iDEX and DAP review.

1. **Create a classified Defence Data & Compute backbone (DDCB).**
2. **Establish Test & Evaluation standards and national ranges for AI/autonomy.**
3. **Strengthen safety, ethics, and accountability for AI in combat.**
4. **Adopt Open technical standards + sovereign model repositories.**
5. **Secure supply chains for AI hardware & critical components.**

Adopt Frameworks (ETAI Framework or other) for trustworthy AI system development ensuring Reliability & Robustness, Safety & Security, Transparency and Fairness."

97. Since India's pursuit of AI-driven defence modernization faces several structural and strategic challenges that hinder as its progress toward self-reliance and a major impediment was the Country's continued dependence on foreign nations for advanced military technologies which delayed the development of an indigenous AI-based defence ecosystem, the Committee sought the views of the Ministry in this regard and the following was submitted:

"With Battle space becoming multi domain, nonlinear and full spectrum the development of Systems is becoming complex. Modeling such high complex systems requires AI. Hence AI is critical to achieve self- reliance. The structural and strategic aspects as discussed below need to be addressed.

There is a definite gap in the availability of learnable datasets that can be used to build reliable and effective AI based solutions. The datasets when not available need to be created in the volume, variety and dynamicity necessary for building effective models. An end-to-end pipeline that can bring domain experts, data scientists, data engineers and AI experts needs to be institutionalized and established. This will require necessary amendments to the GFR based on a complete appreciation of the ROI. India has strategic dependence on imported Accelerators (GPU) which is critical for AI. This

strategic dependence has to be broken through GoI initiative. LLM for Strategic applications is the need of nation. The LLMs needed for Strategic Applications are different for Government to Government and Government to Citizen Applications. This requires investment and sharing of Data sets in possession of various GoI departments."

98. When asked to explain how AI was being integrated into India's national defence strategy and military modernization plans and what were the current AI applications used in surveillance, intelligence gathering and warfare for Indian Armed Forces, the Ministry furnished the following details:

"Indian Defence forces are formulating RMA 3.0 with the view to incorporate deep technologies like AI, Quantum cyber and space domains in to full spectrum warfare.

Current AI application used in surveillance includes face detection and recognition system, speech and text translation system.

Development of AI/ML based tools for improving functionalities is currently under development.

a) AI/ML for Post Mission Data Analysis.

b) AI/ML for performance improvement.

AI Centres are being developed by each lab."

99. Asked to elaborate whether AI could enhance the capabilities of autonomous weapon systems and unmanned vehicles (drones etc.) and on the AI-driven advancement in drones, missile guidance, targeting systems, and electronic warfare in India, the Ministry of Defence submitted that:

"AI can enhance the capabilities of autonomous weapon systems and unmanned vehicles by

- Precision target detection
- Dynamic route planning
  AI-based electronic warfare (EW) enables faster, more accurate, and autonomous control of the electromagnetic spectrum."

100. In response to a query as to whether the Ministry of Defence explored use of AI for border security and real-time threat detection along India's border, the following was submitted:

"**Y**es, the Ministry of Defence (MoD), Government of India has actively explored and initiated multiple projects involving AI for border security and real-time threat detection. Specifically, R&DE(E) of DRDO has successfully completed project on multi-layered intelligent perimeter surveillance and response. Some of the involved technologies are

- AI-Enabled Smart Fencing (CIBMS)
- AI for Real-Time Video & Image Analytics

- AI-Powered Drone Surveillance
- Project “iSentinel”
- AI-Driven Multi-Sensor Fusion and Early Warning Systems
- AI-Based Surveillance Systems for Border Security
- AI-Driven Robotics and Autonomous Systems”

101. On the role AI could play in cyber warfare, protecting critical Defence infrastructure in India from cyber threats and enhancing operational efficiency in Indian Defence operations, the Ministry elucidated as:

“The role of AI is very significant in all the aspects of cyber warfare across monitoring, defence and deterrence. The data points available, effectively collected and processed can provide 360-degree view of the cyber security posture. AI can help in assessing the vulnerabilities, planning defence. evolving traps and also creating new observation points. It can significantly reduce the cognitive overload and enable decision making.
In defence cyber warfare also, AI is crucial for advanced threat detection and automated incident response, enabling rapid mitigation of cyber threats. For critical defence infrastructure, AI provides real time monitoring and anomaly detection to safeguard vital networks and systems.”

102. To a pointed query as to how the Defence Research and Development Organisation (DRDO) was leveraging AI for indigenous defence innovation, the Ministry elaborated:

“Two specialized labs CAIR, DYSL-AI and AI cell in every lab of DRDO are leveraging the AI for indigenous defence innovation.

(i) **Face Recognition system under Disguise (FRSD)**: Solution is capable of automated face detection and recognition of persons under disguise and helps in spotting intruders at sensitive locations using AI-enabled alerts.

(ii) **AI-powered Speech Translation**: The system translates Mandarin to Hindi/English speech enabling cross lingual communication, sensitive data analysis.

(iii) NPOL, DRDO is leveraging Artificial Intelligence (AI) to drive indigenous defence innovation by integrating AI into underwater surveillance, sonar systems, and autonomous platforms. NPOL is researching and developing AI-powered solutions for passive acoustic target classification, adaptive sonar signal processing, and autonomous navigation in AUVs, enhancing operational effectiveness in complex underwater environments.

(iv) DMRL/DRDO used the Integrated Computational Materials Engineering concept in a project for the development of powder metallurgy turbine disc wherein AI was used for certain modules. With increasing contribution of AI for similar endeavors, some of the limitations of the ICME approach can be overcome. This will pave way for faster development of better materials at reduced cost. A multi-institutional

project is under initiation through DIA-CoE IITK with regards to Accelerated Development of Next Generation High Strength High Performance Steel. This project will make use of AI/ML for the design of chemistry of new steel. Further, an AR&DB sponsored project was conducted by IISc for property prediction of Ni-base superalloys and Ti alloys using advanced ML algorithms.

(v) Under the project DIR-10 at DMRL/DRDO, an AI based approach involving a combination of Machine Learning and Genetic algorithm techniques was implemented to accelerate design and development of promising high temperature multi-component alloys. This has paved the way for developing new light-weight materials having high strength at high temperature surpassing the current commercial alloys for defence applications. This approach enabled the alloy design in significantly less number of experiments and repeatability trials. Apart from the alloy development application, an ongoing R&D work is being done for analysis of micro-structural images using AI tools with the aim to automate identification and quantification of micro-structural features and defects and relate it with material properties for accelerated material development.

(vi) RCI a premier lab has established a dedicated technology group for developing AI/ML based applications to improve product features and process efficiency. Furthermore, RCI has also field-tested AI/ML for use in missile applications;

(vii) Petaflop's facility has been created for training of massive models with large datasets;

(viii) A project is being undertaken for the development of indigenous AI / ML model for precision nutrition intervention aimed at metabolic health of soldiers deployed in different environmental conditions such as high altitude, dessert, humid and coastal areas.

(ix) DGRE is using AI and ML based techniques to generate the avalanche forecast for Indian Himalaya regions. AI/ML based algorithms are used in the analysis of chemical and biological detector response on exposure to chemical and biological agents.

(x) DIPR has developed crowd behaviour analysis software which use psychological questions to identify the behaviour of crowd. DIPR is working in the use of trust in AI.

(xi) AI/ML model are being used for training the human effort augmentation device being develop by DEBEL.

(xii) Also, to provide innovative solutions to India's defence in the field of defence armament & ammunitions systems. ARDE is employing AI in the development of following systems:

a) Development of electronic discrimination module for classification of system.

b) Drone Based Telemetry Receiving System

c) Auto target detection, tracking, identification and locking system

(xiii) Advanced **Robotics:** In this project, it proposed to develop AI driven technologies to function as assistance to soldier. Also the establishment has been working on a project involving AI for border security and real-time threat detection.

(xiv) Structural **Health Monitoring (SHM):** AI/ML based solutions are being explored for defect detection.

(xv) Compact **Power Source:** AI/ML are being used to add intelligent features helpful for optimized operation of power supply system for defence application

However, a limitation with the AI based approach is that the robustness of the model predictions depends on the training database size and quality. But still, the AI tools can be used to guide the experimentation to converge quickly to the promising alloys having desired properties. Also, database size is expected to increase with time.

The advancements in deep learning based object detection algorithms are leveraged to develop Automatic Target Recognition capabilities which will enable the autonomous systems especially AUVs, Torpedoes and Underwater Mines for efficient detection and classification of targets of interest."

103. When the Committee wanted to know the potential benefits and risks of deploying AI in lethal autonomous weapon systems, defence technologies and warfare, the Ministry submitted the following:

"Deployment of AI based and deductive reasoning can be very useful in decision making.

Development and deployment of autonomous weapon systems provide several military advantages. Autonomous weapons systems act as a force multiplier enabling expanded battlefield, allowing combat to reach into areas previously inaccessible. It can reduce casualties by excluding human war fighters from dangerous missions.

AI based deductive reasoning can be very useful in decision making. Further, AI can enhance the capabilities of lethal autonomous weapon systems and unmanned vehicles by

- Precision target detection
- Dynamic route planning

One major challenge is the lack of consensus on how to define the autonomy of weapon systems. A standard definition that accounts for levels of autonomy could help guide an incremental approach to proposing limits.

AI ML based techniques are not amenable for verified decision making and hence are likely to result in unintended outcomes as well. However, a semi-automatic control with an AIML supported recommendation could be very impactful."

104. The Committee specifically asked how it was ensured that AI models were trained with the vast experience of the Defence officers who have worked in the field, the submission was as under:

"Defence AI Project Agency (DAIPA) constituted under Ministry of Defence (MoD) is working with an objective of accelerating AI adoption in the defence and facilitate Synergies between Service Head Quarters and Defence PSUs to identify Use cases and take up development Projects; issues related to Data sharing, data analysis, infrastructure requirements, etc.

While training AI models, experienced scientists are involved. They ensure that the outcomes are useful by tweaking the training parameters.

Also, based on vast experience of Defence officers in their respective fields as per application specific requirements, custom data sets can be generated & labelled to make it unbiased & realistic data sets for training AI models.

In addition, joint collaboration group of DRDO & Indian Armed Forces will incorporate vast experience of defence officers in training of AI models."

105. Commenting upon if robots were being used in the border areas or any other places or if it was still in the experiment stage; the role of Military Internet of Things (IoT); how harmful dark satellites were and regarding data sharing with other friendly countries, the following was submitted:

"Some of the robotic systems developed are as follows:

- Remotely Operated Vehicle-Daksh: Identification and handling of improvised explosive device (IED)
- Unexploded Ordnance Handling Robot-UXOR: Handling and diffusion of UXO
- Confined Space Remotely Operated Vehicle-CSROV
- Surveillance Remotely Operated Vehicle-SROV

Apart from these, development of technologies for legged robots such as biped and quadruped is being carried out.

DRDO has a project, STAR on robot development (humanoid and quadruped) taken by R&D Engrs. RCI is doing a sub-project for STAR."

106. When asked if there was any way that an AI system could be used for MRO (Maintenance, Repair and Operations) and if AI could be used in MRO operations for better understanding and fixing flaws so that it does not take that longer time for these helicopters to come back on board, the Committee was informed:

"Yes. AI systems can bring efficiency in the MRO operations by using the AI based predictive maintenance and spares planning(AI in SCM & Logistics), crew decision support, sensor fusion for ISR (Intelligence, Surveillance and Reconnaissance), and autonomy on air/sea/land platforms.

However, AI systems require learnable information along with expertise-based correction to make the MRO predictive preventive and effective."

F. Ministry of Power

107. Artificial Intelligence (AI) has emerged as a critical enabler in transforming the energy sector by optimising processes, improving operational efficiency, and supporting energy transition goals. AI applications can be instrumental in managing grids, forecasting energy demand with greater accuracy, and facilitating the integration of renewable energy sources into the grid. AI holds significant potential to address complex challenges in the energy sector, such as minimising energy waste, reducing operational costs, and enhancing the adoption of clean and renewable energy technologies. By leveraging AI-driven solutions, the sector can contribute substantially to achieving national and global sustainability goals and ensuring a secure and resilient energy future. NTPC has implemented an AI/ML-based forecasting system for solar power generation that uses advanced algorithms to deliver accurate day-ahead and intraday generation forecasts. The system integrates real-time weather data from IoT-based monitoring stations, satellite inputs, and historical irradiance patterns to support data-driven scheduling and grid management. Earlier, forecasting relied on third-party services and manual weather assessments, which were prone to human error. The automated system now generates forecasts and schedules systematically, leading to significant reduction in deviation charges under the DSM mechanism and improved renewable integration and grid compliance. Grid Controller of India Limited is considering improving upon its current statistical forecasting mechanism to an AI/ML-based short-term (day-ahead and intraday) demand forecasting model to enhance grid reliability. The system intends to integrate weather parameters, historical demand trends, and event factors such as holidays and weekends to achieve a targeted Mean Absolute Percentage Error (MAPE) of 3–5% for day-ahead forecasts.

108. The high percentage of power loss during transmission and distribution is an area of concern in India. In the regard, the Committee asked the Ministry to explain if use of AI could help in reduction of transmission and distribution (T&D) losses and how AI enabed automation could improve operational efficiency in Indian power utilities and distribution companies. The Committee also wanted to know if AI could be helpful in energy theft detection and prevention in electricity distribution system. The submissions by the Ministry of Power are as under:

"AI can be highly effective in preventing power theft, fraud, and leakage in India's power sector by utilising advanced analytics, machine learning, and smart meter data to detect and address non-technical losses with greater speed and accuracy. The Revamped Distribution Sector Scheme (RDSS), launched in 2021, supports the development of Information and Communication Technology (ICT) systems across the sector. As of 30th September, 2025, approximately 4.38 crore consumer smart meters, 9.86 lakh distribution transformer meters, and 1.39 lakh feeder-level smart meters have been installed under RDSS and other initiatives. The extensive data generated from these smart meters enables the deployment of AI models for theft detection, including

meter tampering and bypassing, consumption behaviour analysis, load disaggregation, demand-side management, and the reduction of AT&C losses. AI systems can analyse vast volumes of consumption and meter data to identify irregularities such as direct theft, tariff misuse, and abnormal usage patterns. Machine learning models can be trained to flag these anomalies at the consumer or premises level, enabling targeted inspections and swift corrective actions. Under the Powerthon initiative of RDSS, technology solution providers are being deployed at scale in states including Bihar, Madhya Pradesh, Gujarat, Maharashtra, and Uttar Pradesh, with formal agreements between DISCOMs and solution providers to implement AI-based solutions for theft detection, load segregation, consumption pattern analysis, and power factor improvements to reduce AT&C losses. On the transmission side, Powergrid has implemented an AI-based defect identification system that uses computer vision and deep learning to automatically detect defects such as broken conductors, damaged insulators, and bird nests in transmission lines from drone and mobile-captured images. Earlier, inspection photographs were analyzed manually, which was time-consuming and prone to human error. The AI model, deployed in April 2024, now automates this process with an accuracy range of 50–80% across defect types and continues to improve through ongoing training. The system enables faster and more accurate defect detection, improving inspection efficiency, enhancing safety, and allowing maintenance teams to prioritize repairs effectively.

109. On being questioned about the role AI can play in energy planning, power assessment, smart grid development and real-time monitoring of energy flow in India and how AI could contribute to improving energy access and electrification in rural and remote regions of India, the response was as under by the Ministry of Power:

"India has achieved universal electrification, connecting all villages and willing households, marking a major milestone in its energy journey. However, challenges related to supply quality and reliability persist, particularly in remote areas. Artificial Intelligence (AI) offers transformative potential to bridge these gaps and drive efficiency across the entire energy value chain as India advances toward a low carbon and digitalized power system. In smart grid development, AI serves as the operational intelligence that enables resilient and adaptive grid management. It powers self-healing grids by detecting faults such as short circuits or line breaks in real time and autonomously rerouting power to prevent cascading outages. Through dynamic load management, AI optimizes demand response, time-of-day pricing, and smart appliance coordination, thereby reducing grid stress and flattening peak loads. In managing distributed energy resources (DERs) including rooftop solar, microgrids, battery storage, and electric vehicles, AI enables real-time synchronization of local generation and consumption. In rural regions, AI can strengthen and integrate microgrids with the main grid, enhancing reliability and flexibility. AI is also reshaping energy planning and power assessment. By analyzing weather patterns, demographics, economic activity, and consumption trends, AI-driven models improve demand-supply forecasting, support generation mix optimization, and identify seasonal demand variations. In renewable

potential assessment, AI processes satellite imagery to pinpoint high-potential zones for solar and wind projects, aiding in the optimal siting of renewable assets. Furthermore, in generation portfolio optimization, AI assists utilities and regulators in balancing baseload and peaking capacity, integrating storage solutions, and maintaining grid stability."

110. When asked as to what impact AI could have on reducing carbon emissions and in enhancing sustainability in India's power sector, the Ministry in its response stated as under:

"AI can play a pivotal role in reducing carbon emissions and advancing sustainability in India's power sector by enabling cleaner generation, greater efficiency, and smarter grid operations. In power generation, AI enhances renewable energy forecasting and integration by using weather data, satellite imagery, and historical performance to accurately predict solar and wind output. This enables grid operators to schedule renewable generation more reliably, minimize curtailment, and reduce reliance on fossil-fuel based power. AI-driven optimization of dispatch decisions further ensures that renewables and hydro sources are prioritized in real time, maximizing the utilization of low-carbon energy before fossil plants are ramped up. AI also contributes to improving energy efficiency across the system. In industries such as steel, cement, and aluminum, AI-powered predictive maintenance and process optimization reduce energy waste and emissions. In urban and building energy management, AI regulates HVAC systems, lighting, and appliance operations through adaptive controls, driving significant demand-side savings in both commercial and residential sectors. Finally, through smart grids and demand flexibility, AI enables dynamic pricing and automated demand response mechanisms that shift consumption away from high emission periods. By flattening peak demand curves and reducing dependence on peaking coal plants, AI strengthens grid stability while advancing India's energy transition goals."

111. The Committee called upon the views of Ministry on the major data security and privacy concerns associated with AI-based energy/power management systems in India and what role AI could play in protecting critical power infrastructure in India from cyber threats/attacks. The response submitted was as under:

"AI is increasingly being deployed across India's power sector for diverse applications such as grid management; demand forecasting, early warning systems in hydroelectric plants, predictive maintenance in thermal and renewable installations, and analytics within Advanced Metering Infrastructure (AMI). While AI adoption brings significant efficiency and reliability gains, it also introduces key data-related challenges. Data security concerns arise primarily from the use of cloud-based platforms for AI model training, data storage, and analytics. Cloud systems, especially those hosted outside India may pose risks to data sovereignty and jurisdictional control. Additionally, inadequate cybersecurity measures in certain cloud environments can increase vulnerability to cyberattacks. In the power sector, these concerns are mitigated through the use of Ministry of Electronics and Information Technology (MeitY)-empanelled cloud services, which ensure compliance with national security and data protection standards.

Draft Central Electricity Authority (Cybersecurity in Power Sector) regulations propose to mandate that power sector related sensitive information and sensitive data, including data and information hosted on cloud, must be stored in an encrypted, secured and protected environment and must reside within India only. Data privacy concerns emerge in AI-driven AMI and smart grid applications that handle large volumes of consumer and operational data. Without adequate anonymization or masking, AI algorithms could inadvertently reveal sensitive personal information such as usage habits or occupancy patterns. To address this, Computer Security Incident Response Team – Power (CSIRT-Power), in its standard operating procedure for ensuring cybersecurity for power sector utilities, has incorporated privacy-preserving mechanisms such as data masking, encryption, and aggregation to protect user data confidentiality. On the other hand, AI significantly strengthens cybersecurity in the sector. AI/ML based solutions enhance real-time threat detection, analysis, and response capabilities within Security Operations Centres (SOCs) through their integration in Security Information and Event Management (SIEM) systems. These systems process vast datasets to identify anomalies, suspicious activity, and zero-day attacks. Similarly, AI-powered User and Entity Behaviour Analytics (UEBA) tools monitor user and system behaviour to detect insider threats or compromised accounts early. AI also improves Cyber Threat Intelligence (CTI) by correlating indicators of compromise across multiple sources, identifying attack patterns, attributing threat actors, and using predictive models to anticipate emerging risks. Furthermore, AI-based systems can analyze behavioural patterns to detect zero day vulnerabilities before exploitation, significantly strengthening the resilience of India's power sector against evolving cyber threats."

112. The Ministry explained about the future prospects and investment opportunities for AI-driven innovation in India's power and energy sector as:

> "The future prospects and investment opportunities for AI-driven innovation in India's power and energy sector are immense. Ministry of Power has conceptualized the India Energy Stack as a Digital Public Infrastructure (DPI) to ensure standardization, interoperability, and data-driven innovation across the sector. A dedicated Task Force has been established to oversee its development and implementation, positioning India as a global leader in digital energy systems. a) AI for Renewable Energy Optimization: To achieve India's target of 500 GW of non-fossil capacity by 2030, AI can play a pivotal role in improving forecasting accuracy for solar and wind generation, minimizing curtailment, and enabling predictive maintenance of photovoltaic and wind assets. Machine learning models leveraging satellite and meteorological data can assist in optimal siting of renewable projects, enhancing generation efficiency and investment returns. b) AI-Enabled Grids: With India's transmission and distribution losses still exceeding 16%, AI offers transformative solutions such as grid automation, self healing systems, real-time load balancing, congestion management, theft detection, and outage prediction. Integration of AI with IoT can create smart substations capable of dynamic response to grid conditions. RDSS (Revamped

Distribution Sector Scheme) includes major components dedicated to digitalization and AI-based grid modernization. c) AI for EV Grid Integration & Smart Charging: As India seeks to attain a 30% share of electric vehicles, in the total vehicles sold, by 2030, AI can enable smart charging station management, EV fleet load forecasting, grid impact analysis, and vehicle-to-grid (V2G) coordination. DISCOMs and leading EV companies are increasingly investing in AI-driven charging infrastructure start-ups, creating a growing ecosystem of energy-tech innovation. d) AI for Smart Homes, Buildings & Energy Services: Rapid urbanization and rising energy demand in residential and commercial sectors present opportunities for AI-based solutions in demand prediction, adaptive HVAC and lighting control, and appliance-level energy optimization. The PropTech and ESCO (Energy Service Company) markets are fostering AI-enabled building energy management platforms that enhance energy efficiency and sustainability. e) AI for Rural Electrification & Microgrids: Over 30 million people still face unreliable power access in India's rural areas. AI can optimize microgrid design, load sizing, and asset monitoring for off-grid systems, while predictive maintenance improves reliability. f) AI in Energy Trading & Carbon Markets: With the rollout of India's Carbon Credit Trading Scheme (CCTS), AI has a key role in real-time carbon accounting, offset validation, and predictive analytics for Renewable Energy Certificates (RECs) and green tariffs. AI-powered trading bots can enhance price discovery and liquidity in carbon and energy markets, enabling efficient participation by utilities and corporates. Energy fintech and carbon-market start-ups are expected to lead innovation in AI-enabled compliance and trading platforms."

113. The Committee wanted to ascertain whether it was a fact that a lot of contractors were using Chinese smart meters which were very vulnerable as a point of source in terms of cyber-intrusion or cyber-attacks and how the Ministry was ensuring that those components were not used. The Ministry in response furnished the following reply:

"To strengthen the cybersecurity and integrity of India's power supply system, the Ministry of Power has introduced a set of directives on 2nd July, 2020 (and, subsequent amendment on 6th August, 2025) aimed at preventing potential cyber threats arising from imported equipment and components. These measures are designed to ensure that all critical hardware used in the power sector is secure, reliable, and compliant with national standards. Under these directions, any equipment, components, or parts imported for use in the country's power system must undergo mandatory testing within India. The objective is to identify and eliminate any embedded malware, trojans, or other cyber vulnerabilities that could compromise the power network. All such testing will be conducted exclusively in laboratories certified and designated by the Ministry of Power to ensure authenticity and consistency in the evaluation process. Further, imports from "prior reference" countries, those identified as sensitive from a national security perspective or from entities owned or controlled by such countries, will require prior approval from the Government of India. In exceptional cases where such imports are

permitted, the Ministry of Power will approve specific testing protocols to be followed in the designated laboratories. Central Electricity Authority is in the process of finalizing the Central Electricity Authority (Cyber Security in Power Sector) Regulations. These regulations will ensure that the control and operation of power system elements including solar inverters, as well as the exchange of related information, including real-time data, remain within national boundaries. Additionally, Ministry of Power has mandated that IT equipment and services, as may be identified in due course, to be used in the power sector shall be cleared through the Trusted Telecom Portal operated by National Security Council Secretariat (NSCS) prior to their supply, with effect from 1st January 2026."

114. To a pointed query that if an individual solar plant on someone's terrace was used for a cyber attack and to access the grid, what security mechanisms were in place to ensure that these individual plants are protected from any sort of cyber attacks, the Ministry replied as under:

"Central Electricity Authority is in the process of finalizing the Central Electricity Authority (Cyber Security in Power Sector) Regulations. These regulations will ensure that the control and operation of power system elements including solar inverters, as well as the exchange of related information, including real-time data, remain within national boundaries. Additionally, Ministry of Power has mandated that IT equipment and services, as may be identified in due course, to be used in the power sector shall be cleared through the Trusted Telecom Portal operated by National Security Council Secretariat (NSCS) prior to their supply, with effect from 1st January 2026."

115. On being asked if the Ministry of Power was funding or working on any indigenous production study to ensure that low cost power storage technologies or batteries could be produced in the Country to help storage of surplus power, the response was as under:

"Advanced Chemistry Cells (ACCs) are the new generation advance energy storage technologies that can store electric energy either as electrochemical or as chemical energy and convert it back to electric energy as and when required. Through this Scheme, the Central Government intends to optimally incentivize potential investors to set- up Giga-scale ACC manufacturing facilities with emphasis on maximum value addition and quality output and achieving pre committed capacity level within a pre-defined time-period. Ministry of Heavy Industries's National Programmeme on Advanced Chemistry Cell (ACC) Battery storage was approved by the Union Cabinet on 12.05.2021 with budgetary outlay of Rupee 18,100 crores. This scheme will strengthen the ecosystem for Electric Mobility and Battery Storage in the country. The scheme envisages enhancing India's manufacturing capabilities of Advanced Chemistry Cell (ACC) by setting up of Giga scale ACC and battery manufacturing facilities in India with emphasis on maximum domestic value addition. This scheme will promote Make in India initiative. The scheme envisages setting up of a cumulative ACC manufacturing capacity of fifty (50) GWh for ACCs and an additional cumulative capacity of (5) GWh for Niche

ACC Technologies. The manufacturing facility as proposed by the beneficiary firm would have to be commissioned within a period of 2 years. The subsidy will be disbursed thereafter over a period of 5 years. The beneficiary has to ensure achieving a domestic value addition of at-least 25% and incur the mandatory investment (₹ 225 crore /GWh) within 2 Years (at the Mother Unit Level) and raise it to 60% domestic value addition within 5 Years, either at Mother Unit, in-case of an Integrated Unit, or at the Project Level, in-case of "Hub & Spoke" structure."

116. While explaining the future plans for the AI driven smart grid, the Ministry elaborated:

"In the domain of smart grids, Artificial Intelligence (AI) plays a vital role in optimizing energy consumption patterns, predicting real-time demand, and managing energy supply efficiently, thereby ensuring the reliable and effective use of available energy resources. Advanced AI algorithms can process large volumes of data, including weather forecasts, satellite imagery, and historical generation trends to provide accurate short-term and long-term forecasts for solar and other renewable energy generation. These forecasting capabilities enable grid operators to plan effectively, integrate variable renewable sources, and reduce reliance on fossil-fuel-based backup power. AI also enhances predictive maintenance and fault detection across power generation and distribution networks. By identifying potential failures before they occur, AI-based systems help minimize downtime, improve asset reliability, and reduce maintenance costs. Overall, the integration of AI into the energy ecosystem serves as a cornerstone for achieving clean, affordable, and reliable energy. It promotes economic growth, drives technological innovation, and strengthens efforts to combat climate change. By enabling more efficient operations and unlocking new solutions, AI not only enhances sustainability but also contributes to job creation and long-term global development."

117. On being asked to furnish a brief note on the specific guidelines issued to the various utilities of the Ministry of Power to adopt cyber security measures, the Ministry submitted:

"Yes. Central Electricity Authority (CEA) Guidelines for Cyber Security in the Power Sector, 2021 provide a comprehensive framework for the adoption and implementation of cybersecurity measures across the generation, transmission, distribution, and load despatch segments of the power sector. These guidelines lay down mechanisms for establishing robust cyber defenses, incident response systems, and audit protocols for critical infrastructure. They inter alia mandate the creation of Information Security Divisions (ISDs) within utilities, appointment of Chief Information Security Officers (CISOs), periodic cybersecurity audits. The guidelines also emphasize the importance of supply chain security, network segmentation, secure remote access, and real-time monitoring of critical systems through Security Operations Centres (SOCs). Further, the Draft CEA (Cybersecurity in Power Sector) Regulations, issued subsequently, aim to make these cybersecurity measures enforceable. The draft regulations propose to mandate utilities and system operators to comply with baseline and advanced cybersecurity requirements as per the criticality of assets to the power system. They outline obligations for reporting cyber incidents to the CERT-In,

conducting periodic vulnerability assessments and penetration testing (VAPT), and ensuring secure configuration management and patch updates."

118. When asked for measures being taken by the Ministry Power to protect the critical infrastructure of power grids and energy infrastructure from cyber attack vulnerabilities, the Committee was informed by the Ministry as:

"Ministry of Power established the Computer Security Incident Response Team (CSIRT) – Power at Central Electricity Authority (CEA) on 5th April, 2023 as an extended arm of CERT-In to assist utilities in handling cyber incidents and ensuring enhanced cybersecurity preparedness in the power sector. The first phase of the project, focussed on incident analysis and forensic capabilities, was inaugurated on 23rd September, 2024. MoP has also established 6 (six) sub-sectoral CERTs namely Thermal, Hydro, Transmission, Grid Operation, Renewable Energy and Distribution with each Sectoral CERT mandated to prepare their sub-sector specific model Cyber Crisis Management Plan (C-CMP) for countering cyber attacks. Central Electricity Authority (CEA) Guidelines for Cyber Security in the Power Sector, 2021 provide a comprehensive framework for the adoption and implementation of cybersecurity measures across the generation, transmission, distribution, and load despatch segments of the power sector. These guidelines lay down mechanisms for establishing robust cyber defense, incident response systems, and audit protocols for critical infrastructure. They inter alia mandate the creation of Information Security Divisions (ISDs) within utilities, appointment of Chief Information Security Officers (CISOs), periodic cybersecurity audits. The guidelines also emphasize the importance of supply chain security, network segmentation, secure remote access, and real-time monitoring of critical systems through Security Operations Centres (SOCs). Further, the Draft CEA (Cybersecurity in Power Sector) Regulations, issued subsequently, aim to make these cybersecurity measures enforceable. The draft regulations propose to mandate utilities and system operators to comply with baseline and advanced cybersecurity requirements as per the criticality of assets to the power system. They outline obligations for reporting cyber incidents to the CERT-In, conducting periodic vulnerability assessments and penetration testing (VAPT), and ensuring secure configuration management and patch updates."

Department of Legal Affairs (Ministry of Law and Justice)

119. Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are designed to think and work like humans. AI has the ability to learn from experience, and perform tasks that typically require human intelligence. AI is rapidly transforming economies, governance systems, and social relations. Although its implementation promises efficiency, creativity, and better service delivery, there are some issues associated with its impact on employment, privacy, accountability, bias, and national security. AI is now widely used in a variety of industries, including public administration, healthcare, finance, education, and law enforcement, because of recent

developments in machine learning, data analytics, and processing power.

- **Role of Department of Legal Affairs:**
- In accordance with the provisions of Allocation of Business Rules, the Department of Legal Affairs is primarily concerned with tendering of advice to Ministries on legal matters including interpretation of the Constitution and the laws and conduct of cases in the Supreme Court and the High Courts on behalf of the Central Government and on behalf of the Governments of States participating in the Central Agency Scheme.

- **DIRECTIVES FOR CONDUCT OF LITIGATION:**

The conduct of Union of India (UoI) litigation is one of the responsibilities of the Department of Legal Affairs. Government engages in a wide range of activities that profoundly impact individuals, society, public and private institutions as well as its own functioning. Litigation often emerges as a consequence of the intricacies of the legal and governance processes. The process of litigation is complex and its outcome is uncertain. This is further aggravated by overburdened courts, where cases having merit or otherwise often clog the judicial system, thereby causing delays in justice dispensation and hindering timely and effective decision-making.

Efficient management of its litigation by the Government of India is crucial to promoting good governance and ensuring public welfare and timely dispensation of justice. Therefore,it is essential to develop a well-coordinated and integrated approach to managing litigation before the courts, tribunals and other quasi-judicial fora involving the Union of India to comprehensively move towards reinforcing the goal of good governance.

In line with the recommendations of the Committee of Secretaries the Department of Legal Affairs, Ministry of Law and Justice, vide OM dated 4th April, 2025, had framed the 'Directive for the Efficient and Effective Management of Litigation by Government of India', which is an integrated approach in reinforcing the goal of good governance and ensuring public welfare and timely dispensation of justice. The Directive shall apply to all Central Government Ministries/Departments, their attached and subordinate offices, autonomous bodies and for arbitration matters to CPSEs as well. State Governments may also consider adopting the Directive.

This directive is designed to establish a system to ensure effective, efficient, integrated and coordinated management of litigation involving the Ministries/ Departments of the Central Government and its attached and subordinate offices and autonomous bodies, before courts and tribunals and other *quasi-judicial* fora to promote good governance in pursuit of the goal of *Viksit Bharat @ 2047*. It may be seen as the “Standard Operating Procedure” for litigation management.

The directive seeks to achieve the following objectives:

- Streamline the administrative processes involved in the conduct of litigation;
- Reduce litigation of recurrent nature;
- Reduce anomalies/inconsistencies in statutory or non-statutory notifications and administrative orders;
- Reduce unnecessary appeals against orders of the Court;
- Put in place a sound Knowledge Management System (KMS).

120. The following paragraphs highlights the role envisaged by the Department for use of AI in discharge of its role and responsibilities:

ROLE OF ARTIFICIAL INTELLIGENCE IN REDUCING GOVERNMENT LITIGATION PENDENCY

- **AI-ENABLED TIMELY REVIEW OF JUDGMENTS ENABLES QUICK COMPLIANCE OF COURT DIRECTIONS**

In certain cases, judgments and directions issued by courts are not examined in a timely or structured manner by the concerned authorities of the Ministries. This may lead to delays in compliance and, in some instances, give rise to avoidable follow-up proceedings, including contempt matters.AI-based tools may be utilised to analyse judgments upon pronouncement, extract operative directions, and present them in a structured and actionable manner. Such tools can assist in clearly identifying the nature of compliance required, the concerned office or authority, and the stipulated timelines. AI can also monitor the timelines. Timely and consistent compliance with court directions, reduction in avoidable contempt proceedings, improved accountability of concerned offices, and enhanced credibility of government responses before courts.

- **AI ENABLED INTERVENTION IMPROVES AWARENESS AND CONSISTENCY ACROSS MINISTRIES, DEPARTMENTS, AND FIELD UNITS**

Ministries and Departments operate through multiple attached and subordinate offices across different locations. Judicial decisions rendered in one matter may not be readily available to other units dealing with similar issues, leading to inconsistencies in approach and duplication of effort.AI systems can assist in categorizing and mapping similar cases across ministries, departments, and field units. Relevant judicial pronouncements can be disseminated to concerned units handling comparable matters, thereby promoting consistency in legal positions, institutional learning, and coordinated litigation management. Taking a uniform consistent stand by the Government and its entities avoids contradictory pleadings, improves institutional learning, and more efficient handling of similar categories of cases.

- **USE OF AI TOOLS IMPROVES THE QUALITY AND STANDARDS OF DRAFTING OF PLEADINGS**

Pleadings, affidavits, and appeals filed on behalf of the Government may vary in structure, language, and completeness.References to applicable statutory provisions or judicial precedents may not always be uniform.AI-assisted drafting tools may be employed to support preparation of standardised initial drafts based on authoritative legal sources, including statutes, and departmental records. This may help in enabling to improve the quality and consistency in government filings and avoids drafting related errors or objections and enhanced effectiveness of legal representation.

- **REDUCTION OF PROCEDURAL DEFECTS AND ADMINISTRATIVE DELAYS**

Courts frequently return filings due to procedural defects such as non-compliance with formatting requirements, incorrect pagination, or missing annexures. Rectification of such defects entails additional time and administrative effort.AI-based validation mechanisms can be used to conduct pre-filing checks for compliance with prescribed procedural and formatting requirements. Automated verification of pagination, annexure references, and filing norms can reduce defects and facilitate smoother processing of cases.

- **STRENGTHENING PROACTIVE CASE MANAGEMENT THROUGH ALERTS AND MONITORING**

Effective litigation management requires timely tracking of hearing dates, filing deadlines, and compliance obligations. In the absence of structured monitoring systems, critical timelines may be overlooked.AI-driven alert and monitoring systems can generate timely reminders for hearings, filings, and compliance actions. Such systems support proactive planning and coordinated action by concerned officers and counsel.

- **SUPPORTING CONSISTENT LEGAL INTERPRETATION IN HIGH-VOLUME LITIGATION**

In subject areas involving a large number of cases, divergent interpretations of legal provisions may be adopted across matters, resulting in inconsistent stands and prolonged litigation. By analysing large datasets of judicial decisions, AI tools can identify prevailing interpretations and areas of judicial inconsistency. These insights can assist departments in rethinking and streamlining the operation of laws etc so that inconsistencies may be removed. This may help in limiting the future arising of litigation.Greater consistency in legal interpretation, reduction in conflicting positions across cases, and avoidance of repetitive litigation on settled issues, may be achieved by the use of AI.

- **IDENTIFICATION OF LOW-PROBABILITY LITIGATION AND AVOIDABLE APPEALS**

In certain categories of cases, judicial outcomes exhibit consistent patterns. Pursuing litigation or filing appeals in such matters may not yield commensurate benefits and may add to overall pendency.AI-based analysis of historical case outcomes can provide indicative assessments regarding the likelihood of success. Such inputs may support informed decision-making and whether to continue or avoid such litigation.

- **ESTIMATION OF LITIGATION COSTS**

Decisions regarding continuation of litigation are not always supported by a systematic assessment of associated costs, including legal expenses and administrative resources.AI tools can analyse historical litigation data to estimate potential costs and resource implications. This can assist departments in weighing expected benefits against costs and in considering alternative dispute resolution mechanisms, where appropriate. This will lead to more cost-effective litigation decisions, better financial planning, informed selection of dispute resolution mechanisms, and reduction in disproportionate litigation expenditure.

- **DEVELOPMENT OF INDICATIVE TIMELINES FOR CASE RESOLUTION**

Absence of indicative timelines for resolution of cases poses challenges for planning, budgeting, and resource allocation, particularly in long-pending matters.AI models may be used to study the progression and duration of similar cases and generate indicative timelines for resolution. Such information can support realistic planning and early intervention strategies.Improved planning and resource allocation, early identification of long-pending matters, realistic expectation-setting and timely adoption of resolution strategies.

- **PERFORMANCE ASSESSMENT AND CAPACITY BUILDING**

Objective and systematic assessment of litigation performance across departments, officers, and engaged counsel is necessary for continuous improvement but is often difficult to undertake.AI-enabled analytics can assist in compiling performance indicators such as adherence to timelines, quality of filings, and overall case outcomes.

Evidence-based performance evaluation, identification of capacity gaps, targeted training and skill development, will lead to overall improvement in the quality of government litigation management.

Artificial Intelligence is not merely a technological tool but an aid to augment good Governance if used diligently. It has impact on various sectors including law, economy, rights, security, and public trust etc. The Department is presently attempting to harness

the use of AI for better management and conduct of litigation concerning Union of India, across various Courts and Tribunals.

121. When asked to explain the challenges posed by AI in the Legal field, the Department submitted as:

- "Job Displacement and Social Inequality

Automation driven by AI threatens routine and low-skilled jobs, leading to workforce displacement. Without adequate reskilling mechanisms, this may widen socio-economic inequalities.

- Privacy and Surveillance Concerns

The extensive use of data for AI systems increases the risk of intrusive surveillance, violation of privacy, and misuse of personal information, undermining individual autonomy.

- Lack of Transparency and Accountability

Many AI systems operate as "black boxes," making it difficult to understand, challenge, or audit their decisions. This raises serious concerns regarding due process and legal accountability.

- Over-Reliance on Technology

Excessive dependence on AI can weaken human judgment and critical thinking. Errors or system failures may have large-scale consequences if human oversight is inadequate.

- Ethical and Security Risks

AI technologies can be misused for autonomous weapons, misinformation, and deepfakes, posing ethical dilemmas and threats to democratic institutions and national security."

G. Department of Agriculture and Farmers Welfare (Ministry of Agriculture and Farmers Welfare)

122. Indian agriculture is transitioning from a predominantly **input-driven and experience-based system** to a **technology-led, intelligence-driven ecosystem**, with Artificial Intelligence (AI) emerging as a central enabler. This transformation is driven by increasing climate variability, rising costs of cultivation, fragmented landholdings, and the need for precision, transparency, and timeliness in service delivery.

The emergence of AI coincides with the rapid expansion of **digital public infrastructure (DPI)** in India—Aadhaar, UPI, mobile connectivity, satellite data, and cloud platforms—making large-scale, farmer-facing AI solutions both feasible and

scalable. Recognising this opportunity, the Government of India has embedded AI adoption in agriculture within the broader national vision of **Viksit Bharat @2047**.

The Ministry of Agriculture & Farmers' Welfare (MoA&FW) has operationalised and proposed a comprehensive portfolio of AI initiatives, spanning **farmer advisories, pest surveillance, crop identification, insurance, scheme delivery, and governance analytics**, anchored within the **Digital Agriculture Mission (DAM)** and **AgriStack** architecture.

123. In their submission about ongoing AI Initiatives and their Impact, MOA & FW has stated the following:

i. Kisan e-Mitra (AI-enabled Farmer Scheme Assistant)
Nature of Initiative:
A text- and voice-enabled AI chatbot providing real-time information on major agricultural schemes such as **PM-KISAN, PMFBY, and Kisan Credit Card**.

Key AI Features:

- Natural Language Processing (NLP)
- Multilingual voice and text interfaces (11 regional languages)
- Automated query resolution and benefit status tracking

Current Impact:

- Handles over **8,000 farmer queries daily**
- Has addressed **over 93 lakh farmer interactions**
- Reduces dependence on physical offices and intermediaries
- Improves transparency and trust in scheme delivery

Governance Significance:
Kisan e-Mitra represents a shift from document-heavy, office-centric service delivery to **AI-mediated, citizen-first governance**.

ii. National Pest Surveillance System (NPSS – Operational)

Nature of Initiative:
An AI and Machine Learning-based platform for **pest identification, surveillance, and advisory dissemination**.

Current Capabilities:

- Image-based pest identification across **61 crops and 400+ pests**
- AI-supported diagnosis using farmer-uploaded images
- Used by **10,000+ extension workers** for field surveillance

Impact:

- Enables **early detection and timely mitigation**, reducing crop losses
- Moves pest management from reactive to preventive
- Strengthens Integrated Pest Management (IPM) adoption

Institutional Impact:
NPSS enables **data-driven outbreak management**, supporting procurement planning, extension prioritisation, and climate resilience strategies.

iii. AI-based Crop Identification under Digital Crop Survey

Nature of Initiative:
AI-enabled **computer vision system** integrated with the Digital Crop Survey (DCS).

AI Functionality:

- Automated identification of crops and varieties from geo-tagged images
- Filters poor-quality or non-crop images
- Enables **straight-through processing**, escalating only mismatch cases

Current Status:

- Trained on nearly **19 crore crop images** (paddy and wheat)
- Being expanded to **16 major crops**

Impact:

- Significant reduction in supervisory workload
- Improved accuracy of crop statistics
- Strengthened foundations for **PMFBY, MSP planning, and subsidy targeting**

iv. AI-driven Monsoon and Weather Advisory – piloted with IMD data of over 100 years

Nature of Initiative:
AI-based weather forecasting models integrated with **m-Kisan SMS platform**.

Current Impact:

- AI-based monsoon advisories sent to **3.8 crore farmers across 13 states (2025)**
- Forecast horizon up to **four weeks in advance**

Significance:

- Enables informed sowing and irrigation decisions
- Strengthens climate resilience at farm level

v. AI-enabled Crop Damage Assessment & Insurance Disbursal (Proposed)

Nature of Initiative:
Use of AI, satellite imagery, and computer vision to automate crop loss assessment.

Expected Impact:

- Faster and more objective insurance claim settlement
- Reduced disputes and manual verification
- Improved farmer confidence in crop insurance systems

Governance Benefit:
Enhances fiscal accountability and reduces leakages in large-scale insurance Programmemes.

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vi. Domain-Specific Agri Large Language Models (Agri-LLMs) –proposed

- Trained on Indian agricultural data
- Support advisory, scheme interpretation, and policymaking
- Reduce dependence on generic global AI models

vii. Bharat VISTAAR - proposed

Nature of Initiative:
An advanced, integrated AI platform under development, envisaged as a **single-window digital interface** for farmers.

Expanded AI Capabilities:

- End-to-end scheme lifecycle support (information, application, benefit status, grievance filing)
- AI-driven **crop advisory, weather forecasting, and market price information**
- Conversational AI with chatbot and IVR integration

Expected Impact:

- Unified access point for agricultural services

- Inclusion of digitally less-literate farmers through IVR and voice support
- Reduced fragmentation across portals and schemes

Strategic Importance:
Bharat VISTAAR is designed as the **front-end citizen layer** of India's agricultural DPI, integrating multiple AI services into a single farmer experience.

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124. Submitting key benefits of AI Adoption in Agriculture and way forward MoA & FW stated:

"The deployment of AI-based systems offers multiple benefits:

- **Improved farmer decision-making** through timely, localized advisories
- **Reduction in crop losses** via early detection of pests and diseases
- **Enhanced efficiency in governance**, including subsidy targeting, insurance disbursal, and monitoring
- **Cost optimisation and productivity gains** through precise input use
- **Strengthened climate resilience** by enabling anticipatory planning
- **Data-driven policymaking** supported by real-time, high-quality agricultural intelligence

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The emergence of AI in agriculture represents a paradigm shift from input-driven practices to **intelligence-driven, anticipatory governance**. Going forward, priority actions include:

- Strengthening AI governance frameworks aligned with data protection principles
- Expanding indigenous AI model development and benchmarking
- Deepening integration across agriculture, animal husbandry, and fisheries
- Enhancing state capacity for AI adoption and customization
- Ensuring farmer-centric design with strong feedback and grievance mechanisms

With appropriate safeguards and coordinated implementation, AI can become a cornerstone of India's agricultural transformation, contributing significantly to farmer welfare, food security, and the national vision of Viksit Bharat @2047."

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125. When asked to explain about Kisan E-Mitra and in how many languages of India it can be accessed, the following submission was made:

"'Kisan e-Mitra' is a voice-based AI-powered chatbot developed to assist farmers with responses to their queries on the PM Kisan Samman Nidhi scheme. This solution supports 11 regional languages and is evolving to assist with other government Programmes such as PMFBY and Kisan Credit Card. At present, on an average, it handles over 8,000 farmer queries daily and so far, more than 95 lakh queries have

been answered."

126. The Committee wanted to know whether the Department had undertaken any study before implementing AI in agricultural sectors and share the important points so highlighted in study reports. The submission in this regard was as under:

"Government has constituted a Steering Committee to monitor and review the design, implementation, harmonization and institutionalization of AI-based initiatives to derive improved service delivery for small-holder farmers across India. Further, the Government is also conducting workshops to take this forward for implementation of AI in agriculture with various stakeholders viz. ICAR, MeitY, Ministry of Education, IIT Ropar, Private Sector agri-tech companies/ start-ups, etc."

127. Highlighting the constraints due to which many farmers and agricultural workers hesitate to use AI, the following was submitted:

"The use of Artificial Intelligence is becoming popular day by day. However, some of the reasons for low adoption of Artificial Intelligence (AI) by farmers may be summarized as under:

- High Initial Investment and Costs: AI-powered tools, such as drones, robotic harvesters, and smart sensors, require high capital, which is prohibitive for adoption by the small and marginal farmers and the data processing from such devices.
- Lack of High Speed Internet Connectivity: Many rural areas lack high-speed, reliable internet connectivity (broadband) and stable power, which are essential for cloud-based AI tools.
- Technical Skill Gap: A significant gap exists in the ability to operate, maintain, and understand, complex AI systems.
- Lack of Trust and Explain-ability: AI models can sometimes produce unexpected or "black box" recommendations. Farmers often default to their traditional experience over AI advice when they do not understand how the AI reached a conclusion.
- Language and Context Barriers: Many AI tools are not available in local languages/ dialects, or they are trained on data from different agri-ecological zones (e.g., western countries), making them ineffective for local crops and soil types.

Farmer Concerns

- Unclear Return on Investment (ROI): Farmers are hesitant to spend money on technology without guaranteed, quick, or visible increase in yield or savings.
- Data Privacy and Ownership: Concerns exist about who owns the data

collected from their farms and whether it will be used against them.

- Job Displacement: Fear that automation and robotics will replace manual labour.
- System Failure and Accountability: If an AI system fails or gives bad advice (e.g., wrong fertilizer dosage), it is unclear who is liable for the resulting crop loss.

128. Elaborating the measures taken by the Department to mitigate concerns regarding the usage of AI, the following was stated:

The Department of Agriculture & Farmers Welfare (DA&FW) in India, along with other bodies, is implementing several measures to foster AI adoption:

a. Financial Assistance and Subsidies:

- Sub-Mission on Agricultural Mechanization (SMAM): The integration of Artificial Intelligence (AI) and Drone Technology in Indian agriculture is being heavily promoted by the Government of India. The government provides up to 50% subsidy (up to ₹5 lakhs) for purchasing drones by individual small/marginal farmers and, crucially, to Women Self Help Groups (SHGs) under the 'Namo Drone Didi' scheme.
- Custom Hiring Centres (CHCs): Financial aid to establish CHCs to rent out drones and other smart machinery to farmers who cannot afford ownership.

b. Developing Localized & User-Friendly AI Tools:

- 'Kisan e-Mitra' Chatbot: A voice-based AI chatbot that supports 11 regional languages, helping farmers with queries about schemes (PM Kisan, Fasal Bima).
- National Pest Surveillance System: A tool allowing extension workers to take images of pests/diseases, using AI to provide immediate identification and solutions.
- 'Bharat-VISTAAR': A multilingual AI tool that will integrate AgriStack (digital records) with ICAR data to provide customized agricultural advisory.

c. Capacity Building and Training:

- ICAR & KVKs: Indian Council of Agricultural Research (ICAR) and Krishi Vigyan Kendras (KVKs) are conducting field demonstrations on drone technology to build trust through practical experience.
- Training SHGs: Under Namo Drone Didi, women SHGs are being trained

to handle, operate, and repair drones.

d. Creating Data Governance Frameworks:

- Efforts are being made to establish clear data ownership rights and ensure transparency in how farmer-shared data is used."

129. Since climate change has become a real concern in the recent past, the Committee wanted to know if there was any separate model where by farmers could predict the impact of climate change beyond the existing model which they already have. To this, the Department replied:

"An AI-based pilot was conducted on agriculturally relevant local monsoon onset forecasts across parts of 13 States in India for Kharif 2025. The probabilistic forecasts predicted only the local onset of the monsoon, which is essential for deciding on the date of sowing crops. An open-source (freely available) AI-model was used for developing Artificial Intelligence Forecasting System (AIFS) based on historical rainfall data of 125 years from the India Meteorological Department (IMD). The pilot was conducted in collaboration with Indian Meteorological Department (IMD) and Development Innovation Lab-India on pro-bono basis."

H. Ministry of Tourism

130. During evidence the Secretary deposed as under:

"'2025' is a landmark year in terms of Artificial Intelligence because for the first time in human history, we have six Large Language Models, six LLMs, knowing more than all the eight billion people on this planet. Today, six machines know more than all eight billion people on the planet. Till now, the generation of new knowledge, the generation of ideas, and the propagation of ideas were done from humans to humans through print and through various other means. Perhaps for the first time, we are reaching an era where this role would be taken over by machines and AI themselves. It may not be exclusively in the domain of human beings. Last year, another milestone was crossed. The average computer costing US 1,000 dollar had the same computing power as the human brain, 10 to the power 16 flops per second. By 2048, which is well within our lifetimes, the same average computer will have the power of all the human brains on the planet. One computer will have the power of all the human brains on this planet. Artificial Intelligence, as a term, was first introduced in 1968 at a conference in Dartmouth in U.S. However, it has come to main stage only now. The reasons for that are the following. First and foremost, the computing cost, the cost of computing power is dramatically falling. It has come down by 99 per cent in the last five years alone. The cost of data is falling dramatically, and the explosion of data from everything we do, smartphones to the Internet browsers to computers, is feeding that computing power with data to learn and infer what human beings are thinking and predicting what they could do next. Third, the capital going into Artificial Intelligence is massive. As recently

as 2021, all the companies in the world put together, put 160 billion US dollar into AI. That is, 2021, and not too far away. Last year, just four companies put 160 billion US dollar into AI. This year, that number is 300 billion US dollar. We are looking at a future which is both extremely inspiring, also extremely scary. If computing power and the pace of AI development moves at the pace it is moving today, and there is no reason to believe that it would not, there will soon come a time where there will be a cure for every disease in the world and a teacher for every child in the world. That is not far away. That will happen in the next 10 years. Already, many children, including in rural areas, are using YouTube for classes, for supplementing their education, and, on top of that, now you have AI-driven courses. We are building on the AI blocks of Gen AI to power the Incredible India website so that when a foreign tourist looks at coming to India, he is able to automatically, using AI, plan his itineraries. We are bringing together supply and demand through the ONDC platform for digitalizing both sides so that we will know that the same tourist, at a click of a button, will know the number of hotel rooms. He will be able to book through the same app. He will be able to rate the hotel rooms. He will be able to book tickets for various attractions, both Government and private attractions. But none of this is there today. This is all going to start now, and hopefully, in a year's time, we should be able to show you significant progress. I wanted to set the context by telling you the backdrop against which this work is starting, and indeed, we have a long journey to go on. We are just at the first marker of it. I would like to end by saying just one thing, which is that today the LLMs have made the cost of expertise free. I gave you the context for a reason, which is that once the cost of expertise becomes free, anyone sitting in this room or outside can tap into that expertise and build applications on top of it, which is what we are trying to do for tourism'.

131. The Committee asked what AI chat-bots were available in the tourism sector for promoting tourism and whether AI in tourism sector was breaking language barriers. To this the Ministry replied:

"The Ministry of Tourism has integrated a **hybrid** Chat-bot interfaces in the Incredible India Digital Platform (IIDP) with limited AI capabilities to guide tourist.

Yes. AI in tourism sector is breaking language barriers.

The Ministry is leveraging Anuvadini in the Incredible India Digital Platform (IIDP) which is an AI-based translation tool developed by the All India Council for Technical Education (AICTE) under the Ministry of Education, Government of India."

132. According to Forbes, AI was going to become a huge industry and investments were projected to reach gigantic proportions in coming years. The impact of AI on the global economy was expected to be profound, contributing significantly to its growth and transformation. So, the Committee wanted to know the opinion of the Ministry on this report and what steps had been initiated or thought of to tap the positives in this regard.

The Ministry submitted:

"AI is likely to be transformative force for the global and Indian economy. The tourism sector, being information-intensive, stands to benefit immensely from AI.

To tap into this potential, the Ministry has launched the Incredible India Digital Platform (IIDP) as the unified digital infrastructure where AI can be plugged for growth of tourism eco system."

133. The Committee wanted to know how the Ministry foresaw the concerns about the impact of AI on employment, as AI could improve efficiency and create new job opportunities; it could also lead to job displacement in certain sectors. The reply submitted was as under:

"The Ministry views AI as an enabler that augments human capabilities rather than replacing them entirely.

- **Displacement Concerns:** Tourism being a manpower driven sector, the impact of AI on employment is likely to be minimal. AI would increase the efficiency in Routine tasks like basic data entry, ticketing, and standard query handling, etc.
- **New Opportunities:** AI creates high-value jobs such as data analysts, digital content curators, AI-maintenance technicians for smart hotels, and augmented reality (AR) developers for virtual heritage tours."

134. The Committee was apprised about the implementation of National Digital Tourism Mission (NDTM), 2022 and the use of AI to make it more efficient as:

"The Incredible India Digital platform is the backbone of NDTM with building blocks through API integration.

The possibilities of AI on creating itinerary based on user preferences, access of seamless services across the country, real time analytics on tourist footfalls would aid in policy planning & infrastructure development etc."

135. When asked if history could be altered using AI in respect of tourist spots, its legacy and cultural values, the Ministry of Tourism replied:

"Yes. Historical misinformation in respect of tourist spots, its legacy and cultural values can be corrected through AI.

The Ministry is aware of the risk of "Deepfakes" or AI hallucinations creating false narratives about historical sites. To prevent this, the Ministry is launched the revamped version of Incredible India Digital Platform (IIDP)."

136. When asked by the Committee regarding how many jobs in the sector would be lost, if tourism guides would become redundant and other related issues, the Ministry submitted:

"Ministry is yet to assess as to how many jobs in the sector would be lost, if any. Meanwhile, the Ministry does not foresee a net loss of jobs but a transformation of jobs. While AI bots may handle basic information, the demand for human "storytellers" and "experience curators" is rising. Thus, tourism guides will not become redundant. Ministry will coordinate with Meity& Ministry of Skill Development and Entrepreneurship regarding AI Future Skill Programmeme and leverage the power of AI for skilling or re-skilling in tourism sector."

CHAPTER- III

India as an AI Leader

137. According to MeitY, in the past decade, India has formulated a distinctive approach to digital transformation through the 'Digital India' flagship Programmeme. Prioritizing inclusivity and accessibility, nationwide-scaled utilities focussing on digital identity, digital payments etc. have seamlessly integrated into India's digital framework. Given its current positioning, India is strategically poised to employ AI to transform public service delivery for efficiency in governance, innovation, and improved citizen engagement.A recent industry report, focussing on Generative AI (GenAI), paints a promising outlook by suggesting that GenAI holds the potential to contribute a substantial sum, up to 1.5 trillion dollars, to India's GDP by 2030. Reinforcing India's pivotal role in this transformative field, the Stanford AI Index 2023 also ranks the nation as the foremost country in AI skill penetration. The burgeoning AI landscape in India is further exemplified by a robust start-up ecosystem, ranking 5th in the Number of Newly Funded AI Companies by Geographic Area and attracting significant investments exceeding $475 million in GenAI startups in the past two years. These rankings are a clear indication of the necessity of incisive interventions to bolster India to the loftiest ranks as a destination for AI development.

138. When asked whether MeitY had taken cognizance of the Stanford Index rating wherein India had been rated very high in AI developments and if the Ministry had conducted a study of their own in this regard, the response was:

> "MeitY closely monitors global AI indices, including the Stanford AI Index Report, which has acknowledged India's significant progress in artificial intelligence. The Ministry, through its various initiatives and agencies, continuously assesses AI development in the Country using both external benchmarks and independent national evaluations.
>
> **Assessment and Comparison**
>
> **1. Recognition in Stanford AI Index**
>
> - India has been rated highly in AI research output, talent pool, and government-led AI initiatives.
> - The country has demonstrated robust growth in AI-driven startups, research publications, and AI-skilled workforce development.
>
> **2. Independent Study by MeitY**
>
> - MeitY has conducted its own assessment through organizations such as the National Association of Software and Service Companies (NASSCOM), Centre for Artificial Intelligence and Robotics (CAIR), and industry-academic collaborations.

- The “AI for India 2030 Blueprint”, a collaborative initiative involving the MeitY, the Office of the Principal Scientific Adviser to the Government of India, NASSCOM, and the World Economic Forum's Centre for the Fourth Industrial Revolution, India (C4IR India), focussed on similar evaluations of the AI landscape in India.
- NASSCOM has also conducted similar evaluations on its own accord. Some of the reports that address the same are “Advancing India's AI Skills: Interventions and Programmemes needed”, “State of Data Science and AI Skills in India”, and “India’s Generative AI Startup Landscape 2024”.
- Several Private Sector agencies have carried out the survey of the AI landscape in India, notably “BCG 2025 AI Radar Report” by Boston Consulting Group (BCG), “India’s State of AI Research” by Change Engine, and “Freshworks AI Workplace Report 2025’ by Freshworks.
- The findings largely corroborate Stanford’s assessment, affirming India’s strengths in AI research, workforce, and innovation.
- Some differences in methodology exist, particularly concerning datasets, performance indicators, and the weightage given to different AI parameters.

139. When asked to furnish the measures taken to bridge the identified gaps, the Ministry submitted that:

“The Ministry of Electronics and Information Technology (MeitY) has taken significant steps to address the gaps, such as:

1. **AI Research, Analytics and Knowledge Dissemination Platform (AIRAWAT):** MeitY along with CDAC has implemented the project on AIRAWAT (AI Research, Analytics and Knowledge Dissemination Platform) for providing a common compute platform for AI research and knowledge assimilation. This AI computing infrastructure is being used by all technology innovation hubs, research labs, scientific communities, industry and start-ups, and institutions with National Knowledge Network.

i. **National Supercomputing Mission (NSM):** The Government of India had launched the National Supercomputing Mission (NSM) in 2015 which is aimed to build indigenous capacity for high-end supercomputing systems and reduce dependency on foreign technologies.

ii. **IndiaAI Mission:** Union Cabinet led by Hon’ble Prime Minister has approved the **IndiaAI Mission** on 7th March 2024, a strategic initiative to establish a robust and inclusive AI ecosystem that aligns with the country’s development goals. This mission is driven by a vision to position India as a global leader in artificial intelligence by focussing on seven foundational pillars.

One of the key pillars under the IndiaAI mission is the IndiaAI Compute pillar. The IndiaAI compute pillar envisions building a high-end scalable AI

computing ecosystem comprising AI compute infrastructure of 10,000 or more Graphics Processing Units (GPUs).

Towards this, IndiaAI Independent Business Division (IBD) published a Request for Empanelment (RFE) on August 16, 2024, to empanel AI services on cloud including GPUs. 19 bidders had submitted proposals to empanel their AI cloud services, out of which 10 bidders were qualified for financial bid opening.

Out of 18,693 GPUs offered, 14,461 GPUs are already installed on the bidder's infrastructure and are available for immediate use. Additionally, there is further GPU capacity available with the bidders who were not technically qualified.

To keep pace with the changes in technologies, IndiaAI enabled a continuous empanelment process inviting fresh proposals from the empaneled agencies for onboarding new GPUs and discovering any revised rates.

IndiaAI FutureSkills:

- IndiaAI FutureSkills Pillar envisions to augment the number of graduates, postgraduates and PhDs in AI domain. Further, it envisions setting up Data and AI Labs in Tier 2 and Tier 3 cities across India, to impart foundational-level courses in Data and AI.

IndiaAI Startup Financing:

- IndiaAI Startup Financing pillar is to provide support to AI startups at all stages. Multiple rounds of stakeholder consultations have been held to deliberate on the scheme for supporting AI Startups at Pre-Seed, Seed and Growth stage.

IndiaAI Innovation Centre:

- IndiaAI Innovation centre aims to develop and deploy indigenous Large Multimodal Models (LMMs) trained on India-specific data

- Multiple rounds of stakeholder consultations have been held to deliberate on the IndiaAI"s strategy for building indigenous Large Multi-model Models (LMMs).

IndiaAI Datasets Platform:

- The IndiaAI Datasets Platform (IDP) seeks to enhance access, quality, and utilization of public sector datasets to make them AI-ready.

- A comprehensive plan has been created for developing platform and a feature list has been finalized after evaluating other prominent dataset platforms such as Hugging Face, Dubai Pulse etc.

IndiaAI Applications Development Initiative:

- IndiaAI Application Development Initiative aims to develop, scale, and promote the adoption of impactful AI solutions to effectively tackle significant problem statements.

- IndiaAI Innovation challenge was launched on 13th August 2024 for the themes of healthcare, agriculture, improved governance, climate change & disaster management and assistive technologies for learning disabilities. The Innovation Challenge was open to Indian innovators, startups, non-profits, students, academic/R&D organizations, and companies.

Safe & Trusted AI:

- This pillar enables the implementation of Responsible AI projects including the development of indigenous tools and frameworks, self-assessment checklists for innovators, and other guidelines and governance frameworks.

- Eight Responsible AI Projects have been selected to address the need for robust guardrails to ensure the responsible development, deployment, and adoption of AI technologies. The projects cover a range of critical themes, including Machine Unlearning, Synthetic Data Generation, AI Bias Mitigation, Ethical AI Frameworks, Privacy-Enhancing Tools, Explainable AI, AI Governance Testing, and Algorithm Auditing Tools".

140. When the Committee asked whether it was a fact that the Research Community in AI is confined to a handful of academic institutes, and relies on individual brilliance rather than institutional competence, the Ministry furnished the following in its written reply alongwith the measures taken to bridge the gap.

"The Government is actively collaborating with academicians, researchers, start-ups, industries and inter-ministerial departments and organizations to build institutional AI competency in the Country. Under the IndiaAI mission, different stakeholders are consulted from time-to-time to strengthen the development of Indian AI ecosystem. For example,

- Under the **Safe & Trusted AI pillar**, applications from academic institutions, R&D organizations, Government Organization/ body, Start-ups, and Private sector companies are invited for development of indigenous technical tools, guidelines, frameworks, and standards for a balanced, technology-enabled, and India-specific approach to AI governance.
- Under this pillar, a **stakeholder consultation** including researchers, start-ups, and thinktanks was also held to evaluate the merits of establishing an **IndiaAI Safety Institute** to rigorously assess AI models, evaluate risks, and ensure effective safeguards.
- Under the IndiaAI Datasets Platform pillar, the government has been actively engaging with Line Ministries, departments, and public and private institutions, for enabling access to quality non-personal and anonymized datasets, AI models and toolkits for research and innovation.

- Under the IndiaAI Application Development Initiative, applications received in the Innovation challenges, hackathon are referred to evaluation committees including participation from public institutions, academia and sector-specific industry and startups.
- Under the IndiaAI Futureskills Initiative, Data and AI Lab has been setup in partnership with Intel in Karkardomma Delhi and is considered the model lab for setup of other such labs. Establishment of 27 AI and Data labs across India in collaboration with NIELIT has been initiated and another 3 labs in Nagaland, Madhya Pradesh and Mohali in collaboration with Intel are being established.
- **Consultation with AI Researchers and Industry** under IndiaAI Innovation Centre pillar was held on 26.11.2024 under the Chairmanship of Sh. S. Krishnan, Secretary, MeitY. The primary objective was to determine India's strategy for developing foundational models and broader AI research. The conversation revealed a mix of consensus and strategic differences, unified by a shared commitment to contributing to India's technological future and self-reliance
- The Government has partnered with the industry partners such as IBM, Meta, and Microsoft etc. towards building an AI innovation ecosystem in India".

141. During examiniation, the Committee found that adoption of AI in India had remained rather limited, less than a quarter of firms in India were using AI in any form for their business processes and startup ecosystem in AI was virtually non-existent. Among the several impediments towards large scale adoption of AI in India, the primary ones included difficulty in access to data (more specifically, structured and intelligent data), high cost and low availability of computing infrastructure, lack of collaborative approach to solving for AI combined with low awareness. When the Ministry was asked to elaborate on it, the following was submitted:

> "Adoption of AI and equitable access to its benefits depends upon democratised access to resources critical for AI innovation and development.
>
> To enable this, the Government of India has launched the IndiaAI Mission, a comprehensive national-level Programme with an **outlay of over INR 10,000 crore** (~ $1.2 Bn) to democratize and catalyse the **AI innovation ecosystem** in the country. The IndiaAI Mission will be implemented through **seven key pillars**:
>
> **1. IndiaAI Compute Capacity**: Under this pillar, IndiaAI aims to create **compute capacity of more than 10000 Graphic Processing Units (GPUs)**.
>
> **2. IndiaAI Datasets Platform:** Under this pillar, IndiaAI is developing IndiaAI Datasets Platform as a one-stop solution for seamless access to resources critical for AI innovation, including quality non-personal datasets, models and toolkits. This pillar also focusses on encouraging development and implementation of Metadata and Data Standards for promoting semantic interoperability across sectors.

3. IndiaAI Startup Financing: Under this pillar, IndiaAI aims to **support and accelerate 1,050 deep-tech AI startups** and provide them with streamlined access to funding.

4. Safe & Trusted AI: Under this pillar, IndiaAI aims to enable development of indigenous technical tools, guidelines, frameworks, and standards for a balanced, technology-enabled, and India-specific approach to AI governance.

IndiaAI Safety Institute: The Government of India has recently announced the establishment of **AI Safety Institution** to enable researchers, developers and other stakeholders to develop tools, frameworks and processes for AI safety.

5. IndiaAI Application Development Initiative: Under this pillar, IndiaAI aims to collaborate with start-ups, industries, academicians, and researchers to **develop/scale/promote the adoption of impactful 25 AI solutions** with potential for catalyzing large-scale socio-economic transformation.

IndiaAI had conducted multiple workshops on the use of AI in public service delivery. The workshop brought together representatives from central and state governments with the objective of helping Ministries and Departments assess their data capabilities, explore ways to leverage data for AI applications, and identify key problem statements that can be addressed through AI-driven solutions.

IndiaAI CyberGuard AI Hackathon: An AI Hackathon launched in partnership with the Indian Cybercrime Coordination Centre (I4C) to create AI-driven solutions for cybersecurity has been launched on 16th October 2024. This initiative which has received 263 responses, seeks to leverage advanced AI technologies like Natural Language Processing (NLP) and predictive analytics to guide citizens in filing cybercrime reports on the National Cyber Crime Reporting Portal (NCRP)".

142. India stands at 80th spot at the Artificial Intelligence (AI) Preparedness Index across 174 countries based on several indicators across four dimensions viz. digital infrastructure, human capital, technological innovation and legal framework. The Committee wanted to know the plan of action to move up in the index while improving these entire four segments. To this,the Ministry stated:

"While India is ranked**1st for AI Skill Penetration** and **1st in Number of GitHub AI Projects** as per the Stanford AI Index report 2024, IMF's Artificial Intelligence Preparedness Index has ranked India 72 out of 174 countries. To move up the index across the four dimensions stated above, the Government is taking the following steps:

A. Digital Infrastructure: The Government of India is **committed to building digital ecosystems** for public good that are **built on the principles of open technology.** Several initiatives have been taken in this regard:

1. **Open APIs -** The Ministry of Electronics and Information Technology has published **'Policy on Open Application Programmeming Interfaces'** for the

Government of India. Under the open API policy, the government has **mandated use of open APIs** for its various flagship Programmes. Further, MeitY has also **developed API Setu** as an API platform to **enable swift, transparent, safe and reliable information sharing** across applications and to promote innovation by linking systems and data. The portal has **published over 900 APIs** provided by many Central and State Government departments on the platform.

2. **National Open Digital Ecosystems (NODE) -** The Ministry of Electronics & Information technology, in collaboration with strategic industry partners and civil society, **launched the strategy** for national open digital ecosystems. The report lays down the strategy for building **open and secures** digital delivery platforms anchored by **transparent governance mechanisms** which **enable a community of partners** to **unlock innovative solutions, to transform societal outcomes.** This report acts as a lighthouse for sectoral ministries, state governments & other countries to establish their own open digital platforms for public good. Following a **collaborative approach,** the government is in the process of launching an updated version of the paper, incorporating the comments from **public consultations & learnings from implementation of sectoral platforms**

3. **Open Digital Platforms for Public Good:** India has made **rapid strides in developing open digital public infrastructure** in sectors with **maximum potential for social impact** such as **health, education, public infrastructure, financial inclusion, etc.** Starting with ID through **Aadhaar** and payments through the **Unified Payment Interface** to **Ayushmann Bharat Digital Mission** (ABDM), all digital infrastructures built as part of these flagship Programmes is designed on the principles of **open technology, federated architecture and transparent governance.** It is estimated that these open digital platforms could collectively create **new economic value of USD 500+ billion** (INR 35+ lakh crore) or ~5.5% of India's projected GDP in 2030, and also generate **USD 200+ billion** (INR 15+ lakh crore) in savings

4. **DigiLocker** is a flagship initiative of MeitY under the Digital India Programmeme that aims at 'Digital Empowerment' of citizen by providing **access to authentic digital documents** to citizen's digital document wallet. The platform has over **86 million registered users and has issued 4.54 billion documents from 1436 issuers**

5. To make **governance easily accessible to people**, the government of India has launched **UMANG** (Unified Mobile Application for New Age Governance) that enables **access to over 1300 government services from over 265 departments** to the citizens through their mobile phones, thus expanding the **digital outreach of the citizens.** The platform has **over 3.74 crore registered users**, an average **monthly transaction volume of 195 crore.**

B. Human Capital:

a. **Creating a Global Hub of Talent in Emerging Technologies through FutureSkills Prime -** The government of India, through MeitY, is creating a revolutionary skilling ecosystem focussed on enhancing India's digital talent. Under this initiative a robust online platform has been created to encourage remote and self-paced learning in the field of emerging technologies. This Programme aims to offer subsidised access to certified courses to the interested participants in any of the 10 identified emerging technologies

b. **IndiaAI FutureSkills**: Under this pillar, IndiaAI aims to mitigate barriers to entry into AI Programmes as well as **set-up Data & AI Labs** in Tier 2 and Tier 3 cities across India to impart foundational level courses.

C. Technological Innovation

a. **IndiaAI Application Development Initiative**: Under this pillar, IndiaAI aims to collaborate with start-ups, industries, academicians, and researchers to **develop/scale/promote the adoption of impactful 25 AI solutions** with potential for catalyzing large-scale socio-economic transformation.

b. **IndiaAI Datasets Platform:** Under this pillar, IndiaAI is developing IndiaAI Datasets Platform as a one-stop solution for seamless access to resources critical for AI innovation, including quality non-personal datasets, models and toolkits, to AI researchers, innovators, start-ups and industry to promote technological innovation.

D. Legal Framework:

- Government of India has taken concrete steps for **encouraging adoption of AI in a responsible manner** in India and building **public trust in the use of this technology**, placing the idea of **'AI for All'** at its very core. Several initiatives have been undertaken in this respect.

143. While elaborating on the Legal Framework for AI, the Ministry has submitted that:

- India is one of the few countries across the global that has an **established policy position** working to strengthen responsible AI within government systems
- **MeitY's report** on cyber security, safety, legal and ethical issues **provides a well-rounded analysis on the issues relating to social impact of AI**
- In 2021, NITI Aayog **released a two part approach on Ethical AI.** The first part of the strategy titled **"Towards Responsible AI for All"**, **establishes broad ethics principles for design, development and deployment of AI** in India – drawing on similar global initiatives but grounded in the Indian legal and regulatory context. The second part of the strategy **explores means of operationalization of ethical AI principles** across the public sector, private sector and academia

- This includes 7 principles for **responsible design, development, and deployment of AI** in India. These **principles for RAI** include safety and reliability, inclusivity and non-discrimination, equality, privacy and security, transparency, accountability, and protection and reinforcement of positive human values.
- These principles are also envisioned to be captured under the **Safe & Trusted AI** component under the recently launched IndiaAI Mission. This pillar shall include the implementation of '**Responsible AI**' projects including the development of **25 indigenous tools and frameworks for Governance of AI** that are trained on Indian datasets and contextualized to our unique needs and challenges.
- **Report on AI Governance Guidelines Development:** A multi-stakeholder advisory committee was **constituted by MeitY under the chairmanship of the PSA** to provide guidance and recommendations on India's approach to governance of AI. **The report has now been published for public consultation** to guide the development of a trustworthy and accountable AI ecosystem in India.
- **AI Readiness Assessment** – In January 2025, MeitY, in collaboration with UNESCO and other partners, organized a two-day consultation on AI Readiness Assessment Methodology (RAM). The consultation aims to draft an India-specific AI policy report that identifies strengths and opportunities for growth within India's thriving AI ecosystem. This consultation involved various stakeholders, including representatives from public and private organizations utilizing AI.
- **Bureau of Indian Standards Artificial Intelligence Sectional Committee,** LITD *30* - New Indian Standard Identical to ISO/IEC TR 24368:2022 - This document provides a high-level overview of International Standards that address issues arising from AI ethical and societal concerns in the context of principles, processes and methods already adopted in this domain.
- **Standard for Fairness Assessment and Rating of Artificial Intelligence Systems**; Telecommunication Engineering Centre, Department of Telecommunications - The standard provides a Voluntary Fairness Assessment of AI/ML systems and covers the applicable AI/ML systems with combined fairness rating metric for AI/ML systems to certify fairness in assessment systems. It approaches certification via a three-step process involving bias risk assessment, threshold determination for metrics, and bias testing.
- **Recommendations on Leveraging Artificial Intelligence and Big Data in Telecommunications Sector;** Telecom Regulatory Authority of India (TRAI) – This paper has outlined the probable risks from AI that need examination and potential measures to address and mitigate those risks while securing the benefits. It also expands on the enablers for AI adoption. The paper proposed the setting up of Artificial Intelligence and Data Authority of India under TRAI to oversee all issues related to data digitization, data sharing, and data monetization and Study the possible impact of upcoming technologies on data ethics and come out with relevant rules/guidelines on the subject.

- The **Digital Personal Data Protection Act (DPDPA)** to protect citizens' privacy, safety, and trust with respect to their personal data and enhance the accountability for entities collecting and processing personal data.
- India will establish an IndiaAI Safety Institute **as a hub for indigenous foundational research & development on AI safety**, developing India's social, legal, & technical infrastructure for AI Governance.
- The institute will formulate partnerships with international institutions, including other AI Safety Institutes, to co-design and adopt international best practices on Safe and Trusted AI and work towards harmonized global safety standards to address cross-border risks of AI technologies".

144. When the Ministry was asked whether separate allocation of funds had been made to cater to the needs of AI sector, the submission was made as under:

"In March 2024, the Government of India approved the **IndiaAI Mission** with an outlay of 10,371.92 Crores with the aim to build a precise and cohesive strategy for bridging the gaps in the existing AI ecosystem. The IndiaAI mission will establish a comprehensive ecosystem catalyzing AI innovation through strategic Programmes and partnerships across the public and private sectors. By democratizing computing access, improving data quality, developing indigenous AI capabilities, attracting top AI talent, enabling industry collaboration, providing startup risk capital, ensuring socially impactful AI projects and bolstering ethical AI, it will drive responsible, inclusive growth of India's AI ecosystem".

145. Noting that the Government of India had set up an ambitious target of becoming $ 5 trillion econom, the Committee sought to know the role of AI towards contribution to India's goal of becoming a $5 trillion economy. To this, the Ministry replied:

"Artificial Intelligence (AI) is expected to have a positive impact on the Indian Economy. AI expenditure in India is expected to reach $11.78 billion by 2025 and add $1 trillion to India's economy by 2035, as per a Research and Markets report. Artificial Intelligence (AI) alone is expected to raise India's annual growth rate by 1.3 percentage points by 2035—in a scenario of intelligent machines and humans working together to solve the country's most difficult problems.

Generative AI could add $359-438 billion to India's GDP by 2030 alone and potentially contribute $1.2 to $1.5 trillion to India's GDP within the next 7 years.

AI adoption could transform 38 million jobs by 2030, boosting the Indian economy's productivity by 2.61% through gains in the organized sector. There is potential for an additional 2.82% increase with the adoption of Gen AI by the unorganized sector.

Government of India is taking several concrete steps to encourage the adoption of AI, placing the idea of **'AI for All'** at its very core. Going forward, India's AI Strategy is to focus on democratizing resources essential for AI Innovation,

improving AI Compute infrastructure in the country, encouraging the AI research, developing AI foundational Models, & nourishing the AI Talent in the Country. Government is actively seeking the support of Industry & academics in improving the state of AI in the Country.

In March 2024, the Government of India approved the **IndiaAI Mission** with the aim to build a precise and cohesive strategy for bridging the gaps in the existing AI ecosystem. The IndiaAI mission will establish a comprehensive ecosystem catalyzing AI innovation through strategic Programmes and partnerships across the public and private sectors. By democratizing computing access, improving data quality, developing indigenous AI capabilities, attracting top AI talent, enabling industry collaboration, providing startup risk capital, ensuring socially impactful AI projects and bolstering ethical AI, it will drive responsible, inclusive growth of India's AI ecosystem".

CHAPTER- IV

Challenges impacting the Application, Adoption and Regulation of AI in India

146. According to the Ministry, potential of AI is enormous but its widespread adoption faces several challenges. These challenges range from talent constraints to lack of access to critical infrastructure. Addressing these hurdles is crucial if AI is to be fully integrated into India's ecosystem. These include:

- Lack of access to quality AI-ready datasets
- Limited access to AI compute
- High Initial Costs and Investment Barriers
- Lack of Skilled Workforce and Technical Expertise
- Limited Cultural and Contextual Nuance of LLMs

147. The Ministry also explained the issues of Biases in Data used for AI. **Biases in AI** solutions typically stem from the data that trains the technology. If the data used to train these models are biased or reflect societal inequalities, the resulting AI model will also be biased. There is a need for diverse, quality datasets in Indians languages that capture India's local contexts for training indigenous AI models. Indian AI ecosystem also needs a unified datasets platform to promote data discoverability and provide one-stop access point to datasets. The Government need to augment availability of datasets curated for AI innovation (dynamic, granular, containing multiple variables - appropriately anonymized) and solve the problem of lack of Data Specialists within Government Agencies.Limited access to advanced computing resources coupled with the high cost of high-performance infrastructure, restricts broader participation and innovation in AI initiatives. The global race towards AI superiority is predicated on dedicated National AI Compute power as most countries move towards procuring advanced AI computing systems and India presently only has AIRAWAT Param Siddhi AI (developed by CDAC) as a dedicated AI compute infrastructure of 656 GPUs being used by Startups, Bhashini, and researchers.

148. The Central Government after extensive public consultations with relevant stakeholders has notified the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 ("IT Rules, 2021") on 25.02.2021 which was subsequently amended 28.10.2022 and 6.4.2023. The IT Rules, 2021 cast specific legal obligations on intermediaries, including social media intermediaries and platforms, to ensure their accountability towards safe and trusted internet including their expeditious action towards removal of the prohibited misinformation, patently false information and Deepfakes. In case of failure of the intermediaries to observe the legal obligations as provided in the IT Rules, 2021, they lose their safe harbour protection under section 79

of the Information Technology Act, 2000 (“IT Act”) and shall be liable for consequential action or prosecution as provided under any extant law. The Digital Personal Data Protection Act, 2023 has been enacted on 11th August, 2023 which casts obligations on Data Fiduciaries to safeguard digital personal data, holding them accountable, while also ensuring the rights and duties of Data Principals.

149. When asked to highlight the major constraints and challenges India faces in Al adoption and implementation, the following submission was made by the Ministry:

> “India faces several significant constraints and challenges in the adoption and implementation of artificial intelligence (AI). These obstacles can be categorized as follows:
>
> 1. **Infrastructure Accessibility:** There exists a notable disparity in the accessibility of advanced AI infrastructure, particularly between urban and rural regions. Accessibility not only pertains to physical resources but also extends to user interfaces, which must be user-friendly and designed for individuals with varying levels of technical expertise.
>
> 2. **Cost Barriers:** The high costs associated with advanced computing resources hinder broader participation in AI initiatives, particularly among startups and small businesses that may lack the financial resources for substantial investment in AI technology.
>
> 3. **Shortage of Skilled Workforce**: A significant challenge is the scarcity of individuals who possess the requisite skills and expertise in AI technologies and data science. This shortage undermines the effective optimization and deployment of AI solutions.
>
> 4. **Data Privacy and Security:** The assurance of robust data privacy and security measures is imperative for establishing trust among users and for compliance with existing regulations. Navigating the complexities of data governance remains a significant challenge.
>
> 5. **Scalability and Future Readiness:** As AI technologies evolve and the volume of data increases, there is a pressing need to develop scalable AI infrastructures that are adaptable to future demands. This includes addressing the requirements for both computational power and data management practices.
>
> 6. **Institutional Frameworks:** The establishment of a comprehensive institutional framework for data governance, as proposed through initiatives such as the National Data Governance Policy (NDGP) and the National Data Management Office (NDMO), is still in its formative stages. These frameworks are essential for ensuring orderly data collection, management, and access, which are critical for maximizing the potential of AI.

7. **Safe and Ethical use of AI:** There is a need for responsible AI frameworks for wider adoption of AI in the Indian context and ensuring solutions developed are relevant linguistically and culturally to India and its citizens".

150. Elaborating further on the comprehensive outlook of the Ministries/Departments to deal with various kinds of challenges which will arise with the advent of AI in the entire human sphere, the Ministry submitted:

- "India aims to champion a pro-innovation approach to AI governance by ensuring adequate safeguards for protecting citizen interests against unintended consequences and fostering innovation to harness the full potential of AI development.
- Government of India's approach to Artificial Intelligence governance is through the prism of "user harm or derived user harm" through any technology, to ensure the protection of AI users.
- Safe & Trusted AI under the IndiaAI Mission:

a) The IndiaAI Safety Institute has been launched under the Safe and Trusted Pillar of the IndiaAI Mission to address AI risks & Safety Challenges. The Institute, incubated by IndiaAI Mission, will be set up on a hub and spoke model with various research and academic institutions and private sector partners joining the hub and taking up projects under the Safe and Trusted Pillar of IndiaAI Mission.

b) Under the Safe and Trusted pillar, the IndiaAI Mission has selected eight Responsible AI Projects against the first Expression of Interest (EoI) under the following themes:

- AI Bias Mitigation
- Machine Unlearning
- Synthetic Data Generation
- Ethical AI Frameworks
- Privacy-Enhancing Tools
- Explainable AI
- AI Governance Testing
- Algorithm Auditing Tools

c) The 2nd round of EOI, which is currently ongoing and has received 420 applications, includes themes such as:

- Watermarking and Labelling
- Ethical AI Frameworks
- AI Risk Assessment & Management
- Stress Testing Tools
- Deepfake Detection Tools

d) A multi-stakeholder Advisory Group, chaired by the Principal Scientific Advisor of India and comprising representatives from relevant ministries, has been constituted to develop an 'AI for India-Specific Regulatory Framework.' Under the Advisory Group's guidance, a Subcommittee on 'AI Governance and Guidelines Development' was formed to provide actionable recommendations for AI governance in India. The Subcommittee's report on AI Governance was released for public consultation to facilitate the creation of a robust, inclusive, and adaptive framework for technological advancements. The consultation process closed on February 27, 2025".

151. Overviewing the major challenges in the application and adoption of AI in the Country, the Committee observed that Artificial intelligence (AI) is rapidly transforming various sectors in India, including healthcare, finance, education and security among others and the Country has a strong focus on research and development in AI. In furtherance of it, the Committee asked the Ministry about the initiatives taken to bring about efficiency in public administration and public services through application of Artificial Intelligence, to which the following was submitted:

"Artificial Intelligence (AI) is playing a transformative role in India's digital landscape, contributing significantly to key sectors such as healthcare, finance, education, and governance. AI is projected to add USD 967 billion to India's economy by 2035 and contribute USD 450–500 billion to India's GDP by 2025, aligning with the country's vision of a USD 5 trillion economy. Recognizing the strategic importance of AI, the Government of India has undertaken targeted initiatives to drive AI adoption in public administration and public services.

The National Strategy for AI (2018), laid the groundwork for AI-driven innovation across priority sectors, including agriculture, healthcare, education, smart cities, and mobility.

In similar efforts, MeitY had created 7 expert groups on AI who published **IndiaAI 2023 Expert Working Groups Report- First Edition AI** in Oct 2023 focussing on a precise and cohesive strategy to bridge the gaps in existing AI ecosystem

viz-a-viz Compute infrastructure, Data, AI financing, Research and Innovation, targeted Skilling and institutional capacity for Data to maximize the potential of AI for advancing India's progress.

In March 2024, the Government of India approved the **IndiaAI Mission** with the aim to build a precise and cohesive strategy for bridging the gaps in the existing AI ecosystem. The IndiaAI mission will establish a comprehensive ecosystem catalysing AI innovation through strategic Programmes and partnerships across the public and private sectors. By democratizing computing access, improving data quality, developing indigenous AI capabilities, attracting top AI talent, enabling industry collaboration, providing startup risk capital, ensuring socially impactful AI projects and bolstering ethical AI, it will drive responsible, inclusive growth of India's AI ecosystem. IndiaAI Mission comprises of 7 pillars namely- IndiaAI Compute Capacity, IndiaAI Innovation Centre (IAIC), IndiaAI Dataset Platform, IndiaAI Application Development Initiative (IADI), IndiaAI FutureSkills, IndiaAI Startup Financing, Safe & Trusted AI.

IndiaAI Application Development Initiative (IADI): The IndiaAI Application Development Initiative will develop, scale, and promote the adoption of impactful AI solutions to effectively tackle significant problem statements.

Under, IADI pillar, IndiaAI has launched the IndiaAI innovation challenge which seeks to promote impactful AI solutions in critical sectors. Participants will be provided a platform to harness the potential of AI across critical priority areas namely Healthcare, Governance, Agriculture, Assistive Technologies for Learning Disabilities and Climate Change & Disaster Management.

National AI Portal: The government launched a National AI portal named "Indiaai.in". It is the single central knowledge hub on artificial intelligence and allied fields for aspiring entrepreneurs, students, professionals, academics, and everyone else.

Bhashini: The government has launched Bhashini to provide language technology solutions as digital public goods. Bhashini will involve the development of a national digital public platform for language to provide universal access to content, i.e., boost the delivery of digital content in all Indian languages.

AI-as-a-Service (AIAAS) on Meghraj: The Meghraj Cloud Service has been facilitating AIAAS since January 2021 and offers a variety of AI services to meet the user requirements. This includes services such as AI SATYAPIKAANAN for face-based verification, AI-VANI for conversational tools in the form of chatbots and voicebots, AI-PANINI for text translation, SHRUTI for automatic speech recognition, and AI-SARANSH for summarising text.

Digidhan Mitra Chatbot: The Government launched an AI-based Digidhan Mitra Chatbot for enabling text and voice-based conversation with the user. It provides bank-wise transaction details and the growth patterns of various modes of transactions, such as BHIM, IMPS, and cards, in tabular and graphical form. The

chatbot has been designed and developed by the National Informatics Centre (NIC).

AI Nirbhit: An AI-based solution developed by NIC for masking of Personally Identifiable Information such as PAN, Aadhaar & Fingerprints in pdf documents to enable fraud prevention. Department of Land Resources has implemented this solution pan India for public copies of sale deeds".

152. When the Committee asked the Ministry about International collaborations and partnerships that have been undertaken to develop Artificial Intelligence within the legal framework, the Ministry in its written submission has furnished the following details:

- "India encourages the adoption of AI in a responsible manner, placing the idea of '**AI for All**' at its very core. India champion a pro innovation approach to AI governance by **ensuring adequate safeguards for protecting citizen interests** against unintended consequences and **fostering innovation** to harness the full potential of AI development.
- Government of India's approach to Artificial Intelligence development and regulation is through the prism of "user harm or derived user harm" through any technology, to ensure the protection of AI users.
- The Global Partnership on Artificial Intelligence (GPAI) is an initiative dedicated to artificial intelligence (AI) that aims to bring together countries that share the values reflected in Principles for responsible stewardship of trustworthy AI and National policies and international co-operation for trustworthy AI of the OECD Council Recommendation on Artificial Intelligence. India is a founding member of GPAI and was the Lead Chair for the partnership in 2024. Under India's Chairmanship, the **New Delhi Declaration (2023)** committed the GPAI members to advance safe, secure, and trustworthy AI.
- India was a part of the **G20 Troika** under Brazil's 2024 Presidentship. The **G20 Rio de Janeiro Leaders' Declaration 2024**, focusses on leveraging '**AI for Good and For All'**, in line with the G20 New Delhi Leaders' Declaration, which pushed for a **pro-innovation regulatory/governance** approach that maximizes the benefits and takes into account the risks associated with the use of AI; and promotes responsible AI for achieving SDGs.
- The **Brazil's G20 Digital Economic Ministerial Declaration,** on '**Artificial Intelligence For Inclusive Sustainable Development And Inequality Reduction'**, calls for inclusive international cooperation to overcome AI induced digital divides, notably on capacity building, joint research and voluntary technology transfer and knowledge sharing, on mutually agreed terms, in order to expand participation of all countries, in particular developing countries, in digital transformation.
- The recently launched **Global Digital Compact** under the **UN Pact for the Future** calls for full and equal representation of all countries, especially

developing countries, to advance equitable and inclusive approaches to harness AI benefits for achieving Sustainable Development Goals

- India, along with EU and 27 other countries, is a signatory to the **Bletchley Declaration** signed at the **AI Safety Summit, 2023** in UK, calling for global collaboration to ensure AI is developed and used safely, ethically, and for the benefit of all. India also participated in the **AI Seoul Summit 2024** held in May, 2024
- India also supported the US introduced **UNGA resolution on Artificial Intelligence** which was passed in the UN General Assembly in 2024. This resolution calls for standardized regulatory and governance approaches for ensuring safe, secure and trustworthy development of AI systems.
- India and France recently co-chaired the **AI Action Summit in Paris** on the 10th - 11th February, 2025. The summit built upon previous international AI Summits and events, including the Bletchley Park and Seoul Summits.
- India has been actively engaging in all discussions pertaining to the AI Action Summit. This includes:
  - **Co-Chairing AI Governance Working Group** along with France and Canada.
  - Active involvement in deliberations of other working groups, shaping the deliverables.
  - **Key member of the steering group for the Action Summit**. So far, four meetings of Steering Group have been convened by France.
  - Negotiations on the Leaders' Statement.
  - Potential Participation in Proposed informal GPAI Ministerial Meeting on the side-lines of the Summit".

153. The Ministry further submitted:

"India is actively working to address and mitigate any constraints and challenges in AI deployment, innovation, and adoption as mentioned below:

- The IndiaAI Mission provides funding and grants to support AI development through its various pillars and initiatives to make AI adoption more accessible, especially for small and medium-sized enterprises (SMEs).
- AI development requires highly trained professionals. Through the IndiaAI Future Skills initiative, AI education is being expanded across undergraduate, postgraduate, and Ph.D. Programmes. IndiaAI Fellowships are awarded to students pursuing relevant undergraduate and postgraduate Programmes at Private or Centrally Funded Technical Institutes (CFTIs) recognized by AICTE, NBA, NAAC, or UGC. So far, 150 undergraduate students, 48 postgraduate students, and 3 PhD scholars have been selected for the fellowship. Additionally, IndiaAI has set up Data Labs at NIELIT's Delhi Centre and ICIT, Nagaland, with plans to establish 27 more labs in collaboration with NIELIT across Tier 2 and Tier 3 cities.

- AI is data-intensive and requires scalable computing power. The IndiaAI Compute pillar is developing a national AI compute ecosystem, including 18,000+ GPUs, built through public-private partnerships to support startups and researchers.
- AI innovation depends on high-quality, large-scale datasets. IndiaAI Dataset Platform aims to enable Indian startups and researchers to access a unified repository of high-quality, anonymised datasets, reducing barriers to AI innovation.
- Strengthening regulations like the Digital Personal Data Protection Act (DPDPA) and rules, and initiatives under the Safe & Trusted AI pillar, which invite proposals on AI governance, play a crucial role in ensuring safe and trusted AI deployment in India.
- With AI playing an increasing role in decision-making, ensuring ethical AI deployment is critical. The IndiaAI Safety Institute has been launched under the Safe and Trusted Pillar of the IndiaAI Mission to address AI risks & Safety Challenges. The Institute, incubated by IndiaAI Mission, will be set up on a hub and spoke model with various research and academic institutions and private sector partners joining the hub and taking up projects under the Safe and Trusted Pillar of IndiaAI Mission.
- A multi-stakeholder Advisory Group, chaired by the Principal Scientific Advisor of India and comprising representatives from ministries, industry & academia has been constituted to develop an 'AI for India-Specific Regulatory Framework.' Under the Advisory Group's guidance, a Subcommittee on 'AI Governance and Guidelines Development' was formed to provide actionable recommendations for AI governance in India. The Subcommittee's report on AI Governance was released for public consultation to facilitate the creation of a robust, inclusive, and adaptive framework for technological advancements. The consultation process closed on February 27, 2025.
- IndiaAI Innovation Centre (IAIC) has launched a Call for Proposals inviting proposals from startups, researchers, and entrepreneurs to collaborate on building state-of-the-art foundational AI models trained on Indian datasets. The initiative aims to establish indigenous AI models that align with global standards while addressing unique challenges and opportunities within the Indian context".

154. When asked whether IT Rules, 2023 addresses the issues raised by AI and if not, what action was being taken to address it, the Ministry replied as:

a. "The Information Technology Act ("IT Act") is a technology neutral law and does not distinguish between computer resources and computer resources that use AI, hence the provisions of IT Act apply to all computer resources. Further, the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 ("**IT Rules, 2021**") which were notified on 25.02.2021 under the IT Act and subsequently amended on 28.10.2022 and 6.4.2023 do not

distinguish between any information that is generated using AI tools or any other technology and those which are authentic or genuine. The IT Rules, 2021 cast specific due diligence obligations on intermediaries, including social media intermediaries to make reasonable efforts by themselves and to cause the users of their computer resource to not host, store, transmit, display or publish, etc. any such information that is categorised as unlawful under the IT Rules, 2021 and violative of any law for the time being in force. Intermediaries are required to ensure their accountability that includes their expeditious action towards removal of the unlawful information within the timelines prescribed under Rules. For this purpose, unlawful information include any such information that is obscene, pornographic, paedophilic, invasive of another's privacy, including bodily privacy, insulting or harassing on the basis of gender, racially or ethnically objectionable, or that deceives or misleads the addressee about the origin of the message or knowingly and intentionally communicates any misinformation or information which is patently false and untrue or misleading in nature, or that is harmful to child or impersonates another person, or that threatens the unity, integrity, defence, security or sovereignty of India, public order, or that contains software virus or any other computer code, file or Programme designed to interrupt, destroy or limit the functionality of any computer resource, or that violates any law for the time being in force. Therefore, where any information falls within the categories mentioned in Rule 3(1) (b) of the IT Rules, 2021, any user may make a request to the Grievance Officer of the concerned intermediary on whose platform such unlawful information is made available to the public. Upon receipt of such a request, the intermediary is required to act expeditiously and in any case within the timelines prescribed under Rule 3(2) of the IT Rules, 2021. Rule 3(2)(b) of the IT Rules, 2021 requires an intermediary to remove content which exposes private area of / shows an individual in full or partial nudity or shows or depicts such individual in any sexual act or conduct, or impersonated/ artificially morphed an individual, within 24 hours against complaint. The Government has also established Grievance Appellate Committees under Rules 3A of the IT Rules, 2021 to allow users and victims to appeal online on www.gac.gov.in against decisions taken by the Grievance Officers of intermediaries in case they are dissatisfied with the decision of the Grievance Officer in case of legal violations including deepfakes or fails to redress the grievances from users or victims or an individual or any person on his behalf within the timelines prescribed under the IT Rules, 2021.

b. Rule 3(1)(d) of the IT Rules, 2021 requires an intermediary to ensure expeditious action, well within the timeframes stipulated under the IT Rules, 2021 (as early as possible but not later than 36 hours), to remove or disable access to information that violates the aforesaid provisions of the IT Rules, 2021 or any extant law, upon receipt of court order or notice from the Appropriate Government or its authorised agency or upon receipt of complaint made by any user or a victim (including the impersonated individual or person authorised by him in this

behalf). It is to mention that the Ministry of Home Affairs ("MHA") *vide* G.S.R. 193(E) dated 13th March, 2024 has designated the Indian Cyber Crime Coordination Centre (I4C) to be the agency of the MHA to perform the functions under section 79(3) (b) of the IT Act and to notify the instances of information, data or communication link residing in or connected to a computer resource controlled by the intermediary being used to commit the unlawful act. Additionally, any appropriate Government (in Centre as well as in State) itself or through its authorised agency can issue the takedown orders to intermediary in case any information violates any law for the time being in force.

c. Rule 3(1)(j) of the IT Rules, 2021 requires an intermediary to provide information under its control or possession, or assistance well within the timeframes stipulated under the IT Rules, 2021 (as soon as possible but not later than 72 hours) to the Government agency which is lawfully authorised for investigative or protective or cyber security activities, for the purposes of verification of identity, or for the prevention, detection, investigation, or prosecution, of offences under any law for the time being in force, or for cyber security incidents.

d. Rule 3(1) (l) of the IT Rules, 2021 requires an intermediary to report cyber security incidents and share related information with the CERT-In in accordance with the policies and procedures as mentioned in the Information Technology (The Indian Computer Emergency Response Team and Manner of Performing Functions and Duties) Rules, 2013.

e. As an additional due diligence measure under Rule 4(2) of the IT Rules, 2021, a significant social media intermediary ("SSMI") (i.e. a social media intermediary having 50 lakhs or above number of registered users in India), among other additional due diligences, is also required to cooperate with Law Enforcement Agencies (LEA) for prevention, detection, investigation, prosecution or punishment by enabling identification of the first originator of information related to the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, or public order, or of incitement to an offence relating to the above or in relation with rape, sexually explicit material or child sexual abuse material (CSAM).

f. Rule 4(4) of the IT Rules 2021 prescribes that SSMIs shall deploy technology-based measures to proactively identify information that depicts any act depicting rape, child sexual abuse or conduct or any information which is exactly identical to information that has previously been removed or access under Rule 3(1) (d) of the IT Rules, 2021. The significant social media intermediaries shall display a notice to any user attempting to access such information stating that such information has been identified by the intermediary under the categories mentioned.

g. Rule 7 of the IT Rules, 2021 provides that in case of failure of the intermediaries to observe the legal obligations as provided in the IT Rules, 2021,

they lose their safe harbour protection under section 79 of the IT Act and shall be liable for consequential action or prosecution as provided under any extant law.

h. To address the menace of deepfakes and synthetic content generated by AI technologies, MeitY has issued advisories to all intermediaries on 26th December 2023 and subsequently on 15th March 2024 advising on countering malicious 'synthetic media' and 'deepfakes'. Intermediaries have been warned that non-compliance will lead to losing exemption from liability provided under section 79(1) of the IT Act.

i. Further, the provisions of Section 43A of the IT Act read with the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011 ("**SPDI Rules**") are also applicable for protection of sensitive personal data and violation by anybody corporate (which would include AI companies) would be punishable under provisions of the IT Act. The Adjudicating Officer under Section 46 of the IT Act is empowered to adjudicate a contravention of Section 43A and any other provision of the IT Act.

j. Further, as per section 81 of the IT Act, the provisions of the IT Act do not prevent any person from exercising their rights under the Copyright Act, 1957 or the Patents Act, 1970. The provisions of the IT Act or the rules thereunder do not restrict the exercise of intellectual property rights by any person in any manner".

155. Submitting further with respect to rules/regulations to safeguard the personal life and privacy which may be interfered by the misuse of AI, the Ministry stated:

Apart from this, the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, among other due diligence obligations, prescribes that the intermediary shall

- take all reasonable measures to secure its computer resource and information contained therein following the reasonable security practices and procedures as prescribed in the SPDI Rules, and
- report cyber security incidents and share related information with the Indian Computer Emergency Response Team in accordance with the policies and procedures as mentioned in the Information Technology (The Indian Computer Emergency Response Team and Manner of Performing Functions and Duties) Rules, 2013.

The Digital Personal Data Protection Act, 2023 ('DPDP Act') has been drafted as a technology agnostic legislation as the digital technology is undergoing evolution at a very fast pace with huge social and economic impact, thus law governing it should have sufficient flexibility to address changing situations and emerging requirements.

The Act provides that all Data Fiduciaries, including those processing personal data for AI technologies, must adhere to its provisions to ensure the protection of data principals while processing personal data in a manner that is lawful, fair and transparent. It mandates that all Data Fiduciaries processing personal data must obtain consent from Data Principals before collecting their data. They are also required to implement reasonable security safeguards to prevent personal data breaches, erase personal data once it is no longer needed for the specified purpose, and establish a grievance redressal system, including appointing an officer to address queries from Data Principals.

Additionally, the Act imposes certain additional obligations in respect of Data Fiduciaries notified as Significant Data Fiduciaries, such as appointing a data auditor and conducting periodic Data Protection Impact Assessment to ensure higher degree of data protection. Data fiduciaries contravening the provisions of the DPDP Act may face financial penalties, up to ₹250 crore.

While the DPDP sets out the rights and duties of Data Principals and the obligations of Data Fiduciaries, it attempts to retain sufficient flexibility to address such requirements.

The Act empowers the Central Government to exempt the application under the provisions of the legislation, for the personal data processing necessary for research purposes, if the personal data is not to be used to take any decision specific to a Data Principal and such processing is carried on in accordance with specified standards. This addresses any concern regarding data availability for AI research. Further, the DPDP Act is not applicable to data made publicly available by Data Principals or pursuant to any obligation by law to disclose such data, making available sizeable volumes of data for AI research".

156. Owing to the challenges of cyber security due to use of AI, the Committee asked the Ministry about the effective steps being taken for tackling cyber fraud and checking breach of cyber security with the use of AI and the Ministry replied:

"The use of AI in cyber-attacks is becoming more prevalent and cybercriminals are using it to launch more sophisticated and effective attacks, such as Advanced Persistent Threats (APTs), which involve the use of artificial intelligence to avoid detection and target specific data.

Government has taken following measures to enhance the cyber security posture and prevent cyber attacks and cyber frauds:

(i) The Indian Computer Emergency Response Team (CERT-In) issues alerts and advisories regarding latest cyber threats/vulnerabilities including malicious attacks using Artificial Intelligence (AI) and countermeasures to protect computers, networks and data on an ongoing basis. In this context, an advisory on safety measures to be taken to minimize the adversarial threats arising from

Artificial Intelligence (AI) based applications was published in May 2023. Further, advisory on best practices against vulnerabilities while using Generative AI solutions was published in March 2025.

(ii) CERT-In issued guidelines on information security practices for government entities in June 2023 covering domains such as data security, network security, identity and access management, application security, third-party outsourcing, hardening procedures, security monitoring, incident management and security auditing.

(iii) CERT-In issued Guidelines for Secure Application Design, Development, and Implementation & Operations in September 2023. CERT-In has also released the Software Bill of Materials (SBOM) guidelines for entities, particularly those in the public sector, government, essential services, organizations involved in software export and software services industry in October 2024. SBOM helps organizations know exactly what components are in their software or assets, making it easier to identify and fix vulnerabilities.

(iv) CERT-In is one of the International partners to co-sign the joint high-level risk analysis report on Artificial Intelligence (AI) entitled “Building trust in AI through a cyber-risk-based approach,” published by the National Cybersecurity Agency for France (ANSSI) in February 2025. The report advocates for a risk-based approach to support trusted AI systems and secure AI value chains and calls for discussions on AI-related cyber risks and how to mitigate them to foster trusted AI development

(v) The Certified Security Professional in Artificial Intelligence (CSPAI) Programme launched by CERT-In and SISA in September 2024. The certification is approved by the ANSI National Accreditation Board (ANAB) by meeting the ISO/IEC 17024 standard. The Programme aims to address the growing need for Secure and Responsible AI integration into business applications and processes. The CSPAI Programme equips cybersecurity professionals with the skills to secure AI systems, proactively address AI-related threats, and ensure trustworthy AI deployment in business environments.

(vi) CERT-In published a whitepaper in August 2023, highlighting the increasing attacks on Application Programmeming Interface (API) and how AI can be useful in mitigating these attacks.

(vii) CERT-In published “Cyber Security Guidelines for Smart City Infrastructure” in February 2025 including measures for secure usage of Artificial Intelligence (AI) and Machine Learning (ML) for smart city infrastructure and applications.

(viii) MeitY conducts Programmemes to generate information security awareness. Books, videos and online materials about information security are

developed for general users, children and parents, and are disseminated through portals such as www.infosecawareness.in and www.csk.gov.in.

(ix) The Indian Cyber Crime Coordination Centre (I4C) under the Ministry of Home Affairs is designated as the nodal point in the fight against cybercrime. A toll-free number 1930 is operational for citizens to get assistance in lodging online complaints in their own language. To spread awareness on cybercrime, the Ministry has taken several steps, which include dissemination of messages on cybercrime through the Twitter handle @cyberDost and radio campaigns.

(x) National Cyber Crime Reporting Portal (www.cybercrime.gov.in) including Financial Cyber Fraud Reporting and Management System has been made operational by the Indian Cyber Crime Coordination Centre (I4C) and being administered by the Ministry of Home Affairs to enable public to report incidents pertaining to all types of cybercrimes, financial frauds and to stop siphoning-off of funds by the fraudsters. Cyber Crime Helpline number is 1930".

157. Asked to submit the measures adopted to make AI ethical and privacy norms embedded, the Ministry of Electronics and Information Technology submitted:

"The government follows a balanced approach to AI governance, striking a delicate balance between innovation and regulation. Towards this, the Ministry is undertaking following measures to make AI ethical and privacy norms embedded:

- **Safe & Trusted AI Pillar, IndiaAI Mission**: This pillar enables the implementation of Responsible AI projects including the development of indigenous tools and frameworks, self-assessment checklists for innovators, and other guidelines and governance frameworks.
  - Under this pillar, eight projects have been selected under the **first EOI round** across eight critical themes to promote Responsible AI development and use across sectors. These include **AI Bias Mitigation**, Machine Unlearning, Synthetic Data Generation, Ethical AI Frameworks, **Privacy-Enhancing Tools**, Explainable AI, AI Governance Testing, and Algorithm Auditing Tools.
  - Further IndiaAI has launched the **2nd round of Expression of Interest (EoI)** across key themes, including Watermarking and Labelling, Ethical AI Frameworks, AI Risk Assessment & Management, Stress Testing Tools, and Deepfake Detection Tools.
  - As part of the Safe & Trusted AI pillar, an **AI Safety Institute** is being established as a hub for indigenous foundational R&D on AI safety, developing India's social, legal, and technical infrastructure for AI Governance. The AI Safety Institute will also formulate international partnerships with reputable global institutions to co-design and adopt international best practices and standards for safe and responsible use of AI.
- MeitY has also constituted committees to study various AI policy considerations, including intellectual property rights (IPR) issues. The report of

Committee - D on Cyber Security, Safety, Legal and Ethical Issues is available on the MeitY website.

- Further, a **multi-stakeholder advisory committee** was constituted by MeitY under the **chairmanship of the PSA** to provide guidance and recommendations on India's approach to governance of AI. Under the guidance of this Advisory Group, a sub-committee on 'AI Governance and Guidelines Development' ("Sub-Committee") was set up on November 9, 2023, to provide workable recommendations for AI governance in India.
- On January 06, 2025, the Sub-Committee released its recommendations in the form of the AI Governance Guidelines Report ("Report"), for public consultation to guide the development of a trustworthy and accountable AI ecosystem in India".

158. Having noted the reply of the Ministry regarding making AI ethical and privacy norms embedded, the Committee further wanted to know about AI regulations/ Rules existing/ framed in India and the challenges for its compliance, given the uncertainty surrounding the AI use and development. The Committee also asked for major ethical and privacy concerns regarding AI adoption and implementation in the Country. To this, the Ministry furnished the following reply:

"The Digital Personal Data Protection Act, 2023 ('DPDP Act') has been drafted as a technology agnostic legislation as the digital technology is undergoing evolution at a very fast pace with huge social and economic impact, thus law governing it should have sufficient flexibility to address changing situations and emerging requirements. Therefore, while the DPDP sets out the rights and duties of Data Principals and the obligations of Data Fiduciaries, it attempts to retain sufficient flexibility to address such requirements.

The Act empowers the Central Government to exempt the application under the provisions of the legislation, for the personal data processing necessary for research purposes, if the personal data is not to be used to take any decision specific to a Data Principal and such processing is carried on in accordance with specified standards. This addresses any concern regarding data availability for AI research.

Further, the DPDP Act is not applicable to data made publicly available by Data Principals or pursuant to any obligation by law to disclose such data, making available sizeable volumes of data for AI research.

In addition, The Information Technology Act ("IT Act") is a technology neutral law and does not distinguish between computer resources and computer resources that use AI. Hence, the provisions of IT Act apply to all computer resources. The provisions of section 43A of the IT Act read with the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011 ("**SPDI Rules**") are applicable for protection of sensitive

personal data or information and violation by anybody corporate (which would include AI companies) would be liable to penalty under provisions of the IT Act. The Adjudicating Officer under section 46 of the IT Act is empowered to adjudicate a contravention of section 43A and any other provision of the IT Act.

The current Indian laws, like the **Copyright Act, 1957**, also very closely preserve the right of protection of copyrighted data and discourage its use without permission. Further, as per **section 81 of the IT Act**, the provisions of the IT Act do not prevent any person from exercising their rights under the Copyright Act, 1957 or the **Patents Act, 1970**. The provisions of the IT Act or the rules support the exercise of intellectual property rights by any person in any manner, irrespective of whether the infringement of such IPR is done by a physical person or by using AI based applications.

SEBI regulations on use of AI/ML: As per recently notified amendments, persons regulated by the Securities and Exchange Board of India (SEBI) who use AI and ML tools and techniques will be responsible for the privacy of investor data and the output of such AI/ML usage. According to the new amendments, persons regulated by the Board, recognised stock exchanges, recognised clearing corporations, or depositories which use AI/ML tools and techniques, either designed by them or procured from third-party technology service providers, irrespective of the scale and scenario of adoption of such tools for conducting their business and servicing their investors/clients/constituents, shall be solely responsible:

- **for the privacy, security and integrity of investors and stakeholders' data including data maintained by them in a fiduciary capacity throughout the processes involved;**
- **for the output arising from the usage of such tools and techniques they rely upon or deal with; and**
- **for compliance with applicable laws in force**

In December 2024, the Reserve Bank of India (RBI) announced the setting up of a **committee to develop a Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI) in the Financial Sector**. The terms of reference of this committee are to identify potential risks associated with AI, if any and recommend an evaluation, mitigation and monitoring framework and consequent compliance requirements for financial institutions, including banks, NBFCs, FinTech, PSOs, etc. The Committee shall also recommend a framework including governance aspects for responsible, ethical adoption of AI models/applications in the Indian financial sector.

In recognition of the need for an India-specific approach to AI governance, a multistakeholder Advisory Group under the chairmanship of the Principal Scientific Advisor (PSA) of India has been constituted to undertake development of an 'AI for India-Specific Regulatory Framework'. Under the

guidance of the Advisory Group, a Subcommittee on 'AI Governance and Guidelines Development' was constituted to provide actionable recommendations for AI governance in India. The Subcommittee's Report on AI Governance Guidelines Development (Subcommittee Report), released in January 2025 for public consultation, emphasised the need for a coordinated, whole-of-government approach to ensure effective compliance and enforcement as India's AI landscape continues to evolve.

Some compliance challenges to AI related regulations with potential impact on AI ethics and privacy are:

- **Rapid Technological Advancements:** The swift evolution of AI technologies outpaces the development of corresponding regulations, resulting in outdated or insufficient guidelines.
- **Data Privacy and Security:** AI systems often require vast amounts of data, raising concerns about data breaches and unauthorized use.
- **Algorithmic Bias:** AI models trained on biased datasets can perpetuate discrimination, leading to ethical and legal challenges in ensuring fairness and equity.

To overcome this, the **Safe & Trusted AI pillar of the mission** will enable the implementation of Responsible AI through the development of indigenous tools and frameworks, self-assessment checklists for innovators, and other guidelines and governance frameworks.

To further this agenda of the government, **Eight Safe & Trusted AI Projects** have been selected to address the need for robust guardrails to ensure the responsible development, deployment, and adoption of AI technologies. The projects cover a range of critical themes, including **Machine Unlearning, Synthetic Data Generation, AI Bias Mitigation, Ethical AI Frameworks, Privacy-Enhancing Tools, Explainable AI, AI Governance Testing, and Algorithm Auditing Tools.**

IndiaAI has also launched the **2nd round of Expression of Interest (EoI)** for Safe & Trusted AI Projects, inviting organizations to submit proposals on key themes, including **Watermarking and Labelling, Ethical AI Frameworks, AI Risk Assessment & Management, Stress Testing Tools, and Deepfake Detection Tools.** With AI safety being the fundamental prerequisite for AI innovation, these efforts will form the backbone of the IndiaAI mission".

159. While dwelling further on the topic of ethical AI, the Committee wanted the Ministry to give details of National Strategy or National Plan/Policy in India, if any, for a responsible and ethical AI development that prioritizes ethical AI practices, transparency, accountability, fairness and using AI in an inclusive and equitable manner. The Ministry replied:

"Government of India has taken concrete steps for **encouraging adoption of AI in a responsible manner** in India and building **public trust in the use of this**

technology, placing the idea of **'AI for All'** at its very core. Several initiatives have been undertaken in this respect:

- India is one of the few countries across the global that has an **established policy position** working to strengthen responsible AI within government systems
- **MeitY's report** of **Committee - D on Cyber Security, Safety, Legal and Ethical Issues** provides a well-rounded analysis on the issues relating to social impact of AI
- In 2021, NITI Aayog **released a two part approach on Ethical AI.** The first part of the strategy titled **"Towards Responsible AI for All"**, **establishes broad ethics principles for design, development and deployment of AI** in India – drawing on similar global initiatives but grounded in the Indian legal and regulatory context. The second part of the strategy **explores means of operationalization of ethical AI principles** across the public sector, private sector and academia
- This includes 7 principles for **responsible design, development, and deployment of AI** in India. These **principles for RAI** include safety and reliability, inclusivity and non-discrimination, equality, privacy and security, transparency, accountability, and protection and reinforcement of positive human values.
- These principles are also envisioned to be captured under the **Safe & Trusted AI** component under the recently launched IndiaAI Mission. This pillar shall include the implementation of '**Responsible AI**' projects including the development of **25 indigenous tools and frameworks for Governance of AI** that are trained on Indian datasets and contextualized to our unique needs and challenges.
- **Report on AI Governance Guidelines Development:** A multi-stakeholder advisory committee was **constituted by MeitY under the chairmanship of the PSA** to provide guidance and recommendations on India's approach to governance of AI. **The public consultation**s on the report have recently closed.
- **AI Readiness Assessment** –MeitY, in collaboration with UNESCO and other partners, organizing consultations on AI Readiness Assessment Methodology (RAM). The consultation aims to draft an India-specific AI policy report that identifies strengths and opportunities for growth within India's thriving AI ecosystem. This consultation involved various stakeholders, including representatives from public and private organizations utilizing AI.
- **Bureau of Indian Standards Artificial Intelligence Sectional Committee,** LITD *30* - New Indian Standard Identical to ISO/IEC TR 24368:2022 - This document provides a high-level overview of International Standards that address issues arising from AI ethical and societal concerns in the context of principles, processes and methods already adopted in this domain.

- **Standard for Fairness Assessment and Rating of Artificial Intelligence Systems**; Telecommunication Engineering Centre, Department of Telecommunications - The standard provides a Voluntary Fairness Assessment of AI/ML systems and covers the applicable AI/ML systems with combined fairness rating metric for AI/ML systems to certify fairness in assessment systems. It approaches certification via a three-step process involving bias risk assessment, threshold determination for metrics, and bias testing.
- **Recommendations on Leveraging Artificial Intelligence and Big Data in Telecommunications Sector;** Telecom Regulatory Authority of India (TRAI) – This paper has outlined the probable risks from AI that need examination and potential measures to address and mitigate those risks while securing the benefits. It also expands on the enablers for AI adoption. The paper proposed the setting up of Artificial Intelligence and Data Authority of India under TRAI to oversee all issues related to data digitization, data sharing, and data monetization and Study the possible impact of upcoming technologies on data ethics and come out with relevant rules/guidelines on the subject.
- The **Digital Personal Data Protection Act (DPDPA)** to protect citizens' privacy, safety, and trust with respect to their personal data and enhance the accountability for entities collecting and processing personal data.
- India will establish an IndiaAI Safety Institute **as a hub for indigenous foundational research & development on AI safety**, developing India's social, legal, & technical infrastructure for AI Governance.
- The institute will formulate partnerships with international institutions, including other AI Safety Institutes, to co-design and adopt international best practices on Safe and Trusted AI and work towards harmonized global safety standards to address cross-border risks of AI technologies".

160. When the Committee sought the views of the Ministry regarding rapid AI adoption posing different kinds of challenges including potential job displacement and job eradication, the Ministry submitted that:

"The Indian AI talent demand is projected to grow from 600,000–650,000 to more than 1,250,000 during 2022–27. However, the AI market is expected to grow at 25–35 percent, potentially signalling a demand-supply gap in the talent pool and a need for up skilling existing talent. Over the past year, 43 percent of the Indian workforce across sectors has used AI in their organisations. About 60 percent of workers and 71 percent of GenZs recognise that acquiring AI skills can enhance their career prospects**.**

The Government of India emphasizes the concept of 'AI for All,' aligning with the Prime Minister's vision to foster and promote the use of cutting-edge technologies across the country.

For skilling and re-skilling of its people, MeitY has initiated 'FutureSkills PRIME' a Programmeme for Re-skilling/Up-skilling of IT Manpower for Employability in 10

new/emerging technologies including Artificial Intelligence. One of the key pillars of IndiaAI Mission is IndiaAI Future Skills which envisions augmenting the number of graduate and post-graduate in AI domain by awarding IndiaAI fellowship to B.Tech and M.Tech students of all the All India Council for Technical Education (AICTE) recognized engineering institutions. Further, top 50 National Institutional Ranking Framework (NIRF) ranked research institutes are being supported with IndiaAI PhD fellowship for undertaking research in the field of AI and related subjects".

161. While deposing before the Committee, the Secretary of the Ministry submitted:

"The potential of AI in India fundamentally is that it is estimated that there could be about 47 lakh new jobs which can be created by 2027 through Artificial Intelligence and automation. Primarily, these are the jobs which can get created in the space in India itself and in a manner where India actually provides the human resources".

162. He further submitted:

"The potential which has been assessed by various industry bodies and consultancies is about 47 lakh new tech jobs. Just to give a perspective, today the IT sector employs about 54 lakh people in the Country overall. So, almost on par with that, there is potential in AI to create jobs".

163. The Committee wanted to dwell further on the issue of job displacement due to AI and so asked the Ministry to elucidate on the scope of creation of employment with the introduction of AI especially in rural India in context of literacy and technological know-how and the submission by the Ministry was as under:

"As per the report, "Advancing India's AI skills" published by NASSCOM, the Indian AI talent supply is expected to grow from 600,000 to greater than 1,250,000 over 2022-27 at a 15 percent CAGR. The AI market is expected to grow at a rate of 25 percent CAGR, potentially signalling a demand-supply gap in the talent pool. Thus, there is a need for upskilling existing talent in India to meet this demand.

On the same lines, The Economic Survey 2024–25 emphasises that while AI offers India a unique opportunity to augment employment numbers by focussing on skilling.

In rural areas, the advent of AI across different sectors is expected to create employment in the below areas.

Healthcare Access:

- Telemedicine assistants: Facilitating remote consultations with doctors through AI-powered translation and data collection.
- Community health workers with AI tools: Utilizing AI-powered diagnostic support for basic health issues.
- Medical data analysts: Interpreting health data to identify trends and potential outbreaks.

Education and Skill Development:

- Educational Content creators for local languages: Developing educational content in regional languages using AI tools.

Agriculture Tech:

- Precision farming data analysts: Analysing data from sensors to optimize irrigation and fertilizer usage.
- Crop disease detection specialists: Using AI-powered image analysis to identify plant diseases early.
- Farm management consultants: Advising farmers on optimal planting and harvesting times based on AI predictions".

164. Taking into consideration the wide concerns among the private and public sector employees about job losses due to Artificial intelligence especially in IT/ITES and other technical jobs, the Committee asked the Ministry to elaborate upon threats AI poses for employment in India, and in what ways the employed workforce can adopt to this shift. The Committee further wanted to know whether the Ministry foresaw any brighter prospects with respect to AI-driven automation driving and creating new and wider employment and job opportunities by skill upgradation and technological adaptation in India. To these, Ministry submitted:

The Government of India is focussed to meet the growing demand for professionals in emerging fields like data science and Artificial Intelligence (AI), some of the initiatives by the Government of India integrate AI and cyber security training into existing skill development Programmes are as under:

- One of the key initiatives under the IndiaAI Mission is the IndiaAI FutureSkills, which seeks to break down barriers to AI education by focussing on higher education and coordinating with existing skilling efforts.

- Under the IndiaAI FutureSkills, **IndiaAI Data Labs** are also being setup as infrastructure in Tier 2 and Tier 3 cities across India, to impart foundational-level courses in Data and AI such as Data Annotation and Data Curation. All the 36

States and Union Territories (UTs) have been requested to submit their nominated list of Industrial Training Institutes (ITIs)/Polytechnics located in Tier 2 and Tier 3 cities for setting up of IndiaAI Data Labs. Additionally, IndiaAI in collaboration with NIELIT is establishing 27 IndiaAI data labs in Tier 2 and Tier 3 cities across the country.

- MeitY has initiated **'FutureSkills PRIME'** a Programmeme for Re-skilling/Up-skilling of IT Manpower for Employability in new/emerging technologies namely Artificial Intelligence, Robotic Process Automation, Augmented/Virtual Reality, Internet of Things, Big Data Analytics, Additive Manufacturing/ 3D Printing, Cloud Computing, Social & Mobile, Cyber Security, and Blockchain.

- National e-Governance Division (NeGD), MeitY in collaboration with industry partners (Intel & Meta), has launched **'YUVAi: Youth for Unnati and Vikas with AI'**- A National Programmeme for School Students with an objective of enabling school students from classes 8th to 12th with AI tech and social skills in an inclusive manner.

- IndiaAI, IBD under the Digital India Corporation, has signed a Memorandum of Understanding (MoU) with Microsoft in January 2025 to drive the adoption and development of artificial intelligence (AI) in India. This strategic partnership is aligned with the core objectives of India AI Mission. This collaboration aims to train 500,000 individuals, including students, educators, developers, government officials, and women entrepreneurs, by 2026. Microsoft under this collaboration will also establish "AI Catalysts- Centre of Excellence", to promote rural AI innovation in Tier 2 and Tier 3 cities and equip 100,000 AI innovators and developers through hackathons, community building. Additionally, Microsoft will also set up AI Productivity Labs in 20 National Skill Training Institutes (NSTIs)/NIELIT centres across 10 states to train 20,000 educators and empower 100,000 students with foundational AI courses in 200 Industrial Training Institutes (ITIs).

- MeitY has launched **Visvesvaraya PhD Scheme** in 2014**,** with the objective of enhancing the number of PhDs in the Country to compete globally in the knowledge intensive sectors of Electronics System Design and Manufacturing (ESDM) and IT/IT Enabled Services (IT/ITES). Under the scheme, financial support is provided to Full-time & Part-time PhD candidates and Young Faculty who are undertaking research and technology development. The Scheme also provides infrastructure support to institutions.

- **Mission Karmayogi** – The focus of the Mission is on enhancing the government-citizen interaction, with officials becoming enablers for citizens and business, with development of behavioural-functional-domain competencies leading to ease of living and ease of doing business. At the core of Mission Karmayogi is the iGOT Karmayogi platform which guides civil service officials in

their capacity-building journey, emphasizing AI and digital fluency. This initiative equips officials with the skills to leverage AI and digital tools, fostering efficient governance and data-driven decision-making.

165. Regarding the challenges posed by AI, the Committee wanted the Ministry to elaborate on the steps being taken to ensure Cyber-attacks are kept under check and simultaneously ensure security of Banks due to growing use of AI to destabilize financial system. The Ministry replied:

"The following actions have been taken by Computer Emergency Response Team (CERT-In), Ministry of Electronics and Information Technology (MeitY), to ensure cyber-attacks are kept under check and simultaneously ensure security of Banks due to growing use of AI to destabilize financial system:

i. Conduct of International drill on 'Navigating the Rise of AI-enbled Cyber Attacks':

International cooperation is crucial in defending against AI-based cyberattacks. By collaborating, countries can share threat intelligence, best practices, and resources, which help them to identify emerging cyber threats and attack patterns more quickly. This collective information sharing helps build a more comprehensive understanding of global cyber risks, enabling nations to respond more effectively. Additionally, sharing best practices ensures that each country can adopt the most effective defense strategies, reducing vulnerabilities and improving overall cybersecurity posture. In pursuance of the same, CERT-In organised ASEAN CERT Incident Drill (ACID) 2024 and virtual Table Top Exercise (TTX) on 15th & 16th October. The Theme of the drill is 'Navigating the Rise of AI-enabled Cyber Attacks'.

ii. Launch of AI security certification for the professionals

A well-trained workforce is critical in detecting, mitigating, and responding to AI-enabled cyberattacks, because the sophistication of these threats requires skilled professionals who can understand and respond effectively. As AI technologies evolve, cybersecurity teams must be equipped with the latest knowledge on how AI can be used by threat actors to conduct cyber-attacks.

In this connection, the Indian Computer Emergency Response Team (CERT-In), Ministry of Electronics and Information Technology (MeitY), Government of India and SISA, a global leader in forensics driven Cyber Security has jointly launched the Certified Security Professional for Artificial Intelligence (CSPAI) Programme which is the world's first ANAB-accredited AI security certification. The CSPAI Programme equips security professionals with the skills needed to effectively integrate AI into business applications while adhering to sustainable practices.

iii. Conduct of PoC for an AI-driven security system

CERT-In provides leadership for the Computer Security Incident Response Team-Finance Sector (CSIRT-Fin) operations under its umbrella for responding to and containing and mitigating cyber security incidents reported from the financial sector.

While AI has made cyberattacks more sophisticated, enabling attackers to exploit vulnerabilities faster and more efficiently, it also plays a crucial role in defending against these threats. AI-driven security systems can detect and respond to cyberattacks in real time by analyzing vast amounts of data, identifying anomalies, and predicting potential threats before they escalate. Machine learning algorithms continuously improve their detection accuracy, enabling better protection against malware, phishing, and zero-day attacks. Considering the same, CSIRT-Fin, CERT-In did a PoC of an AI based Behavioral biometrics authentication solution developed by a cybersecurity technology provider which can strengthen and complement the existing security system of an organization, and provided its input and feedback for further development.

Further, CSIRT-Fin, CERT-In and Mastercard had jointly published a whitepaper on API Security: Threats, Best Practices, Challenges, and Way forward using AI in September 2023. The whitepaper highlights the drawbacks of the conventional security methods in securing the APIs, and how AI based system which learns to distinguish anomalous behavior from general behavior using the data could be quite helpful.

iv. Advisory on security implications to minimize threats from AI applications

On 9th May 2023, CERT-In published an advisory on the security implications of AI language-based applications. It has been mentioned in the advisory that AI language-based models such as ChatGPT, Bing AI, Bard AI, etc. are widely getting recognition and being discussed for their useful impact. But it can be used by threat actors to target individuals and organizations.

The advisory recommended several measures to mitigate adversarial threats associated with AI applications.

v. Use of AI to create highly realistic and convincing fake videos, images, and audio

Deepfake technology, which involves the use of AI to create highly realistic and convincing fake videos, images, and audio, is becoming increasingly sophisticated. This technology poses significant risks, including the potential for disinformation, fraud, and social engineering attacks.

On 27 November 2024, the Indian Computer Emergency Response Team (CERT-In) issued an advisory on Deepfake Threats and Countermeasures, highlighting the escalating risks posed by the increasing sophistication of deepfake technology. This advisory serves as a critical resource for individuals, organizations, and businesses to identify, assess, and mitigate the threats associated with Deepfake technology".

166. On being asked whether any Inter-Ministerial advisory bodies had been established to continuously monitor and guide developments in AI, while ensuring regulation keeps pace with technology, the Ministry has replied that:

"Recognizing AI's transformative potential and impact across various sectors, a multi-stakeholder advisory committee was constituted by MeitY under the chairmanship of the PSA to provide guidance and recommendations on India's approach to governance of AI, to ensure regulation keep pace with technology. Under the guidance of this Advisory Group, a sub-committee on 'AI Governance and Guidelines Development' ("Sub-Committee") was set up on November 9, 2023, to provide workable recommendations for AI governance in India".

167. Elaborating further, the Ministry replied:

"Following the recommendations of the Sub-committee, an **Inter-Ministerial AI Coordination Committee (IMACC)** was constituted in April, 2024, to provide a common roadmap and to coordinate efforts to implement a whole-of-government approach for implementation and use of AI in the country. The committee terms of reference include:

i) "Evaluate current legislative frameworks related to AI and recommend amendments or new regulations to minimize potential harm resulting from AI use
ii) Providing legal clarity and certainty around development and use of AI by issuing joint guidance
iii) Advising to establish common terminologies and risk inventories across relevant sectors to facilitate consistent understanding and management of AI related risks
iv) Providing mechanisms for demonstrable self-regulation among AI stakeholders to uphold responsible AI principles and promote ethical use of AI technologies
v) To take coordinated steps to respond to identified gaps with the benefit of multi-regulatory support.
vi) Advising on creating a policy environment which enables the use of AI for beneficial use-cases.
vii) Promote the development and deployment of responsible AI applications in their domains/sectors".

168. The Committee were given to understand that for a safe and ethical use of AI, the Government proposed to establish an AI Safety Institute (AISI) using a collaborative hub-and-spoke model to enable nationwide participation in developing AI safety frameworks and tools. And in view of this development, the Committee wanted to know about the proposed functionality and status of AISI, to which the Ministry submitted that:

> "The recent Advances in AI have not only catapulted its capabilities but also **given rise to new risks and safety concerns** that can potentially undo the merits of leveraging this technology for good.
>
> This includes risks of AI systems **propagating existing biases**, being vulnerable to **misuse** and unintended consequences, and spreading **misinformation**, among others.
>
> Further, effective governance of AI systems is inhibited by the current **lack of understanding of their capabilities** and **emergent risks**. There are also no accepted conformity standards, evaluation systems, or risk management frameworks.
>
> Thus, India will establish an IndiaAI Safety Institute **as a hub for indigenous foundational research & development on AI safety**, developing India's social, legal, & technical infrastructure for AI Governance.
>
> The institute will formulate partnerships with international institutions, including other AI Safety Institutes, to co-design and adopt international best practices on Safe and Trusted AI and work towards harmonized global safety standards to address cross-border risks of AI technologies".

169. When asked if Open AI's large language models (LLMs) were trained on copyrighted material without authorization, the following submissions have been made by the Ministry:

> "Firms such as Open AI which are building proprietary closed source AI models such as GPT 3.5 and GPT4 (which are used to run ChatGPT) generally do not disclose the data that was leveraged to train the models. However, there is some visibility into the training data for these models owing to on-going litigations filed against OpenAI by various entities.
>
> For instance, The New York Times had filed a copyright infringement lawsuit against Microsoft and OpenAI on Dec 27th 2023. Along with other allegations, the New York Times claimed that Microsoft and OpenAI are infringing copyright by training their large language models (LLMs) on material copyrighted by the newspaper which includes articles published by the newspaper in their online edition.

In their response Open AI argued that training this constitutes "fair use," a legal doctrine under U.S. copyright law, as the training process involves analyzing publicly available data to create output from scratch, based on the concepts learnt, rather than directly reproducing copyrighted works. As of today, courts worldwide are yet to definitively rule on whether AI training on copyrighted materials without permission is permissible

In India, the lawsuit ANI v. OpenAI was filed in Jan 2025. In the lawsuit, ANI alleges unauthorized reproduction and use of copyrighted materials for training purposes by Open AI.

Under India's Copyright Act of 1957, copyright protects original works such as literary and artistic creations, granting authors exclusive rights to reproduce and adapt their works. The Act does not explicitly address AI training. However, under Section 52 it allows exceptions like "fair dealing" for purposes such as research, criticism/ review or for reporting of current affairs. It remains to be determined by the Indian judiciary whether the training of AI models with copyrighted material would be acceptable under the fair dealing clause".

170. The Secretary of the Ministry deposed before the Committee on the issue of LLM as under:

"जहां तक एआई मिशन पर अपडेट है, these were some of the applications of different Ministries. Last time, we discussed about them. इसमें इंडिजिनस फाउंडेशन मॉडल्स की बात हुई थी। जब हम पिछली बार कमेटी की समक्ष आए थे, तब हम कॉल फॉर प्रपोजल्स इश्यू करने की बात कर रहे थे। हमने कॉल फॉर प्रपोजल्स इश्यू कर दिया है। उसमें 67 एप्लीकेशंस मिले हैं। बहुत बढ़िया रिस्पांस मिला है। इसमें 20 लार्ज मल्टी मॉडल्स हैं और 47 स्मॉल लैंग्वेज मॉडल्स हैं। अभी इसका एनॉलिसिस चल रहा है। हमारे यहां एक कमेटी है, जहां पर इंडियन ओरिजन के प्रोफेसर्स वगैरह अमेरिकन विश्वविद्यालय या अन्य जगहों पर हैं, उसमें उन सबको और भारतीय एक्सपर्ट्स भी हैं, उसका एनॉलिसिस चल रहा है। जल्दी ही इसका अवॉर्ड शुरू हो जाएगा"।

171. When asked to explain the efforts being made by the Ministry towards working more on voice-driven AI rather than text-driven AI and the progress of India in Large Language Model (LLM) highlighting the initiatives and achievements of BHASHINI division of MeItY in Speech to Speech and Speech to Text domain in various Indian languages, the Ministry submitted:

"A. As part of India's National Language Translation Mission (NLTM), the Ministry has launched the Bhashini initiative. The Bhashini initiative leverages linguistic datasets, enables vernacular content creation, and providing translation

tools for 22 scheduled Indian languages. Furthermore, it enhances national competitiveness by enabling local innovation in AI while reducing reliance on foreign technologies.

Bhashini plays a crucial role in key use cases across the Country, enabling speech-to-text and speech-to-speech functionalities. The platform supports these technologies to power various applications. A notable example is the PM Kisan chatbot, where farmers can ask queries about the PM Kisan Samman Nidhi scheme and receive responses in their native language using Bhashini's TTS, NMT, and ASR technologies. Another example is NPCI's voice-based payments, which allow users to transfer money in their preferred language.

Bhashini services, offered through the NHLT platform, have processed over *177.85 million* inferences to date. These services, accessible via multiple applications and APIs, extensively support speech-to-text and speech-to-speech functionalities.

A Call for Proposals was published by IndiaAI inviting proposals from startups, researchers, and entrepreneurs to collaborate on building state-of-the-art foundational AI models trained on Indian datasets, including Large Language Models (LLM). This initiative aims to establish indigenous AI models that align with global standards while addressing unique challenges and opportunities within the Indian context.

In the first month, IndiaAI Mission has received a total of 67 proposals till February 15 aimed at building India's foundation models, with contributions from both established startups and new teams of researchers & academia. 22 are focussed on Large Language Models (LLMs) & Large Multimodal Models (LMMs). Along with funding support, a wide range of GPUs have been requested by teams submitting these proposals. The proposals are currently being evaluated. In the second month, IndiaAI Mission has received a total of 120 proposals till March 15".

172. Regarding action initiated to coordinate with various Ministries, Departments and stakeholders to quantify the situation arising due to use of AI and infringement of copyright, the following was submitted:

"India recognizes the intersection of emerging technology and intellectual property laws. Intellectual property rights (IPR) violations that may occur through use of AI, particularly generative AI, are a subject of concern.

The current Indian laws, like the **Copyright Act, 1957**, very closely preserve the right of protection of copyrighted data and discourage its use without permission.

Further, as per **section 81 of the IT Act**, the provisions of the IT Act do not prevent any person from exercising their rights under the Copyright Act, 1957 or the **Patents Act, 1970**. The provisions of the IT Act or the rules support the exercise of intellectual property rights by any person in any manner, irrespective of whether the infringement of such IPR is done by a physical person or by using AI based applications.

MeitY has also constituted committees to study various AI policy considerations, including intellectual property rights (IPR) issues. The report of **Committee - D on Cyber Security, Safety, Legal and Ethical Issues** is available on the MeitY website.

Further, a **multi-stakeholder advisory committee** was constituted by MeitY under the **chairmanship of the PSA** to provide guidance and recommendations on India's approach to governance of AI. Under the guidance of this Advisory Group, a sub-committee on 'AI Governance and Guidelines Development' ("Sub-Committee") was set up on November 9, 2023, to provide workable recommendations for AI governance in India.

On January 06, 2025, the Sub-Committee released its recommendations in the form of the AI Governance Guidelines Report ("Report"), for public consultation to guide the development of a trustworthy and accountable AI ecosystem in India.

In addition, as part of the Safe & Trusted AI pillar, Ministry has recently announced the setting up of **AI Safety Institute** as a hub for indigenous foundational research and development on AI safety issues. The IndiaAI Safety Institute will work with all relevant stakeholders, including academia, start-ups, industry, and government ministries/departments, towards ensuring responsible use of AI, and address issues such as copyright".

173. Elaborating on AI systems that process personal data in ways that contravene the Digital data Protection Act, 2023 (DPDP Act), the Ministry has submitted that:

"The data protection legislation, the Digital Personal Data Protection Act, 2023 (DPDP Act), has been enacted but is not yet in force. It aims at safeguarding the processing of personal data of individuals and provides a comprehensive framework to regulate the collection and use of personal data.

The DPDP Act encapsulates the key principles of purpose limitation and data minimisation. It mandates that the data collected must be limited to the specified purpose and requires that the consent must be obtained from the individuals on or before processing their personal data. In this regard, AI systems that collect personal data should only collect for specific, clearly

defined and lawful purposes, and consent must be obtained in an informed and transparent manner. Moreover, AI systems are required to implement appropriate technical and organizational measures and to undertake reasonable security safeguards to prevent personal data breach, in accordance with the provisions of the DPDP Act.

The DPDP Act provides individuals with the right to access, correct and erasure of their personal data, and these rights must be facilitated by the AI systems. AI systems must erase personal data, once the specified purpose is served and should not retain the personal data, unless necessary for compliance with any other law.

Additionally, the DPDP Act imposes certain additional obligations in respect of Data Fiduciaries notified as Significant Data Fiduciaries, such as appointing a data auditor and conducting periodic Data Protection Impact Assessment to ensure higher degree of data protection. Data fiduciaries contravening the provisions of the DPDP Act may face financial penalties, up to ₹250 crore".

174. Regarding the challenges in Personal Data Protection after the introduction of AI along with the action plan of the Ministry to deal with it, the Ministry submitted as follows:

"The Digital Personal Data Protection Act, 2023 ('DPDP Act') has been drafted as a technology agnostic legislation as the digital technology is undergoing evolution at a very fast pace with huge social and economic impact, thus law governing it should have sufficient flexibility to address changing situations and emerging requirements. Therefore, while the DPDP sets out the rights and duties of Data Principals and the obligations of Data Fiduciaries, it attempts to retain sufficient flexibility to address such requirements.

The Act empowers the Central Government to exempt the application under the provisions of the legislation, for the personal data processing necessary for research purposes, if the personal data is not to be used to take any decision specific to a Data Principal and such processing is carried on in accordance with specified standards. This addresses any concern regarding data availability for AI research. Further, the DPDP Act is not applicable to data made publicly available by Data Principals or pursuant to any obligation by law to disclose such data, making available sizeable volumes of data for AI research.

In addition, The Information Technology Act ("IT Act") is a technology neutral law and does not distinguish between computer resources and computer resources that use AI, hence the provisions of IT Act apply to all computer resources. The provisions of section 43A of the IT Act read with the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or

Information) Rules, 2011 ("**SPDI Rules**") are applicable for protection of sensitive personal data or information and violation by anybody corporate (which would include AI companies) would be liable to penalty under provisions of the IT Act. The Adjudicating Officer under section 46 of the IT Act is empowered to adjudicate a contravention of section 43A and any other provision of the IT Act.
Further, the Ministry has also been taking active steps under the IndiaAI Mission to safeguard citizen interests while promoting innovation:

- **IndiaAI Datasets Platform** initiative focusses on enhancing access **to non-personal and anonymized datasets** for AI innovation and research. The platform is set to offer anonymization tools and encryption support to counter any risk of personal data breach.
- the '**Safe & Trusted'** AI pillar under the IndiaAI Mission has selected eight projects under the **first EOI round** across eight critical themes to promote Responsible AI development and use across sectors. These include **AI Bias Mitigation**, Machine Unlearning, Synthetic Data Generation, Ethical AI Frameworks, **Privacy-Enhancing Tools**, Explainable AI, AI Governance Testing, and Algorithm Auditing Tools.
- Further IndiaAI has launched the **2nd round of Expression of Interest (EoI)** across key themes, including Watermarking and Labelling, Ethical AI Frameworks, AI Risk Assessment & Management, Stress Testing Tools, and Deepfake Detection Tools.
- As part of the Safe & Trusted AI pillar, an **AI Safety Institute** is being established as a hub for indigenous foundational R&D on AI safety, developing India's social, legal, and technical infrastructure for AI Governance. The AI Safety Institute will also formulate international partnerships with reputable global institutions to co-design and adopt international best practices and standards for safe and responsible use of AI".

175. When the Committee sought to know whether the Ministry had taken into consideration environmental impacts, in terms of energy consumption and generation of e-waste, due to vast amount of computational power required to develop AI system, the Ministry made the following submission:

"India recognises the need for building AI sustainably for All. Towards this,

- India has recently joined the Coalition for Sustainable AI launched at the Paris AI Action Summit. Initiated by the French government in collaboration with the UN Environmental Programme (UNEP) and the International Telecommunications Union (ITU), is a global community of stakeholders willing to contribute to initiatives for aligning AI development with global sustainability goals and fostering responsible AI that supports the ecological transition.
- Promoting use of AI and related technologies for sustainability, the recently launched IndiaAI Innovation Challenge, under the IndiaAI Application

Development Initiative, calls applications for developing indigenous solutions for Climate Change and Disaster Management as one of the critical thematic areas.

- A total of 900 applications were received. As of today, 18 AI applications in the themes Agriculture, Assistive Technology for Learning Disabilities and Climate Change and Disaster Management have qualified for the first round of funding. Winners of the Innovation Challenge to receive funding of INR 1 Crore".

176. Regarding measures taken by the Ministry to align India's response to meet its commitment towards 2030 Sustainable Development Goals (SDGs) – socio, economic and environmental, while keeping attuned to the expanding economy and emergence of AI, the Ministry submitted as under:

"Recognizing the potential of Artificial Intelligence to create deep and sustainable social impact, the Indian government has made great strides in promoting the use of AI particularly in key sectors for social good (Such as education, infrastructure, urban & rural development, healthcare, etc.).

1. **National Strategy for AI** - India's **National Strategy for AI was released in 2018 by NITI Aayog**, which was closely followed by a group of committees tackling specific technical and policy challenges around the implementation of the country's AI Programme. The NSAI emphasizes the **potential of AI to solve social challenges** faced by its citizens in areas such agriculture, health, education, Smart Cities and Infrastructure and Smart Mobility and Transportation.

2. **Promoting Responsible AI for Youth**: MeitY, in collaboration with industry partners, has launched 'Responsible AI for Youth' – a national Programme for **government schools** that aims to **create an AI ready workforce for the future.** The aim of this Programme is to provide an equal opportunity to all Indian youths - in urban, rural and remote corners of India - to become human-centric designers who can create real AI solutions to solve economic and social impact issues of India. This Programme is currently aimed at students from class 8-12 across all government schools in district headquarters

3. **National Digital Education Architecture (NDEAR)** is created with a vision of **building a unifying national digital infrastructure to** energise and catalyse the education ecosystem. It is a federated, unbundled, interoperable, inclusive, accessible which aims to create and deliver diverse, relevant, contextual, innovative solutions that benefit students, teachers, parents, communities and administrators resulting in timely implementation of policy goals as envisaged in the New Education Policy 2020. The NDEAR architecture is built on the **Open Digital Ecosystem** approach of platform, governance and community principles that includes the interoperability of data, privacy by design.

4. **National Mission on Education through Information and Communication Technology (NMEICT)** has been envisaged to leverage the potential of ICT in teaching and learning process in Higher Education Institutions. It **seeks to bridge the digital divide** in the skills to use computing devices for the purpose of teaching and learning among urban and rural teachers/learners. It **focusses on appropriate pedagogy for e-learning**, providing facility of performing experiments through virtual laboratories, on-line testing and certification, on-line availability of teachers to guide and mentor learners, utilization of available Education Satellite (EduSAT) and Direct to Home platforms, training and empowerment of teachers to effectively use the new method of teaching-learning. By providing high-quality e-content free of cost helps in leveraging the cardinal principles of education policy viz. access, equity and quality education.

5. **National Urban Digital Mission** is an initiative of the Ministry of Housing and Urban Development that aims to **build strong and resilient smart cities** in line with **SDG 11**. The Programme aims to build **shared digital infrastructure to strengthen the capacity of India's urban ecosystem**while working across the three pillars of people, process and platform and institutionalizing a **citizen-centric and ecosystem driven approach towards urban governance**. To further make cities sustainable and resilient, the **Climate Smart Cities Assessment Framework (CSCAF)** was rolled out in **100 Smart Cities** as part of this initiative to help cities look at urban planning and governance from a **climate change lens**. In order to **leverage data** to help build **solutions to complex urban challenges**, the **Indian Urban Data Exchange (IUDX)** has been institutionalized. IUDX is completely **open source**, based on an underlying framework of **open standard APIs, data models, and the security, privacy and accounting mechanisms** facilitating its easy adoption across the digital ecosystem.

6. **National Language Translation Mission** is an initiative launched by the Ministry of Electronics and Information Technology that **aims to build speech to speech machine translation systems** for various **Indian languages and dialects** and evolve a **Unified Language Interface. (ULI)** The mission will work towards creating a 'voice-based internet' that is accessible in **vernacular Indian languages and building multilingualism** as well by developing the next generation 'conversational' government apps and websites. This approach of **providing free and open-source** platforms **allows** the **private sector** to **improve services and products in the domain of language** technologies and enable the citizen to access digital services in their vernacular language to further increase digital inclusion and accessibility as recommended in the **SDG 10** as well.

7. In May 2019, MeitY launched the **Technology Incubation and Development of Entrepreneurs** (TIDE 2.0) scheme. Along with the **Centre of Excellence in Artificial Intelligence** (CoE in AI) established by the

National Informatics Centre (NIC), it acts as a gateway for innovation solutions to reach market rapidly.

8. To expand the number of PhDs in the Electronics and IT sectors and catalyze R&D and IP creation in these critical areas, MeitY launched the **Visvesvaraya PhD Scheme**, which will ultimately support 3,000 PhD candidates. Their research will include Artificial Intelligence, Big Data, Machine Learning, Natural Language Processing, Image Processing, and Pattern Recognition.

9. **IndiaAI Application Development Initiative:** Under this pillar, IndiaAI aims to collaborate with start-ups, industries, academicians, and researchers to **develop/scale/promote the adoption of impactful 25 AI solutions** with potential for catalyzing large-scale socio-economic transformation.

Current Status: IndiaAI Innovation Challenge: Under IADI, the first Innovation Challenge was launched on 13th August 2024 calling for development, deployment and adoption of AI applications in **5 critical sectors, namely Climate Change and disaster management, Healthcare, Agriculture, Governance** and **Assistive technologies for learning disabilities**

IndiaAI CyberGuard AI Hackathon: An AI Hackathon launched in partnership with the Indian Cybercrime Coordination Centre (I4C) to create AI-driven solutions for cybersecurity has been launched on 16th October 2024. This initiative which has received 263 responses, seeks to leverage advanced AI technologies like Natural Language Processing (NLP) and predictive analytics to guide citizens in filing cybercrime reports on the National Cyber Crime Reporting Portal (NCRP).“

177. Further, on being asked whether MeitY had initiated any plan of action for democratization of access to quality datasets and resources through a Unified AI resource platform, the Ministry provided the following in their written submission:

“The Government of India has been actively working towards **democratisation of AI resources for all**, guided by the vision of ‘Making AI in India and Making AI Work for India.’ The IndiaAI Mission, approved by the Union Cabinet with a ₹10,371.92 crore outlay, is a strategic step in this direction.

Under this mission, the **IndiaAI Dataset Platform pillar** is set to be launched as a unified AI resource platform to enhance access to all resources critical for AI such as **datasets, models and tools**. This platform shall integrate quality **non-personal and anonymized datasets** from existing repositories, onboard new public and private contributors, and provide AI-focussed functionalities. The platform will also serve as a hub for AI models, toolkits, curated datasets, and successful AI-driven public sector applications **use cases**.

By combining these resources in one place, the platform will catalyse AI innovation in the country, making it easier for AI developers to access and utilize the necessary assets to drive progress in this field."

178. Going by media reports which stated that in a country like India, with low digital literacy and a fragile media system, people were more likely to accept misleading and fake AI outputs as truth, leading to harmful and unethical consequences, the Committee wanted to know how the Ministry planned to tackle such a technological menace. In response, the Ministry stated that:

"India is actively addressing the challenge of misleading AI outputs through a multi-faceted approach, focussing on regulation, education, and technological innovation.

Regulatory Frameworks:

The government has introduced and strengthened various regulatory measures to combat AI-driven misinformation. In March 2024, MeitY issued revised advisory requiring platforms to label AI-generated content, ensuring users can differentiate it from authentic sources. Additionally, intermediaries must comply with existing IT Rules to prevent the spread of unlawful AI-generated content, while platforms are mandated to develop mechanisms to detect and mitigate deep fakes.

Under the IT Act (2000), Section 66D penalises the transmission of offensive messages, which includes the dissemination of fake news. Similarly, Section 505 of the Indian Penal Code has been increasingly used to take legal action against the circulation of false and misleading news. Furthermore, the Bharatiya Nyaya Sanhita Bill, 2023, proposes strict punishment for spreading fake news that threatens national sovereignty or security.

Digital Literacy Initiatives:

Recognising the critical role of digital literacy in combating misinformation, the government has invested in large-scale initiatives. The Union Budget 2025 has allocated ₹500 crore to boost digital learning and AI-powered education. Additionally, the Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) aims to make six crore rural households digitally literate by training at least one individual per household.

Past initiatives like the National Digital Literacy Mission (NDLM) and Digital Saksharta Abhiyan (DISHA), implemented from 2014 to 2016, trained over 52.50 lakh candidates across the country. To enhance STEM education, the government is also setting up 50,000 Atal Tinkering Labs in government schools, promoting coding and problem-solving skills among students.

Under the IndiaAI FutureSkills Initiative, the government is taking a whole-of-country approach to AI skilling. This includes establishing specialised Data & AI Labs in Tier 2 and Tier 3 cities, providing fellowships for students from AICTE-

recognised institutions, and developing industry-aligned curriculum and training Programmemes to strengthen India's AI ecosystem.

Technological Solutions:

The government is investing in AI-driven solutions to counter AI-generated misinformation. The Ministry of Information & Broadcasting, in collaboration with the India Cellular & Electronics Association (ICEA), is promoting AI-based fact-checking solutions. A notable initiative is the TruthTell Hackathon at WAVES 2025, which encourages the development of AI-driven real-time fact verification tools.

Under the Safe & Trusted AI initiative, the government is actively promoting responsible AI by developing indigenous AI governance frameworks and self-assessment checklists for AI innovators. Under this pillar, the IndiaAI Mission has selected eight projects under the **first EOI round** across eight critical themes to promote Responsible AI development and use across sectors. These include **AI Bias Mitigation**, Machine Unlearning, Synthetic Data Generation, Ethical AI Frameworks, Privacy-Enhancing Tools, Explainable AI, AI Governance Testing, and Algorithm Auditing Tools.

Further IndiaAI has launched the **2nd round of Expression of Interest (EoI**) across key themes, including Watermarking and Labelling, Ethical AI Frameworks, AI Risk Assessment & Management, Stress Testing Tools, and Deep fake Detection Tools.

The Government of India has also announced the establishment of **AI Safety Institute** to enable researchers, developers and other stakeholders to develop tools, frameworks and processes to encourage the adoption of AI in a responsible manner with the principles of safety, security, transparency, and privacy embedded in the design of AI technology..

Additionally, to ensure holistic oversight, MeitY has established a multi-stakeholder advisory committee, chaired by the Principal Scientific Adviser (PSA), to guide India's AI governance strategy. In January 2025, this committee released the AI Governance Guidelines Report for public consultation, shaping a trustworthy and accountable AI ecosystem. Public inputs received are under observation now."

CHAPTER- V

IndiaAI Mission : Catalysing and Democratizing AI Innovation in India

179. Recognizing the critical role that AI will play in shaping the future of the renewable energy sector and beyond, the Government of India launched the IndiaAI Mission, a comprehensive national-level Programme with an **outlay of over INR 10,000 crore** to democratize and catalyse the **AI innovation ecosystem** in the country. The IndiaAI Mission will be implemented through **seven key pillars**:i) IndiaAI Compute Capacity; ii) IndiaAI Innovation Centre; iii) IndiaAI Datasets Platform; iv) IndiaAI Application Development Initiative; v) IndiaAI FutureSkills; vi) IndiaAI Startup Financing; and viii) Safe & Trusted AI.

180. Enumerating the salient features of IndiaAI Mission along with the targets and the measures envisaged by the Ministry, the following was submitted:

> "The Government has approved the IndiaAI Mission on 7th March 2024 with the aim to bolster India's global leadership in AI, foster technological self-reliance, ensure ethical and responsible AI deployment, and democratize the benefits of AI across all strata of society.
>
> The IndiaAI Mission is being implemented by 'IndiaAI' – an Independent Business Division (IBD) of Digital India Corporation. The Mission encompasses seven key pillars of the AI ecosystem, including:
>
> 1. **IndiaAI Compute Capacity**: The IndiaAI compute pillar envisions building a high-end scalable AI computing ecosystem comprising AI compute infrastructure of 10,000 or more Graphics Processing Units (GPUs).
>
> 2. **IndiaAI Innovation Centre (IAIC):** The AI Innovation Centre aims to develop and deploy indigenous Large Multimodal Models (LMMs) trained on India-specific data.
>
> 3. **IndiaAI Datasets Platform**: The IndiaAI Datasets Platform (IDP) seeks to enhance access, quality, and utilization of public sector datasets to make them AI-ready.
>
> 4. **IndiaAI Application Development Initiative**: The IndiaAI Application Development Initiative aims to develop, scale, and promote the adoption of impactful AI solutions to effectively tackle significant problem statements.
>
> 5. **IndiaAI FutureSkills**: IndiaAI FutureSkills Pillar envisions to augment the number of graduates, post-graduate and PhDs in AI domain. Further, it envisions setting up Data and AI Labs in Tier 2 and Tier 3 cities across India, to impart foundational-level courses in Data and AI.

6. **IndiaAI Startup Financing**: The IndiaAI Startup Financing Pillar envisions for providing support to AI startups at all stages.

7. **Safe & Trusted AI:** This pillar enables the implementation of Responsible AI projects including the development of indigenous tools and frameworks, self-assessment checklists for innovators, and other guidelines and governance frameworks.

The IndiaAI Mission is envisaged to achieve the following expected outcomes:

1. Establishment of the IndiaAI compute capacity of 10,000 or more GPUs and the AI Marketplace.

2. Developing foundational models with capacity of 100 billion+ parameters trained on datasets covering major Indian languages for priority sectors like healthcare, agriculture, governance, etc.

3. Establishing AI Curation Units (ACU) in 50-line ministries/ departments and establishing the IndiaAI Datasets Platform.

4. Undertaking 25 applied AI projects to address public sector problem statements.

5. Supporting 2,000 B.Tech, 2,500 M.Tech and 500 PhD, Post Doc students in AI and setting up 200 IndiaAI Labs.

6. Financing 1,050 AI and deep tech startups at various stages of the Startup lifecycle.

7. Developing in India Safe and Trusted AI tools, checklists, etc".

181. Explaining each component of IndiaAi Mission the Ministry provided the following:

"The Union Cabinet has approved the **IndiaAI Mission** on March 7, 2024. IndiaAI Mission aims to propel innovation and build domestic capacities to ensure the tech sovereignty of India. IndiaAI Mission comprises of 7 pillars namely- IndiaAI Compute Capacity, IndiaAI Innovation Centre (IAIC), IndiaAI Dataset Platform, IndiaAI Application Development Initiative (IADI), IndiaAI FutureSkills, IndiaAI Startup Financing, Safe & Trusted AI.

- Under the **IndiaAI Compute capacity** pillar,access to over 10,000 AI GPUs will be provided to end users, comprising startups, researchers, academia, MSMEs, government bodies, and public sector agencies. Further, an AI marketplace will be designed to offer AI as a service and pre-trained models to AI innovators.

Under this initiative, an invitation for application for empanelment of AI services on cloud was published on August 16th,2024. The bid submission closed on 28th of November 2024 and bids were opened on 2nd December 2024. 19 bidders had submitted a proposal offering AI services including GPUs and AI platforms

for developing AI solutions. Post technical evaluation, 10 bidders have been empaneled at discovered L1 rates have been for all the AI cloud services.

The IndiaAI Compute Portal has been developed to provide access to these empaneled AI services on the cloud to the end users. This portal ensures accessibility of computational resources essential for AI research and development, benefiting students, startups, researchers, and government departments. Onboarded users can leverage a wide range of AI services for development, including AI compute instances (GPUs), network services, storage services and AI platform services. The portal provides access to high-end. A variety of storage services, including block, file, and object storage, are also available.

In addition to the discounted rates, up to 40% of the costs would be further subsidized for eligible end-users. An end-user policy for empaneled AI services is published by IndiaAI which would define the eligibility criteria for different category of users for accessing the empaneled services. This initiative reflects the government's commitment to making modern technology accessible to all, empowering individuals at the grassroots level economically and technologically.

- The **IndiaAI Innovation Centre** aims to enable the development and deployment of indigenous Large Multimodal Models (LMMs) and domain-specific foundational models in critical sectors. India presently has a thriving ecosystem of innovators working on creating India-first foundational models that are contextualized to our social, cultural, and linguistic diversity. This includes Digital India Bhashini, Sarvam AI, Project Indus, BharatGPT, among others.

A Call for Proposals has been published by IndiaAI on 30th Jan 2025, inviting proposals from startups, researchers, and entrepreneurs to collaborate on building state-of-the-art foundational AI models trained on Indian datasets. This initiative aims to establish indigenous AI models that align with global standards while addressing unique challenges and opportunities within the Indian context. In the first month, IndiaAI Mission has received a total of 67 proposals till February 15 aimed at building India's foundation models, with contributions from both established startups and new teams of researchers & academia. 22 are focussed on Large Language Models (LLMs) & Large Multimodal Models (LMMs), while the remaining 45 are centreed on domain-specific models (SLMs). The majority of SLMs target key sectors such as healthcare, education, and financial services. Along with funding support, a wide range of GPUs have been requested by teams submitting these proposals.

- **IndiaAI Datasets Platform**: The AIKosh The IndiaAI Datasets Platform has been launched on 6th March 2025 to improve access, quality, and use of public sector datasets to make it AI ready. IDP aims to streamline access to high-quality, non-personal datasets for AI innovation, this unified platform will serve as a one-stop solution for Indian startups and researchers.

The platform consists of 300+ Datasets from 10+ entities, 80+ Models to support AI solutions from 4 entities, 5+ Use cases showcasing potential applications that can be developed using the datasets and models available on the platform, 10+ Toolkits that users can integrate into their projects. It also has resources to help users understand platform features.

- **IndiaAI Application Development Initiative (IADI)**: The IndiaAI Application Development Initiative will develop, scale, and promote the adoption of impactful AI solutions to effectively tackle significant problem statements.

Under, IADI pillar, IndiaAI has launched the IndiaAI innovation challenge which seeks to promote impactful AI solutions in critical sectors. Participants will be provided a platform to harness the potential of AI across critical priority areas namely Healthcare, Governance, Agriculture, Assistive Technologies for Learning Disabilities and Climate Change & Disaster Management.

The challenge has received over 900 applications, showcasing diverse innovations such as multi-modal farmer advisory services in Indian languages, AI-enhanced X-ray solutions for early disease detection, and transformative approaches to grievance redressal and legal support. After rigorous evaluation, by the thematic committees, comprising of representatives from Ministries/Departments, sectoral and domain experts, 30 AI solutions have been shortlisted across themes for refinement, development, and scaling.

- **IndiaAI FutureSkills:** IndiaAI FutureSkills will mitigate barriers to entry into AI Programmes by focussing on all levels of higher education in AI. Further, Data and AI Labs will be set up in Tier 2 and Tier 3 cities across India, to impart foundational-level courses in Data and AI. Under the FutureSkills pillar MeitY has:

IndiaAI Fellowships are being offered to students pursuing relevant undergraduate and postgraduate Programmes at Private / Centrally Funded Technical Institutes (CFTI) under the Government of India or must be recognized either by the All-India Council for Technical Education (AICTE) / National Board of Accreditation (NBA) / National Assessment and Accreditation Council (NAAC) of the University Grants Commission (UGC) or as per the extant norms. IndiaAI Fellowships are designed for students who have undertaken projects associated with AI/ML or other allied domains, thereby bridging the gap between theoretical knowledge and practical application and ensuring a workforce proficient in essential AI skills**.** IndiaAI has been receiving applications from UG & PG students all over the country who have undertaken project in Artificial intelligence AI and are being reviewed. Till date, 150 UG students and 48 PG students have been selected for the IndiaAI Fellowship and the first tranche of the fellowship amount has been released to these students.

Under the IndiaAI FutureSkills, IndiaAI Data Labs are also being setup as infrastructure in Tier 2 and Tier 3 cities across India, to impart foundational-level courses in Data and AI such as Data Annotation and Data Curation. All the 36

States and Union Territories (UTs) have been requested to submit their nominated list of Industrial Training Institutes (ITIs)/Polytechnics located in Tier 2 and Tier 3 cities for setting up of IndiaAI Data Labs. Additionally, IndiaAI in collaboration with NIELIT is establishing 27 IndiaAI data labs in Tier 2 and Tier 3 cities across the country details of which are placed at **Annexure I.**

- **IndiaAI Startup Financing** pillar envisions providing support to AI startups at all stages. The IndiaAI Mission in collaboration with Station F (Paris, France) and HEC Paris, had announced an ambitious acceleration Programme for Indian AI startups. This Programme will support 10 Indian AI startups in scaling globally by leveraging the European market's vast opportunities. Through this partnership, selected startups will undergo a 4-month immersive onsite acceleration Programme at Station F, the world's largest startup campus. The Programme, designed by HEC Paris, Europe's leading business school, will provide startups with unparalleled access to resources, mentorship, and networking opportunities. A call for applications for Indian Startups working in the domain of AI has been launched.

- **Safe & Trusted AI:** This pillar will enable the implementation of Responsible AI projects including the development of indigenous tools and frameworks, self-assessment checklists for innovators, and other guidelines and governance frameworks.

A call for Expression of Interest (EOI) for building tools and frameworks on Responsible AI, with a focus on 10 themes was launched and over 2000 responses were received for the first Expression of Interest (EoI) from which eight Responsible AI Projects have been selected. The projects cover a range of critical themes, including Machine Unlearning, Synthetic Data Generation, AI Bias Mitigation, Ethical AI Frameworks, Privacy-Enhancing Tools, Explainable AI, AI Governance Testing, and Algorithm Auditing Tools. IndiaAI has launched the 2nd EoI for Safe & Trusted AI Projects, inviting organizations to submit proposals on key themes, including Watermarking and Labelling, Ethical AI Frameworks, AI Risk Assessment & Management, Stress Testing Tools, and Deepfake Detection Tools".

182. Details of funds allocation, engagement of technical and expert staff required, consultation with other Ministries stakeholders and Beneficiaries, challenges and constraints likely to be faced during implementation of IndiaAI Mission as furnished by the Ministry are:

"The implementation of 'IndiaAI Mission' with a total outlay of Rs. 10,371.92 Cr is for a period of 5 years. The allocation of budgetary outlay among the key pillars is below:

Components	Total Expenditure (₹ Cr)
IndiaAI Compute Capacity	4563.36
IndiaAI Innovation Centre (IAIC)	1971.37
IndiaAI Datasets Platform	199.55
IndiaAI Application Development Initiative	689.05
IndiaAI FutureSkills	882.94
IndiaAI Startup Financing	1942.5
Safe & Trusted AI	20.46
IndiaAI Overheads and Contingency @1%	102.69
Total	10,371.92

- Recognizing AI's transformative potential across various sectors, A**multi-stakeholder advisory committee** was constituted by MeitY under the **chairmanship of the PSA** to provide guidance and recommendations on India's approach to governance of AI. Under the guidance of this Advisory Group, a sub-committee on 'AI Governance and Guidelines Development' ("Sub-Committee") was set up on November 9, 2023, to provide workable recommendations for AI governance in India. The subcommittee report has now been published for public consultation to guide the development of a trustworthy and accountable AI ecosystem in India.
- **AI Readiness Assessment** – MeitY is also initiating a country-wide AI Readiness Assessment in partnership with UNESCO to assess the current states and gaps in India's AI ecosystem and **two rounds of consultations** have been completed.
- In line with the global AI Safety Institute trends, and to keep pace with the rapid advancements in AI, the Government of India conducted a **stakeholder consultation** to evaluate the merits of establishing an **IndiaAI Safety Institute**. Following which, Prime Minister Modi ji announced the launch of IndiaAI Safety Institute at the Paris Action Summit in February. The Institute will be set up on a hub and spoke model with various research and academic institutions, private sector partners joining the hub.

- Ministry of Electronics and IT **in partnership with J-PAL** hosted a **workshop** in April, 2024 to enable Ministries and Departments to understand their data capacity and how to leverage data for AI. This also included identification and curation of problem statements relevant to the ministry/department that may be solved leveraging AI solutions.
- MeitY under the India AI Mission Start-up Financing pillar organised a roundtable discussion - '**AI Innovate: Empowering Tomorrow's Start-ups**' in August 2024 under the Chairmanship of Shri Jitin Prasada, Minister of State, Ministry of Electronics and Information Technology and Ministry of Commerce and Industry, Government of India. The roundtable aimed to bring together diverse perspectives from the start-up ecosystem, including venture capitalists, incubators, accelerators, public institutions, state government institutions and AI Start-ups.
- **AI Kosh Workshop**: IndiaAI hosted an inter-ministerial workshop in February, 2025 preceding the official launch of AI Kosh, the IndiaAI Datasets Platform. This workshop included participation from central government officials who were apprised of AI Kosh features and the need for data sharing for AI research and innovation".

183. Outlining the mechanism for ensuring effectiveness of the Mission and its financial outlays, the Ministry submitted:

"The IndiaAI Mission will be implemented through the 'IndiaAI' Independent Business Division ('IBD') under the Digital India Corporation (DIC) and have the following governance framework:

1. **Mission Governing Board (MGB):** The MGB will be the topmost executive body for the IndiaAI Mission. It would be an empowered body to make key decisions for the success of the Mission and be responsible for its periodic review and guidance. Responsible to review, periodically (at least once a year), the technical and financial activities of the Mission and suggest measures, as deemed fit, to meet the aims and objectives of the Mission.

2. **Project Review and Steering Committee (PRSG):** The mandate of the PRSG is to develop and fine-tune the final delivery contents, mechanisms, and performance measurement criteria of each component/activity to be undertaken by the Mission. It will review the financial progress on a half-yearly basis and recommend the release of funds. It will also assign the responsibilities of delivery to IndiaAI IBD or any other partnering agencies in the Mission ecosystem.

3. **Project Implementation Monitoring Committee (PIMC):** The PIMC monitors the implementation and the progress of every component of the mission and meets as per the requirement".

184. Regarding the policies undertaken by the Ministry with the stakeholders to ensure that there was more private sector investment in the hardware, the building block aspect of AI building, the Ministry submitted:

> "One of the key pillars under the IndiaAI mission is the IndiaAI Compute pillar. The IndiaAI compute pillar envisions building a high-end scalable AI computing ecosystem comprising AI compute infrastructure of 10,000 or more Graphics Processing Units (GPUs).
>
> Towards this, IndiaAI published a Request for Empanelment (RFE) on August 16, 2024, to empanel AI services on cloud including GPUs. 19 bidders had submitted proposals to empanel their AI cloud services, out of which 10 bidders were qualified for financial bid opening.
>
> Against the target of 10,000 GPUs outlined in the IndiaAI compute pillar, technically qualified bidders have submitted 18,693 GPUs for empanelment. Out of 18,693 GPUs offered, 14,461 GPUs are already installed on the bidder's infrastructure and are available for immediate use. Additionally, there is further GPU capacity available with the bidders who were not technically qualified.
>
> The prices quoted by the bidders are highly competitive and average discount from market prices for all GPUs is 42 %. Average discount from market prices for higher precision GPUs is 47%. Average rate per GPU is ₹115.85/hour and Average rate per Higher precision GPU is ₹150/hour.
>
> To keep pace with the changes in technologies, IndiaAI enabled a continuous empanelment process inviting fresh proposals from the empaneled agencies for onboarding new GPUs and discovering any revised rates".

185. The Ministry further submitted:

> "The Government of India emphasizes the concept of 'AI for All', aligning with the Hon'ble Prime Minister's vision to democratize use of technology. This initiative aims to ensure that AI benefits all sectors of society, driving innovation and growth.
>
> India has taken major, formative steps towards facilitating the creation of a world-leading ecosystem for Trustworthy Artificial Intelligence (AI). India is a major hub of skilled workforce in AI, with a vibrant Startup ecosystem that has mushroomed from the established research networks that have been building AI applications that can be leveraged for enhanced public service delivery.
>
> The success of the government's initiatives and approach is evident from India's rising position in global AI rankings and indexes.

Several steps have been taken to attract private sector investment and collaborate with leading private players in AI for AI funding and AI infrastructure development, including initiatives such as:

- For democratizing access to AI infrastructure, critical for innovation and ensuring the global competitiveness, IndiaAI, under the IndiaAI Compute Pillar, had published a Request for Empanelment (RFE), inviting applications for the empanelment of AI services on the cloud and offer the services to academia, MSMEs, startups, research community, governments, public sector agencies and other entities approved by IndiaAI.

  Against the target of 10,000 GPUs outlined in the IndiaAI compute pillar, empaneled bidders have offered 14,517 GPUs at L1 rates. The average L1 rate discovered for the GPUs is Rs. 115 per GPU hour. Additionally, the Government would support eligible end users to the extent of 40% of the AI compute cost.

  To ensure equitable access to computational resources, the IndiaAI Compute Portal has been launched which will offer AI compute, network, storage, platform and cloud services at the discounted rates to startups, MSMEs, academia, researchers, students, startups and government agencies, including Central Ministries and State Departments. The portal would also provide access to AI Platform and other services on the service provider's portal for development of AI models and solutions at discounted rates.

  With an objective to keep pace with the changes in technologies and market prices, IndiaAI has enabled a continuous empanelment process by inviting proposals from agencies who wants to get empanelled every quarter. Willing agencies shall submit financial proposals which can be same or lower than the existing L1 rates. IndiaAI has published the RFE for continuous empanelment on 21st February, 2025. The last date of submission of proposals is 30th April 2025. Pre-bid meeting has been organized, and adequate publicity is being done to ensure transparency in the empanelment process.

- Under IndiaAI Application Development Initiatives, IndiaAI Innovation Challenge was launched to seek and advance the development, deployment, and adoption of AI applications in critical sectors. The challenge was open to Indian innovators, startups, non-profits, students, academic/R&D organizations, and companies. Over 900 applications have been received across the five focus areas- Healthcare, Improved Governance, Agriculture, Assistive Technology for Learning Disabilities and Climate Change and Disaster Management. Winners will receive up to INR 1 Crore as award and the opportunity to deploy their solutions at a national scale. Out these, the 30 shortlisted AI solutions under the identified sectors across three stages of maturity: Idea, Prototype, and Existing

Solutions. Moreover, the second set of problem statements are being developed in collaboration with various Ministries/Departments. Meetings with various ministries, state governments and public institutions such as the Dept. of Commerce, Ministry of Education, Telangana Govt., UIDAI and ISRO are ongoing and in the process of problem statement identification.

- The IndiaAI Startup Financing Pillar envisions for providing support to AI startups at all stages. The IndiaAI Mission in collaboration with Station F (Paris, France) and HEC Paris, had announced an ambitious acceleration Programme for Indian AI startups. This Programme will support 10 Indian AI startups in scaling globally by leveraging the European market's vast opportunities.

- Under the Safe and Trusted Pillar of the IndiaAI Mission, Eight Responsible AI Projects have been selected to address the need for robust guardrails to ensure the responsible development, deployment, and adoption of AI technologies. The projects cover a range of critical themes, including Machine Unlearning, Synthetic Data Generation, AI Bias Mitigation, Ethical AI Frameworks, Privacy-Enhancing Tools, Explainable AI, AI Governance Testing, and Algorithm Auditing Tools. Moreover, IndiaAI also launched the 2nd EoI for Safe & Trusted AI Projects, inviting organizations to submit proposals on key themes, including Watermarking and Labelling, Ethical AI Frameworks, AI Risk Assessment & Management, Stress Testing Tools, and Deepfake Detection Tools.

- IndiaAI, IBD under the Digital India Corporation, has signed a Memorandum of Understanding (MoU) with Microsoft in January 2025 to drive the adoption and development of artificial intelligence (AI) in India. This strategic partnership is aligned with the core objectives of India AI Mission. This collaboration aims to train 500,000 individuals, including students, educators, developers, government officials, and women entrepreneurs, by 2026. Microsoft under this collaboration will also establish "AI Catalysts- Centre of Excellence", to promote rural AI innovation in Tier 2 and Tier 3 cities and equip 100,000 AI innovators and developers through hackathons, community building. Additionally, Microsoft will also set up AI Productivity Labs in 20 National Skill Training Institutes (NSTIs)/NIELIT centres across 10 states to train 20,000 educators and empower 100,000 students with foundational AI courses in 200 Industrial Training Institutes (ITIs).

- National e-Governance Division (NeGD), MeitY in collaboration with industry partners (Intel & Meta), has launched 'YUVAi: Youth for Unnati and Vikas with AI'- A National Programmeme for School Students with an objective of enabling school students from classes 8th to 12th with AI tech and social skills in an inclusive manner. A total of 1200+ students were oriented on the basics of AI and the top 200 students were shortlisted. Further, in next phase of the Programmeme MeitY along with All-India Council for Technical Education (AICTE) targets to empower 100,000 students and young developers aged 18-30 across critical sectors such as healthcare, education, agriculture, smart cities,

and financial inclusion. Additionally, this initiative will also include the establishment of a Gen AI Resource Hub with courses, case studies, and open datasets; an LLM for Young Developers Course designed by Meta; and Master Training Activation Workshops to introduce participants to foundational AI concepts".

186. To a suggestion that Ministries/departments have a Technology Office/Cell under their purview to deal with AI and a separate provision and budget for the usage of AI and its applications, the Ministry submitted that:

"In March 2024, the Union Cabinet of India approved the IndiaAI Mission, marking a significant milestone in the country's technological and economic development. This ambitious initiative is designed as a sector and state agnostic national mission, emphasizing the transformative potential of artificial intelligence (AI) across various domains. The IndiaAI Mission aims to harness the power of AI to drive innovation, improve governance, and enhance the quality of life for all citizens, positioning India as a global leader in the AI landscape.

The IndiaAI mission will establish a comprehensive ecosystem catalyzing AI innovation through strategic Programmes and partnerships across the public and private sectors. By democratizing computing access, improving data quality, developing indigenous AI capabilities, attracting top AI talent, enabling industry collaboration, providing startup risk capital, ensuring socially impactful AI projects and bolstering ethical AI, it will drive responsible, inclusive growth of India's AI ecosystem.

MeitY has already placed Chief AI and Data Officers in three ministries: the Ministry of Agriculture and Farmers Welfare, the Ministry of Education, and the Ministry of Women and Child Development, for a period of two years. This initiative aims to provide professional AI leadership and support to these ministries and departments, presenting an integrated view of citizen service delivery and driving inter-ministerial coordination and synergy in matters related to advanced AI and digital technologies.

Additionally, dedicated AI Curation Units (DMU) will be set up within government ministries/departments and a maximum of one data scientist and two data analysts will be provided as data fellows to augment data capacity within 50 Ministries/Departments. This will help build capacity within line ministries and departments to identify and leverage data for research and innovation.

The **IndiaAI Application Development Initiative (IADI)** aims to develop, scale and promote the adoption of impactful 25 AI solutions with the potential for catalyzing large-scale socio-economic transformation. This initiative aims to

address these issues by creating a sector-agnostic framework to support the scaling and adoption of AI solutions across different regions and populations. IADI focusses to source problem statements from various governmental sources to identify and scale AI solutions, ultimately promoting widespread adoption and achieving large-scale social impact.

Further, iGOT-AI model has been launched under the Mission Karmayogi, an advanced AI-powered personalized content recommendation system developed to enhance the learning experience for government officials on the iGOT platform. This model leverages user profile data, consumption data for different level, Competency mapping, capacity building plans) data and AI-driven technology to recommend interactive learning courses based on identified skill gaps and professional needs. Currently 1,800+ capacity building courses are available on the iGOT Karmayogi platform that have been developed in collaboration with over 150 ecosystem partners from the public, private, and philanthropic sectors.

Additionally, MeitY has designed an AI Competency Framework to establish standardized AI competencies, guiding educational institutions and industries in developing necessary skills for the AI workforce. This report highlights the need for a competency framework to equip public sector officials in India with the knowledge and skills necessary to effectively engage with AI technologies".

187. When asked whether Government of India was considering collaborating with any private universities, on the lines of IITs, which may have NAC approval credit ratings for development of different facets of AI in India, the Committee was apprised as:

"The Government of India has collaborated with IITs and NAC-accredited institutions through various initiatives under the IndiaAI Mission. Key initiatives include:

- IndiaAI FutureSkills Programmeme:

a) Under the IndiaAI Future Skills initiative, AI education is being expanded across undergraduate, postgraduate, and Ph.D. Programmes. IndiaAI Fellowships are awarded to students pursuing relevant undergraduate and postgraduate Programmes at Private or Centrally Funded Technical Institutes (CFTIs) recognized by AICTE, NBA, NAAC, or UGC. So far, 150 undergraduate students, 48 postgraduate students, and 3 PhD scholars have been selected for the fellowship.

b) Additionally, IndiaAI has set up Data Labs at NIELIT's Delhi centre and ICIT, Nagaland, with plans to establish 27 more labs in collaboration with NIELIT across Tier 2 and Tier 3 cities.

• IndiaAI Safety Institute:

a) The IndiaAI Safety Institute has been launched under the Safe and Trusted Pillar of the IndiaAI Mission to address AI risks & Safety Challenges. The Institute, incubated by IndiaAI Mission, will be set up on a hub and spoke model with various research and academic institutions and private sector partners joining the hub and taking up projects under the Safe and Trusted Pillar of IndiaAI Mission.

b) To support this objective, the 'Safe & Trusted AI' pillar under the IndiaAI Mission has selected eight projects in its first round of Expressions of Interest (EoI) across critical areas as mentioned below:

THEME	PROJECT TITLE	ORGANISATION(S)
Machine Unlearning	Machine Unlearning in Generative Foundation Models	IIT Jodhpur
Synthetic Data Generation	Design and Development of Method for Generating Synthetic Data for Mitigating Bias in Datasets and Framework for Mitigating Bias in ML Pipeline for Responsible AI	IIT Roorkee
AI Bias Mitigation	Development of Responsible Artificial Intelligence for Bias Mitigation in Healthcare Systems	NIT Raipur
Explainable AI Framework	Enabling Explainable and Privacy Preserving AI for Security	DIAT Pune, Mindgraph Technology Pvt. Ltd.
Privacy Enhancing Tools	Robust Privacy-Preserving Machine Learning Models	IIT Delhi, IIT Dharwad, IIIT Delhi, TEC
Explainable AI	Nishpaksh: Tools for Assessing Fairness of	IIIT Delhi, TEC

	AI Model	
AI Governance Testing	Track-LLM, Transparency, Risk Assessment, Context & Knowledge for LLMs	Amrita Vishwa Vidyapeetham, TEC
Algorithm Auditing Tools	ParakhAI - An open-source framework and toolkit for Participatory Algorithmic Auditing	Civic Data Labs

c) The 2nd round of EOI, which is currently ongoing and has received 420 applications (including from IITs and other academic institutions), includes themes such as:

- Watermarking and Labelling
- Ethical AI Frameworks
- AI Risk Assessment & Management
- Stress Testing Tools
- Deepfake Detection Tools

• IndiaAI Innovation Challenge:

a) The Innovation Challenge under the IndiaAI Application Development Initiative is open to Indian innovators, startups, non-profits, students, academic/R&D organizations, and companies. The first challenge was launched in August 2024 with 14 problem statements focussed on AI applications in critical sectors. A total of 900 applications were received, with 30 teams qualifying for stage 2. The top 3 among the 30 teams will qualify for the final round, and the winners will receive up to INR 1 Crore as an award and the opportunity to deploy their solutions at a national scale.

b) IndiaAI CyberGuard AI Hackathon: An AI Hackathon launched in partnership with the Indian Cybercrime Coordination Centre (I4C) to create AI-driven solutions for cybersecurity has been launched on 16th October 2024. A total of 263 responses were received. Top 20 qualifying teams recently participated in a 3 days physical hackathon. Final selection is underway.

• Foundation Models:

a) IndiaAI Innovation Centre (IAIC) has launched a Call for Proposals inviting proposals from startups, researchers, and entrepreneurs to collaborate on building state-of-the-art foundational AI models trained on Indian datasets. The

initiative aims to establish indigenous AI models that align with global standards while addressing unique challenges and opportunities within the Indian context.

b) IndiaAI Mission has received a total of 67 proposals till 15th February 2025 aimed at building India's foundation models, with contributions from both established startups and new teams of researchers & academia. 22 are focussed on Large Language Models (LLMs) & Large Multimodal Models (LMMs), while the remaining 45 are centreed on domain-specific models (SLMs). The majority of SLMs target key sectors such as healthcare, education, and financial services".

188. About the level of investment in Al development and supporting IT & electronics hardware/lT-TeS infrastructure required in lndia for competing at Global level and whether the Ministry saw any major challenges lndia could face, especially in rural areas, the Ministry submitted:

"India's global competition in AI is not just an economic opportunity but a strategic imperative. With the increasing concentration of AI systems (like, foundation models) and infrastructure (like, compute resources) in a few countries, it becomes important for India to position itself strongly in the global supply chain, rather being passive consumers of AI developed elsewhere. With a vast technological talent pool, a thriving entrepreneurial ecosystem, and unique societal challenges, India has both the capability and responsibility to develop AI solutions that cater to domestic needs while fostering inclusive models for global adoption. Moreover, addressing India's complex and multi-dimensional economic and social challenges can create scalable solutions that benefit other emerging and developing economies.

To establish itself as a global leader in the digital economy, India is making significant investments in AI development, IT & electronics hardware, and IT-enabled services (IT-ITeS) infrastructure.

Recognising the transformative potential of AI and advanced digital technologies, India is implementing a multi-pronged strategy that includes financial investments, policy support, and public-private partnerships.

Strengthening IT-ITeS Infrastructure in Rural and Urban Areas:

- **Data Centre Expansion:** India is witnessing rapid expansion in data centre infrastructure, with investments from global tech giants and Indian firms to meet the growing demand for AI and cloud computing. India's data centre expansion is driven by government policies and growing demand for AI and cloud computing. The Draft Data Centre Policy, 2020, aims to simplify clearances and encourage foreign investments. Additionally, the Budget 2025 includes initiatives to enhance connectivity, strengthen data security, and provide incentives for green technology and AI-driven data centres.

- **5G and Digital Connectivity:** The rollout of 5G services and BharatNet expansion is enhancing connectivity, ensuring high-speed internet access even in rural areas to support AI-driven applications. The Government is expanding BharatNet Phase-III and launching initiatives like PM-WANI for public Wi-Fi hotspots to bridge the rural-urban digital gap. As of July 2024, PM-WANI has deployed over 2,07,642 public Wi-Fi hotspots across India. The scheme also allows local entrepreneurs to set up Public Data Offices (PDOs) without licenses, providing affordable internet access.

- **Digital Public Infrastructure (DPI):** India's leadership in DPI (e.g. UPI, Aadhaar, ONDC, and India Stack) is creating a strong digital foundation for AI-powered governance and economic activities.

- **Skilling and Workforce Development:** Programmemes such as FutureSkills Prime and Skill India Digital Hub are upskilling rural youth in AI, cloud computing, and emerging technologies:

  - **FutureSkills PRIME:** MeitY in collaboration with IT/ITeS Sector Skills Council-NASSCOM has initiated a Programmeme titled FutureSkills PRIME (Programmeme for Re-skilling/Up-skilling of IT Manpower for Employability). FutureSkills PRIME is an 'aggregator of aggregators' platform comprising various online skills providers to provide digital skills training on a national scale in online mode. The Programmeme is aimed at re-skilling/ up-skilling of IT professionals in 10 new/emerging technologies namely Artificial Intelligence, Big Data Analytics, Robotic Process Automation, Additive Manufacturing/ 3D Printing, Cloud Computing, Social & Mobile, Cyber Security, Augmented/Virtual Reality, Internet of Things and Blockchain. Besides the online mode, 40 centres of CDAC and NIELIT are also implementing the Blended Learning mode, Training of Trainers, and Government Official training Programmemes.
  Under the Programmeme, a total of 19.81 lakh+ candidates have signed-up on the portal, and 8.55 lakh candidates have enrolled in various courses, out of which 3.80 lakh candidates have completed their course(s). Further, the Resource Centres (Lead/ Co-Lead Centres), have so far trained 11,492 Government Officials and 2,367 Trainers.

  - **Pradhan Mantri Kaushal Vikas Yojana (PMKVY):** Ministry of Skill Development and Entrepreneurship (MSDE) is implementing its flagship scheme Pradhan Mantri Kaushal Vikas Yojana (PMKVY) since 2015 to impart skill development training through Short-Term Training (STT) and up-skilling and re-skilling through Recognition of Prior Learning (RPL). PMKVY 4.0 has been designed as a Demand-Driven scheme to skill the candidates as per regional demand of skilled workforce in the industry and market. Further, the scheme also focusses on new age and emerging courses such as Drone, Artificial Intelligence (AI), etc. The details of candidates trained in the job role related to Artificial Intelligence (AI) are placed at Annexure II.

- **Skill India Digital Hub (SIDH):** Ministry of Skill Development and Entrepreneurship (MSDE) has launched Skill India Digital Hub (SIDH) platform, a comprehensive and accessible platform for skill enhancement, offering industry-relevant skill courses, job opportunities, and entrepreneurship support to youth of the country from rural and urban areas. SIDH leverages advanced AI and machine learning techniques to enhance the assessment of candidate skills and recommend relevant courses such as Skill Competency Extractor Engine, Recommendation Engine etc. This AI/ML-driven approach ensures the platform provides tailored skill assessments and personalized learning pathways, supporting both candidates in enhancing their competencies and organizations in identifying top talent.

  SIDH offers an extensive array of AI and ML courses, ranging from foundational Programmes like 'Fundamentals of Azure AI Speech' and 'Machine Learning', to specialized offerings such as 'Google Cloud Generative AI' and 'AI Strategy to Create Business Value in Healthcare', to cater to varying levels of expertise and application, enabling participants to stay at the forefront of AI and ML technology".

189. Outlining the roadmap of the Ministry in handling the algorithmic bias, which is creating a technological gap in the society and giving an edge to a particular section of people who have access to technological developments, the Ministry furnished the following:

"The Ministry is addressing algorithmic bias by investing in indigenous AI governance tools, frameworks, and guidelinesthat are contextualised to Indian socio-economic realities and reflect its unique challenges and opportunities. To support this objective, the '**Safe & Trusted'** AI pillar under the IndiaAI Mission has selected eight projects under the **first EOI round** across eight critical themes to promote Responsible AI development and use across sectors. These include **AI Bias Mitigation**, Machine Unlearning, Synthetic Data Generation, Ethical AI Frameworks, Privacy-Enhancing Tools, Explainable AI, AI Governance Testing, and Algorithm Auditing Tools.

Further IndiaAI has launched the 2nd round of Expression of Interest (EoI) across key themes, including Watermarking and Labelling, Ethical AI Frameworks, AI Risk Assessment & Management, Stress Testing Tools, and Deep fake Detection Tools.

The Government of India has also announced the establishment of AI Safety Institute to enable researchers, developers and other stakeholders to develop

tools, frameworks and processes to encourage the adoption of AI in a responsible manner with the principles of safety, security, transparency, and privacy embedded in the design of AI technology".

190. When asked to explain the steps taken by the Ministry to take India AI Mission to Tier 2 and Tier 3 cities and the developments thereafter, the following submissions were made:

"The Government of India has approved the IndiaAI Mission on 7th March 2024. The Mission aims to bolster India's global leadership in AI, foster technological self-reliance, ensure ethical and responsible AI deployment, and democratize the benefits of AI across all strata of society. The IndiaAI FutureSkills pillar of the IndiaAI Missionaims to mitigate barriers to entry into AI Programmes by focussing on all levels of higher education in AI and will coordinate with existing efforts in the area of skilling. **IndiaAI Fellowship** is being offered toB.Tech and M.Tech students of all the All-India Council for Technical Education (AICTE) recognized engineering institutions from across the country. Further, top NIRF ranked research institutes are being approached to intake new PhD scholars under IndiaAI PhD fellowship.

Additionally, Under the IndiaAI FutureSkills, **IndiaAI Data Labs** are being setup as infrastructure in Tier 2 and Tier 3 cities across India, to impart foundational-level courses in Data and AI such as Annotation, Data Cleaning, Data Analytics, etc.

CHAPTER-VI

Other Related Issues

191. According to media reports, International Business Machines Corporation (IBM), opines "AI hallucination is a phenomenon wherein a large language model (LLM) – often a generative AI Chabot or computer vision tool – perceives patterns or objects that are non-existent or imperceptible to human observers, creating outputs that are nonsensical or altogether inaccurate. When the Ministry was asked to comment on it in the context of Indian Education System and AI, the submission made was as under:

> "Presently, we have not seen large widespread adoption of Gen AI by the Indian Education system, formally. However there have been instances of GenAI being used by students for assistance in completing assignments or by teachers for creating course content. In such cases, AI hallucinations pose the following challenges -

- **Misinformation in Learning**: AI hallucinations can lead to the creation of inaccurate educational content, potentially misinforming students.
- **Bias and Inequality**: Hallucinations stemming from biased training data may enforce stereotypes in students or not consider marginalized perspectives.
- **Overreliance on AI** – Students and teachers may become overly reliant on AI tools, potentially neglecting critical thinking and fact-checking".

192. When asked to elaborate on the concept of 'Harmonization of Machine Readable Files' in AI in context of Human Intelligence, the Ministry submitted:

> "Harmonization of Machine-Readable Files in AI in the Context of Human Intelligence' includes process of standardizing and aligning AI datasets to check for compatibility, interoperability, and potential for meaningful insights generation that may align with human decision-making and reasoning. Key aspects include,
>
> - **Standardization**: Structuring data into uniform formats such that AI systems can process and analyze it efficiently
> - **Interoperability**: To enable AI models to integrate data from diverse sources (e.g., different government agencies, research institutions, and industries) while maintaining consistency
> - **Human-AI Alignment**: Providing for AI-generated insights that are interpretable, relevant, and useful for human decision-makers
> - **Bias Mitigation**: Harmonizing data such that inconsistencies and biases are reduced

- **Regulatory Compliance**: Aligning data formats with AI governance frameworks to enable transparency, accountability, and responsible AI deployment.

These aspects can enable AI to function more effectively alongside human intelligence, such that those AI systems may support informed decision-making in a way that enhances human intelligence".

193. Regarding the usage of AI in improving the Electoral Process of the Country, the Ministry stated:

"India is actively exploring and implementing AI to enhance its electoral processes. Political parties in India have adopted AI technologies to enhance their efforts in recent electoral campaigns. In the 2024 general elections, AI was utilized for:

- **Personalized Voter Outreach**: AI tools helped in tailoring messages to different voter segments, improving engagement and communication through AI-powered robocalls, personalised whatsapp videos from party leaders etc.
- **Real-Time Speech Translation:** Use of AI-powered translation tool Bhashini facilitated real-time translation of political speeches, enabling leaders to reach a broader audience across diverse linguistic groups.

To monitor the use of AI in electoral processes, and address potential risks and challenges associated with deep fakes and misinformation, the Election Commission of India (ECI) has taken significant steps to maintain public trust and electoral integrity,

- **AI Ethics in Campaigning:** In January 2025, the ECI issued an advisory mandating that all AI-generated content used in election campaigns be clearly labelled. This move aims to promote transparency and prevent misinformation during elections.
- **AI-Powered Vote Counting:** The ECI has explored AI-driven solutions to improve the efficiency and accuracy of vote counting. For instance, during the Bihar Panchayat elections in 2021, the commission partnered with an AI firm to automate vote counting, enhancing the speed and reliability of the process".

194. Asked to comment if AI was a necessary evil, the Ministry stated:

"AI, like any transformative technology, is a powerful enabler that can deliver tremendous socio-economic benefits if deployed responsibly. It is not inherently evil, but rather a tool whose impact depends on how it is designed, governed, and used.

AI plays a critical role in solving complex challenges that may be inefficient through conventional means.

- In healthcare, AI-driven diagnostics and predictive models are improving early detection of diseases and enabling personalized treatment.
- In agriculture, AI supports precision farming, reducing input costs and improving yields.
- In governance, AI enhances public service delivery through predictive analytics, improving responsiveness and efficiency.

AI is also essential for India's global competitiveness. As economies increasingly adopt AI across sectors, countries that do not invest in AI risk falling behind in productivity, innovation, and economic growth.

For a country like India, AI's potential to democratize access to services—especially in healthcare, education, and financial inclusion—makes it indispensable for bridging socio-economic divides.

Despite the benefits, certain concerns related to AI are observed, particularly around bias, misinformation, data privacy, etc.

- Large-scale AI deployment, if not governed properly, can exacerbate inequalities, reinforce biases, and create systemic risks.
- The emergence of deep fakes, algorithmic bias, and opaque decision-making systems has highlighted the riskier side of unregulated AI adoption.

India's Approach: Mitigating the Risks While Harnessing the Benefits

Recognizing these dual aspects, the IndiaAI Mission has embedded responsible AI governance at its core, particularly under the **Safe & Trusted AI pillar**.

- Through this pillar, MeitY is actively fostering the development of bias mitigation tools, explainability frameworks, privacy-enhancing technologies, and risk management frameworks to ensure that AI solutions are transparent, accountable, and aligned with India's constitutional values.

The Digital Personal Data Protection Act (DPDP), 2023 has been enacted, along with the recently published DPDP Rules. These provide a comprehensive framework for protecting personal data while fostering innovation by enabling the secure and responsible use of data in AI development.

The IndiaAI Safety Institute is being set up to address AI risks & Safety Challenges. The Institute will be set up on a hub and spoke model with various research and academic institutions, private sector partners joining the hub".

195. Asked to update the status of setting up of Data-Embassies to develop India as an AI centre and whether the Ministry of Commerce and Industry has been consulted in this regard, the Ministry submitted as:

"A data embassy is a concept that involves storing copies of a nation's critical data or sensitive information in secure locations outside its borders. Data Embassies are cloud-based virtual data storage systems that act as a backup for crucial digital assets and critical infrastructure of a nation. They are typically hosted in a foreign jurisdiction but fully adhere to the sovereignty and laws of the host nation, retaining the same level of protection and immunity afforded to physical embassies. They act as offsite, cloud-based storage facilities that house a nation's critical digital assets and important public data.

Discussions have been initiated with relevant ministries including Ministry of Commerce and Industry for seeking inputs related to security, international collaboration etc".

196. About how different Ministries/Departments dealt with the challenges arisen by AI in regard to our cultural heritage and human values aspects, the following submission was made:

"The IndiaAI Mission was launched by MeitY on March 7th, 2024, with the mission aims to position India as a global leader in Artificial Intelligence (AI) by focussing on bolstering technological self-reliance, upholding the ethical and trusted deployment of AI, and democratising AI benefits across diverse socio-economic and cultural groups. Under this mission:

- The IndiaAI Safety Institute has been launched under the Safe and Trusted Pillar of the IndiaAI Mission to address AI risks & Safety Challenges. The Institute, incubated by IndiaAI Mission, will be set up on a hub and spoke model with various research and academic institutions and private sector partners joining the hub and taking up projects under the Safe and Trusted Pillar of IndiaAI Mission. Under the Safe and Trusted pillar, the IndiaAI Mission has selected eight Responsible AI Projects against the first Expression of Interest (EoI).
- IndiaAI launched the 2nd round of Expression of Interest (EoI) on December 14, 20204, inviting Indian Academic Institutes/ Organizations, Autonomous bodies, R&D Institutes/ Organizations, Startups and Companies. Themes covered under the 2nd EoI include:
    2) Watermarking & Labelling: Develop tools to authenticate AI-generated content, ensuring it's traceable, secure, and free of harmful materials.
    3) Ethical AI Frameworks: Establish AI frameworks that align with global standards, ensuring AI respects human values and promotes fairness.
    4) AI Risk Assessment & Management: Create risk management tools and frameworks to enhance the safe deployment of AI in public services.

5) Stress Testing Tools: Create stress-testing tools to evaluate how AI models perform under extreme scenarios, detect vulnerabilities, and build trust in AI for critical applications.
6) Deepfake Detection Tools: Create Deepfake Detection Tools to enable real-time identification and mitigation of deepfakes, preventing misinformation and harm for a secure and trustworthy digital ecosystem".

197. Regarding developing edge data centres, the Ministry stated:

"As of now there is no proposal under consideration for setting up of edge data centre. Further, the decision for setting up of Data Centre at a particular location is decided by Data Centre developers depending upon their business viability and client requirements to ensure optimal operational efficiency and service delivery".

198. Considering that there was a great scope for technological development and AI innovation with the help of quantum computing, the Committee sought to know the progress made and the readiness of the Ministries/Departments in this regard. To this, the reply was:

"Government is implementing the National Quantum Mission approved by the Union Cabinet at an outlay of Rs. 6003.65 Crore for a period of eight years. Under the Mission, four Thematic Hubs (T-Hubs), each focussing on a specific domain of quantum technologies have been established.

A Thematic Hub on Quantum Computing has been set up at IISc Bengaluru, focussing on advancing quantum computing research and applications. The key mandates of this Thematic Hub include:

a. Technology Development

b. Human Resource Development

c. Entrepreneurship Development and Industry Collaboration

d. International Collaborations

Key progress highlights:

i. The Quantum Computing T-Hub is driving the development of indigenous quantum hardware and software platforms, including AI-driven models to explore quantum-enhanced AI applications in sectors such as healthcare, finance, and national security.

ii. Under Human Resource Development, the T-Hub is actively conducting training Programmes to build expertise in quantum computing.

iii. Collaboration with industry and international institutions is being fostered to enable knowledge exchange and workforce development

The Department of Science and Technology (DST), through NQM, is actively engaging with stakeholders, including the Ministry of Electronics and IT (MeitY), Department of Telecommunications (DoT), and Defence Research and Development Organisation (DRDO), Department of Space (DoS) and Department of Atomic Energy (DAE), to assess and enhance readiness for quantum adoption.

The NQM is committed to accelerating India's capabilities in quantum computing and ensuring that Ministries/Departments are well-equipped to harness its potential for technological innovation".

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PART-II
RECOMMENDATIONS/OBSERVATIONS

Introductory

1. Artificial Intelligence (AI) is the science and engineering of making intelligent machines -- especially intelligent computer Programmemes -- to complement and supplement human intelligence and to expand the bounds of human potential. AI is dependent on the availability and quality of data from which it is trained. It works by combining algorithms with large volumes of data, allowing it to automatically learn from patterns and attributes within that data. Creating large volumes of high-quality data is necessary for optimal AI performance. With a transformative impact across industries and sectors, AI can spark global innovation, enhance data-driven decision-making and boost progress towards Sustainable Development Goals. Amid rapid innovation and advancements in AI, there is growing recognition that while it provides opportunities for extraordinary growth and inclusive sustainable development, using AI responsibly may mitigate potential disruption and risks attached with it. Discussions of the risks are especially pertinent in relation to the role of AI in the spread of misinformation and its use in law enforcement or in the delivery of public services.

As AI training advances, its influence on economic and security spheres has led to it becoming a focal point in contemporary international relations. States with the financial and technical resources and capacity are prioritizing AI systems as a strategic objective. Meanwhile, technology companies wield significant influence and control over data, algorithms and computational resources. Harnessing the benefits of AI systems while minimizing the risks and potential harms associated with it requires a collaborative effort among stakeholders as part of shared global responsibility. The rapid emergence of generative AI applications has further accelerated the push towards exploring adaptable governance models and mechanisms that evolve with technological progress. The detailed examination of the subject 'Impact of emergence of Artificial Intelligence and related issues' have found various aspects which have been brought out in the ensuing paragraphs.

2. Given the horizontal, transversal and cross-sectoral nature of AI, it has the potential to affect almost all aspects of humanity. In order to mitigate the associated risks, they must be examined through multiple lenses to address issues, ranging from economics to market-related issues, the social fabric, digital rights and inclusivity, in a comprehensive manner. As part of discussions on AI governance, the Committee observe that it is necessary to factor in the following dimensions: (a) the AI value chain and the socioeconomic and geopolitical impacts thereof, as some countries vie for technological dominance

while others risk being confined to serving as sources of data, cheap labour or raw materials; (b) the AI life cycle, taking into consideration the technical dimensions of AI development and deployment; (c) the broader macro risks and challenges associated with AI; (d) the diverse levels and avenues of impact of AI on different sectors and aspects of society, for example, precision agriculture intended to generate higher agricultural yields and lethal autonomous weapons systems introducing new threats to peace and security; and (e) governance, which must go hand in hand with the sustainable development opportunities.

Ministry of Electronics and Information Technology (MeitY)

3. Going by the vastness, to assess the impact of AI in each aspect of human life need ample data of research and development taking place in the arena of AI. The various impacts that have been observed are brought out by the Ministry of Electronics and Information Technology. According to the Ministry, the National Strategy for Artificial Intelligence (NSAI) was published in June 2018 in order to develop an ecosystem for the research and adoption of Artificial Intelligence. The NSAI emphasized the potential of AI to solve social challenges faced by its citizens in areas such as agriculture, health, education, Smart Cities and Infrastructure and Smart Mobility and Transportation etc. Subsequently, IndiaAI Mission was approved by Union Cabinet on 7th March 2024 with a total outlay of Rs. 10,371.92 Cr for a period of 5 years. The mission is driven by a vision to position India as a global leader in Artificial Intelligence by focussing on seven key pillars:

i. **IndiaAI Compute: The IndiaAI compute pillar envisions building a high-end scalable AI computing ecosystem comprising AI compute infrastructure of 10,000 or more Graphics Processing Units (GPUs).**
ii. **IndiaAI Innovation Centre (IAIC): The AI Innovation centre aims to develop and deploy indigenous Large Multimodal Models (LMMs) trained on India-specific data.**
iii. **IndiaAI Datasets Platform: The IndiaAI Datasets Platform (IDP) seeks to enhance access, quality, and utilization of public sector datasets to make them AI-ready.**
iv. **IndiaAI Application Development Initiative: The IndiaAI Application Development Initiative aims to develop, scale, and promote the adoption of impactful AI solutions to effectively tackle significant problem statements.**
v. **IndiaAI Future Skills: IndiaAI Future Skills pillar envisions augmenting the number of graduates, post-graduates and PhDs in AI domain. Further, it envisions setting up Data and AI Labs in Tier 2 and Tier 3 cities across India, to impart foundational-level courses in Data and AI.**
vi. **IndiaAI Startup Financing: For providing support to AI startups at all stages.**

vii. **Safe & Trusted AI: This pillar enables the implementation of Responsible AI projects including the development of indigenous tools and frameworks, self-assessment checklists for innovators, and other guidelines and governance frameworks.**

Further, to build AI use cases for large scale socio-economic transformation in such operational areas, IndiaAI launched the first Innovation Challenge in August 2024 to address problem statements in five critical sectors, namely, Agriculture, Healthcare, Governance, Assistive technologies for learning disabilities, and Climate Change and disaster management for 13 problem statements. It was followed by at least five major AI related challenges. The Ministry of Electronics and Information Technology has submitted that India is consistently leveraging AI to drive economic growth, development, and technological innovation across critical sectors such as finance, industry, healthcare, agriculture, and education through active government support, public-private collaborations, and significant investments in research and development for cutting edge technologies. AI is expected to add USD 967 billion to the Indian economy by 2035 and USD 450–500 billion to India's GDP by 2025—accounting for 10% of the country's USD 5 trillion GDP target. The Committee opine that a well-conceived AI governance system with appropriate incentives and guard rails that are commensurate for different AI systems and applications can advance ethical and human rights-based governance while maximizing the positive impact of the technology on society and mitigating the risks thereof. The Committee desire that the Ministry may ensure that effective AI governance be delivered through an ecosystem of critical functions, not limited to technology development and consensus-building. It may encourage research and analysis as well as start-ups, stakeholder engagement and coordination, standard- and norm-setting, capacity-building, stringent monitoring, transparency and accountability.

4. In order to promote the adoption of AI and to develop a robust, safe and trusted AI innovation ecosystem in the Country, MeitY has undertaken several initiatives. IndiaAI Mission is a comprehensive Programmeme for leveraging transformative technologies to foster inclusion, innovation and adoption for social impact as well as to make India a global leader in the AI space and ensure responsible and transformational use of AI for All. It aims to catalyze the AI innovation ecosystem in the Country and help ensure the global competitiveness of India's AI startups, researchers and industry. The strategy is to bridge the gaps in the existing AI ecosystem viz-a-viz Compute infrastructure, Data, AI financing, Research and Innovation, targetted Skilling, developing foundational AI models, sector-specific AI projects and institutional capacity for Data to maximize the potential of AI to advance India's progress. IndiaAI Mission had already: a) Established national compute power exceeding 34,000 GPUs; b) Initiated 4 foundation models from SARVAM AI, Soket AI, Gnani AI and Gan AI; c) Selected 30 AI solutions in the domain of Healthcare, Agriculture,

Governance, Assistive Learning Technologies and Climate & Disaster Management; d) Building 8 solutions for Safe and Trusted AI; e) Launched AI Safety Institute; f) Launched AIKosh the unified datasets platform with more than 1000 datasets and 200 models already available on the platform; g) 200+ Fellowships granted to UG, PG and PhD scholars; and h) Establishing 27 Data and AI Labs in Tier 2 and Tier 3 cities, expanding opportunities for AI education and innovation beyond major urban centres. Taking note of these achievements the Committee hope that given the vastness of the Country both in terms of size and population, lot more will be done in order to keep pace with the advancements that are taking place around the world.

5. The IndiaAI Mission focusses on seven foundational pillars including the IndiaAI Foundation Models pillar. This pillar underscores the importance of building India's own Large Multimodal Models (LMMs) trained on Indian datasets and languages, to ensure sovereign capability and global competitiveness in generative AI. Twelve startups have been selected to develop India's foundation models including Sarvam AI, Soket AI, Gnani AI, and Gan AI, Avatar AI, IIT Bombay Consortium (BharatGen), GenLoop, Zentieq, Intellihealth, Shodh AI, Fractal Analytics Ltd. and Tech Mahindra's 'Project Indus' and 'Model Garden'. These models are being developed and deployed on data centres hosted within India. Additionally, the IndiaAI Compute pillar under its mission is focussing on creating a high-end, scalable AI computing ecosystem to deliver Compute-as-a-Service for India's rapidly growing AI startups and research community. 38,231 GPUs through 14 empanelled vendors, over 3 rounds of empanelment, are being made accessible at subsidized rates, facilitating increased accessibility and affordability for tech developers through data centres hosted in India. Under the mission, a RFP has also been published on 31st October 2025 for setting up a sovereign compute at Shastri Park, NIC Data centre with a compute power of 1.1 Exa Flops. The RFP presently is on an evaluation stage. A government-controlled GPU cluster is also being developed which will house 3,000 next-generation GPUs, cater primarily to sovereign and strategic requirements. Taking note of the above submissions the Committee wish to be apprised of the progress made in this regard so as to speed up development of next-generation GPUs.

6. During the course of examination of the Subject, the Committee found that implementing AI at scale faces three fundamental barriers: compute, grassroots-level skills, and datasets. In the Indian context, data accessibility and availability are perceived as the most significant challenge. In order to address these issues, the Department is executing a structured, multi-pronged approach. For Unlocking Data Accessibility, the Ministry is unlocking high-value datasets through AIKosh to solve the problem of data silos. This initiative makes over

10,000 datasets accessible to the public. In order to ensure high usability, these datasets utilize standardized metadata. The platform employs API-based ingestion mechanisms, which significantly lowers the entry barriers for startups, researchers, and industry players to innovate. For ensuring Data Quality and Usability, the Ministry submitted that they have a strong emphasis on "gold-standard" data generation to ensure the data is clean and actionable. In respect of Healthcare Initiatives, the Ministry has launched the INDEED Programme in collaboration with the Indian Council of Medical Research (ICMR) to create high-quality, validated medical datasets. Further, large-scale annotation partnerships have been formed with Bhashini to ensure that diverse linguistic data is prepared for AI training. Resource Support is being given by AIKosh which provides specific tools and resources dedicated to effective data management, ensuring that data pipelines remain robust and efficient. In order to build a robust and trusted data foundation, MeitY has developed Meta Data and Data Standard (MDDS) for various sectors. Going by the above submissions, the Committee feel that the Ministry may overcome the fundamental barriers such as compute, grassroot level skills and datasets, in order to build a scalable and inclusive AI ecosystem, MDDS for different sectors and the Committee hope that the intended objectives are achieved.

7. While examining the issue of Deepfake, the Committee sought clarifications regarding how Deep-fakes were defined and what were the mechanisms to regulate these so as to minimize social defamation and mental trauma that occur especially to women. The Committee are informed that MeitY, in exercise of the powers conferred under the Information Technology Act, 2000 issued the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 (IT Rules, 2021) on 25th February 2021 in supersession of the erstwhile Information Technology (Intermediary Guidelines) Rules, 2011, which were subsequently amended on 28th October 2022, 6th April 2023 and 22nd October 2025 and are further evolving. The IT Act, read with the rules made thereunder, is a technology-neutral legislation that does not distinguish between computer resources in general and those that use Artificial Intelligence or any other emerging technologies. Accordingly, the provisions of the IT Act apply uniformly to all computer resources, including those leveraging AI or similar technologies. The IT Act and the IT Rules, 2021, together, have put in place a stringent framework to prevent the hosting or transmission of unlawful and harmful content in the digital space and impose clear obligations on intermediaries, including social media intermediaries, to ensure accountability. Its provisions require intermediaries to publish user-facing rules/terms, privacy policy and user agreement, implements grievance redressal mechanisms, and take expeditious action on unlawful content as per the provisions of law. In this context, the IT Rules, 2021 mandate intermediaries to observe due diligence and

not to host or transmit unlawful information, whether generated by them or by users, including information that is obscene, pornographic, invasive of another's privacy, insulting or harassing on the basis of gender, racially or ethnically objectionable, or promoting hate or violence, or impersonates another person, or is harmful to child, or deceives or misleads the addressee about the origin of the message or knowingly and intentionally communicates any misinformation or information which is patently false and untrue or misleading in nature, or violates any law for the time being in force. The IT Rules, 2021 further require intermediaries to periodically inform their users, at least once every year, that in case of non-compliance with the rules and regulations, privacy policy or user agreement for access or usage of the computer resource of such intermediary, it has the right to terminate access or usage rights immediately or remove non-compliant information or both, as the case may be. The IT Rules, 2021 have a clear objective of enhancing online safety of users, particularly women and children by empowering them to exercise their rights towards safety, trust and modesty by enabling them to report grievances against various online harms and offences which are violative of any extant law and seek time-bound redressal from the intermediaries including social media intermediaries concerned whose computer resources are misused for hosting, publishing or sharing, uploading etc. or making viral any unlawful information or content including any act which is defamatory and obscene in nature. Recognising the increasing availability of generative AI tools and the resulting proliferation of synthetically generated information (SGI) (commonly known as deepfakes), as well as the potential misuse of such technologies to create or generate SGI of obscene, vulgar, sexually explicit nature, including CSEAM, which may cause user harm, spread misinformation, manipulate elections, or enable impersonation of individuals, MeitY has prepared draft amendments to the IT Rules, 2021. The draft aims to strengthen due diligence obligations for intermediaries, particularly social media intermediaries (SMIs) and significant social media intermediaries (SSMIs), as well as for platforms that enable the creation or modification of synthetically generated content. The strengthened due diligence framework envisages that intermediaries offering computer resources enabling the creation or dissemination of such content shall deploy reasonable and appropriate technical measures, including automated tools, and adopt safeguards such as prominent labelling/disclosure of synthetically generated information and embedding of metadata/provenance mechanisms, to the extent technically feasible, to ensure accountability and user safety. The Ministry has invited feedback on the draft amendments to the IT Rules, 2021. Further, as per the Ministry, the proposed SGI regulatory framework is envisaged to carefully provide exceptions so that routine good-faith editing/enhancement, accessibility improvements, and educational/training content are not treated as SGI, provided it does not materially distort or misrepresent the content or create false records. This ensures safeguards

against misuse while supporting innovation and creativity. The Committee urge the Ministry to expedite the implementation of these draft Rules and apprise the Committee of the same.

8. According to the Ministry, an Advisory Group, chaired by the Principal Scientific Advisor, was constituted to undertake the development of an 'AI for India-Specific Regulatory Framework'. Under the guidance of the Advisory Group, a Sub Committee on 'AI Governance and Guidelines Development' was constituted to provide actionable recommendations for AI governance in India. The Subcommittee's report on AI Governance, is published for public consultation, which aims to guide the development of a trust worthy and accountable AI ecosystem in India. The Committee are informed that the India AI Governance Guidelines, released on 5 November 2025,was to establish a comprehensive national framework to ensure the safe, responsible, and inclusive development of AI across sectors. The guideline was to propose a robust governance framework to foster cutting-edge innovation, and safely develop and deploy AI for all while mitigating risks to individuals and society. The framework comprises four key components namely, i) Seven guiding principles (Sutras) for ethical and responsible AI; ii) Key recommendations across six pillars of AI governance; iii) An action plan mapped to short, medium, and long-term timelines; and iv) Practical guidelines for industry, developers, and regulators to ensure transparent and accountable AI deployment. At the core of the framework lie seven guiding principles (Sutras) which were Trust, People First, Innovation over Restraint, Fairness & Equity, Accountability, Understandable by Design and Safety, Resilience & Sustainability. They are designed to be technology agnostic and applicable across all sectors. These principles emphasize human-centric development, ethical use, and the prevention of harms such as deepfakes, bias, misinformation, and discrimination. The guidelines organize recommendations across six governance pillars: Infrastructure expansion, capacity building, policy and regulation, risk mitigation, accountability, and institutional oversight. These are envisioned as a foundational reference for policymakers, researchers, and industry to foster greater national and international cooperation for safe, responsible, and inclusive AI adoption. The Committee would like to be apprised of the finality of the report submitted by the Sub Committee to ensure transparency and accountable AI for India specific Regulatory Framework.

9. The Committee are informed that the IndiaAI IDP Challenge, under the IndiaAI Mission of MeitY, is a key step towards deploying AI-driven intelligent document processing to enhance access to public service delivery. Through this initiative, IndiaAI is catalysing solutions that can handle large volumes of multi-format, low-quality and multi-lingual documents using advanced OCR and NLP, and convert them into structured, machine-readable outputs for governance work flows. This is directly aligned with the IndiaAI objectives of strengthening data-driven decision-making and improving the efficiency, accuracy and transparency of citizen-facing services. According to MEITY, an evaluation Committee comprising senior representatives from IndiaAI, Ministry of Finance, Union Public Service Commission, National e-Governance Division, Software Technology Parks of India and Ministry of Electronics and Information Technology, completed the Stage 1 evaluation of the reports shared by the teams as part of their application process and shortlisted top 10 teams for Stage 2 evaluation process. The shortlisted teams, post the execution of the Non-Disclosure Agreements (NDAs) received encrypted access to representative public-sector document datasets to test their solution performance. The shortlisted teams were given 17 days to process the datasets and submit the outputs in the standardised template by 10 February 2026. To conclude Stage 2, the teams will present and demonstrate their solutions' capabilities to the Evaluation Committee, showcasing use cases such as automated extraction, classification and validation of fields from text-heavy records, forms and registers for potential pilot deployment with partner public institutions. In this regard the Committee would like to be apprised of the outcome of the evaluation process.

10. As regards AI readiness in the Country, particularly with regard to software and hardware infrastructure', the role of India AI mission in this regard and steps taken to develop State-Level data centres as full-fledged data centres, in addition to data centres located in Delhi, the Committee are informed that under the IndiaAI mission, MeitY has implemented various initiatives with regards to software and hardware infrastructure that will act as an enabler of socio-economic development. MeitY has democratized access to AI infrastructure, making the AI infrastructure: compute, datasets and foundational models accessible, affordable and available to a wide set of users. The IndiaAI Application Development Initiative (IADI) is engineered to promote the creation and implementation of at least 25 significant AI solutions capable of driving large-scale socio-economic transformation. Launched in 2024, the first Innovation Challenge focussed on pivotal sectors such as climate change, disaster management, healthcare, agriculture, governance, and assistive technologies for learning disabilities. While narrating, it was stated that thirty applications have reached the prototyping stage, with a second iteration of the

challenge planned in conjunction with the Ministry of Education. Additionally, sector-specific hackathons/ Innovation Challenges have been organized with the Indian Cybercrime Coordination Centre, the Geological Survey of India and National Cancer Grid (NCG) to further encourage focussed AI solution development. Five applications for national rollout have been selected across 5 pivotal sectors. The IndiaAI Foundation Models pillar aims to catalyze AI development by supporting 15 to 20 startups in developing LLMs and SLMs. These startups would receive full compute usage and additional funding covering up to 25% of compute expenditure. The financial support is structured as a mix of grants (40% of compute costs) and 60% equity to be realized at future valuation rounds. From 506 proposals received, four proposals from Sarvam AI, Soket AI, Gnani AI, and Gan AI have been selected in the first phase to develop India's foundation models. In phase 2, additional 8 proposals selected for building Foundation Models – Avatar AI, IIT Bombay Consortium (BharatGen), GenLoop, Zentieq, Intellihealth, Shodh AI, Fractal Analytics Ltd. and Tech Mahindra Maker's Lab. On access to Compute it was submitted that the national GPU pool being expanded by the IndiaAI Mission is accessible through a government-supported cloud infrastructure. The IndiaAI Compute Portal operates over 38,231 GPUs. This is available at subsidised rates of under Rs. 65/hour, compared to the global rates of more than Rs. 200/ hour. To empanel the latest GPUs and for empanelment of a greater number of AI Services, the 4th round of empanelment has been made live on 6th November 2025. The Committee are informed that during the India AI Impact Summit 2026, it was announced that India will expand its compute capacity beyond the existing 38,000 Graphics Processing Units (GPUs), with an additional 20,000 GPUs to be added in the coming weeks. At present, more than 270 users have already registered, and subsidy valued at approximately ₹1085 crore has been allocated. A significant development includes the construction of a government-controlled GPU cluster set to house 3,000 next-generation GPUs, which will cater primarily to sovereign and strategic requirements for State Governments. AIKOSH: In 2025, IndiaAIKosh was launched under the IndiaAI Mission. It aims to serve as a national repository of AI datasets, models and tools. The platform organises datasets in 20 sectors, covering a wide range of domains critical to India's development. As of Feb 2026, it has onboarded 10016+ datasets and 277 AI models from 66+ entities across 20 sectors. The platform provides permission-based access, allowing contributors to retain control over data usage while facilitating AI development. A notable feature of this platform is its permission-based access, allowing data contributors to maintain control over download, thereby balancing data sharing with privacy concerns. Taking into consideration these developments, the Committee may be apprised of the latest updates on progress in achieving the intended objectives of the IndiaAI Mission.

11. Elaborating on the ways to develop a framework to ensure equity in the use of datasets by both public and the private sectors and apply them uniformly across sectors such as healthcare and across different Departments the Ministry submitted that it is developing a comprehensive framework to ensure equity in dataset usage through a combination of Digital Public Infrastructure (DPI), inclusive access policies, and sector-specific governance. This strategy ensures that high-quality data is not a siloed asset but a shared resource for national innovation. Outlining the Initiatives and Scope it stated that the primary initiative driving this direction is the IndiaAI Datasets Platform -AIKosh, which aims to democratize access to the building blocks of AI. For inclusive Open Access the framework provides free, open access to a national repository containing 10,000+ datasets and 250+ AI models. For data sourcing, the repository hosts non-personal data sourced from both the public and private sectors. In order to have Sovereign Model, private entities are encouraged to leverage these public datasets, combining them with external data to develop indigenous and sovereign AI models like BharatGen. To have balanced participation the scope includes Public-Private Partnerships (PPPs) designed to co-create and share data, ensuring that smaller startups and researchers have the same access as large industry players. Further, to ensure that access translates into fair and ethical outcomes, the Ministry has established overarching AI Governance guidelines.

- **Cross-Sectoral Applicability: These guidelines serve as a foundational blueprint that can be uniformly applied across various departments to standardize data-sharing protocols and ethics.**
- **Healthcare Integration (SAHI): The Ministry of Health and Family Welfare has launched the Strategy for Artificial Intelligence in Healthcare for India (SAHI), which focusses on:**
    - **Data Strategy and Utilization: Strategic use of the Ayushman Bharat Digital Mission (ABHA) ecosystem to ensure data-driven healthcare delivery.**
    - **Ethical Standards: Mandating consent-based data use, transparency, and accountability to prevent algorithmic bias.**

On strategic impact, it was stated that by integrating non-personal data accessibility with stringent governance, the Ministry ensures that the AI ecosystem remains resilient, trusted, and inclusive. This framework allows India to move from theoretical principles to actionable, real-world AI impact, as demonstrated during the IndiaAI Impact Summit 2026 where these sovereign models and datasets were showcased to a global audience. With these submissions the Committee find that the AI Framework that is being developed by the Ministry has appreciable intended outcomes. The Committee would like the

Ministry to expedite the development of the comprehensive framework and apprise them of the recent developments.

12. On the 'AI Impact Summit 2026' the Committee are informed that discussions were organised through seven thematic working groups each focussed on a key dimension of the AI ecosystem. The working groups produced outcome documents outlining voluntary frameworks, cooperation mechanisms, and practical initiatives. In addition, the summit adopted a Summit Declaration and the New Delhi Frontier AI Impact Commitments, capturing the shared principles and areas of cooperation. The outcome of the Summit was:

a. AI Impact Summit Declaration: The declaration outlines the collective understanding reached by participating countries and organisations on advancing AI for public good. It summarises the core principles guiding cooperation across areas such as access to AI resources, trustworthy AI systems, AI for science, inclusive adoption, human capital development and economic growth.

b. Charter for the Democratic Diffusion of AI (Democratizing AI Resources Working Group): This charter proposes a voluntary framework to improve global access to foundational AI resources such as compute, datasets, models and talent. It emphasises equitable participation in AI development, support for multilingual datasets, and collaborative infrastructure initiatives to reduce barriers to entry.

c. Framework for the Trusted AI Commons (Safe & Trusted AI Working Group): This framework proposes the creation of a shared repository of technical AI safety resources, including tools, benchmarks and standards.

d. Guidance Note on AI Governance (Safe & Trusted AI Working Group): The guidance note outlines practical approaches for governments to design AI governance systems.

e. Network of AI for Science Institutions (Science Working Group): This initiative proposes a collaborative international network to support the use of AI in scientific research. It focusses on enabling cross-border collaboration, sharing tools and datasets, and strengthening participation of institutions across regions.

f. Alliance for Advancing Inclusion through AI (Inclusion for Social Empowerment Working Group):The alliance aims to promote AI solutions that improve access to services, opportunities and information for underserved communities. It includes a platform to document use cases, share implementation practices and support scaling of inclusive AI initiatives.

g. Voluntary Guiding Principles for Skilling and Reskilling in the Age of AI (Human Capital Working Group):These principles focus on strengthening workforce preparedness for the AI era through AI literacy, reskilling initiatives and inclusive access to learning opportunities, particularly for vulnerable and underserved groups.

h. New Delhi Frontier AI Impact Commitments: This document outlines voluntary commitments by participating organisations to improve transparency on real-world AI usage and strengthen multilingual evaluation of AI systems to support broader and more inclusive adoption.

The Committee hope that the outcome of the IndiaAI Summit will be implemented both in letter and spirit.

13. Elaborating further on the comprehensive outlook of the Ministries/Departments to deal with various kinds of challenges which will arise with the advent of AI in the entire human sphere, MEITY submitted that India aims to champion a pro-innovation approach to AI governance by ensuring adequate safeguards for protecting citizen interests against unintended consequences and fostering innovation to harness the full potential of AI development. Government of India's approach to Artificial Intelligence governance is through the prism of "user harm or derived user harm" through any technology, to ensure the protection of AI users. Under the Safe & Trusted AI pillar under the IndiaAI Mission, an IndiaAI Safety Institute has been launched to address AI risks & Safety Challenges. The Institute, incubated by IndiaAI Mission, will be set up on a hub and spoke model with various research and academic institutions and private sector partners joining the hub and taking up projects under the Safe and Trusted Pillar of IndiaAI Mission. The Committee would like to be apprised of the details of work done by MeitY on the pro-innovative approach to AI Governance to safeguard the interests of our Citizens.

<u>Ministry of New and Renewable Energy</u>

14. The Committee are informed by the Ministry of New and Renewable Energy that Artificial Intelligence based applications and learning models are gradually being suitably used to identify the risky areas, risk patterns, probability and impact of the risk envisaged. Some of the major use cases for power sector include use of AI for detection and analysis of Information Security risk on real-time basis as well as for post-facto forensic. GRID-INDIA has established a Next Generation Security Operation Centre (SOC) for monitoring the network activities of its 6 control centres (viz. NLDC & 5 RLDCs) and is operating the same since October 2022. Artificial Intelligence (AI)-based behavioural analysis

models are used in the established SOC modules viz. User Entity Behaviour Analysis (UEBA) and Network Behaviour Anomaly Detection (NBAD) which identify deviation from general behavioural patterns/ profiles of the User/ Network component thereby generating alerts to the concerned security team for further investigations. The Committee are also informed that GRID-INDIA being ISO27001:2022 certified has implemented suitable controls to protect its Critical Information Infrastructure (CII) installations at NLDC & RLDCs from AI-based threats. When asked if the Ministry of New & renewable Energy was working together with the Indian Meteorological Department to get early insights on where there might be a chance of solar power going down or wind frequency going down, which could affect the power grid, the Committee are informed that India has set an ambitious target of renewable energy, aiming for 500 GW capacity by 2030. Integrating solar and wind power into the grid requires precise power forecasting for effective grid management, energy planning, and maintaining a stable and reliable power supply. With AI-driven challenges in cyberspace increasing and utilities being targetted for the massive impact of such activities, the Committee note that Cyber Security AI-driven challenges include Advanced Persistent Threats (APT) and reconnaissance activity by embedded Malware that can adapt, evolve, and evade detection. As submitted by the Ministry of New and Renewable Energy such threats can be mitigated through Deep packet inspections, hardened security design and enforcement of strict security policies. Also, robust incidence response and recovery mechanisms with periodic audits and drills help in necessary control and emergency preparedness. The Committee hope that the target set for renewable energy by the Ministry of New and Renewable Enertgy is achieved while mitigating the AI driven challenges.

Ministry of Finance

15. While examing about AI application in Financial sector, the Committee are informed by the Ministry of Finance that some of the challenges that are being encountered are growing third-party dependencies and market concentration; increased correlation due to widespread use of similar AI models leading to financial stability risks; lack of interpretability of AI models and data quality concerns; Data privacy, cyber security concerns, and use of AI for spreading disinformation. The use of AI in cybersecurity can significantly strengthen our defenses against cyber threats however cyber attackers can also leverage AI to enhance their methods, making them more potent and difficult to counter. With respect to the role played by AI in improving and boosting cyber security measures in India and checking cyber-crimes, it was submitted that(1) Cyber security threats and cyber-crime is a major area of concern: Cyber-crime and online financial frauds are crimes committed using the internet to deceive or defraud individuals or organizations for financial gain. The Committee note that

crimes for money-laundering with the help of AI may arise as challenge in the field of Automated Transactions; Account Takeovers; Deep fake and Identity Fraud; Crypto currency Manipulation; and AI-Generated Shell Companies.

Regarding the role of AI in improving law enforcement, preventing cyber-crime and combating online financial frauds, the Committee are informed by the Ministry of Finance that AI-powered tools can analyse emails, messages, or websites for signs of phishing attacks or scams. It can detect subtle differences in language that indicate fraud, such as urgent messages, requests for personal details, or suspicious links. AI can also automatically flag fraudulent communication attempts, protecting users from falling victim to common social engineering scams. AI can help in combating online financial frauds by: i) Real-time fraud detection and prevention; ii) Identity verification and authentication; iii) Predictive Analytics for Fraud Prevention; iv) Anomaly Detection with Machine Learning; v) Fraudulent Account Detection; vi) Analysis of huge data; and vii) Detection of hidden assets. While furnishing details about the role of AI in streamlining public services like Aadhaar and GST and collection of direct and indirect taxes in India and widening the tax base, it was stated by the representatives of Ministry of Finance that AI can play a significant role in enhancing the collection of direct taxes and widening the tax base, through the Personalized Taxpayer Assistance: AI chatbots can assist taxpayers by addressing their queries and guide taxpayers to resolve mismatches to ensure filing of Income Tax Returns (ITRs) and other Statements in a streamlined manner ; Automated Scrutiny & Risk Profiling: AI can analyze ITR and non-ITR forms to identify high-risk taxpayers, improving scrutiny selection, benchmarking sectors and ensuring identification of instances of under-reporting or use of excessive deduction within taxpayer categories. The capability to fine tune case selection model based on previous orders/decisions can also be enhanced using AI. Predictive analytics for fraud detection, real-time monitoring, and AI assisted tax receipt matching and information can also help identify tax evasion and ensure compliance; Outlier Analysis: AI can be used for outlier analysis, which helps in establishing taxpayer profiles and spotting deviations in behaviour, such as abrupt drops in declared income or drastic increases in assets, etc.; Campaign efficacy: AI can also help in graded communications for fine-tuning of campaign models based on learnings of earlier campaigns; Predictive Tax Compliance Measures: AI can identify sectors with low tax compliance and suggest targetted policy interventions at a sectoral level. It can also be used for predicting income, Advance Tax payable, etc. on the basis of analysis of historical data and trends.

While explaining about the role played by AI in streamlining public services like Aadhaar and GST, and collection of direct and indirect taxes in India and widening the tax base the Ministry stated that the public services can be made more user-friendly and accessible by using A.I. in user interface to make instruction vernacular based and in conversant language. Data for multiple uses including income tax,

banking and other financial transaction can be analysed through A.I to identify areas requiring government intervention or enforcement action to improve compliance. AI can be used as an active assistant in return filling and providing help to taxpayers. To identify suspicious patterns in GST Registration Applications, returns filing, flagging potential tax evasion AI could be used. AI models can predict potential non-compliant taxpayers based on historical data, transaction patterns and financial behaviour. AI chatbots can guide taxpayers through GST registration, returns filing and payments. AI can be used to improve user experience and to further enhance the ease of doing business. At present, Chatbot 'Vaani' has AI features. By using these tools, users can very easily search for any of the keywords such as Registration, Import, and Export etc on the ICEGATE portal. The tool is trained to reply with all relevant items such as User Manual, Advisory etc related the keyword. As with any AI tool, it becomes more intelligent with continued usage. Therefore, promoting this tool further among users will lead to a better interactive experience for the Importers/Exporters and other users. AI algorithms can analyse GST data to detect fraudulent transactions, fake invoices, and cases of tax evasion. Advanced analytics can identify circular trading, input tax credit fraud, and suspicious patterns in large-scale transactions. AI-powered dashboards can monitor GST compliance in real time, assigning risk scores to businesses for proactive inspections. AI-powered systems can auto-assess tax returns, verify claims, and flag inconsistencies. This reduces human intervention and processing time. Leverage AI tools to help traders accurately identify the correct Customs Tariff Heading (CTH) number for their goods. This will reduce classification errors, streamline customs procedures, and promote compliance with trade regulations.

Stopping Fraud & Duplication: AI can detect fake Aadhaar IDs, bogusGST claims, and shell companies involved in tax fraud. Simplifying Tax Filing: AI-powered assistants can help businesses and individuals file GST and income tax easily, reducing errors and delays. Expanding the Tax Base: AI can analyze transactions to identify potential taxpayers who aren't currently in the tax net.Faster Compliance & Support: AI chatbots can provide instant help for tax-related queries, making compliance smoother. AI can make the GST and customs related matters like classification and valuation of goods more transparent and bring uniformity. Taking note of the wide spread use of AI in the Tax Sector, the Committee hope that these tools continue to evolve as user friendly tools and help to preventing financial as wella s tax frauds by shell companies.

16. Continuing with briefing about the impact of use of AI in various Programmemes and future course of action for integration of AI, the Department of Revenue stated that in Financial Intelligence Unit-India (FIU-IND) FINnet 2.0, the state-of-the-art IT system of FIU-India, uses AI/ML to generate accurate linkages and create enriched profiles of reported entities for improving quality, support deeper analysis, visualize the network and uncover hidden

relationships. In Goods and Services Tax Network (GSTN) AI/ML is being used in system-based risk assessment, flags fraudulent Input Tax Credit (ITC) claims, and identifies tax evasion networks, ensuring robust revenue protection. In future, GSTN seeks to utilize Generative AI for grievance redressal of tickets raised by taxpayers, helping draft notices under human supervision, and helping tax officers to use of various analytical tools and in training. In Central Board of Direct Taxes (CBDT) at present, the use of Artificial Intelligence in the Income Tax Department (ITD) is limited to basic Natural Language Processing (NLP) for processing unstructured data and selective Machine Learning (ML) for refining case selection models. In future, the Income Tax Department envisages wider AI integration including use of AI powered chatbots, predictive analytics, anomaly detection, trend identification, classification, fraud detection and pattern recognition, etc. It was submitted that Income Tax Department is planning the next phase of the Integrated e-Filing and CPC (IEC) project i.e. IEC 3.0, for which the new Managed Service Provider is expected to be on-boarded in the year 2027. IEC 3.0 intends to use AI/ ML to incorporate Risk Based Multi Factored Authentication for more secured access to e-filing portal. For future integration of AI in functioning of Department, CBIC is implementing a new AI powered Customs Integrated System for end-to-end digitization of all Customs processes to promote faster dwell time and ease of doing business. The National Customs Target Centre (NCTC) is using AI in Image Analytics for analysis of X-ray images generated by scanning of containerized cargo. This AI model helps provide a prediction of the cargo that may potentially be inside the container. The future course of action is to integrate this model with ICEGATE using APIs, so that the model can ingest images from all scanners located across the Country, and the predictions can be provided directly to the officer who is located on the field. AI/ML is being used in system-based risk assessment, flags fraudulent Input Tax Credit (ITC) claims, and identifies tax evasion networks, ensuring robust revenue protection. CBIC seeks to utilize Generative AI for grievance redressal of tickets raised by taxpayers, drafting notices under human supervision, and helping tax officers in use of various analytical tools and in training. From these submissions it is seen that AI is widely used in various arms of the Revenue Department. The Committee hope that the Department will ensure that the taxpayers continue to get hassle-free filing of IT-Returns and seamless access to e-filing portal with the integration of Integrated e-filing and CPC (IEC) Project that is IEC 3.0.

<u>Ministry of Home Affairs</u>

17. The Ministry of Home Affairs in it submission stated that Artificial Intelligence (AI) is emerging as a critical enabler in strengthening the internal security architecture of India, particularly in enhancing the operational capabilities of the Ministry of Home Affairs, police forces, paramilitary units, and other law enforcement agencies. AI facilitates real-time surveillance, predictive

policing, behavioural analysis, and crime pattern recognition, enabling faster and more informed decision-making. Indian Cyber Crime Coordination Centre (I4C) has taken following steps to use AI in assisting detection and investigation of cybercrimes:

i. **A Data Analysis Lab has been set-up at I4C. It is actively engaged in utilizing AI and ML tools to analyse complaints reported on the portal. It collaborates with various organizations and institutions to facilitate knowledge sharing in the field of AI and ML.**
ii. **To modernize cybercrime reporting and investigation, the Indian Cyber Crime Coordination Centre (I4C), in collaboration with IndiaAI and MeitY, organized the CyberGuard AI Hackathon to develop an AI solution for automatic classification of cybercrime complaints on the National Cybercrime Reporting Portal (NCRP). The winning model, currently under implementation and fine-tuning, analyses complaint descriptions and uploaded evidence to assist law enforcement in prioritizing and investigating cases more effectively. This initiative aims to improve the efficiency and responsiveness of Law Enforcement Agencies (LEAs).**
iii. **I4C is also planning to implement an AI-assisted complaint registration system for the 1930 cybercrime helpline, which will reduce the time required for lodging complaints and improve user experience through guided interaction.**
iv. **Additionally, I4C, in collaboration with IIT Bombay, is exploring the use of AI to assign suspect scores to mule accounts by analysing behavioural and transactional patterns to help identify confirmed mule accounts. I4C is also engaging with the Reserve Bank Innovation Hub (RBIH) to develop a model that provides real-time suspect scoring for financial transactions, enabling banks to flag and potentially stop fraudulent transactions proactively, thus offering a robust layer of defence against financial cybercrimes.**
v. **PMT (Proactive Monitoring Tool): An AI-based tool developed by CDAC Mumbai is currently being used to screen and verify Child Sexual Exploitative and Abuse Material (CSEAM) content in cyber tipline received via the National Centre for Missing & Exploited Children (NCMEC) before they are forwarded to Law Enforcement Agencies (LEAs). The AI model is under fine-tuning, and it is proposed to be extended to crawl the open web for proactive identification of CSEAM content.**
vi. **I4C uses AI-based tools to monitor dark web, scam websites, and fraud networks for tracking cybercrime discussions, phishing campaigns, and suspicious financial transactions.**
vii. **In cybercrime commando course curriculum, AI&ML topics have also been covered.**

viii. **AI can also be used in Automatic Number Plate Recognition (ANPR), AI-powered Facial Recognition Technology (FRT) with CCTV surveillance for identifying wanted criminals as well as for efficient traffic management. AI is also helping security agencies in enhancing their capabilities for intelligence gathering and counter-terrorism efforts by rapidly analyzing vast datasets, detecting anomalies, predicting patterns, cross linkages etc., thereby improving decision-making, speed and accuracy in such areas of operations.**

The Committee find that MHA has taken various measures to use AI based tools in assisting detection and investigation of Cybercrimes such as darkweb, scam websites and fraud networks. Further, it has been observed that the Ministry is fine-tuning their portals *i.e.,* National Cybercrime Reporting Portal (NCRP) to improve the efficiency and responsiveness of Law Enforcement Agencies (LEAs) and Proactive Monitoring Tool (PMT). The Committee, while appreciating the formidable AI enabled steps taken by them, hope that the Ministry will continue to strengthen the agile use of AI in reinforcing the internal security architecture of India.

18. Elaborating upon the impact of Artificial Intelligence (AI) in cybercrime, the Ministry of Home Affairs stated that the growing capabilities of Artificial Intelligence (AI) have significantly impacted the cybercrime ecosystem, both in the complexity of attacks and the speed at which they can be executed. Cybercriminals are increasingly exploiting AI for generating deep fake videos, voice clones and synthetic media to impersonate individuals for fraud, misinformation and identity theft. AI tools are being used to craft phishing emails, create fake banking applications, and deploy adaptive malware with minimal human effort. Criminals are also leveraging AI for large-scale data scrapping, personalized targetting, and behavioural manipulation. Of particular concern is the use of AI to generate Child Sexual Exploitative and Abuse Material (CSEAM) and deepfake imagery for sextortion and blackmail, making detection and prevention more difficult through traditional methods. On being asked whether the existing laws were able to cope up with the challenges generated by AI and if not, what additional laws had been enacted or being envisaged to counter the risks posed by AI on the safety, security and privacy of citizens due to increased digital and social media interface, the Ministry replied that the existing legal and regulatory framework is gradually evolving to address the emerging challenges posed by Artificial Intelligence (AI), especially in areas impacting safety, security, and privacy due to the growing interface of AI with digital and social media. About the preventive steps taken it was submitted that Strengthening of Law was through Existing and New Legal Frameworks. India's legal ecosystem has responded proactively to the evolving threat landscape associated with AI misuse. Key legislations and frameworks include:

i. Information Technology Act, 2000: The IT Act continues to provide the foundational digital legal framework. Under Sections 66, 66B, 66C, 66D, 66E, 66F and 67, 67A, 67B and 72 etc., offences such as unauthorised access, identity theft, cheating by impersonating, data tampering, and online obscenity, increasingly perpetrated using AI tools, are punishable. The Act is actively used to address AI-related harms like deepfake pornography, AI-generated phishing, and synthetic media fraud.

ii. New Criminal Laws (2023):

a) Bharatiya Nyaya Sanhita, 2023:

b) Bharatiya Sakshya Adhiniyam, 2023 (New Evidence Act): This law gives recognition to electronic evidence, digital signatures, and metadata, which is crucial when investigating crimes involving AI-based systems or algorithmic decisions. It strengthens the admissibility of AI-generated content when used as evidence, provided authenticity is established.

c) Bharatiya Nagarik Suraksha Sanhita, 2023: The new criminal procedure code emphasizes technologically enabled investigation. This includes video recording of statements, digital arrest warrants, and electronic data retrieval — important tools for dealing with AI-facilitated crimes.

iii. Digital Personal Data Protection (DPDP) Act, 2023: The Digital Personal Data Protection Act, 2023 marks a foundational shift in India's data governance framework by establishing data privacy as a statutory right and by holding entities accountable for how they collect, process, store, and share personal data. The Act ensures individual autonomy and control over personal data by enforcing a consent-based model of data processing, requiring that personal data be collected and used only for lawful, specific, and clearly defined purposes, and with the explicit knowledge and permission of the data principal (the individual).

The DPDP Act is particularly significant in the context of Artificial Intelligence (AI) systems, which frequently rely on large datasets — often including personal and sensitive data — for training, profiling, decision-making, and personalization. The Act prohibits unauthorized or excessive data collection, and ensures that AI systems and the entities deploying them must adhere to the principles of data minimization, purpose limitation, and fairness. This has direct implications for preventing unlawful AI profiling, algorithmic discrimination, and AI-based surveillance by both private platforms and state actors.

Moreover, the Act introduces obligations on Data Fiduciaries, including developers and operators of AI systems, to implement reasonable safeguards, such as data security measures, grievance redressal mechanisms, and transparency in automated decision-making. It also empowers individuals to seek redress if they believe their personal data has been misused, which includes misuse by automated tools that may impact a person's rights, reputation, or opportunities. Another key value addition in the DPDP framework is the provision for significant penalties for non-compliance, including fines up to ₹250 crore for failing to prevent data breaches or using data for unauthorized purposes — which is crucial in deterring reckless or opaque deployment of AI technologies.

iv. Digital India Act (DIA): DIA is currently under formulation to replace the IT Act and introduce new central legal framework to deal with emerging issues of AI.

From the above submissions the Committee find that Digital India Act (DIA) is currently under formulation to replace the IT Act and introduce new central legal framework to deal with emerging issues of AI. The Committee hope that the Digital India Act will soon be passed in Parliament.

19. While examining the negative impacts of AI, the Committee wanted to know about mule accounts and how it escaped the ambit of laws. The Committee sought to understand what was being done in terms of punitive measures and if MHA had any AI tools or methods that were being used for detecting mule SIM card accounts along with any system where the Ministry was able to detect the owners of the SIM cards. MHA submitted that fraudsters exploit the existing infrastructure in various ways: Banking (Mule Accounts, Virtual Accounts, Payment Aggregator, Payment Gateway, Misuse of CBDC, Crypto currency etc.), Telecom (Mule SIM, Rogue POS Agents, Simbox, SMS Headers, Call Spoofing etc.),IT Infrastructure (Google, Meta, Instagram, Telegram, Facebook, etc.) and Human Resources (Agent, Sub-Agent, Scam Centre, etc.).The response of I4C to the above method adopted by cyber fraudster is as below:

i. The National Cybercrime Reporting Portal (NCRP) was launched in August 2019 by the Ministry of Home Affairs (MHA) to set up a mechanism to facilitate reporting of all types of cybercrime including Cyber-Enabled Financial crimes. The portal has two components; the first is for citizens to report cybercrime-related complaints online without needing to visit a police station, and the second component is for police agencies, banks and financial intermediaries, and other stakeholders to monitor and act upon those complaints expeditiously. The second component has a module called the Citizen Financial Cybercrime Reporting and Management System (CFCFRMS) under CFMC, as a part of the National Cybercrime Reporting Portal (NCRP) integrates Law Enforcement Agencies (LEAs), major Banks

and Financial Intermediaries on a single platform. As of June 2025, Financial Institutions comprising of 431 Banks, 34 Wallets/Payment Aggregators (PA)/ Payment Gateways (PG), 27 Merchants, 2 Insurance Companies, 7 Crypto Exchanges/ VAPs, 2 Stock trading and 4 major Telecom Service Providers have been on boarded on NCRP-CFCFRMS Portal. The financial crimes reported over the NCRP after verification by concerned LEA's via CFCFRMS module are being sent to the Banks/Financial Intermediaries in order to warrant action by banks/FIs to save the fraudulent transaction within the financial digital ecosystem. I4C provides banks with visibility into mule bank accounts through the NCRP Portal, enabling them to take necessary actions.

ii. A State-of-the-Art Cyber Fraud Mitigation Centre (CFMC) has been established at I4C where representatives of major banks, Financial Intermediaries, Payment Aggregators, Telecom Service Providers, IT Intermediaries and representatives of States/UTs Law Enforcement Agency are working together for immediate action and seamless cooperation to tackle cybercrime. CFMC is committed to developing robust mechanisms to combat cyber financial fraud in near real-time. By bringing together financial institutions, CFMC aims to detect, prevent and mitigate the cyber financial frauds by preventing the dissemination of fraudulent funds across various financial sectors. As of June 2025, Representatives from top 45 Banks/Financial Institutions (FI), all major TSPs (Airtel, Jio, Vodafone Idea, BSNL), and 12 LEAs from different States are co-located in CFMC. These representatives coordinate closely using extensive dashboards to combat cyber criminals and to halt crime proceeds within the digital ecosystem.

iii. Furthermore, to ensure inter-bank visibility all particular entities including DFS, RBI, Banks, Financial Institution are being provided with the visibility of their respective layer-wise mule accounts reported on NCRP-CFCFRMS platform, additionally a Suspect Registry mechanism has been implemented, which enables Banks and Financial institutions to flag mule accounts and related identifiers across the participating entities, thus assisting the Banks/FIs in mitigation of cyber financial frauds. Suspect Registry will share the relevant information with the participating entities, for taking necessary action (i) to verify the credentials of new customers before onboarding, ii) monitor the ongoing transactions in real time, (iii) check historical accounts and transactions to identify suspect mule accounts.

iv. Additionally, a draft MOU is under process between RBI Innovation Hub and I4C to enhance the efficiency of mule hunter application. Mule hunter is an in-house AI/ML-based solution which is better suited than a rule-based system to identify suspected mule accounts. Advanced ML algorithms can analyse transaction and account detail related datasets to predict mule accounts with higher accuracy and greater speed than typical rule-based

systems. This machine learning based approach has enabled the detection of more mule accounts within a bank's system. Additionally, RBIH's Mulehunter.ai model provides AI/ML-based solutions for identifying and mitigating risks related to mule accounts, significantly enhancing fraud detection capabilities across the banking system. The integration of same with I4C's NCRP-CFCFRMS/Suspect Registry will assist in faster and more accurate mitigation measures against cyber financial Fraud. The Committee note that the MHA, in order to further strengthen the system, is in the process of having an MOU between RBI Innovation Hub and I4C to enhance the efficiency of mule hunter application. The Committee while taking note of the AI/ML-based solutions to fight against financial fraudsters, call upon the Ministry to apprise them of the latest developments in the field.

20. MHA also submitted that I4C is planning to implement an AI-assisted complaint registration system for the 1930 cybercrime helpline, which will reduce the time required for lodging complaints and improve user experience through guided interaction. It will be compatible with most of the regional/native languages. Further, I4C, MHA runs a Social Media Handle "Cyberdost" which effectively promotes the cybercrime helpline number 1930 and the reporting portal www.cybercrime.gov.in. The posts are in English and Hindi and also in regional languages from time to time. An app is in the process of development. Action starts immediately with registering of the complaint, as it is immediately forwarded to the LEAs and Banks etc. Taking cognisance of these initiatives by MHA, the Committee would like to be apprised of the development of the App for immediate reporting/quick action against cyber crime.

21. Among the other initiatives of MHA, the Committee are informed that in terms of 'Surakshini' (a centre run by the Ministry of Home Affairs, which keeps an eye on the crimes related to children and women and helps in removing vulgar contents), the Ministry has a 'hash' value that is being shared. When the Committee wanted to know what had been the response time of the social media intermediaries in actually responding to it and taking them down, it was submitted that currently, the Online Cybercrime against Women and Children (OCWC) team under I4C identifies complaints related to Child Sexual Exploitation and Abuse Material (CSEAM) and Non-Consensual Intimate Imagery (NCII) received through the National Cybercrime Reporting Portal (NCRP). OCWC team share URLs and links reported in the complaints with Social Media Intermediaries (SMIs) via the SAHYOG platform for content takedown. These requests are followed up to ensure compliance and timely removal.

Under the proposed SURAKSHINI initiative, a dedicated Mitigation Centre will be established to strengthen this process. Once operational, SURAKSHINI will facilitate the creation of a comprehensive hashbank for CSEAM and NCII

content. This will allow SMIs to proactively detect and prevent the upload of such harmful content using automated hash-matching, thereby shifting from a reactive takedown approach to a preventive content moderation model. Additionally, the SURAKSHINI dashboard will provide end-to-end visibility into complaint status, takedown timelines, and FIR registration, helping improve coordination and accountability across platforms and law enforcement agencies. The Committee hope that SURAKSHINI initiative would soon become operational.

22. Regarding the extent of databases from States being integrated by the Ministry of Home Affairs and whether the Ministry had been able to access UIDAI and other databases for facial recognition at State levels, the Committee were informed that the Criminal Procedure (Identification) Act, 2022 authorise taking measurements of convicts and other persons for the purposes of identification and investigation in criminal matters. 'Measurements' includes finger-impressions, palm-print impressions, footprint impressions, photographs, iris and retina scan, physical, biological samples and their analysis, behavioural attributes including signatures, handwriting or any other examination referred to in section 53 or section 53A of the Code of Criminal Procedure, 1973. In order to facilitate the above, CrPI System is being rolled out which will capture photographs, Iris and DNA as per the provisions of the Act. The captured photographs will be processed and will be ingested in a facial recognition system for matching purpose also. A proposal has been initiated to integrate AI on SAMANVAYA platform in which data of arrested cybercriminals could be uploaded by States/UTs for interstate linkages. There is no access to UIDAI or other database for facial recognition at I4C. Taking into consideration the importance of the issue the Committee hope that the Ministry will soon complete the process of integration of data bases of States regarding arrested cyber criminals with SAMANVAYA platform.

23. As regards the AI mechanism or tool that was being used by the Ministry for detecting forged government documents, the Committee are informed that all the forensic departments functioning under the Ministry of Home Affairs, are duly competent and sufficiently equipped to conduct examinations in respect of all categories of document forgery. These institutions are equipped with state-of-the-art forensic technologies, such as the Video Spectral Comparator, Projectina, advanced digital stereomicroscopes, Traso Scan, ProScope, and other specialized instruments, and are duly supported by trained and qualified personnel possessing the requisite expertise. Artificial Intelligence–based tools are presently being deployed in forensic investigations pertaining to digital and cybercrime by the forensic institutions functioning under the administrative control of the Ministry of Home Affairs. Use of Artificial Intelligence in document

forgery examination has not yet been operationalized, as the technology remains at a nascent stage and requires further validation for efficacy. The Committee while appreciating the efforts of the Ministry, hope that the Ministry will continue exploring the use of advanced AI based tools to help stop digital and cybercrimes.

24. During the course of examination when the Committee sought to know if the Bureau of Immigration (BoI) was using AI to detect unwanted people entering the Country or people who might be wanted for crimes in other countries but were not yet on an Interpol list, and if the Ministry was indulging in collaboration with international agencies beyond Interpol for data sharing, the Ministry submitted that the BoI is currently not using AI for immigration process. However, the future implementation plan for the Mission Mode Project i.e. Immigration, Visa Foreigners Registration and Tracking (IVFRT) (Version 3.0), commencing on 01.04.2026, envisions a comprehensive transformation of India's immigration, visa, and traveller management ecosystem by leveraging emerging technologies such as Artificial Intelligence (AI) and Machine Learning (ML) for intelligent traveller profiling, and exploring Blockchain to enhance the authenticity and security of digital records. The Committee learnt that as far as international collaboration for data sharing is concerned, currently there is no collaboration with any country. Taking note of the above submissions, the Committee would like to urge that AI should be used to prevent illegal immigration and strengthen Digital Security records by the Government.

<u>Ministry of Defence</u>

25. While examining the submissions made by Ministry of Defence, the Committee wanted to know the potential benefits and risks of deploying AI in lethal autonomous weapon systems, defence technologies and warfare. The Ministry submitted that deployment of AI based and deductive reasoning can be very useful in decision making. Further, it was added that development and deployment of autonomous weapon systems provide several military advantages. Autonomous weapons systems act as a force multiplier enabling expanded battlefield, allowing combat to reach into areas previously inaccessible. It can reduce casualties by excluding human war fighters from dangerous missions. Further, AI can enhance the capabilities of lethal autonomous weapon systems and unmanned vehicles by precision target detection and dynamic route planning. One major challenge as submitted by the Ministry is the lack of consensus on how to define the autonomy of weapon systems. A standard definition that accounts for levels of autonomy could help guide an incremental approach to proposing limits. AI ML based techniques are

not amenable for verified decision making and hence are likely to result in unintended outcomes as well. The Committee would like to call upon the Ministry to apprise them of the way-out to the challenges that are posed in this field.

Ministry of Power

26. Ministry of Power in its submissions stated that Artificial Intelligence (AI) has emerged as a critical enabler in transforming the energy sector by optimising processes, improving operational efficiency, and supporting energy transition goals. AI applications can be instrumental in managing grids, forecasting energy demand with greater accuracy and facilitating the integration of renewable energy sources into the grid. AI holds significant potential to address complex challenges in the energy sector, such as minimising energy waste, reducing operational costs and enhancing the adoption of clean and renewable energy technologies. By leveraging AI-driven solutions, the sector can contribute substantially to achieving national and global sustainability goals and ensuring a secure and resilient energy future. NTPC has implemented an AI/ML-based forecasting system for solar power generation that uses advanced algorithms to deliver accurate day-ahead and intra-day generation forecasts. The system integrates real-time weather data from IoT-based monitoring stations, satellite inputs, and historical irradiance patterns to support data-driven scheduling and grid management. Earlier, forecasting relied on third-party services and manual weather assessments, which were prone to human error. The automated system now generates forecasts and schedules systematically, leading to significant reduction in deviation charges under the DSM mechanism and improved renewable integration and grid compliance. Grid Controller of India Limited is considering improving upon its current statistical forecasting mechanism to an AI/ML-based short-term (day-ahead and intraday) demand forecasting model to enhance grid reliability. The system intends to integrate weather parameters, historical demand trends, and event factors such as holidays and weekends to achieve a targetted Mean Absolute Percentage Error (MAPE) of 3–5% for day-ahead forecasts. While examining these submissions, the Committee wanted to know what security mechanisms were in place to ensure that individual solar plants are protected from cyber attacks and the cyber attackers do not access the grid, the Ministry submitted that Central Electricity Authority is in the process of finalizing the Central Electricity Authority (Cyber Security in Power Sector) Regulations. These regulations will ensure that the control and operation of power system elements including solar inverters, as well as the exchange of related information, including real-time data, remain within national boundaries. Additionally, Ministry of Power has mandated that IT equipment and services, as may be identified in due course, to be used in the power sector shall be cleared through the Trusted Telecom Portal

operated by National Security Council Secretariat (NSCS) prior to their supply, with effect from 1st January 2026. The Committee hope that the Central Electricity Regulatory Authority (Cyber Security in Power Sector) Regulations come into existence at the earliest.

Ministry of Agriculture and Farmers Welfare

27. According to the Ministry of Agriculture and Farmers Welfare the emergence of AI in agriculture represents a paradigm shift from input-driven practices to intelligence-driven, anticipatory governance. Submitting key benefits of AI Adoption in Agriculture MoA & FW stated that the deployment of AI-based systems offers multiple benefits such as Improved farmer decision-making through timely, localized advisories; Reduction in crop losses via early detection of pests and diseases ;Enhanced efficiency in governance, including subsidy targeting, insurance disbursal, and monitoring; Cost optimisation and productivity gains through precise input use ;Strengthened climate resilience by enabling anticipatory planning and Data-driven policymaking supported by real-time, high-quality agricultural intelligence. Highlighting the constraints due to which many farmers and agricultural workers hesitate to use AI, the Ministry submitted that the use of Artificial Intelligence is becoming popular day by day. However, some of the reasons for low adoption of Artificial Intelligence (AI) by farmers are:

- **High Initial Investment and Costs: AI-powered tools, such as drones, robotic harvesters, and smart sensors, require high capital, which is prohibitive for adoption by the small and marginal farmers and the data processing from such devices.**
- **Lack of High Speed Internet Connectivity: Many rural areas lack high-speed, reliable internet connectivity (broadband) and stable power, which are essential for cloud-based AI tools.**
- **Technical Skill Gap: A significant gap exists in the ability to operate, maintain, and understand, complex AI systems.**
- **Lack of Trust and Explain-ability: AI models can sometimes produce unexpected or "black box" recommendations. Farmers often default to their traditional experience over AI advice when they do not understand how the AI reached a conclusion.**
- **Language and Context Barriers: Many AI tools are not available in local languages/ dialects, or they are trained on data from different agri-ecological zones (e.g., western countries), making them ineffective for local crops and soil types.**

  Farmer Concerns were:

- **Unclear Return on Investment (ROI): Farmers are hesitant to spend money on technology without guaranteed, quick, or visible increase**

in yield or savings.

- **Data Privacy and Ownership: Concerns exist about who owns the data collected from their farms and whether it will be used against them.**
- **Job Displacement: Fear that automation and robotics will replace manual labour.**
- **System Failure and Accountability: If an AI system fails or gives bad advice (e.g., wrong fertilizer dosage), it is unclear who is liable for the resulting crop loss.**

The Committee are given to understand that Government has constituted a Steering Committee to monitor and review the design, implementation, harmonization and institutionalization of AI-based initiatives to derive improved service delivery for small-holder farmers across India. Further, the Government is also conducting workshops to take this forward for implementation of AI in agriculture with various stakeholders viz. ICAR, MeitY, Ministry of Education, IIT Ropar, Private Sector agri-tech companies/ start-ups etc. The Committee would like to be apprised of the dedicated steps taken by the Ministry in the usage of AI in overcoming the challenges faced in the agriculture sector.

Ministry of Tourism

28. The Committee are apprised of by the Ministry of Tourism that a hybrid Chat-bot interface have been integrated in the Incredible India Digital Platform (IIDP) with limited AI capabilities to guide tourists. The Ministry is leveraging Anuvadini in the Incredible India Digital Platform (IIDP) which is an AI-based translation tool developed by the All India Council for Technical Education (AICTE) under the Ministry of Education, Government of India. The Committee also note that the possibilities of AI on creating itinerary based on user preferences, access of seamless services across the country, real time analytics on tourist footfalls, would aid in policy planning & infrastructure development etc. The Committee hope that the user preference data is taken care of as per user consent. The Committee while appreciating the integration of hybrid Chat-bot interfaces in IIDP, also note the role of AI in breaking language barriers for domestic and international tourists. The Committee are also informed that the Ministry has recently launched the revamped version of Incredible India Digital Platform (IIDP) to prevent the risk of "Deepfakes" or AI hallucinations creating false narratives. The Committee also note that the Ministry will coordinate with MeitY and Ministry of Skill Development and Entrepreneurship to strengthen regarding AI Future Skill Programmeme and leverage the power of AI for skilling or re-skilling in tourism sector. The Committee may, therefore, be apprised of the details of such AI based skill training provided to tourist guides, storytellers and curators etc. The Committee do note that AI can support efforts to promote

sustainable tourism practices and offer potential to enhance the efficiency, responsiveness, and accountability of tourism policy making.

Conclusion

29. The Committee understand that IndiaAI Future Skills Pillar is a core initiative under the IndiaAI Mission which envisions augmenting India's AI talent ecosystem by developing AI expertise by launching national fellowship programs at undergraduate, post-graduate and PhD level. Further, it is setting up 570 AI and Data Labs in Tier 2 and Tier 3 cities across India including NIELIT Centres and in Government ITIs/Polytechnic Institutes to provide hands-on exposure to tools, datasets and problem-solving environments for innovation, experimentation, and collaborative learning. It is also working with expert partners for NCVET-recognised certification in foundational programs to prepare learners for entry-level AI careers across different domains like Agriculture, Healthcare, Manufacturing and Education.

The Committee would like to urge upon the Ministry that specialised studies/courses in AI should be encouraged through introduction of scholarships from lower standards of schools, besides popularizing AI in colleges, and fellowships and academic research (PhDs) in AI in all Universities and setting up of Data Centres and AI Labs throughout the Country.

The Committee also opine that AI should be used ethically and responsibly. The Committee are given to understand that several countries in the world have already enacted stringent and binding laws to prevent the misuse of Artificial Intelligence (AI). Although the Government is taking measures to stop the misuse of AI to ensure that it is not used for financial frauds or intimidation or for deepfake audio-videos etc. and innocent people especially women and children are given protection, the Committee urge upon the Government to explore the possibility of a comprehensive legislation to prevent the misuse of AI and also explore if age restrictions for certain platforms could be an option to save people from the misuse of AI.

The Committee are of the view that efficient use of AI will help resolve the problems of humanity and ameliorate the lives of common people through integration of Artificial Intelligence into health care, education, agriculture, energy, industry and infrastructure creation. AI can have cascading benefits on industrial production, speeding up execution of projects, improving quality of lives and fast dissemination of knowledge.

With its vast potential of IT human resource as well as tremendous pool of medical and engineering talents embedded into Artificial Intelligence, India can enhance the quality of lives of its teeming millions and attain desirable economic growth in the world. AI integration can create climate resilient infrastructure, tackle disaster management, undertake water management at dams, minimize energy loss and energy management at power grids. Therefore, if AI is used positively, it can help overcome challenges and sufferings faced by the humanity.

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New Delhi;
27 March, 2026
6 Chaitra, 1948 (Saka)

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Standing Committee on
Communications and Information Technology.

Annexure-I

S.No.	NIELIT Centre	State/UT
1	Gorakhpur	Uttar Pradesh
2	Lucknow	Uttar Pradesh
3	Shimla	Himachal Pradesh
4	Aurangabad	Maharashtra
5	Patna	Bihar
6	Buxar	Bihar
7	Muzaffarpur	Bihar
8	Kurukshetra	Haryana
9	Ropar	Punjab
10	Haridwar	Uttarakhand
11	Bikaner	Rajasthan
12	Tezpur	Assam
13	Bhubaneswar	Odisha
14	Calicut	Kerala
15	Guwahati	Assam
16	Itanagar	Arunachal Pradesh
17	Srinagar	J&K
18	Jammu	J&K
19	Ranchi	Jharkhand
20	Imphal	Manipur
21	Gangtok	Sikkim
22	Agartala	Tripura
23	Aizawl	Mizoram
24	Shillong	Meghalaya
25	Kohima	Nagaland
26	Leh	Ladakh
27	Silchar	Assam

Appendix-I

STANDING COMMITTEE ON COMMUNICATIONS AND INFORMATION TECHNOLOGY (2024-25)

MINUTES OF THE NINTH SITTING OF THE COMMITTEE

The Committee sat on Thursday, the 9th January, 2025 from 1100 hours to 1307 hours in Committee Room No. '2', Parliament House Annexe Extension Building, New Delhi.

PRESENT

Dr. Nishikant Dubey - Chairperson

MEMBERS

Lok Sabha

2. Shri C. N. Annadurai
3. Shri Anup Sanjay Dhotre
4. Smt. Poonamben Hematbhai Maadam
5. Shri G. Kumar Naik
6. Shri Shafi Parambil
7. Dr. M.K. Vishnu Prasad
8. Shri Ramasahayam Raghuram Reddy
9. Shri Arun Kumar Sagar
10. Shri Devesh Shakya
11. Shri Rajesh Verma

Rajya Sabha

12. Shri Saket Gokhale
13. Smt. Priyanka Chaturvedi
14. Dr. Sasmit Patra
15. Shri V. Vijayendra Prasad
16. Shri Kartikeya Sharma
17. Shri K. T. S. Tulsi

Secretariat

1.	Shri Y. M. Kandpal	-	Joint Secretary
2.	Smt. A. Jyothirmayi	-	Director
3.	Shri Rajesh Mohan	-	Deputy Secretary

LIST OF WITNESSES

MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY

Sl. No.	Name	Designation
1.	Shri S. Krishnan	Secretary
2.	Shri Abhishek Singh	Additional Secretary
3.	Shri Sudheer Kumar Marwaha	Scientist 'G' and Group Coordinator
4.	Shri Abhishek Aggarwal	Scientist 'D'

Experts/Stakeholders on Artificial Intelligence

Sl. No.	Name	Designation
1.	Shri Amitabh Nag	CEO, Bhashini
2.	Shri Ashish Aggarwal	Vice President and Head, Policy Outreach and Government Relations, NASSCOM
3.	Shri Sudipto Banerjee	Senior Manager, Policy Outreach and Government Relations, NASSCOM
4.	Shri Saurabh Singh	Digital and AI Policy leader, AWS
5.	Shri Vikram Sridharan	Director for Infrastructure Policy, Asia Pacific Japan, AWS

(After the witnesses were called in)

2. At the outset, the Chairperson welcomed the representatives of the Ministry of Electronics and Information and Technology (MeitY), National Association of Software

and Service Companies (NASSCOM), Amazon Web Services (AWS), Bhashini and other officials accompanying them to the Sitting of the Committee convened to examine the subject 'Impact of Emergence of Artificial Intelligence and related issues' relating to the Ministry of Electronics and Information Technology.

Briefing about the inception, concept and functionality of Artificial Intelligence (AI), the Chairperson highlighted the initiatives taken by the Government of India towards growth of domestic AI innovation including the declaration made by All India Council of Technical Education (AICTE) i.e. **2025 as the year of Artificial Intelligence.** He further detailed about the usage of AI in India in different fields and highlighted that India's key initiatives leveraging AI were UMANG, DigiYatra, Digital India Bhashini, NAYAN AI, ATMAN AI etc. and gave example of Govt. of Assam in developing AI-based Attendance Monitoring app. Drawing attention to the challenges in this sector, the Chairperson highlighted some of them i.e., lack of access to quality AI-ready datasets, limited access to AI compute, high initial costs and investment barriers, lack of skilled workforce and technical expertise, limited cultural and contextual nuances of Large Multimodal Models (LMMs), spread of disinformation, manipulation of elections, automation of warfare, creation of bio-weapons, introduction of irreversible changes to the human genome, sophisticated cyber-attacks, AI powered deep-fakes, phishing, data manipulation, malware attacks, exposing critical infrastructure and personal data to unprecedented security threats etc. He also sought clarifications on some of the pertinent questions which would arise with the implementation of AI i.e., potential of AI to benefit everyone equally, the risks and rewards of AI and whether AI promoted autonomy or diminished it. He, further, elaborated some of the recent achievements made by AI across the globe which *interalia* included eradicating inherited diseases, extending the human lifespan, and even reversing ageing, drug discovery, optimizing global logistics and model climate solutions with unprecedented accuracy. While concluding his opening remarks, the Chairperson emphasized that collective efforts were required to address the challenges so as to encourage and regulate the use Artificial Intelligence for the overall progress and development of humanity, especially in our country.

3. Subsequently, the representatives of Ministry of Electronics and Information Technology (MeitY), made a power point presentation which gave an overview of the Impact of Emergence of AI which *inter-alia* included (i) India's Vision for AI; (ii)Potential of AI for India (iii) Challenges emerging from AI (e.g Challenges in Deployment & Adoption of AI, Biases in Current Foundational Models, Challenges in the India Data Ecosystem, Challenges in the India AI Compute Ecosystem); (iv) IndiaAI Mission - its Overview and Goals; (v) Other Key AI initiatives (e.g. YuvaAI- Youth for Unnati and Vikas with AI, Future Skills Prime); and (vi) Future Roadmap of building a robust AI Ecosystem.

4. The Members then sought clarifications on various issues which, *inter-alia,* included (i) Framework or the approach of the Government in quantifying datasets; (ii)

Democratization of access to quality datasets and resources through a Unified AI resource platform; (iii) Scope of creation of employment with the introduction of AI in rural India; (iv) Job displacement due to the introduction of AI; (v) Handling of algorithmic bias; (vi) Personal data Protection after the introduction of AI; (vii) Problems of copyright; (viii) Comprehensive legislation to address the issue of data localization only for certain data principles; (ix) Harmonization of machine readable files; (x) Use of AI in improving the electoral process; (xi) Courses offered by MeitY to literate the core State Government employees; (xii) Internal assessment of the Stanford Index rating India very High in AI developments; (xiii) Scope of Amendments in IT Rules, 2023 to address the issues raised by AI; (xiv) Data related to Centre of Excellence in Bihar; (xv) Establishment of Inter-Ministerial Coordination Committee to overview the implementation of AI; (xvi) Cyber-attack and security of Banks; and (xvii) Roadmap of investments in AI by MeitY.

5. The representatives of the Ministry of Electronics and Information Technology (MeitY), NASSCOM, AWS and Bhashini responded to most of the queries raised by the Members. The Chairperson, then, directed that written replies to points on which information were not readily available may be furnished to the Committee within ten days.

6. Thereafter, the Chairperson thanked the representatives of (MeitY), NASSCOM, AWS and Bhashini for deposing before the Committee.

The witnesses then withdrew.

A copy of verbatim record of the proceedings was kept on record.

The Committee, then, adjourned.

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Appendix-II

STANDING COMMITTEE ON COMMUNICATIONS AND INFORMATION TECHNOLOGY(2024-25)

MINUTES OF THE FIFTEENTH SITTING OF THE COMMITTEE

The Committee sat on Friday, the 5th March, 2025 from 1115 hours to 1346 hours in Main Committee Room, Parliament House Annexe, New Delhi.

PRESENT

Dr. Nishikant Dubey- Chairperson

MEMBERS

Lok Sabha

2. Shri Anil Baluni
3. Dr. Rabindra Narayan Behera
4. Shri Appalanaidu Kalisetti
5. Shri Arun Kumar Sagar
6. Shri Vishnu Datt Sharma

RajyaSabha

7. Shri Saket Gokhale
8. Shri V. Vijayendra Prasad
9. Shri S. Niranjan Reddy
10. Shri Kartikeya Sharma
11. Shri Lahar Singh Siroya
12. Shri K. T. S. Tulsi

Secretariat

1. Shri Y. M. Kandpal - Joint Secretary
2. Smt. A. Jyothirmayi - Director
3. Shri Amrish Kumar - Deputy Secretary

LIST OF WITNESSES

MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY (MeitY)

Sl. No.	Name	Designation
1.	Shri S. Krishnan	Secretary
2.	Shri Abhishek Singh	Additional Secretary
3.	Smt. Kavita Bhatia	Scientist 'G' and Group Coordinator
4.	Shri Abhishek Aggarwal	Scientist 'D'
5.	Shri Sushil Kumar Jangid	Scientist 'B'

MINISTRY OF NEW & RENEWABLE ENERGY

Sl. No.	Name	Designation
1.	Ms. Nidhi Khare	Secretary
2.	Dr. Arun Kumar Tripathi	Scientist G
3.	Dr. PankajSaxena	Scientist G
4.	ShriSujit Pillai	Scientist F
5.	Shri Adarsh Saiwal	Senior Director, NIC

DEPARTMENT OF FINANCIAL SERVICES

Sl. No.	Name	Designation
1.	Shri M. Nagaraju	Secretary
2.	Shri M.P. Tangirala	Additional Secretary

DEPARTMENT OF REVENUE

Sl. No.	Name	Designation
1.	Shri Ajay Seth	Secretary
2.	Shri Vivek Aggarwal	Additional Secretary
3.	Shri Naval Kishore Ram	Joint Secretary
4.	Shri Nikhil Verma	ADG (Systems), CBDT
5.	Shri Hemant Gupta	ADG (Systems), CBDT
6.	Shri Rewat Raja Bahl	ADG (Systems), CBIC
7.	Shri Manish Kumar Hairat	Additional Director, FIU-IND

(After the witnesses were called in)

2. At the outset, the Chairperson welcomed the representatives of the Ministry of Electronics and Information and Technology (MeitY), Ministry of New and Renewable Energy, Department of Financial Services (Ministry of Finance) and Department of Revenue (Ministry of Finance) to the Sitting of the Committee convened to have the Presentation/Evidence on the Subject 'Impact of emergence of Artificial Intelligence and related issues'.

The Chairperson, in his opening remarks, pointed out that the aim of the deliberations was to have a broad perspective of the preparedness of various Departments of the Government of India in Artificial Intelligence for creating an ecosystem for its growth. The Chairperson elaborated that progress of AI can be a boon or bane and India's approach in this field has been to promote innovation, ensure inclusivity and drive equitable access-based on open and ethical AI. He further emphasized that the notion that advanced AI requires massive, centralized resource is crumbling. In its place, an alternative path where openness, collaboration and democratization have become the driving forces of AI innovation, freeing the monopoly of few entities. Pointing out at the advancements made by India in this sector under India AI Mission, the Chairperson made an observation that the future of AI should be focussed on

advanced reasoning capabilities while taking into account the sophisticated cyber-attacks, leveraging AI power defects, phishing, data manipulation and malware.

3. Then, the representatives of Department of Revenue (Ministry of Finance), made a power point presentation which gave an overview of use of AI tools in the Department *inter-alia* including (i) Tax Compliance and Enforcement; (ii) Data Analysis and Risk Management; (iii) Automation of processes; (iv) Chatbots and Virtual Assistants; (v) Customs and Border Security; (vi) Predictive Modeling for Tax Policy; (vii) Data Integration and Interoperability; (viii) Prediction of Tax Collection; (ix) Document Search of Taxpayer details for entry linkage and analysis; (x) Implementation of ADVAIT (Advance Analytics in Indirect Taxation) (xi) Development of BIFA (Business Intelligence and Fraud Analytics) Tool to highlight and report fraudulent or suspected to be fraudulent Taxpayer behavior; (xii) Use of Indian Customs Electronic Data Interchange Gateway (ICEGATE): Chatbot (Vaani) for providing quick response to the users for receiving Financial Condition Report (FCR) queries related to imports/exports without connecting to ICEGATE helpdesk; (xiii) Development of FIU-FIN Core for connectivity of Database, analysis of Data, Dissemination of Data etc.

   The Department while highlighting the impact of AI in their day-to-day functioning also pointed out the risks of using AI tools that included use of bias and discriminated data, lack of transparency and accountability, privacy concerns, security vulnerabilities and over-reliance on technology and vendor dependence.

4. The representatives of Department of Financial Services (Ministry of Finance) in their power point presentation highlighted the Impact of AI in Financial Services like personalized customer experience, enhancing operational efficiency, improved risk management and incremental revenue generation and in the Insurance and pension sectors. Flagging concerns about the challenges posed by AI in the areas of growing third-party dependencies and market concentration; increasing correlation due to widespread use of similar AI models leading to financial stability risks; lack of interpretability of AI models and data quality concerns; Data privacy, cyber security and spread of disinformation, the Department informed the Committee that RBI has set up a committee to develop a Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI) in the Financial Sector, to guide on addressing potential systemic risks from the adoption of Artificial Intelligence in Financial Sector.

5. The representatives of Ministry of New and Renewable Energy in their power point presentation highlighted the initiatives taken by the Ministry in the sectors like Rooftop solar assessment project, GIS-Based Solar Potential Mapping by National Institute of Solar Energy (NISE) and capacity building. The Department

further highlighted the applications of AI in forecasting & Resource Assessment, scheduling of power supply to Grid. While discussing about the impact of AI implementation in Renewable Energy (RE), the Department detailed about AI-driven demand forecasting and grid optimization leading to reduced energy wastage; ML-based forecasting and resource assessment ensuring better energy planning; Predictive maintenance lowering operational costs by preventing failures in Renewable Energy plants; Aids in PV module recycling and circular economy initiatives, reducing environmental impact; and Micro grid management and self-healing grids enhancing reliability and stability. The presentation also mentioned about the potential areas of use of AI which included the Renewable Energy (RE) Predictions, Energy Storage Optimization, Micro-grid Optimization & Energy management, Site Selection for RE Projects, Integration of chatbots in all scheme portals of the Ministry and AI-powered virtual models to simulate real-time plant performance. In the end, the Ministry enlisted cyber security risks and skill gaps as major challenges and concerns.

6. Thereafter, the representatives of Ministry of Electronics & Information Technology (MeitY) made a power point presentation which *inter-alia* covered topics on AI Matters in India, harnessing the potential of AI; Use of cases, challenges in deployment and adoption of AI technology, India AI Mission, Future skills Prime and way forward for better and robust AI ecosystem. Giving further details, Secretary MeitY apprised the Committee about (i) Receiving of 67 applications for the creation of Indigenous Foundation Model of AI; (ii) Completion of Dataset Platform; (iii) Bids received for model Hyper Scale AI Compute; (iv) Shortlisting of 30 applications for AI Application Development Initiative; (v) Awarding of 8 projects in Safe and Trusted AI; (vi) Launch of one project of Machine Unlearning with IIT, Jodhpur; (vii) Launch of a project for Synthetic data generation with IIT, Roorkee; (viii) Lunch of AI Bias Mitigation Strategy with NIT, Raipur; (ix) Launch of explainable AI Framework Project with Defense Institute of Advanced Technology, Pune and another private company called Minecraft Technology Private Limited; (x) Launch of Privacy Enhancement Strategy with IIT Delhi, IIT Dharwad and Telecommunications Engineering Centre (TEC) (Department of Telecommunications); (xi) Launch of AI Ethical Certification Framework with IIT Delhi and TEC; (xii) Establishment of AI algorithm auditing tool, a civic data lab, called PARAKH AI, which is an open-source framework to audit AI algorithm; (xiii) Launch of AI Governance Testing Framework with Amrita Vishwa Vidyapeetham in Kerala and Technology Engineering Centre; (xiv) Work on Big data Analytics with NASSCOM, NIELIT, AICTE etc.; (xv) Work with line Ministries and with States to expand AI utilizations across Ministries and States; (xvi) Work on post-quantum cryptography and quantum communications; etc.

7. Thereafter, Members sought clarifications on various issues which, *inter-alia,* included (i) AISI's five safety projects such as real-time deep fake detection, AI-

generated content water-marking, ethical AI frameworks and red teaming AI models; (ii) progress made so far under projects like machine unlearning, synthetic data generation for bias mitigation, AI bias mitigation in healthcare systems and AI algorithm audition tools; (iii) major constraints as well as challenges faced in AI adoption; (iv) status of co-ordination between FIU and GSTN for Data analytics; (v) mechanism by Income Tax Department for solving the issues related to private vendors and system demolition ;(vi) steps to frame rules to safeguard the personal life which may be interfered by the use of AI; (vii) status of setting up of Data-Embassies to develop India as an AI centre; (viii) efforts being made by the Ministry towards voice-driven AI; (ix) differentiation between false information and right information signaled in midst of noise by FIU; and (x) Evaluation of free from bias AI Models used by private Fintech companies; (xi) inviting private sector investment in hardware; (xii) impact of AI on human & cultural aspects and on the jobs ; (xiii) need for a separate provisioning and budget regarding AI usage and promoting training for all employees; (xiv) attracting private sector investment and collaboration in AI funding and collaboration with private universities for AI development; (xv) issues related to cyber fraud; (xvi) clean power requirement for AI development; and (xix) quantum computing and its readiness, etc.

8. The representatives of all the Ministries responded to most of the queries raised by the Members. The Chairperson, then, directed that written replies to points on which information were not readily available may be furnished to the Committee within ten days.

9. Thereafter, the Chairperson thanked the representatives of all the Ministries for deposing before the Committee.

The witnesses then withdrew.

A copy of verbatim record of the proceedings was kept on record.

The Committee, then, adjourned.

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Appendix-III

STANDING COMMITTEE ON COMMUNICATIONS AND INFORMATION TECHNOLOGY (2024-25)

MINUTES OF THE TWENTIETH SITTING OF THE COMMITTEE

The Committee sat on Thursday, the 26th June, 2025 from 1100 hours to 1410 hours in Main Committee Room, Parliament House Annexe, New Delhi.

PRESENT

Dr. Nishikant Dubey- Chairperson

MEMBERS

Lok Sabha

2. Shri Anil Baluni
3. Dr. Rabindra Narayan Behera
4. Shri Anup Sanjay Dhotre
5. Shri S. Supongmeren Jamir
6. Shri G. Kumar Naik
7. Shri Radheshyam Rathiya
8. Shri Ramasahayam Raghuram Reddy
9. Shri Arun Kumar Sagar
10. Shri Devesh Shakya
11. Shri Vishnu Datt Sharma

Rajya Sabha

12. Shri Saket Gokhale
13. Shri Amar Pal Maurya
14. Dr. Sasmit Patra
15. Shri Kartikeya Sharma
16. Shri Lahar Singh Siroya

Secretariat

1. Shri Y. M. Kandpal - Additional Secretary
2. Shri Amrish Kumar - Deputy Secretary

Welcoming members to the sitting of the Committee, the Chairperson drew their attention to the Agenda for the sitting which included consideration and adoption of the 4 Draft Action Taken Reports (ATRs) on DFG (2024-25) and evidence of the representatives of Ministry of Electronics and Information and Technology (MeitY), Ministry of Home Affairs, Ministry of Defence and Ministry of Power on the Subject 'Impact of emergence of Artificial Intelligence and related issues'.

The Committee then considered and adopted the following Draft Action Taken Reports:-

(i) Draft Report on Action Taken by the Government on the Observations/Recommendations of the Committee contained in their Second Report (18th Lok Sabha) on "Demands for Grants (2024-25)" relating to the Ministry of Communications (Department of Posts).

(ii) Draft Report on Action Taken by the Government on the Observations/Recommendations of the Committee contained in their Third Report (18th Lok Sabha) on "Demands for Grants (2024-25)" relating to the Ministry of Information and Broadcasting.

(iii) Draft Report on Action Taken by the Government on the Observations/Recommendations of the Committee contained in their Fourth Report (18th Lok Sabha) on "Demands for Grants (2024-25)" relating to the Ministry of Electronics and Information Technology.

(iv) Draft Report on Action Taken by the Government on the Observations/Recommendations of the Committee contained in their Fifth Report (18th Lok Sabha) on "Demands for Grants (2024-25)" relating to the Ministry of Communications (Department of Telecommunications).

7. The Committee also authorized Chairperson to finalize the reports and present/lay them in Lok Sabha/Rajya Sabha during the Monsoon Session of Parliament.

8. Thereafter, the Subject 'Impact of emergence of Artificial Intelligence and related issues' was taken up for discussion. The following witnesses from Ministries were present during the sitting:

LIST OF WITNESSES

MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY (MeitY)

Sl. No.	Name	Designation
1.	Shri S. Krishnan	Secretary
2.	Smt. Kavita Bhatia	Group Coordinator and Scientist 'G'
3.	Shri Abhishek Aggarwal	Scientist 'D'

MINISTRY OF HOME AFFAIRS

Sl. No.	Name	Designation
1.	Shri Govind Mohan	Secretary
2.	Shri Rajesh Kumar	Chief Executive Officer, Indian Cyber Crime Coordination Centre
3.	Shri Rakesh Kumar Pandey	Joint Secretary, Cyber and Information Security Division

MINISTRY OF DEFENCE

Sl. No.	Name	Designation
1.	Shri Rajesh Kumar Singh	Secretary
2.	Dr. Samir V Kamat	Secretary DDR&D and Chairman, DRDO
3.	Ms. Dipti Mohil Chawla	Additional Secretary, Department of Defence

MINISTRY OF POWER

Sl. No.	Name	Designation
1.	Shri Pankaj Agarwal	Secretary
2.	Shri Ghanshyam Prasad	Chairperson, CEA

3.	Shri R.P. Pradhan	Chief Information Security Officer (CISO)
4.	Shri Manish Mishra	Director (IT)

(After the witnesses were called in)

2. Welcoming the representatives from the Ministry of Electronics and Information and Technology (MeitY), Ministry of Home Affairs, Ministry of Defence and Ministry of Power, the Chairperson, in his opening remarks, pointed out that Artificial Intelligence (AI) has emerged as one of the key technologies revolutionizing various walks of life of the world after Industrial Revolution. He informed that AI is not just automating the back end; it is also reinventing the future of leadership, decision-making and strategic growth in the financial world. Its rapid advancements are revolutionizing sectors like finance, healthcare, and education, making processes more efficient and accessible. He added that AI complements human skills, addresses labour shortages and enables economies to shift from scarcity to abundance. Adding further on this issue, he said that India's fintech market is flourishing and projected to become $400 Billion in next three years. The AI influence is being felt across every aspect of daily life from digital payments to innovations such as quantum communication which paves the way for real-time application in quantum cyber security. He highlighted the crucial role of IndiaAI Mission launched with a budget of Rs. 10,372.9 2 Crores for AI development in India.

3. Then, the representatives of Ministry of Home Affairs made a power point presentation which gave an overview of use of AI tools in the Department and its misuse by cyber criminals. Highlighting a few potential areas of misuse where AI-driven threats are more sophisticated and harder to detect, the representatives of Ministry informed that (i) AI is creating fake videos and voice clones to impersonate individuals which are used in scams, frauds, and misinformation campaigns and deceiving people into transferring money or sharing sensitive information;(ii) Use of AI Bot to create deep nude and sexually explicit content and its auto-sharing in groups; (iii) AI making it easier for even less tech-savvy individuals to develop and deploy sophisticated phishing websites, fake banking apps or malicious software; (iv) AI-based system developed by I4C for automatically classifying crime descriptions from victim complaints on the NCRP Portal to help LEAs respond faster and efficiently; (v) Analyzing and categorizing victim reports from 1930 calls, improving response time for cybercrime complaints. To deal with the issue, the representatives of Ministry emphasized on the need to build AI powered national cyber security platforms to monitor and protect critical infrastructure from cyber–attacks; to develop and enforce national standards for AI ensuring algorithms are free from bias; and to mandate social

media intermediaries to implement AI-driven content moderation to prevent deep fakes, scams, malicious content, monitor suspicious activities and collaborate with law enforcement agencies to identify cyber-criminals.

4. The representatives of Ministry of Defence in their power point presentation highlighted the impact of AI in Defence Sector like Intelligence, Surveillance and Reconnaissance; Command and Control Systems; Cyber Security; Forensic analysis; Logistic Support and Maintenance; Autonomous Weapon Systems; Autonomous Robotics Technologies; Protection of Critical Cyber infrastructure, etc. They further highlighted initiatives taken by Ministry of Defence in AI including AI adoption in Indian Army, Air Force and Navy as well as in Defence PSUs and DRDO including Important Global Defence projects undertaken; and Challenges towards AI adoption in Defence.

5. The representatives of Ministry of Power in their presentation highlighted the impact, challenges & opportunities created by AI in power sector i.e. meeting growing power demand of data centres, providing low-carbon pathways, ensuring optimization of cost of supply, Demand forecasting, Grid optimization, RE generation forecasting and integration, Predictive maintenance and Energy theft detection etc. The Ministry also detailed about initiatives taken by Power PSUs like Project Monitoring for measurement of progress, Solar Panel Inspection and Ash Dyke Monitoring for preventive maintenance, Automatic preparation of defect reports from data captured during transmission line inspection using Artificial Intelligence etc. The Ministry also highlighted that under Draft National Electricity Policy, 2025, Electric Power Survey would include demand of the Data Centres as well.

6. Thereafter, Members sought clarifications on various issues which, *inter-alia,* included (i) Steps taken till date for use of AI for intelligence gathering and counter terrorism; (ii) Digital fencing of borders; (iii) proliferation of obscene videos created with the aid of AI; (iv) Financial frauds and cyber crimes committed with the use of AI by criminals; (v) Need for amending IPC to bring AI generated crimes under its purview; (vi)Issues of privacy while dealing with the cyber crimes; (vii) mechanism or tool created by the Ministry of Home Affairs for detecting forged documents; (viii) Awareness campaign for popularizing 1930 Call no. developed by I4C for registering cyber crimes; and; (ix) Identification of border areas where GPS jamming taken place often; etc.

7. The representatives of the Ministries responded to most of the queries raised by the Members. The Chairperson, then, directed that written replies to points on which information were not readily available may be furnished to the Committee within ten days.

8. Thereafter, the Chairperson thanked the representatives of all the Ministries for deposing before the Committee.

The witnesses then withdrew.

A copy of verbatim record of the proceedings was kept on record.

The Committee, then, adjourned.

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Appendix-IV

STANDING COMMITTEE ON COMMUNICATIONS AND INFORMATION TECHNOLOGY (2025-26)

MINUTES OF THE FOURTH SITTING OF THE COMMITTEE

The Committee sat on Monday, the 5th January, 2026 from 1509 hours to 1817 hours in Committee Room 'B', Parliament House Annexe, New Delhi.

PRESENT

Dr. Nishikant Dubey- Chairperson

MEMBERS

Lok Sabha

2. Shri Anil Baluni
3. Dr. Rabindra Narayan Behera
4. Shri Radheshyam Rathiya
5. Shri Arun Kumar Sagar
6. Shri Vishnu Datt Sharma

Rajya Sabha

7. Shri Saket Gokhale
8. Smt. Priyanka Chaturvedi
9. Shri Sujeet Kumar
10. Shri Amar Pal Maurya
11. Dr. Sasmit Patra
12. Shri Kanad Purkayastha
13. Shri S. Niranjan Reddy
14. Shri Kartikeya Sharma
15. Shri Lahar Singh Siroya
16. Shri K.T.S. Tulsi

Secretariat

1. Shri Harish Chandra Bist - Joint Secretary
2. Smt. A. Jyothirmayi - Director
3. Shri Rajesh Mohan - Deputy Secretary

LIST OF WITNESSES

MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY (MeitY)

Sl. No.	Name	Designation
1.	Shri Abhishek Singh	Additional Secretary
2.	Smt. Kavita Bhatia	Scientist 'G'& Group Coordinator

DEPARTMENT OF TELECOMUNICATIONS

Sl. No.	Name	Designation
1.	Shri Amit Agrawal	Secretary
2.	Shri Deb Kumar Chakrabarti	Member (S)
3.	Shri Gulzar Natarajan	Additional Secretary

MINISTRY OF TOURISM

Sl. No.	Name	Designation
1.	Dr. Srivatsa Krishna	Secretary
2.	Sh. Harikishore S	Joint Secretary

MINISTRY OF CULTURE

Sl. No.	Name	Designation
1.	Shri Vivek Aggarwal	Secretary
2.	Shri Gurmeet Singh Chawla	Joint Secretary
3.	Shri Samar Nanda	Joint Secretary

DEPARTMENT OF LEGAL AFFAIRS

Sl. No.	Name	Designation
1.	Dr. Rajiv Mani	Secretary

2.	Dr. R.J.R. Kashibhatla	Joint Secretary

DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE

Sl. No.	Name	Designation
1.	Shri Devesh Chaturvedi	Secretary
2.	Shri Pramod Kumar Meherda	Additional Secretary

DEPARTMENT OF SPORTS

Sl. No.	Name	Designation
1.	Shri Hari Ranjan Rao	Secretary
2.	Dr. Shobhit Jain	Joint Secretary

(After the witnesses were called in)

2. Welcoming Hon'ble Members and the representatives from the Ministry of Electronics and Information and Technology (MeitY), Department of Telecommunications (DoT), Ministry of Tourism, Ministry of Culture, Department of Legal Affairs, Department of Agriculture and Farmers Welfare and Department of Sports, the Chairperson, in his opening remarks, stated that Artificial intelligence has become the new frontier of global competition, with China and the United States striving for dominance. Much like the space race, nations were investing heavily in advanced semiconductors and microchips to gain an edge. As per Stanford University reports, since 2016, the number of countries enacting AI laws had grown nine fold, reaching over 21 percent of 75 nations by 2023. The European Parliament pioneered in AI legislation, emphasizing safety, transparency, fairness, and environmental responsibility, while banning harmful applications such as voice activated toys that endangered children.

3. He further mentioned that the AI revolution promised simultaneous industrial, informational, and cultural transformations—accelerating drug discovery, energy innovation, education, communication, and even artistic creation. The United States had introduced AI legislation across all states, guided by its Action Plan focussed on

innovation, infrastructure, and diplomacy. Global summits in the UK, Seoul, and Paris had highlighted AI's rapid progress, with India set to host the next in February, 2026.

4. Emphasizing upon the critical issues related to AI, he also added that India's challenge was in building energy capacity, semiconductor production, and supportive ecosystems for startups and research institutions. Expanding AI literacy, fostering open source collaboration, and ensuring secure data infrastructure were vital. Though AI offered immense opportunities in Defence, industry, and science, risks such as deep fakes and adversarial attacks warranted strong governance. Responsible policies would determine whether AI drove inclusive growth or deepened inequality.

5. Then, the representative of Ministry of Tourism made his submission which gave an overview of use of AI tools in the Ministry i.e., (i) Development of AI blocks of Gen AI to power the Incredible India website; and (ii) Use of Open Network for Digital Commerce (ONDC) for digitization of supply and demand needs of tourists.

6. The representatives of Department of Agriculture and Farmers Welfare in their power point presentation highlighted the use of AI for making Grievance Redressal issues related to PM-KISAN and PMFBY more efficient; development of AgriStack - India's digital infrastructure for agriculture; and development of Agri-LLM under IndiaAI Mission for unified solutions to the problems raised by Farmers throughout the Country.

7. The representatives of DoT in their presentation highlighted the usage of AI for optimal development of Network efficiency; better customers' support system management by the Telecom Service providers; and support to industries, start-ups and academia working in this sector. He also stated about challenges faced for adoption of AI in their sector like problems in adoption of old legacy networks; availability and quality of data for developing AI Tools and Models; ways to deal with AI assisted high tech frauds; and continuous updating of AI tools and Models in midst of financial and trained manpower issues.

8. Thereafter, the representatives of Department of Legal Affairs submitted the use of AI in its functioning i.e., development of AI tool to ascertain the performance of advocates, success rate of cases fought by them; and dissemination of knowledge of legal aspects to a common people.

9. Then, the representatives of the Ministry of Culture presented their views. In their presentation, they enlightened the Committee about Gyan Bharatam, Gyan Setu, Digitization of manuscripts, development of AI tools for museums galleries and National Archives, and development of JATAN App to create digital data of objects among others.

10. The representatives of Department of Sports *via* their presentation informed that it was using AI for Scouting Talent Identification, repository of historical data via National Sports Repository System (NSRS), unified annual calendar of training and competition with the collaboration of Sports Authority of India (SAI) and Sports Authorities of States and Union Territories.

11. After that, the MeitY apprised the Committee that it contributed 23 per cent of the AI Applications in GitHub Ai Repository, development of approximately 38,000 GPUs under IndiaAI Mission, need for creation of Sovereign LLMs and others etc.

12. Thereafter, Members sought clarifications on various issues which, *inter-alia,* included (i) Steps taken to counter fake and biased reviews in the field of tourism; (ii) Use of AI for environmental monitoring at tourist sites; (iii) Selective implementation of KISAN SAMMAN NIDHI by the Department of Agriculture; (iv) Guardrails to ignore prompts to delusion the choice makers; (v) Representation of Genetic Diversification on AI tools; (vi) Issues of compensating the talents which have been misread by AI tools in the field of Sports; (vii) Free accessibility of Gyan Bharatam AI Tools to the common man; (viii) Framework for AI regulation; and (ix) Guidelines for SUPACE.

13. The representatives of the Ministries/Departments responded to most of the queries raised by the Members. The Chairperson, then, directed that written replies to points on which information were not readily available may be furnished to the Committee within ten days.

14. Thereafter, the Chairperson thanked the representatives of all the Ministries for deposing before the Committee.

The witnesses then withdrew.

A copy of verbatim record of the proceedings was kept on record.

The Committee, then, adjourned.

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Appendix-V

STANDING COMMITTEE ON COMMUNICATIONS AND INFORMATION TECHNOLOGY (2025-26)

MINUTES OF THE FIFTH SITTING OF THE COMMITTEE

The Committee sat on Monday, the 27th January, 2026 from 1430 hours to 1745 hours in Main Committee Room, Parliament House Annexe, New Delhi.

PRESENT

Dr. Nishikant Dubey- Chairperson

MEMBERS

Lok Sabha

2. Shri Anil Baluni
3. Dr. Rabindra Narayan Behera
4. Shri Anup Sanjay Dhotre
5. Shri S. Supongmeren Jamir
6. Shri G. Kumar Naik
7. Dr. M. K. Vishnu Prasad
8. Shri Arun Kumar Sagar
9. Shri Devesh Shakya
10. Shri Rajesh Verma

Rajya Sabha

11. Smt. Priyanka Chaturvedi
12. Shri Sujeet Kumar
13. Shri Amar Pal Maurya
14. Dr. Sasmit Patra
15. Shri Kartikeya Sharma
16. Shri Lahar Singh Siroya

Secretariat

1.	Shri Harish Chandra Bist	-	Joint Secretary
2.	Smt. A. Jyothirmayi	-	Director
3.	Shri Rajesh Mohan	-	Deputy Secretary

LIST OF WITNESSES

MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY (MeitY)

Sl. No.	Name	Designation
1.	SHRI S. KRISHNAN	SECRETARY
2.	SMT. KAVITA BHATIA	SCIENTIST G AND GROUP COORDINATOR

MINISTRY OF CIVIL AVIATION

Sl. No.	Name	Designation
1.	SHRI PIYUSH SRIVASTAVA	SENIOR ECONOMIC ADVISOR
2.	SHRI SHOBHIT GUPTA	JOINT SECRETARY

AIRPORT AUTHORITY OF INDIA (AAI)

Sl. No.	Name	Designation
1.	SHRI M. SURESH	MEMBER (AIR NAVIGATION SERVICES)
2.	SHRI ANURAG SHARMA	EXECUTIVE DIRECTOR

DIRECTORATE GENERAL OF CIVIL AVIATION (DGCA)

Sl. No.	Name	Designation
1.	SHRI FAIZ AHMED KIDWAI	DIRECTOR GENERAL, DGCA
2.	SHRI HARISH KUMAR VASHISTH	JOINT DIRECTOR GENERAL

BUREAU OF CIVIL AVIATION SECURITY (BCAS)

Sl. No.	Name	Designation
1.	SHRI RAJESH NIRWAN	DIRECTOR GENERAL
2.	MS. PRATIBHA AMBEDKAR	JOINT DIRECTOR GENERAL

SERIOUS FRAUD INVESTIGATION OFFICE (SFIO)

Sl. No.	Name	Designation
1.	SH. SAMIR ASHWIN VAKIL	DIRECTOR

CENTRAL BUREAU OF INVESTIGATION (CBI)

Sl. No.	Name	Designation
1.	SHRI PRAVEEN SOOD	DIRECTOR
2.	SHRI AYV KRISHNA	ADDITIONAL DIRECTOR

DEPARTMENT OF REVENUE

Sl. No.	Name	Designation
1.	SHRI DIWAKAR NATH MISRA	ADDITIONAL SECRETARY (REVENUE)
2.	SHRI MANISH KUMAR SINHA	CEO, GOODS AND SERVICES TAX NETWORK (GSTN)

DIRECTORATE OF ENFORCEMENT (ED)

Sl. No.	Name	Designation
1.	SHRI RAHUL NAVIN	DIRECTOR

CENTRAL BOARD OF DIRECT TAXES (CBDT)

Sl. No.	Name	Designation
1.	SHRI RAVI AGRAWAL	CHAIRMAN, CBDT
2.	SHRI SHASHI BHUSHAN SHUKLA	PRINCIPAL COMMISSIONER

CENTRAL BOARD OF INDIRECT TAXES AND CUSTOMS (CBIC)

Sl. No.	Name	Designation
1.	SHRI VIVEK CHATURVEDI	CHAIRMAN
2.	SHRI REWAT RAJA BAHL	ADDITIONAL DIRECTOR GENERAL

DEPARTMENT OF PERSONNEL AND TRAINING (DoPT)

Sl. No.	Name	Designation
1.	SMT. RACHNA SHAH	SECRETARY
2.	SHRI SUSHIL KUMAR PATEL	JOINT SECRETARY

MINISTRY OF CORPORATE AFFAIRS (MCA)

Sl. No.	Name	Designation
1.	MS. DEEPTI GAUR MUKERJEE	SECRETARY
2.	SH. BALAMURUGAN D.	JOINT SECRETARY

(After the witnesses were called in)

2. Welcoming Hon'ble Members and the representatives from the Ministry of Electronics and Information and Technology (MeitY), Department of Revenue, Central Bureau of Investigation (CBI), Central Board of Direct Taxes (CBDT), Central Board of Indirect Taxes and Customs (CBIC), Department of Personnel and Training (DoPT), Ministry of Corporate Affairs (MCA), Enforcement Directorate (ED), Ministry of Civil Aviation, Directorate General of Civil Aviation (DGCA), Serious Fraud Investigation Office (SFIO), the Chairperson, in his opening remarks, stated that Countries investing in AI gain both strategic and economic advantages. To address high computing costs, India has provisioned over 38,000 GPUs under the IndiaAI Mission, enabling start-ups—ranked third globally—to build indigenous AI models on domestic servers, safeguarding national data. Researchers are advancing work in semiconductors, data centres, green hydrogen, deep tech, machine learning, quantum computing, agri-tech, aerospace, drones, and rocket technology.

3. He further mentioned that the true economic value of AI lies in enterprise deployment rather than ever-larger models. Nearly 95% of use cases can be addressed by smaller models with parameters ranging from 50 million to 20 billion. India has already deployed such models across sectors to boost efficiency. Globally, AI is seen as the fifth industrial revolution, and India's strategy emphasizes cost-effective solutions with high returns. The IndiaAI Mission has created shared national facilities under a public-private partnership, offering computing resources at one-third of global costs. He also added that, cybercrime threats such as digital arrest scams have surged and raised concerns over AI-generated synthetic content, misinformation, and sexualized image manipulation.

4. Then, the representative of DoPT made her submission which gave an overview of use of AI tools in the Department i.e., (i) Use of AI is being integrated with personnel management and capacity building; and (ii) Use of AI for having translated content or having texts available along with the courses run by the Department.

5. The representatives of Ministry of Corporate Affairs in their power point presentation highlighted the use of AI for registration of Companies and solving related grievances; development of early warning signals for enforcement action and compliance; development of AI-powered Smart Bot and Help Desk; and handling of security incidents and events through AI-enabled sorting.

6. The representatives of CBI stated that the personnel of the Bureau are trained to use AI to prevent cyber crime by breaking the chain established between the SIM card providers, Banks and the fraudsters. It was further stated by CBI that Mule Accounts were tracked with the aid of AI. CBI informed the Committee that it was using AI Facial Recognition Tool to detect the suspicious activity and persons.

7. Thereafter, the representatives of CBDT and CBIC submitted the use of AI in its functioning i.e., use of AI tool to make Filing of Income Tax Returns easy and user friendly; use of AI embedded Non-intrusive usage of Data to Guide and Enable Taxpayers (NUDGE) for compliance; setting up of AI enabled Data Investigation and Analysis Labs (DIAL) for collating & analyzing Data and finding meaningful patterns to prevent frauds; launch of Insight 2.0 and IEC 3.0 projects for predictive analysis; use of AI aided applications 'VAANI' and 'ATHITI' for compliance and Ease of Doing Business; use of AI for Business Intelligence Platform – ADVAIT to analyze Data of payments, transactions, Customs & GST Returns.

8. Then, the representatives of the Enforcement Directorate presented their views on AI and stated that AI was used in the Directorate for faster investigation of cases, pattern recognition of crimes, network and link analysis to uncover hidden connections and proxy ownership.

9. The representatives of Ministry of Civil Aviation apprised the Committee that it was using AI for increasing capabilities of regulators, strengthening safety and security oversight and improve transparency. The Ministry also stated that AI was being used for baggage screening and locating the trespassers inside the premises of airports through Perimeter Detection System. DGCA submitted that various projects were at testing and launching stage to enhance security of air passengers and to comply with the guidelines of International Civil Aviation Organization (ICAO).

10. MeitY apprised the Committee about its initiative for co-coordinating with various Ministries/Departments/Entities on AI *via* 'KARMYOGI BHARAT' Mission.

11. Thereafter, Members sought clarifications on various issues which, *inter-alia,* included (i) Use of AI for pre-scanning and scanning of applicants before recruitment by DoPT; (ii) AI literacy and proficiency for future career progression of Government Officers; (iii) Consideration of crimes committed with the help of AI as Cyber Crime; (iv) Detection and blocking of imposters on social media sites with the help of AI; (v) Need for elimination of fake companies by MCA with aid of AI; (vi) Equity of AI Data sharing with public and private sectors; and (vii) AI needs to be developed as a more predictive and preventive tool rather than a reactive mechanism etc.

12. The representatives of the Ministries/Departments responded to many of the queries raised by the Members. The Chairperson, then, directed that written replies to points on which information were not readily available may be furnished to the Committee within ten days.

13. Thereafter, the Chairperson thanked the representatives of all the Ministries/Organizations for deposing before the Committee.

The witnesses then withdrew.

A copy of verbatim record of the proceedings was kept on record.

The Committee, then, adjourned.

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Appendix-VI

STANDING COMMITTEE ON COMMUNICATIONS AND INFORMATION TECHNOLOGY (2025-26)

MINUTES OF THE ELEVENTH SITTING OF THE COMMITTEE

The Committee sat on Friday, the **27th March, 2026** from 1000 hours to 1030 hours in Committee Room No. 'C', Parliament House Annexe, New Delhi.

PRESENT

DR. NISHIKANT DUBEY- Chairperson

MEMBERS

Lok Sabha

2. Shri Anil Baluni
3. Shri S. Supongmeren Jamir
4. Shri G. Kumar Naik
5. Shri Radheshyam Rathiya
6. Shri Devesh Shakya
7. Shri Rajesh Verma

Rajya Sabha

8. Shri Amar Pal Maurya
9. Shri S. Niranjan Reddy
10. Shri Lahar Singh Siroya

Secretariat

1. Shri Harish Chandra Bist - Joint Secretary
2. Smt. A. Jyothirmayi - Director
3. Shri Rajesh Mohan - Deputy Secretary

2. At the outset, the Chairperson welcomed the Members to the Sitting of the Committee convened to consider and adopt draft Report on the Subject 'Impact of Emergence of Artificial Intelligence and related issues' relating to the Ministry of Electronics and Information Technology under the jurisdiction of the Committee.

3. The Committee, then, took up the draft Report on the Subject ‘Impact of Emergence of Artificial Intelligence and related issues’ for consideration and adoption.

4. The Committee adopted the Report with slight modifications and also authorized the Chairperson to finalize the draft Report and present the same to the House during the current Session of Parliament.

The Committee, then, adjourned.

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