

GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT AND ENTREPRENEURSHIP
RAJYA SABHA
UNSTARRED QUESTION NO. 3010
ANSWERED ON 18.03.2026

IMPACT OF EMERGING WORKPLACE TECHNOLOGIES

3010. SHRI S.R. SIVALINGAM:

Will the Minister of SKILL DEVELOPMENT AND ENTREPRENEURSHIP be pleased to state:

- (a) whether Government has assessed the impact of emerging workplace technologies such as artificial intelligence, automation and remote collaboration tools on the skill requirements of the Indian workforce;
- (b) if so, the details of initiatives undertaken by Government to embed technology-related competencies across vocational training, upskilling programmes and employer-linked schemes so that workers remain competitive and resilient in a technology-driven labour market; and
- (c) the framework by which Government intends to evaluate the effectiveness of these skill-development and entrepreneurship initiatives in improving employment outcomes and fostering innovation across sectors?

ANSWER

THE MINISTER OF STATE (INDEPENDENT CHARGE) IN THE MINISTRY OF SKILL DEVELOPMENT AND ENTREPRENEURSHIP

(SHRI JAYANT CHAUDHARY)

(a) & (b): The skill development programmes of the Government are designed and implemented to bridge identified skill gaps across the emerging technology sectors. To align the training programs as per the market needs, 36 Sector Skill Councils (SSCs), led by industry leaders in the respective sectors, have been set up which are mandated to identify the skill development needs of respective sectors as well as to determine skill competency standards. The evolving skill requirements are aligned with the emerging technologies including the workplace technologies like artificial intelligence, automation, and digital collaboration tools.

Under the Government of India's Skill India Mission (SIM), the Ministry of Skill Development and Entrepreneurship (MSDE) delivers skill, re-skill and up-skill training through an extensive network of skill development centres under various schemes, viz. Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Jan Shikshan Sansthan (JSS), National Apprenticeship Promotion Scheme (NAPS) and Craftsman Training Scheme (CTS) through Industrial Training Institutes (ITIs), to all the sections of the society across the country. The SIM aims at enabling youth of India to get future ready and equipped with industry relevant skills.

Further, to ensure active engagement, participation and partnership with industries for the design and delivery of future-skills training, and thereby making the skilled manpower competitive and resilient in technology driven labour market, MSDE has inter-alia taken the following steps:

- National Council for Vocational Education and Training (NCVET) has been set up as an overarching regulator establishing regulations and standards to ensure quality in the Technical and Vocational Education and Training (TVET) space. NCVET recognises the industry bodies as the Awarding Bodies (Abs) and/or Assessment Agencies (AAs).
- The Awarding Bodies are expected to develop the qualifications as per the industry demand and map them with the identified occupations as per the National Classification of Occupations, 2015 and obtain industry validations. NCVET has approved 9026 qualifications as per the industry requirements, out of which 2599 qualifications are valid and active, and 6427 qualifications are archived.
- NCVET has developed the National Programme on Artificial Intelligence (NPAI) Skilling Framework, which outlines the national roadmap, structure and guidelines for skilling in AI, data science and emerging technologies serves as the foundational document for developing standardized, industry-aligned courses and curricula.
- Directorate General of Training (DGT) is implementing Flexi MoU Scheme and Dual System of Training (DST) in collaboration with industries to provide training to ITI students in real industrial environment.

- DGT has signed MoU with IT Tech companies like IBM, CISCO, Microsoft, AWS, Autodesk etc. to ensure industry linkages for the institutes at the state and regional levels. These partnerships facilitate the provision of technical and professional skills training in modern technologies.
- Under PMKVY, the new age/future skills job-roles have been specially aligned with Industry 4.0 requirements in areas like AI/ML, Robotics, Mechatronics, Drone Technology, etc. for upcoming market demand and industry requirements.
- DGT has introduced new age /future skills courses under CTS to provide training in emerging areas such as 5G Network Technician, Artificial Intelligence Programming assistant, Cyber Security Assistant, Drone Technician etc.
- Two (02) Indian Institute of Skills (IIS) have been established at Ahmedabad and Mumbai, in Public Private Partnership (PPP) mode, with an aim to align industry-ready workforce to emerging economic opportunities.
- 36 Sector Skill Councils (SSCs), led by industry leaders in the respective sectors, have been set up which are mandated to identify the skill development needs of respective sectors as well as to determine skill competency standards.
- Skilling for AI Readiness (SOAR) programme offers the structured AI-readiness skill development courses designed to equip students and educators with foundational and applied AI skills.

(c): The Government undertakes periodic reviews of skilling initiatives under the Skill India Mission, assessing enrolment, certification, placement, self-employment outcomes and employer feedback to gauge their effectiveness in strengthening employability and future skills. These reviews support continuous curriculum updates, industry collaboration and improvements in implementation modalities, ensuring that skilling programmes remain aligned with evolving technology trends and labour-market requirements. The effectiveness of broader skill development schemes is also evaluated through MIS-based monitoring, third-party assessments and beneficiary feedback.

PMKVY 4.0: An independent third-party impact evaluation of the PMKVY 4.0 has been conducted by Arun Jaitley National Institute of Financial Management (AJNIFM), an autonomous Institution of Ministry of Finance, Government of India. As per the report, PMKVY training has contributed to a measurable shift in employment outcomes for short term training (STT) candidates. The combined share of employed and self-employed STT respondents increased from 26.6% prior to training to 45.4% after PMKVY training, reflecting an 18.8 percentage point increase. Income- related outcomes also show positive movement, with 41.4% of STT candidates and 48.9% of Recognition of Prior Learning (RPL) candidates reporting an increase in income following training and certification. Overall, PMKVY 4.0 has significantly expanded access to formal skill training and certification and has generated measurable improvements in skill confidence, employment participation, and income outcomes for a substantial proportion of beneficiaries.

JSS: A third-party evaluation of the Jan Shikshan Sansthan (JSS) Scheme was conducted by the Arun Jaitley National Institute of Financial Management, an autonomous Institution of Ministry of Finance, Government of India, in 2025 to assess the scheme's outreach, effectiveness and livelihood outcomes. The evaluation highlighted significant achievements of the scheme, with 33.94 lakh individuals enrolled, of whom 32 lakh were trained and 31.52 lakh certified, reflecting an overall success rate of 99 percent. Women constituted a dominant 82 percent share of total participants, while 73 percent beneficiaries belonged to marginalized sections, including SC/ST (36 percent) and OBC (37 percent). The livelihood impact has been noteworthy, with 90 percent alumni utilising acquired skills for income generation, 82 percent becoming economically engaged within six months of training, and 60 percent of previously non-earning individuals starting to earn post-training. The average monthly income of beneficiaries recorded a four-fold increase.

NAPS: A third-party evaluation study of Pradhan Mantri National Apprenticeship Promotion Scheme (PMNAPS-2) from 2022-23 to 2025-26 (Data up to 30th November 2025) was conducted by the Arun Jaitley National Institute of Financial Management (AJNIFM), an autonomous Institution of Ministry of Finance, Government of India. As per the report, PMNAPS-2 achieved significant scale during the evaluation period, engaging 34.69 lakh apprentices against a cumulative target of 46 lakh, translating into an overall achievement of approximately 75 percent. The institutionalization of Direct Benefit Transfer (DBT) has improved financial transparency and predictability.
