GOVERNMENT OF INDIA
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION NO. 2897
TO BE ANSWERED ON: 17.12.2025

SEMI-CONDUCTOR LABORATORY

2897. SHRI MANISH TEWARI:

Will the Minister of ELECTRONICS AND INFORMATION TECHNOLOGY be pleased to state:
(a) whether the Government has conducted any audit into the losses, damages and technology obsolescence at the Semi-Conductor Laboratory (SCL), Mohali including the 1989 fire and subsequent recovery and if so, the key findings thereof;
(b) the total funds allocated, released and utilised for SCL's repair, modernisation and R&D since 2000 along with reasons for any under-utilisation;
(c) the current technology node, wafer size and production capacity at SCL vis-à-vis global standards;
(d) the status of Government approvals and timelines for SCL's modernisation including the role of the India Semiconductor Mission and its expected outcomes; and
(e) whether the Government proposes an independent audit or oversight mechanism to ensure transparency and effective utilisation of funds for upgrading SCL to globally competitive levels?

ANSWER
MINISTER OF STATE FOR ELECTRONICS AND INFORMATION TECHNOLOGY
(SHRI JITIN PRASADA)

(a) to (e): The semiconductor development strategy is guided by the Hon'ble Prime Minister's vision of Atmanirbhar Bharat and Make in India, Make for the World.

Government is developing a complete ecosystem covering talentpool, design, fabrication, assembly, testing and packaging.

The modernisation of the Semi-Conductor Laboratory (SCL), Mohali is part of this strategy. The goal is to strengthen India's strategic needs in sectors such as space, defence and railways by improving production capacity, reliability and efficiency.

The upgraded facility will also support students, researchers and start-ups by helping them convert their chip designs into actual silicon chips.

Semi-Conductor Laboratory (SCL), Mohali
SCL, Mohali, an autonomous body under MeitY, is engaged in design, development and manufacture of Very Large Scale Integrated (VLSI) circuits since 1983.

It provides end-to-end solutions for Application Specific Integrated Circuits, opto-electronics and Micro Electro-Mechanical System (MEMS) Devices encompassing Design, Fabrication, Assembly, Packaging, Testing and Reliability Assurance.

Over the last 40 years, SCL has developed more than 400 chip variants, including around 80 products. These include products mainly for India's space and other strategic sectors.

SCL has end-to-end capability to design, manufacture, test and package semiconductor chips — from laboratory research to full-scale production. Its key facilities include:

1. **Chip Design**
   - SCL designs different types of chips used in electronics, such as analog, digital, memory, radio-frequency and imaging chips.
   - These include custom chips (ASICs), system-on-chips and test chips.
   - Many of these designs have already been successfully manufactured and certified for use in space and other high-reliability applications.

2. **Chip Manufacturing (CMOS Fab)**
   - SCL operates an 8-inch wafer manufacturing facility using 180-nanometre technology.
   - It produces analog, digital and mixed-signal chips in highly controlled cleanroom environments that meet international standards.

3. **MEMS Manufacturing**
   - SCL also manufactures MEMS devices (tiny sensors and micro-devices) using a 6-inch wafer line.
   - Advanced inspection and testing tools are used at every stage to ensure accuracy and quality.

4. **Assembly and Packaging**
   - After manufacturing, chips are cut, assembled and sealed into protective ceramic packages.
   - These processes are carried out in cleanrooms using specialised machines to ensure durability and long-term reliability.

5. **Quality and Reliability Testing**
   - All chips undergo strict testing to ensure they meet global quality and performance standards.
   - Products are carefully screened, tested and analysed so that only defect-free and reliable chips are supplied, especially for strategic sectors.

6. **Supporting Infrastructure**
   - SCL has robust systems for power supply, ultra-pure water, clean air and specialised gases required for chip manufacturing.
   - These facilities operate at international quality levels to support safe and stable semiconductor production.

Modernisation of SCL Mohali

SCL, Mohali is being upgraded on the modern lines and government will invest Rs 4500 crore. This will include a large-scale increase in production capacity, targeting 100 times production of wafers from current levels.

SCL Mohali will continue to support the college/university students, researchers and startups in fabricating the chips designed by them.

As part of its modernisation, SCL has invited proposals to upgrade its chip manufacturing facilities.

This includes expanding the existing 8-inch chip fabrication plant, adopting new technologies for advanced chips, and installing modern software and automation systems to improve efficiency and quality.

Technical and financial evaluations of bids have been completed and results have been published on SCL's website.

Audits and examinations of SCL's functioning and utilisation of public funds are carried out by the appropriate authorities as per applicable rules. These audits examine financial records, operations and programme performance and provide recommendations for improvement.

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