

GOVERNMENT OF INDIA
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY
RAJYA SABHA
UNSTARRED QUESTION NO. 2290
TO BE ANSWERED ON: 19.12.2025

MODERNISATION PLAN OF SCL, MOHALI

2290. DR. VIKRAMJIT SINGH SAHNEY:

Will the Minister of ELECTRONICS AND INFORMATION TECHNOLOGY be pleased to state:

- (a) whether it is a fact that Government had announced in February 2024 that a modernisation plan of ₹10,000 crore for Semi Conductor Lab (SCL), Mohali was ready and proposal of the same has been sent to the cabinet;
- (b) if so, the details of complete plan;
- (c) whether the plan has been discussed in the cabinet;
- (d) if so, the details thereof and if not, the reasons therefor;
- (e) whether there is any timeline set for the modernisation of the SCL Mohali; and
- (f) if so details thereof and if not reasons therefor?

ANSWER

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

(a) to (f): 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 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 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.

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

The Scope of work of the proposal includes expanding the existing 8-inch chip fabrication facility (8" CMOS Wafer Fab), adopting new technologies for advanced chips (Technology IP for RF-CMOS, CMOS Image Sensor and CMOS HV LDMOS), and installing modern software and automation systems to improve efficiency and quality.

The Technical evaluation and financial evaluations of the bids received have been completed, and the results have been published on the SCL website.
