# India’s First Indigenous Microprocessor

***Prelims**: Current events of national and international importance*

**Why in news?**

Union IT Minister presented India’s first fully indigenous microprocessor to PM Modi at Semicon India 2025, in New Delhi.

- **Fully indigenous** - The first fully indigenous microprocessor of India - is a type of semiconductor chip, called ***Vikram 3201***.

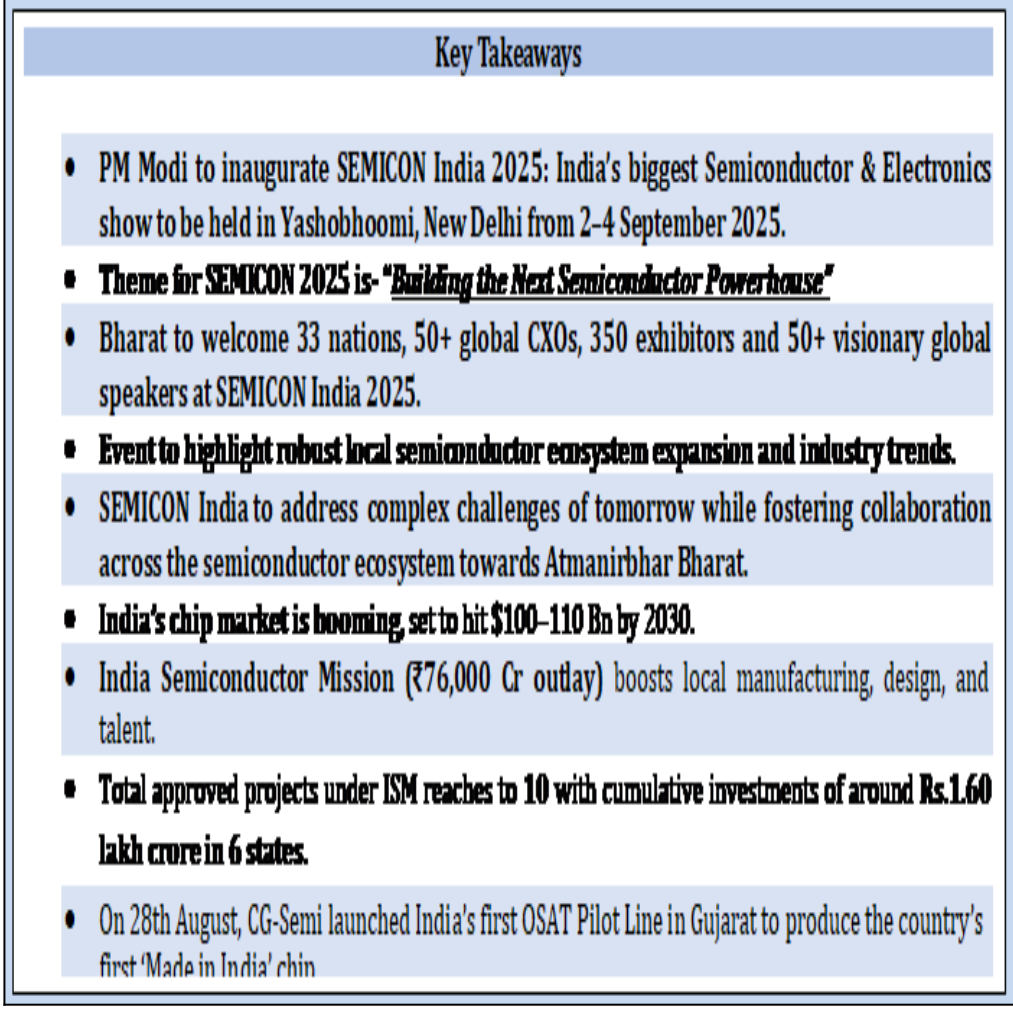
> *In 1971, the intel company launched a chip called the 4004 – as the world’s first microprocessor - “a micro-programmable computer on a chip”.*

- **Developed by** – The semiconductor laboratory of the Indian Space Research Organisation (ISRO).
- **Microprocessor** – It is an integrated circuit that serves as the brain of a computer, performing calculations, logic operations, and controlling other components by executing program instructions.
- **Integrated circuit (IC)/Chip** – microprocessor is a tiny electronic device that packs numerous interconnected electronic components like transistors, resistors, and capacitors onto a single semiconductor crystal, usually silicon.
- **Semiconductor** - It is a weak conductor of electricity, when certain materials are added to them and an electric field is applied, current can start to flow.
- Adding phosphorus to semiconducting materials, such as silicon and germanium, for example, allows the flow of a negative current.
- **Manufacturing facility** – The tiny chips are made in highly specialised manufacturing facilities (known as foundries) through a rigorous process called *wafer fabrication or wafer fab*.
- The fabrication requires clean rooms designed to maintain sterile conditions to prevent contamination by air particles.
- **Significance –**
  - Semiconductor chips are the building blocks of modern computation.
  - From smartphones to the vast data centres powering the Internet, from electric cars to cruise missiles, from high-end luxury products to weather-predicting supercomputers — all of them run on these tiny chips.

***Quick Facts***

## SEMICON India 2025

• The Central Government has launched the SEMICON India Programme, implemented through the India Semiconductor Mission (ISM).
• **SEMICON India, 2025** – It showcased India's Rising Role in the Global Semiconductor Ecosystem.
• It brings together global industry leaders, policymakers, academia, and startups to foster investment, dialogue, and strategic partnerships.
• **Organized by** – J*ointly* by the India Semiconductor Mission (ISM) under the Ministry of Electronics and Information Technology (MeitY) and SEMI, the global semiconductor industry association.
• **Previous editions** of SEMICON India – In 2022 (Bangalore), 2023 (Gandhinagar), 2024 (Greater Noida)




## References

1. Indian Express | India's first indigenous microprocessor

2. PIB | SEMICON 2025



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