Vikram 32-bit Microprocessor and Semicon India 2025

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At **Semicon India 2025**, the Prime Minister of India was presented with the **Made-in-India Vikram 32-bit Launch Vehicle Grade microprocessor,** marking a major milestone in **semiconductor self-reliance.**

VIKRAM3201

- VIKRAM3201 was developed by **ISRO's Vikram Sarabhai Space Centre** and **Semiconductor Laboratory (SCL), Chandigarh**, along with **KALPANA3201(**32-bit microprocessor designed to work with open-source software tools.)
- It is an advanced **version** of the **16-bit VIKRAM1601**, used in **ISRO launch vehicle avionics since 2009.**
- It is designed for **spaceflight applications**, capable of withstanding extreme temperatures of -55°C to 125°C.
    - Initial validation in space of VIKRAM3201 achieved with **SpaDeX Mission (PSLV-C60 mission),** proving reliability for future space missions.
- It boasts a custom instruction set architecture that is tailored for the **Ada programming language,** which is widely used in safety-critical systems. It is also capable of handling complex tasks like **floating-point computation.**
- It enables **Atmanirbharata in navigation, guidance, and control systems for launch vehicles.**

Semicon India 2025

- **Theme*: "Building the Next Semiconductor Powerhouse."***
- The SEMICON India Programme, implemented through the **India Semiconductor Mission (ISM)**, showcases India's growing capabilities in **chip design, packaging, and fabrication.**
- It also facilitates global collaborations, research commercialization, skill development, and strengthens India's position in the **global semiconductor value chain.**

Read more: **India's Semiconductor Ambitions**

- **Semiconductor Revolution**

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