India’s First Micro-GPU

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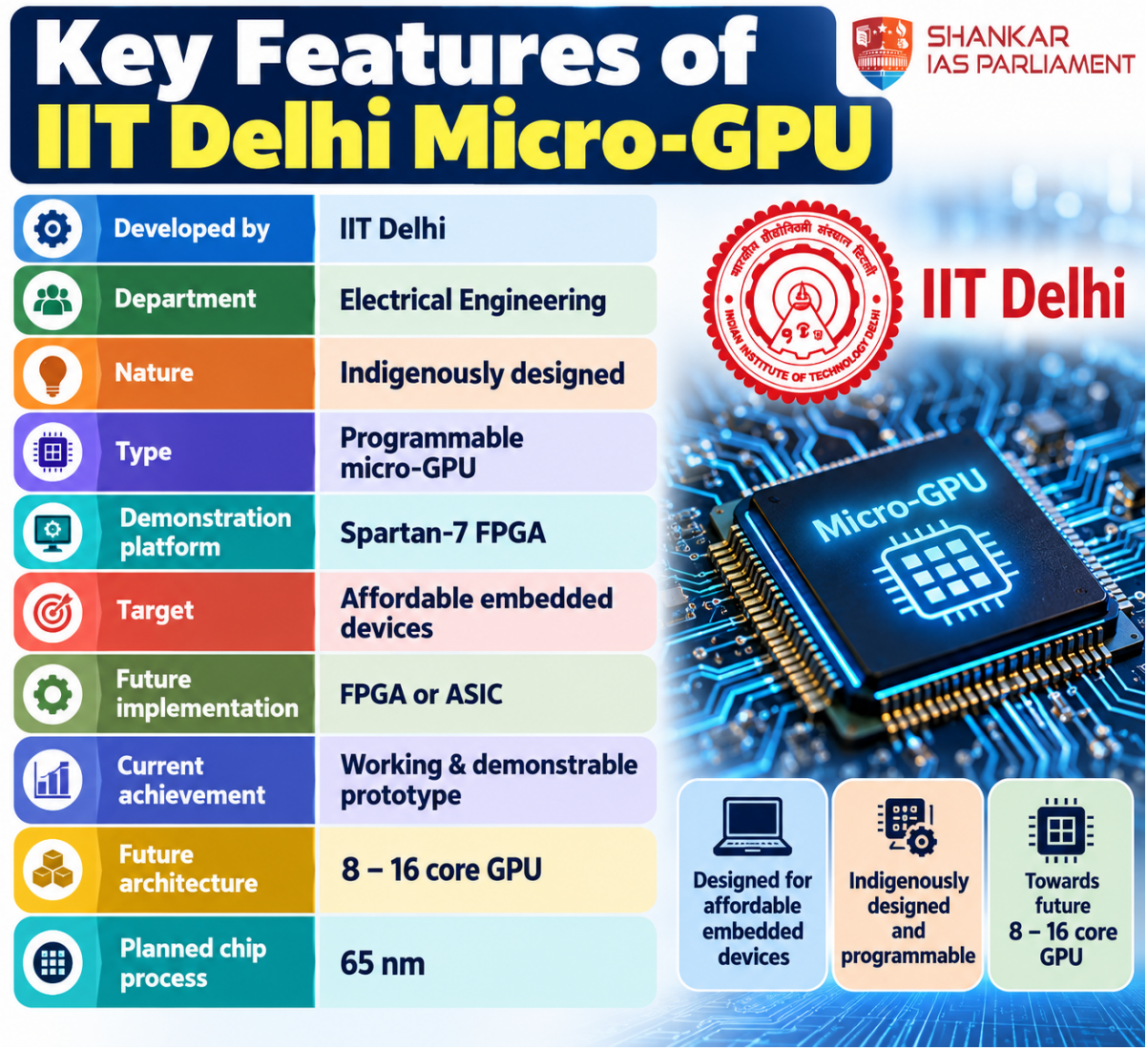
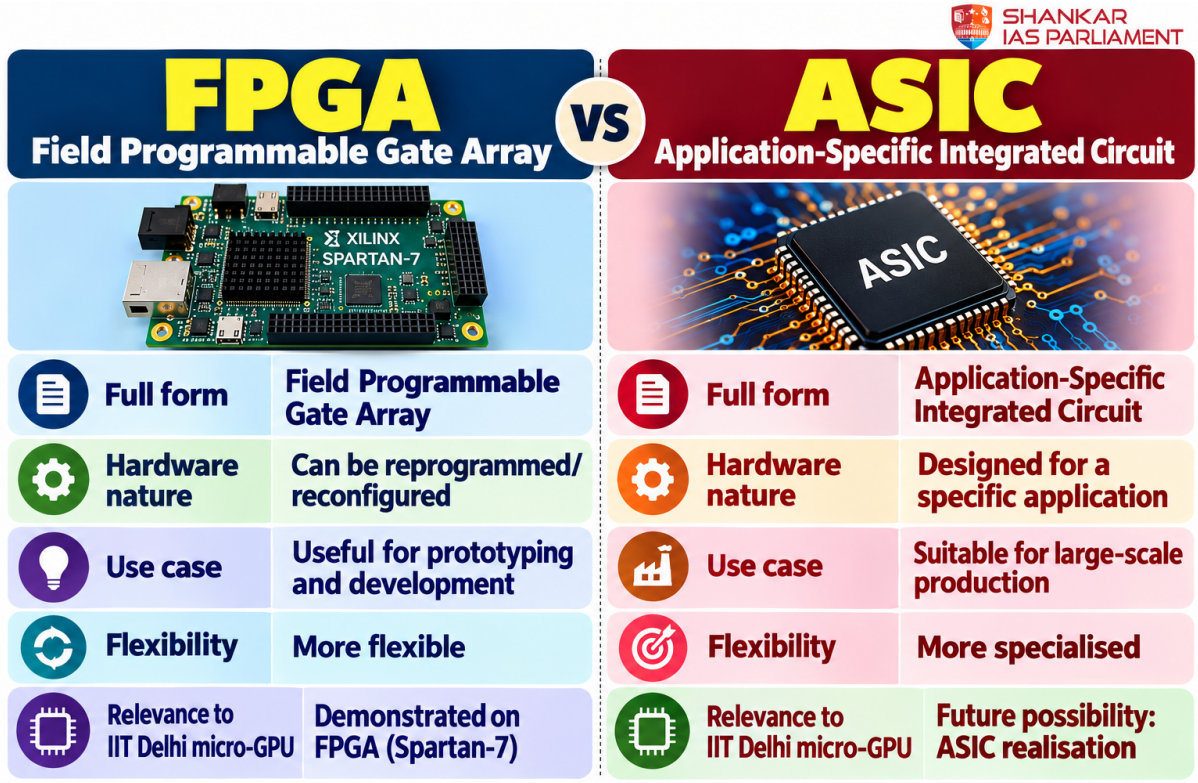
Why in News?

Recently, IIT Delhi researchers developed a working and demonstrable indigenous micro-GPU.



- **Developed by – Department of Electrical Engineering**.
- **Demonstrated on – Spartan-7 FPGA development board**.
- **Claimed by –** The researchers as **India’s first working, demonstrable indigenously designed micro-GPU from a university**.



GPU – Graphics Processing Unit

• A processor designed to efficiently handle **graphics, images, and visual data**.
• Conventional GPUs are commonly utilized in the following applications:
  - Computers
  - Smartphones
  - Gaming systems
  - AI and high-performance computing
• **Micro-GPU –** A compact, programmable graphics processor primarily intended for **basic graphics tasks and embedded system applications**, rather than for high-performance gaming or computing.

- **Potential Applications –** The micro-GPU is designed for integration into low-cost embedded systems, including the following applications:
  - Industrial display systems
  - Basic human–machine interfaces (HMIs)
  - **E-rickshaw dashboard navigation systems**
  - Navigation terminals for small fishing vessels
  - Educational e-book readers
  - Other devices that require **basic graphics processing capabilities**
- **Significance**
  - It facilitates the development of accessible and cost-effective computing platforms.
  - It enhances self-reliance in digital infrastructure and reduces import dependence.
  - It promotes innovation in embedded and edge devices.

Reference

[India Today | India’s First Micro-GPU]