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IIT-G pioneers nanotech advancements in healthcare with new clean room facilities

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The ISO 5 and 6 Clean Room Facilities are the first of their kind in the North Eastern region of India



Secretary of the Ministry of Electronics and Information Technology (MeitY), Government of India, S. Krishnan recently inaugurated the groundbreaking SWASTHA project and the state-of-the-art ISO 5 and 6 Clean Room Facilities at the Indian Institute of Technology (IIT) Guwahati's Centre for Nanotechnology.

Supported by MeitY, the Centre of Excellence on SWASTHA, "Smart Wearable Advanced nanoSensing Technologies in Healthcare ASICs," aims to revolutionise healthcare through advanced nanoelectronic theranostic devices. The project aims to deliver high-quality products and prototypes in micro/nano electronics and nanomaterials, with a focus on healthcare and energy applications. It emphasises innovation, scientific collaboration, and technological progress.

The state-of-the-art ISO 5 and 6 Clean Room Facilities are the first of their kind in the North Eastern region of India. They are dedicated to promoting awareness and training in micro/nano electronic fabrication, facilitating industrial research and development, and supporting the Indian Nanoelectronics Users Programme (INUP).

Jointly sponsored by MeitY and IIT Guwahati, these facilities create a controlled environment suitable for nanoelectronics and nanomaterial fabrication, semiconductor devices fabrication, quantum technologies development, enabling fundamental and translational research. Housed with the state-of-the-art equipment for device fabrication and development, including Electron Beam Lithography and Reactive Ion Etching, this enables the development of devices such as Organic Light-Emitting Diode (OLED), Organic and hybrid photovoltaic devices, Field-Effect Transistor (FET), Surface Acoustic Wave (SAW), and Microfluidic-based Sensors, utilising advanced fabrication techniques.

The project and facilities are geared towards high Technology Readiness Level (TRL) Deep-Tech invention and innovation, startup support, entrepreneurship development, long-term sustainability, capacity building, revenue generation, and collaboration with experts in India and abroad for both academia and industry professionals.