

# National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)

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## What are Cyber Physical Systems (CPS)

- CPS are a **new class of engineered systems that integrate computation and physical processes in a dynamic environment.**
- CPS encompasses technology areas of Cybernetics, Mechatronics, Design and Embedded systems, Internet of Things (IoT), Big Data, Artificial Intelligence (AI) and many more.
- The CPS systems are intelligent, autonomous and efficient and are expected to drive innovation in sectors as diverse as agriculture, water, energy, transportation, infrastructure, security, health and manufacturing.

## National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)

In order to harness the potential of this new wave of technology and make India a leading player in CPS, the Union Cabinet approved the launch of National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) to be implemented by the Department of Science & Technology (DST) with a total outlay of Rs. 3660 Crore for a period of five years

## Aim of the mission

The Mission aims to create a strong foundation and a seamless ecosystem for CPS technologies by coordinating and integrating nationwide efforts encompassing knowledge generation, human

resource development, research, technology and product development, innovation and commercialization.

### Implementation of the mission

- The mission will be implemented through a network of 15 Technology Innovation Hubs (TIHs), 6 Sectoral Application Hubs (SAHs) and 4 Technology Translation Research Parks (TTRPs).
- Each hub and technology park will follow a technology life cycle approach, addressing all stages viz. Knowledge-Development-Translation-Commercialization
- **The first Phase of NM-ICPS will focus on establishing six Technology Innovation Hubs (TIHs) in the following domain areas:**
  1. Artificial Intelligence and Machine Learning
  2. Technologies for Internet of Things and Everything (IOT & IOE), Sensors, Activators and Control
  3. Databanks & Data Services, Data Analytics
  4. Advanced Communication Systems
  5. Robotics & Autonomous Systems
  6. Cyber Security and Cyber Security for Physical Infrastructure
- The first phase of NM-ICPS will be implemented by the Science and Engineering Research Board (SERB).