

## **HCP-Construction automation of climate resilient building components**

### **Abstract:**

The increasing demand for climate-resistant buildings has driven advancements in mechanized manufacturing systems for prefabricated (prefab) and precast building components. This study focuses on the design and development of mechanized systems for producing durable, high-quality structural elements such as panels. The findings demonstrate how mechanized manufacturing systems can contribute to the rapid and cost-effective construction of climate-resistant buildings, addressing challenges posed by extreme weather conditions while promoting sustainable building practices. NITI Aayog has recognized the potential of precast and prefabricated building components in revolutionizing the construction sector. These components, manufactured off-site in a controlled environment and then transported to the construction site, offer several advantages such as reduced construction time, improved quality, and minimized wastage.