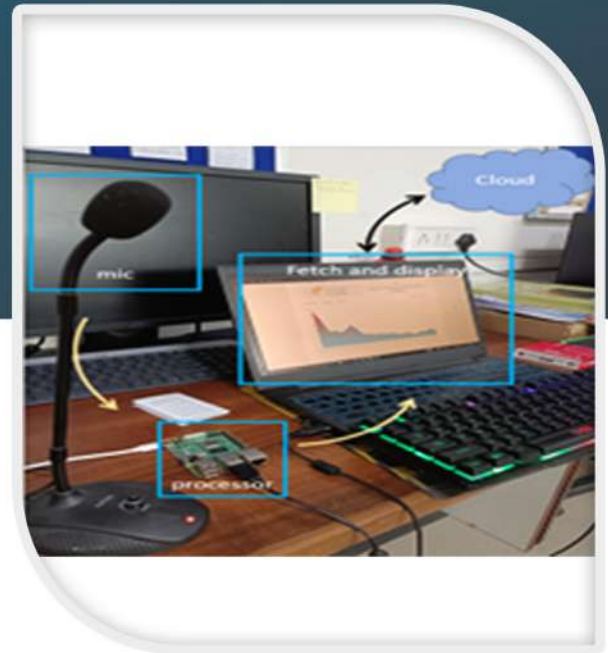


TECHNOLOGY DEVELOPMENT PROGRAM SMART CITIES AND SOCIETIES

SWASTi-DT

A Digital Twin Platform for Space Weather Monitoring



Issue Being Addressed

- ▶ Developing an end-to-end portal for monitoring space weather
- ▶ Assistance for pre-launch satellite checks and protection of space assets

Key Feature of The Technology/Product /App Which Is Being Developed

- ▶ State-of-the-art modelling framework SWASTi (Space Weather Adaptive SimulaTion Framework) at the backend
- ▶ A modular framework providing varied options for the end-user to check possibilities
- ▶ A user-friendly API for non-experts to use the technology

Impact & Benefit

- ▶ Protecting space assets responsible for satellite communications and navigation from undue interference from space environmental factors
- ▶ A user-friendly and accessible technology to forecast space weather signatures and provide timely alerts

Team

- ▶ **PI: Bhargav Vaidya**
Professor, Dept. of AASE
- ▶ **Mr. Sparsh Arya**
M.Sc. student
- ▶ **Mr. Prateek Mayank**
PhD student [Developer of SWASTi modelling framework]
- ▶ **Ms. Sarisha Das**
BTech student
- ▶ **Jithu J**
PhD student
Indian Institute of Technology, Indore

Targeted Customers & End Users

- ▶ Space Tech Start-ups like MISSION SPACE, Digantara, etc
- ▶ ISRO and Space Tech companies

Commercialization Status

- ▶ A prototype developed that showcases voice-enabled space weather assessment framework
- ▶ SWASTI-DT would provide fore-warning alerts for upcoming ISRO missions involving inter-space travel
- ▶ Presented this model at ISRO Headquarters in January 2024 as part of the workshop organised