



## Workshop on

# "Next Generation Mapping of Built-up Infrastructure and Assets - Opportunities and Challenges"

## ABSTRACT

A resurgent India on the move has embarked on a three front National development strategy. The First Front is the Make in India, as a precursor to Made in India, the Second Front is Aatmanirbhar Bharat as a call for self-reliance and third Front is Start Up India to champion the agile ignited young minds into entrepreneur ventures. All these coming up concurrently has created an enormous technology and innovation bandwidth, and an excitement in India which has tech reverberations world-wide. Life cycle sustenance support of assets is a huge opportunity in this three front confluence and Maintenance, Repair and Overhaul (MRO) a great opportunity for academia, industry and government interface.

Maintenance, Repair and Overhaul (MRO) has existed as a necessity for enhancing reliability and availability of assets with periodic and preventive maintenance being a best practice. Maintenance and major repair interventions have been carried out as a standard operating procedure in civil infrastructures and workshops based on pre-defined time bound preventive interventions. Given the emerging technologies landscape comprising GIS, LIDAR, 3D printing, AR, VR, IoT and sensors, 5G, big data analytics, DCS/SCADA and AI, to name a few, there is a huge opportunity to indulge in condition based monitoring and just in time maintenance intervention of assets. This will ensure reliability centric exploitation of assets by harnessing the power of technology and innovation. This also calls for a major shift from periodic preventive maintenance to predictive prescriptive maintenance. The one day workshop on the subject will deliberate on the way forward for reliability centric CBM for civil engineering assets and electrical - electronics -mechanical systems and look at potential areas of research and start ups. This workshop shall be the start of a number of round tables to convert ideas into impactful products as a part of Lab to Market Strategy in Positioning and Precision Technologies at Technology Innovation Hub of IIT Tirupati.

**Venue: TC1, IIT TIRUPATI**

**Date: 21st - MARCH - 2023**

**Time: 09:30 AM - 05:00 PM**



IIT Tirupati  
**Navavishkar**  
I-Hub Foundation



मारतीय प्रोग्रामिकी संस्थान तिरुपति  
**IIT**  
**TIRUPATI**

Organized by IIT Tirupati Navavishkar I-Hub Foundation



**Prof. K.N. Satyanarayana**  
Director, IITT



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VSM Retired, HGB member in IITTNiF  
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**Er. P. V. S. Ganesh Kumar**  
Outstanding Scientist,  
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**Mr. Sudip Mazumder**  
Global Head,  
L&T



**Mr. V. Balamurugan**  
Director CVRDE,  
Avadi.



**Mr. Uday Purohit**  
Managing Director,  
NPPS



**Col N. Selva Kumar**  
CEO, BridgeBharat Council for  
Promotion of Innovation Research  
and Entrepreneurship

**Venue: TCI, IIT TIRUPATI**

**MAR ♫ 21 st ♫ 2023**

**Time: 09:30 AM - 05:00 PM**



**Workshop on**  
**"Next Gen Smart Technologies For Next Generation Mapping of Built-up Infrastructure and Assets-Opportunities and Challenges"**

Timing	Topic	Speaker
09:30 - 11:00	Inauguration/Opening Address	Dr. N N Murty Associate Professor, Head of EE Department
	Welcome Speech/Key note Address	Prof. K.N. Satyanarayana Director, IIT Tirupati.
	Theme Address Digital twin D&D in next-generation mapping technologies tryst with technology and innovation	Lt. Gen. Anil Kapoor AVSM, VSM Retd., Professor, IIT Tirupati
	Special Address Advances in Condition monitoring and collaboration opportunities	Dr. Ganesh Kumar PVS Outstanding Scientist, Associate Director, NSTL
10.50 - 11:00	<b>Tea Break</b>	
11.00 - 12:00	Digital Twins & Build up Infrastructure Next Generation Mapping Technologies – Challenges, Opportunities & Potential Research Areas/ Start up options	Mr. Sudip Mazumder Global Head of L&T
12.00 - 12:20	Recommended way forward to HoD CE	Dr. B. Krishna Prapoorna, Associate Professor, Head of Civil and Environmental Engineering
13.15 - 14:00	<b>Lunch Break</b>	
14.00 - 14:30	Next Generation Mapping Technologies and Monitoring Systems in AFVs	Shri V. Balamurugan Outstanding Scientist, Director, Combat Vehicles Research and Development Establishment (CVRDE)
14:30 - 15:00	Creating an Enabling Eco System for CBM	Col N. Selva Kumar CEO, Bridge Bharat Council for Promotion of Innovation Research and Entrepreneurship
15:15 - 15:30	Way to Froward Electrical Engineering Department HoD	Dr. N N Murty Associate Professor Head of EE Department
15:30 - 16:00	Way to Froward Computer Science Engineering Department HoD	Dr. Venkata Ramana Badarla Associate Professor Head of CSE Department
	Technology Innovation Hub - Opportunities for Technology Development	Dr. Roshan Srivastav Project Director, IIT Tirupati Navavishkar I-Hub Foundation
	Vote of Thanks	Dr. K. Thiruppathi, Chief Manager, CSRC IIT Tirupati