

Proposed session on
Building a Digital Public Infrastructure for Geospatial Data Exchange :
The case of Integrated Geospatial Data Sharing interface (GDI)

Date : 18th July, 2025

Abstract of the session :

Geospatial data analysis powered by advanced machine learning techniques holds immense potential to address complex challenges across sectors and accelerate progress toward the Sustainable Development Goals (SDGs). However, the full value of these technologies has yet to be realized, largely due to issues such as limited data availability, lack of interoperability, and the prevalence of non-standard data formats.

This challenge has been recognised by the National Geospatial Policy 2022 which envisages efficient access to the fundamental geospatial data available with various stakeholders in the country. The policy proposes a National Geospatial Data Registry (NGDR) as a centralized catalog for discovering and accessing geospatial data, and a Unified Geospatial Interface (UGI)—a standards-based digital platform to enable querying and exchange of data from NGDR and its partner nodes.

The development of the Integrated Geospatial Data-sharing Interface (GDI) is a step towards that direction. The GDI is a standardized platform that integrates diverse sources of spatial data, tools, and services into a cohesive and accessible interface. It aims to streamline access to geospatial information, promote interoperability across different systems, and facilitate seamless data sharing and analysis. By providing a unified access point, GDI enhances efficiency in geospatial data utilization, supports innovation in applications and services, and ensures consistency in data standards and protocols for users across various domains and industries. GDI provides a critical Digital Public Infrastructure (DPI) to readily access geospatial data through controlled access mechanisms.

This session shall expose users to the GDI initiative with live demos on certain features of the platform, the sandbox and some compelling use cases. All this has been developed in-house.

Proposed flow :

Time	Event	Presenter
15:00 to 15:20	Building a Digital Public Infrastructure for Geospatial Data Exchange : The case of Integrated Geospatial Data Sharing interface (GDI)- Talk	Jyotirmoy Dutta
15:20 to 15:45	Walkthrough of the GDI Platform (Demo)	Linda Theres

15:45 to 16:15	Tea break	
16:15 to 16:30	Walkthrough of the GDI Canvas (Demo)	Linda Theres
16:30 to 17:00	GDI analytics Engine (Demo)	Linda Theres
17:00 to 17:15	GDI Sanbox (Demo)	Linda Theres
17:15 to 17:45	Integrating analytics use case with the GDI platform (Demo) : Satellite image classification, Routing service based on constrained optimization and Analytics Serving Infrastructure	Linda Theres and Joel Joy

Team :

Mr. Joel Joy : Data Scientist with a strong passion for Artificial Intelligence, combining practical expertise in Applied Machine Learning and Deep Learning with a keen interest in research and innovation. Committed to solving real-world problems and learning from leading minds in the field of AI and data science

Designation : Data Scientist – I

Dr. Linda Theres : Linda is a Geoinformatics Engineer who has worked in the GIS domain since 2011. She has experience with various GIS and image processing software and applies remote sensing and GIS methods in multiple fields to solve spatial problems. Her doctoral research focuses on machine learning-based predictive modelling in urban studies. She also works on spatial and network analytics across domains such as agriculture, forestry, urban planning, and disaster management. Some of her work has been published in peer-reviewed journals.

Designation : Senior Software Engineer – Geospatial

Dr. Jyotirmoy Dutta : Jyotirmoy has close to eighteen-plus years of experience holding key positions in academia, industry, and research. In his current role at the Centre of Data for Public Good, FSID, at the Indian Institute of Science, Bengaluru, he contributes to the strategic programs division, and leads multi-year, complex projects of national importance funded by the Government of India and affiliated entities.

Designation : Director and Principal Scientist