Genesys and Survey of India enter into partnership to transform India's geospatial landscape

In a groundbreaking collaboration, Genesys International and Survey of India (SOI) have formed a strategic alliance to create digital twins of major cities and towns. This partnership is aimed at transforming the country's map content by leveraging Genesys's highly accurate navigable maps covering all of India, the Genesys constellation of sensors, and SOI's recently launched CORS network, which enables real-time high-precision positioning data. The collaboration is aligned with India's National Geospatial Policy 2022, which promotes self-reliance in geospatial data production and usage. Genesys International is a leading Indian mapping company, and Survey of India (SOI) is the country's national surveying and mapping authority.

This collaboration introduces the India Map Stack initiative, combining Genesys' expertise with SOI's technical infrastructure to deliver previously unavailable data layers. These include high-precision 3D data, digital terrain models (DTMs), digital surface models (DSM) and orthoimagery. This comprehensive dataset forms the foundation for creating detailed and accurate urban representations.

Genesys International has received acclaim for developing highly accurate, fully navigable road datasets covering 8.5 million kilometres, 40 million points of interest (POIs) and addresses, and an unprecedented one million kilometres of 360-degree panoramic imagery across Indian towns and cities. Leveraging its Genesys constellation of Lidar and optical sensors, the company is a pioneer in digital twin and 3D map creation.

SOI's Continuously Operating Reference Stations (CORS) network, comprising 902 stations across all states and Union Territories, provides real-time, high-precision positioning data. By seamlessly integrating CORS data, Genesys will ensure that its digital twins faithfully mirror the dynamic urban landscape with unparalleled precision. This integration empowers applications such as urban planning, telecom signal assessment, disaster management, and infrastructure development with accurate and reliable geospatial insights.

Key highlights of the collaboration

Genesys will generate geospatial 3D digital twins for major Indian cities and towns. Survey of India will provide CORS datasets to Genesys. SOI will offer administrative boundaries of major Indian cities and towns. Genesys and SOI will collaborate on the urban 3D Data Model. Genesys will acquire accurate geospatial datasets using advanced surveying equipment and ground validations. Genesys will license its geospatial data products to end-users in a "Content-as-a-Service" model. Joint efforts will be made to apprise city administrations of the utility of accurate geospatial datasets through technical workshops. The collaboration was marked by an event attended by senior government officials and industry leaders, showcasing Genesys International's cutting-pioneering geospatial solutions that actively address complex urban challenges.

Shri. Hitesh Kumar Makwana, Surveyor General of India, shared his thoughts on the partnership, saying: "In line with National Geospatial Policy 2022, Survey of India has commenced collaboration with the Industry beginning with Genesys International, to deliver geospatial content created with reference to the National Geodetic Framework. SOI is willing to collaborate with Industry partners for utilizing modern surveying techniques and leveraging the expertise of the Indian private sector. The 3D Digital Twin aimed to be created will be used by government departments for various new initiatives. The integration of our CORS technology with surveying expertise of the private sector will enhance the usability and reliability of geospatial data, unlocking new possibilities for India's development. We are looking for the future possibilities that this SOI-Industry collaboration holds and it would be useful for the larger public needs."

Mr Sajid Malik, chairman and managing director of Genesys International, expressed his pride in the partnership, stating: "We are proud to join forces with Survey of India to create a Digital Twin of Indian cities that will serve as a cornerstone for India's development. We are excited that India's foremost mapping authority is playing the nodal role in the growth of this sunrise digital infrastructure."

3D master plans

Prof Debolina Kundu, director, National Institute of Urban Affairs, Government of India, mentioned: "The MoU between Survey of India and Genesys International is a testament to public-private partnership. The Digital Twin program offers town planners the opportunity to utilize 3D GIS data for the development of comprehensive 3D master plans for cities and towns across India, promoting transparency in the holistic development of urban areas."

This strategic alliance between Genesys and SOI heralds a new era of geospatial excellence, providing invaluable data and applications to enhance decision-making processes across various sectors. Projections indicate significant growth in the geospatial market within the Indian urban and utilities sector by 2025, underscoring substantial economic opportunities within the domain.

Genesys will generate geospatial 3D digital twins for major Indian cities and towns. (Image courtesy: Genesys)