

# Use of LiDAR Technology in Preparing Digital 3D Maps for Smart City Projects

Prashant Alatgi (India)

**Key words:** e-Governance; GNSS/GPS; Laser scanning; Spatial planning; Urban renewal; Terrestrial / Mobile LiDAR, SLAM, digital 3D city maps.

## SUMMARY

In today's era, there exists many advanced Geospatial technologies one can use for preparing a digital map of any city. Use of appropriate Geospatial Technology plays a vital role in the development of any smart city project. Preparation of accurate, up-to-date & dynamic digital map of the city is of utmost importance for effective planning & development. The selection of right combination of Geospatial technology has become a biggest challenge for the City development authorities. LiDAR is one of the most advanced and proven technology in the recent years. In this presentation, emphasis has been laid on the use of LiDAR technology (Terrestrial, Mobile or Aerial platforms) for preparation of high precise 3D digital maps which is one of the basic necessities of the smart city projects, in combination with other Geospatial Technologies. In case of relatively smaller size of cities, only Mobile LiDAR with Terrestrial / Hand held LiDAR (with SLAM technology) can serve the purpose. Whereas for relatively larger cities, Aerial LiDAR mounted on manned or Unmanned Aerial Vehicles can be preferred. The output thus obtained can be fed to a suitable 3D modeling software to create a digital 3D city maps and model.

---

Use of LiDAR Technology in Preparing Digital 3D Maps for Smart City Projects (10382)  
Prashant Alatgi (India)

FIG Working Week 2020  
Smart surveyors for land and water management  
Amsterdam, the Netherlands, 10–14 May 2020