OVERVIEW

India is undertaking a major revamp of its communications infrastructure by laying over 100,000km of Optical Fibre Cable (OFC) across the country. AAM India’s task was to map 2,500km of proposed OFC routes across 33 cities to allow the contractor to decide where to lay the trench. All trenching is along existing road corridors, mainly in urban and semi-urban environments.

The contractors needed mapping data with 50cm absolute and 10cm relative accuracy across all OFC routes to prepare accurate As Built drawings. The resulting maps needed to define all visible objects within 50m from the road centreline, ensuring telecom, utility assets and manhole covers were defined.

SITUATION

The conventional approach to this task is to deploy multiple field survey teams to map the obstacles to OFC cabling by GPS and/or Total Station methods. This project’s aggressive timetable and dense mapping requirements led AAM to consider other approaches. Mobile Laser Scanning (MLS) offered the ability to map the road corridor at speeds, feature density and cost not possible by traditional methods. It offered additional benefits of increased project safety and avoided all traffic disruption.

ACTION

AAM India deployed their StreetMapper MLS unit, equipped with a Riegl LiDAR and spherical camera. Experienced survey design was required to ensure specifications were met, involving positioning capability of the StreetMapper system, rigorous system calibration, regular system initialisation, experienced acquisition techniques and prudent Ground Control.

AAM processed the raw MLS data in secure premises to produce a dense streetscape pointcloud, colour coded with the spherical imagery. Then AAM extracted all visible street assets within the corridor and delivered site-ready Street Maps in digital and pdf format.

RESULT

The client received an accurate, detailed and clear definition of the proposed OFC routes, in a timeframe, cost and level of detail which was not possible by conventional methods. The MLS pointcloud remains a valuable asset to the project. Additional features can be extracted from the pointcloud as required, without the need to send field crews back into the field.

The client has accurate As built drawings to optimise their trenching operations, and a reliable record of the site before construction works.