



## New Age HD Maps Powering Autonomous Vehicles

An Autonomous Driving-based company required development of High-Definition maps for a township in the US. The HD maps required extremely high precision to make accurate real-time decisions. Key challenges in creating such intelligent maps involve high consumption of time eventually leading to heavy impact on cost. Exquisite interpretational skills were required to create virtual paths adding intelligence to the maps. The task was to create 1200 km of HD maps within a tight timeline. Genesys offered its services to analyse raw data, delineate and annotate features and enabling visualization and data ingestion.

Genesys deployed its expertise to define and prepare high intensity images from raw LiDAR data providing centimeter level accuracy which is much more accurate than ortho images. The feature extraction included 3D coordinate extraction from point cloud and verified with 360-degree Panoramic Imagery to delineate and annotate. Extracted features included road geometry (lanes, connection path, paths through complex intersections) and landmark features (traffic signs, the relevance of traffic lights to particular lanes, on-road markings) with speed information added to enhance its intelligence. Virtual layers comprising of internal connectors, connection paths, logical paths around the junctions and more were created post thorough interpretation of road features.

With the automated processes and the current resource strength Genesys completed HD mapping of in less than three months with a productivity of nearly 100 km per week.

### Key benefits:

- Cost effective accurate maps
- Well trained pool of LiDAR resources equipped with automation ensure high quality of output