

LiDAR

WE PROVIDE

PROFESSIONAL

Data Processing and
Output of LiDAR

What is LiDAR?

LiDAR (Light Detection and Ranging or Laser Imaging Detection and Ranging) is an optical remote sensing technology capable of measuring the distance to and properties of targets by illuminating them with laser light and analyzing the backscattered light.

Types of LiDAR



Airborne LiDAR scan

Airborne lidar is when a laser scanner, while attached to an aircraft during flight, creates a 3D point cloud model of the landscape.



Mobile LiDAR scan

Mobile LiDAR is the technology that combines multiple sensors. Active sensors, together with Inertial and Global Navigation System, are synchronized on a mobile platform to produce an accurate and precise geospatial 3D point cloud.



Static LiDAR scan

Static lidar is the collection of lidar point clouds from a static location.

LiDAR SERVICES



5 YEARS EXPERIENCE

Post survey processing of LiDAR and Panoramic image

In LiDAR pre-processing we fix systematic orientation errors in airborne and mobile laser data



5 YEARS EXPERIENCE

Coloring of LiDAR data using Panoramic image

We use the rectified Panoramic images and processed Mobile LiDAR scan cloud to create a colored LiDAR with RGB value



5 YEARS EXPERIENCE

Digitization from LiDAR (DTM, DEM and DSM)

We do Digital Terrain Model (DTM), Digital Elevation Model (DEM) and Digital Surface Model (DSM)

Our Partners



How **LiDAR** works?

LiDAR uses a rapidly pulsed laser rangefinder mounted in light aircraft or ground based vehicle, along with differential GPS and INS (Inertial Navigation System) to locate and orient the vehicle. 10 – 30 thousand XYZ points are surveyed per second with a spatial precision of a few decimeters.

We **WORKED** for



Post survey processing of **LiDAR** and Panoramic Image

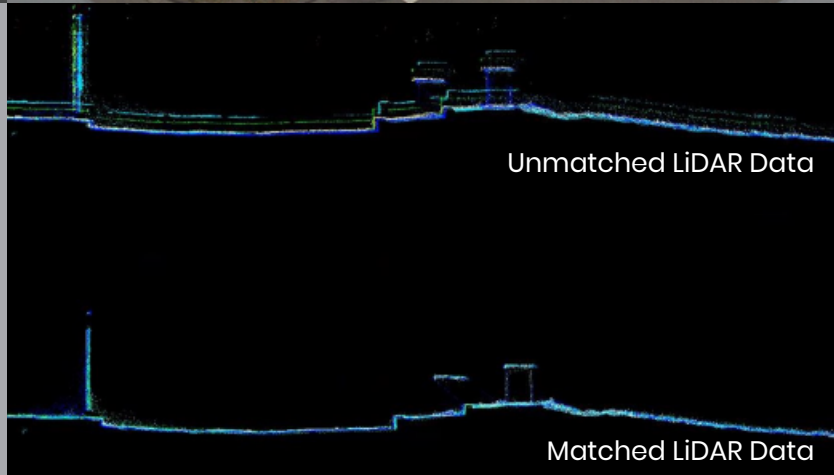
Panoramic Images Pre Processing

We use the images from mobile systems which are used to calibrate multiple-camera systems, to improve the positioning of the images from several cameras of a system, to rectify images on the ground.



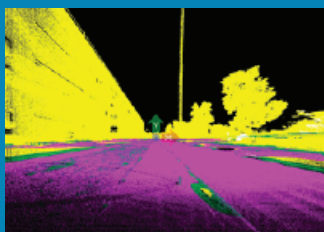
LiDAR Post Processing

In LiDAR pre-processing we fix systematic orientation errors in airborne and mobile laser data. It measures the differences between laser surfaces from overlapping strips of points or differences between laser surfaces and known points. These observed differences are translated into Heading (H), Roll (R) and Pitch (P) corrections for vehicle orientation, as well as height differences (dZ) for inaccurate/unreliable GPS elevation values.



Coloring of **LiDAR** data using Panoramic image

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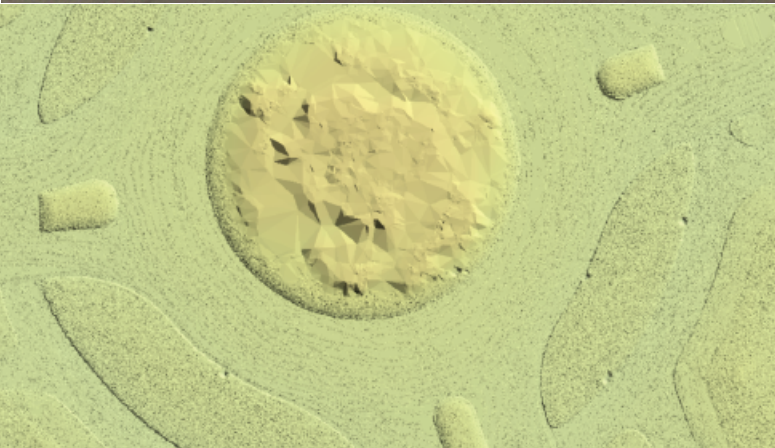


Digitization from LiDAR

DTM, DEM and DSM

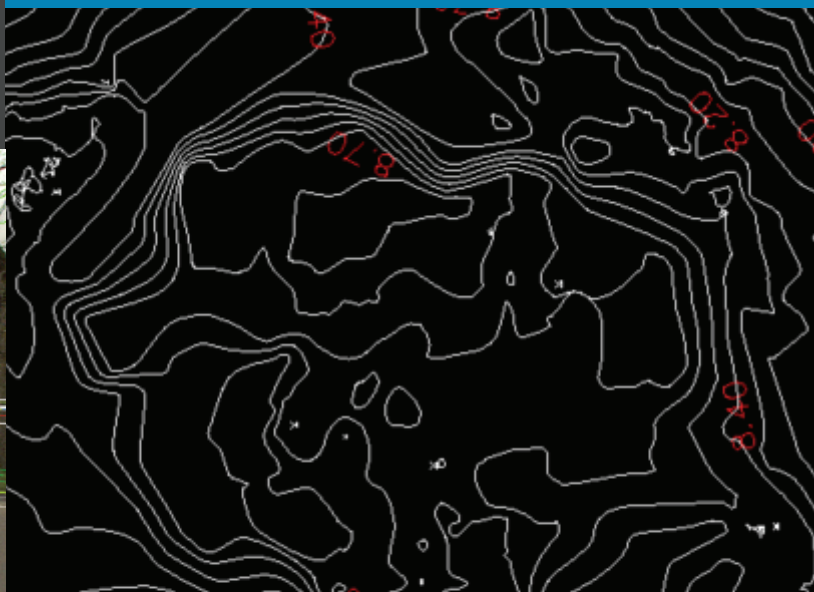
Digital Terrain Model (DTM)

The product DTM-design concerns the creation of a Digital Terrain Model for the purpose of road designs. In the DTM, the shape of a terrain is described with break lines. These break lines are captured in the desired coordinate system with the help of LiDAR scan and Panoramic images. By the codes of the break lines, there can be read information about pavement lines, objects, height information about curbs etc.



Digital Elevation Model (DEM)

A Digital Elevation Model (DEM) is a representation of elevation data of a landscape. The DEM models are created from the Airborne LiDAR data.



Digital Surface Model (DSM)

A Digital Surface Model (DSM) is a representation of triangulated surface data of a surveyed area. This triangulated surface models can be used for view different aspects of a landscape without any manual digitization.

HawarIT

A Dutch-Bangladeshi Company

HawarIT is a Dutch-Bangladeshi IT services company established in 2000. HawarIT is specialized in the domain of Custom Software and GIS Applications Development, Engineering Drawing and Modeling, GIS Data Services and Photogrammetry.



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