

# Leica Pegasus:Stream

"Measure the invisible" – Reality capturing sensor platform for below and above ground mass feature digitisation



# Leica Pegasus:Stream

## Underground and above-ground 3D digitalisation solution in a single vehicle towed platform

Leica Pegasus:Stream is the only vehicle towed reality capturing sensor solution providing an integrated hardware platform including ground penetrating radar, cameras, and a Lidar profiler for an extensive 3D map of underground utilities and a survey-grade surface features and asset

management survey for engineering by leveraging our external trigger and sync outputs.

Simply fly-in, collect, then fly-out. No dedicated or modified vehicles are required, batteries are included. Measure the unlimited.

### Leica Pegasus:Stream Measure the invisible

To accomplish mobile mass data the underground utilities detection system Leica Pegasus:Stream uses a massive array to perform fast scans of large areas while maintaining a high level of accuracy. By using multi-polarised antenna Leica Pegasus:Stream provides optimal detection of both – longitudinal and transversal features – without the need to perform multiple scans.

### Measure the visible

The Leica Pegasus:Stream solution captures calibrated imagery and point cloud data together – assuring that no object is forgotten. Capturing full 360° spherical view and lidar together means you never forget an object or return to a project site. Leica Pegasus:Two provides an optional rear road camera for pavement analysis providing options to grow your business – collect once, sell multiple times.

## Underground mapping

### Main features

- Speed – Leica Pegasus:Stream can be towed by a vehicle up to 15 km/h (12 mph) and can be run continuously without blocking traffic.
- Accurate to as little as 5 cm (2 inches) – Leica Pegasus:Stream provides accurate geo-localisation of the surveyed area and individually distinguishes all pipes, cables and anomalies detected.
- Cost and time reduction with no need to block traffic or perform surveys during the night

### Hardware features

- Professional subsurface survey – pipes, cables and buried objects can be automatically transferred to GIS and CAD formats allowing a complete subsurface GIS-based digital map to be produced efficiently.
- Massive array of 40 antennas in two polarisations – this results in accurate 3D modeling of the subsurface and in ease of detecting buried targets and anomalies. The use of both polarisations provides optimal detection of main and junction pipes at the same time.

## Surface mapping

### Main features

- Marries imagery and point cloud data into a single calibrated, user-intuitive platform
- Full calibrated spherical view through optional dome camera to enable city modelling
- Capture and edit 3D spatial objects from images or within the point cloud
- No dedicated, modified vehicles are required
- Software enables access to Esri® ArcGIS for Desktop

### Hardware features

- Largest sensor to pixel in the market 5.5 x 5.5 um
- Offering fast camera light response
- Captures up to 256 mega pixels per second
- 6 cameras positioned to capture 360° x 270° view – plus optional sky and road cameras
- NovAtel ProPak6™ provides the latest and most sophisticated precise GNSS receiver, includes triple band: L-Band, SBAS, and QZSS for GPS, GLONASS, Galileo, and BeiDou constellations
- INS determination of the location, speed, velocity and orientation at a rate of 200 Hz
- Battery based
- Portable system fitting into two carrying cases 88 x 68 x 81 cm, 86.5 kg; 65 x 32 x 37 cm, 34.8 kg



Leica Pegasus:Stream is the unique sensor platform solution for extensive mobile 3D utility and feature collection combining ground penetrating radar for underground scanning and the confidence of visual images calibrated to an accurate point cloud for surface into a GIS-enabled interface

## Underground mapping

### Software features

- 3D graphic interface
- Real time tomography (time slices)
- Radar scans parallel to the acquisition direction
- Virtual Radar scans orthogonal to the acquisition direction

### Software benefits

- Real time navigation and position representation
- Real time tomography exploration
- Import of maps (google and others)
- Two B-scan and transversal scan displays
- Easy management of big array configurations
- 2D and 3D tomography for an immediate visualisation and detection of anomalies.
- Automated transfer to CAD/GIS: the identified target can be automatically transferred to CAD or GIS maps for professional SUE/utility mapping
- Geolocated data information and visualisation

## Surface mapping

### Software features

- Semi-automatic extraction tools
- Pavement analysis through optional eighth camera
- Software pointer "snaps" automatically and continuously onto the point cloud data from within an image
- Immediate access to point clouds for an accurate measurement
- Shadowed or missing 3D points can be acquired via photogrammetric processes
- Data capture module displays all cameras live, simultaneously

### Software benefits

- A more natural approach for non-professional users while offering technical interface for the advanced user
- Object Recognition – advanced features including street sign identification and object blurring
- Manageable data file sizes of 2 GB per km
- Esri® ArcGIS for Desktop compatible
- Object Recognition – advanced features including street sign identification and object blurring
- Point cloud density less critical with image integration – enabling economical data Collection



## Leica Geosystems – when it has to be right

Revolutionising the world of measurement and survey for nearly 200 years, Leica Geosystems creates complete solutions for professionals across the planet. Known for valuable products and innovative solution development, professionals in a diverse mix of industries, such as aerospace and defence, safety and security, construction, and manufacturing, trust Leica Geosystems for all their geospatial needs. With precise and accurate instruments, sophisticated software, and dependable services, Leica Geosystems delivers value every day to those shaping the future of our world.

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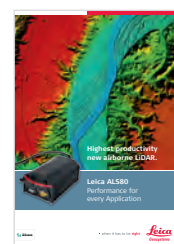
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