Leica RealTerrain

Airborne reality capture

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Leica Geosystems

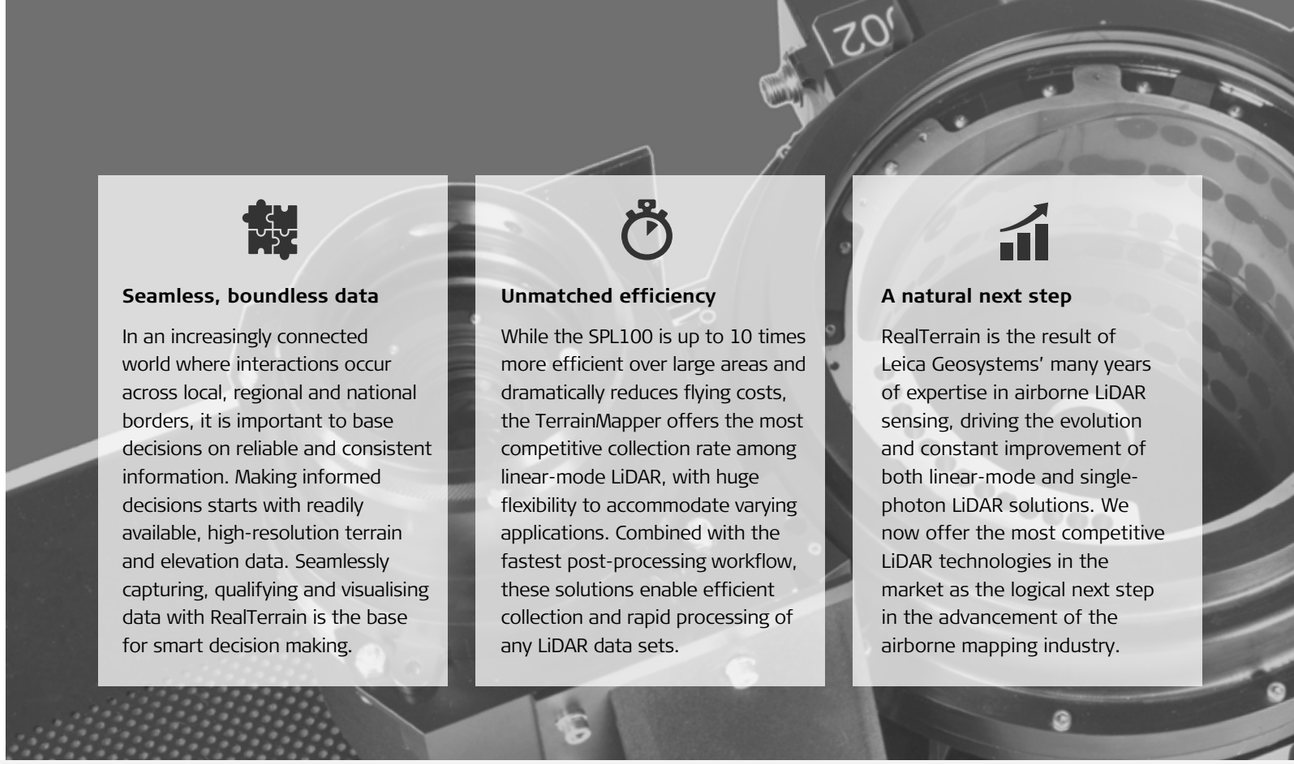
Leica RealTerrain

Efficient LiDAR mapping across all applications

RealTerrain is about efficient and flexible airborne LiDAR reality capture. Intelligent information is produced with accurate, high-density elevation data from a choice of two remarkable but distinctively different airborne technologies. Both take advantage of Leica HxMap, the high-performance, multisensor, post-processing workflow that reduces data delivery time.

For the highest flexibility across widely-varying use cases and for the delivery of highest fidelity data, RealTerrain is used with the Leica TerrainMapper airborne linear-mode LiDAR sensor. This combination is most suitable for regional mapping projects spanning from narrow-swath corridors to high altitude applications over complex and changing environments.

RealTerrain provides the highest efficiency for large area LiDAR mapping projects with the lowest cost per data point and up to 10 times more efficiency when used with Single Photon LiDAR (SPL) technology in the Leica SPL100. This configuration works best for country- and state-wide mapping, disaster risk planning, emergency management and forest inventory.



Seamless, boundless data

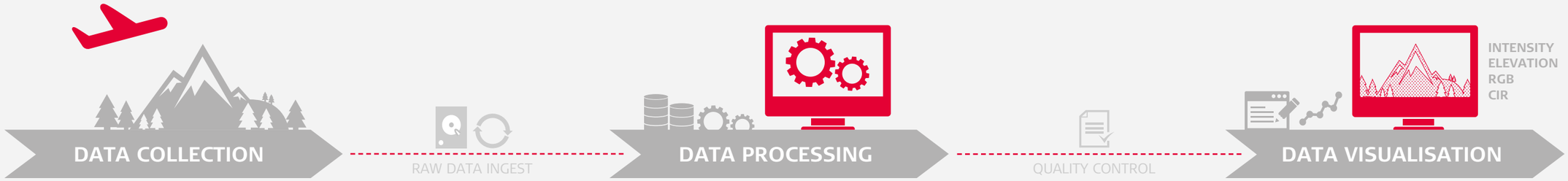
In an increasingly connected world where interactions occur across local, regional and national borders, it is important to base decisions on reliable and consistent information. Making informed decisions starts with readily available, high-resolution terrain and elevation data. Seamlessly capturing, qualifying and visualising data with RealTerrain is the base for smart decision making.

Unmatched efficiency

While the SPL100 is up to 10 times more efficient over large areas and dramatically reduces flying costs, the TerrainMapper offers the most competitive collection rate among linear-mode LiDAR, with huge flexibility to accommodate varying applications. Combined with the fastest post-processing workflow, these solutions enable efficient collection and rapid processing of any LiDAR data sets.

A natural next step

RealTerrain is the result of Leica Geosystems' many years of expertise in airborne LiDAR sensing, driving the evolution and constant improvement of both linear-mode and single-photon LiDAR solutions. We now offer the most competitive LiDAR technologies in the market as the logical next step in the advancement of the airborne mapping industry.



Leica SPL100

Efficiency over large areas

The SPL100 is the first commercially available Single Photon LiDAR airborne sensor. With 100 output beams and a total of 6 million measurements per second, this system is ideal for large area terrain mapping projects.

During day or night, leaf-on or leaf-off conditions, and in dense vegetation, the SPL100 captures more data faster. Create high density point clouds by collecting 12 - 30 points per sqm (depending on flying heights) and penetrate semi-porous obscurations, such as vegetation, ground fog and thin clouds. The SPL100 is combined with an 80 MP camera for RGBN colour information.

Leica TerrainMapper

Flexibility for complex terrain

The TerrainMapper is the newest generation linear-mode LiDAR airborne sensor optimised for regional mapping projects. With an operational profile spanning from 300 m to 5,500 m flying height, outstanding accuracy and an unmatched point density, the sensor offers flexibility to be used in complex and changing terrain.

Capture power lines at 100 points/m², wider areas with USGS Quality Level 0 or high-flying-height stand-off missions, all from the same aircraft sortie. Deliver seamless, extremely accurate data with even point density in mountainous terrain with gateless MPiA.

Leica HxMap

High-performance processing

HxMap is the high-performance multisensor workflow for airborne sensors, featuring the industry's fastest data throughput. Process the data captured with SPL100 or TerrainMapper in one simple, intuitive user interface. Generate any LiDAR data product at the push of a button while eliminating the limitations of single workstation processing, and reduce training costs.

The newly introduced LiDAR processing module offers full flexibility to produce the high-density point clouds you need. HxMap is modular, scalable, upgradable and perfectly adaptable to your needs.

Enabler Enabler	●
Provider Ingest, Raw QC, Workflow Manager, Point Cloud Generator, Projection Engine	●
Core LiDAR AutoCalibration, Color Encoding, Registration, Data Metrics, LiDAR QC	●
Core Image APM, Aerial Triangulation, Ortho Generator, InfoCloud	●
3D Modeller City Modeller, Texture Mapper, 3D Editor, Building Finder	○
SDK Developer's Kit	○

● = Standard ○ = Optional

Revolutionising the world of measurement and survey for nearly 200 years, Leica Geosystems creates complete solutions for professionals across the planet. Known for premium products and innovative solution development, professionals in a diverse mix of industries, such as surveying and engineering, safety and security, building and construction, and power and plant, trust Leica Geosystems to capture, analyse and present smart geospatial data. With the highest-quality instruments, sophisticated software and trusted services, Leica Geosystems delivers value every day to those shaping the future of our world.

Leica Geosystems is part of Hexagon (Nasdaq Stockholm: HEXA B; hexagon.com), a leading global provider of information technologies that drive quality and productivity improvements across geospatial and industrial enterprise applications.

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Leica RealCity
Airborne reality capture

Leica SPL100
Highest efficiency over large areas

Leica TerrainMapper
Highest accuracy for regional mapping projects

Leica HxMap
High-performance multisensor workflow

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