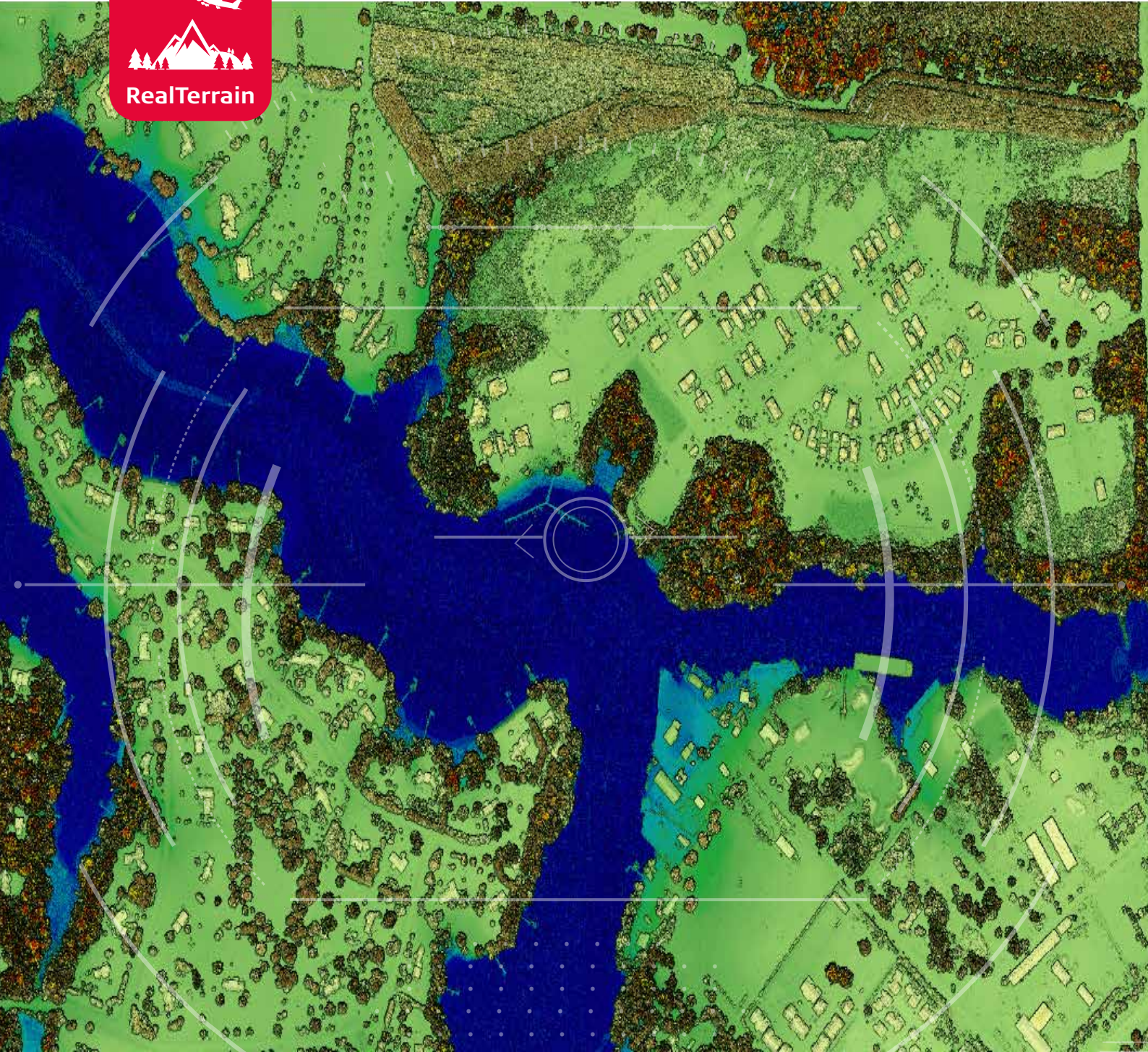


# Leica RealTerrain

Airborne reality capture



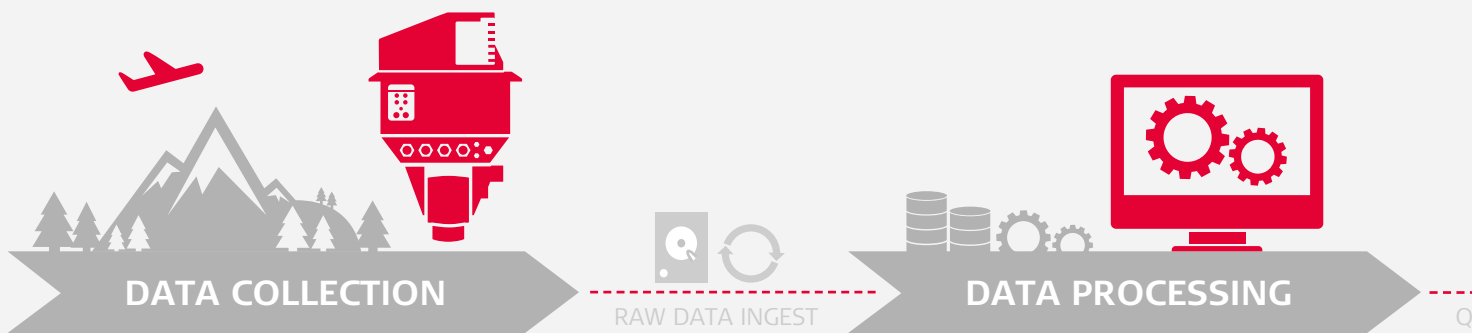


# Leica RealTerrain

## Large area LiDAR mapping at the least cost per point

For applications such as country and state wide mapping, disaster risk planning, emergency management, forest inventory, flood mapping and control of soil erosion, information retrieved from accurate, high-density elevation data is indispensable. Leica RealTerrain provides the highest efficiency for any large area LiDAR mapping projects, providing the lowest cost per delivered data point and up to 10 times more efficiency to your airborne operation.

RealTerrain, the latest airborne reality capture solution, combines innovative single photon LiDAR (SPL) technology in the new Leica SPL100 with the intuitive, high-performance, multisensor, post-processing workflow Leica HxMap.



### Leica SPL100

#### Highest 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 HxMap

#### High-performance post-processing

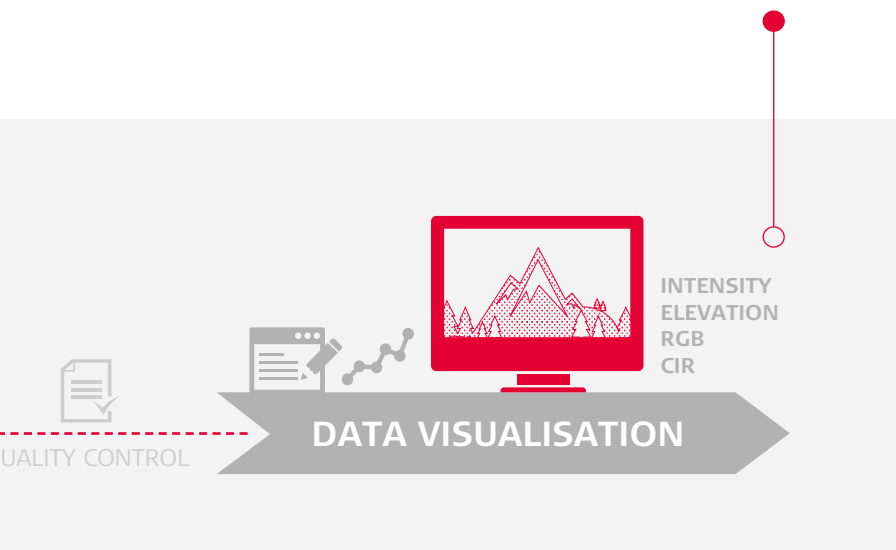
HxMap is the high-performance multisensor workflow for airborne sensors featuring the industry's fastest data throughput. Process the data captured with the SPL100 in one simple, intuitive user interface. Generate any LiDAR data product at the push of a button while eliminating the limitations of single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

## Seamless, boundless data

In an increasingly connected world where interactions occur across local, regional and even national borders, it is important to base decisions on reliable and consistent information.

The success of making cooperative and informed decisions starts with readily available, high-resolution terrain and elevation data over large areas. Seamlessly capturing and visualising large areas with RealTerrain is the base for smart decision making.



### 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 Linear Mode LiDAR solutions. We now bring Single Photon LiDAR technology to the market as the logical next step in the advancement of the airborne LiDAR mapping industry.



### Unmatched efficiency

SPL100 is up to 10 times more efficient than conventional LiDAR systems, dramatically reducing flying time and, thus, the costs of your mission. Combined with the fastest post-processing workflow, this sensor enables efficient collection and rapid processing of the largest LiDAR data sets even across local or regional borders, making RealTerrain an unmatched mapping solution.



### Proven in space applications

The short, low-energy pulses and the innovative range-counting electronics enable the recording of multiple returns for each outbound pulse. SPL100 draws from the experience of the Sigma Space engineers who developed Single Photon LiDAR technology for earth-to-satellite ranging and supported several NASA missions, such as the ICESat-2.

## HxMap modules for Leica RealTerrain

|  |   |
|--|---|
| <b>Enabler</b><br>Enabler, Workflow Manager, Projection Engine                               | ● |
| <b>Provider</b><br>Ingest, Raw QC  | ● |
| <b>Core LiDAR</b><br>AutoCalibration, Point Cloud Registration, Color Encoding, Data Metrics | ● |
| <b>Core Image</b><br>APM, AT, Infocloud, Ortho Generator, Ortho Mosaic                       | ● |
| <b>3D Modeller Basic</b><br>City Modeller, Texture Mapper, 3D Editor                         | ○ |
| <b>3D Modeller Advanced</b><br>Building Finder, 3D Mesh                                      | ○ |
| <b>SDK</b><br>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.

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**Leica RealCity**  
 Airborne reality capture



**Leica HxMap**  
 High-performance multisensor workflow



**Leica SPL100**  
 Highest efficiency over large areas



**Leica RCD30**  
 80 MP multi-spectral RGBN imagery

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- when it has to be **right**

