

Airborne Bathymetric LiDAR Solutions

Proven productivity



- when it has to be **right**

Leica
Geosystems

Mapping the unmapped

Highest productivity for bathymetric surveys

Leica Geosystems' Airborne Bathymetric Solutions portfolio combines bathymetric and topographic LiDAR sensors and medium format cameras to provide seamless data from seabed (bathymetry) onto land (topography). Thanks to superior depth penetration, point density and topographic capabilities, the portfolio is optimised to support a broad range of surveying applications in shallow and deep waters, offering a major productivity gain for even the most complex hydrographic mapping projects.



Flexibility, scalability & worldwide support

Leica Geosystems' bathymetric portfolio is flexible and scalable. Systems can include two or three LiDAR scanners integrated with a 4-band camera, a tightly coupled GNSS-IMU and a comprehensive bathymetric software workflow with all tools required from flight planning to product delivery. The hardware and software are developed and manufactured by Leica Geosystems, and supported by the worldwide customer support organisation, offering professional service in every location.

Innovative hardware

From land to shallow and deep waters



Leica Chiroptera-5

Leica Chiroptera-5 provides superior depth penetration, increased point density, and improved topographic sensitivity compared to previous generations, allowing for detailed hydrographic surveys of nearshore and inland waters.



Leica HawkEye-5

Leica HawkEye-5 is the world's only stabilised deep bathymetric LiDAR sensor offering superior flight efficiency with reduced carbon footprint. The system delivers excellent turbid water performance in both deep and shallow channels.



Aircraft mount

Both systems are delivered with the Leica PAV100 gyro-stabilised mount that isolates the sensor in the air from unwanted aircraft movements, providing consistent data density, more efficient area coverage and significant improvement of the flight efficiency.



Processing performance

Delivered with an integrated workflow suite

Integrated workflow

From mission planning to data delivery



Mission Planning

Leica MissionPro offers full 3D mission planning and flight trajectory optimisation to minimise data capture costs and improve reporting.



Flight Operation

Leica FlightPro provides advanced flight management and sensor control for precise flight execution and in-air pilot guidance and replanning.



Capture Optimisation

Leica AOC fully controls topographic and bathymetric LiDAR capture and optimises sensor setting to local project environments and conditions.



Positioning

NovAtel Inertial Explorer provides tightly coupled GNSS and inertial data post-processing, delivering precise position, speed and altitude.



LiDAR Processing

The Leica LiDAR Survey Studio (LSS) software suite provides full waveform analysis, automated processing and turbid water enhancement.



Image Processing

Leica HxMap is the unified, scalable processing workflow for Leica Geosystems sensors, offering distributed processing with unprecedented speed.

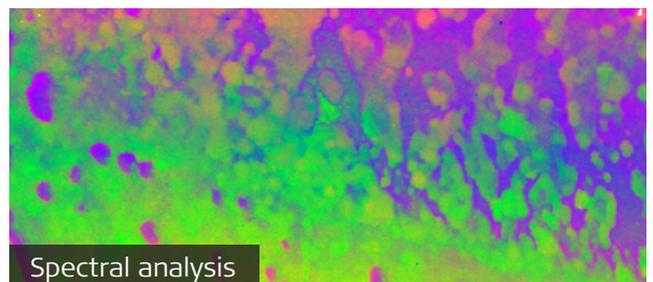
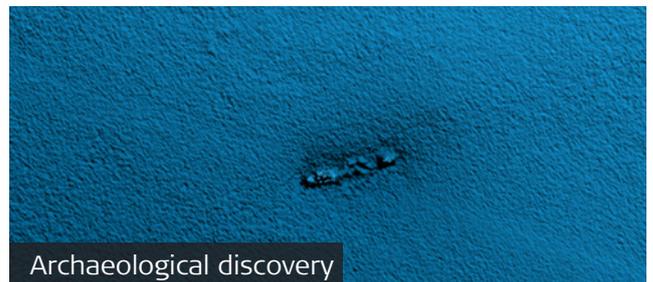
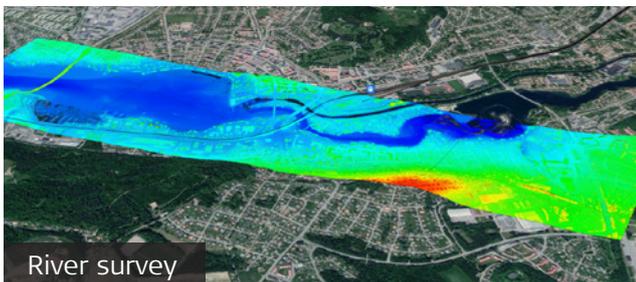
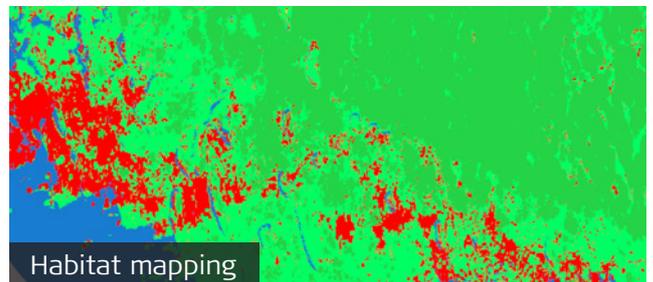
Grow your business

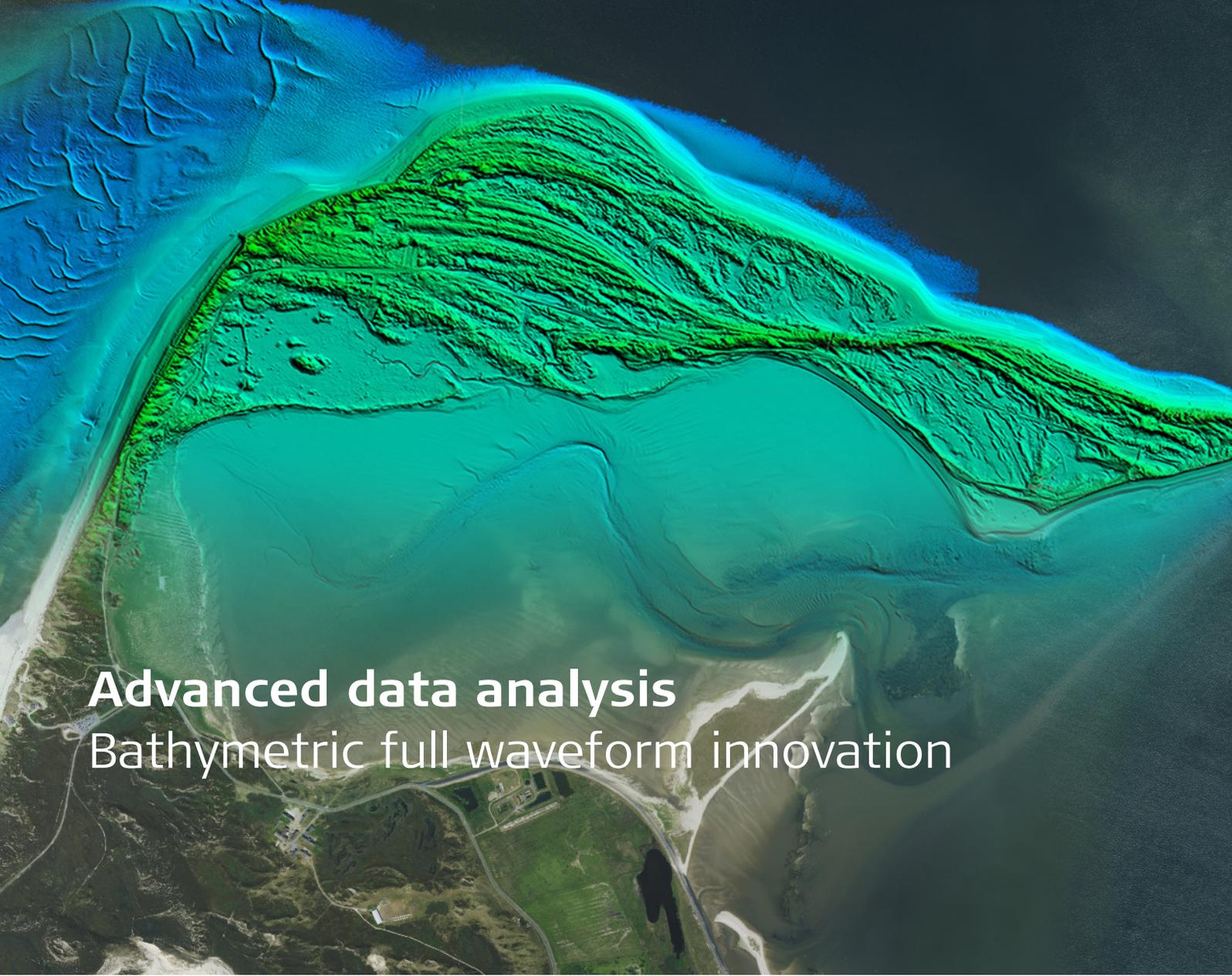
Explore expanding portfolio of application

Our bathymetric portfolio is designed to support various market applications for commercial and governmental customers. The advanced performance of Leica Geosystems' bathymetric solutions provides substantial benefits for many environmental applications, such as shoreline erosion monitoring, flood simulation, naval charting, archaeological and hydro geological applications.

Broad set of applications

From charting to environmental research





Advanced data analysis

Bathymetric full waveform innovation

Full waveform analysis

Creating new possibilities for data classification and analysis

Leica Geosystems' bathymetric LiDAR systems collect all the captured data in the full waveform domain, storing the data throughout the water column. Our market-leading capability for waveform analysis enables the extraction and classification of multiple targets from LiDAR data, including sea-surface, underwater object and sea-bed.

Enabling more detailed data analysis & information extraction

- Small object underwater detection
- Land-water discrimination
- Complex water surface detection
- Automatic refraction correction
- Dark sea-bed technology
- Turbid water technology
- Bathymetric waveform visualisation
- Noise classification

Leica Geosystems – when it has to be right

With more than 200 years of history, Leica Geosystems, part of Hexagon, is the trusted supplier of premium sensors, software and services. Delivering value every day to professionals in surveying, construction, infrastructure, mining, mapping and other geospatial content-dependent industries, Leica Geosystems leads the industry with innovative solutions to empower our autonomous future.

Hexagon is a global leader in sensors, software and autonomous solutions. Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 3.9bn EUR.

Learn more at hexagon.com and follow us @HexagonAB.



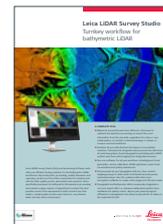
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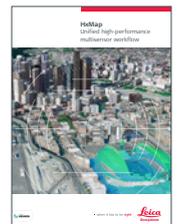
Leica Chiroptera-5
Highest bathymetric efficiency



Leica HawkEye-5
Introducing super-resolution for deep water survey



Leica LiDAR Survey Studio
Turnkey workflow for bathymetric LiDAR survey



Leica HxMap
Unified high-performance multi-sensor workflow

Leica Geosystems AG
leica-geosystems.com

