

3D Underwater Mapping from Above and Below, 8-11 July 2025, TU Wien, Vienna, Austria

YellowScan: Company Presentation

Tristan Allouis, CEO

YellowScan
Designed to innovate.





How it Started.

Tristan's Background



Engineering Degree (Master of Science) in 2007
Major in Computer Science and Electronics

Bathymetric LiDAR full waveform analysis and process: an application to shallow waters

EARTH SURFACE PROCESSES AND LANDFORMS
Earth Surf. Process. Landforms 35, 640–650 (2010)
Copyright © 2010 John Wiley & Sons, Ltd.
Published online 25 January 2010 in Wiley InterScience
(www.interscience.wiley.com) DOI: 10.1002/esp.1959

Comparison of LiDAR waveform processing methods for very shallow water bathymetry using Raman, near-infrared and green signals

Tristan Allouis,^{1,2*} Jean-Stéphane Bailly,^{1,2} Yves Pastol³ and Catherine Le Roux³

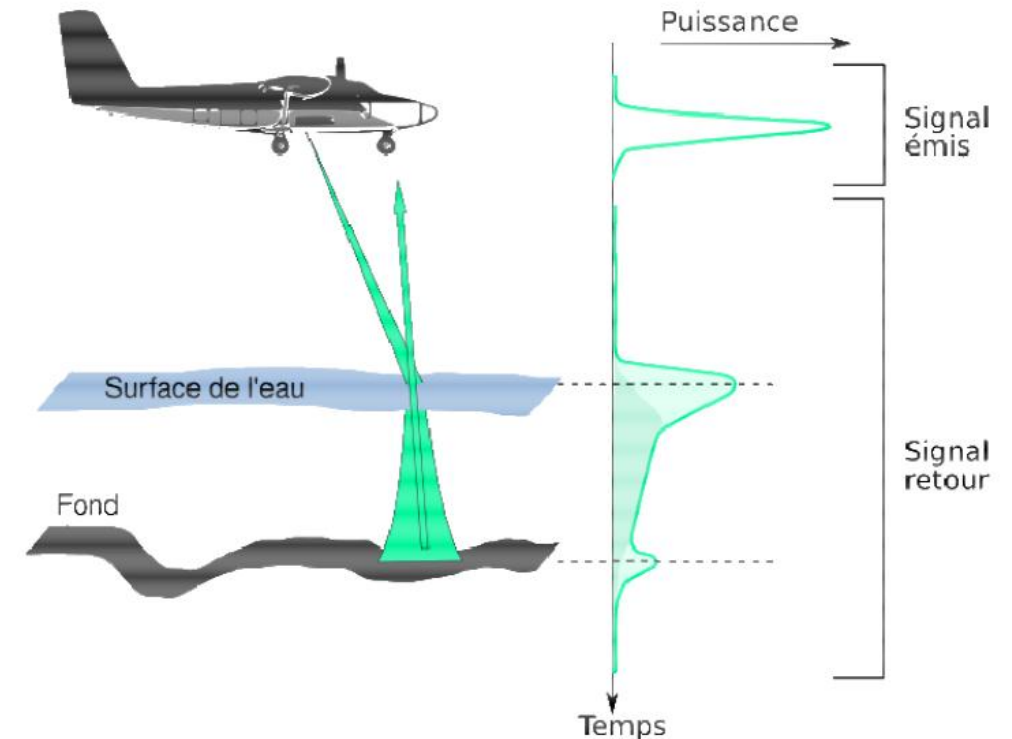
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Received 15 September 2008; Revised 16 September 2009; Accepted 20 October 2009

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Tristan's Background



PhD in Environmental Science in 2011
from AgroParisTech

Specifying new LiDAR sensors for **forest mapping**

IEEE JOURNAL OF
SELECTED TOPICS IN APPLIED EARTH
OBSERVATIONS AND REMOTE SENSING

A PUBLICATION OF THE IEEE GEOSCIENCE AND REMOTE SENSING SOCIETY

IEEE
**GEOSCIENCE AND REMOTE
SENSING LETTERS**

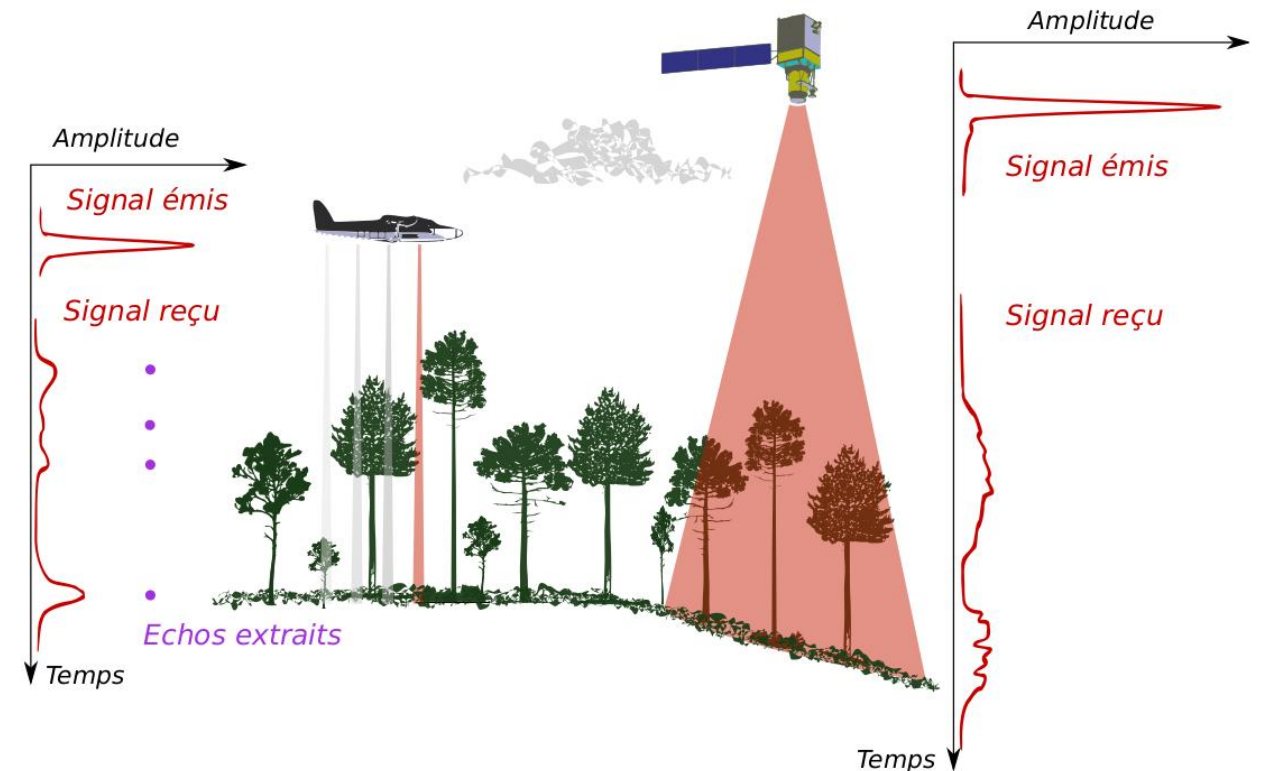
A PUBLICATION OF THE IEEE GEOSCIENCE AND REMOTE SENSING SOCIETY



ELSEVIER

ISPRS Journal of Photogrammetry and Remote
Sensing

Volume 66, Issue 6, Supplement, December 2011, Pages S92-S102



L'Avion Jaune's Background

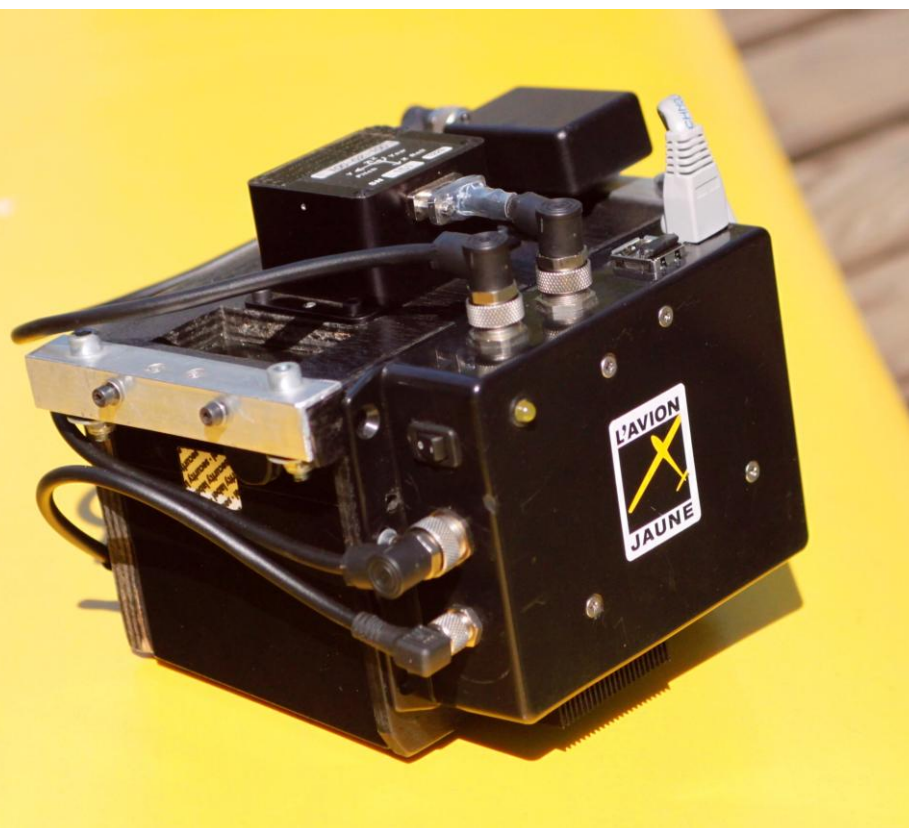
Service Company, pioneered professional UAV in France



L'Avion Jaune & Tristan Allouis: YellowScan Project



2012-2014: Development of one of the world's first lidar for drone





YellowScan Nowadays.

YellowScan Company.



We design, produce and commercialize **3d mapping instruments** for drones, based on lidar and imaging technologies.

Pioneer of UAV lidar mapping, since 2012.

Self Financed, employee-owned company.

80+ employees on 4 continents:
Headquarter in **France**, subsidiaries in **USA** and **Japan**,
office in **Germany, Australia**,
and a worldwide network of distributors.

Research and Development is at the heart of all our projects.



LiDAR Sensors

Top of the class sensors selection & tests.
Integrated, versatile
& robust design



Software

Real-time data synchronization &
processing. System accuracy & precision,
Open format,
CAD/GIS-ready



Calibration

Aerial remote sensing & RPAS experts
Boresight angles etc.



Technical Support

Hands-on assistance, survey planning &
operations, data classification, accuracy
assessment, quality control



YellowScan's Innovative Solutions.

/ Hardware

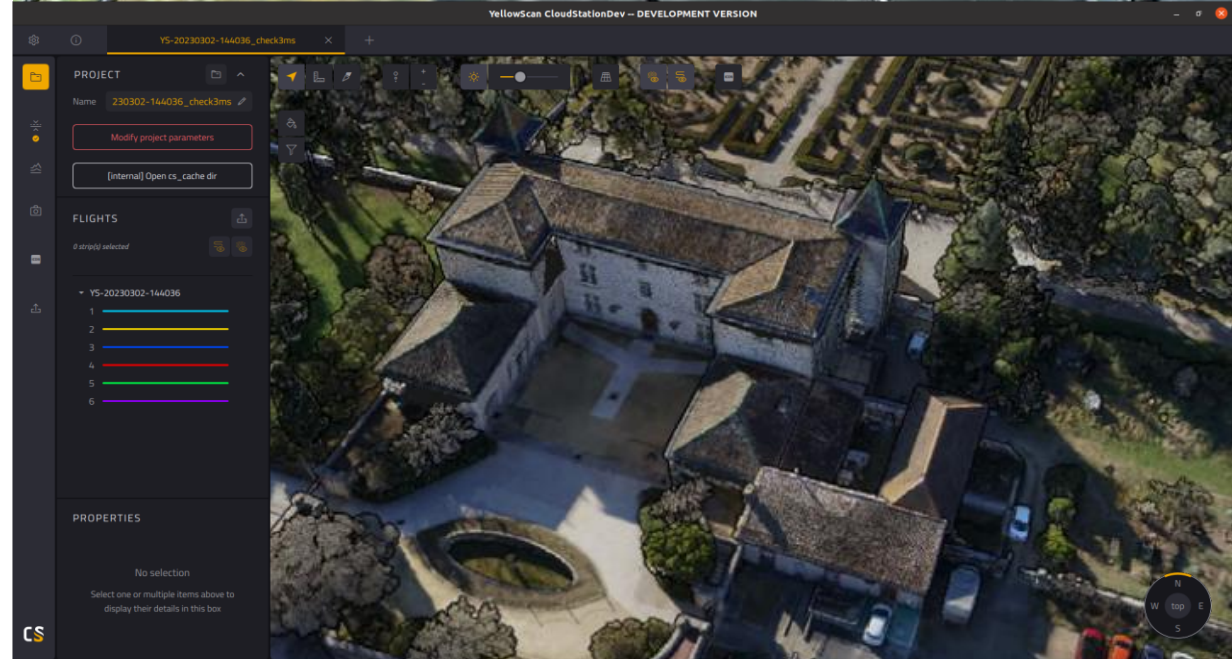
Lidar + Camera Systems with different performances, and for different drones

/ Software

All-in-one platform for data processing, enhancement and deliverables

/ Customer Support


Serving our customers worldwide
Making sure they are successful





YellowScan Navigator's Topo-bathy Technology



- A **3D mapping tool** based on laser technology
- To map **shallow water** from a drone
- Where conventional techniques cannot be **deployed** or are too expensive
- **Unprecedented performances** for its class
- 100% developed and produced by YellowScan in **France** 





Corsica



Orb



FILTERS



Elevation



Return Number



Number of Returns



Classification

None Ground Other

Low Withheld



Bathymetric classes

Surface Ground Other

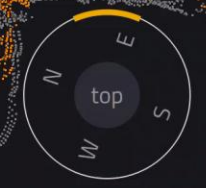
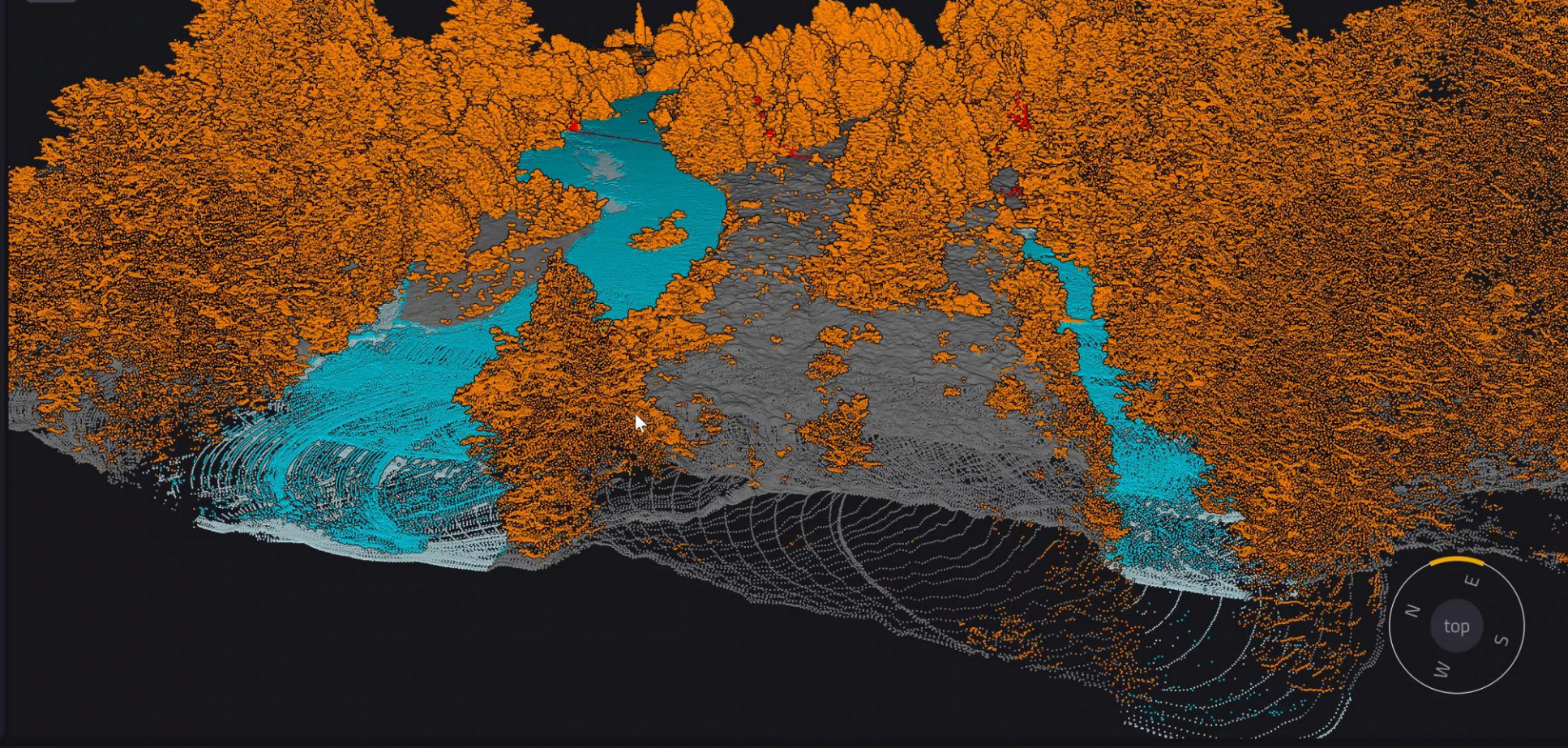


Laser Number

Intensity

Scan Angle

Time

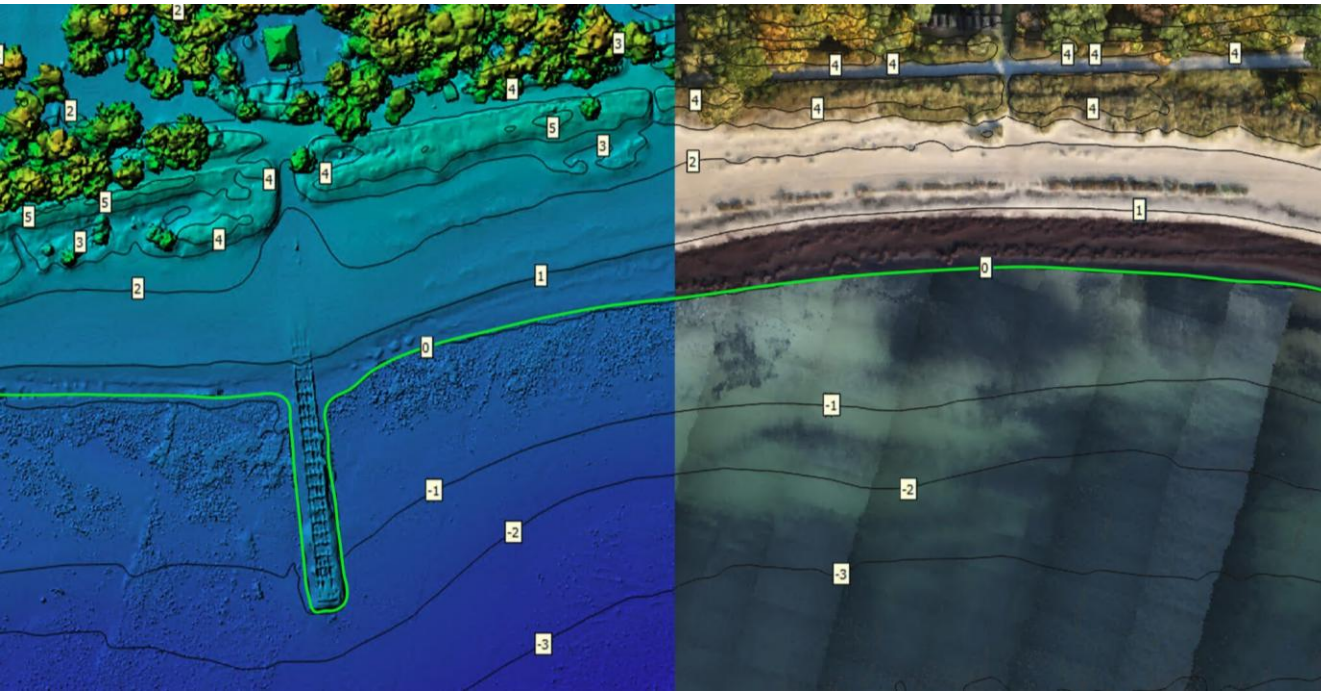




Case Studies: Real-World Applications.

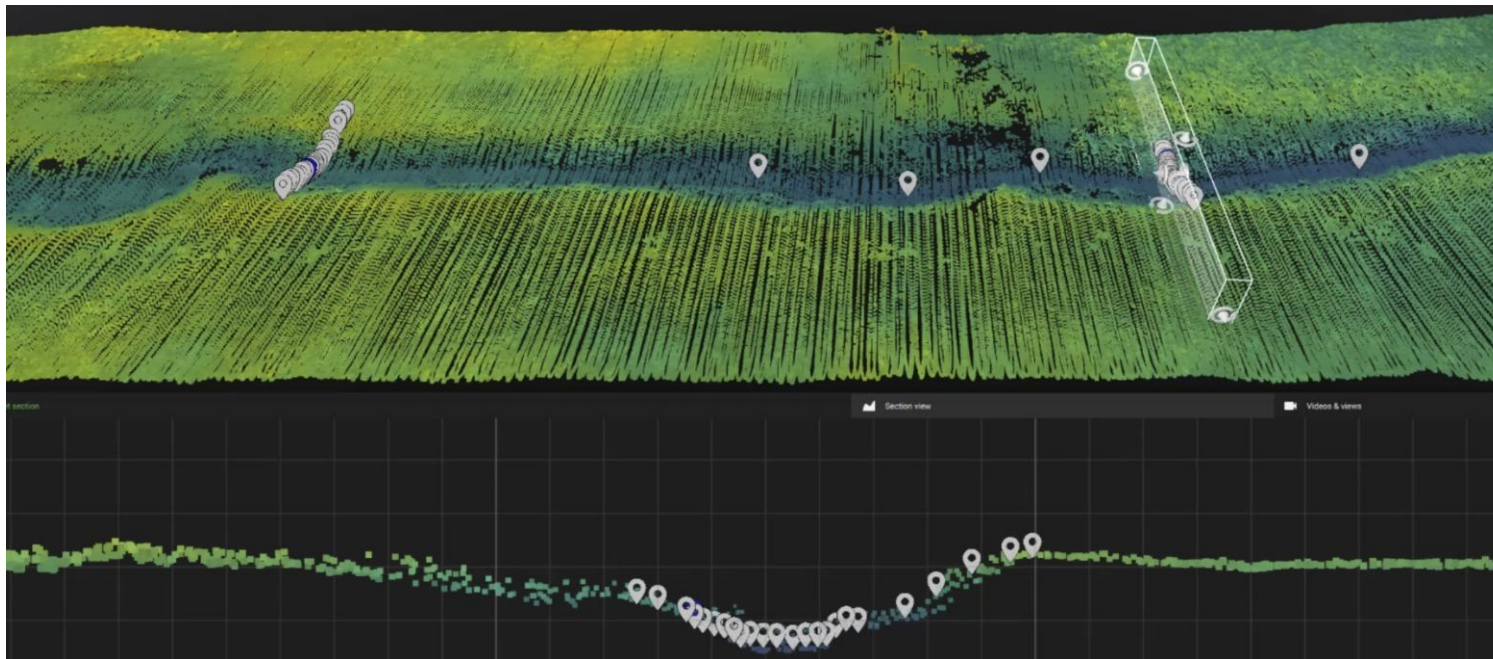
Case Studies: Coastal Erosion Monitoring.

- **Monitor and protect** the coastline
- **Quickly cover** large coastal areas
- Survey the difficult **shallow transition zone** between land and water



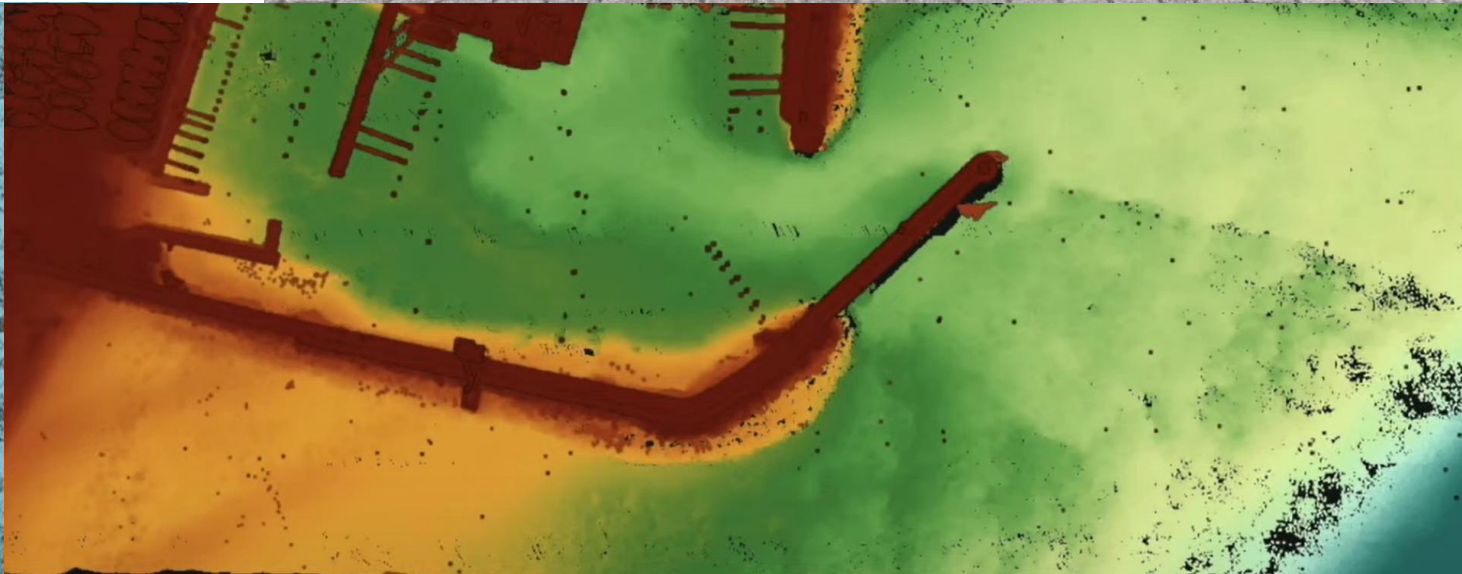
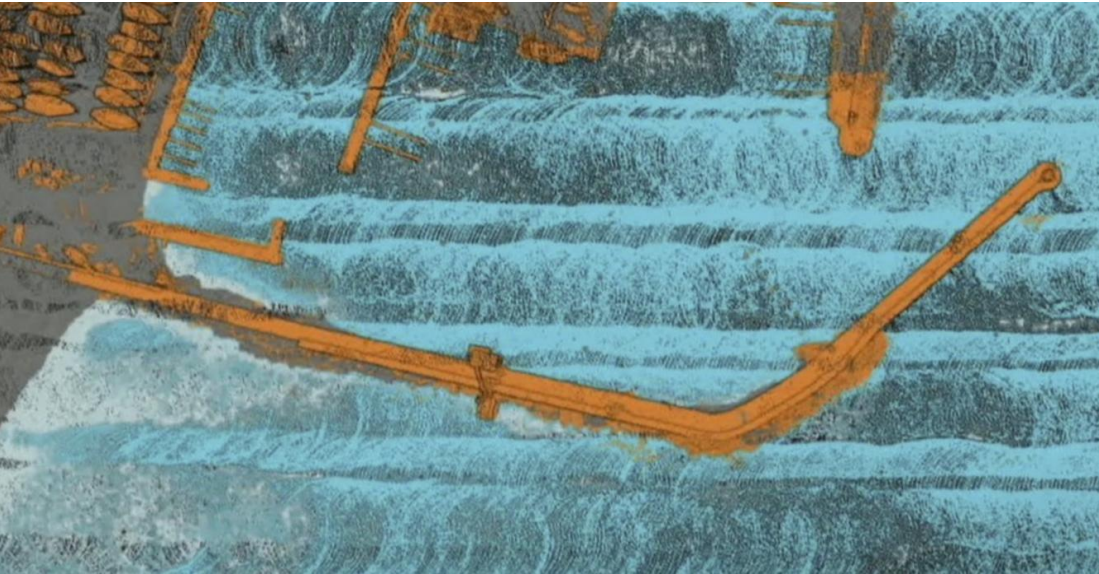
Case Studies: Stream Surveying.

- **Hydrological modeling**, flood risk assessment, and aquatic habitat monitoring
- **High-accuracy elevation data** across entire stream
- Eliminating or reducing the need for labor-intensive point-by-point **data collection**



Case Studies: Harbor Surveying.

- **Sediments monitoring** before dredging
- **Simultaneous topography and bathymetry** data collection
- Quick and easy operation, facilitating frequent **multi-temporal surveys**





Looking Ahead to the Future.

Conclusion and Future Implications.



- Accurate **underwater mapping is essential** for managing coastal and river environments, supporting **environmental protection**, and **ensuring safety** and **economic benefits**
- The **YellowScan Navigator** addresses the limitations of traditional **bathymetric** methods by providing **quick, comprehensive, high-resolution, and highly accurate mapping** from drones
- This technology is a **game changer** and likely to become the standard for **shallow water mapping**



Thank you for your attention.



Designed to innovate.

