



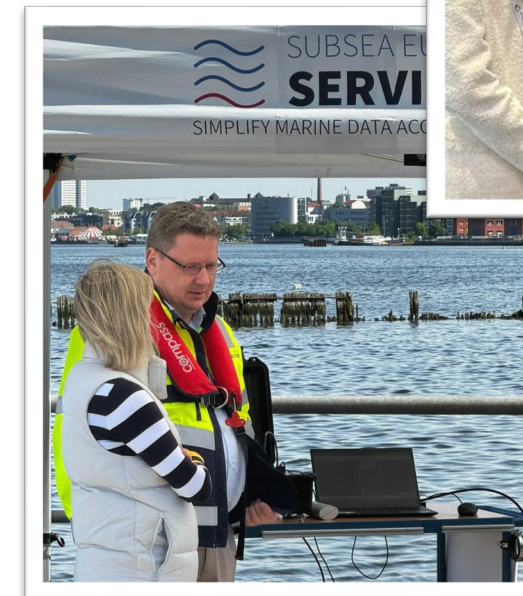
Subsea Europe Services

*Innovative Quay Wall Surveys:
Leveraging Uncrewed Surface Vehicles*

Janne Silden – Hydro 2024 – 7.November 2024

Who we are

- **Established:** January 2020
- **Team:** 28 employees and growing
- **Locations:** Logistics hub in Halstenbek and R&D and Test Center in Rostock
- **Services:**
 - Rental, sales, and services for hydrographic survey
 - Integrated systems including AUV, HAUV, and USV
 - Extended services such as Survey and Inspection as a Service, Maritime Security as a Service, Data as a Service



Strong Partnerships and Collaborations



Joining the dots
between leading
subsea innovators
unlocks new
technology potential
and routes to market

Simplifying is Our Motto



Our mission is to simplify marine data acquisition...

- Autonomous Marine Survey
- Autonomous Underwater Inspection
- Integrated Hydrographic Survey System
- C-LARS: Launch and Recovery

...and analysis

- OTC Stone AI target classification
- TrueOcean cloud data management

We join the dots between leading subsea manufacturers and expert organisations to unlock new opportunities

- Digital Ocean Lab
- Ocean Technology Campus (OTC Stone)
- IOW (Leibniz-Institut für Ostseeforschung Warnemünde)

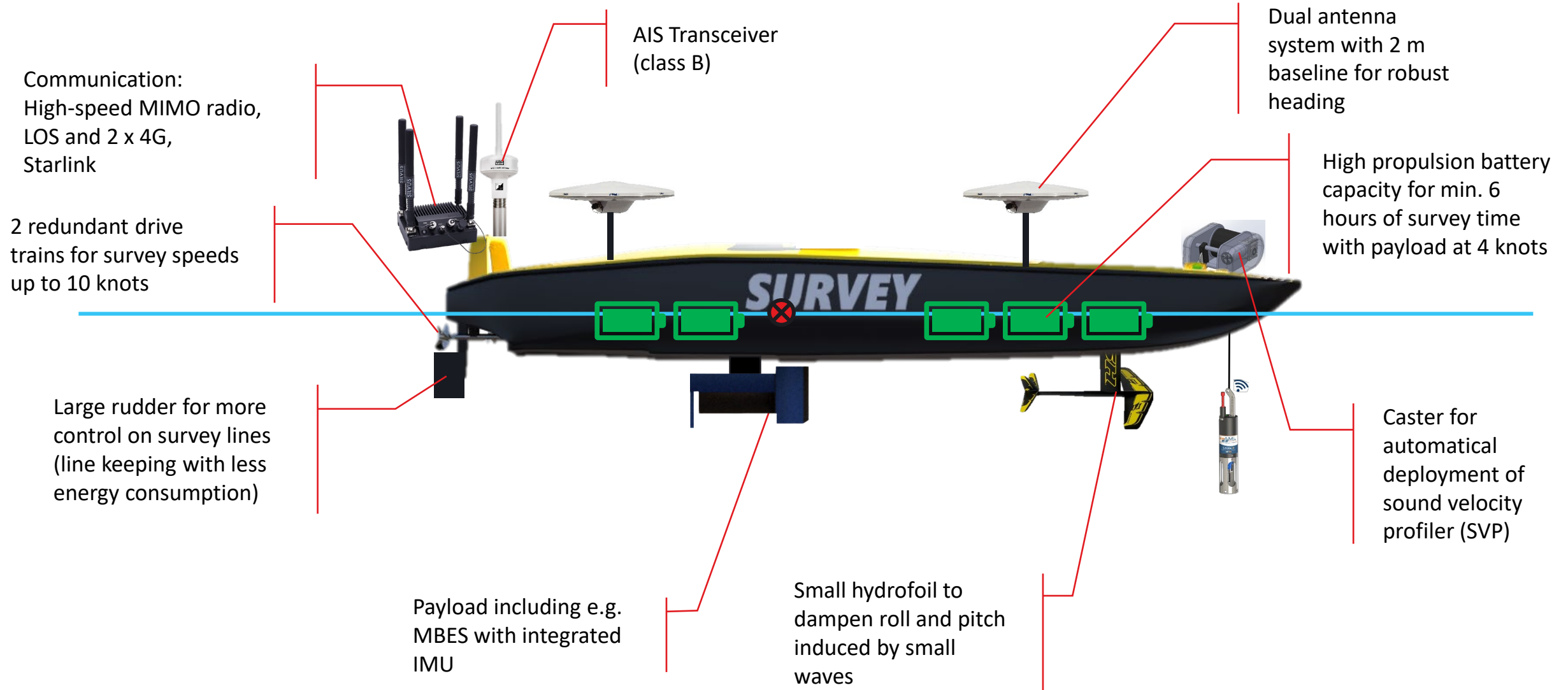




Leveraging Uncrewed Surface Vehicles



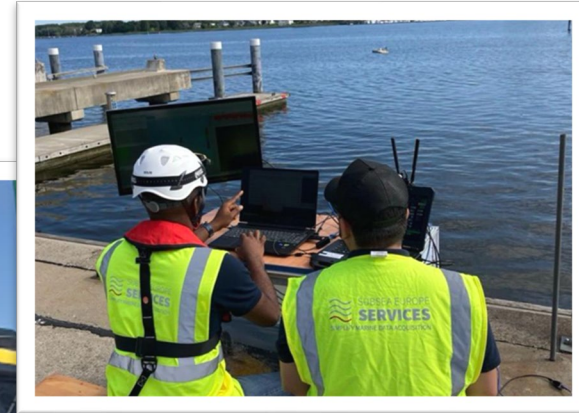
SES Survey USV



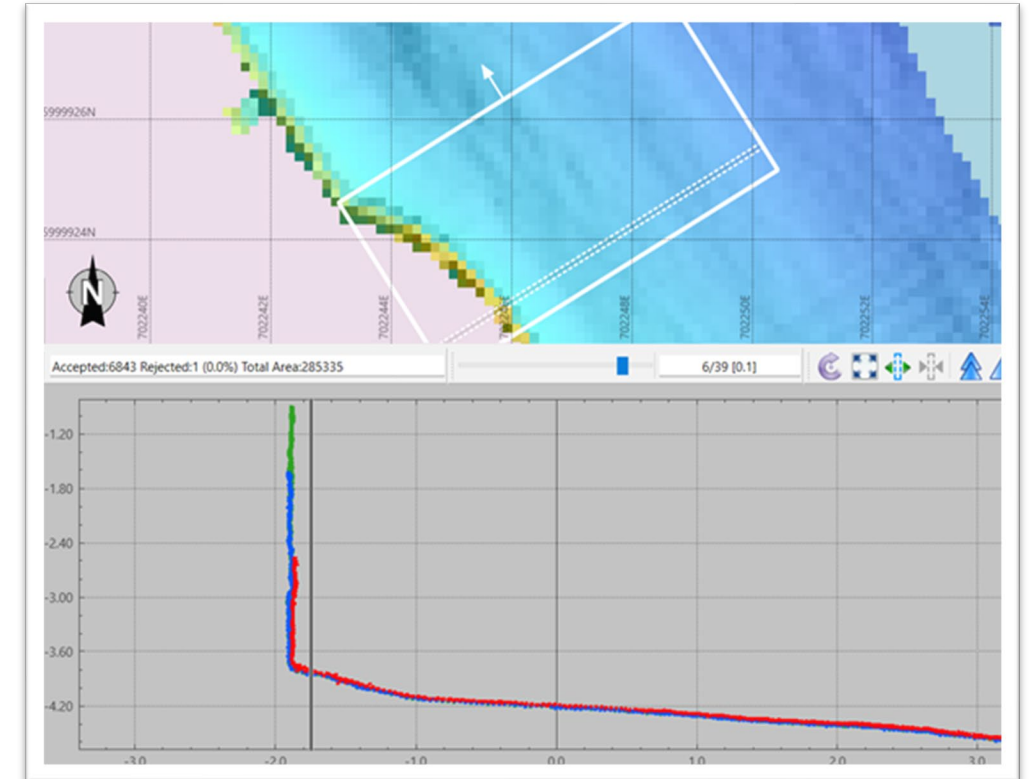
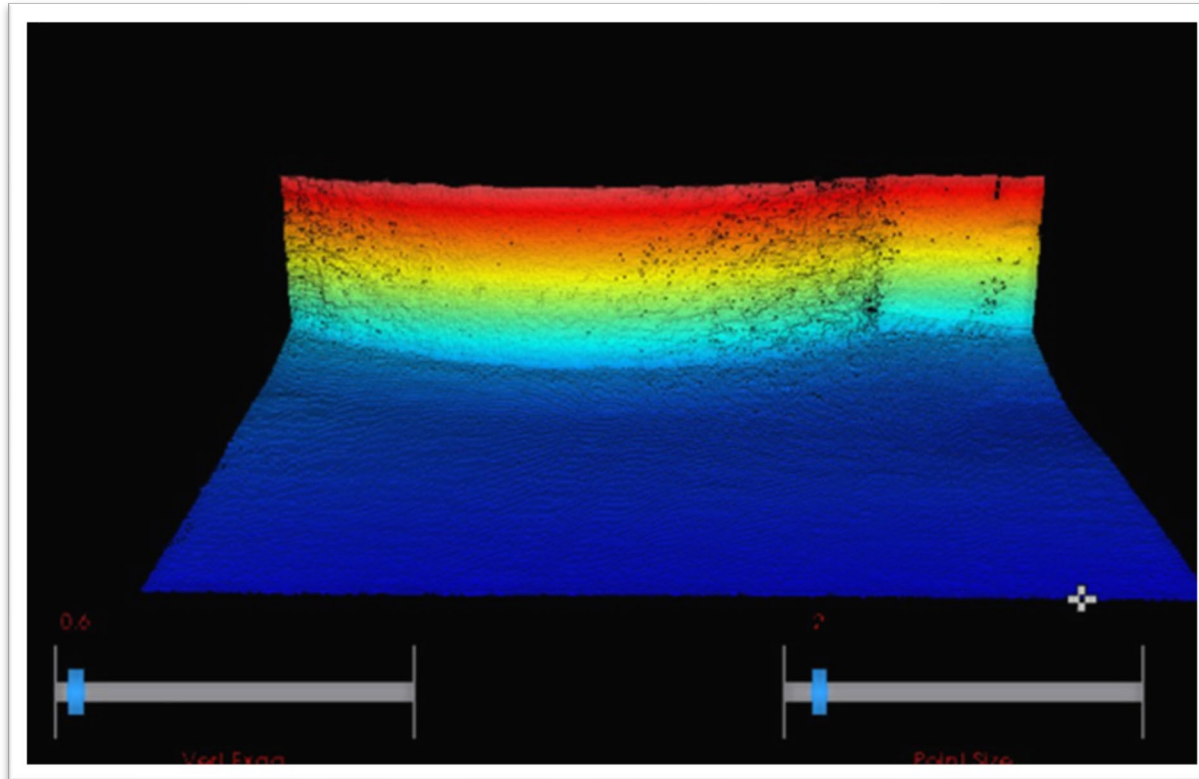
Technical Solution for Quay Wall Surveys



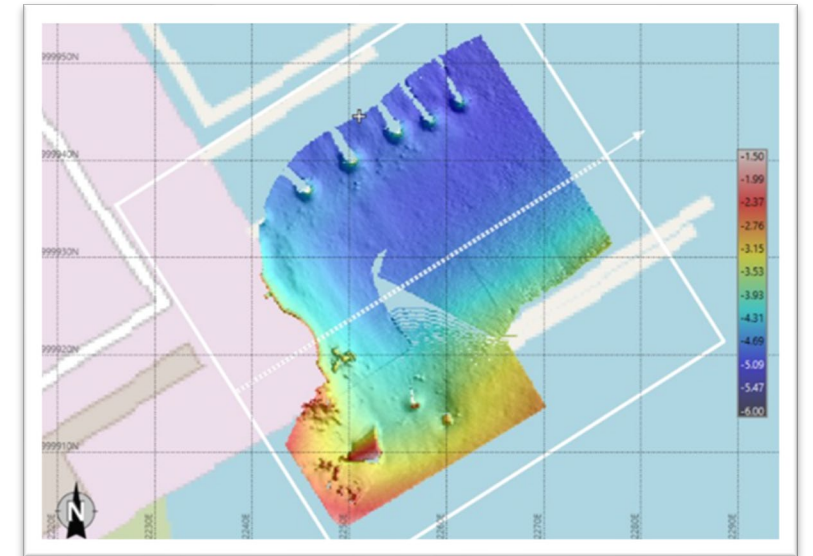
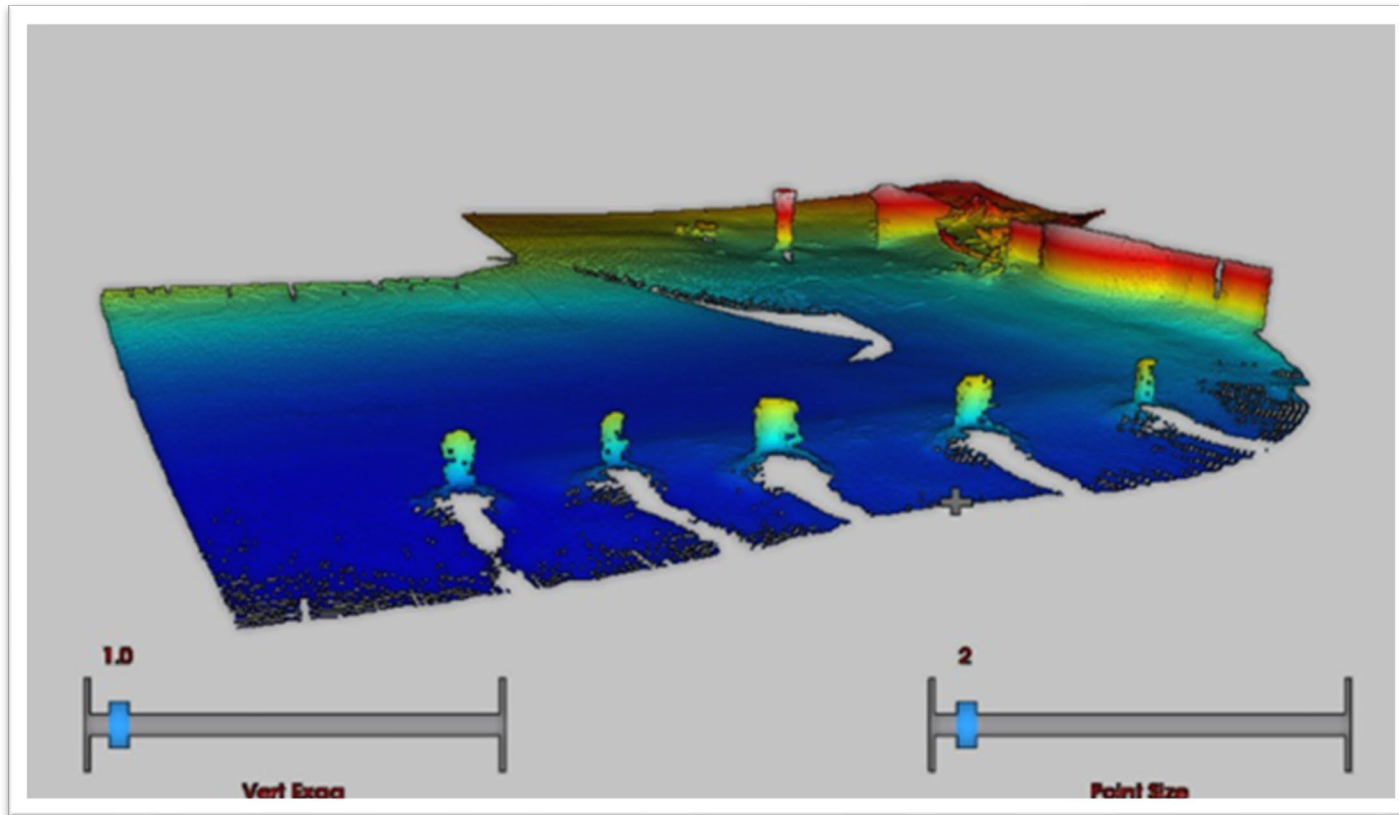
- R2Sonic 2026 V+ MBES applied due to its proven high-resolution capabilities
- Customised tilt mount for optimal beam alignment with vertical structures
- 'Autonomous Surveyor' USV, is compact in size, features an electric propulsion system and advanced autonomous capabilities



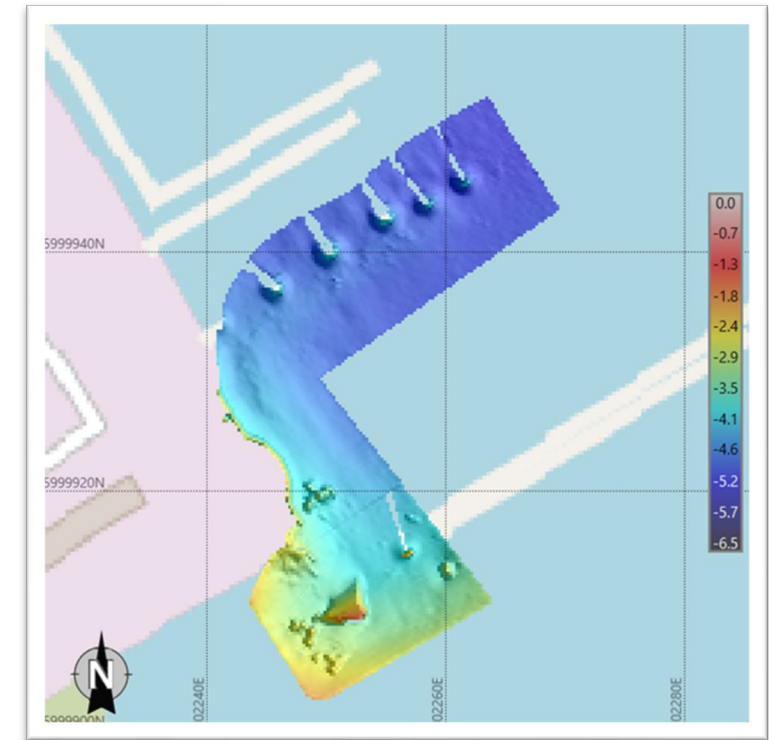
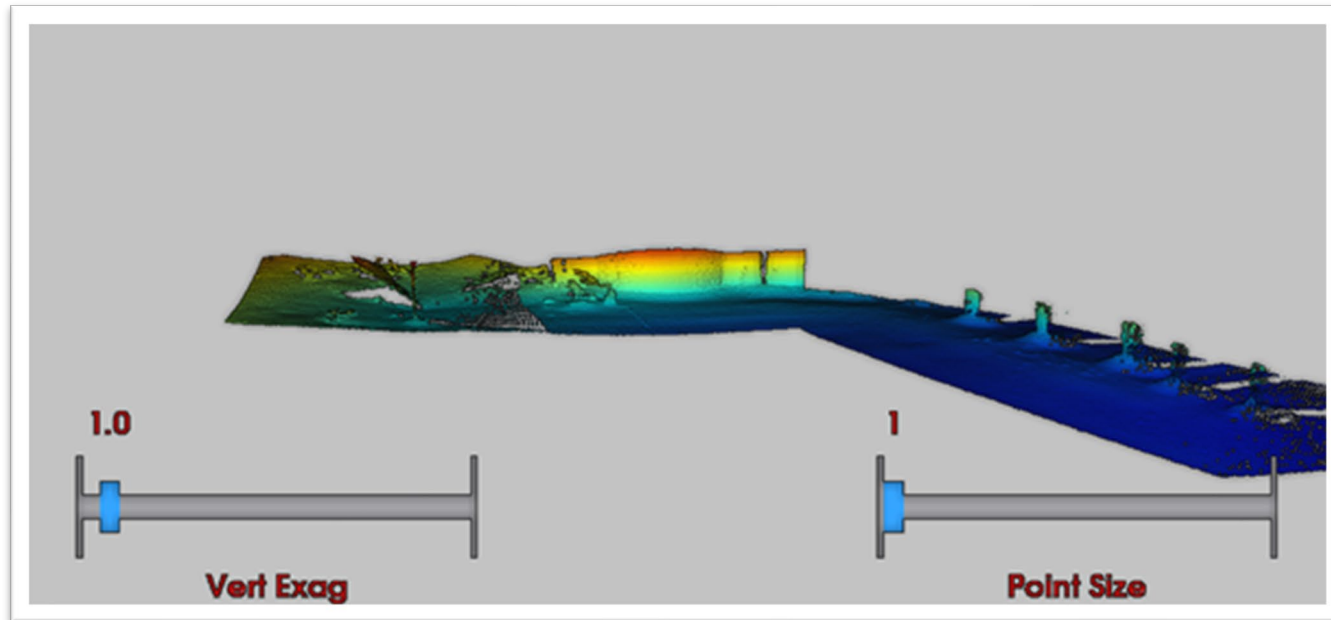
Data Acquired



3D View from North



3D View from East





Conclusion & Limitations

- Improved operational efficiency and safety
 - Potential for rapid deployment and robust performance in various conditions
- The survey lines can only be done in one direction
 - Higher tilt angle was not possible for this survey due to the configuration beneath the USV
- ➔ This survey was to test the integration of the components and data quality of the Sonic2026 in tilted configuration
- ➔ We continue develop this solution and other application specific workflows that leverage our unique industry partnerships



Future Prospects

- Effective usage in hard to reach and regulated areas
 - Bridges
 - Municipal lakes
 - Marinas
 - Slopes / beaches
- Integration of next generation equipment like the Hydrospatial Survey System, VOXOMETER, by R3Vox





Subsea Europe Services

SIMPLIFY MARINE DATA ACQUISITION AND ANALYSIS

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