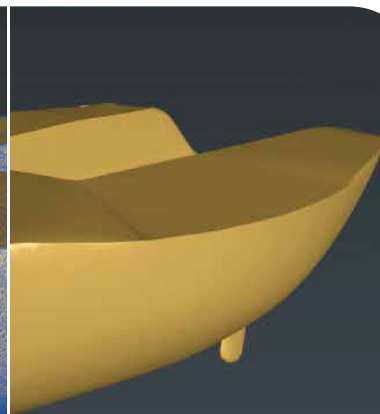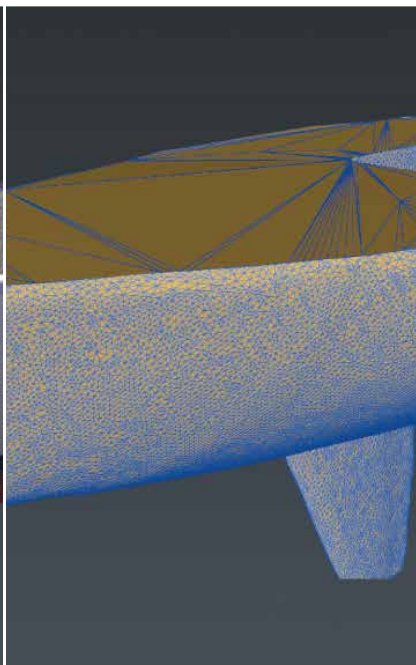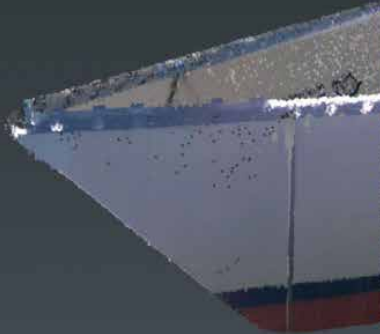# Reverse Engineering

...so, scanned and processed point cloud of the yacht's hull we transferred to mesh (polygons)...
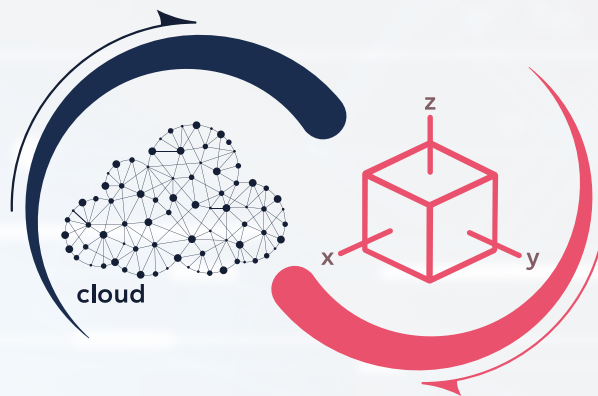
...in the end we use as background in ShipConstructor / Cadmatic / Aveva, etc.

navalista.com

PRECISION REVERSE ENGINEERING FOR VARIOUS INDUSTRIES

NAVALISTA provides **reverse engineering** services.

. . .

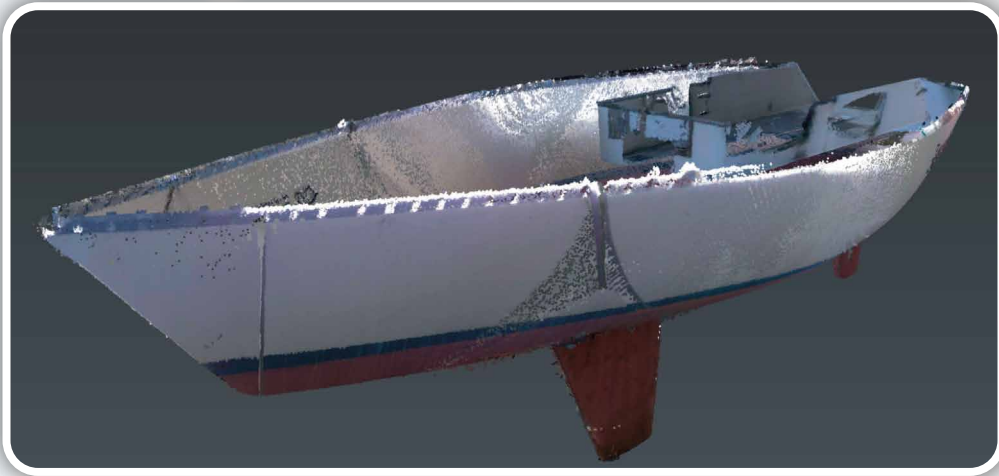**Reverse engineering** takes a crucial role in refurbishing, optimizing, and analyzing existing structures in the Marine Sector. Whether restoring a classic yacht, refit of cargo vessels, installation of new equipment: high-accuracy 3D modeling ensures seamless workflows and improved engineering solutions.

. . .

Our expertise in 3D scanning, data processing, and CAD modeling allows us to deliver highly accurate digital representations of complex structures. These models are crucial for performance analysis, modifications, and seamless integration into various engineering and manufacturing software systems.
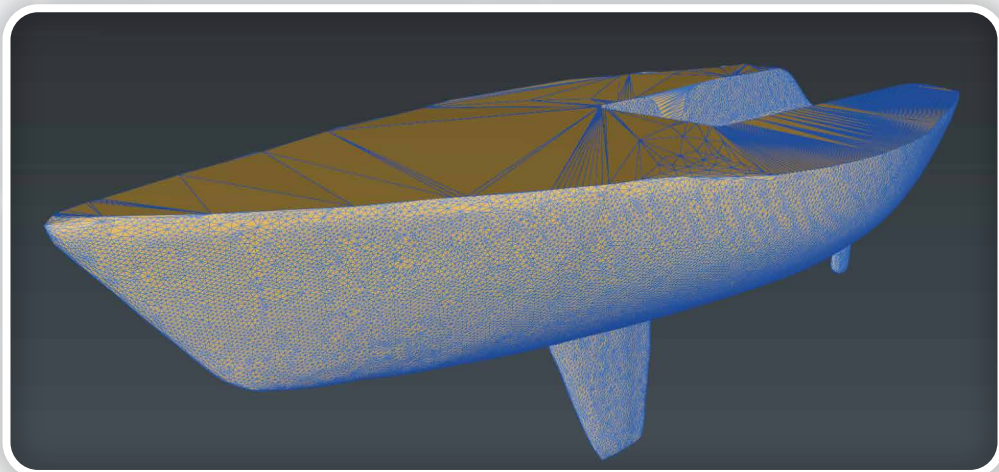
• **3D SCANNING & POINT CLOUD PROCESSING:**

   • The object is scanned using high-precision 3D laser scanning or photogrammetry.

   • The raw data is processed into a detailed point cloud representation of the surface.
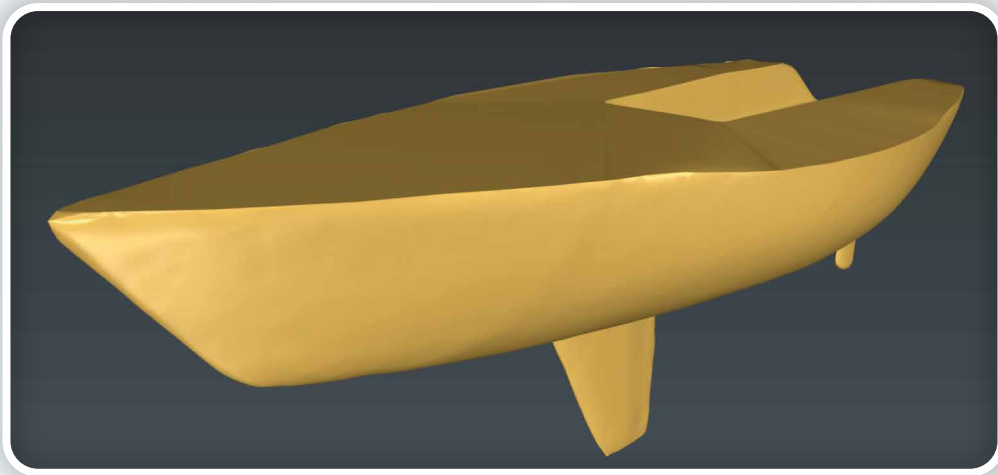

• **CONVERTING TO POLYGON MESH:**

   • The point cloud data is converted into a polygonal mesh.

   • Noise reduction, hole filling, and surface smoothing techniques are applied to enhance accuracy.
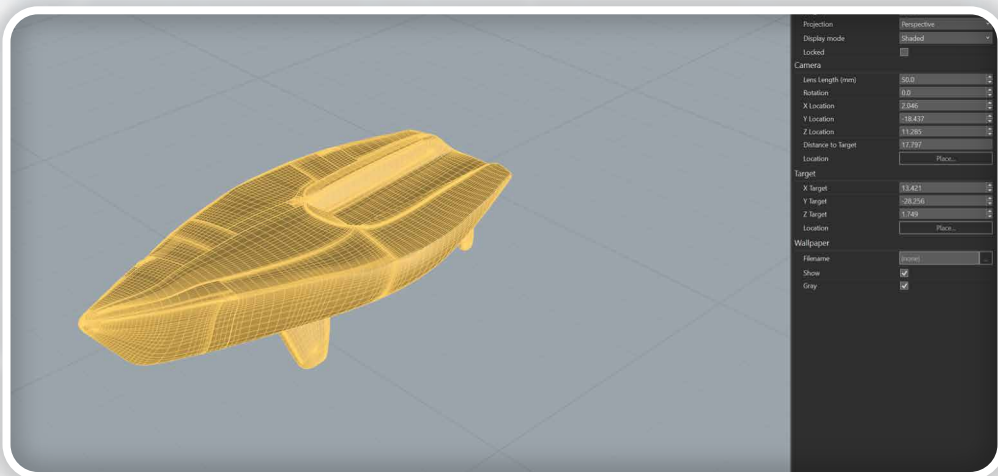
• ADVANCED PROCESSING & REFINEMENT:

- • Further refinement is conducted to ensure clean topology.

- • Mesh optimization is performed to balance detail and file size.

• EXPORT:

- • The processed mesh is imported into any CAD software for the further processing / modelling / calculation.

• APPLICATIONS & UTILIZATION:

• The finalized model is used for hydrostatic and hydrodynamic calculations in the Marine.

• It serves as an accurate background reference in software such as ShipConstructor, Cadmatic, Aveva, etc., for shipbuilding and industrial design.

• It supports industrial manufacturing and mechanical design by enabling precise part replication and modifications.

WHY CHOOSE US?

High-Accuracy 3D Scanning & Modeling – We utilize cutting-edge technology to deliver precise and reliable digital models.

Seamless Software Integration – Our outputs are compatible with major engineering and manufacturing platforms, ensuring smooth workflows.

Industry Expertise – With years of experience in various industries, we understand the intricacies of structural and component analysis.

Customized Solutions – Every project is unique; we tailor our approach to fit your specific needs.

Time & Cost Efficiency – Our streamlined process reduces design time and eliminates costly errors in manufacturing and refurbishment.

Thank you for your attention!

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