3D Ship Inspection and Surveying System

DMT PILOT 3D

3-in-1 system for precise ship inspection and surveying system, developed in cooperation with classification society DNV GL

Benefits

- Easy handling
- Designed for rough conditions
- Ideal for difficult measurements in hard-to-reach areas
- High speed – time saving benefit
- Fast, reliable and precise results

The integrated positioning system PILOT3D allows a precise and real time navigation without previous knowledge of the neighbourhood or special referencing (e.g. GNSS). It is the optimal solution for various tasks in 3D ship inspection surveys.

The system is based on a multi sensor approach, where an inertial measurement unit is aided by a stereographic imaging solution. Data fusion of inertial measurements and optical data guarantees an accurate 3D trajectory.

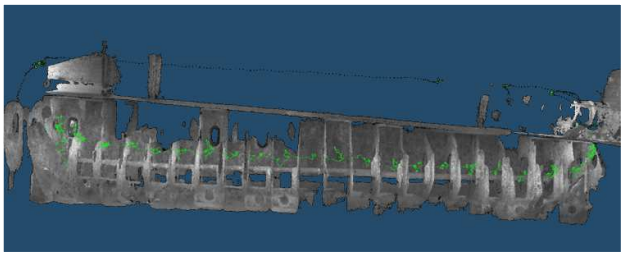
The integrated stereographic cameras deliver a high quality 3D point cloud documentation. The system operates not only in bright daylight but also guarantees evidential results even in dark areas.

Colour images can be acquired with position and orientation information for precise documentation of objects.

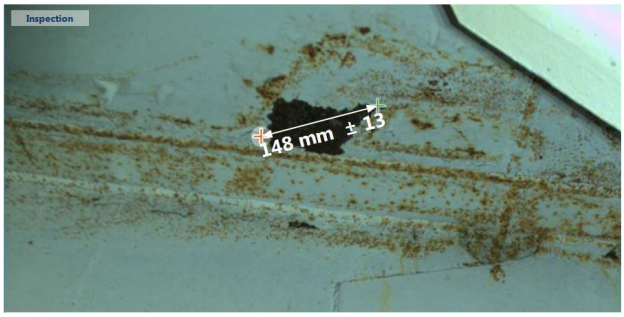
Ship Measurement Applications

- 3D measurements of inner subdivisions by real-time navigation
- Documentation of defects combined with rooted photos
- On-site measurements and 3D modelling for assembly processes
- Surveys for claims management
- Particular inspection tasks

Handheld unit



Generated 3D point cloud of ballast tank



Measured defect by rooted photo documentation

Earth. Insight. Values.

Technical Specifications

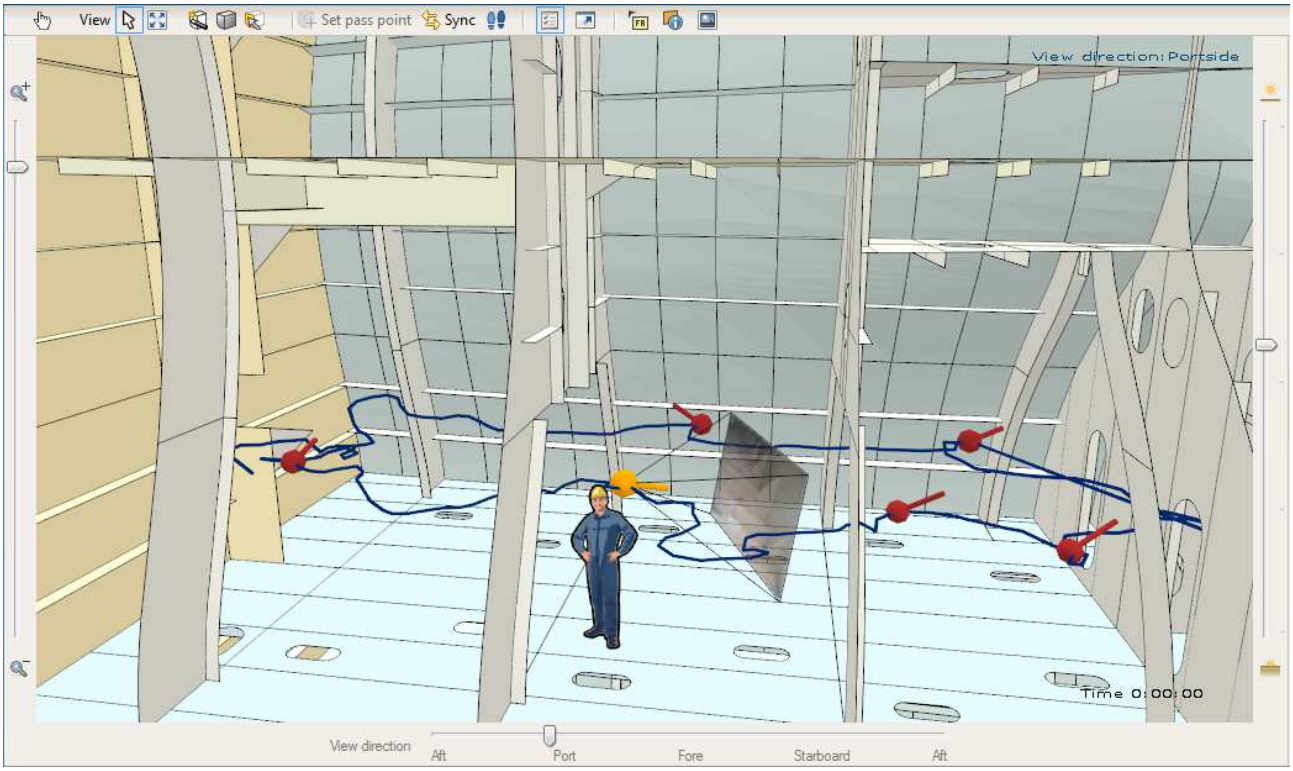
Cameras	2 x 1280 x 1024 px (stereo b/w) 1 x 1280 x 1024 px (colour)
Inertial unit	High precision MEMS sensor
Data acquisition rate	10 shots per second
Battery life time	3 to 6 hrs. with standard battery pack (dependant on illumination)
Guide laser	5 mW red cross beam
Accuracy	Typically 0.1%
Dimensions	Hand unit: 20 x 15 x 5 cm Backpack: 30 x 40 x 15 cm (Batteries and data processor)
Weights	Hand unit: 0.6 kg Backpack: 5.9 kg

Communication interface	Power USB 3.0 GPS-Antenna Trigger-MultiIO (for additional sensors)
Power supply	Integrated in backpack
LED - illumination	White: 3 * 1W Infrared: 2 * 5W

Environmental Specifications

IP-class	IP54
Temperature range	0 to 50°C

Subject to technical changes



Localized photo trajectory in fore peak void, visualized in **DNV GL** hull integrity software **ShipManager Hull**

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