ALWAYS GOOD ADVICE.
ALWAYS WELL LOOKED AFTER.

To offer real added value - that is our claim. At GLM, you receive not only high quality measurement technology, but also the appropriate software - from a single source! This is unique in the market.

Contact us!

Do you have any questions about our services or need assistance with a measuring project? We are always ready to assist you.

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3D-LASER MEASUREMENT TECHNOLOGY IN SHIPBUILDING

Project example of Flensburger Schiffbau-Gesellschaft (FSG)

Simply measurably better

3D MEASUREMENTS IN SHIPBUILDING – PRECISION PRODUCTION –

The goal of precision production is to eliminate avoidable work such as burning off hundreds of meters of allowances to prepare for welding along the plate edges.

Since the end of 2015, the Flensburger Schiffbau-Gesellschaft (FSG) uses two 3D measurement systems of the company GLM.

FSG requires a complete range of hardware and software for its precision production processes to obtain from 3D design drawings a target value lists for measuring and to document the measured values. With the help of GLM's family of 3-DIM software and SOKKIA's NET05AXII, all these different applications can be carried out effectively.

Customer profile

FLENSBURGER SCHIFFBAU-GESELLSCHAFT

The Flensburger Schiffbau-Gesellschaft mbH & Co. KG was founded 1872. Since then, more than 760 ships were built at the Flensburger shipyard. The company is able to manufacture a wide variety of ship types up to a length of 220 m and a width of 32 m.
In addition to special shipbuilding, the company with around 770 employees focuses also on the development of innovative concepts for the construction of RoRo and RoPax vessels, as well as the construction of naval auxiliary ships.

For more information, please visit www.fsg-ship.de

„A great quality of GLM is the fast, uncomplicated and competent assistance in case of need. If a problem occurs, it will be remedied promptly. GLM is very much interested in close and trusting cooperation."
Bernd Monke, QA Group Leader, Steel Shipbuilding

USE ON DECK

THE APPROPRIATE INSTRUMENT: SOKKIA'S NET05AXII – TRACKER, SCANNER AND TOTAL STATION

The NET05AXII can follow a tracking ball, perform measurements, and also automatically measure on adhesive targets. The „reflectorless" mode, for example, makes it possible to scan the ship's side. This scan is easily analyzed for deformations with 3-DIM PT. All these different measurement modes make the NET05AXII a true all-rounder.

- Highest precision: Measurements in 3D
- Resistant: IP65 protection against dust and water
- High mobility: battery-powered, wireless, large wireless range
- Typical angle measuring accuracy: up to 0.05 mm at a distance of 20 m
- Typical distances measuring accuracy: up to 0.1 mm at a distance of 20 m
- Reflectorless range: up to 400 m

SOKKIA

THE CORRESPONDING SOFTWARE SOLUTION

3-DIM Observer – Mobile measurements made easy

The survey software 3-DIM Observer is used for various different projects in the area of industrial 3D metrology. The special solution for Pocket PC offers mobility and robustness when and where needed. Especially shipbuilders find the 3-DIM Observer of great interest.

- Measuring on various target types
- Fully automated measurements
- Complex evaluations already on site

3-DIM PC-Basic – Perfect visualization

The software 3-DIM PC-Basic is an excellent graphic tool for all applications in the field of industrial measurements and is used as a standard tool for the preparation and documentation of geometry measurements, for example, by shipbuilders, railway engineers, and bridge builders.

- Creating a graphical reference model for the measurement
- Perfect visualization of target/actual analyses
- Graphical evaluations
- Section coupling

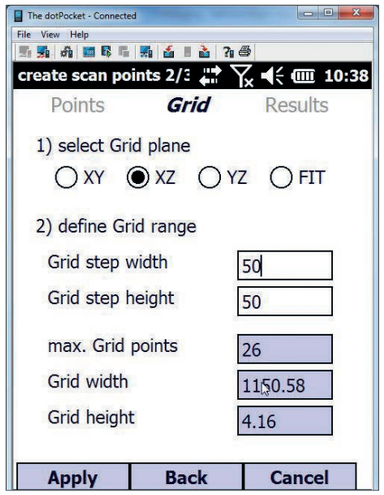
3-DIM PT – 3D data quickly and easily evaluated

The software 3-DIM PT includes a large number of plug-ins for Rhino and offers also extensive options for analyzing data generated with the 3-DIM family of software products and the NET instruments by SOKKIA. Scanned or tracked data can be quickly and easily modeled with 3-DIM PT and offset corrections can be applied with the click of a mouse.

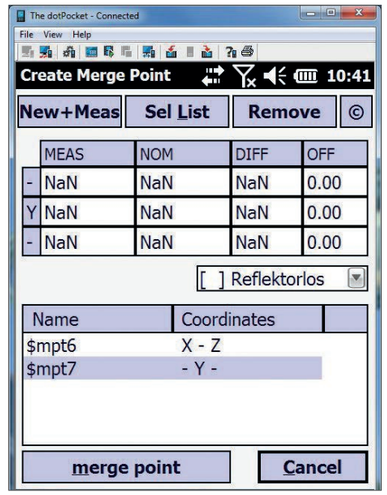
- Preparation of CAD data sets for the creation of target coordinates
- Processing of point clouds
- Dimensional stability of free-form surfaces

APPLICATION EXAMPLES

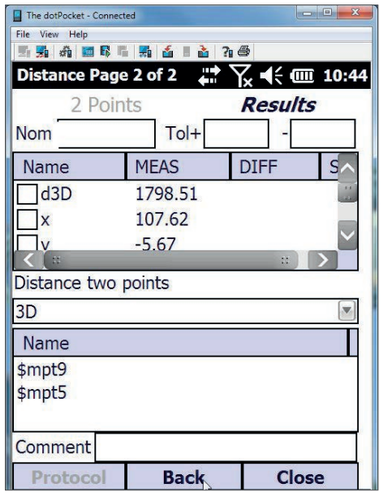
3-DIM Observer



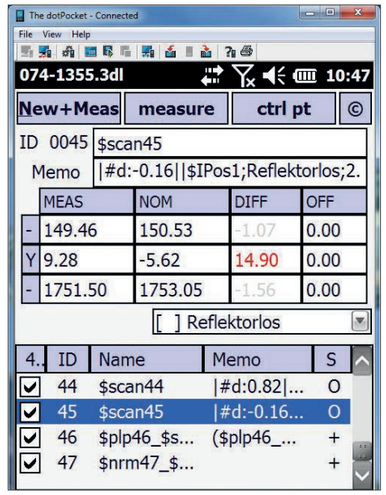
Create a grid scan



Merge two points



3D distance between two points

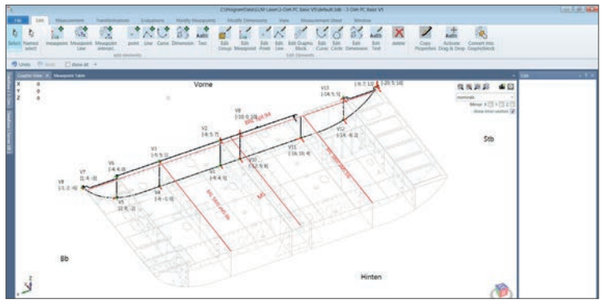


Transforming „actual to target“

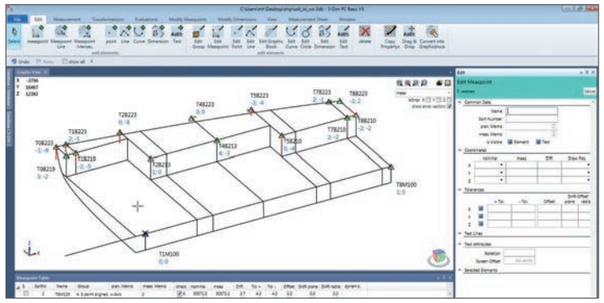
3-DIM PC-Basic

Material shrinkage

Section coupling

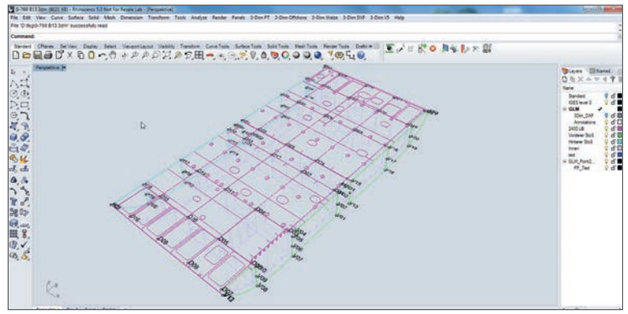


Analysis of „front joint"

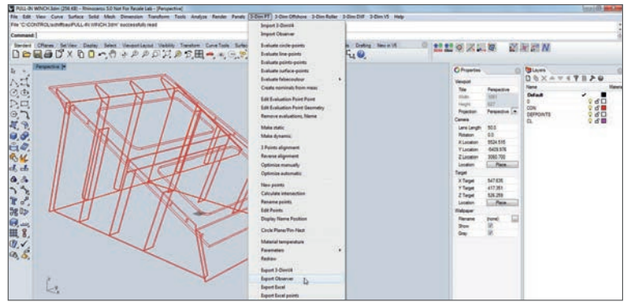


Target / actual comparison after optimization

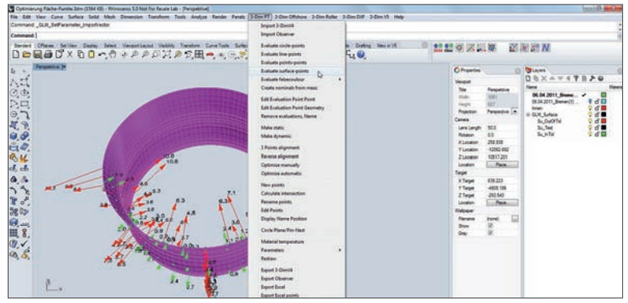
3-DIM PT



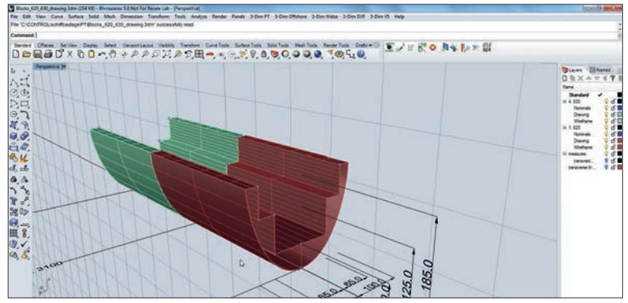
Preparation of the CAD model creating a reference data set



Pull-in winch



Target / actual state „measuring points on free-form surface"



Modeling in 3-DIM PT