

Optical Measurement (3D)

Conceptual Design, Measurement, Analysis, Validation

Precise 3D measurements in the Submillimeter area also under difficult conditions

The Challenge

Very precise measurements are often required under difficult working conditions i.e. on construction sites, during manufacturing or in the nuclear industry. Typical challenges include long distances, recording and analysis of movements or digitizing of objects.

The Solution

Framatome's experienced measurement expertise includes modern measuring equipment and topical analysis software. We deliver as-built measurements from components and systems, as well as 3D scan models for very diverse applications.

Deformation measurements of objects as well as their comparison with CAD models as well as the CAD modeling of the objects are also state-of-the-art for Framatome.

Application Field for Optical Measurement in the Overview:

- Exact measurements also under complicated and difficult conditions (e.g. on-site)
- As-built measurement of components and systems
- Scans for documentation purposes (on-site, inside buildings, objects, etc.)
- Deformation measurements of objects
- Comparison measurements against CAD models
- High-precision measurement to support manufacturing and for precise alignment purposes
- Digitalization of object geometries
- Realization of uncomplicated and quick measurements



Laser Tracker and Laser Scanner.

Measurement Equipment

Laser Tracker

- For high-precision measurements (resolution of point coordinates of 1 μm)
- Measuring radius of 40 m

Laser Scanner

- Detailed recording of objects and surrounding area
- Range up to 120 m
- Ideal for as-built documentation of sites, rooms and objects

Photogrammetry-System

- High accuracy
- Performance in non-stable environment applicable
- Very flexible operation due to manual handling (e.g. no tripod)

Your performance
is **our** everyday **commitment**

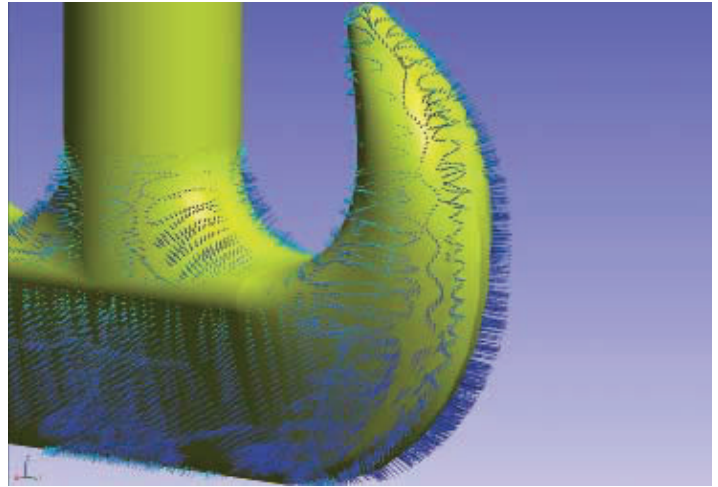
More than just measuring

Framatome's service concept:

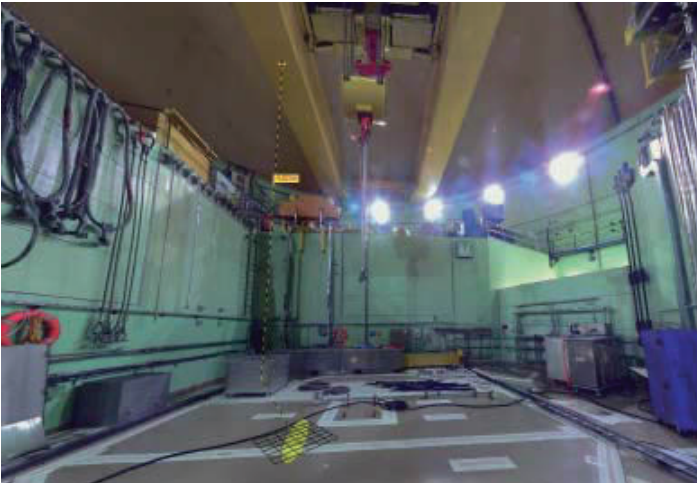
Consultation, conceptual design, measurement, analysis and evaluation.

Framatome delivers detailed measuring results in graphic and tabular form. The data can be processed in all current CAD formats according to customer requirements.

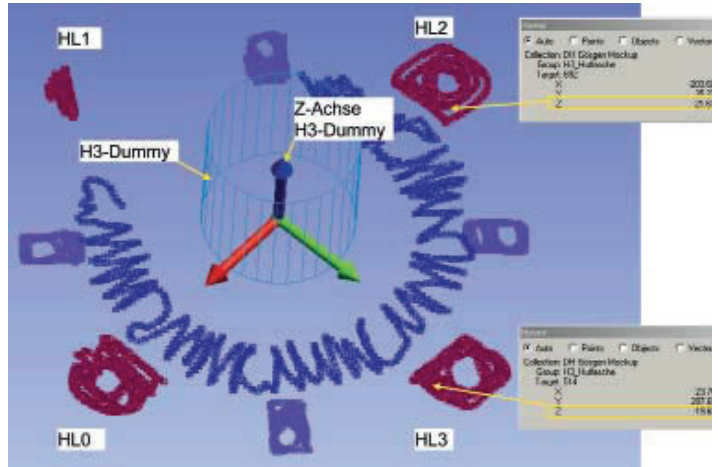
Complete measuring capabilities from a single source: consulting, conceptual design, measuring, analysis and validation



Comparison measurement of a CAD-model against real measured data.



Colored recording of a Laser Scan application. Each pixel is additional deposited by coordinates, so in principle any measurement inside the picture is possible.



As-built measurement of a pressurizer mock-up by using a Laser Tracker.

Your Advantage at a Glance

- Rapid availability
- Application possibilities worldwide
- Experienced in optical measurement in conventional and nuclear field for many years
- Short measuring time together with high accuracy
- Reduction of cost and effort due to short communication paths

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