

3D laser scanning – every detail, perfectly mapped

Precise 3D surveying for infrastructure and industry

Our 3D laser scanning services provide high-precision documentation and valuable insights to support complex projects across industries, ensuring clarity, accuracy, and efficiency at every stage. Using advanced laser technology, we deliver comprehensive 3D as-built and damage documentation, clash detection, and verification for construction in existing structures. Our services include deformation analysis to monitor structural shifts over time, free-form component analysis, and the creation of precise 3D and Building Information Models (BIM) for seamless planning and integration.

Our work serves key industries, from mining and tunnel construction to infrastructure, industrial facilities, and architecture. By providing robust digital twins and virtual replicas, we empower remote inspections, engineering needs, and ongoing project oversight with unparalleled convenience.

3D laser scanning services: you gain more than data; you gain confidence and control to make informed and proactive decisions.



Our Services

- Digital 3D measurement, as-built and damage documentation
- Clash detection / collision check
- Target / actual comparison / change detection
- Deformation analysis and deformation control
- 3D modeling, CAD and BIM modeling (scan to CAD/BIM), georeferenced
- Permanent laser scanning / online monitoring
- Visualization (DMT SAFEGUARD, TruView, RiPano)
- Modern equipment (RIEGL VZ600i, VZ2000i) und software (AutoDesk, Bentley)

3D point cloud: as-built documentation of a rollercoaster



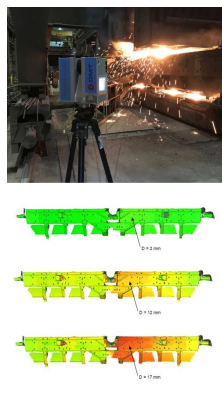
Scanning an excavation pit: determining volume and condition

Your advantages

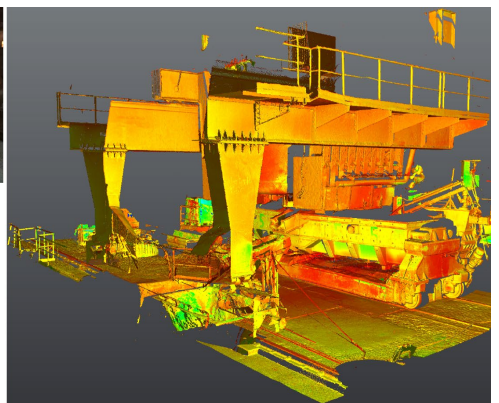
- **High precision and comprehensive documentation:** 3D laser scanning enables precise measurements and complete documentation of the actual condition of systems and infrastructure for better planning and decision-making.
- **Time savings:** Fast data acquisition enables efficient project implementation and control.
- **Inventory and monitoring:** Regular or continuous scans enable changes to be monitored and analysed, which contributes to the early detection and assessment of problems.
- **BIM integration:** The seamless integration of 3D scan data into Building Information Modelling (BIM) improves collaboration and coordination between different project participants throughout the entire project.
- **Versatility and flexibility:** 3D laser scanning can be used in a variety of environments and for different applications and can be customized to the task at hand.



3D point cloud: as-built documentation electric switchgear



3D point cloud: deformation analysis of casting vessel



Projects

ADM AG Hamburg and Straubing (Germany): Complete 3D measurement and as-built documentation of various soya processing plants for process engineering planning in existing plants and implementation during operation.

ArcelorMittal Bremen / Stadler Schaaf (Germany): 3D measurement and creation of a planning basis for the integration of pipelines and infrastructure in existing buildings regarding the use of hydrogen for steel production.

ArcelorMittal Gijon (Spain): 3D laser scanning and creation of detailed 3D models for plant planning and recommissioning of the steelworks.

GEBAG Duisburger Baugesellschaft (Germany): 3D monitoring and deformation analysis of a complex retaining wall in Duisburg inner harbor (The Curve).

Emschergenossenschaft und Lippeverband (Germany): 3D as-built documentation of wastewater pumping stations for the planning of conversion measures and creation of 3D BIM models to use the data as a digital twin.

RAG AG (Germany): Complete 3D surveying and CAD modelling of the shaft infrastructure and shaft head frames of the World Heritage “Zeche Zollverein Coal Mine Complex”

PORR Design & Engineering (Germany): 3D laser scanner measurement, deformation and roughness analyses of ground surfaces at the FAIR particle accelerator in Darmstadt

DMT 3D laser scanning: selected projects

DMT GmbH & Co. KG
 Am TÜV 1
 45307 Essen, Germany
 T +49 201 172-1675
 E safeguard@dm-tgroup.com
safeguard.dmt-group.com



Get started and contact us today
<https://safeguard.dmt-group.com/>

