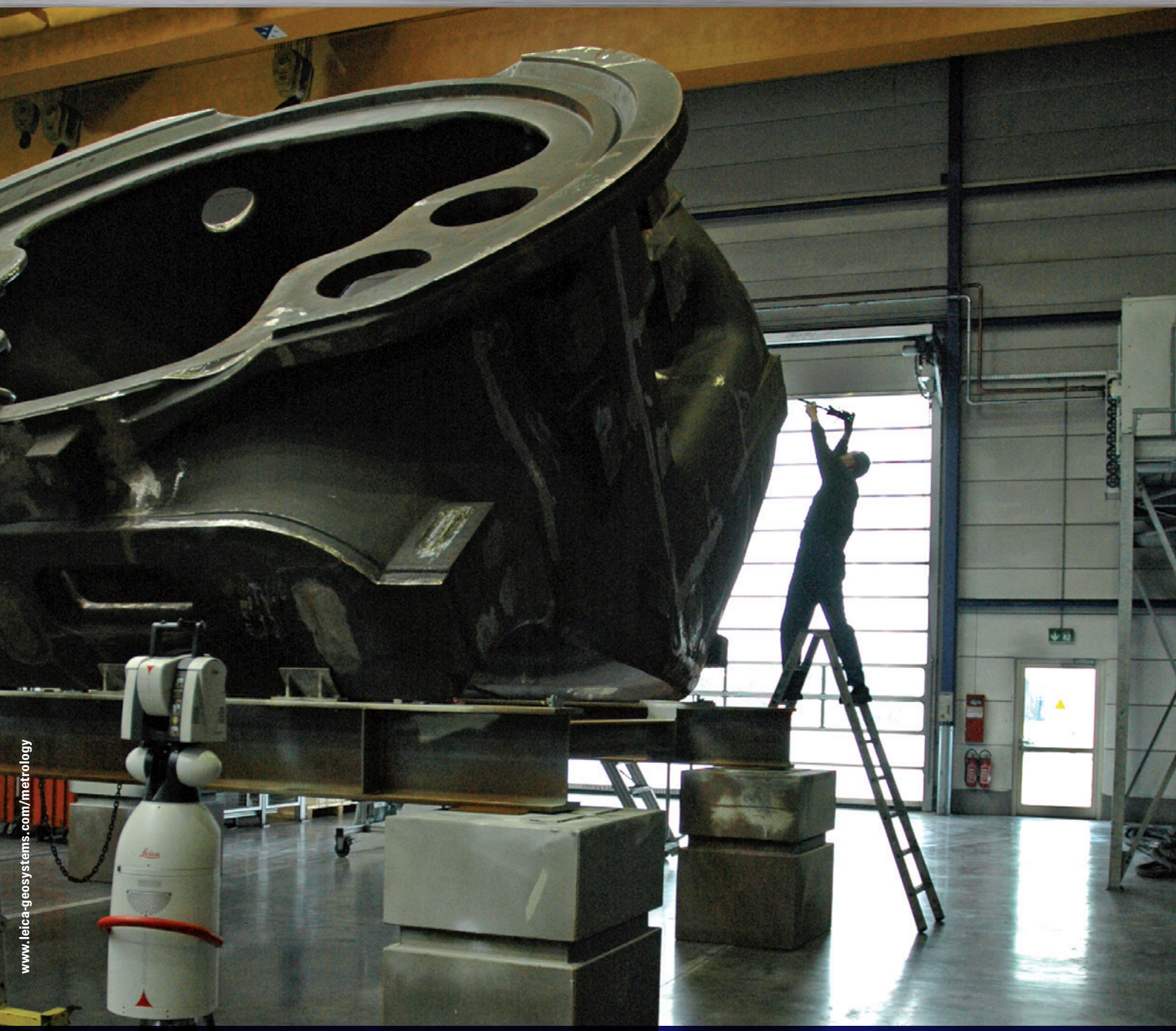
Leica Geosystems

Case Study

DMR Produktionsgesellschaft mbH Rostock

Flexible laser tracker system facilitates the processing of large cast and steel components



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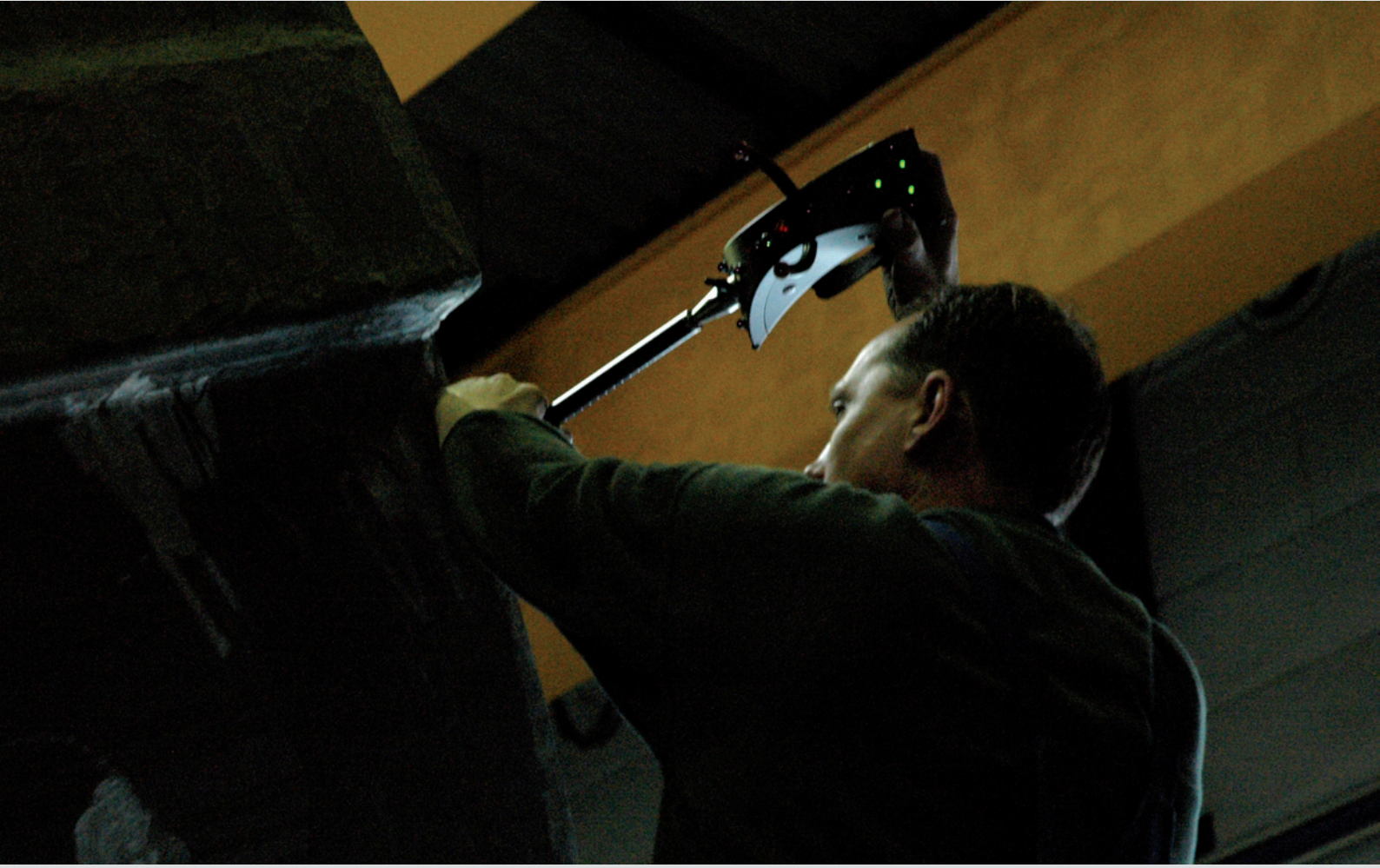


On top thanks to the Leica T-Probe: the mobile CMM makes it easy to measure points that are difficult to access.

At the DMR Produktionsgesellschaft mbH in Rostock there blows a fresh wind: previously, traditional measuring methods which were used had limitations; success is now guaranteed with the Leica Absolute Tracker AT901 and Leica T-Probe. Now when the component can't get to the CMM, the CMM will go to the component.

Wind energy changes politics and industry, and both are reacting to these changes differently. With funding being provided by governments, industry is looking at manufacturing possibilities. The sheer size of modern wind energy installations presents new challenges; manoeuvring steel and cast iron components weighing 80 tonnes takes time and is expensive - therefore, it pays to keep transport to a minimum.

At the DMR Produktionsgesellschaft mbH in Rostock extremely large components are an everyday occurrence. The company, which evolved from Dieselmotorenwerk Rostock, specialises in turnkey manufacturing, with special skills gained in manufacturing housings for wind turbines, industrial gearboxes, various components for gas and steam turbines and spare parts for two-stroke crosshead engines.

Easy to operate at lofty heights

Holger Radanke, Quality Manager at DMR Produktionsgesellschaft mbH, is responsible for identifying suitable measuring procedures. He is particularly concerned about the increasing size of components: "As we are only manufacturing to order, we are not able to focus solely on measuring instruments and methods. With very large components we have often asked ourselves in the past how we could save valuable time, both with measuring and marking. With large components, manual methods are very limited. And if you also have to provide evidence of compliance with form and position tolerances, these methods are inadequate anyway."

DMR Produktionsgesellschaft mbH required a new method enabling measuring that was easy to operate, mobile and compatible with the software of an existing stationary coordinate measuring machine. The Leica Absolute Tracker AT901 in combination with the wireless Leica T-Probe tip turned out to be the ideal solution. Ralf Steinke, DMR specialist for metrology, says: "The Leica T-Probe makes measuring and marking much easier, especially when we are working with very large components and have to climb up to the measuring points. Furthermore, we can operate the Leica T-Probe with one hand, which is perfect."

Errors are not acceptable

The company use the Leica Absolute Tracker AT901 and the Leica T-Probe primarily for checking incoming goods, then during and after machining and finally during marking-up for technical control. Ralf Steinke: "When we notice that an error has occurred during casting, we have to react immediately to ensure that we can still produce the component in accordance with the drawing by adjusting the casting appropriately. We are extremely careful with our own work to ensure that we don't exceed the tolerances in either way. Any such error would mean an enormous financial loss to us. With machine supports for wind turbines, a

Measuring a BARD machine support.

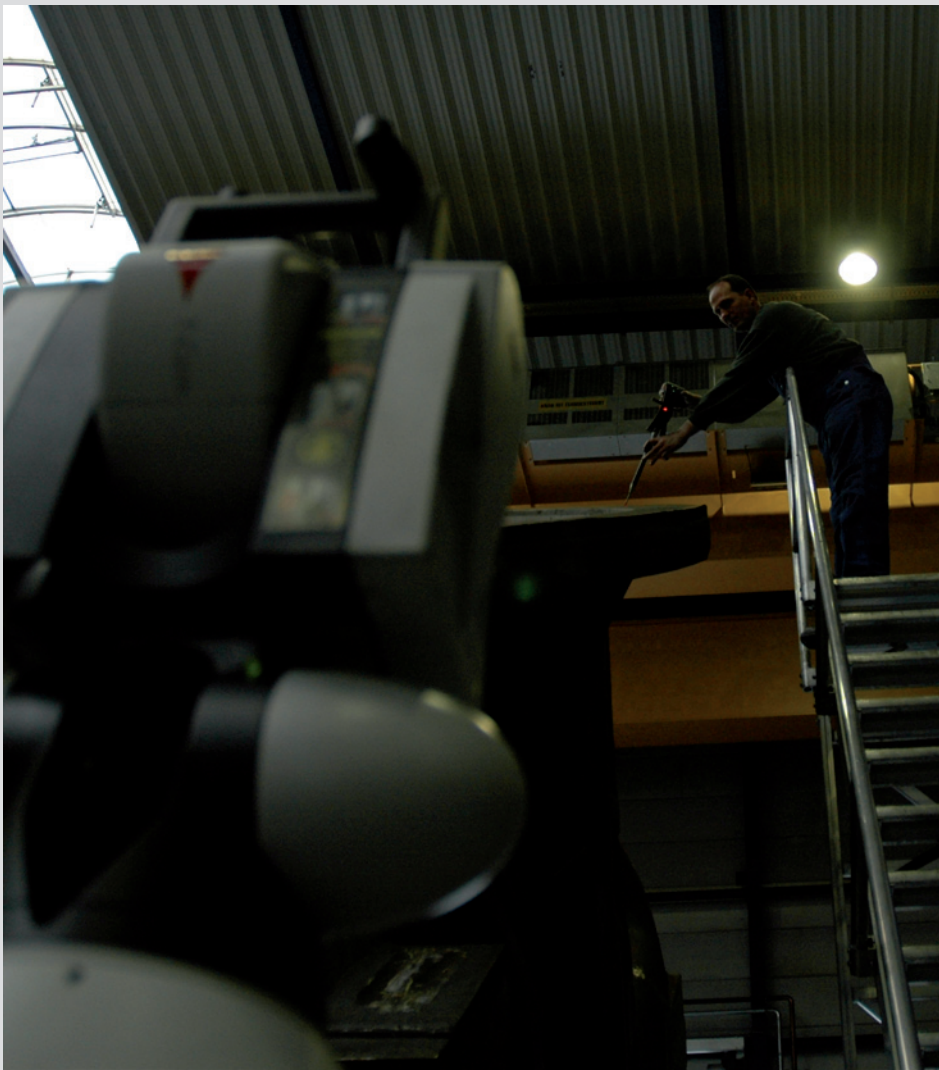
large part of the value is not just in the material but also in the machining. If the component is not fully within the specified tolerances, our customers will not accept it. This can easily mean losses running into several hundreds of thousands of Euros."

Numerous applications

The portable CMM by Leica Geosystems has made the measuring processes used at DMR Produktionsgesellschaft mbH much simpler and has made certain applications possible that were not before. Now when inspecting incoming goods and marking components, the DMR team saves up to 40% of expensive man-hours when compared with their previous conventional methods. Holger Radanke summarises: "The Tracker system is exactly the right tool for us because we can save a lot by detecting deviations before machining starts compensating for errors by fitting the component into the shape of the casting. Thanks to our detailed and accurate measurement results, necessary deviations from the construction can now be requested from customers with a new level of quality. By determining deviations in form and position in large measurement volumes, it is possible to draw valuable conclusions for the production process. We can combine the Tracker system in combination with our in-house software which opens up numerous application options, so that the system has even exceeded our expectations."

Andreas Petrosino

6 m high, 80 t in weight, no time and no errors permitted. The ideal terrain for the Laser Tracker made by Leica Geosystems.



Leica Geosystems

Whether building the fastest car, the biggest plane, or the most precise tooling, you need exact measurements to improve quality and productivity. So when it has to be right, professionals trust Leica Geosystems Metrology to help collect, analyze, and present 3-dimensional (3D) data for industrial measurement.

Leica Geosystems Metrology is best known for its broad array of control and industrial measurement products including laser trackers, Local Positioning Technology (LPT) based systems, hand-held scanners, 3D software and high-precision total stations. Those who use Leica Metrology products every day trust them for their dependability, the value they deliver, and the world-class service & support that's second to none.

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