

Leica Geosystems

Press Releases

Magazines and Online

January-April 2006
USA

AIT USES LEICA LASER TRACKERS FOR F-35 AIRCRAFT

LAWRENCEVILLE, GA—The Metrology Division of Leica Geosystems (St. Gallen, Switzerland) announces Advanced Integration Technology Inc. (AIT, Plano, TX) has successfully completed the first automated mate cell two weeks in advance for the F-35 Joint Strike Fighter.

Three Leica LTD800 laser trackers were instrumental in the laser-guided alignment used to automate and execute F-35 aircraft mating. AIT is an engineering and manufacturing company specializing in the design, fabrication, installation and maintenance of fully integrated plant floor systems.

AIT was contracted by Lockheed Martin to construct a permanent

assembly station used for laser-guided alignment and part mating of four F-35 modules. The system uses three Leica laser trackers and 16 servo control positioners to mate the forward to the center fuselage, the wings to the center fuselage, and aft to the wing/center.

Jason McGabe, project manager for AIT, described the first automated mate cell for the JSF program as a team success for all involved, from his AIT

department to the Integrated Product Team at Lockheed Martin to the industrial measurement specialists at Leica Geosystems, which supported the effort with training and consulting. The JSF metrology integration into assembly approach delivered a reduction in cost and schedule time because of the flexibility of the process.

McGabe's AIT engineering team wrote a customized interface to inte-

grate the Leica LTD800 with the servo driven jacks and the operator console to create the F-35 JSF Electronic Mate and Alignment System (EMAS). An operator can use the EMAS tool to automatically point the laser tracker and acquire data from targets residing in off-the-shelf nests that have been applied to each aircraft subassembly. The laser tracker will acquire 3-D coordinate target data and the large

F-35 modules are adjusted to easily slide into position for connectivity and assembly.

The F-35 JSF EMAS was deemed a technical achievement as the first two aircraft components were loaded, maneuvered into nominal position and the first hole was drilled for joining the components within five days of the completion of the surrounding working platform.

Quality, January 2006

PEOPLE NEWS



The Metrology Division of Leica Geosystems (St. Gallen, Switzerland) announces **Rina Molari-Kargel** as metrology specialist and technical key account representative. Molari-Kargel has more than 21 years of industrial metrology experience and specializes in high-precision, 3-D data acquisition and analysis for inspection and measurement applications in manufacturing. Her responsibilities include supporting Leica customers and recommending metrology solutions to increase efficiency in their quality control and production processes.

PHI Logistics (St. Louis) announces the promotion of **Stephan Legg** to director, product technology and development. Legg has been with the company for more

Continued on pg. 28

Quality, January 2006

Leica T-Scan technology digitises Civil War artefact



The Metrology Division of Leica Geosystems has announced their newest Local Positioning technology, the Leica T-Scan product, was used for the high-precision surface data capture of a famous artifact retrieved from the Civil War ironclad USS Monitor. The historic anchor was the first major relic recovered by the National Oceanic and Atmospheric Administration (NOAA) from the Monitor National Marine Sanctuary, east of Cape Hatteras in the Atlantic Ocean. The Mariners' Museum (Newport News, VA) is home to hundreds of artifacts and archives from the Monitor.

Leica Geosystems joined hands with the Mariners' Museum and MAGLEV, Inc. (McKeesport, PA) for this data acquisition project resulting in an accurate 3D digital replica of the anchor. At 7000 points per minute, the hand-held scanner allowed the team to capture the 3D object in a fast, unlettered manner. The Leica T-Scan works in tandem with the Leica Laser Tracker, a

portable coordinate measurement system (PCMM) used for industrial measurement and inspection applications. Metrologists can use the Leica T-Scan to work in measurement volumes of up to 30m. The operator can digitize both small and large objects, and gather millions of points in just minutes with an accuracy of better than 100 microns. Complete 3D coverage is made easy by the tracker's ability to be relocated to various vantage points and collect multiple data sets in the same coordinate system.

Senior metrologists from Leica Geosystems and MAGLEV gathered at the Mariners' Museum for the two-day endeavor. The Leica T-Scan works so intuitively that the Museum workers each had a chance to use the device and capture digital data from the anchor. This surface data will form the foundation of a highly detailed 3D computer model that can be used for measurement, documentation, and archival records. This

digital record of the anchor's construction can also be used to monitor the anchor's condition, and to reproduce physical prototypes for merchandising and exhibit purposes.

The Mariners' Museum has worked conjointly with NOAA and the U.S. Navy to obtain more than 1,100 artifacts from the Monitor, including the anchor, steam engine, propeller, and revolving gun turret. The Mariners' Museum and NOAA are working toward constructing and opening a new USS Monitor Center in March 2007. A full-scale replica of the Monitor warship will serve as the dynamic focal point of the Center. The results of Leica Geosystems data acquisition work and other scanning projects, will directly contribute to the Museum's ability to create exciting exhibits and rich visualizations of these historic artifacts.

► Visit:

www.leica-geosystems.com/metrology

Quality Today, January 2006

Leica Geosystems Expands Midwest Service Center

The Metrology Division of Leica Geosystems (U.S. headquarters in Lawrenceville, Georgia) has relocated its Midwest Service Center to Wichita, Kansas. The company will use the new 4,000-square-foot facility to more efficiently serve its customers in the central and Midwestern United States.

The center is staffed with qualified Laser Tracker service technicians, skilled application engineers and experienced technical sales managers. It is located at 9424 E. 37th Street North, Suite 220, Wichita, Kansas 67226.

Contact the new service center at (866) 756-6763 or visit www.leica-geosystems.com/metrology.

LASER TRACKERS

Leica Geosystems' Metrology Div. has announced a line of laser trackers. The LT640 performs corner cube reflector inspection within a measurement volume of up to 40 m, and the LTD640 absolute distance meter performs automatic beam capture in fast measurement processes. The short-range LTD706 is for portable coordinate-measuring-machine applications within a radius of 6 m, and the LTD709, with a measurement radius of up to 9 m, is suitable for automotive applications. Its measurement volume is 25 m. Intended for aerospace applications, the LTD-840 has a probing measurement range of up to 15 m and a measurement volume of up to 30 m.

Leica Geosystems

Circle No. 383

Photonics Spectra, January 2006

Modern Machine Shop, Jan. 2006



News Release from: Leica Geosystems
Edited by the CIMtalk Editorial Team on 19 January 2006

Leica Integrates into Hexagon Metrology

Hexagon Group welcome the Metrology Division of Leica Geosystems as an additional Business Line within the present Hexagon Metrology organisation.

The recent entry of Leica Geosystems into the Hexagon group has been given the go-ahead to a plan intended to welcome the Metrology Division of Leica Geosystems as an additional Business Line within the present Hexagon Metrology organisation. Leica Metrology, with headquarters in Unterentfelden, Switzerland, is a world leader in the development, manufacturing and marketing of portable measuring solutions based on laser technology, namely Leica Laser Trackers, Industrial Theodolites and Total Stations. The Leica Metrology products are widely employed in the automotive, aerospace and general industry.

They are ideally suitable for metrology applications on large-sized components, as aerospace parts, requiring a combination of accurate, as well as portable and easy-to-use measuring equipment.

Mr Duncan Redgewell (formerly VP and Sales Manager Europe at Leica Metrology) has been newly appointed General Manager of the newborn Business Line.

Mr Redgewell says: 'We are maintaining an absolute commitment to product excellence and superior support'.

'The integration of our business into Hexagon Metrology will create competitive synergies turning into benefits for our customers, that can rely on the usual quality of our products and services, now further enhanced by an organization having a strong high-tech metrology core worldwide'.

'Along with Hexagon Metrology, we'll maintain a steady focus on providing superior industrial metrology products while ensuring a deeper market penetration that enables us to generate additional sales volume and meeting specific manufacturing requirements of our customers more effectively,' expands Mr Redgewell.

The Leica Laser Trackers and the Industrial Theodolites and Total Stations from Leica Metrology complement the existing portable measurement solutions portfolio of Hexagon Metrology that already includes a wide range of articulated arms, dedicated application solutions, software and services, meeting all requirements of this rapidly growing market segment.

Hexagon Metrology is now the undisputed leader in the dimensional metrology sector as to range completeness, technological level of the products, customer support and market coverage.

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Leica Press Release - January 9, 2006 - Leica Geosystems Chooses PolyWorks Reverse-Engineering Software for its Leica T-Scan Hand Scanner

P R E S S R E L E A S E
For Immediate Release

Link to press release:

http://www.leica-geosystems.com/metrology/en/ndef/lgs_1075.htm?id=1154

Leica Geosystems Chooses PolyWorks Reverse-Engineering Software for its
Leica T-Scan Hand Scanner
InnovMetric's Software Complements Leica T-Scan's Capabilities

Unterentfelden, Switzerland - January 9, 2006 - Leica Geosystems (Metrology Division) announced today it has signed an agreement with InnovMetric Software Inc. for the integration and distribution of the PolyWorks software suite with the Leica T-Scan hand scanners. The Leica T-Scan/PolyWorks combination provides users with a very flexible and accurate reverse-engineering solution for quickly digitizing large objects into STL and CAD models. Sales of the T-Scan/PolyWorks bundled package will be ensured by Leica's worldwide sales network, while Japan and South-East Asia will be covered by Tokyo Boeki Techno Systems and Cairnhill Metrology (who already distribute both Leica Geosystems and InnovMetric Software's products in those markets).

The Leica T-Scan is a high-speed hand scanner that digitizes large objects faster and more accurately than similar scanning technologies, without the need for photogrammetric targets or powdering. PolyWorks is a universal 3D point cloud processing software solution that leads the automotive and aeronautic industries worldwide. A free plug-in integrates the Leica T-Scan scanner into PolyWorks for real-time scanning directly within a unique interface. Leica T-Probe II, the company's "Walk-Around" solution for wireless and armless probing of specific points on a part, can also be used with the plug-in, resulting in a unique solution combining both non-contact laser scanning and hard-probing capabilities under a single application.

With PolyWorks, Leica T-Scan users can benefit from hundreds of powerful reverse-engineering and 3D inspection tools. For example, they now have access to PolyWorks' advanced polygonal model creation tools for the creation of watertight STL models. It also offers a rapid-NURBS generator that produces logical NURBS surfaces, which are the most usable and editable into major CAD software suites. In addition, users can obtain real-time color-mapping to instantly identify deviations between the scanned object and its CAD model.

"InnovMetric Software is very proud to team up with such a prestigious organization with pioneering solutions in the measurement world and a tradition dating back 200 years," says Marc Soucy, President of InnovMetric Software. "This alliance further emphasizes that PolyWorks has established itself as the number-one point cloud processing software solution in the automotive and aeronautic industries worldwide," he concludes.

"The Leica T-Scan/PolyWorks combination is a perfect fit for us," continues Pirmin Bitzi, Product Manager at Leica Geosystems. "Our Leica Laser Trackers and PolyWorks both have a strong presence in the

automotive and aeronautic marketplace, and we feel that the PolyWorks/Leica Geosystems combined solution will let us further expand in these crucial markets," concludes Bitzi.

About InnovMetric Software

Founded in 1994, InnovMetric Software pioneered the market for point cloud inspection and polygonal manufacturing software solutions. InnovMetric is a privately owned company that enjoys an enviable position as the market leader in point cloud processing software in the automotive and aeronautic industries. Today, PolyWorks licenses are at work daily in more than 30 countries, providing users such as BMW, Boeing, Daimler-Chrysler, Ford, GM, Honda, Hyundai, Lockheed-Martin, Peugeot, Porsche, Rolls Royce, Toyota, and Volkswagen with the most complete, accurate, and robust 3D point cloud processing software solution on the market.

InnovMetric's flagship product, PolyWorks, is a powerful software solution that uses high-density point clouds to measure and control the quality of castings/dies/molds, and to approve manufacturing processes through prototype, first-article, manufactured, and assembled parts inspection. PolyWorks offers a complete toolset for comparing forms and profiles (part-to-part and part-to-CAD), and includes the most complete GD&T analysis capabilities on the market, as well as the widest array of soft gauging tools (linear, radius, flush & gap, thickness, etc.). All quality control tasks can be completely automated and performed by one click of a mouse using PolyWorks' powerful scripting language. PolyWorks also offers a unique reverse-engineering module that produces class A polygonal models and rapid NURBS surfaces that are exportable to any CAD/CAM/CFD/FEA software for stringent manufacturing applications.

About the Metrology Division of Leica Geosystems

The Metrology Division of Leica Geosystems is a global supplier of comprehensive hardware and software packages to the industrial metrology market. These products integrate with popular CAD programs, various build-and-inspect tools, and reverse engineering software. Using state-of-the-art laser technology, Leica's industrial measurement products make quality control, part mating, assembly and construction of large and small parts easier and more accurate than ever. Leica's laser tracker technology is most widely used, with over 1,600 installations worldwide. In addition there are about 1,500 Industrial Theodolite Systems in use, which customers confirm are the most accurate in their category.

Leica Geosystems - a portrait

With close to 200 years of pioneering solutions to measure the world, Leica Geosystems products and services are trusted by professionals worldwide to help them capture, analyze, and present spatial information. Leica Geosystems is best known for its broad array of products that capture accurately, model quickly, analyze easily, and visualize and present spatial information even in 3D. Those who use Leica products every day trust them for their dependability, the value they deliver, and the superior customer support. Based in Heerbrugg in Switzerland, Leica Geosystems is a global company with tens of thousands of customers supported by 2,400 employees in 21 countries and hundreds of partners located in more than 120 countries around the world.

www.theautochannel.com, March 1, 2006

Leica - InnovMetric Software Agreement

Published on [Software, Business, Technology & Science](#) | January 9, 2006, 7:04 pm

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Tags: [Leica](#), [InnovMetric](#), [T-Scan](#), [PolyWorks](#), [STL](#), [CAD](#), [NURBS](#)

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www.news.soft32.com, January 9th, 2006



Innovative Products | January 2006

Manufacturer: Leica Geosystems' Metrology Div.

LASER TRACKERS

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To contact the manufacturer of this product, [click here](#).

www.photonics.com, January 2006

Press Release

Leica Geosystems Inc.

Release date: January 17, 2006

Leica Geosystems Metrology Division Integrates into Hexagon Metrology

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The Leica Laser Trackers and the Industrial Theodolites & Total Stations from Leica Metrology complement the existing portable measurement solutions portfolio of Hexagon Metrology that already includes a wide range of articulated arms, dedicated application solutions, software and services, meeting all requirements of this rapidly growing market segment.

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<http://www.leica-geosystems.com>

www.news.thomasnet.com, January 17, 2006



News

09-01-2006

Leica Geosystems Chooses PolyWorks Reverse-Engineering Software for its Leica T-Scan Hand Scanner



InnovMetric's Software Complements Leica T-Scan's Capabilities

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P R E S S R E L E A S E For Immediate Release Link to press release: http://www.leica-geosystems.com/metrology/en/ndef/lgs_1075.htm?id=1154 Leica Geosystems Chooses PolyWorks Reverse-Engineering Software for its Leica T-Scan Hand Scanner InnovMetric's Software Complements Leica T-Scan's Capabilities Unterentfelden, Switzerland - January 9, 2006 - Leica Geosystems (Metrology Division) announced

www.manufacturingsoftwarehub.com, January 12th, 2006

Leica Geosystem, Metrology Division



Laser Tracker

The Metrology Division of Leica Geosystems announced its new lineup of Leica Laser Trackers. The new lineup starts with the LT640 Leica Laser Tracker (inquire with vendor for pricing), optimized for corner cube reflector inspection within a measurement volume of as much as 40m (131ft). LTD640 is LT640's Absolute Distance Meter sibling, whose ADM technology allows for reliable automatic beam capture resulting in faster measurement processes. With the launch of its new lineup of Leica Laser Trackers and the continued development of Leica T-Probe and Leica T-Scan, Leica Geosystems has actively responded to the needs of their customers, giving them a broad choice in selecting a laser-tracking system appropriate for their applications.

For more information, call
770.682.6053

Contact Information

Phone: 770.682.6053

URL: <http://www.leica-geosystems.com/metrology>

www.management.cadalyst.com, January 2006

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The Auto Channel - Jan 09 2:12 PM

P R E S S R E L E A S E For Immediate Release Link to press release: http://www.leica-geosystems.com/metrology/en/ndef/lgs_1075.htm?id=1154 Leica Geosystems Chooses PolyWorks Reverse-Engineering Software for its Leica T-Scan Hand Scanner InnovMetric's Software Complements Leica T-Scan's Capabilities Unterentfelden, Switzerland - January 9, 2006 - Leica Geosystems (Metrology Division) announced Save to My Web

Filed under [Autocad](#)

www.autocadonline.info, January 18, 2006

QUALITYDIGEST

News Digest

This Month in News Digest

January 2006

Leica Settles In

Now that it's part of Hexagon Metrology, Leica Geosystems is undergoing some internal changes.

Hexagon has announced that Leica's Consumer Products division will be renamed as the Measuring Tools Division, and the Geospatial Imaging Division, based in Atlanta, will refocus on software development in preparation for entry into vertical markets. Finally, Leica's Surveying & Engineering Division, High-Definition Surveying Division, Airborne Sensor Business Unit and its Chinese sales region will merge to form the new Geosystems Division. The Geosystems Division will be responsible for central services at Leica's Heerbrugg, Switzerland, headquarters, and for the company's worldwide shared services.

The changes are immediate, and Hexagon reports that Leica's strategic direction is not affected. For more information, visit www.hexagon.se or www.leica-geosystems.com.

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QUALITYDIGEST

Abstract

Leica Geosystems' line of Universal coordinate measuring machine (CMM) products was recognized by the Chinese trade magazine *Automobile Industry* for its new technologies and manufacturing equipment for the automobile industry.

Leica Geosystems Receives Chinese Outstanding-Product Award

by Quality Digest



Leica Geosystems' line of Universal coordinate measuring machine (CMM) products was recognized by the Chinese trade magazine *Automobile Industry* for its new technologies and manufacturing equipment for the automobile industry.

It took 67 industry experts three months to select the winner from 250 companies. Also included in the selection process was an online survey of the magazine's readers. Of the 10 finalists, Leica Geosystems emerged at the top for its Universal CMM line, which includes the Leica Laser Tracker, Leica T-Probe II and Leica T-Scan. With more than 60 Chinese installations, Leica Geosystems leads the Chinese market for CMM systems.

"Leica Geosystems was recognized for our groundbreaking technologies that combine large measurement ranges, true portability, top-accuracy capabilities and imperviousness to environmental influences, giving us a large share of the global industrial-metrology market," says Connie Zhang, Leica Geosystems' marketing manager for greater China.

For more information, visit www.leica-geosystems.com.

www.qualitydigest.com



2005 MACHINE-TOOL Consumption up 10.2%

January 29, 2006

AIT Uses Leica Laser Trackers For F-35 aircraft

LAWRENCEVILLE, GA—The Metrology Division of Leica Geosystems (St. Gallen, Switzerland) announces Advanced Integration Technology Inc. (AIT, Plano, TX) has successfully completed the first automated mate cell two weeks in advance for the F-35 Joint Strike Fighter.

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Jason McGahey, project manager for AIT, described the first automated mate cell for the JSF program as a team success for all involved, from his AIT department to the Integrated Product Team at Lockheed Martin to the industrial measurement specialists at Leica Geosystems, which supported the effort with training and consulting. The JSF metrology integration into assembly approach delivered a reduction in cost and schedule time because of the flexibility of the process.

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www.qualitymag.com



Quality Control Mastered with Laser Tracking Technology

January 28, 2006

In the world of aerospace manufacturing, measurement inaccuracies have enormous negative consequences on timelines and bottom lines. Finding the weakest link and the correct answer is the job of every quality assurance professional in aviation. Implementing and integrating the best technology to achieve this endeavor is a top priority at Airbus (Toulouse, France), a manufacturer of airliners ranging in capacity from 100 to more than 500 seats.

Although Airbus' engineering and manufacturing work is centrally managed, it relies on integrated cross-

functional, trans-national teamwork between 16 different locations in Germany, France, Spain and Great Britain. Each location produces complete aircraft sections that are transported for final assembly to Toulouse, France, or Hamburg, Germany.

Bremen is the second largest Airbus site in Germany and one of five main design offices. The site focuses on widebody wing equipping and the manufacture of high lift components and sheet metal parts. Each year roughly 2.5 million metal parts for all Airbus models are produced in Bremen. The factory also produces all landing flaps for Airbus in the structural assembly process. They also prepare the wing assemblies for the A330 and A340 aircraft types. These tasks require extremely high levels of precision. To meet this demand, Airbus employs seven laser trackers from the Metrology Division of Leica Geosystems (St. Gallen, Switzerland).



The Airbus assembly floor in Bremen is the second largest Airbus site in Germany and one of five main design offices. Source: Leica Geosystems

Erwin Hoffmann, Airbus measurement technology manager, leads a nine-member measurement technology department responsible for the examination of large-capacity components, dismantling and removal of production tools, monitoring of examination systems and calibration of all examination systems on-site.

"We received our first laser tracker in January 1999," Hoffmann says. "Because of the types of problems we were confronted with at the time in connection with production of the EF200 Eurofighter, we needed to acquire either a larger stationary measurement system or a more flexible system. We therefore carried out a comprehensive benchmarking exercise. The Leica tracker emerged clearly as the best measurement system for us on the grounds of both speed and cost efficiency. Today, we have three LTD500 Leica laser trackers and four of the state-of-the-art Leica tracker model, the LTD800, in use at Bremen."

The Leica Laser Tracker is a mobile coordinate measurement system. Because of the laser interferometer, high precision measurements can be carried out rapidly. For both single point and surface measurements, the laser tracking system can record data from a single set-up position with a measurement volume of up to 80 meters in diameter, with an accuracy level of ± 10 points per minute at a measurement rate of up to 3,000 points per second.

The set-up procedure for the laser tracker can be adapted to the object size or to confined spatial conditions. The tracker can help master many metrology challenges. For instance, Airbus' new countersinking facilities are dismantled and examined using the tracker. The collimation of tracks and landing flaps during the preparation of wing assemblies for the long-range aircraft—the A330/A340—is performed using the mobile



The Leica Laser tracker and T-probe helped Airbus with high-precision measurements. Source: Leica Geosystems

The Bremen team, on behalf of the Stade factory, carries out production of the inner landing flaps of the A320 family of standard-fuselage aircraft. The team members not only assemble the equipment using a laser tracker, but also use it to dismantle everything afterward. Another laser tracker application involves the Ariane 5 space travel program where top-level power generators are measured with a laser tracker. The Bremen team has already performed contour measurements and positioned the landing flaps on the Phoenix spacecraft.

Airbus measurement technicians take on nearly all application cases and measurement tasks at the Bremen factory. The multi-use laser tracker also is used for cause-of-error investigations. The Bremen team possesses accessories for the Leica trackers including the T-Probe, a wireless, armless probe called the walk-around coordinate measuring machine. By using the trackers in combination with the new T-Probe, operators can inspect hidden points and probe in areas unreachable by traditional probing solutions.

"Until now, we have always measured the landing flaps continuously either from two separate tracker locations or from a single tracker location, but with the need for a rotation of the measurement object," says Hoffman. "However, our goal with the T-Probe is to work with a single setup which results in a major time savings. This is because both the handling of the flaps and the set up and preparation of the measurement process can be done more rapidly. In addition, the calculation process and the evaluation process become easier and more reliable because we no longer need to factor in reference points.

"The laser trackers have met our requirements in every conceivable way," Hoffmann says. "In addition to purchasing the T-Scan, we now plan to purchase two more Leica trackers. In the framework of the A400M program, which gets under way in 2006, we will have several stations with permanently integrated tracker systems. Both trackers will be used in the context of quality assurance procedures for the A400M, for examination of interfaces and handoffs before the fuselage is sent to the final assembly line in Spain."



An Airbus employee uses the Leica T-probe to check assembly tooling.

Source: Leica Geosystems

Benefits

- The laser tracking system can record data from a single set-up position with a measurement volume of up to 80 meters in diameter.
- It has an accuracy level of ± 10 points per minute at a measurement rate of up to 3,000 points per second.
- The set-up procedure for the laser tracker can easily be adapted to the object size or to confined spatial conditions.
- Periodic inspections, repetitive testing and other measurement tasks can be carried out automatically with the laser tracker's integrated absolute distance meter.

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Integration of the Leica Geosystems Metrology Division into Hexagon Metrology **January/February 2006 (Vol 14, Issue 1)**

The recent entry of Leica Geosystems into the Hexagon group has given the go-ahead to a plan intended to welcome the Metrology Division of Leica Geosystems as an additional Business Line within the present Hexagon Metrology organization.



The Metrology Division of Leica Geosystems, with headquarters in Unterentfelden, Switzerland, is a world leader in the development, manufacturing and marketing of portable measuring solutions based on laser technology, namely Leica Laser Trackers and Industrial Theodolites & Total Stations.

Leica Geosystems' Metrology products are widely employed in the automotive, aerospace and general industry. They are ideally suitable for metrology applications on large-sized components, as aerospace parts, requiring a combination of accurate as well as portable and easy-to-use measuring equipment.

Mr. Duncan Redgewell (formerly VP and Sales Manager Europe) has been newly appointed General Manager of the newborn Business Line.

Mr. Redgewell says: "We are maintaining an absolute commitment to product excellence and superior support. The integration of our sales and distribution network into Hexagon Metrology will create competitive synergies turning into benefits for our customers, that can rely on the usual quality of our products and services, now further enhanced by an organization having a strong high-tech metrology core worldwide".

"Along with Hexagon Metrology, we'll maintain a steady focus on providing superior industrial metrology products while ensuring a deeper market penetration that enables us to generate additional sales volume and meeting specific manufacturing requirements of our customers more effectively," expands Mr. Redgewell.

The Leica Laser Trackers and the Industrial Theodolites & Total Stations complement the existing portable measurement solutions portfolio of Hexagon Metrology that already includes a wide range of articulated arms, dedicated application solutions, software and services, meeting all requirements of this rapidly growing market segment.

Hexagon Metrology is now the undisputed leader in the dimensional metrology sector as to range completeness, technological level of the products, customer support and market coverage.

www.time-compression.com, January 2006

T-SCAN TECHNOLOGY CAPTURES ARTIFACT FROM THE CIVIL WAR

LAWRENCEVILLE, GA—The Metrology Division of Leica Geosystems announces their newest local positioning technology, the Leica T-Scan product, was used for the high-precision surface data capture of a famous artifact retrieved from the Civil War ironclad USS Monitor. The historic anchor was the first major relic recovered by the National Oceanic and Atmospheric Administration (NOAA) from the Monitor National Marine Sanctuary, east of Cape Hatteras in the Atlantic Ocean. The Mariners' Museum (Newport News, VA) is home to hundreds of artifacts and archives from the Monitor.

Leica Geosystems joined hands with the Mariners' Museum and MAGLEV Inc. (McKeesport, PA) for this data acquisition project resulting in an accurate 3-D digital replica of the anchor. The handheld scanner allowed the team to capture the 3-D object in a fast, unfettered manner. The Leica T-Scan works in tandem with the Leica Laser Tracker, a portable coordinate measurement system.

Senior metrologists from Leica Geosystems and MAGLEV gathered at the Mariner's Museum for the two-day endeavor. The museum workers each had a chance to use the device and capture digital data from the anchor. This surface data will form the foundation of a highly detailed 3-D computer model that can be used for measurement, documentation and archival records. This digital record of the anchor's construction also can be used to monitor the anchor's condition, and to reproduce physical prototypes for merchandising and exhibit purposes.

The Mariners' Museum has worked conjointly with NOAA and the U.S. Navy to obtain more than 1,100 artifacts from the Monitor, including the anchor, steam engine, propeller and revolving gun turret. The Mariners' Museum and NOAA are working toward constructing and opening a new USS Monitor Center in March 2007. A full-scale replica of the Monitor warship will serve as the dynamic focal point of the center.

Quality Magazine, February 2006

Scanner Maps USS Monitor's Anchor

The first major relic recovered by the National Oceanic and Atmospheric Administration (NOAA) from the Monitor National Marine Sanctuary, east of Cape Hatteras in the Atlantic Ocean is the ship's anchor. In cooperation with The Mariners' Museum (Newport News, VA), which is home to hundreds of artifacts and archives from the Monitor, and Maglev, Inc. (McKeesport, PA), Leica Geosystems (Lawrenceville, GA) used their newest local positioning technology, the Leica T-Scan, for



Scanning permits museum workers to gather data for a 3-D digital replica of the anchor from the Civil War vessel the USS Monitor.

high-precision surface data capture of the anchor.



The result is an accurate 3-D digital replica of the anchor. At 7000 points per

minute, the hand-held scanner allowed the team to capture the anchor rapidly. The Leica T-Scan works in tandem with the Leica Laser Tracker, a portable CMM (PCMM) used for industrial measurement and inspection applica-

tions. Metrologists can use the Leica T-Scan to work in measurement volumes as great as 30 m. The operator can digitize both small and large objects, and gather millions of points in minutes with an accuracy better than 100 µm.

Senior metrologists from Leica Geosystems and Maglev gathered at the Mariners' Museum for the two-day job. Surface data gathered at the museum will form the foundation of a highly detailed 3-D model that can be used for measurement, documentation, and archival records. This digital record of the anchor's construction can also be used to monitor the anchor's condition, and to reproduce physical prototypes for merchandising and exhibit purposes.

The Mariner's Museum has worked with NOAA and the US Navy to obtain more than 1100 artifacts from the Monitor, including the anchor, steam engine, propeller, and revolving gun turret. The Mariners' Museum and NOAA are working toward constructing and opening a new USS Monitor Center in March 2007. A full-scale replica of the Monitor warship will serve as the dynamic focal point of the center. The results of Leica Geosystems data acquisition work, and other scanning projects, will directly contribute to the museum's ability to create exciting exhibits and rich visualizations of these historic artifacts. Circle 202

Manufacturingengineering, February 2006



Leica Geosystems: Laser Tracker Systems

Monday, February 13, 2006

Complete lineup of laser tracker systems includes the Model LT640 laser tracker. Optimized for corner cube reflector inspection in a volume to 40 m, it offers reliable automatic beam capture for faster measurements. Other models target portable, automotive, and aerospace CMM applications. In addition to trackers, products include the T-Probe II, a "walk-around" solution for armless and wireless probing. Leica Geosystems, Metrology Div., Norcross, GA

<http://www.leica-geosystems.com/metrology>

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www.newequipment.com, February 13, 2006

News: T-Scan Helps Find Civil War USS Monitor Artifact

Posted by: Admin



Newport News, VA USA -- The **Metrology Division of Leica Geosystems** announced that their newest Local Positioning technology, the Leica T-Scan product, was used for the high-precision surface data capture of a famous artifact retrieved from the Civil War ironclad USS Monitor. The historic anchor was the first major relic recovered by the National Oceanic and Atmospheric Administration (NOAA) from the Monitor National Marine Sanctuary, east of Cape Hatteras in the Atlantic Ocean. **The Mariners' Museum** (Newport News, VA) is home to hundreds of artifacts and archives from the Monitor.

Leica Geosystems joined hands with the Mariner's Museum and MAGLEV, Inc. (McKeesport, PA) for this data acquisition project resulting in an accurate 3D digital replica of the anchor. At 7000 points per minute, the hand-held scanner allowed the team to capture the 3D object in a fast, unfettered manner. The Leica T-Scan works in tandem with the Leica Laser Tracker, a portable coordinate measurement system (PCMM) used for industrial measurement and inspection applications.



Metrologists can use the Leica T-Scan to work in measurement volumes of up to 30m. The operator can digitize both small and large objects, and gather millions of points in just minutes with an accuracy of better than 100 microns. Complete 3D coverage is made easy by the tracker's ability to be relocated to various vantage points and collect multiple data sets in the same coordinate system.

Senior metrologists from Leica Geosystems and MAGLEV gathered at the Mariner's Museum for the two-day endeavor. The Leica T-Scan works so intuitively that the Museum workers each had a chance to use the device and capture digital data from the anchor. This surface data will form the foundation of a highly detailed 3D computer model that can be used for measurement, documentation, and archival records. This digital record of the anchor's construction can also be used to monitor the anchor's condition, and to reproduce physical prototypes for merchandising and exhibit purposes.

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Using the Leica T-Scan, reverse engineering and inspection processes now require less time for set-up and object preparation. Leica's Universal CMM solution combines laser tracking functionality with probing and scanning capabilities in the largest measurement volume. No competitor in the metrology marketplace brings this dimension to the shop floor. For more than two decades, the Leica Metrology Division has served the needs of the aerospace, automotive, and general engineering industries.

About The Mariner's Museum

The Mariners' Museum, an educational, non-profit institution accredited by the American Association of Museums, preserves and interprets maritime history through an international collection of ship models, figureheads, paintings and other maritime artifacts. The Museum is open from 10 A.M. until 5 P.M. daily. Closed Thanksgiving Day and Christmas Day. For information, call (757) 596-2222 or (800) 581-7245, or write to The Mariners' Museum, 100 Museum Drive, Newport News, VA 23606. The Museum can be reached on the World Wide Web at <http://www.mariner.org/>.

About MAGLEV, Inc.

MAGLEV, Inc., a Pennsylvania company, incorporated in 1990, comprised of and supported by numerous private and public entities. Its goal is to support leading technologies in large steel component fabrication and to lead the installation of the first commercial High Speed Maglev in the USA in Pittsburgh, and in subsequent phases to expand across the Region, State, and Country. Currently, MAGLEV, Inc. is performing research under contract to the Office of Naval Research. The Research Facility is located at 1000 Industry Road, McKeesport, Pennsylvania.

About the Metrology Division of Leica Geosystems

The Metrology Division of Leica Geosystems is a global supplier of comprehensive hardware and software packages to the industrial metrology market. These products integrate with popular CAD programs, various build-and-inspect tools, and reverse engineering software. Using state-of-the-art laser technology, Leica's industrial measurement products make quality control, part mating, assembly and construction of large and small parts easier and more accurate than ever. Leica's laser tracker technology is most widely used, with over 1,600 installations worldwide. In addition there are about 1,500 Industrial Theodolite Systems in use, which customers confirm are the most accurate in their category.

Leica Geosystems - a portrait

With close to 200 years of pioneering solutions to measure the world, Leica Geosystems products and services are trusted by professionals worldwide to help them capture, analyze, and present spatial information. Leica Geosystems is best known for its broad array of products that capture accurately, model quickly, analyze easily, and visualize and present spatial information even in 3D. Those who use Leica products every day trust them for their dependability, the value they deliver, and the superior customer support. Based in Switzerland, Leica Geosystems is a global company with tens of thousands of customers supported by 2,400 employees in 21 countries and hundreds of partners located in more than 120 countries around the world.

www.measurementdevices.com, Feb. 5, 2006



T-Scan Technology Captures Artifact from the Civil War

February 23, 2006

LAWRENCEVILLE, GA—The Metrology Division of Leica Geosystems announces their newest local positioning technology, the Leica T-Scan product, was used for the high-precision surface data capture of a famous artifact retrieved from the Civil War ironclad USS Monitor. The historic anchor was the first major relic recovered by the National Oceanic and Atmospheric Administration (NOAA) from the Monitor National Marine Sanctuary, east of Cape Hatteras in the Atlantic Ocean. The Mariners' Museum (Newport News, VA) is home to hundreds of artifacts and archives from the Monitor.

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LEICA GEOSYSTEMS METROLOGY DIVISION INTEGRATES INTO HEXAGON METROLOGY

UNTERENTFELDEN, SWITZERLAND—The Metrology Division of Leica Geosystems has been integrated as an additional business line within the present Hexagon Metrology organization.

Leica Metrology develops, manufactures and markets portable measuring solutions based on laser technology, namely Leica Laser Trackers, Industrial Theodolites and Total Stations. The Leica Metrology products are widely employed in the automotive, aerospace

and general industry. They are suitable for metrology applications on large-sized components—like aerospace parts—that require a combination of accurate, as well as portable and easy-to-use measuring equipment.

Duncan Redgewell (formerly vice president and sales manager Europe at Leica Metrology) has been appointed general manager of the new business line. "We are maintaining an absolute commitment to product excellence and superior support," Redgewell says. "The integration of our business into Hexagon Metrology will create competitive synergies turning into benefits for our customers, that can rely on the usual quality of our products and services, now further enhanced by an organization having a strong high-tech metrology core worldwide.

"Along with Hexagon Metrology, we'll maintain a steady focus on providing superior industrial metrology products while ensuring a deeper market penetration that enables us to generate additional sales volume and meet the specific manufacturing requirements of our customers more effectively," says Redgewell.

The Leica Laser Trackers and the Industrial Theodolites and Total Stations from Leica Metrology complement the existing portable measurement solutions portfolio of Hexagon Metrology that already includes a wide range of articulated arms, dedicated application solutions and software and services meeting all the requirements of this rapidly growing market segment.

On the right track

Laser trackers are gaining ground in the automotive sector, and the new BMW plant in Leipzig exemplifies the value of this technology. For the 'geometrical safeguarding in chassis building' project, the company needed 'traditional' fixed CMMs as well as innovative, mobile, optical measuring systems. The latter included the LTD800 Laser Tracker from Leica Geosystems, an attractive option for multiple applications because of its mobility and versatility.

Applications of the technology include high-precision tool design and construction or geometrical tests in the automotive and aerospace industries. The integrated Absolute Distance Meter (ADM) means periodic measurements, repetition tests etc can be fully automated; positioning of the laser tracker is flexible and can be adapted to object size or space limitations. At Leipzig the combination of a



Leica Laser Tracker and a Leica T-Probe has provided a highly functional 3D CMM with mobility that helps in keeping the measuring area clear. A built-in laser interferometer means measurements can be carried out quickly and precisely, for single points or entire surfaces. Measuring capacity is up to 80m diameter, with an accuracy of +/-10ppm (micron/m), at a rate of up to 3000 points per second.

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Metalworking Production , March 2006

Quality, March 2006

Hexagon Buys Leica Metrology Unit

Metrology giant Hexagon AB (Nacka Strand, Sweden) announced

it has completed its acquisition of the Metrology Division of Leica Geosystems (Unterentfelden, Switzerland), which will now operate

as a business line of Hexagon Metrology.

Under terms of the deal, Hexagon acquired 16,400 outstanding shares in Leica Geosystems, a 99.2% share in the company. With the acquisition, Hexagon also has formed a new business, Hexagon Measurement Technologies (Middlesex, UK), that includes Hexagon Metrology and the Leica Geosystems purchase. The Leica metrology unit develops and manufactures portable measuring solutions based on laser technology, with a product line that includes Leica Laser Trackers, Industrial Theodolites, and Total Stations.

The Leica Geosystems acquisition is the latest of several bids by Hexagon to acquire metrology companies. Last June, the Hexagon Metrology unit Sheffield Measurement Inc. (North Kingstown, RI) purchased the CMM business of the L.S. Starrett Co. (Athol, MA).

Hexagon Metrology includes advanced metrology software, hand gages, CMMs, and integrated systems for quality assurance. The company's units include Brown & Sharpe, Romer CimCore, Sheffield, Hexagon Metrology Qianshao (China), Leitz Messtechnik (Germany), CE Johansson (Sweden), DEA (Italy), Romer (France), and TESA (Switzerland). In addition, the group includes metrology software developers Wilcox Associates and Mirai.

Manufacturing Engineering, March 2006

Laser Scanners



Leica Geosystems (Unterentfelden, Switzerland) has released several laser trackers, ranging from portable units to large-scale units designed for the automotive and aerospace industries. The LT640 Leica Laser Tracker is optimized for corner cube reflector inspection within a measurement volume of up to 40 m. The LTD706 short-range laser tracker is intended for portable CMM jobs within a measurement radius of 6 m. The LTD709 was designed for the automotive industry, offering a measurement radius of up to 9 m for PCMM applications, an increase of 25 percent over the model it replaces. At the same time, LTD709 has a measurement volume of 25 m when used with a corner cube reflector. Designed for aerospace applications, the LTD840 has a probing measurement range of up to 15 m, which translates into a measurement volume of up to 30 m when used with a T-Probe; LTD840's measurement range reaches a full 40 m when used with a corner cube reflector. The T-Probe II "Walk-Around" solution offers improved accuracy, a ten-fold increase in the point rate output, and user-assignable multi-function buttons.

For Free Info Visit <http://info.ims.ca/5656-208>

Photonics Tech Briefs, March 2006

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Quality, March 2006

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Nasa Tech Briefs, March 2006

Assembly in Action

Lasers Line Up Megayacht Hulls

Janicki Industries Inc. (Sedro-Woolley, WA) manufactures five-axis milled patterns, molds, plugs and tooling for the aerospace, marine and general transportation industries. The company has 250 employees and works in a number of different materials, including



By using laser-measuring technology, Janicki Industries Inc. was able to assemble a 30-piece, 164-foot mold for a luxury yacht hull to a tolerance of 1/8 inch.

composites, such as fiberglass, graphite and carbon fiber; metals, such as steel, aluminum and Invar; and a variety of woods. Over the years, the company has been involved in projects ranging from the cutting-edge Joint Strike Fighter project, led by Lockheed Martin Corp. (Bethesda, MD), to recreational vehicle parts and 45-foot production bus molds.

As part of its production process, Janicki Industries employs a five-person quality assurance (QA) team to verify that all parts meet their required tolerances. Among other tools, this team uses a battery of portable laser tracking systems from the metrology division at Leica Geosystems (Norcross, GA). For example, over the years, Janicki has used Leica's LTD500 laser equipped with an Absolute Distance Meter for point-and-shoot measurements to inspect thousands of different components, molds and tooling. The laser tracker has also been used to align thousands of different parts on the company's larger assemblies.

"Almost every job we do today requires the use

of a laser tracker," says Janicki metrology group manager, Mike Drasz. "Janicki guarantees tolerances, and the Leica laser trackers are used to validate our work. We have to work in dusty, harsh environments, both inside and outside. So it is not exactly laboratory conditions. The stability of the Leica trackers is amazing, and they are virtually maintenance free. We have shipped the trackers all over the United States—to Florida, California, Missouri—to perform part mating on large assemblies and industrial inspection jobs. The versatility of the laser trackers meets our needs for a very diverse workload."

Recently, the company received a contract from the Westport Shipyard (Port Angeles, WA) to build and assemble a hull mold for a 164-foot luxury yacht, the largest production yacht ever made. The machined hull mold is comprised of 30 fiberglass panels measuring 14 by 35 feet, which were shipped separately to Port Angeles and then reassembled on a steel cradle. Janicki produced the hull molds, deck mold patterns and superstructure patterns for the yacht.

"Historically, when you made a large composite hull mold, sometimes twice the size of building, you would manually create the mold... where you intended to construct the boat," says company vice president John Janicki. "Today, we can build the molds in sections, [and] assemble a hull mold on-site.... This approach is a much less expensive way to build boats, because of its production setting."

According to Drasz, the use of laser trackers was an integral part of the on-site final assembly of the complete mold.

"The QA crew took the laser tracker onsite to Westport Shipyard, and went about aligning the fiberglass panels to exactly match the CAD model of the hull," Drasz says. "The panels literally stack together to form the bottom of the boat. This part mating and alignment task was precisely executed to [Westport Shipyard's] 1/8-inch tolerance specification. It was one of the largest assembly jobs we have ever completed. This is real-time, on-the-job quality assurance... a very worthwhile effort for the laser tracker."

For more information on laser tracker



Leica Geosystems Metrology Division Integrates into Hexagon Metrology

March 20, 2006

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Leica Press Release - March 1, 2006 – Leica Geosystems' Universal CMM Takes Center Stage at WESTEC 2006 in Los Angeles, CA

P R E S S R E L E A S E
For Immediate Release

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http://www.leica-geosystems.com/metrology/en/ndef/lgs_1075.htm?id=1204

Leica Geosystems' Universal CMM Takes Center Stage at WESTEC 2006 in Los Angeles, CA

Lawrenceville, GA - March 1, 2006 - The Metrology Division of Leica Geosystems announced today it will showcase the Leica Universal CMM, the industry's leading large-volume measurement solution at the WESTEC 2006 Advanced Productivity Exposition, LA Convention Center, Los Angeles, CA. Leica Geosystems, a Hexagon company, transformed the mobile metrology marketplace by expanding the capabilities of their laser tracking systems with wireless probing and rapid non-contact scanning technologies. WESTEC Visitors will get a close look at this multi-faceted measurement solution in Booth #2516, South Hall from March 27-30, 2006 at the joint Hexagon/Leica Geosystems booth.

The Leica Universal CMM consists of a Leica Laser Tracker combined with the Leica T-Scan and/or the Leica T-Probe II. Specifically designed for the precision measurement challenges of the aerospace industry, the LTD840 laser tracker enables manufacturers to perform wireless probing and scanning of large parts in one setup within a volume of 30m (98ft). Leica laser trackers are used by prominent manufacturers and service providers worldwide in the aerospace, automotive, shipbuilding and general engineering industries.

The Leica T-Scan introduced groundbreaking advances in the area of rapid non-contact scanning. Used in conjunction with a Leica Laser Tracker, the hand-held scanner allows the operator to quickly digitize small-to-large objects and complex surfaces with virtually no setup time. Most surface types are digitized with no surface preparation. In addition, the collected point cloud data can be used immediately for analysis, viewing, or modeling without any post-processing -- an industry first. The Leica T-Scan is used for inspection and reverse engineering applications in a wide variety of industries.

The T-Probe II, also known as a "Walk-Around CMM," enables operators to access hidden, hard-to-reach points and recessed surfaces with 6 degrees of freedom. Large parts, such as aircraft and automobiles, can be inspected with one tracker location and minimal setup time. Reducing the number of tracker relocations around an object translates into a significant cost and time savings for manufacturers. This armless wireless probing technology has set new standards with its increased accuracy and point acquisition rates up to 1,000 points per second.

The LTD840 system delivers the fastest measurement cycle in the business for high-point density (3,000 points/second) with measurement range up to 40m (131ft) when used with a corner cube reflector.

During the WESTEC trade show, Leica Geosystems will illustrate how the Universal CMM can be utilized for an extensive range of inspection and measurement tasks. Leica operators will demonstrate laser tracking techniques, wireless probing, and non-contact scanning throughout the day during the exposition. Leica Geosystems stands at the forefront of the metrology marketplace with more than 1,600 tracker systems installed worldwide in the toughest, most unforgiving industrial environments.

About the Metrology Division of Leica Geosystems

The Metrology Division of Leica Geosystems is a global supplier of comprehensive hardware and software packages to the industrial metrology market. These products integrate with popular CAD programs, various build-and-inspect tools, and reverse engineering software. Using state-of-the-art laser technology, Leica's industrial measurement products make quality control, part mating, assembly and construction of large and small parts easier and more accurate than ever. Leica's laser tracker technology is most widely used, with over 1,600 installations worldwide. In addition, about 1,500 Industrial Theodolites & Total Stations systems are operational, and are the most accurate instruments in their category according to customer testimonials.

Leica Geosystems - a portrait

With close to 200 years of pioneering solutions to measure the world, Leica Geosystems products and services are trusted by professionals worldwide to help them capture, analyze, and present spatial information. Leica Geosystems is best known for its broad array of products that capture accurately, model quickly, analyze easily, and visualize and present spatial information even in 3D. Those who use Leica products every day trust them for their dependability, the value they deliver, and the superior customer support. Based in Switzerland, Leica Geosystems is a global company with tens of thousands of customers supported by 2,400 employees in 21 countries and hundreds of partners located in more than 120 countries around the world.

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www.theautochannel.com, March 1, 2006

2PLM

March 27
2006

Volume 8
Number 24

[John Stark Associates](http://www.johnstark.com)

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* **Welcome** *

Welcome to 2PLM, an e-zine distributed about every two weeks. This issue includes :

- PLM Benefits Model
- PLM Stage and Gate Webinar
- PLM Progress Program in Beta Test
- Optional 2PLM Subscription Fee
- Feedback on EOL
- Product Development Innovation Summit

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[Oracle PLM Webseminar](#)

Leica Geosystems announced that ATT Metrology Services, Inc. has acquired a CMM system. [Details](#)

www.johnstark.com, March 27, 2006



Tue 28 Mar 2006

[Leica Press Release - March 14, 2006 - Leading Aerospace Service Provider ATT Metrology Services Increases Large Volume](#)

The Auto Channel - Mar 14 9:15 PM

P R E S S R E L E A S E Press contact: Belinda Jones, HiTech [Marketing](#), belinda.jones@hitechmarketing.com, 860-399-1147 Link to [press release](#): http://www.leica-geosystems.com/metrology/en/ndef/lgs_1075.htm?id=1195 Leading Aerospace Service Provider ATT Metrology Services Increases Large Volume Measurement Capabilities with Leica T-Probe and T-Scan Lawrenceville, GA - March 14, 2006 –

www.cmms-page.info/, March 28, 2006



News Release from: Leica Geosystems

Edited by the CIMtalk Editorial Team on 16 March 2006

Aerospace Service Provider ATT Metrology Services Increases Large Volume Measurement Capabilities with Leica T-Probe and T-Scan

The Metrology Division of Leica Geosystems announced that ATT Metrology Services has acquired their most advanced, portable CMM system, consisting of the LTD840 Leica Laser Tracker and the Leica T-Probe and T-Scan combination. ATT is a leading service provider of high precision measurement and alignment services for the aerospace industry. Leica's 3D coordinate measurement systems are used by prominent manufacturers and service providers worldwide in the aerospace, automotive, and shipbuilding industries.

ATT Metrology Services has utilized Leica's mobile measurement products since 1988.

The company will expand its large volume measurement capabilities with wireless probing and rapid non-contact scanning as provided by the Leica T-Probe and T-Scan.

Using Leica laser tracking systems, ATT's highly experienced crews conduct a wide range of measurement tasks at customer sites, including the precision alignment of large machines, building aerospace tools, inspecting aircraft production parts, aligning mirrors and trunnions in an observatory, or setting precision survey monuments or large components in a nuclear reactor.

'The Leica LTD840 Laser Tracker with the Leica T-Probe and T-Scan is truly a state-of-the-art system,' states Steve Ihlenfeldt, president of ATT Metrology Services.

'The wireless Leica T-Probe will enable us to measure aircraft tool and production parts at a much faster rate'.

'Reducing the number of tracker relocations translates into a significant cost and time savings'.

'An additional benefit is the Leica T-Probe's ability to measure or inspect points in deep pockets or recesses that could not be accessed in the past.' With their purchase of the Leica T-Scan, ATT projects that large-volume laser scanning will be a key growth area for their business model.

'The Leica T-Scan is a perfect example of a technology that will revolutionize the way parts are designed and inspected,' continues Ihlenfeldt.

'The Leica T-Scan, coupled with software working directly the CAD model of a part to be manufactured, will be able to scan all the critical features of a part very rapidly'.

'It will no longer be necessary for the engineer to laboriously detail discrete dimensions and tolerances for every critical feature'.

'This process enables two key aerospace initiatives, which are direct CAD analysis and reduced dimensions and tolerancing.' Ihlenfeldt concludes on the importance of hardware mobility.

'Since Leica's Laser Trackers are highly mobile, we can inspect a part while it is on the milling machine that is producing the part, or ATT crews can go directly out on the shop floor where it is being assembled and perform a very complex and accurate inspection on site.' Leica's LTD840 laser tracker delivers the fastest measurement cycle in the industry for high point density (3,000 points/second) with a probing measurement range up to 15m (49ft).

When used with a Leica T-Probe, the tracker's measurement volume expands up to 30m (98ft) and allows manufacturers to perform wireless probing of very large parts in one setup.

The LTD840's measurement range reaches a full 40m (131ft) when used with a corner cube reflector.

www.cimtalk.com



News Release from: Leica Geosystems

Edited by the CIMtalk Editorial Team on 3 March 2006

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ATT Metrology Services Buys Leica CMM System

Submitted by [nestorb](#) on Sat, 2006-04-01 08:13.

LAWRENCEVILLE, Georgia, March 15, 2006 – The Metrology Division of Leica Geosystems announced today ATT Metrology Services, Inc. (Redmond, WA) has acquired their most advanced, portable CMM system, consisting of the LTD840 Leica Laser Tracker and the Leica T-Probe and T-Scan combination. ATT is a leading service provider of high precision measurement and alignment services for the aerospace industry. Leica's 3D coordinate measurement systems are used by prominent manufacturers and service providers worldwide in the aerospace, automotive, and shipbuilding industries.

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About ATT Metrology Services, Inc.





ATT Metrology Services, Inc. is a world-class provider of precision measurement services and equipment leasing. Established in 1988, the privately-held company is located in Redmond, Washington. ATT metrologists are highly skilled in the most advanced three-dimensional measurement hardware and software. The company's wealth of industrial measurement experience continues to grow through its work with major international manufacturers in aerospace, automotive, manufacturing, scientific, marine, construction, communication, antenna and the entertainment industries. For more information, visit their web site at <http://www.attinc.com> or call toll-free 1-888-320-7011.

About the Metrology Division of Leica Geosystems

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About Hexagon Metrology

Hexagon Metrology is part of Hexagon Measurement Technologies, a newly formed business area within the Hexagon Group. Hexagon Metrology includes leading metrology brands such as Brown & Sharpe, CE Johansson, CimCore, DEA, Leitz, Sheffield, Romer, TESA, and now also Leica Geosystems (Metrology Division). With an installed base of more than 50,000 CMMs, over 4,000 articulated arms, millions of hand-held instruments and over 20,000 licences of the popular PC-DMIS metrology software, Hexagon Metrology daily supports its customers to fully control their processes and ensure that what has been designed is in fact manufactured. The company offer of machines, systems and software is completed by a wide range of product support and aftermarket services.

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www.instrumentationnews.com, April 1st, 2006

Reverse Engineering Software For Hand Scanner - Leica Geosystems, Inc.

Leica Geosystems (Metrology Division) announced today it has signed an agreement with InnovMetric Software Inc. for the integration and distribution of the PolyWorks software suite with the Leica T-Scan hand scanners. This combination is intended to provide users with a flexible, accurate reverse-engineering solution for quickly digitizing large objects into STL and CAD models.

The Leica T-Scan is a high speed hand scanner that digitizes large objects without necessitating photogrammetric targets or powdering. PolyWorks is a universal 3D point cloud processing software solution that is commonly used in the automotive and aeronautic industries. A free plug-in integrates the scanner into the software for real-time scanning directly within a customized interface. Leica T-Probe II, the company's "Walk-Around" solution for wireless and armless probing of specific points on a part, can also be used with the plug-in, resulting in a combination of non-contact laser scanning and hard-probing capabilities under one application.

[Leica Geosystems, Inc.](http://www.leica-geosystems.com)

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www.mmsonline.com, April 18th, 2006