

Trimble and Amberg Technologies Collaborate on a Solution for Tunneling Surveyors and Construction Professionals in North and South America

Increasing Productivity in Underground Construction with Amberg Tunnel Software in Combination with Trimble S Series Total Stations and Data Collectors

SUNNYVALE, Calif., April 20, 2021—Trimble (NASDAQ: TRMB) and Amberg Technologies announced today a collaboration to provide a tunnel survey solution. The combined hardware and software solution will enable construction, mining professionals and surveying service providers in underground environments to utilize a complete field-to-office workflow for increased efficiency and productivity.

The Trimble and Amberg solution enables tunnel surveyors to perform a variety of underground tasks such as excavation guidance, control, automated survey and stakeout of different tunnel elements using design information. In addition, it delivers a comprehensive module for digitalization of tunnel construction and further optimization of related processes.

The tunneling solution combines the robustness and the speed of the Trimble® S series robotic total stations with the user friendly workflows of Amberg Navigator field software, running on a ruggedized Trimble TSC7 data collector or T100 Tablet. The streamlined workflows are optimized and easy to use for non-geospatial professionals, helping to keep tunneling and underground projects on time.

In the office, the designs from the Amberg Tunnel office software can be easily transferred to Amberg Navigator, either directly or using the cloud. Following the data collection and stakeout operations, the information is sent back to the office for detailed analysis, where inspection maps and reports can be produced as final deliverables inside Amberg Tunnel office software. This streamlined process can bring significant time and resource savings due to a more efficient workflow and easy to use interface.

The solution provides a full featured workflow for tunnel construction surveys including:

- Project definition and design data preparation
- Graphical interface supporting instruments setup and georeferencing
- Automated data collection and real-time results
- Accurate stakeout of various tunnel elements, e.g. drill and blast holes, rock bolts
- Efficient and comprehensive as-built analysis, reporting and archiving

"Partnering with Amberg Technologies will provide our customers with an industry-leading tunneling solution to increase productivity when working in underground tunneling and mining environments," said Boris Skopljak, marketing director, Monitoring and Tunneling for Trimble Geospatial. "The domain rich and easy to use Amberg solution in combination with our Trimble S Series can increase confidence in the field and streamline deliverable creation."

"Together with Trimble high-end surveying sensors, we can enrich our comprehensive tunnel solution with a more versatile offering and even better address specific needs in ever more demanding construction environments," said Svein G. Vatslid, CEO Amberg Technologies AG.

Availability

The solution is expected to be available through Trimble's Geospatial distribution channel in North, Central and South America in May 2021. For more information, visit: www.trimble.com/amberg.

About Amberg Technologies

Amberg Technologies constantly strives for innovation and progress. Since 1981 Amberg Technologies has been the first choice for advanced systems and solutions to collect and enrich civil infrastructure information. With 40 years of experience, Amberg Technologies is the global market leader in the area of railway and tunnel surveying and offers its products and services through a network of more than 30 sales partners in over 40 countries.

Based on solid know-how dedicated to building and maintaining civil infrastructures with a focus on railway and tunneling, the solutions and services from Amberg Technologies enjoy an outstanding reputation around the globe for their excellent quality and reliability.

For more information visit: www.amberg.ch/trimble.

About Trimble Geospatial

Trimble Geospatial provides solutions that facilitate high-quality, productive workflows and information exchange, driving value for a global and diverse customer base of surveyors, engineering and GIS service companies, governments, utilities and transportation authorities. Trimble's innovative technologies include integrated sensors, field applications, real-time communications and office software for processing, modeling and data analytics. Using Trimble solutions, organizations can capture the most accurate spatial data and transform it into intelligence to deliver increased productivity and improved decision-making. Whether enabling more efficient use of natural resources or enhancing the performance and lifecycle of civil infrastructure, timely and reliable geospatial information is at the core of Trimble's solutions to transform the way work is done. For more information, visit: geospatial.trimble.com.

About Trimble

Trimble is transforming the way the world works by delivering products and services that connect the physical and digital worlds. Core technologies in positioning, modeling, connectivity and data analytics enable customers to improve productivity, quality, safety and sustainability. From purpose built products to enterprise lifecycle solutions, Trimble software, hardware and services are transforming industries such as agriculture, construction, geospatial and transportation. For more information about Trimble (NASDAQ:TRMB), visit: www.trimble.com.

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