Chennai Metro Rail in Southern India Selects Trimble Rail Solutions for Remote Diagnostics, Condition Monitoring and Analytics

SUNNYVALE, Calif., July 17, 2018 /PRNewswire/ -- Trimble (NASDAQ: TRMB) announced today that Chennai Metro Rail Ltd. (CMRL), operated by the Tamil Nadu State Government and the Government of India, will implement Trimble® Nexala rail asset management solutions. Deploying the Trimble solutions will enable CMRL to improve its real-time status monitoring and analytics capability by accessing up-to-date fleet status, which can improve overall fleet availability and reliability while reducing costs and improving safety.

Once implemented by Trimble and its Chennai-based partner KKM SOFT, the project will be one of the first examples of digital real-time, condition-based monitoring rolled out by an Indian rail operator. Solutions will include the Trimble R2M real-time remote diagnostics system and Trimble E2M engineering rail asset management system. Together, these systems will improve CMRL's ability to make data-driven decisions to determine its fleet's operational status, assist with the root cause analysis of faults, and streamline maintenance planning and execution.

Trimble R2M will process diagnostic data from CMRL's Alstom rolling stock in real time for a comprehensive view of overall fleet status including specific and potential vehicle faults. The system provides a comprehensive overview by identifying the condition of key components using data from the train and also wayside hot-axle box detectors to report on warnings or faults. CMRL will use the system to optimize maintenance and reduce costs by performing maintenance when needed rather than after a fixed interval.

Using the Trimble E2M system streamlines maintenance, parts and materials usage, and helps to manage resource allocation and procurement processes. It will allow CMRL to maintain and manage the cost-effectiveness of their rolling stock and depot assets by improving asset reliability, resource and capacity planning, and work utilization while reducing operating costs.

"Because Trimble's rail asset lifecycle management products are an interoperable suite, CMRL will be able to implement a seamless solution that meets their needs," said Tomas Larsson, general manager of Trimble's Rail Solutions Business. "Deploying the Trimble R2M and E2M means CMRL can maximize benefits with remote diagnostics, condition monitoring, and analytics delivered via one interface, providing a consolidated view of on-train and wayside systems."

About CMRL

The Chennai Metro Rail Limited (CMRL), a joint venture between the Government ofIndia and the Government of Tamil Nadu, operates the Chennai Metro, a rapid transit system serving the city of Chennai in the state of Tamil Nadu. The Government of Tamil Nadu created a Special Purpose Vehicle (SPV) for implementing the Chennai Metro Rail Project named "Chennai Metro Rail Limited," which was incorporated in December 2007.

35 kilometers of the 45 kilometer Phase-I Chennai Metro Rail Project has been successfully implemented with 26 stations out of the total 32 stations. CMRL has also planned to take over the existing Chennai Mass Rapid Transit System by 2021, which will be upgraded to operate using the rolling stock of the Chennai Metro. CMRL became a member of the International Association of Public Transport in 2011. For more information, visit: http://chennaimetrorail.org.

About KKM SOFT

KKM SOFT (P) LTD., headquartered in Chennai, India, was established in 1995 and is now an organization of more than 150 employees. It is a business process automation company that provides software-based solutions, products and training to the manufacturing, engineering, construction, infrastructure, automotive and aerospace industry.

As well as partnering with Trimble on the CMRL implementation, KKM SOFT also helps several government and corporate entities achieve their emerging technology implementation objectives with Internet of Things (IoT), Augmented Reality, Virtual Reality, Mixed Reality (AR/VR/MR), Artificial Intelligence (AI) and 3D Smart solutions.

For more information, visit: http://www.kkmsoft.com.

About Trimble's Rail Solutions

Trimble's rail solutions combine the latest in sensors and monitoring technologies with customized software and wireless communications to quickly and accurately capture the data needed to maintain and construct rail infrastructure or to manage rail transport assets. From the infrastructure planning, design, construction and maintenance phases to the operation, maintenance and repair of rail transport assets, the solutions streamline operations to keep rail projects on time and on budget.

Trimble's rail asset lifecycle management products manage the lifecycle of rail transport assets from operation through maintenance and repair. In 2014, Trimble acquired Nexala of Dublin, Ireland, providers of data aggregation and analytics tools

for engineering and operations of rolling stock. In 2017, Trimble acquired Beena Vision of Atlanta, Georgia, a manufacturer of vision-based automatic wayside rail inspection systems. Using this comprehensive portfolio of onboard and wayside condition monitoring solutions, rail companies can improve operational efficiencies, manage service levels and reduce costs, while ensuring that service is maintained to the highest level. Customers using Trimble solutions include South West Trains, Eurostar, SNCF, Irish Rail, the Go-Ahead group, Siemens, Arriva, Greater Anglia, BNSF and Aurizon among others.

For more information, visit: www.trimble.com/rail, www.trimble.com/nexala, www.trimble.com/beenavision.

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 and logistics. For more information about Trimble (NASDAQ:TRMB), visit: www.trimble.com.

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