

3M RFID-Based Underground Marking System Chosen for Shanghai World Exposition Site

Shanghai Pudong Gas Installing Dynatel 'Marker Balls' For Tracking of Buried Infrastructure for 2010 Event

When the 2010 World Exposition opens on a two-square-mile site in Shanghai, China's largest city, the Expo's vast network of underground gas pipes will be tracked predominantly by radio frequency identification (RFID) from 3M.

As part of its site preparation activities, Shanghai Pudong Gas Company, Ltd. has begun installing 3M Dynatel Electronic Marking System (EMS) "marker balls" that use radio frequency identification (RFID) to transmit the identity and precise location of pipes, valves, bends, T-connectors and other components of buried infrastructure assets. The information is vital in avoiding excavation accidents and ensuring the efficient placement, relocation and management of those assets.

3M's [EMS](#) marker balls will be supplemented by a third-party's additional technologies, GIS (geographic information systems) and GPS (global positioning systems), to cover all of the complex needs of the huge project.

"It is great to see 3M [track and trace technology](#) play a significant role in preparing the infrastructure for this important international event," says Lem Amen, vice president for 3M Track and Trace Solutions. "Identifying underground assets is another entry on the growing list of practical applications for RFID-based track and trace solutions. We look forward to expanding our leadership position in this important emerging technology."

Corey Willson, business development manager for 3M Dynatel Locating and Marking, says Shanghai Pudong Gas chose the 3M Dynatel RFID EMS markers following a trial and evaluation of the technology on approximately one kilometer, or about five eighths of a mile, of buried polyethylene pipe.

"The engineers found that it was an accurate and efficient solution to the problems they had in the past with tracer wire, which was frequently lost," says Willson. "Ultimately, they decided that an infrastructure project of this enormous scope and complexity required a combination of EMS plus GIS and GPS for maximum speed and efficiency in managing underground assets."

The 2010 World Expo, scheduled for May through October, will take place along the banks of the Huangpu River in downtown Shanghai, between the Nanpu and Lupu bridges, an area comprising 5.53 square kilometers, or a little more than two square miles. The infrastructure will require 21 kilometers (about 13 miles) of mostly polyethylene pipe.

3M electronic marker systems are in use worldwide for tracking and managing buried assets. The water-resistant, polyethylene marker shells are impervious to minerals, chemicals and the temperature extremes normally found underground, and the markers use passive antennas with no internal power source to run down.

3M locators operate even in the presence of metal conduit or pipe, metallic conductors, fences, AC power lines and electronic markers of other utilities. All EMS markers are colour-coded to APWA standards for visual reference and each utility has its own specific frequency. EMS signals provide positive identification of each utility, thereby reducing the risk of accidentally locating and excavating other buried facilities.

More information about 3M underground tracking systems is available at www.3M.com/dynatel.

3M provides comprehensive, practical and easy to use solutions for customers in diverse markets, including health care, safety and security, aerospace and government, oil and gas, process industries, supply chain, construction and utilities, libraries and legal. Utilizing RFID, GPS and RTLS technologies, our asset management, protection, and utilization solutions enable customers to reliably and accurately manage high-value assets. Unlike similar offerings, based on components rather than complete solutions, 3M Systems are designed with full implementation in mind, deploying the right solution, with the right technology, suited for the customer. For more information, go to www.3Mtrackandtrace.com.

About 3M

A recognized leader in research and development, 3M produces thousands of innovative products for dozens of diverse markets. 3M's core strength is applying its more than 40 distinct technology platforms – often in combination – to a wide array of customer needs. With \$24 billion in sales, 3M employs 75,000 people worldwide and has operations in more than 60 countries. For more information, visit www.3M.com.

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