

ProStar Geocorp is deploying the RFID technology of its sister company, EchoRFID, to offer a holistic solution to track the GPS-based locations of pipes and other equipment in storage and in field installations, using RFID tags and handheld

By Claire Swedberg

Tags: [Asset Tracking](#), [Construction](#), [Energy](#)

Sep 04, 2017—Colorado-based [ProStar Geocorp](#) has teamed up with its sister company, [EchoRFID](#), to create an RFID-enabled solution to manage the locations and status of utility assets, such as pipes, drills and heavy equipment. The system combines ProStar's Transparent Earth geospatial locating platform, its GPS-based PointMan mobile app, and EchoRFID's read- and write-management solution, known as Pipe Talker. The two companies are currently in discussions with several oil and gas and utility businesses to begin piloting or deploying the holistic solution to manage the movements of pipeline materials to and around worksites, and to track them for maintenance purposes after each pipe piece is installed.

ProStar launched Transparent Earth, its software-as-a-service (SaaS) solution, five years ago after spending about a decade in research and development, as well as registering for patents. Layne Tucker, ProStar's co-founder and EchoRFID's founder and CEO, came up with the concept in 2002 when a gas pipeline in Northern Alberta was accidentally struck during a construction project. That incident started him wondering how such mistakes could be prevented. Tucker spent several years researching and developing a solution, and ProStar was the result.

The solution serves as a kind of Google Maps for pipelines and utility assets. Companies using the system can view maps that indicate where their assets are located in real time, as well as collect historic data about those items and their movements, even at multiple sites around the world. Traditionally, the system has used GPS data from the handheld devices it sells its customers to link to data about assets that workers input onsite.

"People are used to finding the closest Starbucks," says Bill McIntyre, ProStar Geocorp's business development VP. "Our question was, 'Why can't you do that with pipes or conduit?'" The Transparent Earth system, he explains, stores location data and enables users of smartphones or GPS devices to record inventory or maintenance status information, using the PointMan app, and to save that data, along with their GPS-based location.

For several years, EchoRFID has offered ultrahigh-frequency (UHF) RFID and GPS-based data at oil and gas or utility sites, using systems integration and software from a third-party provider, to help users identify specific assets at remote or not-so-remote locations (see [EchoRFID Offers Views Into Buried Oil and Gas or Utility Pipes](#)). With the newly announced partnership with ProStar Geocorp, the firm can now provide that technology to customers worldwide as part of the Transparent Earth platform.

RFID provides automated data entry and reduced entry errors related to information regarding when and where piping, valves or other equipment are accessed, maintained or moved. For instance, McIntyre says, merely finding a piece of infrastructure permanently installed underground can be a difficult and error-prone task. Even if workers use metal detectors to identify the locations of pipes, along with GPS data that was input for each item, it's still difficult without RFID to ensure which piece of equipment is being maintained, inspected or repaired. With an RFID system in place, that data is automatically collected and viewed in the field. The system reads each tag, and users can upload details about their work performed on the tagged item by reading the tag as well.

EchoRFID provides Omni-ID Dura 3000 and Dura 1500 on-metal RFID tags that can be attached to pipe sections and other assets. The Pipe Talker application is loaded on a Pipe Talker handheld device that includes a [Technology Solution \(UK\) Ltd.](#) (TSL) RFID reader and a [BlueStar GPS](#) precision GPS unit. The Pipe Talker app enables the capture of RFID tag ID numbers, and allows a link between the tag ID and the GPS-based location, which can be sent via GPRS or Wi-Fi to the Transparent Earth software. The results can then be provided to users on a dashboard that could indicate what assets are installed at which site, as well as the status of those assets, such as maintenance records.

If the assets are installed, for instance, as part of an underground pipe system, each tag is mounted to a specific pipe and can be accessed via an RFID reader before the pipe is buried. The GPS data captured at the time that the pipe section was installed, along with the tag read, can be used to approximate the location of that section. Tags can be printed in the field using a printer

that combines RFID and bar coding, Tucker says.

If maintenance or repair is necessary, a user could access the system to find the GPS-based location, uncover the pipe and then confirm that pipe section with an RFID tag read. If the user employs one of ProStar's own branded GPS units, the location can be pinpointed within a foot or less. The Omni-ID tags, Tucker adds, can be read at a distance of up to 12 feet, provided that they are not buried underground.

The system can be used by the oil and gas industry for the inspection and management of production and drilling equipment, such as tubing and casing inventory. To ensure the security of the data, Tucker says, the software uses a military-grade three-part security sign-in for users to access data. Typically, the full solution could be used to track assets before they are installed, from a storage yard to a work site. Then, once they are installed, either above or underground, their location is stored along with the GPS data.

Users equipped with the Pipe Talker readers could periodically walk around a storage yard, work site or installation site, interrogate the tags with the reader, and store that tag ID with the GPS location—along with the items' details, such as manufacturer and size—in the ProStar software. Users could also employ the EchoRFID Pipe Talker app to take pictures of an item (a pipe section, for instance), input details about it and store all of that data on the cloud-based server.

Tucker's vision, he says, is a "client-driven, traceability system starting at the manufacturing facility." In the meantime, he adds, the technology can provide benefits for laydown yards or other sites as it is piloted and deployed.