

RFID: the Smart Way to Enhance the Accuracy of Infrastructure Asset Tracking and Monitoring

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SUMMARY

Across the world, locating, verifying and managing aging infrastructure assets are a constant challenge. Compounding that problem is the lack of a single platform for managing infrastructure assets, including water, sewer, gas, electric, fiber and others. Additionally, commonly used methods for locating buried assets can be inaccurate and incomplete.

What if precise location data could be marked with RFID tags that were combined with extensive asset information and made available on a GIS? Such accurate and accessible data about infrastructure assets would improve decision-making at the local, regional and state levels.

In 2013, a study was conducted by the Geospatial Research and Applications Center at Auburn University that tested a combination of technologies, including RFID tags, magnetic locators and GPS equipment to quickly locate buried infrastructure. The study concluded that devices that can read RFID tags, locate magnets and retrieve GPS coordinates could lead to more efficient and faster recovery of infrastructure facilities after natural disasters.

Today, these technologies are available to surveyors and they leverage the power of GIS. This approach can be applied in many surveying activities to make locating and mapping verifiable, accurate and accessible anywhere. Surveyors can provide extensive, field-verified information about specific field assets that can be shared through a GIS – simplifying asset management while providing an almost unlimited amount of information.

Once identified with RFID, an asset has a permanent ID number and precise location coordinates that can be accessed at any time. This permanent ID can be read and connected via a mobile app to a field data collection form where specific information about the asset, such as the maintenance

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schedule, images of the asset, repair records and so on can be added. Once this information is gathered, it can be uploaded to the GIS system, often in real-time. Surveyors can then review this information, share with other contractors or utility owners – all in an auditable, accessible workflow.

This session will explore the how RFID marking improves subsurface utility locating, inspection and management.

At the conclusion of this session, participants will be better able to:

- Understand the use of using RFID enabled technology to enhance infrastructure asset locating, maintenance, monitoring and management.
- See how complete location intelligence can augment existing surveying practices by providing a wealth of information to asset managers, improve relocating of assets and streamline workflows.

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