ISSUE 38 | Spring/Summer 2025

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PRESIDENT'S MESSAGE









Doug Lapp, President & CEO, ORCGA

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FEATURE

GPS TECHNOLOGY IN DAMAGE PREVENTION

By Jason Arnold, Quality Assurance Coordinator, GTel

WHAT COMES TO MIND WHEN YOU THINK OF GPS?

In 300 meters, turn left...

Global Positioning Systems, or GPS, is used for navigation, asset tracking, business, banking, entertainment, even simple tasks such as finding your lost keys. We have integrated GPS into almost every aspect of our modern lives.

Often overlooked are the numerous ways GPS technology is used in the management of excavation and construction projects.

Companies use GPS to track the movement of their equipment, monitor fuel economy, and distribution of parts and resources. GPS is used in surveying on most large projects as well, capturing elevations and providing the excavators with a detailed scope of construction.

With the expanding range of applications, Locate Service Providers (LSPs) are investing in the integration of this technology into their business models, to expand their services and products and provide an enhanced customer experience.

HOW CAN GPS ASSIST IN DAMAGE PREVENTION?

Integrating GPS into the field of utility locating is one of the most exciting trends in the damage prevention industry.

Traditional utility locate methods often rely on manual measurements, which can be prone to errors due to factors such as uneven terrain or long distances between measuring points.

Through the development of new Geographic Information System (GIS) software, LSPs can map the located or



Locator using GPS enabled locate receiver to collect data.

surveyed utilities and automate many of the measurement and sketching functions that are currently completed by Damage Prevention Technicians (DPT) while in the field. Leveraging this technology makes completing a utility locate more efficient and precise, therefore delivering an enhanced service to the end user.

The utility would be verified by the DPT in the field.

The data collected will build a database of utilities and plot them into a GIS map. As the database expands, it will make completing the paperwork portion of the locate much faster.

With an expansive database, information could be searched on the GIS map and the data could be exported as an automated drawing and attached to the locate request.

BENEFITS OF GPS IN EXCAVATION.

With a database of highly accurate utility data, LSPs have the ability to offer customers an additional service that could revolutionize the excavation process.

By utilizing GIS mapping the utility drawings could be pulled from a database of surveyed infrastructure, providing paperwork with a standardized appearance across all utility locates.

This process mitigates the probability of mistakes and minimizes difficult-to-interpret drawings that could be due to human error while preparing paperwork for excavators.

In addition to the required drawings that accompany many utility locates, LSPs can provide GPS data upon request, available in a number of common file formats, which could be viewed within the customer's own GIS system.

GPS opens up the possibility of the excavator being able to view a "live" image of the site with utilities overlayed, allowing to more accurately gauge the position and depth of the excavation in relation to the existing infrastructure.



Google Earth image with utilities overlayed.

Utility information presented on an interactive map provides excavators and equipment operators access to continuous visual indications of utility positioning, even when paint and other markings in the field are compromised due to weather, traffic, and construction activity.

The data could also be used to enact geofencing on a project. In the context

of damage prevention, geofencing is a process that sets up a digital barrier that can send an alert to the equipment operator when the system detects the excavation is too close to a utility.

The benefit of geofencing is that excavations could be conducted safely and more efficiently while allowing for a greater level of protection for the utilities and the workers on site.



Bulldozer utilizing GPS antennae.

Are there other applications of this technology?

LSPs work with utility owners, surveying their facilities and providing mapping services. Traditionally that means identifying the utility and marking it on the surface of the ground, then producing a document with simple information such as measurements.

With the implementation of GPS locating, utility owners would be provided with more data pertaining to their plant and more precise mapping, meaning the records are more reliable.

GPS locates provide an opportunity for utility owners to verify and update their existing records, make corrections and add detail where necessary, or plan new installations and utility upgrades.

Various GPS enabled equipment can even record information such as depth of the utility and current or conductivity.

An LSP could offer this utility mapping service to municipalities and private utility owners, ensuring that project planners have the most accurate information, thus providing a greater level of protection for the underground infrastructure as well as highly detailed information for project planning and estimation.

WHAT ARE SOME OF THE CHALLENGES OF INCORPORATING GPS INTO DAMAGE PREVENTION?

As with any developing technology, there are some hurdles to the implementation of GPS in the damage prevention industry.

Anything that might impede the satellite connection could prevent surveying and data collection. GPS can be negatively impacted by heavy tree cover or proximity to buildings. Severe weather or electromagnetic interference are also factors to consider.

For companies that have no digital mapping system in place, software compatibility and employee training can present a challenge. Mapping and GIS software can differ between customers, which could impact how the data is provided, and updating or training employees to use new software can sometimes be cost prohibitive.

While there may be challenges yet to overcome, it is widely recognized that the future of damage prevention includes the integration of GPS technology. By addressing risks thoughtfully, LSPs, utility owners, and excavators can harness the transformative power of GPS.

By providing the customer with GPS utility data, LSPs can ensure that their records are up to date and more accurate and reliable than outdated paper copies or scans. With experience and training, the files are easy to use and maintain, and they can be provided in a common file format that suits the customer's needs.

In today's rapidly evolving urban landscape, integrating GPS technology into the management of underground utilities has become essential for enhancing safety and efficiency.

Less risk means everyone gets home safely at the end of the day. Reduced downtime means that projects stay on schedule and on budget.

Locate Service Providers are exploring the implementation of GPS. Ontario-based LSP GTel has embraced the technology and its potential applications in damage prevention.

By combining GPS with utility locates, GTel is:

- Leveraging emerging GPS and GIS hardware and software
- Working to reduce the time necessary to complete locates
- Building a database of high accuracy GPS utility data
- Delivering an enhanced product to customers while maintaining our industry-leading quality and safety As technology continues to advance,

the Damage Prevention industry will likely see even more innovative applications of GPS, further improving the way we manage and protect underground infrastructure. GTel strives to keep pace with new technologies through innovation, providing our customers with our industry-leading quality services.



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FEATURE

A COLLABORATIVE SUCCESS: HOW ENBRIDGE GAS ONTARIO AND URBINT ARE REVOLUTIONIZING DAMAGE PREVENTION

very year, numerous incidents occur where construction activities inadvertently damage nearby underground natural gas pipelines, potentially leading to service disruptions to homes and businesses, safety and environmental hazards, and costly repairs.

The 2023 Common Ground Alliance Damage Information Reporting Tool ("DIRT") outlines a significant damage prevention challenge for the natural gas industry: natural gas facilities, along with telecom, are the most frequently damaged assets, and construction activities are involved in 83% of natural gas-related damages. There is a clear and urgent need for proactive strategies and transformative solutions to prevent these costly and disruptive incidents. The partnership between Enbridge Gas Ontario, a leader in energy distribution and damage prevention, and Urbint, an innovator in artificial intelligence-driven risk management, offers a compelling case study in leveraging technology and collaboration to achieve ambitious goals. This strategic alliance exemplifies how innovative solutions can transform operations and drive measurable success.

ADDRESSING THE DAMAGE PREVENTION CHALLENGE

Damage prevention has long been a focal point for Enbridge Gas Ontario. The company faced a daunting baseline of 2,430 damages annually, leading to an ambitious corporate objective to reduce this number by 50%. Such an ambitious target created urgency to improve both operational safety and efficiency. Enbridge Gas Ontario needed clear, actionable strategies.

Recognizing the limitations of traditional approaches, Enbridge Gas Ontario sought a new way forward – one rooted in analytics, efficiency, and scalability. They selected a solution from Urbint, whose artificial intelligence technology offered the analytical backbone required to transform Enbridge Gas Ontario's damage prevention practices.

WHY URBINT?

Urbint's AI-powered Damage Prevention platform utilizes a risk-based approach to classify the likelihood of damage on planned excavation activities. This tool has provided Enbridge Gas Ontario with:

- Enhanced Efficiency for Proactive Engagement: Enbridge Gas Damage Prevention Inspectors (DPIs) target the highest risk excavations and have in-person safety discussions with contractors prior to work commencing.
- A Programmatic and Analytical Approach: Urbint's solutions integrate seamlessly into existing workflows, offering data-driven insights that inform decision-making.
- Damage Reduction: The use of Urbint's AI is correlated with a significant reduction in pipeline damages and has instilled confidence as a valuable damage prevention tool.

In addition, Urbint's Customer Success Team collaborated closely with the Enbridge Gas Ontario's Damage Prevention team to evolve operational strategies based on industry best practices, fostering a shared commitment to leverage innovation to achieve the company's ambitious damage prevention goals.

RESULTS THAT SPEAK VOLUMES

ÉNBRIDGE 💿 Urbint

Within the first two years of implementing Urbint's tool, Enbridge Gas Ontario achieved a 23% reduction in damages and avoided hundreds of thousands in operational repair costs – a testament to the effectiveness of Urbint's platform and the Enbridge Gas Ontario team's commitment to damage prevention best practices. Key metrics further underscore the success of the Urbint tool and the Enbridge Gas Ontario's damage prevention practices generally:

- Damage Rate Reduction: Enbridge Gas Ontario's damage rate plummeted from 2.32 in 2022 to 1.91 in 2024.
- Improved On-Site Contact: The frequency of on-site contacts by DPIs improved steadily over the two-year deployment period. Analysis revealed that damages often occurred 28 days after the locate was complete, enabling Enbridge gas Ontario to adjust its site visit planning to reinforce best practices on excavation sites in the vicinity of its underground pipelines.
- Proactive Insights: Urbint's AI models predict potential infrastructure damage with over 20 times greater accuracy than traditional methods, significantly improving response times and mitigating risk.
- These achievements illustrate the remarkable potential for integrating Al into operational workflows, demonstrating how technology can drive meaningful progress toward ambitious infrastructure integrity goals.

LOOKING AHEAD: SUSTAINING AND SCALING SUCCESS

This collaboration aims to set a new industry standard for proactive damage prevention, demonstrating the power of Al and collaboration to enhance safety and sustainability across the energy sector. Key next steps include:

- Deepening Insights: Enbridge Gas Ontario and Urbint plan to refine their analytics to uncover new patterns and opportunities for additional damage prevention strategies.
- Continued Model Adoption: Continued positive results build confidence in Urbint's technology and promote increased adoption across Ontario.
- Goal Alignment: The Enbridge Gas Ontario damage prevention program has achieved a 23% damage reduction in its first two years, demonstrating significant progress towards the 50% reduction goal. Enbridge Gas Ontario and Urbint will continue to optimize the program in support of this critical objective.

As Enbridge Gas Ontario continues to explore these possibilities, Urbint remains committed to supporting Enbridge's vision for a safer, more efficient energy distribution network.

A QUOTE FROM LEADERSHIP

"Our partnership with Urbint has been transformative. By embracing artificial intelligence, we've not only reduced damages but also set a new standard for operational excellence in damage prevention," said Mike Ovsonka, Manager Damage Prevention at Enbridge Gas Ontario.

CONCLUSION

The Enbridge Gas Ontario-Urbint partnership serves as a powerful example of what can be achieved when industry expertise meets cutting-edge technology. By embracing Al-driven solutions and fostering a culture of continuous improvement, Enbridge Gas Ontario has not only reduced damages but also enhanced safety, improved operational efficiency, and set a new standard for excellence in damage prevention. This success story encourages other companies in the energy sector to explore similar innovative approaches, paving the way for a safer and more resilient energy future for all.

Named Credit: The Enbridge Gas Ontario Damage Prevention and Urbint Customer Success teams were instrumental in driving this partnership forward. Together, they championed the deployment of Urbint's AI tools to tackle Enbridge Gas Ontario's damage prevention challenges.



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