



Intelligent Asset Management

Making good decisions with the tools available. BY TONY ANDREWS

PIPE DETERIORATION AND FAILURE

is a growing concern of water service providers across the globe. Since pipes are predominantly underground, water and wastewater assets suffer from being out of sight, and out of mind. Consequently, it is a challenge for water and wastewater network service providers to have a complete understanding of the assets they own, where they are located, and their assets' current condition. The ramifications can be costly. For example, a sewer pipe that is located deep below a major road intersection has a much higher consequence of failure compared to a shallow sewer pipe located beneath a suburban side road.

Relevant documents, images, and videos are generally not readily accessible across an organization because of poor information management, and data is filed away in separate systems. That

data is often unmanaged, lacks quality control, and most problematically, there is no association with the inspected asset in an organization's geographic information system (GIS).

The five I's

Intelligent asset lifecycle management systems solve this age-old problem, and the economic benefits for utilities are significant. The fundamental principles associated with intelligent asset lifecycle management systems for water and wastewater networks are captured within "the five I's."

1 Infrastructure: Know what you own and where it is located.

- This includes defining the asset register and tracking asset class libraries, data standards, and all associated documents.

2 Inspections: Know the condition and remaining life.

- Condition assessment includes CCTV inspections and manhole inspections.
- Mapping/asset capture/locating surveys includes utilizing manhole surveys, GPS, CCTV, and visual surveys.
- Inflow/infiltration tests include dye tests, smoke tests, flow monitoring/isolation, and I/I property tests.

3 Incident failures: Know how it is performing and how it fails.

- This typically includes pollution combined sewage overflow (CSO) and sanitary sewer overflow (SSO), flooding, blockages, collapses, odour, and customer complaints.

4 Interventions: Know what you are going to do to improve performance.

- Proactively plan and execute the right maintenance at the right time to avoid failures, such as pipe cleaning (e.g., jetting), pipe repairs (e.g., cure-in-place liners), and manhole repairs.

5 Inhabitants: Know what service you deliver to your customers.

- Know how the investment and activities help improve service (e.g., reduction in basement flooding, etc.).

Maintaining and expanding large-scale and widely dispersed assets that fail at different rates, for different reasons, and for which the consequences (impact) of the failure varies, is a challenge. But new solutions help utilities make risk-based decisions with a comprehensive system for monitoring, managing, and analyzing the asset condition and performance data and information.

The most important decision that a water/wastewater owner-operator must make is regarding what's worth doing and when. The latter involves a compromise between the cost of a proposed action and the reason for doing it, or the consequence of not doing it. Making good decisions is at the heart of good management and involves being effective by taking the right actions and being efficient by performing those actions capably. Success or failure in decision-making in most cases rests with the former—choosing to perform the right action, for the right reason, and at the right time. Achieving success in decision making is difficult without quality and reliable data on location, condition, and performance; and intelligent asset lifecycle management systems make it possible for the next century. *wc*



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TMIG APPOINTS CHIEF EXECUTIVE OFFICER

The Municipal Infrastructure Group Ltd. (TMIG) is pleased to announce the appointment of Mr. Dale Dionne to the position of Chief Executive Officer. In this position, Dale will lead TMIG into our next phase of growth, broadening our client base and service sectors, while nurturing the relationships with existing clients and ensuring TMIG continues to deliver the exceptional level of service that we are proudly known for.

"I am pleased to congratulate Dale on his well-deserved promotion to CEO of our growing firm," said David Scott, Founding Partner. "Dale's leadership and management style fits perfectly with the culture created within our organization and our clients will benefit greatly from his attention to detail with regard to quality project delivery." Dale assumed responsibilities on June 26, 2017.

TMIG is a privately-owned, client-focused engineering consulting company with more than 90 professionals and staff working from both TMIG's head office in Vaughan and satellite office in Whitby. The firm has experience in project management, class environmental assessments, engineering design, construction management / contract administration, and public consultation. For more information, visit www.tmig.ca.

"I am excited and very grateful to have been selected for this opportunity. Over the years, TMIG has been able to grow steadily, shaping a solid base to build upon. I look forward to leading TMIG to even greater things."
— Dale Dionne, P.Eng., MBA, PMP

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