



Application of Technology in the Governance of Asset Information and Environmental Data

Hilary Lavoie and Janice Paslawski, Millennium EMS Solutions Limited
 Jeff Gould, IntelleKt-^{EIG}

The development of technology based tools and data collection, access and analysis have been identified as a critical need to elevate environmental knowledge transfer to multiple experts and owners to support both regulatory requirements as well as sustainable environmental solutions and business decisions. The conventional model is linear, where the responsible person retains environmental experts to collect the information for regulatory compliance, business decisions, environmental asset liability and protection of their operations. We now recognize that data is an asset. While the valuation of data has changed, the approach to managing data has remained the same. IntelleKt-^{EIG} is a solution system for the environmental industry and solves the Environmental Information Governance problem. IntelleKt-^{EIG} software is a cloud-based solution that allows companies to:

1. Have immediate access to their environmental data and control who accesses the data.
2. Reduce spend through improved efficiencies in data warehousing, retention and aggregation in the immediate and future.
3. Automate reporting.
4. Create enhanced value by creating a competitive edge by improving agility which allows organizations to quickly adapt to changing business needs.
5. Eliminate do-overs, and costs associated with attrition while getting to closure faster, when managing long-term environmental projects.

The development of technology based tools and data collection, access and analysis have been identified as a critical need to elevate environmental knowledge transfer to multiple experts and owners to support both regulatory requirements as well as sustainable environmental solutions and business decisions. The conventional model is linear, where the responsible person retains environmental experts to collect the information for regulatory compliance, business decisions, environmental asset liability and protection of their operations.

To increase the value and timeliness of decisions, a technology system is needed to support the effective use of environmental data. IntelleKt-^{EIG} is a cloud-based information management system that allows the Asset Owner direct access to their data, whenever and wherever. The analytical tools included in IntelleKt-^{EIG} are specifically designed to analyze environmental information and provide

quick, reliable outputs that can be used in decision-making at all levels of an organization. The features within IntelleKt-^{EIG} allow a user to maximize the impact of the available data to allow multiple analysis objectives to be met with multiple advisors.

This presentation discusses the process followed by using a suite of tools that have been developed in the application of contaminated sites management. The tools have progressed into a number of valued applications.

Included in IntelleKt-^{EIG} are several tools that were developed to quickly and efficiently screen contaminated sites to optimize liability reduction strategies. The features within IntelleKt-^{EIG} allows users to maximize the impact of the data available. IntelleKt-^{EIG} provides a series of interactive visualization modules to analyze soil, groundwater, surface water, and any other regulated environmental media. IntelleKt-^{EIG} simplifies complex guideline selection for effective data interpretation. Guidelines can be applied for regulatory region, site-specific land use and input variables with each region or regulatory jurisdiction. Site-specific calculated guidelines can also be applied (such as soil vapour screening levels or modified Tier 2 pathways).

IntelleKt-^{EIG} includes the Environmental Data, Collection, Automation and Analytics (EDCA²) database and data model, and several applications, including the Site Assessment Tool (SAT), the Natural Attenuation Tool (NAT), and the Low Probability Receptor (LPR) Tool. The data model is compatible with the most commonly used databases provided by analytical laboratories.

The presentation will include an application of use with the NAT module as a means of achieving delineation of identified contaminants of potential concern identified at challenging brownfield sites in urban settings where one of the regulatory criteria for closure is delineation of contaminants to a numerical criteria in order to satisfy the legislated environmental requirements. Application of the tools for a portfolio of Sites has been positioned for application as an Accepted Solution under the Saskatchewan Environmental Code.

The presentation will include an update on the Saskatchewan regulatory approval process for the tool.

continued on next page...



...continued from previous page

Hilary Lavoie

Hilary Lavoie, P.Geo., joined MEMS in 2023 as a Senior Contaminated Sites Specialist and shortly after became the Team Lead for the Saskatoon office. The majority of her career has been in the urban and downstream oil and gas sectors, with a specific focus on risk-based closure requirements. She currently supports portfolios in Alberta, Saskatchewan and Manitoba.

Janice Paslawski

Janice Paslawski, Ph.D., P.Eng., joined MEMS in 2022. Janice Paslawski has over 30 years of experience as an environmental engineer, with a focus on human health and ecological risk assessments for contaminated sites and environmental releases. She has provided support to several provincial and national regulatory agencies establishing and implementing risk based standards and guidelines and developed models for emerging environmental contaminants. Since 2008, she has conducted research and provided critical evaluation of research proposals for the University of Saskatchewan and McGill University. She has provided support to several provincial and national regulatory agencies establishing and implementing risk-based standards and guidelines and developed models for emerging environmental contaminants.

Jeff Gould

Mr. Gould, Vice President of IntelleKt^{EG} is a proven business leader with over 28 years experience building advanced industrial technology companies and driving business growth. His unique experience is a focus on external customers, strong technical skills, in depth public company expertise, and complete operational expertise rounded out with first-hand experience starting and expanding businesses to operate on six continents. Mr. Gould joined IntelleKt in February 2024 to provide leadership on all aspect required to advance the environmental information governance to all users.