

Integrated Data Management Practices for Effective Decision Making

Massimo Dragan (mdragan@golder.com) (Golder Associates, Turin, Italy)
Jean Pierre Davit (jpdavit@golder.com) and Ian Hers (ihers@golder.com) (Golder Associates, Vancouver, Canada)

Background/Objectives. A recurring number of projects, at various stages of their life cycle, face the challenge of integrating a multitude of data sources, collected over time, by different actors, increasing in volume, with the common objective of providing a sound and reliable overview of technical and non-technical risks to decision makers and stakeholders.

This contribution will present, thru a series of case studies, the main issues faced in designing and applying an integrated data management approach exploring the aspects that pertain to the following areas: data management, stewardship and integration, stakeholders and data sharing, decision support and communication.

Approach/Activities. The backdrop of most of projects nowadays requires the development of a strategy to effectively manage the workflow of environmental data from collection to reporting. The use of a combination of database management system and geographic information systems will be discussed as an integrated solution to implement such a strategy and manage the technical risks that arise in complex projects.

Case studies will allow us to explain the key issues in applying a digital transformation approach to sites with a long legacy of unstructured data, the challenges and the key benefits of a comprehensive data life cycle management approach in remediation activities.

The interaction between actors that generate, manage and analyze data and the consequential risks for the project will be discussed together with proposed solutions and a call to action for the industry in adopting a standardized approach to improve the reliability, availability and timeliness of data.

The management of project risks increasingly relies in the availability of data. Operators are under pressure to demonstrate proper management of data and stakeholders have an expectation of accessing the information in near real time, demanding access to raw information and ease of access.

Digital platforms offer a great opportunity to address the needs of multiple stakeholders, with various technical skills and background and the implementation of visually meaningful tools is essential and will be analyzed with practical examples.

Results/Lessons Learned. Confidence in data is essential in the decision making process, its reliability and the derived ability to effectively communicate the rationale and how risks were identified, addressed or mitigated is a key component of project success.

Examples and lessons drawn from the application of a multicriteria decision support framework will be used to emphasize the importance of a structured approach in understanding complex issues, implementing effective solutions and communicating results.