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The Case for the Enterprise Environmental Liability Management System

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Executive Summary

"Up to 60 percent of environmental costs can be attributed to information management."

- BTI Consulting Group

Environmental liability management, including soil and groundwater site characterization and remediation as well as environmental activities associated with asset decommissioning, has proven to be extremely challenging and complex for those organizations tasked with this work. Compounding this problem is the fact that organizations may also have substantial project portfolios in many regulatory jurisdictions and countries. Executives in charge of these programs are under constant pressure to mitigate risk, manage resources effectively, and provide on-going value to the organization. Financial value drivers such as liability reduction, cash utilization, productivity, and risk avoidance force leaders to develop and implement strategies that are aligned with these over-arching organizational goals.

Increasingly, organizations are looking to technology to help simplify core business processes and to provide badly needed insights and information on projects and portfolios. Taking steps to automate and standardize processes have proven to improve the accuracy and efficiency of core environmental operations, establish the foundation for better decision making, and reduce risks and costs.

The three primary technology alternatives for organizations to consider when evaluating opportunities for improvement are to keep things the same, build it yourself (custom), or deploy specialty commercial enterprise software.

Commercial enterprise software provides a unique value proposition when compared to the other two alternatives including a stronger return on investment. The key points of difference provided by a commercial enterprise platform are:

- **Everything in one place, always accessible.** A single web-based platform for all project and portfolio information, data, and documents available 24/7 providing full visibility and optimal team collaboration.
- **A single version of the truth.** Data is populated in the course of people doing their work, updated in real-time, with version control and one set of records. Everyone knows exactly where his or her tasks, projects, and portfolios are at all times with accurate and complete information.
- **Designed specifically for remediation and decommissioning work.** Pre-designed processes and strategic alignment across the entire portfolio increases productivity and value of data. Complex services are simplified and integrated into predictable workflow eliminating unstructured data, redundancy, and wasted effort.
- **Perpetual innovation and best management practices.** The commercial enterprise platform embodies best practices through on-going development and product enhancements. Knowledge is leveraged from past project failures and successes.
- **Elimination of technology risk.** Known fixed costs upfront, rapid deployment, and on-going maintenance and support with a proven Software-as-a-Service (SaaS) technology. This allows your people to focus on what they do best, manage environmental liabilities and projects.

The Complexities and Challenges of Environmental Liability Management

> *"Let me get this right, 10 years ago we had $2B of environmental liabilities on our balance sheet, today we still have a $2B liability, and over those 10 years we have spent $500M per year ($5B). What am I missing?"*
>
> *- Anonymous CEO of a Global 10 Company*

Regardless of the magnitude of the liability or the annual expenditure, the above quotation represents the overall dilemma faced by organizations and their environmental leadership teams.

Those responsible for environmental liability management find themselves under constant pressure to improve business planning and performance. As a cost center challenged with managing a highly complex set of services, the liability management function must have a razor sharp focus on strategy, operational effectiveness, and risk management.

Complexities of environmental liability management force organizations to find unique solutions as compared to more traditional operations such as construction, demolition, general services or goods, asset management, and maintenance. Examples of the complexities include:

- **Highly Specialized.** Core business processes are supported by highly specialized professionals in many disciplines and cross-functional teams (engineers, scientists, project managers, finance and accounting, real estate, legal, public relations, facility operations, risk managers).
- **Outsourced Service Model.** The actual work is predominantly outsourced (consultants, contractors, laboratories, and other specialists) so there are many handoffs during project execution that if not managed properly will result in inefficiencies, accountability gaps, and poor quality.
- **Change is Constant.** Change management is crucial because of the extreme levels of uncertainty associated with subsurface contamination, remedies, and the end state of the sites or properties.
- **Data Intensive.** Massive data streams are present throughout the long lifecycle of each project and data is generally highly disbursed among project teams and service providers.
- **Regulation Driven.** This work is conducted within a highly regulated and evolving compliance environment (environmental regulations, financial disclosure and reporting requirements, and local ordinances) that provides the license to operate.

These complexities create challenges that can be overcome but require unique and focused solutions. The primary challenges and implications are summarized in Table 1.

TABLE 1
Industry Challenges and Implications

Challenge	Implication
Managing Risk	• Ineffective planning • Inaccurate forecasting • Unexpected schedule and milestone delays / missed objectives • Cost overruns and change orders • Underperforming remedy or project execution • Unplanned provision adjustments (Environmental Obligations or Asset Retirement Obligations) • Non-compliance with policy, procedures, and regulations • Lack of auditable justifications and decision-making
Managing Resources	• Accountability gaps • Delayed actions • High supplier switching and staff turnover costs • Lost institutional knowledge • High administration time and costs • Sub-optimum productivity
Managing Data	• Disparate systems and spreadsheets • Multiple versions of the truth • Duplication of effort and redundancy • Poor data quality and data gaps • Lost history and decision chain of events • No data contextual value • High transaction and reporting costs

What Executives Value Most

In a recent survey of environmental executives conducted by ENFOS, Inc., 80 percent of the responses indicated that financial performance was a top value driver for their internal customer and therefore their function. For environmental liability programs, financial drivers that are directly linked to corporate value drivers consist of the following:

- Liability reduction
- Management and control of cash flow
- Operating cost reductions
- Productivity improvements
- Risk avoidance

Executive Survey Quotes:

"Because my company runs on such tight margins year to year, I am expected to hit my financial targets and to avoid unplanned expenditures."

"Risk management and liability reduction is my primary charge."

"The corporation wants to be responsible and take measures to deal with liabilities and to reduce the tail of legacy sites."

When asked what strategies will be put in place to deliver value, industry executives favored the following approaches.

- Sustainable management systems (including process improvement) – 43% mention
- Stakeholder engagement and brand protection – 28% mention
- Risk management systems – 15% mention
- Technology and research – 15% mention

There was a clear bias toward management systems, process improvement, and better decision-making tools meaning that executives believe that there are improvement opportunities in their current approaches in these areas.

Executive Survey Quotes:

"The role of information technology is going to be more critical moving forward because we are being asked to do more for less."

"We want to consolidate information and find ways to make complex data more meaningful to our project teams."

"Our strategies will be focused on streamlining work processes so that we improve alignment across the entire portfolio and enable better collaboration and decision-making."

And finally, executives were asked to list their most critical business objectives as they relate to strategy. The top five responses included:

- Improve predictability of performance and risks
- Optimize business processes to squeeze out inefficiencies
- Implement technologies that provide metrics, information, and tools for making better decisions
- Safe work environment
- Knowledge sharing and transfer

Executives are shifting the conversation from cost to value. There is a pervasive perception that "we can do better" and that technology can be an enabler of their most important strategies and objectives. Enterprise technology can provide the impetus and the platform for a wide range of activities that are required to run the business. Having the right solution is not only a cost-of-business expense or IT issue. It goes to the heart of the strategic role that the environmental function can play and to the ability to provide value to the organization.

Available Options

Let's face it, management systems can be expensive and disruptive to implement but leaders are increasingly viewing them as strategic investments that can create value for the organization. This requires identifying potential improvements and articulating the value to business leaders before embarking on a new initiative. Because organizations are already managing environmental liabilities, they first must assess their current business capability as delivered by existing systems and processes. To be effective, the assessment should be conducted within a context of best management practices from a broad industry perspective and it must consider the technological delivery mechanism.

The management system should be designed to deliver the highest value for the lowest cost (generating the highest return on investment (ROI)). A capability maturity model can be used to define and describe your organization's current situation for each core process area and the potential to unlock value. As an example, Table 2 shows three core process areas and the maturity levels for environmental liability management business functions.

TABLE 2
Core Process Capability Maturity

Core Process / Maturity Level	**Level 1 - Basic** (Ad-Hoc)	**Level 2 - Managed** (Sub-Optimum)	**Level 3 – Optimized** (Best Management Practice)
Portfolio & Project Management	• No consistent framework across projects • No portfolio management • Limited risk mitigation • Reactive • Poor data integrity • Reliance on spreadsheets	• Standard framework implemented • Bottom up resource management • Some business intelligence • Fewer systems • Some uniformity of process	• Enterprise view and management control • High visibility • Strong risk management • Resource management optimized • Systematic organization of all records and history
Data Management	• Managed uniquely by each environmental supplier • High costs for data analysis or data requests • No programmatic analysis • Data management costs are buried in supplier fees	• Standard guidance documentation provided by customer • Auditing is used to verify compliance • Supplier consolidation has reduced data stores	• Data and data editing history maintained in central location • All workflow conforms to standards • Optimum data integrity • Customer possesses all data and deliverables • Workflow is integrated from data planning to data deliverables

Core Process / Maturity Level	Level 1 - Basic (Ad-Hoc)	Level 2 - Managed (Sub-Optimum)	Level 3 – Optimized (Best Management Practice)
Financial Management	• High reliance on email workflow and independent spreadsheets • No standard or uniformity in work breakdown structures • Over commitments and cost overruns occur frequently • No automated financial controls	• Some processes standard across all projects • Cyclical intake for financial calendar • Rollups and portfolio assessment take place but are not automated • Delays in information flow since not all processes are integrated	• Workflow is automated • Strong integration with corporate ERP • Dashboards and alerts • Portfolio analysis and BI are built-in • Suppliers are connected to customers • Strong financial controls ensure performance

Each of these areas as well as other areas such as Compliance and Asset/Equipment Management can be broken down into sub-processes and evaluated to that level. For example, Financial Management has sub-processes for Lifecycle Forecasting, Budgeting, Vendor Proposal Management, Purchasing, Invoicing, and Cost Recovery.

To deliver these business processes there are three primary technology options. These include:

- Keep things the same
- Build it yourself (custom development)
- Commercial enterprise software

An evaluation matrix with these three options is shown in Table 3.

TABLE 3
Technology Option Matrix

Option / Criteria	Cost to Deploy	Time to Deploy	Implementation Risk	ROI
Keep things the same	Lowest	Lowest	None	Lowest
Build it yourself	Highest	Highest	Highest	Mid
Commercial enterprise software	Mid	Mid	Lowest	Highest

Keep things the same:

- Lowest cost to deploy but actual costs to the business for sub-optimum management systems is high and these costs are buried in the current cost structure. Costs to upgrade existing systems are typically greatly underestimated and results are generally not significant.
- Lowest time to deploy because no changes are necessary or the time to upgrade existing systems has been underestimated.
- Implementation risk is not material because nothing is changing (status quo mindset).

- Return on investment is not material. The "idea" that the business function can improve performance rarely happens.

Build it yourself:

- Highest cost to deploy because full product development is required including needs analysis, requirements gathering, blueprinting, engineering specifications, development, testing, and implementation planning.
- Highest time to deploy for the same reasons as above.
- Implementation risk is highest for the same reasons as above and because an unproven technology must be implemented for the first time.
- Return on investment is mid-range for the three options but long term, the ROI erodes as the solution ages, not keeping up with industry best practices (or on-going development costs escalate).

Commercial Enterprise Software:

- Cost to deploy is mid-range but highly predictable within a commercial context. SaaS technology reduces the internal IT burden.
- Time to deploy is mid-range, typically completed within a prescribed window (90 to 120 days) based on past experience implementing the same platform with similar organizations.
- Implementation risk is lowest based on proven and successful past implementations by the technology supplier with similar organizations. Supplier assumes some of the risk.
- Return on investment is highest due to known costs upfront, rapid deployment, proven customer value, and on-going product enhancement.

The Commercial Enterprise Difference

In addition to the options analysis in the preceding section, the commercial enterprise option has five compelling points of difference as compared to the other options. These points of difference are unique to this option and solely focused on delivering the greatest value for the foreseeable future.

- **Everything in one place, always accessible.** A single web-based platform for all project and portfolio information, data, and documents available 24/7 providing full visibility and optimal team collaboration.
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Customer Results

- **BP -** "ENFOS delivered simplified financial processes with less effort."
- **Canadian National Railway Company -** "Our value drivers included the need for improved financial transparency, financial performance, management control, and business process optimization. ENFOS delivered that."
- **Celanese -** "With ENFOS, we have reduced our financial planning cycle by 80 percent."
- **ConocoPhillips -** "ENFOS gives us the comprehensive spend management and detailed project controls we need to run our remediation program."
- **Hess -** "We replaced a number of manual processes and disparate systems into one centralized ENFOS solution which now allows us to more effectively manage our entire environmental portfolio."
- **Kinder Morgan -** "ENFOS provides more effective and efficient management of our environmental projects with an ROI of 800 percent."
- **The RACER Trust -** "ENFOS provides accurate, reliable, consistent, and timely information to all stakeholders."
- **Sunoco -** "ENFOS helped us reduce our annual expenditures by 15 percent in the first year of implementation and gave us an immediate payback. We continue to expand the use of ENFOS due to the value that it creates for our remediation program."
- **Total -** "ENFOS supports our vision of a remediation program that is strategically driven, following a consistent harmonized process. We leverage available knowledge to reduce liabilities at reasonable costs."

ACTION

Take the next step and ask ENFOS about the Business Capability Assessment to determine your untapped potential.