



## ***Business and Technical Motivations for Implementing an EMIS***

When companies seek to streamline their business processes, they often look to technology solutions. More and more companies are choosing to implement enterprise resource planning (ERP) strategies to achieve significant business process improvements across their operations. And these ERP strategies may include environmental, health, and safety (EH&S) management information systems (EMIS) that integrate with other core business operations. The underlying theme of this month's *EM* is information technology (IT) solutions for environmental management, and two of the articles featured in this issue present diverse methods. In the first article, Lorie Buckingham (see "Making a Case for Implementing an EMIS," p 16) considers two ways that companies approach the decision to implement an EMIS: EH&S systems and business processes fully embedded within the business supply chain, and EH&S systems leveraged as "surround point solutions." In the second article, Wesley Box (see "A Model Solution for Environmental Management—Using Predictive Models to Achieve Regulatory Compliance in a Highly Competitive World," p 22) discusses how existing operations can be leveraged to provide solutions that achieve regulatory compliance goals and provide useful information to make better business decisions.

While the financial bottom line plays a role in most of the decisions that a company makes, the motivation for implementing an EMIS often derives from nonfinancial reasons. This column discusses the nonfinancial business and technical motivations for EMIS implementation.

### **BUSINESS MOTIVATIONS**

The nonfinancial business reasons for implementing an EMIS include a desire to improve operational efficiency, government agency initiatives, enhanced compliance management and risk reduction, and commitment to engaging in "best practices."

#### **Operational Improvements**

When organizations assess their environmental management performance, they may find that their EH&S information has become trapped on discrete "islands of information," out of reach of most staff and operators. They may also determine that they need to evaluate their environmental performance on a real-time basis to relate improvements to specific employee tasks and responsibilities. This type of performance analysis creates feedback that produces continual improvement. In addition, the trend toward leaner organizations has

challenged companies to manage the growth of new knowledge, capture valuable knowledge as seasoned professionals move to other jobs, and challenge employees to work collaboratively. Knowledge management, the practice of capturing, storing, and disseminating organizational knowledge, allows companies to share and perpetuate knowledge within a unit, across units, and among outside parties.

A well-designed EMIS can address these and other operational improvements related to environmental data management. It can bridge the data islands, allowing personnel to share database-driven environmental information throughout the organization. It can also provide continual, real-time environmental performance data. Internal stakeholders can contribute to and use the data and gauge how the organization is doing versus key performance indicators. In addition, an EMIS contributes significantly to knowledge management efforts by streamlining knowledge content and improving a company's IT infrastructure with electronic groupware, messaging systems, and data repositories.

#### **Government Agency Initiatives**

Regulatory requirements for recordkeeping and reporting are a significant impetus to implementing an EMIS, and new government agency initiatives reinforce the importance of implementing an enterprise-wide EH&S management system. For example, the U.S. Environmental Protection Agency's (EPA) National Environmental Performance Track program ([www.epa.gov/performance-track/](http://www.epa.gov/performance-track/)) allows companies to demonstrate environmental achievements, sustained compliance, and commitment to public outreach. An EMIS can manage the data necessary to participate in this program.

In the past two to three years, many regulatory agencies have become increasingly interested in employing electronic regulatory reporting for key environmental compliance programs. Electronic reporting can reduce data transcription





errors associated with traditional paper-based approaches. EMIS can facilitate the electronic transfer of regulatory data and automate data sharing among industry, environmental agencies, and the public.

### **Compliance Management and Risk Reduction**

While an automated system cannot ensure regulatory compliance, an enterprise-wide EMIS that provides consistent, accurate data on demand is a tremendous enabling tool. EMIS can yield benefits in risk reduction, including the capability to produce real-time roll-up reporting and use forward-looking performance metrics rather than historical metrics. Automated systems can also reduce risk by increasing the effectiveness of communications and allowing EH&S professionals to focus on value-added tasks rather than data entry. In addition, EMIS use EH&S data generated across the organization, so they promote company-wide participation in compliance assurance.

### **Best Practices**

Engaging in best practices allows companies to remain competitive in global markets by going beyond compliance to improve business processes and enhance the organization's value. Implementing an EMIS illustrates a commitment to adopt best practices. The system provides the momentum and framework for evaluating and standardizing business processes across a site or an entire company. It can automate processes like air, water, and waste management; perform calculations; manage documents; facilitate real-time performance metrics; and streamline regulatory reporting.

### **TECHNICAL MOTIVATIONS**

In addition to the compelling business motivations, there are several technical motivations for making the leap to automated systems. Here are a number of common drivers:

- Legacy systems "break" and it costs more to fix them than to replace them. (Legacy systems are computer systems or applications in which an organization has invested considerable time and money and are viewed as difficult to modify. Typically, these are database applications running on mainframes or minicomputers, but could include client/server- or PC-based applications developed before current Web-based applications.)

### **Ten Technical Tips for Implementing an EMIS**

1. Assess needs and align them with the organization's IT standards for hardware and software.
2. Select a system that integrates well with the existing IT architecture and cultural environment.
3. Employ "leading-edge" versus "bleeding-edge" technology to streamline business processes without compromising performance.
4. Leverage existing systems when possible.
5. Try it before you buy it—consider demos, pilot installations, etc.
6. Get technical assistance early and often—an IT expert is a key member of the team.
7. Ensure that your organization has sufficient technical and subject matter training.
8. Plan for ample internal or external support following system implementation.
9. Build in flexibility to address future needs and database growth.
10. Understand that hardware and software have a shelf life—develop an exit/transition strategy.

- The organization lacks the expertise to support older hardware and software, and the vendor may no longer be in business.
- Legacy systems' hardware and software have not kept pace with technology and no longer support business needs.
- Older systems are often too slow and too cumbersome—users rebel and continue to use isolated "point" solutions.
- People are isolated from the data—they can't get to the data they need at the right level of detail at the right time.
- Automated systems (EMIS and stand-alone solutions) sometimes are not user-friendly and encourage users to stick with isolated or nonautomated systems.
- The company adopts new IT standards and mandates that all business areas come into compliance.
- Stakeholders need data "on demand" and existing systems cannot support these needs.

While companies certainly consider the financial impacts when making any enterprise-wide business decision, the motivations behind implementing an EMIS often are nonfinancial. Once organizations have identified these issues, they can determine how an EMIS solution might address them and choose a system that assimilates comfortably into the company's environmental data management framework. Technical drivers for a new system can be as strong as other drivers. A successful EMIS implementation can leverage technology to create tangible business process and compliance improvements while retaining the flexibility for future business needs. ☺

### **About the Author**

Jill Barson Gilbert, QEP, is president of Lexicon Systems, LLC, where she helps clients increase business value by leveraging technology to implement environmental, health, and safety (EH&S) data management solutions. She can be reached by e-mail at [Lexicon-Systems@houston.rr.com](mailto:Lexicon-Systems@houston.rr.com).

