

Letter from the Executive Director

If NAEM's benchmarking research has taught us anything, it's that no two companies solve the same problem the same way. Even in a field where environment, health and safety, and sustainability programs often have similar elements, individual leaders need to understand how to adapt core concepts to the particularities of their own company's organizational structure, operations and culture. This is nowhere truer than in the area of EHS&S data management, where commercial software systems offer centralization and automation, as long as practitioners understand their organizations well enough to configure these systems to their needs.



And there is no one practice or approach for solving a complex problem like that.

To understand a challenge like data management, it's useful to hear from a variety of peers, to learn what worked and didn't work so well, and allow their experiences to inform your own. That is what this report is intended to do. As the latest installment in NAEM's research on EHS&S Software and Data Management, this report gives you a peek inside how a diverse group of companies use software tools to organize their EHS&S information and communicate their performance.

In reading through these case studies and interviews, I was struck by what a creative a problem-solver you need to be to find the best solution for your company. Insofar as no two companies are alike, one system does not always fit all. I was also reminded of a maxim that seems to emerge at every NAEM Software and Data Management conference we've hosted since 2001: Data Management is a long-term journey that requires vision, leadership commitment and continuous improvement.

We hope that this report helps you understand how your experiences compare to those of your peers and gives you some ideas you can use to help you refine your path forward.

Sincerely,

A handwritten signature in black ink that reads "Carol Singer Neuvelt". The signature is fluid and cursive, written in a professional style.

Carol Singer Neuvelt
Executive Director, NAEM

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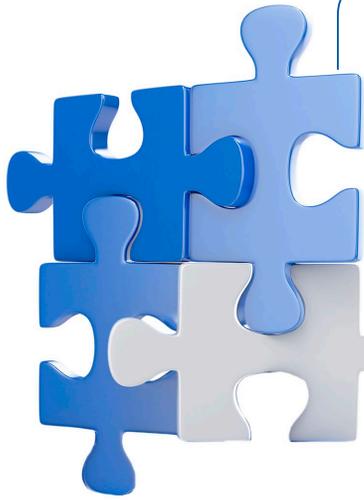
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Case Study on Data Management



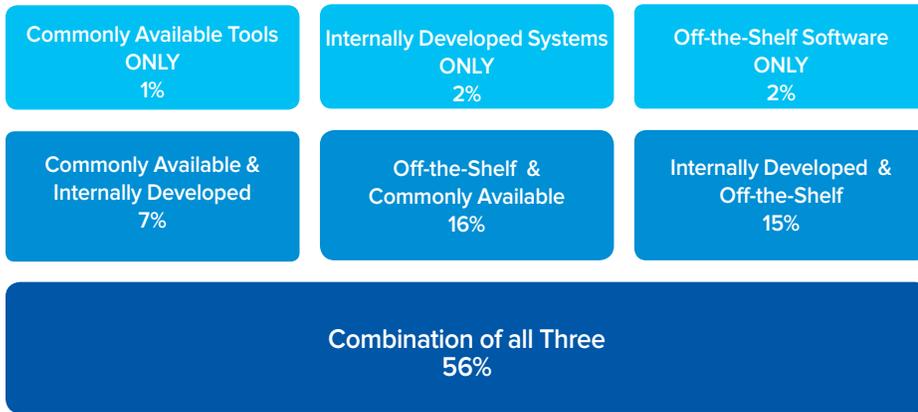
For any EHS and Sustainability leader who has had to manage vast amounts of data, it's tempting to think that there might be a software tool, or one strategy out there, somewhere, that could meet all of your needs. Unfortunately, the experience of those who have selected, implemented and managed these systems suggests this is not the case.

Indeed, a number of variables help shape a company's EHS&S data management strategy, including organizational design, internal culture, types of operational risks and the level of external scrutiny to internal operations.

It's perhaps not surprising then, that among the 165 software users NAEM surveyed about their company's data management approach, 56 percent are using a combination of commercial systems, internally developed software and commonly available tools, such as Microsoft Excel.

Current Data Management Approach

Figure 1



N=164

As the EHS&S software offerings become increasingly sophisticated, more companies are adopting commercial systems to centralize data collecting and reporting.

Common Reasons Why Companies Use More than One System

While software tools for the environmental, health and safety, and sustainability professional have rapidly matured over the past decade, more than half of those surveyed by NAEM still use a combination of commonly available tools, internally-developed software and commercial systems to manage their data. The reasons, according to research participants, may include:

- Decentralized structures may not lend themselves to a centralized reporting systems
- Diverse operations may produce a variety of data types
- Individual operations may have unique risks that require targeted solutions
- Internal culture may value decentralized decision-making
- Acquired businesses may have their own software tools
- Legacy tools may be better aligned with organizational needs



Even so, the scope of these implementations vary widely from company-to-company. A single company may use an enterprise-wide system to manage its corporate standards, for example, while its individual business units use different combination of software systems to meet their own unique needs.

This is often the case for companies that have gone through a merger or acquisition, where the new business entities bring new assets but also their own approaches to data management.

All this makes standardizing corporate processes, or adopting any single system, exceedingly difficult. But as Jason Schmitz, Director of Trinity Consultant's T3 Group points out, perfect integration and standardization may be an unattainable ideal.

“It’s very easy for the human brain to say, ‘We’d really like to have everything in one nice, neat, tiny bow. The fact of the matter is that these organizations are diverse; they grow; they contract; people come; people go; the organization restructures; people get new roles and responsibilities.”

“It’s okay to not have perfect data because you’re not going to have perfect data...you’ve got to figure out what you can tolerate,” he said.

Regardless of a company’s EHS&S program maturity, business objectives or budget, software tools remain just that—a conduit for collecting information. It’s how well an organization aligns around a vision and commits itself to continuous improvement that truly holds the key to success for any data management program.

“The hope is that you master one area and then you go onto the next top priority and master that,” Mr. Schmitz said. “Data management is an evolution.”

In the interviews and case studies that follow, we will examine how different companies evaluated unique data management challenges, and identified solutions to address their business needs. We’ll also explore how they solved problems today while positioning their programs on a long-term path for growth.



Enforcing Corporate Standards through Centralized Data Management

Despite its geographically and operationally diverse footprint, Chevron Corp. has a strong set of corporate standards for all business units. In this interview, Senior Business Analyst Jay Roussel, shares how the company saved money and improved efficiency by streamlining its data management efforts.

For an international energy company with integrated operations across the value chain, it might seem too daunting to adopt a single, enterprise-wide software system. But according to Jay Roussel, a senior business analyst in Chevron corporate Health, Environment and Safety group (HES), it all comes down to standardization.

“If you don’t have the processes where you have a common definition and terminology for how you do things and what information you collect, and what exactly that information means, then you can’t deploy any software, much less an ‘off-the-shelf’ version,” he said.

The company began its system implementation five years ago, but Mr. Roussel said the process of documenting workflows and standards started long before that.

“We had mapped out the processes and in many cases the processes were already standardized for almost five years prior to us deciding which systems we wanted.”

The strong vision for the Chevron’s operations comes from its corporate governance team, which manages the requirements for the highest priority HES processes including: workplace safety, contractor HES management, environmental stewardship, compliance assurance and process risk analysis. Regulatory requirements supercede corporate requirements, but otherwise corporate requirements create a minimal expectation for every business unit to achieve.

The other advantage the team had when it came to creating standards was the presence of a number of legacy systems, which provided the foundation for the new system’s requirements. And because the company’s policy is to avoid customizing the code, the new system was selected based on its ability to work within the company’s existing processes—another reason why having clearly articulated workflows was so “critically important” to the project’s success.



Case Study on Data Management

The emphasis on standardization is tempered by the company's active management of its own systems.

"It's not so simple as we have standards and our workflows adhere to them," Mr. Roussel said. "It's a very dynamic process and a focused administration of that process to make sure that not only is the system meeting our needs but that the workflow itself is meeting our needs."

Every three years, each process undergoes a review to evaluate its relevance and impact. In the past, this internal audit has helped the company identify requirements that were too stringent for data collection when they are working with contractors.

"We would say: 'How well is this working? Do we want to double down and help them meet the objective? Or do we want to relax the standard because it doesn't' make sense in every case and it's not a value add, and it doesn't respond to our risk?'"

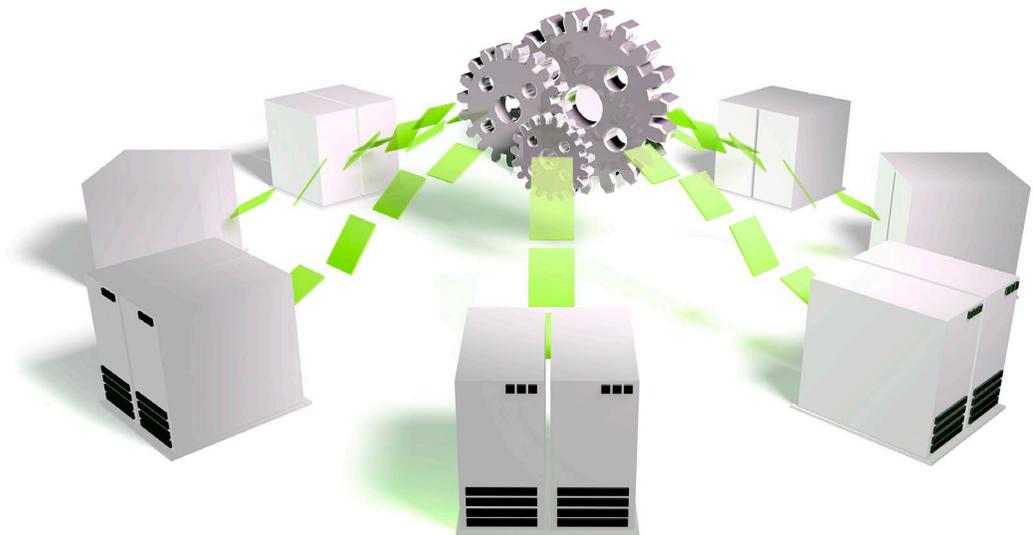
The company also still has about 150 applications, many of which are used at a single business unit alone.

"Maybe it's required for a particular activity that might not be common across all of them, or might be tied to a regulatory requirement there," Mr. Roussel explained.

Still, they've taken strides over the past couple of years to eliminate any overlap with the centralized solutions. The elimination of about 26 point solutions has saved the company about \$3 million, Mr. Roussel said.

While cost savings are certainly a benefit, the true purpose of centralizing the data was to drive HES performance improvement.

"Our information management system goes beyond just metrics reporting. It provides what we need to be a learning organization," he said.





Lessons Learned

No matter the maturity of your data management program, there are certain lessons that seem universal to all companies. These include:

1. **Data management begins with establishing a basic set of standardized work flows:** “If you don’t have the processes where we have a common definition and terminology for how we do things and what information we collect, and what exactly that information means, you can’t deploy any software much less an off-the-shelf version.”

2. **Every EHS&S data management system will need cooperation from other functions to be effective:** “The art of organizational change management is huge for putting in new data management systems, especially if you’re relying on a network of people or upstream business processes.”

3. **A data management system is only as accurate as its users:** “If executed properly, [most business processes] produce high-quality information. The problem is that without the knowledge, the skill and the capability, people sometimes just get it wrong.”

4. **Each solution has its quirks:** “There’s no system that users say: ‘It’s so great, I really love it,’ People always have their complaints.”

5. **Data Management is a journey of continuous improvement:** “Sometimes you’ve got to put a stake in the ground and move forward and use that mark as your starting point for [further improvement]”



6.

Don't rush into a decision: "Take your time to review what is out there because an EHS software platform is a long-term commitment. It's not a project that you do for one or two years: This becomes a corporate solution."

7.

Know your Audience: Work for the target audience or customer base. Know who will be using the system and what it will be used for. Organize data or information that makes sense to the user and helps them make decisions in a timely manner and take action.

8.

A complicated problem doesn't require a complicated solution: "It is best to match your organizational requirements and assess as to what solution works for you. The solution must be cost-effective relative to the compliance risk. Don't buy "Cadillac" if the need is not there."

9.

Progress is not always a straight line: "As you continually improve, you get the curveballs of change that may take you two steps forward, one step back. Whenever you're in the middle of that, it might not look so pretty but as long as you're vectoring in the right direction, I think that's the most important thing when it comes to data management."

10.

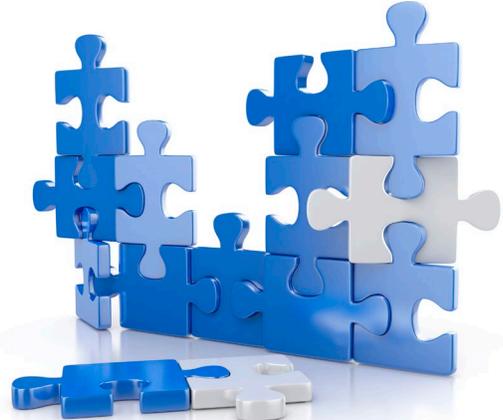
The more data, the more work: "Once you create more data for yourself, you create more problems for yourself. You never used to know about those incidents that occurred. Now that you've got that granularity, you've got a problem that you've got to deal with. The overwhelming amount of data that you're going to create might actually make your job harder, so you've got to be cognizant of that."



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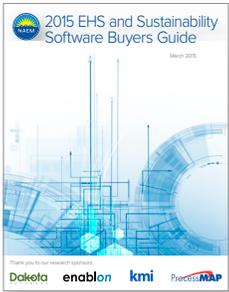
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NAEM provides valuable resources for corporate EHS and sustainability leaders and IT professionals who are responsible for selecting, implementing and maintaining software systems, and who are looking to better manage and report their data.



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For More Information: www.ehsmis.naem.org/



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The National Association for Environmental Management (NAEM)

1612 K St., NW Suite 1002
Washington, DC 20006
(202) 986-6616
www.naem.org

Series Contributors

Asif Ansari

Environmental Compliance and Risk Management
The United States Postal Service

Martha Coopersmith-Gray

Director of Environmental Health and Safety and Sustainability
Amphenol TCS

Lisa Marx

Principal EHS Specialist
Abbott Labs

Thochan Nguyentan

Corporate EHS&S Manager
Lam Research Corp.

Jay Roussel

Project Manager
Chevron Corp.

Jason Schmitz

Director of T3Group
Trinity Consultants

Eric Schwartz

Report Sponsors

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Analyst

Elizabeth Ryan

Director of Communications, NAEM

Report Design

Ellie Diaz

Chaos Studios

Media Inquiries

For more information about this report or to request an interview with an NAEM analyst, please contact NAEM at (202) 986-6616.



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