Solution Selection Guide

Environment, Health, and Safety Management Software

Matthew Littlefield, June 2016

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Contents

EHS Market Overview

Environment, Health, and Safety (EHS) software applications have been on the market for nearly two decades and, over the years, have been viewed as an increasingly critical aspect of doing business and improving EHS performance. Back in 1984, at the time of the Bhopal gas leak disaster in India (the largest industrial accident in human history), EHS programs were managed by comparatively archaic means. EHS approaches were largely reactive, with incident records, documents, and other related EHS materials contained in spreadsheets, paper-based records, spreadsheets, and disparate, disconnected systems.

In some ways, Bhopal and other contemporaneous disasters helped change that. Manufacturers began to see not only the staggering costs of incidents, accidents, and other EHS failures, but also the considerable negative reactions from regulators, governments, and the public at large. Seeing the need for proactive, streamlined systems in order to improve performance, industry began to attempt to implement more integrated, connected, proactive software systems to manage EHS. Initially this often took the form of internally developed, homegrown EHS management software that, by today's standards, would be considered rudimentary, incomplete, and costly to develop.

The 21st century breed of EHS software applications is markedly different from its antecedents. EHS software in many cases now lives in the cloud and spans entire global manufacturing enterprises within, in some cases, one centralized source. Robust analytics derived from collected, aggregate EHS data enable leaders in EHS—right from site-level management up to enterprise VPs and other leaders—to make informed decisions and thereby proactively mitigate the likelihood of future events occurring.

In other cases, EHS management software applications have been linked to other enterprise activities and management system software within an Integrated Management System (IMS) approach. For example, understanding that elements of Enterprise Quality Management Systems (EQMS), Asset Performance Management (APM), and Manufacturing Operations Management (MOM) are intrinsically related and—in

some cases, overlap—many progressive manufacturers have pulled all elements together within an IMS to eliminate redundancies between pillars of management system software and better streamline and consolidate management system software approaches. This, however, is an ambitious and often long-term goal, and for many organizations new to EHS management system software, it is advisable in some cases to start small and build out a system from the ground up.

In addition to the understanding of the relationship between EHS management and other areas of enterprise management activity in the past two decades, what has also changed about EHS management system software in the understanding of the role it bears in supporting overall enterprise holistic sustainability. EHS performance improvements mean lower costs, saved lives, reduced incidents, and better environmental performance, yes, but it also—like many other areas of enterprise performance—directly contributes to overall, holistic enterprise sustainability, an increasingly relevant focus for manufacturers around the globe. Between the growing imperative to produce sustainability reports, the need to justify and account for sustainability performance to regulators, stakeholders and the public, and the evolving understanding of the value of improving sustainability performance, holistic sustainability has established an increasing relevance and manufacturers are beginning to understand the inextricable link between EHS performance and achieving overall holistic sustainability goals.

HOLISTIC SUSTAINABILITY

OPERATIONAL EXCELLENCE

People/Culture
Poor interdepartmental collaboration
Lack of executive focus and priority
poor alignment of goals and incentives

Metrics
Not using predictive and reactive metrics
Overabundance of data
Not role or user based

Processes
Poor process definition
Disparate and heterogeneous processes
Not built around model of
continuous improvement

Technology
Disparate systems and data sources
Limited user adoption
Emerging technologies not leveraged

Barriers to / Opportunities for Success

Another nascent challenge surrounds the value in not only managing and improving EHS performance within the four walls of an organization, but also across the entire value chain. This would include all tendrils that reach out across the supply chain, especially as it is realized that from a regulatory and public/stakeholder perspective, the EHS performance of manufacturers is increasingly inextricably linked to the performance of suppliers across the supply chain and vendor base. As a result, manufacturers are being called upon to extend EHS performance awareness, evaluation, and control beyond their own operations, right across the supply chain.

In terms of *how* manufacturers currently handle EHS management, there is a gulf between those who currently manage EHS with software-based applications and those who persist on using paper-based and other archaic systems. LNS Research recently launched a comprehensive survey that met
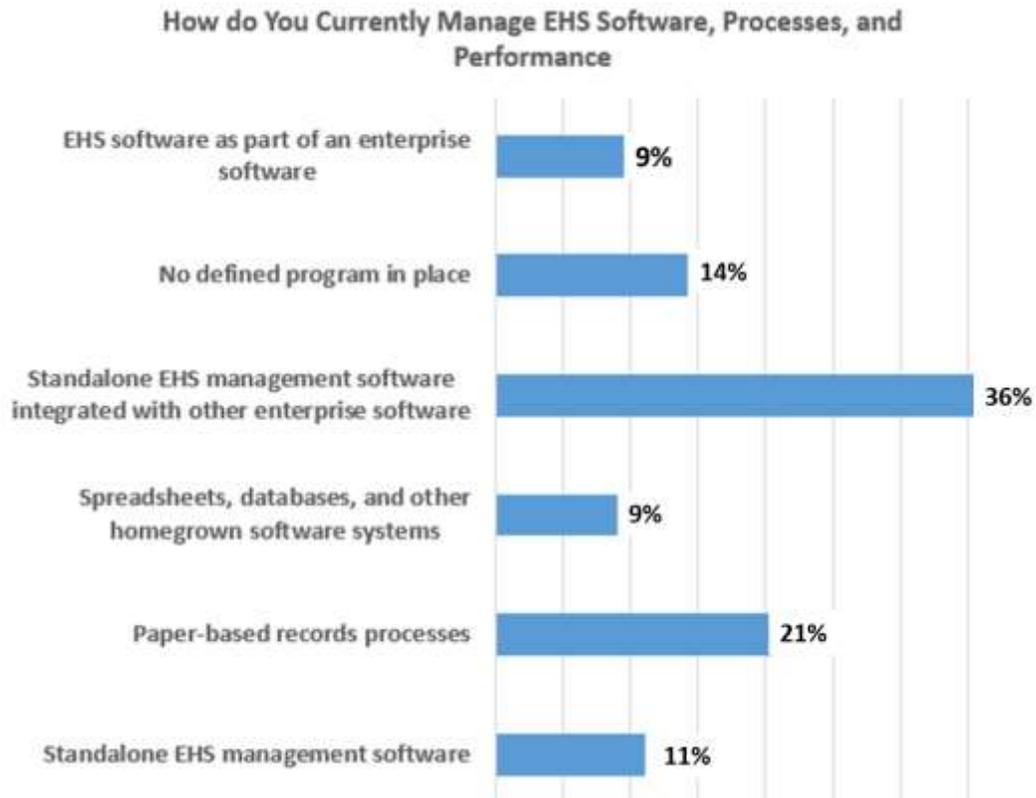
responses from over 300 EHS professionals across global manufacturing companies. What we found is that, cumulatively, between those that have no defined program in place, rely on spreadsheets and databases, or rely on paper-based records, nearly half (45%) have no EHS software implemented. This is likely because large global manufacturers too often do things "the way they have been done" and are reluctant to commit to the costs sometimes associated with enterprise-wide EHS solutions and implementation cycles, or else have challenges implementing enterprise software.

What is clear from this result is that many manufacturers are still relying on archaic means of managing EHS programs and it can be assumed that many within that segment either should be or are willing to implement EHS software and could benefit from third-party guidance. What can also be assumed is that, among those who have implemented EHS

software, there is likely an opportunity to advance or improve their EHS solutions, or else better align their solutions with other enterprise management system solutions.

members of LNS Research's Global Executive Council clients, other consulting clients, or meetings at various user group meetings or other events. Prior to publication vendors were provided an opportunity to verify particular details for factual accuracy.

How do You Currently Manage EHS Software, Processes, and Performance

Category	Percentage
EHS software as part of an enterprise software	9%
No defined program in place	14%
Standalone EHS management software integrated with other enterprise software	36%
Spreadsheets, databases, and other homegrown software systems	9%
Paper-based records processes	21%
Standalone EHS management software	11%

How this Guide was Prepared

The EHS Solution Selection Guide is designed to help leading industrial organizations identify the short list of vendors best suited to their needs. For inclusion in the guide, vendors have a compelling combination of successful multi-site and multi-geography implementations across a range of industries, broad and deep functionality, a modern technology platform, and robust roadmap with the needed resources for viably continuing to improve the EHS offering forward into the future.

The EHS Solution Selection Guide was prepared using data collected from the various providers in a variety of ways. For most providers the process included responding to an online data entry tool followed by a Web or face-to-face briefing. Part of the data collection process included checking references provided by the vendors. Other end-user references came from

LNS Research makes every effort to research all of the vendors that potentially play in the EHS market. Many vendors have not been included in this guide because they do not meet the full qualifying conditions stated above but still may be a viable choice for niche areas of the market. Some of these vendors are start-ups and some are legacy players. Some of these vendors may be covered in future reports and there are undoubtedly other vendors that LNS has not yet heard of. If you have any interest regarding vendors not mentioned in this guide, please do not hesitate to inquire.

In a few cases vendors either declined to provide a response via the online collection tool, or to conduct a vendor briefing, or both. Some vendors could not accommodate the timing of the preparation of the Solution Selection Guide while others explicitly declined participation. Where a vendor is a significant

provider in the market space but declined to participate LNS Research used a combination of end-user resources as well as publicly available material to make an assessment of the vendor's capabilities. Those vendors were still given the opportunity to review the material published in the guide for factual accuracy. Some vendors responded to this request while others did not. In the cases where the provider did not participate in some fashion in the data collection and verification process a notation has been made with detailed information as to their particular circumstances. End-users are advised to perform additional due diligence on those vendors that did not participate to validate the information in the profile section.

Using this Guide
All entries in the EHS Solution Selection Guide represent the opinions of the authors based on their industry experience and their view of the information collected using the methods described above.

The purpose of this guide is to provide an in-depth overview of the top vendors in the space and allow industrial organizations to arrive at the short-list of vendors best suited to meet specific needs. LNS Research seeks not to provide a quantitative analysis, for to rank vendors numerically would constitute an over-simplification of what is a complex and diverse market. In this realm, one size does not fit all, and a quantitative analysis would only generalize a more complicated landscape. While there are many common EHS related challenges for every manufacturer across all industries, every manufacturing vertical faces its own, unique priorities.

As a result, we have elected to assess each vendor independently and with a degree of equality. Each vendor that has been identified as a key vendor in the space and that has chosen to participate in this process has been granted an assessment in this guide. While we have, as stated, granted vendors a degree of equality in assessment, we have not diminished the need to apply proper scrutiny; where we identify a vendor has either strengths or opportunities for improvement, we acknowledge accordingly.

Because the selection and implementation of an EHS solution takes significant resources, the educational

process is integral for a successful investment. The LNS Research EHS Solution Selection Guide aims to simplify this process with an individualized table for each vendor, providing an extensive overview in a single location. The table covers the following areas:

• **EHS Functionality**: Lists the EHS functionalities offered by vendors. It includes all of the functionality associated with all of the EHS related products the vendor offers and, where possible, identifies which products provide which specific EHS functionality. To avoid creating excessively long tables when vendors offer nearly full coverage the table makes a generalized notation to that effect. Where a vendor has more limited functionality only the specific functions are listed.

• **Industries Served:** Lists the industries as well as various sub-verticals served by vendors. Ex: Chemicals, Pharmaceuticals, Automotive, etc.

• **Geographies Served:** Lists the regions covered by vendors. Ex: North America, Europe, etc.

• **Company Sizes Served:** Lists the company sizes targeted by vendors. Ex: Small, Medium, and Large enterprises

• **Technology Delivery Model:** Lists the delivery model options offered by vendors. Ex: On-premise, Cloud, etc.

• **Technology Development Platforms:** Lists the platforms used by vendors to develop and integrate solutions. Ex: Java/J2EE, Microsoft .NET, etc.

For each of the Market Area Served and Functionality tables the responses are categorized in one of the following ways:

• **Have Coverage:** Means the vendor has capabilities in this area but does not consider it an existing or emerging strength.

• **Area of Strength:** Shows the areas in which the vendor believes it stands out and LNS Research has done research that validates that users gain significant benefit from using this feature or function, or that support is particularly good in that region or industry.

• **Emerging Strength:** Shows the areas in which the vendor believes investment of resources is enhancing its ability to deliver that functionality or serve that

market segment and LNS Research has done research that validates that users stand to gain significant benefit from using this feature or function once it is fully developed or that support is becoming significantly better in that region or industry.

What should also be noted at this juncture is the fact that EHS software solutions are never a panacea in and of themselves. Along the lines of the LNS Research rubric, and while this guide focuses on software providers, software alone is never a comprehensive solution. Technology must be aligned well with people and processes in order to actually achieve effectiveness, otherwise the goal of the entire aim will be lost.

In the following section, we will discuss how this guide can be used and best understood. Following that, we will assess the current vendor landscape by going over each of the key 17 vendors in the space individually, denoting their strengths and challenges on a case-by-case basis.

3E Company

3E was founded in 1988 as essentially a Material Safety Data Sheets (MSDS, now simply Safety Data Sheets or SDS) management company. In the intervening quarter century, it has made a variety of acquisitions and launched a number of management tools, including its flagship cloud solution, 3E Online-MSDS, in 1999. In 2010 it was acquired by Verisk Analytics to help support the EHS compliance arm of this global, risk-based analytics company. 3E is capable of providing its own solutions directly to customers but also partners with some of the other EHS software vendors cited in this guide. As such, 3E is primarily a content provider, but has emerging strengths on the process automation side.

With that, it is difficult to position 3E Company without framing it in terms of its current parent organization, Verisk. This large, global $1.6 billion-revenue and publicly traded analytics company's cornerstone is risk management, and—with the support of nearly two dozen acquired companies, including 3E—it offers a variety of risk assessment and intelligence analytics tools to help other large, global companies better manage risk. Its key clients tend to lie in the realm of insurance, healthcare, and financial services, and also leverage tools geared towards risk management across the supply chain.

While Verisk is focused on enterprise-wide risk management as well as data management and data modeling, 3E operates within the company's framework, exclusively driving EHS-centric management and compliance approaches and data. That said, 3E and many of Verisk's other acquisitions operate within Verisk's ecosystem with some degree of autonomy.

For companies seeking to take EHS risk-based analytics to the next level and leverage the potential of Big Data, the 3E/Verisk combination is worth assessing. Many companies today aspire to achieve robust Big Data analytics capabilities across EHS and other management areas but have not yet managed to realize these capabilities. However, in a number of cases, 3E and Verisk seem to be actually delivering this functionality to clients.

3E excels at reconciling jurisdictional regulatory content from region to region, country to country, and state/province to state/province. 3E's regulatory experts "live and breathe" geographical regulatory content data, according to corporate leadership, and are up to date with changes and evolutions in regulatory requirements.

Above and beyond 3E's capabilities at using Big Data analytics effectively, Verisk's value chain models incorporate risk associated with weather trends and anomalies and the company also has some examples supporting capabilities that analyze geopolitical risk in areas around the globe. It would be interesting to see the extent of the efficacy of this approach with proven case studies.

In terms of delivering an EHS management solution directly to customers, end users need to assess the approach they want to take. Many EHS vendors are not interested in providing content and adopt a partner strategy, while others take the opposite approach. The vendor is very focused on content and leverages its own platforms, as well as those of its partners, as delivery vehicles for customers. 3E has its own suite of upstream product stewardship and safety compliance tools and content. Its in-house expertise is extended by the breadth of the EHS "competitors" or "coop-itors," with which 3E has forged relationships. 3E works with a variety of software companies that provide platforms within which 3E's content can be leveraged.

3E has demonstrated a leading role in MSDS/SDS and compliance management solutions with a platform that spans the entire lifecycle, and while it is perhaps currently most well-known for its content-driven MSDS/SDS expertise, in the long-term the company could become a clearing house for EHS integration support for existing customer enterprise applications. While 3E does provide a full suite of direct-to-customer EHS regulatory compliance solutions, potential customers should assess their own approach: those looking for content over process automation, or a vendor over a suite offering ought to factor these considerations into their assessment of 3E Company.

3E Company at a Glance

http://3ecompany.com/

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Education • Government / Public Sector	• Aerospace and Defense • Chemicals • Consumer Packaged Goods (CPG) • Food and Beverage • Medical Devices	• Industrial Equipment Manufacturing • Metals • Mining • Oil and Gas • Packaging • Paper / Lumber / Timber • Other
EHS Functionality	• Incident Management • Waste Management	• Legal Requirements • Permit Management • Supplier EHS Performance • MSDS or SDS • Materials Compliance Management (including Conflict Minerals)	• Risk Management
Company Sizes Served	• Medium ($50 Million to $1 Billion Revenue)	• Small (0 to $50 Million Revenue) • Large (Above $1 Billion Revenue)	
Geographies Served	• South and Central America • Middle East • Africa • Australia & New Zealand	• North America • Europe	• Asia / Pacific
Technology Development Platforms		• Various	
Technology Delivery Model	• Private Cloud	• On Premise • Perpetual License • Periodic License • Software as a Service • Single-Site Based • Multi-site/enterprise based	• Public cloud hosted by software vendor
Partner Strategy		• Leverages Technology Partners, Service Partners, Content Partners, Software Partners, Referral Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 3 to 6 months	

BSI (Entropy)

The Entropy Software, originally Envoy, a product of Entropy International (established late 1990s), based in the U.K., was one of the first Web-based environmental management systems (EMS) available to the market.

Entropy International expanded on functionality to include health and safety management, as well as quality management, and upon acquisition in 2006 by the British Standards Institution (BSI est. 1901) had expanded operations to Canada and the U.S.

The BSI acquisition, with over 2,000 employees at the time (now over 3,000) and 76 offices in over 28 countries, was one of the first moves by a standards-based organization or certification body to provide a software solution that is aligned with its existing business of writing standards as well as training, testing, and certification services. Organizations use the Entropy platform for specific processes (e.g. incident or audit management) or as a framework to conform with individual or multiple standards (ISO 14001, OHSAS:18001 & ISO 9001).

From a geographical standpoint, BSI has core strengths in the U.K., where it was founded, as well as the U.S. and Mexico. It has emerging strength in markets spanning southern parts of the European Union, APAC, and Australia.

In terms of its client base, BSI has strong coverage across government departments (particularly in the United Kingdom), food and beverage, metals and mining, automotive, and consumer packaged goods.

The core BSI product is based around foundational modules as well as corrective and preventive actions (CAPA) tools. These include document management and training, audit and compliance, incident management, risk management, and key performance indicators and analytics.

What BSI boasts is strong interoperability between its set of tools. From uploads, references, record history and e-signatures, to languages, to comprehensive scorecards (but arguably basic) dashboards, as well as

some ERP integration (not out-of-the-box), Entropy shows its strengths.

Although the initial success is undetermined at this point, BSI's recently released organizational structure tool, featuring business rules as well as some form-building and notifications engine capabilities, is intriguing. The company also offers a new responsive design user interface, but LNS Research has not received any feedback on the success of this approach to date.

BSI has also provided a new, updated dashboard framework; however, it is uncertain what the reporting engine is capable of (e.g. basic SSRS for reporting). It is also unknown how successful the process has been in terms of speed and timing of migration for existing customers at this time.

In its overall offering, BSI Entropy has (in direction) previously taken a route of aligning with GRC terminology, but more recently has switched to a business-improvement solution stance. This was seen as a potential move away from core EHS provision and the separation of a dedicated offering for CAPA "Action Manager" on its new platform and indicated a more generic, standards agnostic approach.

This tactical shift with integration for existing BSI customers for certification seeing any BSI audit outcome synchronized with its instance of Action Manager was an interesting offering.

A recent acquisition by BSI of EORM, which has over 1,000 employees and is a professional services and EHS consulting firm, may signify a potential move back to the company's EHS roots.

BSI Entropy is currently more appropriate for mid-sized organizations, as opposed to its historical residence in the enterprise EHSQ space.

Solution Selection Guide: Environment, Health and Safety (EHS) Software

BSI at a Glance

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Consulting • Government / Public Sector • Metals • Mining	• Automotive • Aerospace and Defense • Food and Beverage • Industrial Equipment Manufacturing • Oil and Gas	
EHS Functionality	• Emissions Management • Energy Management • Water / Wastewater Management	• Sustainability Management • Sustainability Reporting • Legal Requirements • Compliance Management • Task Management	• Permit Management
Company Sizes Served		• Small (0 to $50 Million Revenue) • Medium ($50 Million to $1 Billion Revenue)	• Large (Above $1 Billion Revenue)
Geographies Served	• Asia / Pacific	• Europe • North America	
Technology Development Platforms	• MS Visual Basic • ASP • ASP.NET	• Microsoft .NET • HTML5 • C. C++	
Technology Delivery Model	• On Premise • Private Cloud • Perpetual License	• Public cloud hosted by third party • Software as a Service • Multi-site/enterprise based • Single-Site Based	
Partner Strategy		• Leverages Channel Partners and Content Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 6 months to 1 year • How soon after implementation customers see a positive ROI: 3 to 6 months	

Dakota Software

Launched near Rochester, NY in 1990, Dakota Software began as a tool primarily designed to help companies handle environmental audits. The intervening decades have seen the firm grow to more of a full service EHS management vendor, with a focus on compliance-related activities. In recent times, the company has broadened its offering with additional tools providing more of an overall EHS performance-based offering. The company has also relocated its HQ to Cleveland, OH, with remote staff based out of Texas, California, and beyond.

Some EHS management software vendors lean toward offering a very broad array of EHS modules customers can pick and choose from while others provide more defined software suites that include a subset of specific applications. Throughout most of its existence, Dakota has leaned towards the latter approach. The heart of its software offering includes five core applications: Profiler (requirements, regulations, and permits), Tracer (CAPAs), Auditor (audit-based requirement management), Scout (incident, near-misses, etc.), and Metrics (dash-boarding, analytics).

The key element that differentiates Dakota from many other EHS vendors is that, while others tend to rely on third-party integrations for deep compliance content, regulatory content has been a part of Dakota's core offering since day one. While it is fed to some extent by third-party content providers for certain regulatory content, Dakota has a dedicated team of compliance experts that ensure its database is up to date.

The key strength is Dakota's applicability engine, which helps businesses determine and track which key compliance requirements most directly affect their business and their activities. Since there is a vast array of compliance requirements that may or may not be relevant to certain end users, it can be hard for companies to navigate regulatory noise and to determine which key existing and changing regulatory requirements could ultimately affect their business.

Dakota's regulatory offerings cover many verticals with a good level of depth, with a few exceptions. For example, from food and beverage, life sciences, and

metals and mining perspectives, Dakota is currently somewhat challenged to help companies in these fields meet and maintain compliance. However, it plans to address many of these deficiencies in the near team, with particular attention to Food and Drug Administration (FDA) requirements.

Another differentiator for Dakota is its focus on consulting and compliance services. Launched in 2010, this arm of the company assists clients with software implementation and onboarding, aligning to and meeting the most relevant compliance requirements, and achieving ongoing and long-term compliance and performance goals.

The depth and breadth of Dakota's regulatory database and compliance-oriented functionality in some ways also fosters key opportunities for improvement for the company. The extents of its solutions go very deep into regulatory information, and its tools, in theory, enable clients to drill down into compliance performance. However, in some cases it can be challenging to leverage everything the system has to offer without the right training. As such, though Dakota's software is capable of providing highly granular information to clients, the company needs to provide the training, education, and services required to help clients use these tools to the fullest extent.

In terms of user interface, Dakota's software may require updating to keep pace with the industries increasingly high standards for intuitive and mobile friendly user-interfaces. However, this fact has been addressed recently in a very up-front manner and the company plans to revamp its UI and expand its focus on training and system adoption.

Dakota's key solutions have come a long way since the company was initially founded and it will continue to compete with other leaders in the EHS market. Dakota's key strength continues to be found in the scope of its regulatory content integration, and while this will persist, the company has ambitious designs on expanding the scope and usability of its solutions.

Dakota Software at a Glance

http://www.dakotasoft.com/

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Consulting • Government / Public Sector • Education	• Aerospace and Defense • Food and Beverage • Industrial Equipment Manufacturing • Oil and Gas • Chemicals	• Metals and Mining • Energy
EHS Functionality	• Emissions Management • Energy Management • Management of Change • Permit Management	• Incident Management • Audit Management • Legal Requirements • Compliance Management • Task Management	• Emissions Management • Water / Wastewater Management
Company Sizes Served	• Small (0 to $50 Million Revenue)	• Medium ($50 Million to $1 Billion Revenue)	• Large (Above $1 Billion Revenue)
Geographies Served	• Asia / Pacific • South America	• Europe • North America	
Technology Development Platforms	• MS Visual Basic • ASP • ASP.NET	• Microsoft .NET • HTML5 • C. C++	
Technology Delivery Model	• On Premise • Private Cloud • Perpetual License • Periodic License	• Public cloud hosted by third party • Software as a Service • Multi-site/enterprise based • Single-Site Based	
Partner Strategy		• Leverages Channel Partners and Content Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 6 months to 1 year • How soon after implementation customers see a positive ROI: 3 to 6 months	

EMEX

Founded in Dublin, Ireland in 1997, EMEX provides EHS software with a particular focus on health and safety, operational risk, environmental performance, and business intelligence (BI) reporting. With offices in Florida, London, Dublin, and Moscow, the company has achieved a well-rounded base of global clients with a particular focus on Oil and Gas, Metals and Mining, Logistics, and Public Sector customers.

Though EMEX's client base is globally dispersed, with presence in over 80 countries, the vendor has shown strength in a small number of regional markets, with the potential to expand to other key markets. For example, EMEX has maintained presence in areas like Russia and parts of Africa, including Nigeria, but is starting to build a footprint in the U.S. with several recent large customer wins.

Unlike some other vendors in the space that want to provide broad and diverse offerings, EMEX established a different approach from the onset, putting a laser focus on software addressing specific EHS management capabilities for large clients. By and large, EMEX has not deviated from this approach but is beginning to expand the scope of its core offering in targeted areas like advanced permitting and predictive analytics.

From a software standpoint, EMEX's strength is incident management. EMEX customers typically begin rollouts with this application either independently or with several other areas; often proceeding to implement audit, inspection, and Job Safety Analysis (JSA) and Risk tools, some other comparatively strong pillars of its offering.

In most cases EMEX opts for SaaS deployments and most of its implementations have been rolled out this way. In some cases where clients have expressed strict security concerns, the company has executed on-premises rollouts. Similarly, EMEX prefers to avoid perpetual licenses, but has made and will make arrangements in certain cases.

What is also notable about EMEX is that it has had a reasonably functional offline component for a number of years. The early adoption of offline functionality was likely driven by larger clients that required an offline

solution that could be used in more remote areas with limited connectivity, particularly in central African countries like Nigeria.

One omission from EMEX's suite of offerings is a native document management solution. EMEX essentially uses a shell around Microsoft SharePoint to store documents, and allows users to check in and check out documents and apply revisions.

With a fairly global customer base, EMEX, like many vendors in the space, has had to address multilingual requirements. While every part of the solution can be translated to any language, as opposed to either offering translation services or using APIs to integrate with Google or Bing translation engines, EMEX does not do direct translation on the behalf of a client because clients often handle it themselves. To date EMEX does not seem to leverage content partnerships substantially. For example, any emissions factors or coefficients that sit in the formula management component of its environmental performance applications tend to be manually inputted and updated by clients directly. While this grants clients "hands-on" ownership of the content used in the software, it is also potentially limiting, given some use up-to-date, integrated content and emissions calculations provided by third-party experts.

In the words of EMEX leadership, the company works with a small number of large companies to help co-create its product roadmap and strategy. On the one hand, it has its ear to the ground on the needs of key large, global clients. Alternatively, it could miss a focused strategy and vision for the marketplace.

All told, EMEX remains a specialized yet credible mid-tier provider of software squarely focused on health and safety, incident management, risk management, and environmental performance. Its tools possess a good degree of configurability, and its user interface could be updated to add a degree of intuitiveness.

Its regional expertise in Europe, Russia, and Africa may prove appealing to prospective customers among EMEX's key verticals who also operate or plan to operate heavily within these regions. Its emerging activity in the U.S. could compel prospective customers to ask about the company's regional progression and plans for tackling this market.

EMEX at a Glance
http://emex.com/

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Consulting • Food and Beverage	• Aerospace and Defense • Government / Public Sector • Industrial Equipment Manufacturing • Metals • Mining • Oil and Gas	
EHS Functionality	• Legal Requirements • Ergonomics	• Incident Management • Audit Management • Emissions Management • Energy Management • Water / Wastewater Management • Compliance Management • Risk Management	• Permit Management • MSDS or SDS • Materials Compliance Management (including Conflict Minerals)
Company Sizes Served	• Small (0 to $50 Million Revenue) • Medium ($50 Million to $1 Billion Revenue)	• Large (Above $1 Billion Revenue)	
Geographies Served	• South and Central America • Australia & New Zealand	• Europe • Asia / Pacific • Africa	• North America • Middle East
Technology Development Platforms	• C. C++ • MS Visual Basic • ASP • ASP.NET • MS Silverlight • MS SharePoint	• Microsoft .NET • HTML5	
Technology Delivery Model	• On Premise • Private Cloud • Perpetual License • Periodic License • Single-Site Based • Single-tenant	• Public cloud hosted by third party • Software as a Service • Multi-site/enterprise based • Multi-tenant	
Partner Strategy		• Leverages Channel Partners and Referral Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 6 months to 1 year • How soon after implementation customers see a positive ROI: 3 to 6 months	

Enablon

Founded in 2000 and based in both Paris, France, and Chicago, IL, Enablon is a leading provider of dedicated EHS and sustainability software with related integrated offerings in Operational Risk Management (ORM). With over 340 employees globally and 1,200 customers (including some of the world's largest companies), Enablon has positioned itself to be the EHS vendor that "enables the sustainable company," which is reflected in its product strategy. It offers solutions for a broad cross-section of clients, e.g., Aerospace & Defense, Food and Beverage, and Energy, with emerging coverage in industries outside of core EHS markets.

Enablon's long-term strategy is centered on capitalizing on current success and providing an offering that feeds into overall enterprise sustainability management, as opposed to being a pure-play EHS management software vendor. Renewed focus, recent additional investments in ORM solutions, and a flurry of new partnerships have underscored Enablon's progress in climbing out of the EHS-specific silo and addressing holistic, enterprise-wide sustainability requirements. Its track record, ambition, and history of comparative success help position it as one of the vendors with market leading growth in coming years.

Central to Enablon's offerings are many of the key products that are critical to any competitive EHS software solution, including incident, audit, training, and permit management applications. Given the capabilities in ORM mentioned above, the solution is solid, thanks in large part to the fact that Enablon has built out relationships with a variety of partners and embedded risk as a cornerstone of its product strategy.

User experience has been a long-time focus for Enablon and since its recent release, it continued to improve and is now comparable to many consumer-focused apps that have become the benchmark for enterprise software. Both Enablon's Web-based and mobile applications use many common best practices found in recent user experience conventions, namely an uncluttered, minimalistic, and intuitive user interface. A generally common user experience across both desktop and mobile devices helps user adoption, and an attractive and comparatively easy-to-use UI can help minimize training. While it supports functionality across both, Enablon has leaned towards a native app strategy over an HTML5-based approach.

Enablon's near-term product roadmap is currently focused on three hallmark EHS software concerns: mobility, predictive analytics, and broader integration of EHS with risk management. Enablon is succeeding in mobile solutions; the evolving strength of its offline capabilities should meet the needs of most customers. Some investment into the linkages between mobile and geo-positioning technology (such as iBeacons) has also been made on the company's behalf.

Some Enablon customers reported challenges migrating from the fifth version to the sixth. However, the company applied lessons learned on its migration approach for getting version six clients to version seven. By many accounts, the current migration process has been much smoother and shorter, and the company will be bringing nearly 60% of its customer base to the most recent iteration in a short time.

One notable factor that differentiates Enablon from many of its competitors is how it tends to downplay end-user configuration and customization of its products in favor of adopting best-practice-based approaches. Enablon seems to prefer to prescribe best practices to clients, leveraging years of expertise helping clients achieve ISO certifications, etc., and building on industry best practices to achieve EHS performance improvements.

With an intuitive user interface, broad and deep product functionality, and nearly 15 years of Web-based EHS software experience, Enablon has earned some of the largest and happiest EHS customers in the industry. Moving forward, large and mid-sized industrial companies with EHS needs should be taking a hard look at Enablon. As EHS competition continues to gear up, it will be interesting to see how Enablon manifests capabilities associated with risk management, for example, and how it will continue to compete with other key players in the space that have been moving into other areas of enterprise apps, including quality management.

Solution Selection Guide: Environment, Health and Safety (EHS) Software

Enablon at a Glance

http://enablon.com

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Aerospace and Defense • Automotive • Consulting • Consumer Durable (White) Goods • Government / Public Sector • Medical Devices • Paper / Lumber / Timber • Pharmaceutical Manufacturing • Publishing • Semiconductor	• Chemicals • Food and Beverage • High Technology • Mining • Oil and Gas	• Consumer Packaged Goods (CPG) • Industrial Equipment Manufacturing • Metals
EHS Functionality	• Training Management • Energy Management • Document Control / Document Management	• Incident Management • Audit Management • Permit Management • Emissions Management • Risk Management	• Waste Management • Water / Wastewater Management • Supplier EHS Performance
Company Sizes Served	• Small (0 to $50 Million Revenue)	• Large (Above $1 Billion Revenue) • Medium ($50 Million to $1 Billion Revenue)	
Geographies Served	• Australia & New Zealand • South and Central America • Asia / Pacific • Middle East • Africa	• North America • Europe	
Technology Development Platforms	• C. C++ • MS Visual Basic	• Microsoft .NET • ASP • ASP.NET • HTML5 • Web Services	
Technology Delivery Model	• Single-Site Based	• On Premise • Private Cloud • Public cloud hosted by software vendor & third party • Perpetual License • Single/Multi-tenant	
Partner Strategy		• Technology Partners, Service Partners, Content Partners, Software Partners, Channel Partners, Referral Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 6 months to 1 year. • How soon after implementation customers begin to see a positive ROI: Less than 3 months	

Enviance

Enviance was founded in 1999 and is based in Carlsbad, CA, with offices in the San Francisco Bay area and planned expansion to Houston in 2016. It provides EHS data management software with a focus on helping its customers manage regulatory compliance, improve operational risk management (ORM) capabilities, and build on overall operational efficiency and cost savings. With an enterprise platform and suite of technology solutions, the company considers itself "born in the cloud" with a globally scalable and secure multi-tenant architecture, and limited on-premises deployments.

While the company bills itself as providing a complete EHS offering, its strengths lie in environmental compliance and sustainability solutions, which provide notable analytical capabilities. It has a product list that runs the gamut from health and safety to environmental performance. However, its focused set of applications in health and safety (e.g. incident management, auditing, inspections) are relatively new compared to the more expansive environmental solutions, which include products to manage ISO 14001, air emissions, environmental incidents, chemical and hazardous waste and wastewater, as well as GHG and carbon tools. Announcements by Enviance indicate it is responding to the perceived gap with enhanced health and safety solutions such as inspection and ergonomics.

Whereas some vendors in the space often curtail their direct responsibilities in terms of service offerings, Enviance offers an array of first-party services directly to clients for implementation as well as support and training. The largely in-house aspect of service delivery—which also leverages the resources offered by Enviance's value-added partner channel—prepares the company to provide more individualized support when it comes to client implementations, etc.

It should be noted that Enviance, after 15 years of relatively positive growth, was purchased by Battery Ventures in February 2015. Battery is a VC firm based out of Boston, MA that looks for prospects in a broad array of markets, including those oriented around SaaS, Web infrastructure, e-commerce, digital media, and industrial technologies. Additionally, Enviance

recently acquired Remedy Interactive in the name of expanding its safety management software solutions. Though a smaller player in the space, Remedy is a progressive health and safety software vendor that could help Enviance improve the capabilities of its safety solutions.

In terms of geographical presence, Enviance principally boasts strength in North America, with emerging opportunities in many other regions worldwide, including Europe and Asia-Pacific. From an industry perspective, Aerospace, Chemicals, Energy and Utilities, Food & Beverage, Pharmaceuticals, and Oil & Gas tend to dominate Enviance's base, though it does have coverage and emerging capabilities across other verticals, such as semiconductors and high-tech.

From a partnership perspective, Enviance has a low reliance on partners for actual software development and improvement. It does rely on content partners for EHS compliance information and to ensure clients are able to access the most up-to date local and federal regulatory content. While the company's long-term strategy sets it up to be capable of pulling in more information for global clients outside of North America, its current set of capabilities primarily suits it to manage the demands specifically of North American regulatory requirements.

Enviance is a growing company with a history of evolution within the cloud space that is poised to potentially achieve traction in terms of global EHS management software. It has an opportunity for expansion across global markets beyond North America, where it has shown strength. While it has also demonstrated some limited capabilities in its health and safety offerings compared to the expansiveness of its environmental compliance solutions, its acquisition of Remedy Interactive shows it is fully prepared to improve its offering in the health and safety management space in order to provide a full-scale EHS offering. Its strengths in sustainability reporting (particularly with regard to carbon and emissions management) are worth consideration for any manufacturer that places this element of overall sustainability management in high regard.

Enviance at a Glance

http://www.enviance.com/index.aspx

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Automotive • Consumer Durable (White) Goods • Consumer Packaged Goods (CPG) • Education • Medical Devices • Packaging • Paper / Lumber / Timber • Telecommunications	• Aerospace and Defense • Chemicals • Utilities • Food and Beverage • Government / Public Sector • Oil and Gas • Pharmaceutical Manufacturing	• High Technology • Semiconductor
EHS Functionality	• Training Management	• Audit Management • Legal Requirements • Permit Management • Emissions Management • Waste Management • Energy Management • Water / Wastewater Management • Compliance Management • Ergonomics • Task Management	• Supplier EHS Performance • Incident Management • Industrial Hygiene • Risk Management
Company Sizes Served	• Large (Above $1 Billion Revenue)	• Small (0 to $50 Million Revenue) • Medium ($50 Million to $1 Billion Revenue)	
Geographies Served		• North America	• South and Central America • Europe • Asia / Pacific • Middle East • Africa • Australia and New Zealand
Technology Development Platforms		• .NET and ASP.NET • HTML5 • Web Services and REST • JavaScript (AngularJS)	
Technology Delivery Model	• On Premise • Perpetual License	• Software as a Service (SaaS) • Platform-as-a-Service (PaaS) • Multi-tenant	
Partner Strategy		• Leverages Technology Partners, Service Partners, Content Partners, Software Partners, Channel Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 6 months to 1 year	

EtQ, Inc.

EtQ, Inc. was founded in 1992 and its first software products were launched in 1995, including primarily quality management and environmental management solutions. Since then, the company has expanded its set of offerings. While ostensibly focused on quality management solutions, EtQ actually develops enterprise software for quality, EHS, operational risk management (ORM), and sustainability management. The bulk of its current clientele relies on its quality-based offering; however, over 25% use its EHS offerings exclusively and another 17% use both quality and EHS solutions.

Its first software products were based on ISO 9001 and 14001, respectively. The company embraced a new market in 2000 as it expanded its scope to address quality and EHS holistically with its branded "Reliance" solution set. This included a set of modules that addressed CAPA, audit and incident management, and now process safety and Job Safety Analysis (JSA). The company later began to embed a comprehensive approach to quality and EHS-based risk within its solution, the latter of which is an area of strength.

From a mobility perspective, EtQ has developed a mobile platform that enables users to effectively mobilize any application they currently use. With a responsive design leveraging an HTML5-based framework useable across iOS and Android operating systems, EtQ has enabled users to effectively use many existing applications on a mobile basis. It has also created a number of dedicated, out-of-the-box mobile applications. This mobile approach also provides reporting and analytics capabilities for those on the plant floor.

Like a number of other forward-thinking players in the space, EtQ acknowledges that in the future there will be a decreasing delineation between mobility and desktop functionality and a greater unification of the two across all devices. As such the company has constructed a mobile environment that, instead of separating the foundational elements of mobile and desktop, marries the two within one framework.

In terms of sustainability and associated reporting, EtQ has developed modules with capabilities including environmental aspects, objectives, targets, and overall sustainability performance management to improve customers' capacity to track, measure, and report on sustainability initiatives. Calculation engines within these solutions enable customers to enter variables and push reports on environmental, financial, and social responsibility metrics for the purposes of internal measurement and sustainability reporting.

With EtQ's initial focus on quality management and environmental management solutions, it is tempting to think of the vendor's health and safety capabilities as an afterthought. However, the company's safety management suite is quite capable. Long in development and well-connected to its sibling quality and environmental solutions, health and safety can be considered a strength in the overall product profile.

EtQ has taken an interesting approach by launching products targeted for the Small and Midsize Business (SMB) segment that supplement its Reliance enterprise platform. traqpath is a free solution for work groups and small businesses to manage simple compliance activities for events, including corrective actions. VERSE is a broader cloud-based product with core quality and EHS management capabilities such as incidents, corrective actions, change management, risk assessment and training. These offerings could be a cost-effective way for SMBs, single sites, or small business units to manage EHS depending on the breadth and complexity of requirements. Offering a range of solutions for various market segments is a smart approach and we are interested to see the uptake of traqpath and VERSE for EHS purposes in the SMB space.

Companies seeking a vendor capable of integrating with existing ERP systems and providing a well-rounded offering with coverage across environmental, quality, and health and safety management capabilities —that also features a progressive mobile strategy— should consider the EtQ Reliance platform for multi-site, global deployments across the enterprise. As noted above, the VERSE solution may be a fit for SMBs with more limited EHS requirements. Another factor to consider is that EtQ's EHS and quality solutions align well with other enterprise management systems (asset management, manufacturing execution, etc.), offering the opportunity for further business integration benefits.

EtQ, Inc. at a Glance

http://www.etq.com/

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Government / Public Sector • Paper / Lumber / Timber • Semiconductor	• Aerospace and Defense • Automotive • Chemicals • Food and Beverage • High Technology • Industrial Equipment Manufacturing • Medical Devices • Pharmaceuticals • Transportation – Airlines	• Oil and Gas • Telecommunications • Utilities
EHS Functionality	• Industrial Hygiene • Materials Compliance Management (including Conflict Minerals)	• Incident Management • Audit Management • Training Management • Legal Requirements • Task Management • Supplier EHS Performance • Sustainability • Risk Management	• Permit Management • Emissions /GHG Management • Waste Management • Energy Management • Water / Wastewater Management
Company Sizes Served		• Small (0 to $50 Million Revenue) • Medium ($50 Million to $1 Billion Revenue) • Large (Above $1 Billion Revenue)	
Geographies Served	• Africa • South and Central America	• North America • Australia & New Zealand • Europe	• Asia / Pacific • Middle East
Technology Development Platforms	• MS SharePoint • Oracle Fusion • IBM WebSphere • Documentum scup	• Java / J2EE • HTML5 • Web Services • SAP NetWeaver	
Technology Delivery Model	• On Premise • Single-tenant	• Private Cloud • Public cloud hosted by third party • Perpetual License • Software as a Service • Single-Site Based • Multi-site/enterprise based	• Public cloud hosted by software vendor
Partner Strategy		• Leverages Technology Partners, Service Partners, Channel Partners	
Time-to-Solution Value	•	• Average EHS / Sustainability project implementation time: 3 to 6 months • Average EHS / Sustainability project implementation time: 6 months to 1 year	

Gensuite

Gensuite, LLC is a provider of cloud-based EHS and sustainability software solutions headquartered in Cincinnati, OH. The company was formed in 2008 to commercialize EHS applications that had been developed by General Electric (GE) in the previous decade to meet its internal EHS information management requirements. Gensuite has established global operations with over 200 employees located in seven countries in the Americas, Europe, and Asia-Pacific regions.

The worldwide installed base is substantial, with 500,000 users across 200 customers (known as "subscribers") with 18,000 sites in 120 countries. Not surprisingly GE is the single largest customer, representing about a quarter of the sites using the software. To date customers have come mainly from the general Manufacturing, Chemicals, Oil & Gas, and Life Sciences industries, among others. Compared with some other EHS software vendors, a relatively large proportion of Gensuite's customers are small and medium enterprises (SMEs), along with large enterprises.

In terms of functionality, the Gensuite offering is quite broad, which makes sense in light of its GE heritage. Customers can select from 65 functional modules in categories including: compliance assurance, incident management, training, environmental compliance, safety management, chemical and product management, and dashboards. The "specialized processes" categories includes various modules such as management of change, permit management, and action plan manager. Notably, the suite includes cross-functional modules for sustainability management, quality assurance, product compliance, and security management. The Maintenance Manager application released in January, 2016 is a preventive maintenance and work order management system. With these cross-functional applications, Gensuite not only offers diversified EHS applications, but also is among the leaders in supporting the operational integration of EHS into related business processes.

From a deployment standpoint, Gensuite is offered as a pure Software-as-a-Service (SaaS) Web-based offering in which customers pay a subscription fee in proportion to their use of the system. As more enterprise applications move to the cloud, many companies find the SaaS model to be attractive in terms of simplified deployment and maintenance, at lower cost than a traditional on-premises solution. Gensuite was an early adopter of mobile technology going back to 2003 as part of the GE in-house solution, and today offers a relatively wide selection of native mobile apps for Android and iOS devices called "Gensuite On the Go." Mobile apps include audits, inspections, compliance calendar, and action tracking. Of special note, the offering includes "Gensuite READY," a preconfigured best practices solution that is intended to be deployed in a matter of weeks.

Gensuite will appeal to companies who are looking for a comprehensive suite of functionality with the advantages of a true multi-tenant cloud solution. Strengths include flexible modular deployment, mobile apps, and in-house EHS domain expertise stemming from the GE origins. Multilingual support along with a well above-average global presence fits well with the needs of multi-national organizations. Those companies looking to further integrate EHS with sustainability, quality, product compliance, or maintenance will find available solutions, although they may be relatively narrow in scope, so these areas should be carefully evaluated against business requirements.

For Operational Risk Management, Gensuite relies heavily on Job Safety Analysis at the task level, but lacks full support for a holistic, closed-loop risk management process via ISO 31000, although this area is targeted for enhancement. LNS would like to see more standard enterprise integration scenarios available and adopted beyond HR to help customers operationalize EHS. Small and medium enterprises should investigate the Gensuite READY pre-configured option, as this could be a cost-effective solution for single sites and smaller companies, and a good way for larger enterprises to conduct low-risk pilot projects before global roll-outs. All in all, Gensuite is a worthy contender in the cloud-based EHS software arena.

Gensuite, Inc. at a Glance

http://www.gensuite.com/

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Food and Beverage • Government / Public Sector • Education • Consulting • Semiconductor • Publishing	• Aerospace and Defense • Automotive • Chemicals • Consumer Products High Technology • High Tech / Medical Devices • Industrial Equipment • Metals, Mining • Packaging • Paper / Lumber / Timber • Pharmaceuticals • Transportation – Airlines • Oil and Gas • Telecommunications • Utilities	
EHS Functionality	• Document Control • Energy Management • Industrial Hygiene • Supplier EHS Performance • Materials Compliance Management (including Conflict Minerals)	• Incident Management • Audit Management • Training Management • Legal Requirements • Task and Permit Management • Waste management • Industrial Hygiene • Safety Data Sheets (SDS) • Ergonomics	• Risk Management • Emissions Management • Water / Wastewater Management
Company Sizes Served		• Small (0 to $50 Million Revenue) • Medium ($50 Million to $1 Billion Revenue) • Large (Above $1 Billion Revenue)	
Geographies Served	• Africa • Middle East	• North America • Australia & New Zealand • Europe • Asia / Pacific • South and Central America	
Technology Development Platforms		• Java / J2EE • HTML5 • Web Services	
Technology Delivery Model		• Software-as-a-Service • Multi-tenant • Single tenant • Private cloud • Single-Site Based • Multi-site/enterprise based	
Partner Strategy		• Leverages: Technology Partners, Service Partners, Content Partners, Channel Partners	
Time-to-Solution Value	•	• Average EHS / Sustainability project implementation time: 3 to 6 months • Average time to positive ROI after implementation: 6 months to 1 year	

IHS

IHS is a large, global provider of a broad array of products and services designed to help companies use analytical tools to improve process automation and decision-making capabilities. IHS evaluated its Operational Excellence and Risk Management group in October 2015 and announced its plan to divest, which should be noted.

The company consolidated aspects of its EHS, risk management, and Operational Excellence-oriented software by combining software, content, implementation services, and regulatory experts. The consolidation began in 2007 with hazardous materials management software firm EnvironMax, followed by Environmental Software Providers, Dolphin Software, Environmental Support Solutions (ESS), Atrion International, Syntex Management Solutions, Dyadem International and CyberRegs.

As of October 7, 2015 IHS announced the intent to divest these software assets. Although no timetable has been established, these software assets have been operating relatively independently within IHS for years and LNS Research expects the transition to new ownership to be relatively seamless for customers, with potential upside.

Central to IHS' approach to helping clients build, manage, and execute enterprise EHS (as well as other) management system programs is the ultimate goal of driving Operational Excellence, a term central to the organization's lexicon. As with other management system approaches that seek to provide a standardized approach, with EHS the company strives to develop an alignment between asset optimization, operational efficiency, and capital effectiveness (through managing risk, contractors, and project planning).

Accordingly, in terms of process automation, IHS frames EHS and sustainability processes and goals very much in terms of overall Operational Excellence. While IHS was one of the first to pursue an EHS acquisitions strategy which now several other vendors are following; it is increasingly moving toward an integrated mindset, pulling all management system software across the company into an Integrated Management System (IMS) framework. It rolls EHS and sustainability factors up into overall Operational

Excellence metrics and leans away from addressing management system processes individually. For example, its solutions attempt to address quality risk management as it relates to EHS risk management.

From a content perspective, IHS manages its own content, not relying on third-party content partnerships, and leverages long-term domain and industry-based experience. It tends to manage its own implementations, rather than relying on third-party consultants to ensure the success of customer projects. IHS has developed comparatively robust solutions that span environmental performance, product stewardship and operational risk management.

From a user interface and application integration perspective, IHS—like many large global companies that have made multiple acquisitions in recent years—has seen some challenges in reconciling the solutions of acquired companies with existing enterprise software architecture. However, the broad set of capabilities it offers are a function of the acquisitions it has made. IHS is taking a smart approach to making common what makes sense and leaving separate that which may not benefit from commonality. In the cases where applications will not be fully integrated, a consistent web-services approach will be used for data and workflow integration.

IHS is progressive insofar as it clearly associates EHS management capabilities in terms of the relationship to other enterprise management programs (e.g. quality, asset, etc.) and drives customers toward building an integrated management system approach. It must achieve a balance in terms of addressing the broad, integrated management approaches it helps clients strive toward while also both providing domain expertise in EHS management and content and reconciling acquired solutions.

However, IHS remains a viable option for large global manufacturers seeking an enterprise software solution and it tends to manage its own implementations, rather than relying on third-party consultants to ensure the success of customer projects. IHS has developed comparatively robust solutions that span environmental performance, product stewardship and operational risk management.

IHS at a Glance

https://www.ihs.com/index.html

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Aerospace and Defense • Automotive • Government / Public Sector	• Chemicals • Oil and Gas • Mining	• Pharmaceutical Manufacturing
EHS Functionality	• Training Management • Energy Management • Supplier EHS Performance • Compliance Management • MSDS / SDS	• Incident Management • Audit Management • Legal Requirements • Permit Management • Emissions Management • Risk Management	• Waste Management • Energy Management • Water / Wastewater Management
Company Sizes Served		• Medium ($50 Million to $1 Billion Revenue) • Large (Above $1 Billion Revenue)	
Geographies Served	• Africa	• North America • Middle East • Australia & New Zealand • Europe	• South and Central America • Asia / Pacific
Technology Development Platforms	• C. C++ • MS Visual Basic • ASP	• Java / J2EE • Microsoft.NET • ASP.NET	• HTML5
Technology Delivery Model	• Public Cloud	• On Premise • Private Cloud • Public cloud hosted by third party • Perpetual License • Single-tenant	• Public cloud hosted by software vendor
Partner Strategy		• Leverages Technology Partners, Service Partners, Channel Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 6 months	

Intelex Technologies, Inc.

Founded in 1992, Intelex Technologies, Inc. began as a software company focusing on developing PC-based EHS software. In 1999, the company became one of the first vendors to provide a Web-based solution for EHS management. Within a few years, the company included Enterprise Quality Management Software (EQMS) in its portfolio, and has since demonstrated strength across both offerings, as well as within its integrated management system solutions.

With over 370 employees and based in Toronto, Canada, the company has a large global user base of over 1,000 customers and 1 million users, nearly 60% of which are located in the U.S., including manufacturers with global operations. Though the company serves a wide array of global enterprises, it has not forgotten mid-market/SMBs that require a scalable EHS management solution and it has incorporated this into its strategic plan.

Intelex has been a forerunner in "giving the customer the keys" to its various modules and applications. In the early 2000s, Intelex introduced its "iForms" product, since rebranded "Application Builder," enabling business users to configure and create applications to meet their specific business requirements. This is a powerful resource especially for large enterprise customers with diverse, specialized requirements. Over time, Intelex also evolved a "best practices" offering with pre-configured forms, workflows, reports, etc. that can be used largely out-of-the box, simplifying the implementation process. Offering both approaches is a sound strategy to meet the needs of various market segments.

Intelex has a strong record of growth in the past decade and seems to be on a trajectory to further entrench itself as a key player within the EHS software marketplace, as well as EQMS. While Intelex has great strengths in form and function, it has long lacked a robustness in terms of depth of content. That seems to be changing, however.

Recently, Intelex has placed substantial emphasis on building out partnerships with third-party content providers, and integrating their offerings into the Intelex platform. For example, connectors have been built to enable regulatory content from RegScan and Enhesa to be automatically updated and made available for compliance applications in the Intelex system. Periodic updates can be set up in the background, greatly streamlining the process of identifying and acting on changes to regulatory requirements. Partnerships are also in place with SiteHawk and 3E for chemical safety and SDS information, although these partnerships are in an earlier stage of implementation.

It is worth noting that Intelex has shifted in recent years, from simply providing EHS and quality management to attempting to embed risk management, sustainability performance, and other enterprise programs into its overall offering. While information security (namely an ISO 27001 application) is still in the offing for the vendor, it is clear it has taken both operational and enterprise risk seriously, embedding risk frameworks. Intelex has done the same with sustainability, but more client success must be demonstrated before victory can be claimed.

With both native apps and HTML5 offerings, Intelex is on par with key competitors, emphasizing incident and auditing capabilities as top priorities. With its Eversync tool, Intelex has demonstrated strength with offline capabilities, something that has resonated with many industries dealing with connectivity issues. Finally, it is worth noting that Intelex made significant improvements to its reporting and analytics capabilities in 2015, and offers strong dashboard and report building capabilities, and tools to ease integration with enterprise Business Intelligence (BI) applications.

Given the recent investment made by JMI Equity, Intelex is a vendor with momentum on its side. The company is worth a look from many prospective buyers and it will be interesting to see if it can keep pace with increasing competition, customer requirements, and market expectations.

Intelex Technologies, Inc. at a Glance

http://www.intelex.com/

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Chemical • Consulting • Consumer Durable Goods • Consumer Packaged Goods • Education • High Technology • Medical Devices • Paper / Lumber / Timber • Pharmaceutical Manufacturing	• Aerospace and Defense • Automotive • Food and Beverage • Government / Public Sector • Industrial Equipment • Metal • Mining • Oil and Gas • Utilities	
EHS Functionality	• Waste Management • Energy Management • Personal Protective Equipment (PPE)	• Incident Management • Audit Management • Training Management • Permit Management • Compliance Management • Task Management • Document Control / Document Management	• Emissions Management • Water / Wastewater Management • Supplier EHS Performance • Industrial Hygiene • MSDS or SDS • Risk Management
Company Sizes Served	• Small (0 to $50 Million Revenue)	• Medium ($50 Million to $1 Billion Revenue) • Large (Above $1 Billion Revenue)	
Geographies Served	• Africa • Asia / Pacific	• Australia & New Zealand • Middle East • North America • Europe	
Technology Development Platforms		• Microsoft .NET • ASP • ASP.NET • HTML5 • Web Services	
Technology Delivery Model		• Public cloud hosted by software vendor • Software as a Service	
Partner Strategy		• Leverages Technology Partners, Service Partners, Content Partners, Channel Partners, Referral Partners • 10 certified / qualified systems integration partners for EHS & Sustainability offering	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 6 to12 months • How soon after implementation customers see a positive ROI: less than 3 months	

Locus Technologies

Locus Technologies was founded in 1997 in the tech hub of Mountain View, CA on the concept of delivering enterprise environmental and sustainability software online or via a Software as a Service (SaaS) model. The company first introduced its cloud service in 1999. Locus views itself as a company that helped develop multi-tenant SaaS solutions in the EHS space and continues to advocate such architecture. Locus' software platform is the foundation for application-launching and integration across the spectrum of environmental, water, energy, and carbon management activities and integration with corporate ERP systems through the cloud.

Though Locus offers a broad palate of solutions across water, health and safety, sustainability, energy, air and GHG, and even conflict minerals/materials compliance, its obvious strength and focus lies in environmental and EDIS solutions. Its software arguably provides businesses with the capacity to organize and validate key environmental information, including analytical data for water, air, soil, greenhouse gases, sustainability, energy, and compliance. Locus also introduced enhanced mobile capabilities towards the end of 2014 with a focus on native applications for iOS devices (with no plans for support for BlackBerry or Windows-based devices) and an emphasis on security.

From a content perspective, Locus does not rely heavily on partners and instead looks inward to its foundation of domain expertise to propel its solutions. It focuses on four key content packages, including analytical information, environment and sustainability, health and safety, and task, permit, and compliance management. There is also a focus on managing large quantities of data, from cradle to grave, with the underlying intention of bringing existing client data into the fold in order to develop additional—and more specific—content packages. For example, if a client has built out an asbestos management practice within a spreadsheet program, Locus' existing system is capable of pulling that information into its database and linking it to other relevant management programs.

Locus' current key clientele tends to reside within five key sectors: Food and Beverage, Transportation, Oil and Gas (principally upstream, including hydrofracking), Water Utilities, and Energy, including nuclear facilities for government (DOE) and the commercial nuclear industry. In the latter case, the company purports that 50% of reactors in the U.S. are using its system to manage radionuclides in water and soil, a fact that— combined with Locus' comparatively low reliance on content partnerships—underscores the company's emphasis on a history of very specific domain knowledge as a part of its value proposition.

From a regional perspective, nearly 80% of Locus' clients reside in the United States, a statistic that showcases—in spite of Locus' strengths in product and domain expertise—a current limitation from an international client base perspective. While it does not seem that Locus currently has ambitions to move into broader international markets, there are signs of steady growth in this regard and eventually the company may achieve a wider global client base.

The Locus platform offers a comparatively intuitive interface with flexibility to incorporate features such as drag-and-drop forms creation, visual business-process modeling, Excel import/export integration, and a rich and configurable user dashboards and reporting interface. Locus created each feature from an end-user perspective to promote quick and easy data capture and task management. Locus customers should see significant savings over traditional software offerings both at the time of implementation and over the long term.

Analytical capabilities of the system (particularly from an environmental management perspective) are robust and enable users to drill down with forms, workflows and reporting capabilities. Locus has clear roots in the realm of environmental consulting and information management and, since moving into providing a more comprehensive environmental management solution, this has helped the vendor achieve strength in this regard. However, it is worth any prospective customer seeking a broad-based, complete EHS solution to drill down on the vendor's health and safety management capabilities in particular.

Locus Technologies at a Glance

http://www.locustec.com/

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Consulting • Food • Mining	• Aerospace and Defense • Automotive • Chemicals • Food and Beverage • High Technology • Oil and Gas • Pharmaceutical Manufacturing • Utilities (nuclear) • Transportation	• Government / Public Sector • Telecommunications
EHS Functionality	• Audit Management	• Water / Wastewater Management • Energy Management • Waste Management • Emissions Management • Task Management • Permit Management • Incident Management	• Permit Management • Standard Operating Procedures (SOP • Risk Management
Company Sizes Served	• Medium ($50 Million to $1 Billion Revenue)	• Large (Above $1 Billion Revenue)	
Geographies Served		• North America • Europe	• Asia / Pacific • Africa
Technology Development Platforms		• Java / J2EE • C. C++ • HTML5 • Web Services	
Technology Delivery Model		• Private Cloud • Public cloud hosted by third party • Perpetual License • Periodic License • Multi-tenant	
Partner Strategy		• Leverages Service Partners, Content Partners, Channel Partners, Referral Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 3 to 6 months • How soon after implementation customers see a positive ROI: 3 to 6 months	

MetricStream

Currently headquartered in Palo Alto, CA and with offices in France, Spain, Italy, the U.K., and Germany, MetricStream bills itself as a vendor in Governance, Risk, and Compliance (GRC) that is emerging in the EHS and Quality space. Founded in 1999, the company merged with another small provider, Zaplet, in 2004, and inherited the latter's executive chairman as its own as a result of the merger. Zaplet still exists, but as a Platform as a Service (PaaS) entity that delivers MetricStream GRC solutions through the cloud. In terms of its client base served, MetricStream spans a wide range of clients around the globe, yet has expertise in Energy and Utilities, Food & Beverage, High-Tech, Oil & Gas, Automotive, and Industrial Equipment.

MetricStream set itself ahead of the EHS spectrum by embedding risk, compliance, and audit into most of the entire spectrum of EHS, but also by providing tools for customers to evaluate risk and compliance across the supply chain. Many vendors have incorporated either operational risk management or enterprise risk management into their frameworks, and some have holistically incorporated both.

MetricStream has taken more of the latter approach. Where the company does not necessarily provide niche solutions, it does offer comprehensive operational and enterprise risk management solutions, which aligns well with its GRC-focused approach and the needs of some highly regulated industries. Its solutions help address different risks at different levels of an organization, from site to region to enterprise, and also help clients establish a common taxonomy across risk management throughout these levels.

The company's solutions are also progressive insofar as they have the capacity to link data derived from sources such as social media, news feeds, and sensors. However, this is becoming an increasingly prevalent feature and focus in the market, and MetricStream is finding and will continue to find it harder to establish a marked differentiator in this regard.

With its Zaplet partnership, MetricStream has assisted in building out a "Zaplet Store," a single point of sale for all the GRC applications built by MetricStream and its partners. Modeled after commonly used app-purchasing environments like Google Play Store and Apple's App Store, the Zaplet Store makes it easy to identify applications to support GRC ecosystems.

From a partner perspective, while MetricStream has an array of reseller, technology, and consulting partners, the vendor is in the process of expanding relationships with content partners. While the company describes itself as relying on "content experts" and "regulatory sources," it is unclear how much it relies on content-driven, acquired, and delivered on in-house sources, and how much it relies on commonly used third-party regulatory content experts, which many competitor vendors in the space either turned to long ago, or have turned to recently to improve comprehensiveness of products and timeliness and relevancy of content.

What is important to note is that while its solutions do address a range of EHS issues, MetricStream takes a higher-level approach to the pursuit of EHS performance, and is instead driven by GRC, EHS, and risk drivers. It features some EHS exclusive apps that address specific elements of EHS performance (incident management, etc.) but many of its other applications—or suites—are built into much larger, wide-lens GRC solutions.

It should be noted the company secured more than $60 million in strategic financing through the investment firm Sageview Capital. This supports existing investors Goldman Sachs and Kaiser Permanente Ventures, and also involved one of Sageview's co-founders, Ned Gilhuly, joining the MetricStream Board.

It is also noteworthy that the company is building out into the quality sphere, and to integrate it with EHS within one ecosystem. This move aligns well with the trend of EHS vendors moving into Integrated Management System software—not to mention of Quality Management System vendors building EHS into their solutions for the same effect. Prospective clients should consider MetricStream if they desire a more comprehensive GRC approach to EHS management, as opposed to more granular initiatives.

MetricStream at a Glance

http://www.metricstream.com/

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Consulting • Government / Public Sector • Metals • Mining	• Aerospace and Defense • Food and Beverage • Industrial Equipment Manufacturing • Oil and Gas • Chemical	• Automotive • Construction • Semiconductor
EHS Functionality	• Emissions Management • Energy Management • Water / Wastewater Management	• Incident Management • Audit Management • Legal Requirements • Compliance Management • Task Management • Risk Management • Permit Management	• Industrial Hygiene • PPE
Company Sizes Served	• Small (0 to $50 Million Revenue)	• Medium ($50 Million to $1 Billion Revenue)	• Large (Above $1 Billion Revenue)
Geographies Served	• Asia / Pacific	• Europe • North America • Middle East	
Technology Development Platforms		• Java / J2EE • HTML5 • Web Services	
Technology Delivery Model	• On Premise • Private Cloud • Periodic License	• Public cloud hosted by third party • Software as a Service • Single-Site Based	
Partner Strategy		• Leverages Channel Partners and Content Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 6 months to 1 year • How soon after implementation customers see a positive ROI: 3 to 6 months	

ProcessMAP

Founded in 2000 in Sunrise, FL ProcessMAP offers a full suite of EHS-focused compliance solutions. With a focus on managing EHS, sustainability, and compliance, three pillars that constitute the company's core offering, ProcessMAP has established a strong footing among mid-market to global enterprise customers. The company has a presence in over 90 countries and a user base of over one million.

ProcessMAP bills itself as one of the only multi-tenant EHS cloud platforms and, while this may be a debatable claim, the company has certainly focused on the cloud, offering no on-premises solutions. What is more notable is the company's long-term risk-centric approach and its focus on nurturing robust integrations with BI vendors for analytics to, for example, help customers understand the complete lifecycle costs of EHS management from a bottom-line perspective. While comparatively new to mobility, the company has released a series of native mobile applications that cover most aspects of its standard EHS offering.

ProcessMAP's long-term focus on risk management cannot be downplayed. While many vendors in the space have only recently established tools with risk central to managing EHS performance, ProcessMAP was early to the game. With tools that assess financial risk, claims exposures, environmental risk, and beyond, it has embedded risk into its offering since inception.

While the company covers an array of verticals from a customer perspective, it has key expertise in manufacturing, distribution, retail, and life sciences. Many clients in the industries it serves span the globe, have annual revenues of anywhere from $1 billion to $98 billion, and feature a user base of 1,000 to 50,000 users. Geographically, it has presence in North America with a recent focus in Latin America, Europe, and Asia-Pacific.

While ProcessMAP's software has always had native analytics and reporting capabilities, its integration with back-end advanced analytical tools provided by other vendors leverages the reporting power of such tools to better correlate and assess Big Data to fuel EHS decision making. Similarly, the vendor does not provide in-depth consulting services, such as

sustainability consulting. It has some domain expertise but prefers to focus on software as a core competence and use integrations and partnerships. For example, it partners with content providers such as Enhesa and Specialty Technical Publishers (STP) to pull EHS compliance and audit information into its system.

ProcessMAP's suite of EHS management applications is configurable by design and due to its multi-tenant architecture is not able to provide a unique code base to each customer. The company's solutions easily enable users to alter specific aspects of the front end of the software, such as moving elements of the interface around and renaming fields and terms. Though there is some flexibility in this regard, enabling users to build, for example, applications and workflows from scratch is not the company's focus.

ProcessMAP has made integrations with third-party providers relatively seamless. From integrations with Learning Information Management Systems (LIMS), payroll systems, Risk Information Management Systems (RIMS), Third-Party Administrators (TPAs), and existing ERP systems, ProcessMAP's EHS and sustainability hub speaks well to other information management systems. Also, since linkages with BI systems are intrinsic to the analytics aspects of ProcessMAP solutions, they are embedded into pricing.

Also, whereas some vendors have tools that cobble together data from many disparate sources in order to help users discover the complete lifecycle costs of an incident, financial considerations related to EHS activities have been embedded into ProcessMAP's solutions from the start. As such it is easy for EHS and executive leadership to get a comprehensive, at-a-glance assessment of complete EHS metrics and KPIs.

With a comparatively sleek UI, emerging mobile capabilities, strong integration capabilities, and a focus on assessing the financial impacts of EHS performance, ProcessMAP has a strong solution worth considering for mid-market to global customers. The company should be considered by those seeking an array of integrations with external and internal systems not requiring deep customization and focused on financial analytics linked to an embedded BI tool.

ProcessMAP at a Glance

http://www.processmap.com/

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Aerospace and Defense • Consulting • Education • Government • High Technology • Oil and Gas • Telecommunications • Consumer Packaged Goods • Pharmaceutical Manufacturing • Industrial Equipment	• Automotive • Food and Beverage • Chemical	• Retail
EHS Functionality	• MSDS/SDS • Legal Requirements • Emissions Management • Waste Management • Energy Management • Water / Wastewater Management • Document Control / Document Management • Standard Operating Procedures (SOPs)	• Incident Management • Audit Management • Compliance Management • Industrial Hygiene • Training Management • Risk Management	• Supplier EHS Performance • Materials Compliance Management (including Conflict Minerals) • Ergonomics • Occupational Health
Company Sizes Served	• Small (0 to $50 Million Revenue)	• Medium ($50 Million to $1 Billion Revenue) • Large (Above $1 Billion Revenue)	
Geographies Served	• Middle East • Africa • Australia & New Zealand • South America	• North America • Europe • Asia / Pacific	
Technology Development Platforms	• Java / J2EE • C. C++ • ASP.NET	• Microsoft .NET • MS Visual Basic • MS Silverlight • HTML5 • Web Services • MS SharePoint	
Technology Delivery Model	• Software as a Service	• Private Cloud • Periodic License • Single-Site Based • Multi-site/enterprise based • Multi-tenant	
Partner Strategy		• Leverages Technology Partners, Service Partners, Content Partners • Five certified / qualified systems integration partners for EHS & Sustainability offering	
Time-to-Solution Value		• Avg. Implementation: 3-6 Months • How soon after implementation customers see a positive ROI: Less than 3 months	

Rivo

Rivo Software was founded in 2003 primarily as an EHS software vendor. The organization achieved major growth during the following decade and has since become a notable vendor in the EHS and operational risk space, with backing by private equity firms Kennet and Eight Roads since 2013

Rivo is active globally, with offices in the U.K. and the U.S. Historically its business activity was concentrated in the U.K., but the company has since expanded into Europe, North America, Southeast Asia, and the Middle East. The organization has a substantial user base of over 500,000 individuals. Rivo has a significant partner network, with several resellers as well as content, implementation, and technology partners.

From a strategic perspective, Rivo has chosen to marry EHS capabilities with risk management capabilities—not an uncommon or unwise choice for vendors in the EHS software space these days. The company began operations specifically as a health and safety-oriented offering, and eventually expanded into other areas, including environmental management, security and loss prevention, and operational risk management.

Rivo offers a true multi-tenant SaaS solution. It is a broad, highly configurable EHS platform weighted towards health and safety capabilities and features capabilities such as incident management, audit management, training, and action management. Full-cycle risk management processes are supported, from hazard identification, risk analysis, and control measure implementation for specific tasks, through to management of operational and corporate risks at the enterprise level.

A number of years ago, Rivo transitioned its model from being purely EHS-centric to one that encompassed all aspects of sustainability, something central to the LNS Research model of performance, where EHS—like asset performance, quality management, manufacturing operations, and other modes critical to Operational Excellence—does not reside "in a box" separate from other elements.

Rivo is also to be recognized for application security. For end users who emphasize security as critical to their investments in EHS software, it is worth closely

looking at Rivo's commitment in this regard. Also Its commitment to provide global, 24/7 phone support should also provide some degree of reassurance to organizations seeking that level of sustained, ongoing support services.

Rivo's early investment in mobile technology is notable. Many vendors in the EHS space have been playing catch-up in this regard, so it has been encouraging to see Rivo comparatively ahead of the curve with a native and ready-to-deploy mobile app available that works in both online and offline modes (e.g. for incident management).

Rivo's interface is designed to be intuitive and offers comprehensive analytics and dashboards. Not only is it comparatively easy to communicate to the system where, for example, incidents and accidents impact particular body parts, it is also relatively easy to gain at-a-glance visibility of emissions, compliance audits, geographical performance mapping, compliance performance, and more.

In summary, Rivo provides a compelling solution in the EHS and risk management space. Its correlation to quality management, asset health, and manufacturing operations would be worth investigating further for organizations considering either an Integrated Management System (IMS), or strong linkages between all these areas of performance management. Its strong roots in health and safety management are evident, and it has branched out to support other aspects such as environmental management.

Moreover, its early drive to link EHS management to both risk management as well as the potential of mobile devices in the EHS space is encouraging. Rivo is fundamentally worth considering for organizations focused on the key issues of mitigating manual and disparate systems in EHS management; assessing the impacts of injuries, lost time, compliance failures, and environmental damage; and overcoming the barriers to an enterprise IT infrastructure.

Rivo Software at a Glance

http://www.rivosoftware.com/

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Education • Consulting • Chemicals • Automotive • Food and Beverage	• Consumer Packaged Goods • Oil and Gas • Industrial Equipment Manufacturing • Government/ Public Sector • Utilities • Waste Management • Retail • Transportation	
EHS Functionality	• Energy Management • Water / Wastewater Management	• Incident Management • Audit Management • Training Management • Compliance Management • Task Management • Risk Management	• Legal Requirements • Permit Management • Emissions Management
Company Sizes Served		• Small (0 to $50 Million Revenue) • Medium ($50 Million to $1 Billion Revenue)	• Large (Above $1 Billion Revenue)
Geographies Served	• North America • Australia	• Europe • Asia / Pacific	• South and Central America • Middle East
Technology Development Platforms		• ASP.NET • VB.NET • HTML • JavaScript	
Technology Delivery Model		• Software-as-a-Service • Multi-tenant • Multi-site/enterprise based	
Partner Strategy		• Leverages Technology Partners, Service Partners, Content Partners, Software Partners, Channel Partners, Referral Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 6 months to 1 year • How soon after implementation customers see a positive ROI: 3 to 6 months	

SAP

Founded in 1972 and headquartered in Walldorf, Germany, SAP is a global software company, ranking third largest in the world (after Microsoft and Oracle). Its initial product offerings focused on financial mainframe programs. Over time SAP developed, organically and via acquisition, a comprehensive portfolio of enterprise business software applications such as enterprise resource planning (ERP), customer management, supply chain, and EHS.

Leveraging its position in ERP, SAP established a foundation in chemical and product safety in 1995, laying the groundwork for its EHS solution. In 2000, the scope of SAP's EHS offering was notably expanded to include occupational health and safety. In 2004, environmental management was added, product compliance (RoHS, REACH) came soon after and around 2010, sustainability management was added.

While as recently as 2009 SAP's EHS solution was, by some end-user accounts, viewed as comparatively uncompetitive, the company has since made generous efforts to improve and expand the scope of its EHS management programs, and has recently acquired more momentum in the market. It acquired TechniData in 2010, thereby significantly evolving its EHS offering, and has since moved towards optimizing EHS, providing holistic solutions that span business integration, mobility, cloud solutions, and predictive analytics.

In terms of its EHS deployments and customer base, SAP currently has slightly more than 2,000 customers leveraging its EHS solutions. While some of its recent EHS sales exceed the million-dollar mark, most reside in the $500,000 range.

As part of its EHS offering, SAP has continued to invest in its product safety and stewardship solutions, for example, conflict minerals management. This is an emerging focus for businesses (particularly in the tech sector) that rely on minerals such as tin, tungsten, tantalum, and gold from the Democratic Republic of Congo and its adjacent nations. As such, SAP offers comprehensive solutions in both product safety and

stewardship as well as operational environment, health and safety.

Where SAP is not necessarily deficient but could find opportunities for improvement would be in the realm of its user interface. While it succeeds in accomplishing many of the objectives of a holistic EHS and sustainability solution, the intuitive usability of some applications could benefit from improvement. SAP's EHS offering has progressed significantly since 2009, with the introduction of new applications using the Web UI, and continuing with Fiori. This is a good sign that the company strives for continual improvement of its solutions, including user experience.

In regard to its partner ecosystem, SAP offers an expansive and well-developed partner framework. SAP is working with many services partners such CSC, Wipro, Environmental Resources Management (ERM), among many others, as well as content partners in order to expand the capabilities of its EHS offering.

Based on its strength in enterprise software, SAP offers several options for analytics. SAP's EHS solutions offer a variety of "out-of-the-box" analytical reports which can be further enhanced using SAP's BI solutions and more recently its in-memory HANA Cloud for Analytics, which includes predictive algorithms. SAP's latest evolution in analytics involves the use of analytical views that take data directly off the database without any data aggregation in between. Some of these analytics are already available today and additional ones are in development.

Ultimately, if SAP continues to apply its new innovations like SAP HANA and Fiori to EHS, any user experience issue gaps should be addressed. Regardless, SAP offers a comprehensive EHS and sustainability solution, and has significantly improved the quality of its offering in this regard over the past five years. Businesses already leveraging SAP's solutions for other enterprise management activities and seeking a new EHS management software offering should consider SAP in light of its functional coverage and comparatively seamless integration with existing process and performance management software.

SAP at a Glance

www.sap.com

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Consulting • Education	• Chemicals • Aerospace and Defense • Food and Beverage • Oil and Gas • Utilities • Mining / Metals • Automotive • Consumer Products	
EHS Functionality	• Audit Management • Energy Management • Water / Wastewater Management • Sustainability Reporting	• Risk Management • Incident Management • Industrial Hygiene • Training Management • Legal Requirements • Document Management • Emissions Management • Task Management • Permit Management • MSDS/SDS • Materials Compliance • Waste Management	
Company Sizes Served	• Small (0 to $50 Million Revenue)	• Medium ($50 Million to $1 Billion Revenue) • Large (Above $1 Billion Revenue)	
Geographies Served	• Africa	• Asia / Pacific • Australia • North America • Europe	• South America • Middle East
Technology Development Platforms	• Web DynPro AB	• HTML5 • Web Services	
Technology Delivery Model		• On Premise • Public cloud hosted by third party • Software as a Service • Multi-site/enterprise based • Single-Site Based • Private Cloud • Public Cloud • Perpetual License • Periodic License	
Partner Strategy		• Leverages Service Partners, Channel Partners and Content Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 6 months to 1 year • How soon after implementation customers see a positive ROI: 3 to 6 months	

thinkstep

thinkstep was founded over 20 years ago as a sustainability and compliance focused software, data and consulting company, and this remains its emphasis today. The global company is headquartered near Stuttgart, Germany and has a presence in 19 countries. thinkstep claims a cross-industry client base of over 2000 companies over time, including 40% of the Fortune 500, such as BASF, Hewlett-Packard, Interface, Siemens, and Unilever. Core industries include Building and Construction, Consumer Goods, Metals and Mining, Chemicals, Energy, and Automotive.

The thinkstep cloud-based software platform has a range of sustainability capabilities, with product sustainability and compliance (including lifecycle analysis) and sustainability reporting being notable strengths. The platform also supports EHS management, sustainable supply chain, and energy management, among other areas. Key capabilities of the EHS management offering are incident, audit, and performance management. Customers have the flexibility to pick and choose among the various modules and license only what is needed for current priorities.

Services are an important part of the thinkstep solution offering. Along with software the firm provides professional consulting services for sustainability strategies, environmental foot-printing, and corporate sustainability reporting (covering a broad range of reporting standards such as GRI, CDP, DJSI, SASB, and GRESB). thinkstep touts its consultants' domain and industry experience as a key asset in developing tailored approaches for clients. Another key solution component is the sustainability data

foundation. This content has been gathered since thinkstep's inception, and is updated and audited on a regular basis. It includes industrial process information, best practices, benchmarks, and impacts needed to implement sustainability initiatives.

Among the vendors in this EHS Solution Selection Guide, thinkstep is unique in its focus on helping organizations improve sustainability across enterprise, product, and supply chain dimensions. Its integrated solution approach involving software, expert professional services, and the proprietary sustainability data foundation also sets it apart. Based on its client base and traction in the market, thinkstep offers a solid value proposition for sustainability performance improvement and is able to deliver on it through a total solution approach.

In LNS Research's view, large enterprise companies looking for solutions to improve and manage sustainability performance should have thinkstep high on their list, especially for product sustainability and compliance, and corporate sustainability strategy and reporting. As noted above, the thinkstep portfolio includes solutions for EHS management such as incident management, audit management, and overall environmental management. thinkstep may be a good fit for those looking for basic functionality to support an EHS management system framework, especially environmental management. In general, thinkstep's solutions are oriented towards analytics and reporting, and may be a good complement to EHS compliance and risk management solutions that handle heavy-duty workflow and task management.

thinkstep at a Glance

https://www.thinkstep.com/

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Consulting • Government / Public Sector •	• Automotive • Aerospace and Defense • Building Materials • Consumer Products • Food and Beverage • Industrial Equipment Manuf • Oil and Gas • Metals & Mining • Apparel and Textiles	
EHS Functionality	• Energy Management • Legal Requirements •	• Sustainability Management • Sustainability Reporting • Emissions Management • Compliance Management • Task Management • Water / Wastewater Management	• Permit Management
Company Sizes Served	• Small (0 to $50 Million Revenue)	• Large (Above $1 Billion Revenue) • Medium ($50 Million to $1 Billion Revenue)	
Geographies Served	• Asia / Pacific	• Europe • North America	
Technology Development Platforms	• MS Visual Basic • ASP • ASP.NET	• Microsoft .NET • HTML5 • JavaScript • C. C++	
Technology Delivery Model	• On Premise • Private Cloud • Perpetual License	• Public cloud hosted by third party • Software as a Service • Multi-site/enterprise based • Single-Site Based	
Partner Strategy		• Leverages Channel Partners and Content Partners	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 6 months to 1 year • How soon after implementation customers see a positive ROI: 3 to 6 months	

UL EHS Sustainability / cr360

UL EHS Sustainability is a business unit of UL, a global safety sciences company based in Northbrook, IL. The business was formed in Q1 2016 when UL acquired cr360, a well-established EHS and sustainability software provider based in Cambridge, U.K. Below we briefly describe the UL EHS Sustainability business, and then focus on its cr360 software product line.

UL has been steadily diversifying its portfolio in recent years by acquisition, building an EHS and sustainability solution offering that includes safety training and content and software. With the acquisition of cr360 in January, 2016, UL expanded the solution footprint of its UL Workplace business unit, now going to market as UL EHS Sustainability. The primary offering includes UL's safety training and the Occupational Health Manager (OHM) software product lines, and notably the cr360 EHS and sustainability management software suite. UL also has other EHS-related products in other business units, such as product safety/supply chain software solutions, which could be part of a total sustainability solution.

Of most relevance here is the cr360 EHS and sustainability software product line. With key offices in Cambridge, U.K. and Chicago, IL cr360 launched in 2002 with the goal of helping companies use software to manage challenges associated with EHS and sustainability performance. cr360 has grown rapidly and profitably without reliance on venture capital. It achieved significant traction in its early years, but its current active user base of 460,000 and client base of 200 organizations globally is smaller than some of its key competitors. However, rapid growth has been seen in recent years.

In terms of product scope, the cr360 solution is metrics heavy, focusing on EHS and sustainability management and addressing EHS, governance and risk, supply chain, and sustainability reporting. A majority of its clients leverage its multi-tenant cloud solutions. Part of its future product strategy involves moving more deeply into offerings suited to the manufacturing sector.

Building on the capabilities of predictive analytics has remained a recent, ongoing focus for the organization.

Unlike competitors that rely on integrations with external BI systems, cr360 recently acquired statisticians to productize and package analytics tools in order to showcase a system that runs correlations and presents broader predictive analytics automatically. Its independent and internally driven approach could result in a fresh take on analytical capabilities, an increasingly important part of EHS and sustainability management.

While the company, like many others in the space, provides mobile solutions, cr360's seem to be in comparative development at this point, with only three mobile modules ready for market (one of which works generically with an underlying form technology so actually supports over half a dozen modules in the Web application, e.g. incidents, permits, risk, JHA, etc.); a number of others are under development.

cr360 relies for the most part on partners to provide implementation consulting services. In fact, partners are central to its strategy, spanning technology, service, content, and referral roles. One other notable aspect of the cr360 approach is its comprehensive tools for sustainability reporting, which was an early focus of the company. cr360 does seem to be light on a few key capabilities (e.g. emissions management); however, the affiliated environmental consultancies it works with may have those bases covered. It also hints of having limited (but improving) offline functionality.

Before being acquired by UL, cr360 was a competitive vendor with an easy-to-use and configurable UI, a focus on sustainability themes (e.g., GRI, CDP, SASB, DJSI, GRESB, energy/carbon management), a broad partner network, and an evolving focus on predictive analytics. Now part of UL EHS Sustainability, its future should be bright based on additional development and go-to-market resources and complementary UL products and services, such as OHM which is used by 1800 clients. UL EHS Sustainability is worth considering by any company with a deep focus on EHS and sustainability performance, as well as sustainability reporting. However, the cr360 software retains a focus on reporting automation (including data acquisition and maintenance) over process automation, and this should be considered by prospective customers.

UL EHS Sustainability / cr360 at a Glance
http://www.cr360.com

	Have Coverage	Areas of Strength	Emerging Strength
Industries Served	• Aerospace and Defense • Automotive • Government / Public Sector • Metals • Packaging • Paper / Lumber / Timber	• Consulting • Consumer Durable (White) Goods • Consumer Packaged Goods (CPG) • Education • Food and Beverage • Healthcare	
EHS Functionality	• Legal Requirements • Standard Operating Procedures (SOPs) • Personal Protective Equipment (PPE) • Industrial Hygiene • Machine Guarding	• Incident Management • Audit Management • Training Management • Permit Management • Task Management • Materials Compliance Management • Supplier Performance Management • Energy Management	• Emissions Management
Company Sizes Served	• Medium ($50 Million to $1 Billion Revenue)	• Large (Above $1 Billion Revenue)	
Geographies Served	• Middle East	• North America • South and Central America • Europe • Asia / Pacific • Africa • Australia & New Zealand	
Technology Development Platforms	• C. C++ • ASP	• Microsoft .NET • ASP.NET • Web Services	
Technology Delivery Model	• Single-Site Based	• On Premise • Private Cloud • Perpetual License • Periodic License • Software as a Service • Multi-site/enterprise based • Multi-tenant	
Partner Strategy		• Leverages Technology Partners, Service Partners, Content Partners, Referral Partners.	
Time-to-Solution Value		• Average EHS / Sustainability project implementation time: 3-6 months. • How soon after implementation does your average EHS / Sustainability customer begin to see a positive ROI: 6 months to 1 year	

Conclusion

EHS software is integral to enabling Digital Transformation, Operational Excellence, and continuous improvement in EHS management, as well as improving environmental performance and establishing a healthier, safer workplace for employees. Furthermore, EHS software can and frequently does aid in the process of mitigating lifecycle incident costs, thereby improving bottom-line performance.

What is important to realize is that, while there is an array of EHS software management companies on the market, there is no one-size-fits-all approach. Your organization may have very specific needs and priorities that may or may not align with those of another organization. As a result, it is imperative to execute a fairly exhaustive evaluation process. It is our hope that this Solution Selection Guide helps provide some insight into the EHS software landscape and can ultimately assist in streamlining and expediting the selection and evaluation process.

What is notable about the EHS software market today are a few nascent trends, as follows:

The convergence of management system software: Many enterprise activities have overlapping elements. What is relevant to EHS management, for example, can also be related to quality management and APM. And just as some former EHS management software vendors have built out their offering to cover quality management, former quality management software vendors have expanded their solutions to cover EHS management. Further, we have seen the rise of integrated management system (IMS) software that aspires to cover most if not all aspects of enterprise management. In selecting a vendor, it is worthwhile to consider the long view of your needs and priorities and if implementing a focused or comprehensive solution is in your best interest.

Mobility and offline functionality: Another nascent trend among EHS vendors is an increased focus on mobile devices and offline functionality. The opportunities afforded by mobile devices on the field and at the plant level in EHS management are increasingly apparent. In regards to offline functionality, it is becoming more and more obvious

that many companies leveraging Web-based software to manage EHS programs cannot be connected *all* of the time. If either of these are priorities for your business, consider them when seeking out a vendor.

Risk management capabilities: While there was once a bit of a gulf between risk management and EHS, they are increasingly being mentioned in the same breath as EHS software vendors continue to integrate enterprise and operational risk management capabilities into their solutions. Since risk management and EHS management are inextricably linked, ensure your prospective vendor has built risk capabilities into its offering.

Selecting and implementing a comprehensive EHS solution can be complex; however, LNS Research is prepared to assist in the process of selecting a vendor, and specifically as follows:

- Prepare draft RFP document, review, and finalize with client
- Send RFP to approximately 3-5 top vendors and manage all subsequent communications
- Collect all responses and prepare summary report for client executives
- Analyze results in conjunction with client and provide recommendations
- Act as advisor on any subsequent proof of concept projects

For more information on how LNS Research can facilitate the solution selection process or for any questions or comments, please contact us by email at info@lnsresearch.com.