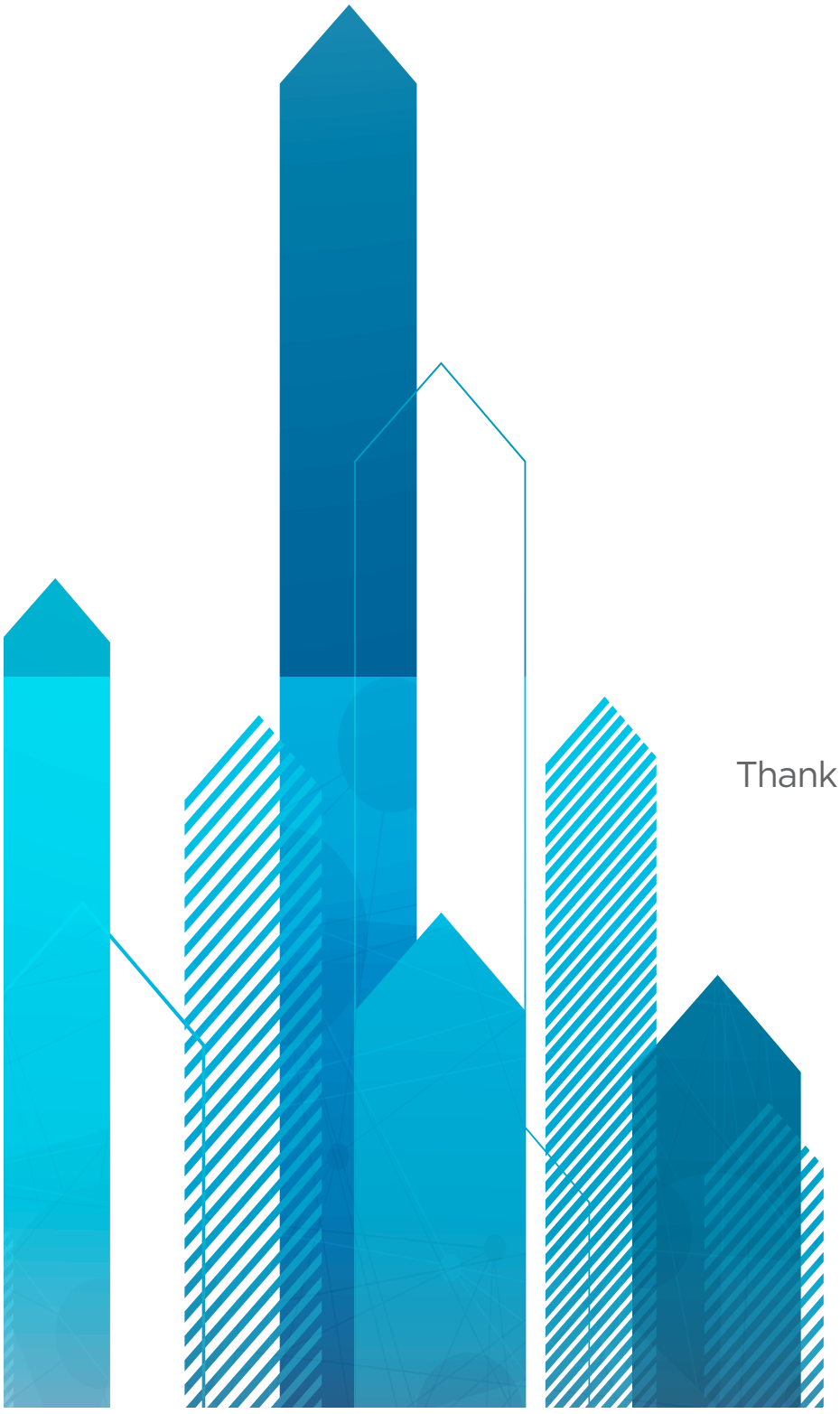
2017 EHS & Sustainability Software Buyer's Guide

MARCH 2017



Thank you to our research sponsor:

Dakota SOFTWARE

Letter from the Executive Director

Thank you for downloading the latest edition of NAEM's EHS & Sustainability Software Buyers Guide! The strong response to this year's survey is a validation of the enduring interest in this topic, which is increasingly a core component of NAEM's content offerings.

With the continued demand for transparency, and with the emergence of supply chain reporting, the use of software tools is increasingly indispensible to managing global EHS programs. This year's results reflect that trend, as suggested by the data that shows that those who are adopting a system for the first-time are seeking comprehensive solutions to build enterprise-level management systems.

As a long-time observer of this emerging marketplace, I was also impressed to see a growing alignment between what shoppers expect from commercial software and and the actual buying experiences of those who have recently gone through the process. Comparing the 2015 and 2017 results, you can see more robust budgets, more realistic timelines and greater staff resources dedicated to ongoing maintenance.

Furthermore, we can see that the EHS function is increasingly taking the lead in this selection process, serving as the key advocate and decision-maker. This report reflects this latest evolution of the profession, which continues to emerge as a lynchpin for advancing corporate EHS&S performance.

It's an exciting time to be in this field and to discuss how software tools can accelerate progress toward environmental responsibility and sustainability. I look forward to having that conversation with you!

Sincerely,

Carol Singer Neuvelt
Executive Director, NAEM

Contents

About NAEM

The National Association for Environmental Management (NAEM) empowers corporate leaders to advance environmental stewardship, create safe and healthy workplaces and promote global sustainability. As the largest professional community for EHS and sustainability decision-makers, we provide peer-led educational conferences, benchmarking research and an active network for sharing solutions to today's corporate EHS and sustainability management challenges. Visit NAEM online at www.naem.org.

List of Figures

Executive Summary

Executive Summary

Since 2001, with the introduction of software tools for EHS and sustainability management, NAEM has been tracking the growth of the marketplace, the use of these tools within companies and the trends associated with software-supported data management.

This biannual Buyers Guide report is a unique benchmark, designed to inform the software selection process, and to identify emerging priorities among software shoppers. This is the second edition of this research, which was fielded in November 2016.

The following is an overview of key insights from this latest round of results.

Software Systems are Increasingly Becoming the Digital Backbone for Corporate EHS Management Systems

According to survey respondents, the top business objectives for purchasing a commercial system are compliance assurance and driving accountability for EHS&S performance. Not surprisingly, then, the key capabilities that buyers seek in software systems are those that align with these objectives, namely: corrective action tracking, incident reporting, performance dashboards and compliance calendars. This underscores the role that software increasingly plays in assisting EHS&S managers with the management of programs on a global scale.

Integration with Other IT Systems is an Achilles Heel for Commercial EHS&S Software Tools

Among those who are returning to the software market to replace an existing system, 46 percent went through an implementation within the past five years; 17 percent went through an implementation within the past two years. Within this group, 49 percent are seeking a solution that offers better integration with other IT systems. Other reasons for their renewed search are: a desire to update existing system (46%), a goal of providing greater external transparency (37%) and dissatisfaction with the service from their current software vendor (29%).

Comprehensive EHS&S Systems are Valued by First-time Buyers and Those at Smaller Companies

Those who are shopping for the first-time are most often looking for a comprehensive system that can be implemented on an enterprise-level. These first-generation implementers are seeking to build a management system, centralize data management and improve analytics and reporting capabilities. This is particularly true of those companies with revenues of between $250 million-$10 billion: 95 percent of buyers at this revenue level are seeking comprehensive systems vs. 75% among those with revenues of more than $10 billion.

Executive Summary

EHS&S Data Management Programs are Most Often Composed of a Suite of Solutions

According to survey respondents, most companies use a combination of commonly available tools, internally developed software systems and commercial solutions to manage their EHS&S data. This is consistent with NAEM's 2015 benchmark, which found that 95 percent of all respondents were using more than one type of solution.

With Stakeholders Seeking Data about Corporate EHS&S Performance, Transparency has Become a Key Driver for Commercial Software Adoption

Even though the top business objectives for software remain closely tied to foundational EHS performance, transparency is among the top reasons why buyers reported they are seeking new systems now. Among all buyers, 33 percent said they were looking for a commercial system to "provide greater external transparency".

The EHS Function Serves as the lead for Software Selection, Budgeting, Implementation and System Management

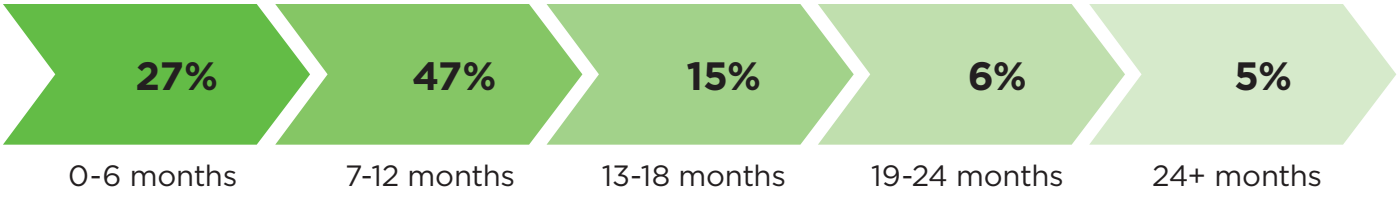
While legacy systems, which may have been built using internal IT resources, most likely relied on IT funding and staffing, commercial EHS&S software is largely paid for and maintained by the EHS function. The EHS team also likely takes the lead in managing the selection process, and is the lead decision-maker for the purchase. Those in the market today are also prepared to dedicate significant staff resources to maintaining their chosen system, about 4.5 FTEs, according to the results.

It Takes about a Year to Complete a Software Selection

According to past purchasers, the process to select a software system takes about a year.

Actual Selection Timeline: Past Purchasers

Figure ES1



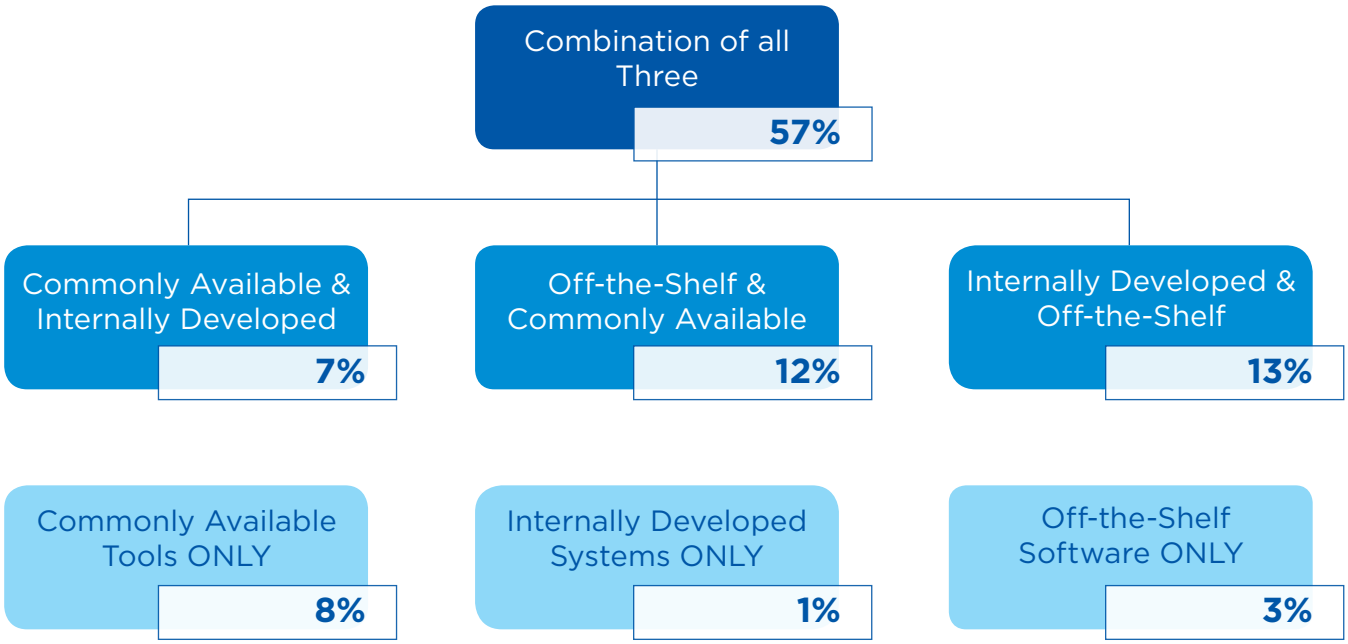
N=85

Most Companies are Using a Combination of Data Management Approaches

According to all respondents, most companies use a combination of commonly available tools, internally developed software systems and commercial solutions to manage their EHS&S data. This is consistent with NAEM's previous benchmarks, and underscores both the staying power of point solutions as well as the adage that when it comes to EHS&S software, one size does not fit all.

Current Data Management Approach

Figure ES2



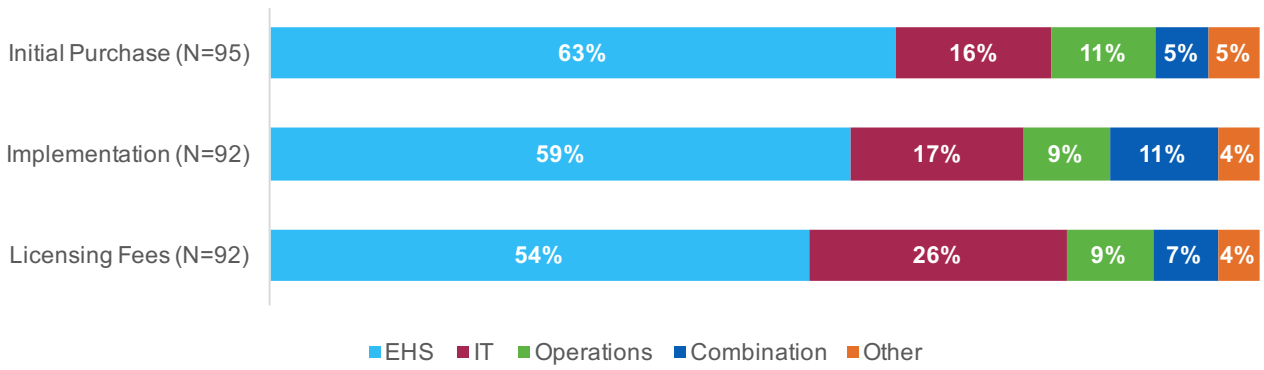
N=172

The Full Costs of EHS&S Software Are Funded by the EHS Function

The costs for the initial purchase, implementation and ongoing licensing feeds tend to be provided by the EHS function, according to the 2017 results. This is consistent with the 2015 survey results. The following chart demonstrates the budget contributions by function, and includes responses from the full survey audience.

Provide the Budget

Figure ES3



Methodology

Methodology

Research Objectives

NAEM's Buyers Guide Report was designed to meet the needs of EHS & Sustainability leaders who are shopping for a new software system. As such, the survey was developed to benchmark:

- How companies are managing their EHS and Sustainability data
- The top business objectives for those who are shopping for a new EHS and sustainability data management system
- The desired system capabilities and needs for new software systems
- Which functions are involved with software selection and implementation
- Expected budget and timelines for those shopping for software today
- The timeline and budget for those who recently went through the software selection process

Survey Development and Outline

NAEM developed this survey in the fall of 2014 to complement the association's annual EHS & Sustainability Software and Data Management Conference. The questions were derived from NAEM's benchmarking on this topic, with input from an advisory committee.

The survey was re-fielded in November 2016.

The survey segmented respondents into two main groups: 'past purchasers' (those who already have a software system and are not seeking a new one) and 'buyers' (those who are currently in the market). Depending on their segment, respondents answered approximately 35 questions in six inquiry areas:

- Current approach to data management
- Scope of software system
- Business objectives for software
- Software system capabilities
- Functions involved with selection, implementation and maintenance
- Budgets

Survey Respondents

The survey was distributed via email to NAEM members and past attendees to NAEM's EHS and Sustainability Software and Data Management Conference.

The results are based on responses from 172 qualified respondents.

Only 'in-house' IT or EHS and sustainability professionals were qualified to respond; consultants, researchers and service providers were excluded. 96 percent of the respondents to the 2016 survey were EHS or sustainability professionals; the remaining 4 percent were 'in-house' IT professionals.

Notes on the Analysis

To provide a more useful, detailed benchmark, NAEM analyzed the system requirements and capabilities, as well as the budgeting data based on:

Intended scope of the software system:

- **Comprehensive:** A system that provides modules for multiple aspects of EHS&S management
- **Issue-specific:** A system focused on a particular program or regulatory requirement

Respondents' perspective vis-à-vis their software purchase:

- **Past Purchasers:** Those who recently purchased a system and are not seeking a new one
- **Buyers:**
  - *First-time Buyers:* Those who are purchasing a commercial system for the first time
  - *Returning Buyers:* Those who have a system in place and are returning to the market to supplement or replace it.

Respondent Demographics

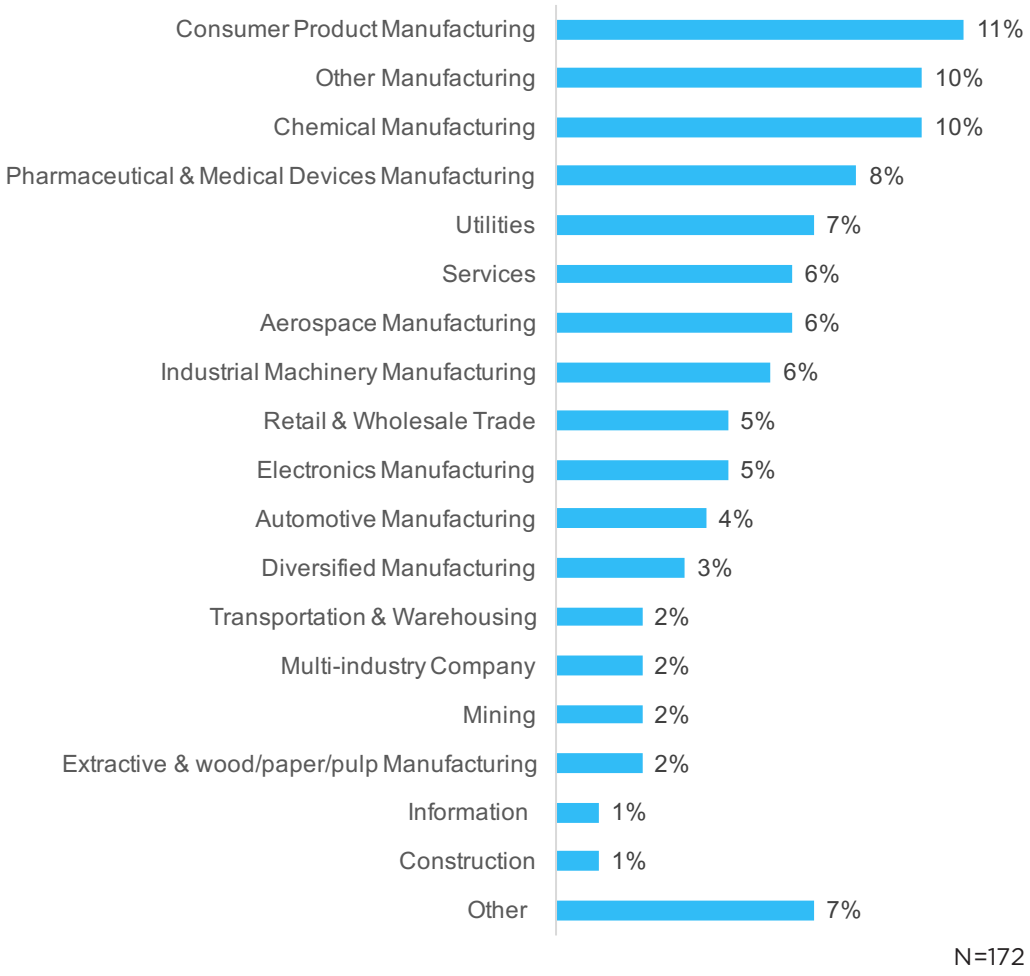
Respondent Demographics

The respondents to this year's survey were very similar, demographically, to those who contributed to NAEM's 2015 Buyers Guide research. For those most part, respondents tended to be large, U.S.-based manufacturers with a global footprint, operating with a medium degree of EHS risk. More than a third of respondents have more than $10 billion in annual revenue; about 40 percent have more than 20,000 employees; an equal number have more than 100 facilities.

Most Respondents Work within the Manufacturing Sectors

Industry

Figure 1

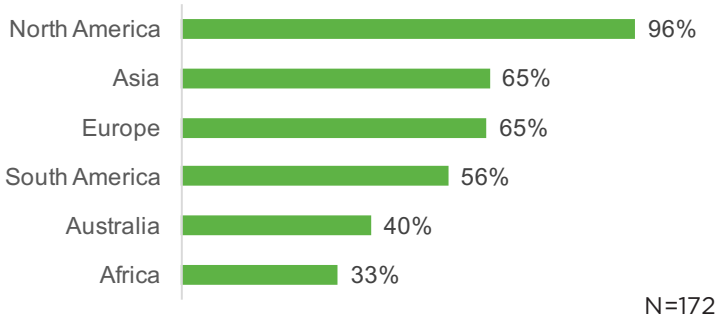


Respondent Demographics

Respondents' Companies Have Global Footprints

Geographic Presence of Operations

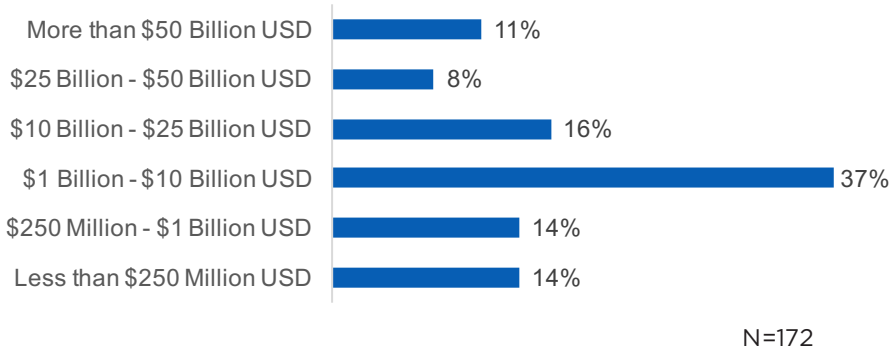
Figure 2



Strong Response from Companies of Different Sizes

Annual Revenue

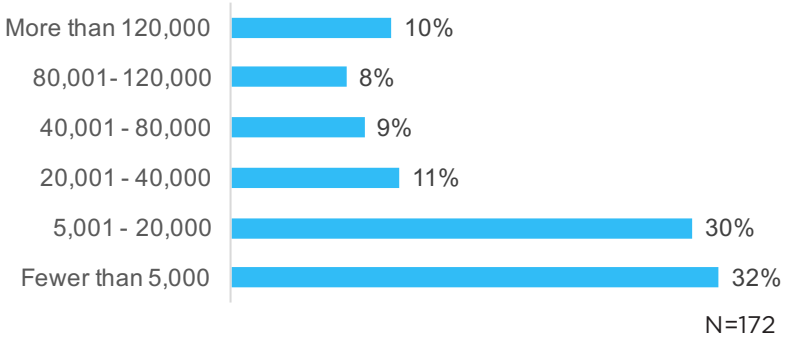
Figure 3



More than a Third of Respondents have 20,000 Employees or More

Number of Employees

Figure 4

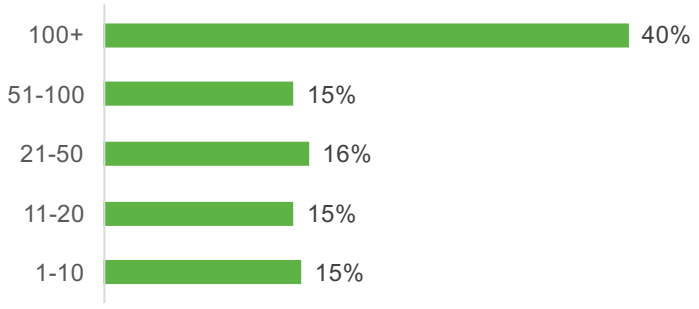


Respondent Demographics

40 percent of Respondents Have 100 + Facilities

Number of Facilities

Figure 5

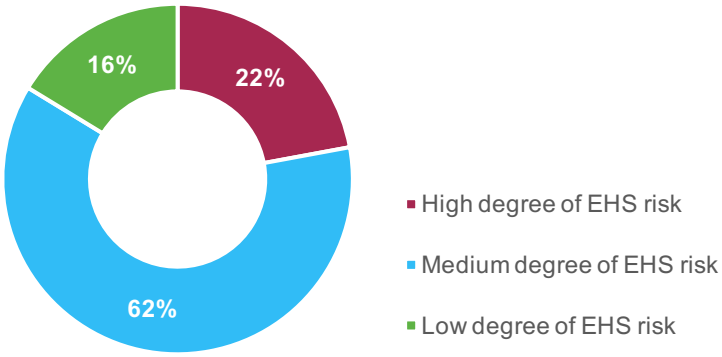


N=172

More than Half of Respondents Have 'Medium' Risk Operations

EHS Risk Profile

Figure 6



N=172

Respondent Segmentation

Respondent Segmentation

To understand both the expectations of those currently shopping for software as well as to benchmark the experiences of those who recently purchased a system, NAEM asked respondents to identify their perspective.

The following section explains the two main respondent segments in this report: buyers (those who are currently shopping for the first time, as well as those returning to the market) and past purchasers (those who have recently purchased a commercial system and are not looking for a new one). These segments will be referenced and compared throughout the report to provide context for the analysis.

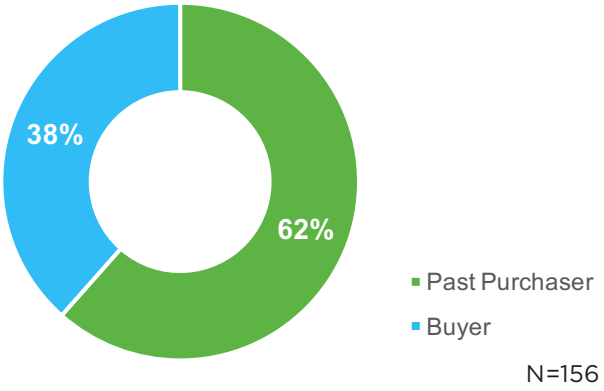
Survey Results Largely Reflect the Perspective of Past Purchasers

Of the 156 respondents, more than half (62%) were 'Past Purchasers', or those who had previously purchased a commercial software system and are not in the market for a new one. The 38 percent of respondents who fell into the 'Buyers' segment, on the other hand, were a mix of 'Returning Buyers' (72%), those who are returning to the market for a new system, and 'First-time Buyers' (28%) or those who are adopting a software system for the first time.

This is similar to the composition of the survey audience for NAEM's 2015 Software Buyers Guide.

Respondent Segmentation: Past Purchasers vs. Buyers

Figure 7



N=156

Most Software Purchases Took Place Within the Past Five Years

The vast majority of 'Past Purchasers' purchased their systems within the past five years (77%). An additional 9 percent have systems that are between 6-8 years, and 14 percent of respondents in this segment have systems that are eight years or older.

Age of Software System: Past Purchasers

Figure 8

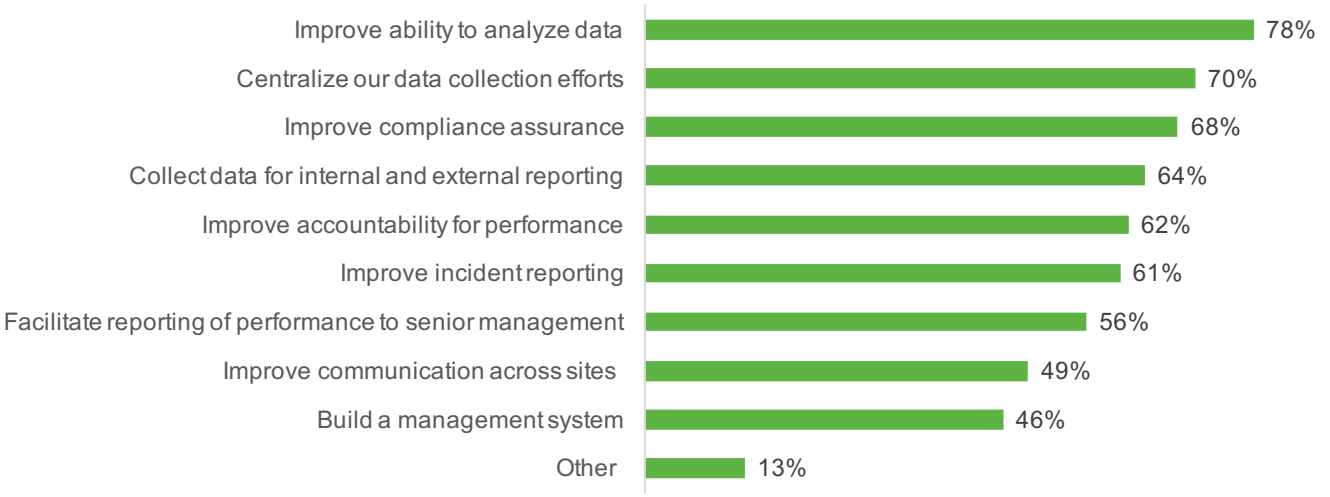
N=95

Past Purchasers Sought Systems to Improve Data Analytics, Centralization and Compliance

Past Purchasers, or those who recently bought a commercial system were largely seeking tools to bolster foundational aspects of EHS management, including: improving data analytics (78%), centralizing data collection (70%) and improving compliance assurance (68%).

Business Objectives: Past Purchasers

Figure 9



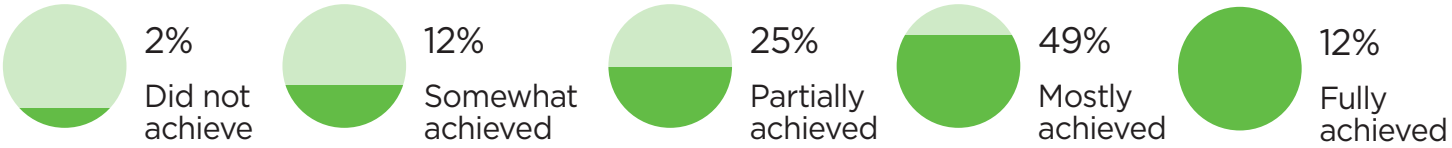
N=94

More than Half Reportedly Achieved their Objectives

Most respondents who purchased a commercial software system reported they met their intended business objectives with the solution they chose. This underscores the value of software tools to EHS management for core compliance assurance, incident management and reporting needs.

Achievement of Business Objectives: Past Purchasers

Figure 10



N=92

Respondent Segmentation

A Closer Look at Who is Buying

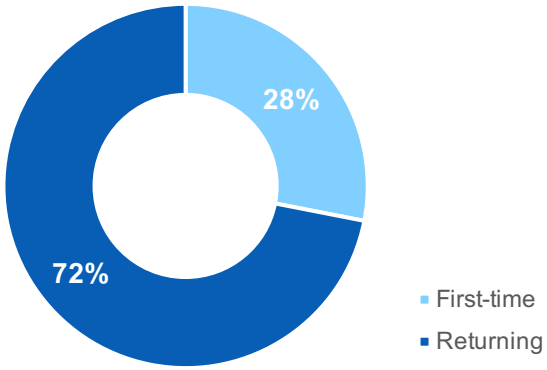
To help better understand the priorities and perspectives of those shopping for software, the survey asked respondents about their reasons for seeking a new system.

More than a quarter of current shoppers are 'First-time buyers' (28%), or those who are not currently using a commercial software system. These shoppers may be relying on a combination of commonly available tools such as Microsoft Excel, or internally developed software systems.

The majority of shoppers are 'Returning buyers' (72%), or those who have a software system in place, but are either dissatisfied with their solution or are seeking additional functionality.

Composition of Buyers

Figure 11



N=57

More than 60% of Returning Buyers Were in the Market within the Past Five Years

For the first time this year, NAEM asked those returning to the market for a new system to indicate the age of their existing software system. Among the 48 respondents in this group, almost half (46%) purchased their system 3-5 years ago, while 17 percent purchased a system within the past 1-2 years.

Age of Software System: Returning Buyers

Figure 12

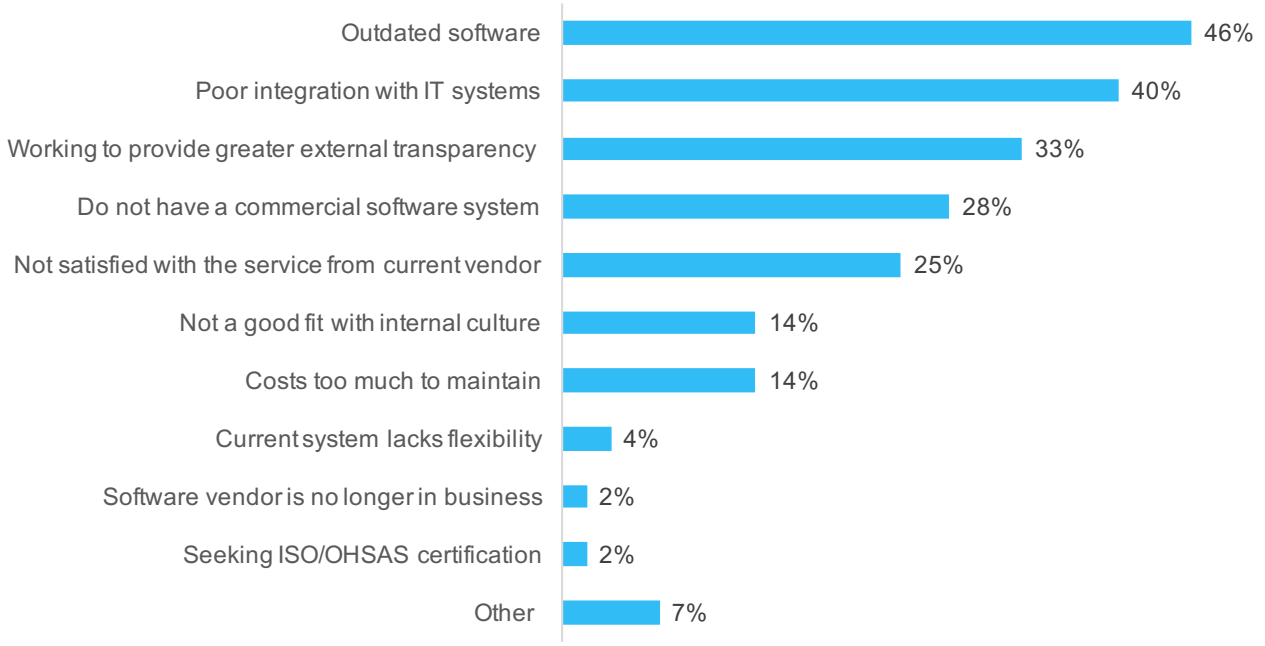
N=48

Buyers Seek New Technology, Better IT Integration and to Improve External Transparency

While half of software buyers reported making a purchase within the past five years, the other half are likely returning to the market to update aging products. Indeed, 46 percent of buyers reported that their company's outdated software drove them to seek a new solution. Another key driver among those with existing systems is the poor integration with IT systems, which drove 40 percent of respondents to seek a new solution. Those buyers whose systems are 6-8 years old were least satisfied with their current system and were more likely to be seeking better IT integration. A third of buyers (33%) are looking for a system to help them with external reporting.

Top Reasons Seeking New Software System: Buyers

Figure 13



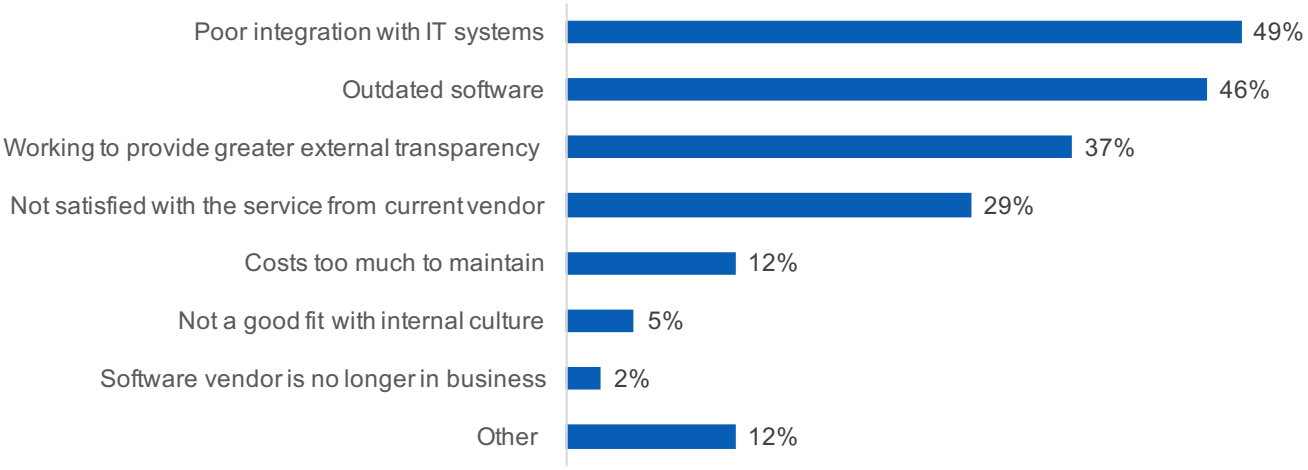
N=57

Poor Integration with IT Systems Seems to be Driving Returning Buyers Back to the Market

Those shoppers who already have a commercial system in place seem to be driven by a few factors: dissatisfaction with the performance of their existing system or vendor, the need to upgrade outdated technology and an interest in leveraging software to improve transparency. About 30 percent of respondents reported that dissatisfaction with their current vendor was a key driver. Maintenance costs were also a factor for 12 percent of returning buyers.

Top Reasons Seeking New Software System: Returning Buyers

Figure 14



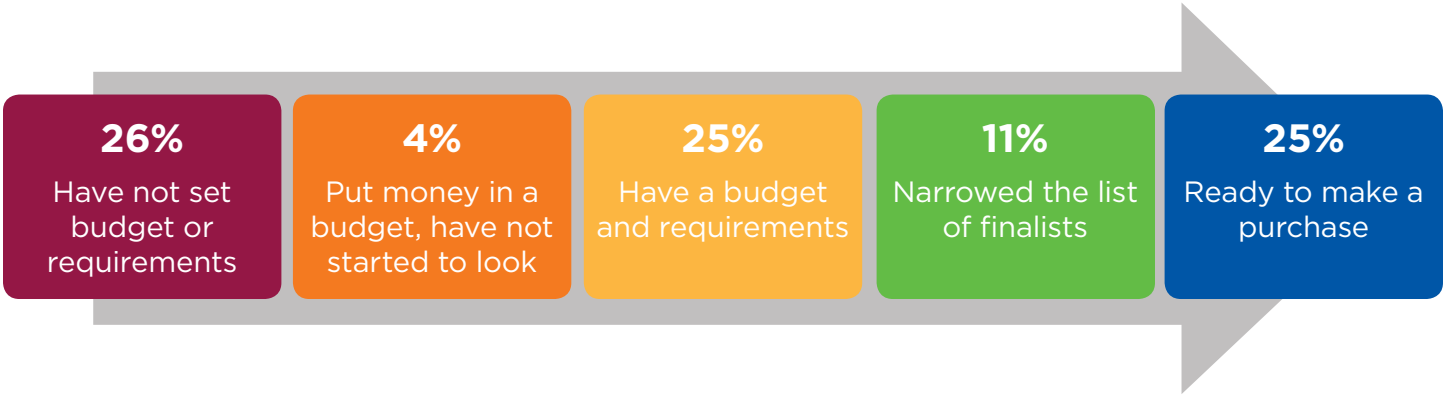
N=41

Respondents in the Buyers Segment are at Various Points in the Purchase Cycle

Among the respondents who are in the market for a new system, about a third are in the early stages of the purchase cycle; 25 percent are prepared to start actively seeking a system and an additional quarter are poised to make a purchase.

Position in the Selection Process: Buyers

Figure 15



N=57

System Requirements and Capabilities

System Requirements and Capabilities

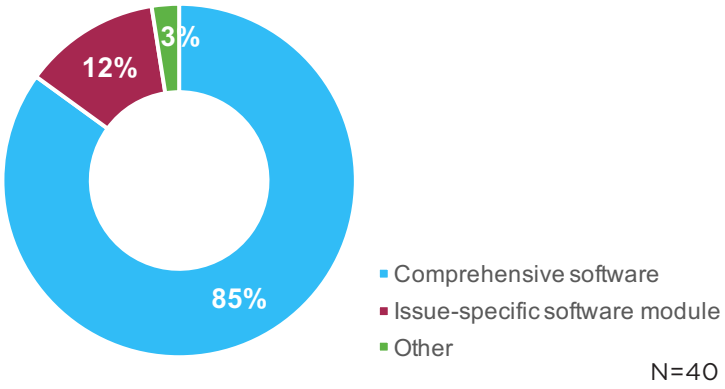
The following section identifies the needs and priorities of those who are currently shopping for a commercial software system. The results are intended to provide a benchmark for business objectives and data management program maturity.

The Majority of Buyers Want Software to Meet a Variety of Needs

Most software buyers are seeking 'comprehensive' solutions, or systems that offer a variety of EHS&S management capabilities. Compared with NAEM's 2015 results, 32 percent more respondents are seeking a comprehensive system versus those shopping this year. It's worth noting, however, 12 percent of buyers are in the market for point solutions that are focused on a particular need. This resonates with the earlier results that revealed 57 percent of all respondents are using a combination of approaches to manage their EHS&S data.

Type of System Buyers Seek

Figure 16



N=40

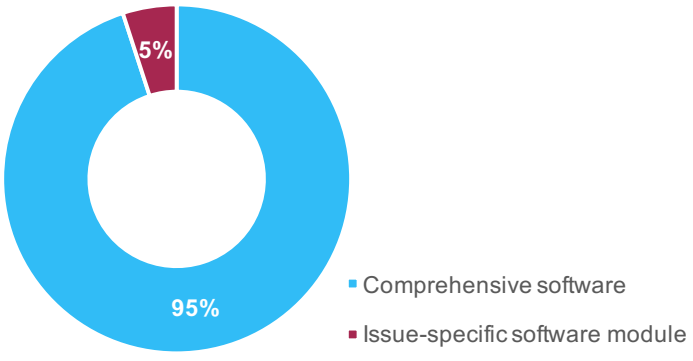
Smaller Companies Are More Likely Shopping for Comprehensive Systems

While companies of all sizes are seeking a comprehensive system, 95 percent of those with revenues of between $250 million-$10 billion are shopping for a comprehensive system versus 75 percent of those with more than $10 billion in revenue. It's important to note that the composition of first time vs returning buyers is the same among both revenue categories: 27 percent of respondents are first-time buyers, 73 percent are returning buyers.

Type of System Buyers Seek by Revenue

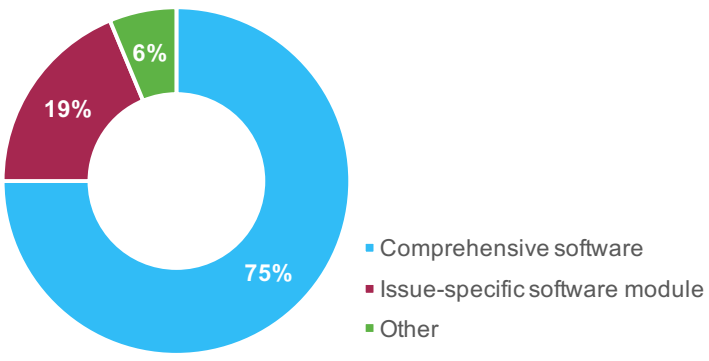
Figure 17

$250 Million - $10 Billion USD



N=20

More than $10 Billion USD



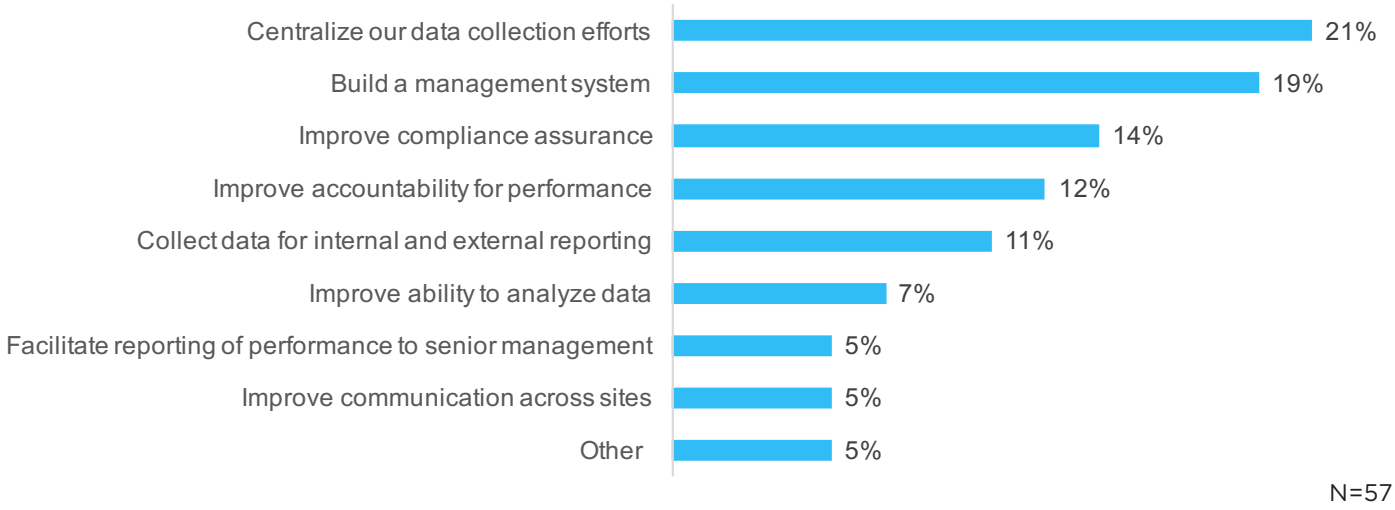
N=16

Buyers Seek Solutions to Centralize Data Collection, Build a Management System and Improve Compliance

It is perhaps not surprising that those shopping for a software system are looking for the main benefits that commercial systems provide. According to the results, 'centralizing data collection', 'building a management system', and in so doing, 'improving compliance assurance' and 'accountability' are all reasons that rose to the top. This tracks closely to the 2015 results.

Primary Business Objectives: Buyers

Figure 18



First-time Buyers are Focused on Building a Management System

Software shoppers tend to have similar business objectives, but the results demonstrate that respondents who are seeking a system for the first time, are much more likely to be seeking a solution to build a management system (44%) than those returning to the market (10%). 'Improving accountability', on the other hand, is more than twice as important to returning buyers (15%) than it is to those shopping for the first time (6%).

Primary Business Objectives: First-time vs. Returning Buyers

Figure 19

First-time Buyers	Percentage
Build a management system	44%
Centralize our data collection efforts	19%
Improve compliance assurance	19%
Improve accountability for performance	6%
Facilitate reporting of performance to senior management	6%
Improve ability to analyze data	6%

N=16

Returning Buyers	Percentage
Centralize our data collection efforts	20%
Improve accountability for performance	15%
Improve compliance assurance	12%
Build a management system	10%
Collect data for internal and external reporting	10%
Improve communication across sites	7%
Other	7%
Facilitate reporting of performance to senior management	5%
Improve ability to analyze data	5%

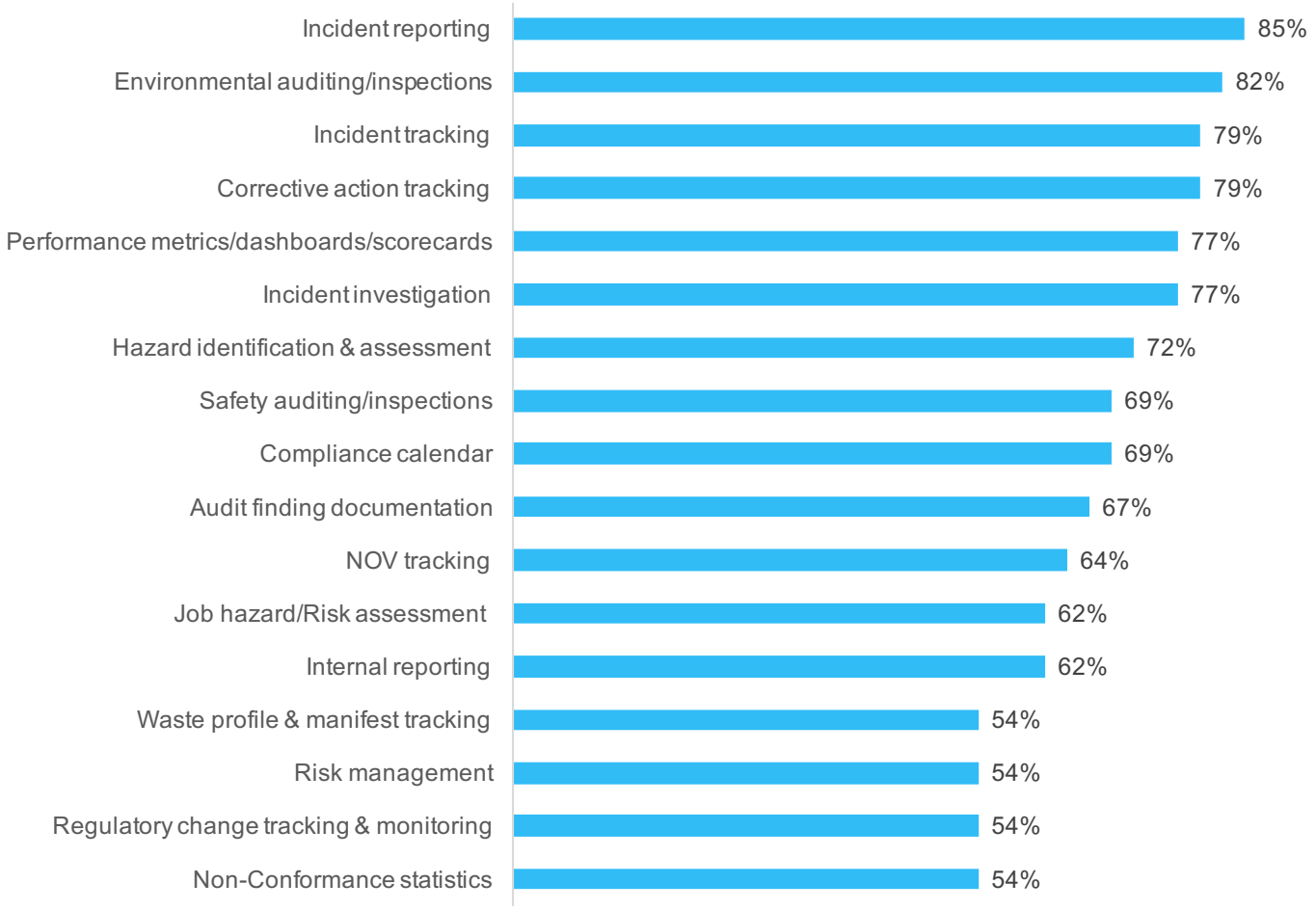
N=41

Compliance-related Capabilities are at the Top of Buyers' Lists

Consistent with their intended business objectives of improving data collection and compliance assurance, buyers are most seeking compliance-related capabilities. These include: 'incident reporting' (85%), 'environmental auditing/ inspections' (82%), 'corrective action tracking' (79%), 'incident tracking' (79%) and 'incident investigation' (77%).

Top Desired Software Capabilities: Buyers

Figure 20



N=39

First-Time Buyers Seem to Have Foundational Compliance-related Needs

Insofar as many first-time buyers are seeking comprehensive systems to build an EHS management system, those who are shopping for the first time seem to place stronger emphasis on core functions to support compliance.

Top Desired Software Capabilities: First-time vs. Returning Buyers

Figure 21

First-time Buyers	Percentage
Corrective action tracking	100%
Incident investigation	100%
Incident reporting	100%
Safety auditing/inspections	100%
Environmental auditing/inspections	91%
Hazard identification & assessment	91%
Incident tracking	91%
Performance metrics/dashboards/ scorecards	91%
Audit finding documentation	82%
Compliance calendar	82%
Internal reporting	82%
Job hazard/Risk assessment	82%
Risk management	73%
Training	73%
Behavior based safety	64%
EMS/ISO 14001 management system	64%
Management of change	64%
NOV tracking	64%
Stormwater permit management	64%
Wastewater permit management	64%

N=11

Returning Buyers	Percentage
Incident reporting	88%
Environmental auditing/inspections	88%
Incident tracking	84%
Corrective action tracking	80%
Performance metrics/dashboards/ scorecards	80%
Incident investigation	76%
Hazard identification & assessment	72%
Compliance calendar	72%
NOV tracking	72%
Audit finding documentation	68%
Safety auditing/inspections	64%
Internal reporting	60%
Job hazard/Risk assessment	60%
Non-Conformance statistics	60%
Regulatory change tracking & monitoring	60%
Waste profile & manifest tracking	60%
Annual sustainability reporting	60%
Chemical Information/(M)SDS management	60%
Energy & carbon management/metrics	60%

N=25

The Selection Process

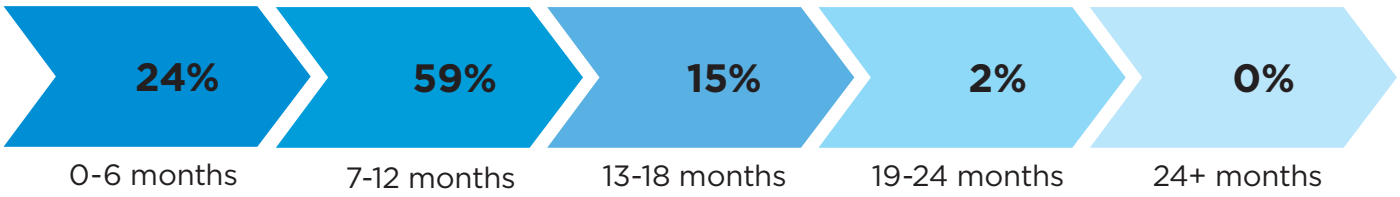
The Selection Process

To capture the experiences of those who recently went through the selection process, as well as those who are currently shopping, the following section documents the average timeline, the key selection criteria and key members of the selection team. The analysis reflects information from both shoppers as well as from past purchasers.

Software Selection Takes About 12 months

Expected Selection Timeline: Buyers

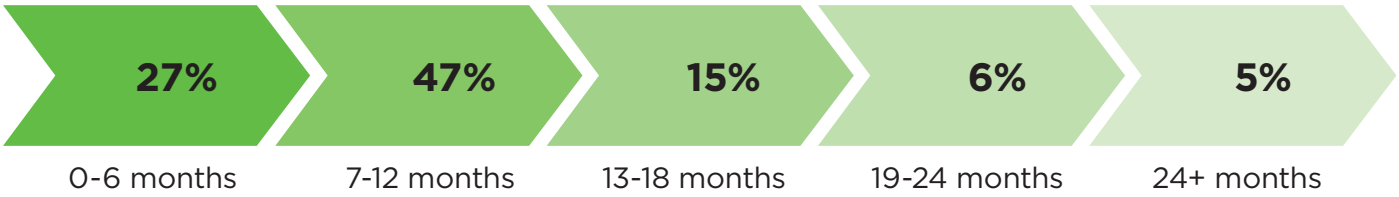
Figure 22



N=41

Actual Selection Timeline: Past Purchasers

Figure 23



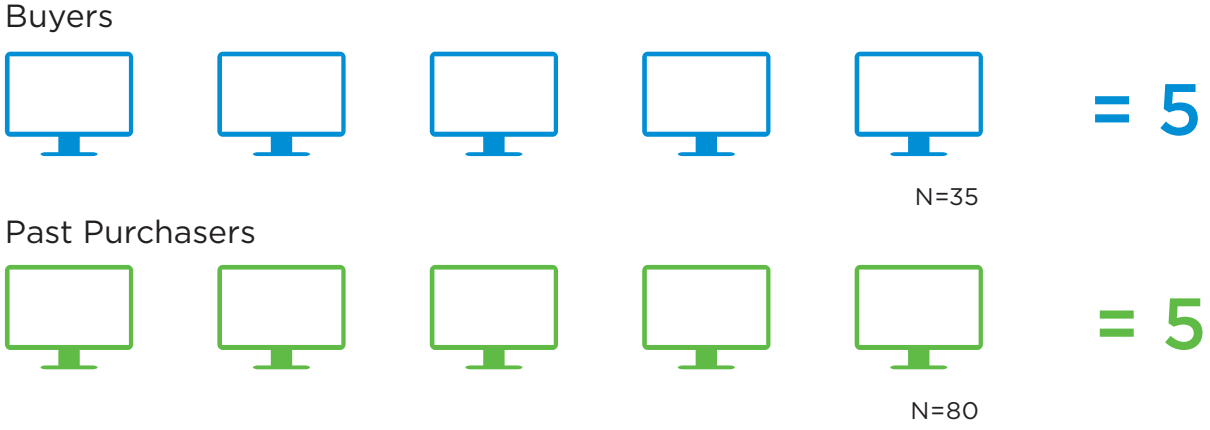
N=85

Companies Consider About Five Systems

Those seeking a new system expect to review an average of five different systems before making a selection. This seems to be a realistic-sized pool, as it tracks with the number of solutions that past purchasers actually considered.

Average Number of Software Systems Considered: Buyers vs. Past Purchasers

Figure 24



User Experience and Cost Top the List of Selection Criteria for Buyers

The results show that buyers are prioritizing user friendliness and cost in their selection criteria. For those returning to the market, cost factored a bit higher on the list of top five selection criteria, while configuration options were more important to first-time byers. Those adopting software for the first time also seem focused on system that will reflect existing organizational work flows. Returning buyers seemed to be seeking more sophisticated features, such as the ability to customize and multi-language capabilities.

Most Important Criteria: First-time vs. Returning Buyers

Figure 25

First-time Buyers	Percentage
User friendliness	64%
Configuration options	55%
Cost to purchase the software	45%
Reflects our organizational work flows	45%
Real time metrics tracking & performance measurement	36%
Ability to integrate existing IT systems	27%
Cloud-based (SaaS)	27%
Multi-language capabilities	27%
Out-of-the box functionality	27%
Ability to customize	18%
Cost of implementation	18%
Cost of maintenance	18%
Easy to update	18%
Mobile accessibility	18%

N=11

Returning Buyers	Percentage
Cost to purchase the software	50%
User friendliness	47%
Ability to customize	38%
Multi-language capabilities	31%
Configuration options	28%
Ability to integrate existing IT systems	25%
Cost of maintenance	25%
Mobile accessibility	25%
Out-of-the box functionality	25%
Real time metrics tracking & performance measurement	25%
Reflects our organizational work flows	22%
Single sign-on	22%
Cost of implementation	19%
Easy to update	19%

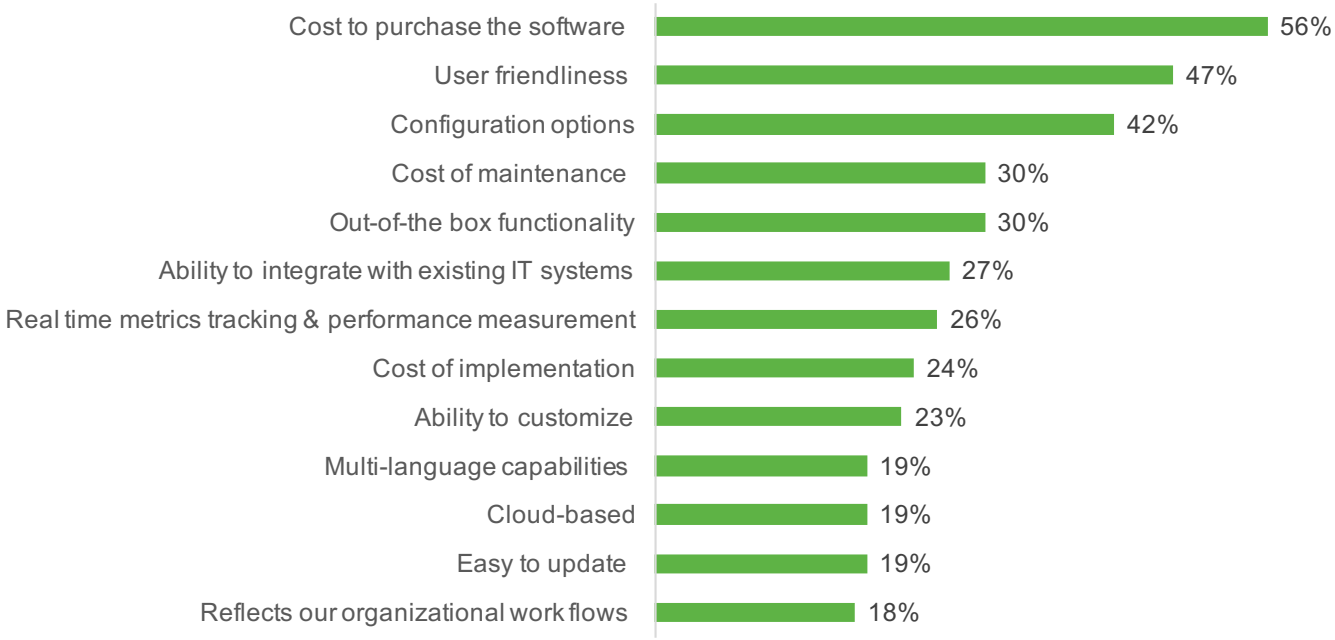
N=32

Past Purchasers Also Prioritized User Experience and Cost

It's interesting to note that past purchasers similarly prioritized cost, user-friendliness and configuration options in their software selection. As a reminder, more than half of past purchasers reported that their selected system achieved their business objectives.

Most Important Criteria: Past Purchasers

Figure 26



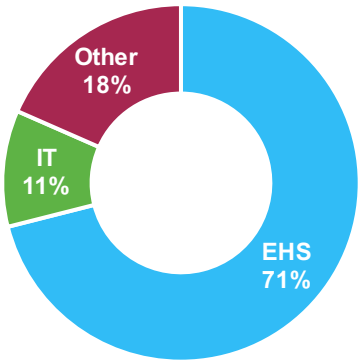
N=93

The EHS Function Decides Which System to Buy

Among all respondents, the EHS function is largely responsible for deciding which system to purchase (71%). The IT function takes the lead on selection among 11 percent of respondents, while 18 percent of respondents reported that a different function led the way. According to the write-in responses, the decision-makers in these companies included: the executive management team, a collaboration between IT and EHS and the facilities team.

Function that Decides which System to Purchase: Buyers

Figure 27



N=38

Implementation and Ongoing Management

Implementation and Ongoing Management

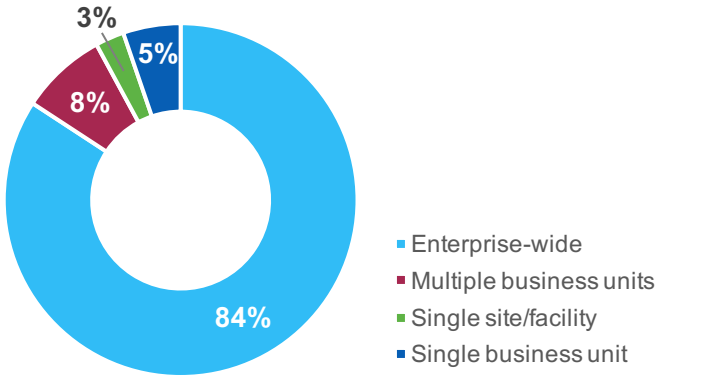
This section offers benchmarking data on the intended scope of the implementation for software shoppers and how they plan to manage that process. The analysis draws from both past purchasers as well as those in the market today.

Buyers are Mainly Seeking Enterprise-wide Systems

Most buyers are planning to implement their selection across the entire enterprise (84%). An additional 8 percent of shoppers are seeking a solution for more than one business unit, while 5 percent are looking for a system for a single business unit, and 3 percent are shopping for a single site.

Desired Scope of System Implementation: Buyers

Figure 28



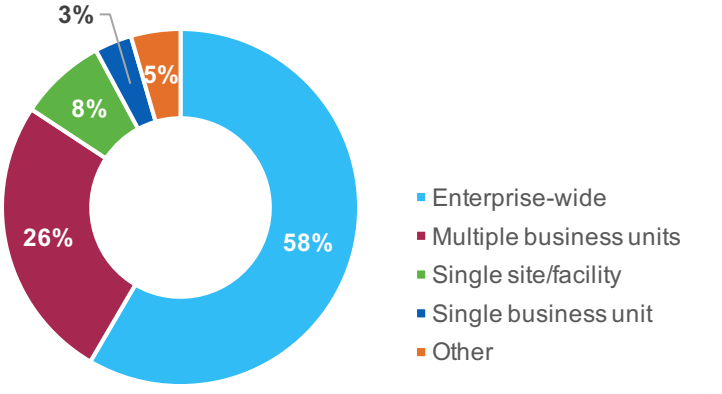
N=38

Past Purchasers were Less Likely to Implement Enterprise-wide Systems

Compared with their peers in the market today, past purchasers were less likely to implement an enterprise-wide solution (84% vs. 58%). Implementations across multiple business units, were more common among past purchasers (26% vs. 8% for buyers).

Scope of Implementation: Past Purchasers

Figure 29



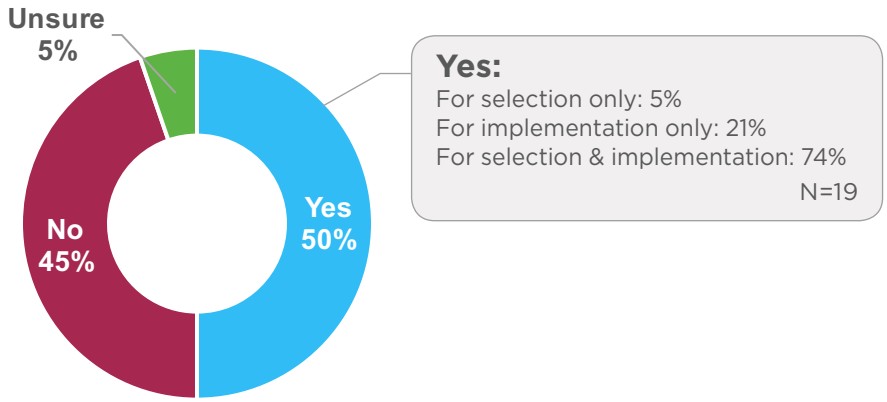
N=89

Half of Shoppers Plan to Use Consultants to Support the Software Adoption Process

Half of software shoppers who responded to the survey plan to use a consultant to support their selection or implementation. Among those who seek outside advice, 74 percent plan to use consultants for both selection and implementation, while 21 percent plan to use consultants for the implementation stage only. The other half of respondents either plan to manage the process on their own (45%) or have not yet decided how to approach the process (8%).

Plan to Use a Consultant: Buyers

Figure 30



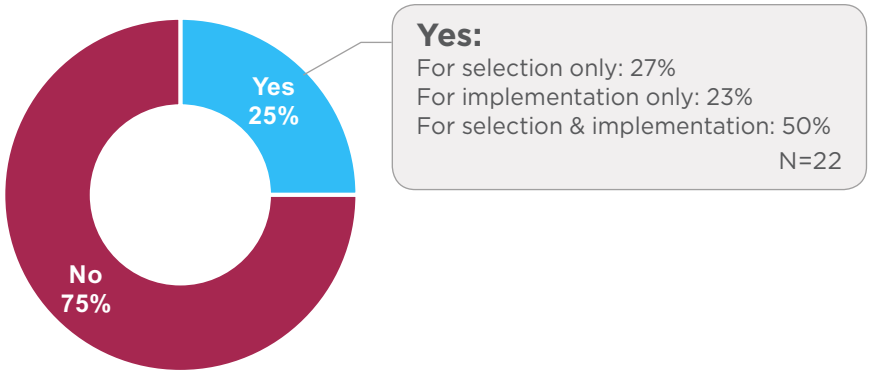
N=38

Fewer Past Participants Used External Consulting Services

Compared with those in the market today, only a quarter (25%) of past purchasers used external consulting services to support the software purchase and implementation process. Among those who did, half used consultants for both selection and implementation.

Used a Consultant: Past Purchasers

Figure 31



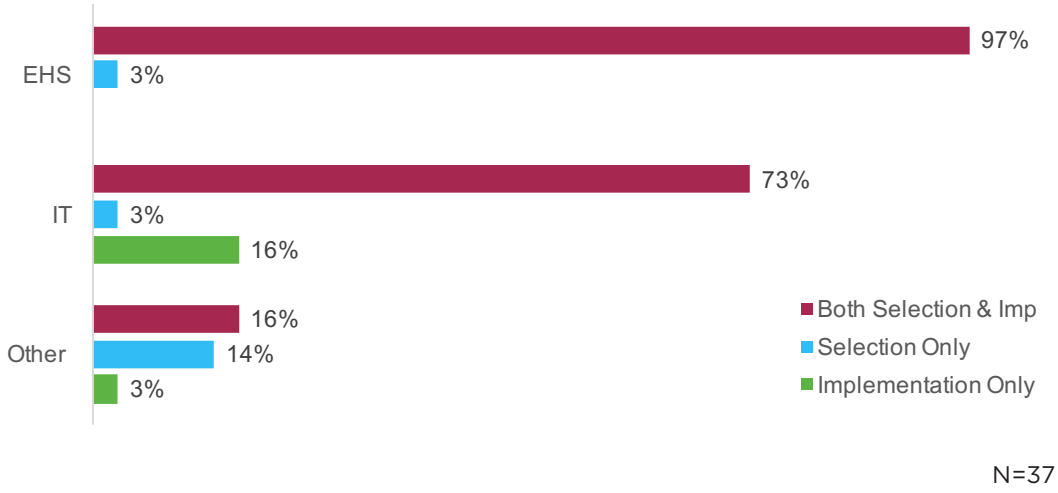
N=88

EHS is Expected to Take the Lead in Both Selection and Implementation

Among buyers, the EHS function is expected to play the lead role in selection and implementation. The IT function is also likely a key collaborator during the implementation process, according to the results.

Functions Involved with Selection and Implementation: Buyers

Figure 32



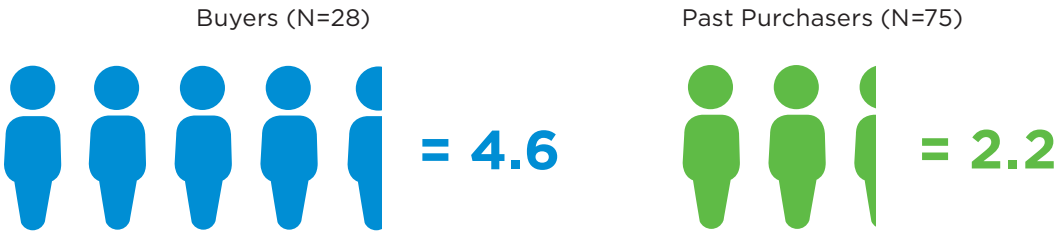
N=37

Buyers are Preparing to Dedicate Significant Staff Resources to System Maintenance

Those in the market today are planning to dedicate almost twice as many FTE's to system management as past purchasers.

Full-time Equivalents for System Maintenance

Figure 33

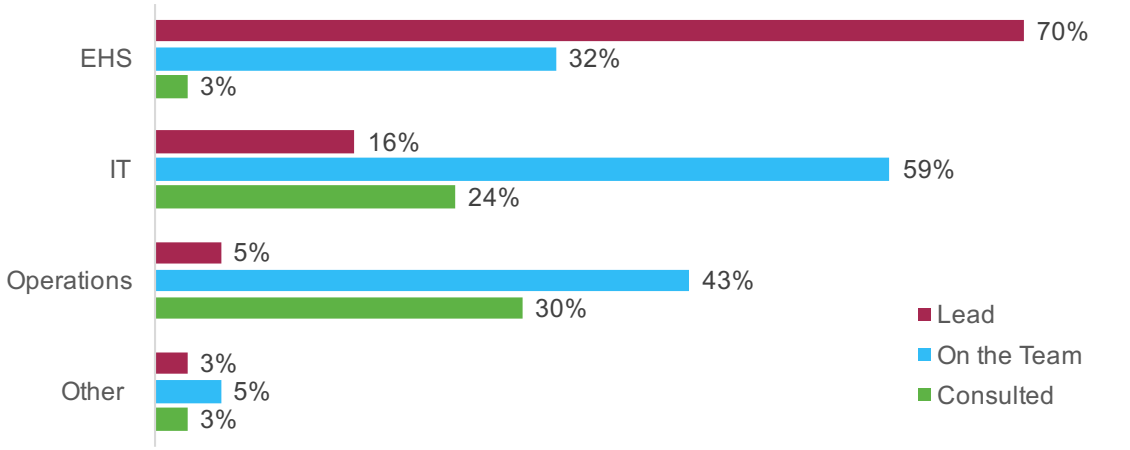


Buyers Expect the EHS Function will Lead System Management, with Support from IT

When it comes to system management, the EHS function is expected to play a lead role, in close collaboration with the IT and operations functions, according to software buyers. These results track closely with the responses from past purchasers, among whom 93 percent said the EHS function leads system management. 52 percent of past purchaser reported that the IT function supports system management.

Functions Involved with System Management: Buyers

Figure 34



N=37

Budgets

Budgets

The following section provides budget information based on average proposed spending (buyers) and actual spending (past purchasers). Because the scope of each implementation is so unique, this information is broken into percentiles; a more thorough analysis by industry and system type was not possible based on the number of respondents in the sample.

The Purchase Budgets for EHS&S Software Largely comes from EHS

According to both buyers and past software purchasers, the EHS function provides the budgets for EHS&S software, from the initial purchase, to implementation and ongoing licensing fees. Within some companies, more than one function contributes to the budget, the results show. There was little difference in results between current buyers versus past purchasers.

Function Who Provides the Budget: All Respondents

Figure 35

	Initial Purchase (N=95)	Implementation (N=92)	Licensing Fees (N=92)
EHS	63%	59%	54%
IT	16%	17%	26%
Operations	11%	9%	9%
EHS & IT	2%	3%	3%
EHS & Operations	2%	3%	1%
EHS, Operations & Other	1%	2%	1%
EHS, IT & Operations	0%	2%	1%
Other	5%	4%	4%

Buyers in the Market Today are Budgeting to Spend More than in the Past

Figure 36 and 37 below demonstrate the amount Buyers and Past Purchasers budgeted to spend on their initial software purchase, analyzed based on the overall average and percentiles of respondents. On average, Buyers in the market for a new system are budgeting $310,750, where Past Purchasers budgeted $165,135. This amount can be influenced by the scope of the system respondents were budgeting for.

Initial Purchase Budget: Buyers

Figure 36

Average	25th Percentile	50th Percentile	75th Percentile	100th Percentile
$310,750	$58,000	$175,000	$370,000	$2,000,000

N=16

Initial Purchase Budget: Past Purchasers

Figure 37

Average	25th Percentile	50th Percentile	75th Percentile	100th Percentile
$165,135	$50,000	$100,000	$186,000	$1,500,000

N=37

Past Purchasers Budgeted for and Spent More on Comprehensive Systems

As seen in figures 38 and 39, although overall Past Purchasers budgeted less for their initial purchase than current Buyers, when broken into the type of system Past Purchasers have, those with a comprehensive system budgeted for and spent more on their systems than those who purchased issue-specific systems.

Past Purchaser Initial Budget vs Amount Spent: Comprehensive Systems

Figure 38

	Average	25th Percentile	50th Percentile	75th Percentile	100th Percentile
Initial Budget	$211,760	$75,000	$100,000	$250,000	$1,500,000
Amount Spent	$689,800	$70,000	$87,000	$280,000	$10,000,000

N=25

Past Purchaser Initial Budget vs Amount Spent: Issue-Specific Systems

Figure 39

	Average	25th Percentile	50th Percentile	75th Percentile	100th Percentile
Initial Budget	$68,000	$6,500	$37,500	$100,000	$250,000
Amount Spent	$68,542	$6,125	$42,500	$89,500	$250,000

N=12

Buyers have Budgeted Less than Past Purchasers Spent on Implementation

On average, Buyers in the market for new software systems have budgeted $194,857, where Past Purchasers have spent $245,214. Of note, on average Past Purchasers had budgeted to spend about half ($121,357) of what the actual implementation cost came out to be.

Implementation Budget: Buyers

Figure 40

Average	25th Percentile	50th Percentile	75th Percentile	100th Percentile
$194,857	$50,000	$100,000	$237,500	$1,000,000

N=14

Actual Implementation Cost: Past Purchasers

Figure 41

Average	25th Percentile	50th Percentile	75th Percentile	100th Percentile
$245,214	$20,000	$70,000	$127,500	$5,000,000

N=35

Past Purchasers Spent Less on Maintenance than Buyers are Expecting

As the 50th percentile, or median, shows, Buyers in the market for new software systems are budgeting to spend more ($75,000) annually on software system maintenance than Past Purchasers are currently spending ($50,000).

Annual Maintenance Budget: Buyers

Figure 42

Average	25th Percentile	50th Percentile	75th Percentile	100th Percentile
$220,000	$37,500	$75,000	$100,000	$2,000,000

N=15

Actual Annual Maintenance Cost: Past Purchasers

Figure 43

Average	25th Percentile	50th Percentile	75th Percentile	100th Percentile
$79,523	$22,500	$50,000	$95,000	$400,000

N=31

Lessons Learned

Lessons Learned

The following are a selection of the verbatim 'lessons learned' contributed by those who responded to the 2017 Buyers Guide report. These perspectives are for research purposes only; these comments do not reflect the views of NAEM or its members.

#1 Start with a Solid Management Process

"Make sure there is a clearly defined project management process and a capable project manager."

"Get senior leadership commitment to completion of project deliverables."

"Using Agile methodology is much more effective and efficient. Dream it, see it, revise it and configure it."

"Every extra piece of customization makes it marginally more difficult for the software company to help troubleshoot. Design intelligently so that you can start simple and increase complexity as you become more acquainted with the system. You will get lower quality data if you ask for too much information upfront from your users. Continually develop processes to improve your data."

"Align standards, processes, and change management."

"Plan, plan, plan, plan! We went through a rigorous process to design a system that met our needs to ensure we had a product that met our design specifications."

"Testing of the hosted server is very important, especially in a multi-national business where response time can be affected by network performance."

"Need to stay on top of IT and Vendor to ensure they are communicating well and transferring needed information."

"Communication between IT professionals and EHS professionals is difficult. Developing detailed specifications is critical."

"Comprehensive testing against the business requirements is critical. Venture out to the organization to ensure feedback is collected from regular users."

"There can never be too much communication amongst the implementation team. The software vendor (implementation advisor) knows the software but not the business. The company's implementation team knows the business and its needs but not the software. There are two learning curves which much intersect before real progress can be made in effective implementation."

"Onsite implementation is key. Never go with remote option where vendor does not work directly with IT staff in person."

"Roll out key components or modules individually in waves. Ensure where possible the processes for using the new components or processes are similar to legacy processes. Even if they're not perfect, they can be modified gradually so as not to shock the system too much. Ensure the new process works well before kicking off another wave. Lastly, talk to and benchmark existing users of the system. Make sure you can use what you get and you get what you want."

#2 Listen to Your Stakeholders

"Ask for other user experience and recommendations"

"Keep it simple if at all possible. Involve the users every step of the way."

"Seek buy-in from various groups."

"Get wide input from users."

"User testing is critical. IT involvement is critical from the beginning."

"Testing with a small group was crucial to work out questions/bugs before implementation (Super Users)."

#3 Set Realistic Expectations

"Buying the right software for the business means making concessions. Driving ROI means listening to what other functions need and then decide the right tool from an overall business perspective."

"Have a clear understanding of what the actual costs will be."

"One system will not do it all."

"Demos show the software at it's best with all the bells and whistles. There are many hidden costs."

"Off-the-shelf systems are great but have limitations and are not as flexible as you'd like."

"More effort than we expected."

"Truly test the claims of "user-friendly and customizable."

"Customization and other measures to meet customer expectations took much more time than we anticipated. Still lots of "development" work to do to get the system where we needed it after the service vendor had completed their job. East access to on-demand tech support is a must have."

"Buyer beware!"

"Hard to find something 'off the self' that fits what everyone wants. Much easier to find single modules that work well individually and give a better picture when used together."

"Sometimes you don't know what you don't know until get there."

#4 Clearly Communicate Your Needs

"While we thought our RFP process was sufficiently thorough we learned that we should have pushed a little harder to verify vendor responses/claims. We found after selection that the vendor was not able to provide all requested functionality as indicated in their proposal and that their extremely complex licensing model quickly became very cost prohibitive when they finally clarified user roles."

"The more detailed your scope document, the better product you will receive."

"There are two languages. Software companies want to use "Needs and Solutions" or similar documents. Users just want the software to meet their needs. One if the biggest challenges is go get the two languages translated to a common language."

"Know what you want and need before starting process. Rank needs and prioritize."

"A well defined specification helps during implementation works."

#5 Understand what Your Budget Can Buy

"It is impossible to live with a system without regular consultancy hours from the vendor."

"Low-cost means easy to implement & limits on functionality & customization."

"Don't skimp on implementation. Don't try to save money in this step at the expense of a poor implementation."

"Strike a careful balance between a high-cost system with out-of-the box functionality versus a low cost system that requires configuration / customization."

#6 Pad Your Deadline

"The time spent inputting the information took longer than expected. "

"It takes a lot more time and energy than will probably be originally expected."

"It will take longer than you think."

"Implementation Time management - it takes at least 4 times as long to implement."

"It takes a lot longer than you'd expect; need to make sure that implementation team is on the same page as software team, especially when customizing reports/templates."

"Adoption takes a long time."

"Expect implementation costs to be 2-3 times what you expect and assume that implementation time will take longer than promised by the vendor."

#7 Take the Time to Properly Train

"Training. Even though you provide training to the end-users, recurring training needs to occur to ensure quality implementation."

"Training from user perspective - not system perspective. Pushback on unknown tool."

"Spend more time on training and implementation."

NAEM's Software and Data Management Offerings

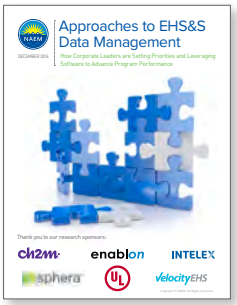
NAEM provides valuable resources for corporate EHS and sustainability leaders and IT professionals who are responsible for selecting, implementing and maintaining software systems, and who are looking to better manage and report their data.

2018 EHS&S Software and Data Management Conference
March 6-7, 2018 | The Hilton St. Petersburg | St. Petersburg, FL

Join your peers for the premier conference dedicated to EHS & sustainability software and data management solutions. NAEM's annual conference is the best opportunity to benchmark best practices, learn about emerging trends, and to hear from fellow users who leverage these systems to drive EHS&S performance. Learn more: www.naem.org

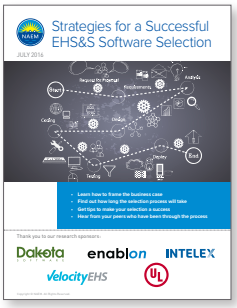
2017 EHS & Sustainability Software Ratings Report
January 2017

NAEM's EHS & Sustainability Software Ratings Report is the only third-party evaluation of customer satisfaction with specific software capabilities, user adoption, customer service from the perspective of in-house EHS and sustainability leaders. Download your free copy today: http://www.naem.org/page/survey_2017_ratings



Approaches to EHS&S Data Management
December 2016

Regardless of a company's data management strategy, the key is to align around a common vision, and continuously improve toward that goal. Download this free white paper to read peer case studies about how different organizations address their data management needs. Download Free Report: http://www.naem.org/page/survey_2017_wpehsmis



Strategies for a Successful EHS&S Software Selection
July 2016

A successful selection begins with a well-managed selection process. Download this free white paper to learn how to frame the business case for a new system, how to identify requirements and how to plan for long-term success. Download Free Report: www.naem.org/page/survey_2016_ehsmisg

Acknowledgments

Publisher

The National Association for Environmental Management (NAEM)
1612 K St., NW Suite 1002
Washington, DC 20006
(202) 986-6616
www.naem.org

Report Sponsors

Dakota Software Corp.
Enablon
Sphera
VelocityEHS

Analysts

Taylor Gelsinger
Research Analyst, NAEM

Elizabeth Ryan
Director of Communications, NAEM

Report Design

Ellie Diaz
Chaos Studios

Media Inquiries

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

www.naem.org