2015 EHS and Sustainability Software Buyers Guide

March 2015

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As companies are striving to improve business performance while meeting the expectations for external transparency, data management is key. Selecting an appropriate system for your company, however, is not a straightforward transaction.

We designed this research to help software buyers benchmark their programs and find answers to their questions as they embark on the software purchase process. The unique value of this analysis is that it reflects the needs of corporate users.

In the coming months and years, we'll continue to provide you with valuable insights on this topic, with reports that highlight the lessons learned from those who have gone through a purchase, information on how to shop for a system, and recommendations for how to leverage your new system to drive culture change. We'll also give you a look into the future, with key trends in how companies are adapting their systems to keep up with evolving organizational needs.

We hope this latest report is a value resource you can use to make an informed decision on how to drive progress through software.

Sincerely,

Carol Singer Neuvelt
Executive Director
NAEM

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.

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Introduction

Glossary of Terms

Buyers: Those who are actively shopping for a software system
- First-time Buyers: Those who are shopping for a software system for the first time
- Returning Buyers: Those who currently own an off-the-shelf system but are looking to replace it (or add to it)

Configuration: The stage at which a selected software module is adapted to the needs of the company. This may include adding existing metrics or performance measures into the software tool

Commonly-available tools: A readily available software tool such as Lotus Notes or Excel

Customization: The process of developing a customized module to meet the specific needs of a company

EMIS: An environmental management information system (typically a desktop software platform)

Enterprise-wide: Relating to the full scope of a business' operations

Implementation: The phase at which a company starts to launch the software modules

Internally Developed system: A software platform that is typically built by an internal IT department to manage a variety of EHS and sustainability data

Issue-specific: A software system that addresses a single or limited aspect of EHS or sustainability management, e.g. audit findings, greenhouse gas management, etc.

Off-the-shelf: A software system that is developed (and often hosted) by a third-party software provider.

Maintenance: The stage where the software is being used to manage every day data management activities

Past Purchasers: Those who have purchased a software system within the past eight years and are not currently shopping for a new system

Summary of Insights

NAEM conducted this benchmark study to provide a decision-making resource for those who are currently shopping for a new environment, health and safety (EHS), or sustainability data management software. The results presented in this report are derived from survey responses from 165 "in-house" corporate environment, health and safety, and sustainability leaders. The respondents included a mix of those who are currently in the market for new software (36%), as well those who had recently purchased a software system (64%). The following is a summary of insights from the research:

Most Companies Still Use a Mix of Data Management Approaches

More than half of all respondents (56%) currently use a mix of commonly-available tools, internally developed systems and off-the-shelf software to manage their data. Those who are shopping for a new system tend to rely more on commonly available tools and internally built systems. These 'first generation' solutions seem to have some staying power, even among past purchasers, who are using them alongside their off-the-shelf software (58%).

Companies Primarily Seek Solutions to Manage Compliance-related EHS Activities

In accordance with the key business objectives of improving accountability and compliance assurance, most buyers are looking for systems with strong compliance-related capabilities. These include incident tracking, corrective action tracking and incident reporting. The importance of compliance capabilities is largely consistent between both first-time buyers as well as those who already have an off-the-shelf system (existing users). The notable exception is in the area of annual sustainability reporting, which seems to matter more to those who are looking to upgrade their current system. (Incidentally, the responses from past purchasers also shows that support for compliance activities was also on the top of their list. The capabilities they sought are those they implemented, the data shows.)

Half of Buyers Want Comprehensive, Enterprise-wide Systems

Among those shopping for a system, about half are seeking an enterprise-wide off-the-shelf solution, while 41 percent are looking for a module to address a specific EHS or sustainability need. While the sample sizes are small, those companies with revenues greater than $10 billion showed a strong preference for comprehensive, enterprise-wide solutions compared to peer companies in the $250 million-$10 billion revenue range.

Buyers Want Solutions that are Flexible and Easy to Update

Among those who are currently in the market, the most important requirement is a new system that is easy to update. Where first-time-buyers diverge from those who already own software is in cost. Among first-time buyers, both implementation cost and maintenance cost are high on their list of requirements. For those who have a system, purchase and implementation costs fall below flexibility, fit with business model, customer service and user friendliness.

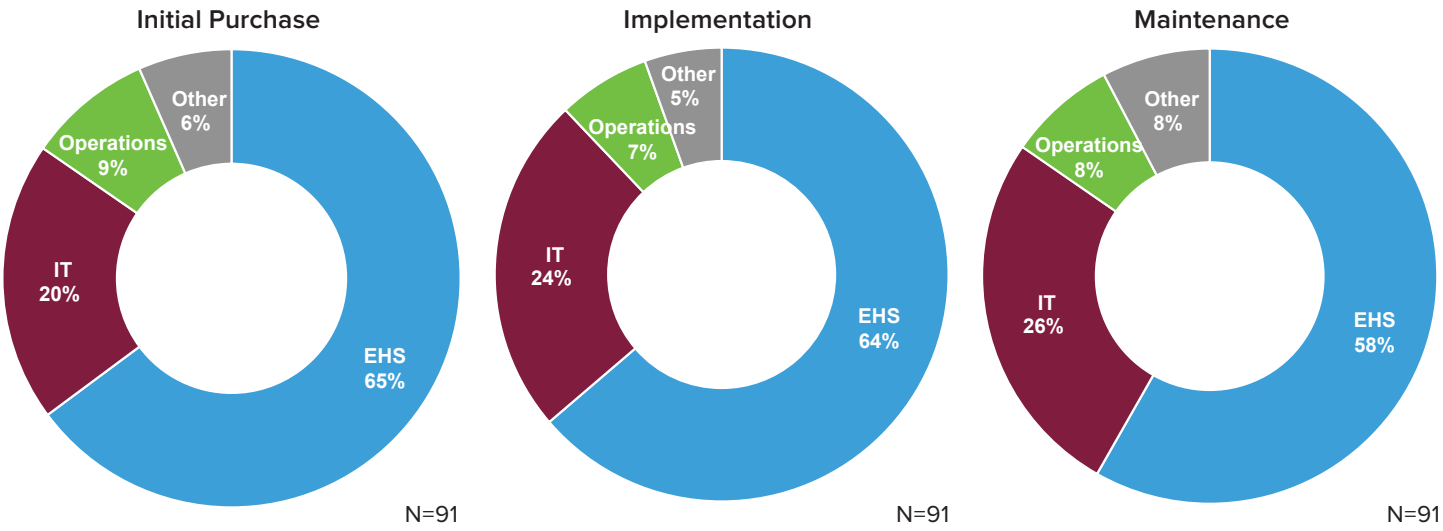
Summary of Insights

The EHS Function Leads the Software Selection Process

The EHS function leads the selection, implementation and maintenance of the EHS information management system, with support from IT and operations. EHS is largely responsible for deciding which system to purchase (69%) and provides the purchase, implementation and maintenance budgets as well.

The Functions that Provide the Budget

Figure S1



The Selection Process Takes About a Year

According to past purchasers, the selection process tended to take between seven and twelve months to complete. Current buyers were more optimistic, with 38 percent expecting to complete the process within six months.

The Scope Drives the Cost

Not surprisingly, those shopping for a comprehensive, enterprise-wide system spend more than those seeking an issue-specific system: Buyers expect to spend an average of $339,615 for an enterprise-wide system and those in the market for an issue-specific system plan to spend an average of $171,818.

List of Figures

Methodology

Methodology

Background

NAEM has been conducting a bi-annual benchmark of EHS and Sustainability software usage since 2001, in conjunction with its users conference on data management tools. In 2013, NAEM published its full benchmark results, which documented the approaches companies are using to manage their EHS and sustainability data. This year's survey was revised to focus on the information buyers seek to benchmark at the various stages of the purchase cycle: current approach, selection, implementation and maintenance.

Research Objectives

This research study was designed to meet the needs of EHS and 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 software system
- The desired system capabilities and needs for new software systems
- Which functions are involved in software selection and implementation
- How much buyers expect to spend to purchase, implement and maintain a new software system
- How much recent purchasers actually spent to purchase, implement and maintain their system
- The timeline for selection and implementation of software systems

Survey Development and Outline

NAEM developed this survey in October 2014, using core questions from NAEM's 2013 EHS and Sustainability software usage survey and input from an advisory committee. The committee was composed of six EHS and sustainability leaders from a variety of industry sectors. They provided feedback on the research objectives, the inquiry areas and the questionnaire.

The online survey segmented respondents into two main groups: those who are currently shopping for a system (buyers), and those who already own a system and do not plan to replace it (past purchasers). Depending on their segment, respondents answered approximately 35 questions, across six main sections:

- Approach to data management
- Scope of software system
- Business objectives
- Software system requirements and capabilities
- Functions involved in selection, implementation and maintenance
- Budgets for selection, implementation and maintenance

The survey link was distributed to NAEM members via email between December 2014 and January 2015. It was also distributed via email by E2 ManageTech and CH2MHill.

Methodology

Survey Respondents

Survey respondents were screened to be exclusively "in house" EHS and sustainability decision-makers (99%), or IT professionals (1%). Consultants and service providers were excluded from the survey.

This report reflects input from the 165 respondents who met the eligibility criteria.

Notes On Analysis

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

- Intended scope of the software system (comprehensive, enterprise-wide vs. issue-specific)
- Company size (as measured in annual revenue)
- Respondent's position in the purchase cycle (buyers vs. past purchasers): Buyers were further broken down based on whether they are purchasing a system for the first time or are returning buyers

Of these different looks, the scope of software system was the key driver of spending. We also considered the company's industry and level of EHS risk, but that analysis did not yield any conclusive differences.

Repondent Profile

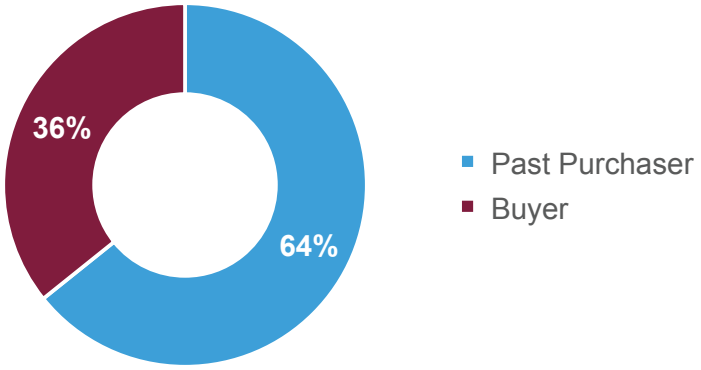
Respondent Profile

Most Respondents were Past Purchasers

The 165 respondents to this survey hailed primarily from U.S.-based companies. The audience represented a mix of those who are currently in the market for software (36%) and past purchasers of software systems who are not in the market for new software (64%). While this report includes data from both segments, NAEM will provide a deeper analysis of past purchasers in a users satisfaction report later this year.

Respondent Segmentation: Past Purchasers vs. Buyers

Figure 1

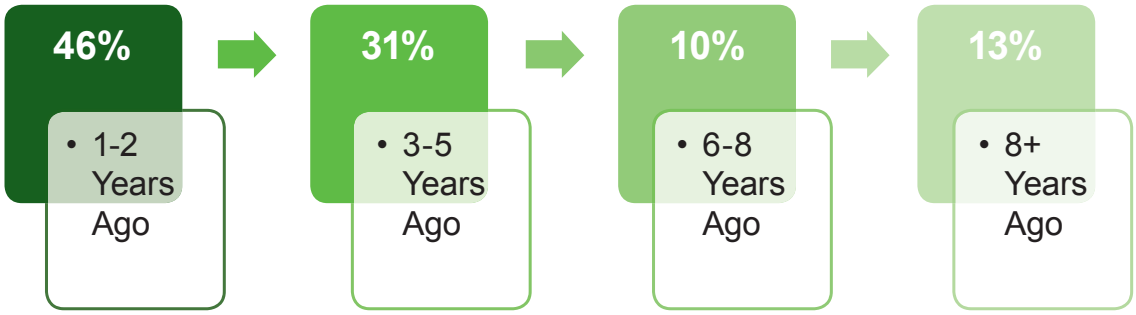


N=165

Almost Half of Past Purchases are Relatively Recent

Age of Software System: Past Purchasers

Figure 2



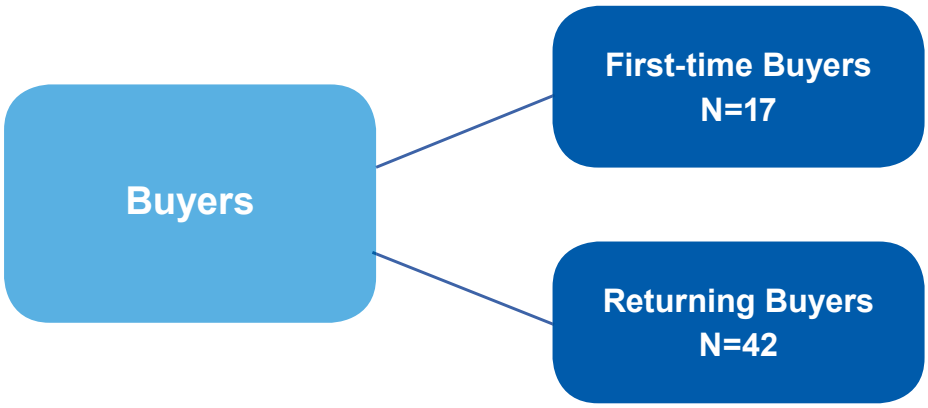
N=107

A Look at Who's Buying

First-time buyers do not already have an off-the shelf system, but rely on commonly available tools, such as Excel, and internally developed systems. Returning buyers currently use off-the-shelf systems, or use a combination of off-the-shelf systems, commonly available tools and internally developed systems.

First-time vs. Returning Buyers

Figure 3

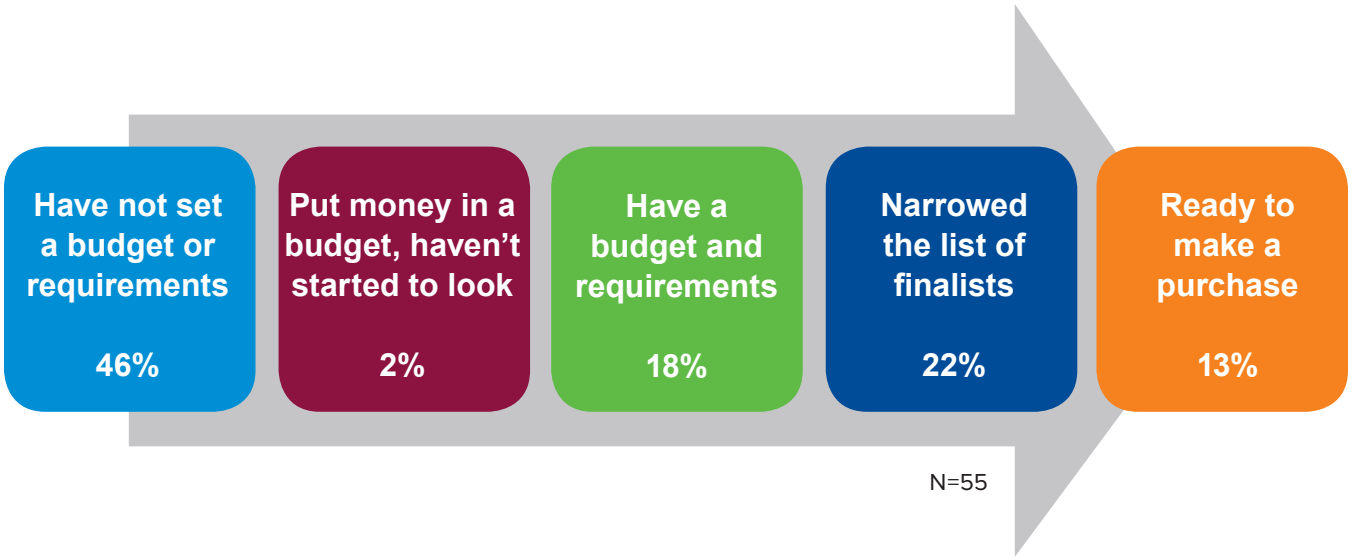


Half are Starting the Process; the Other Half are on the Path

Among those who are shopping for a new system, almost half are just beginning the process, having not yet set a budget or defined a list of requirements. Still others, as reflected in the comments, are exploring options to replace their existing system, but have not yet committed to purchasing something new.

Buyers' Position in the Selection Process

Figure 4

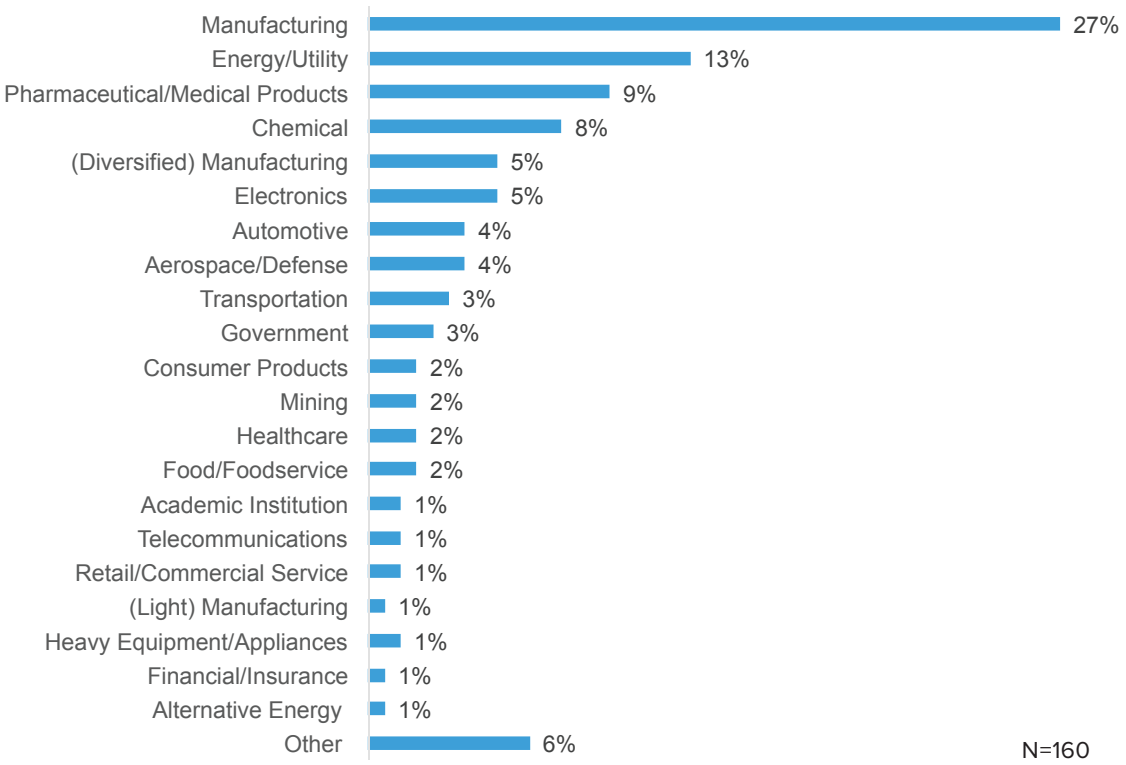


Respondent Profile

Most respondents to this survey work within the manufacturing sector. Consistent with NAEM's previous benchmarks on software, the energy/utility and chemical sectors tend to also be strongly represented among the survey audience.

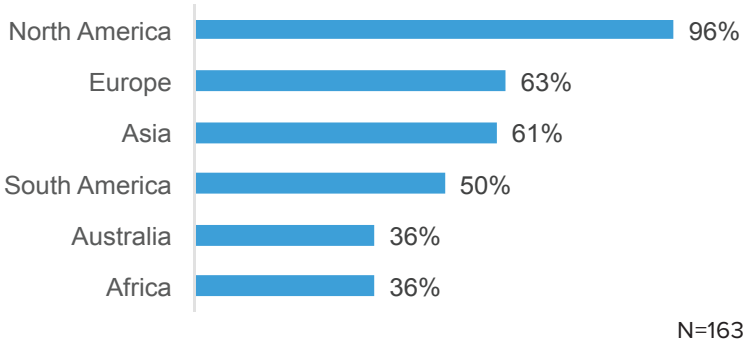
Respondents' Industry

Figure 5



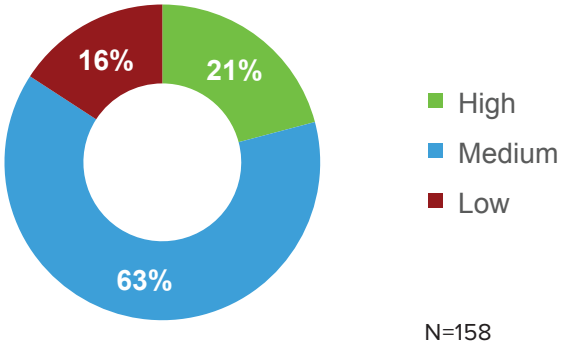
Scope of Company Operations

Figure 6



Self-Described Level of EHS Risk

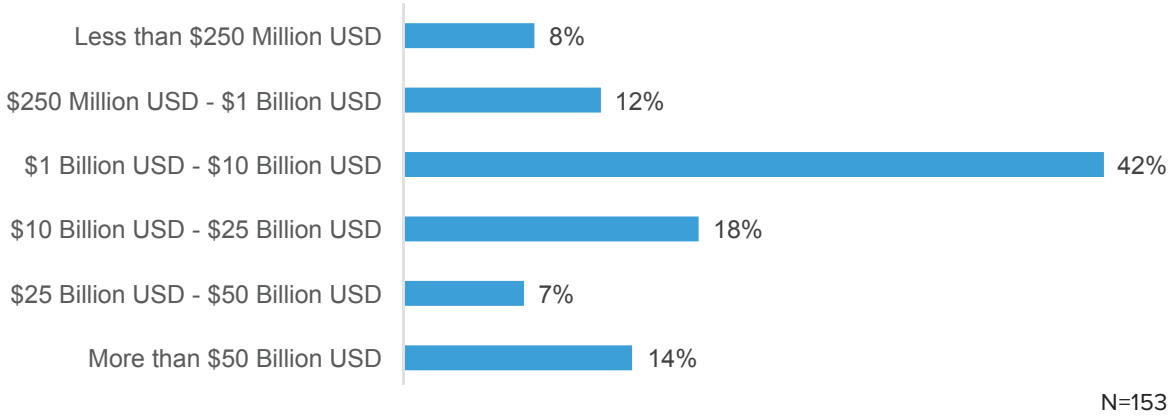
Figure 7



Respondent Profile

Annual Company Revenue

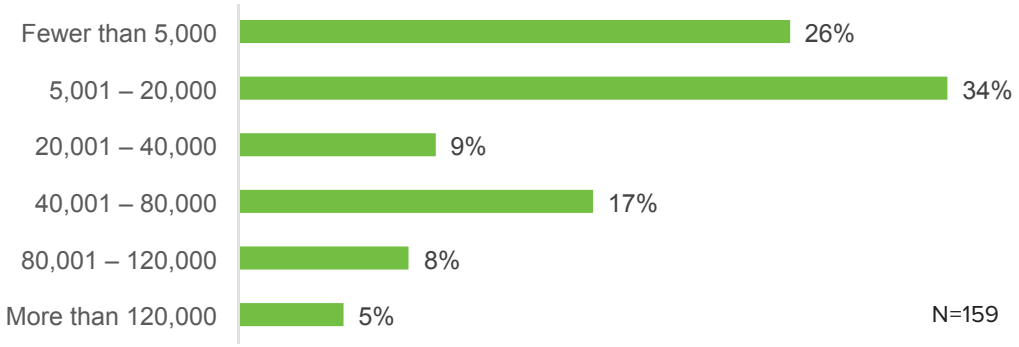
Figure 8



Most respondents (73%) work for companies with more than 5,000 employees and 42 percent of responding companies have more than 100 facilities.

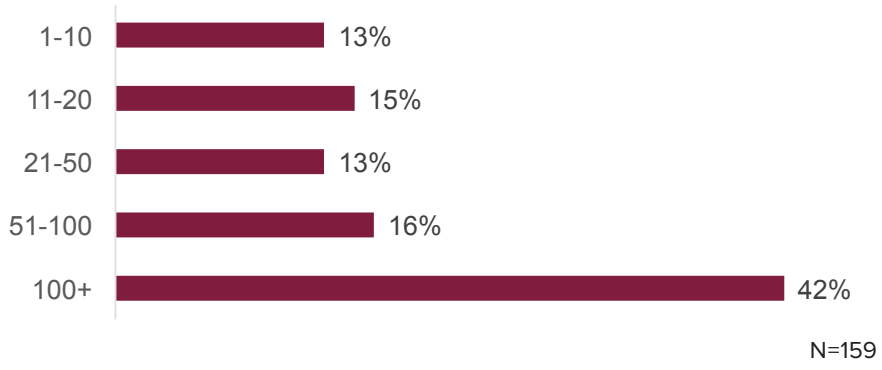
Number of Employees

Figure 9



Number of Facilities

Figure 10



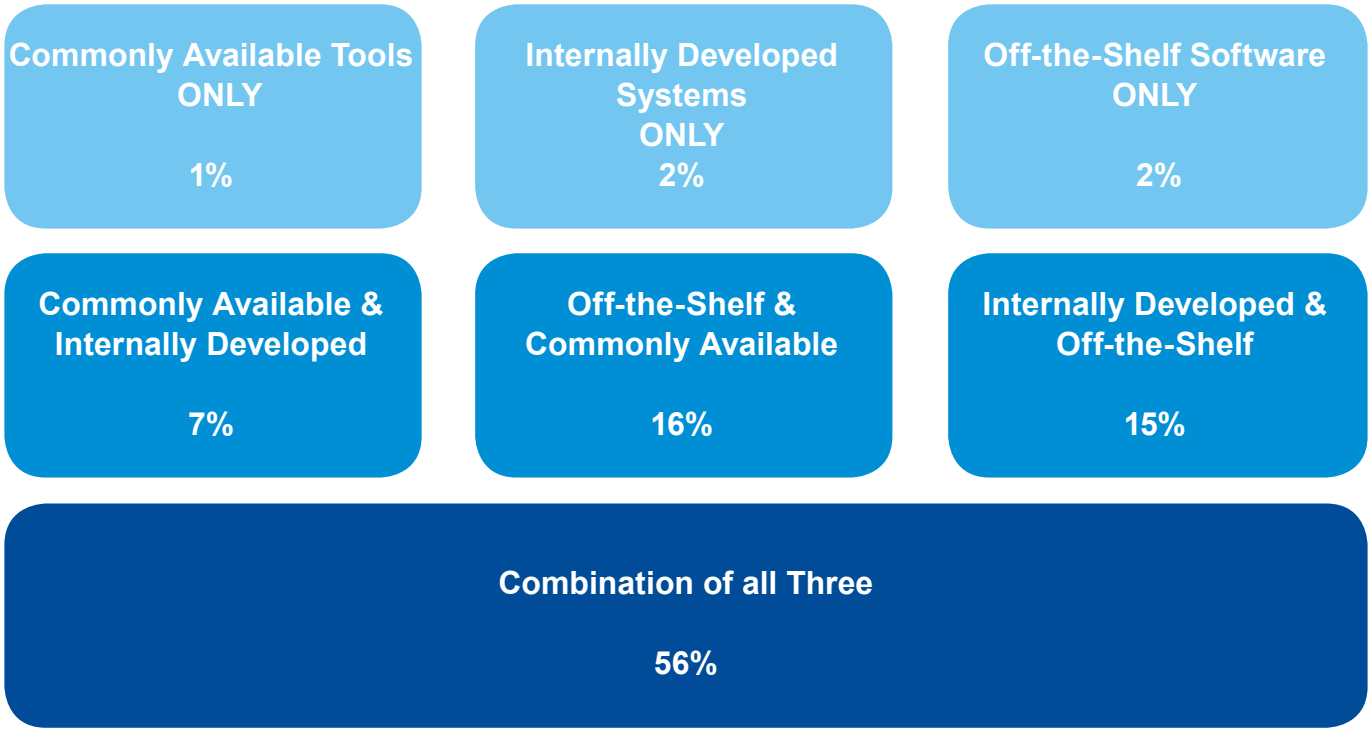
Current Approach

Most Companies Still Use a Mix of Data Management Approaches

For both buyers as well as past purchasers, the most common data management approach is a mix of internally developed systems, commonly available tools and off-the-shelf software.

Current Data Management Approach

Figure 11



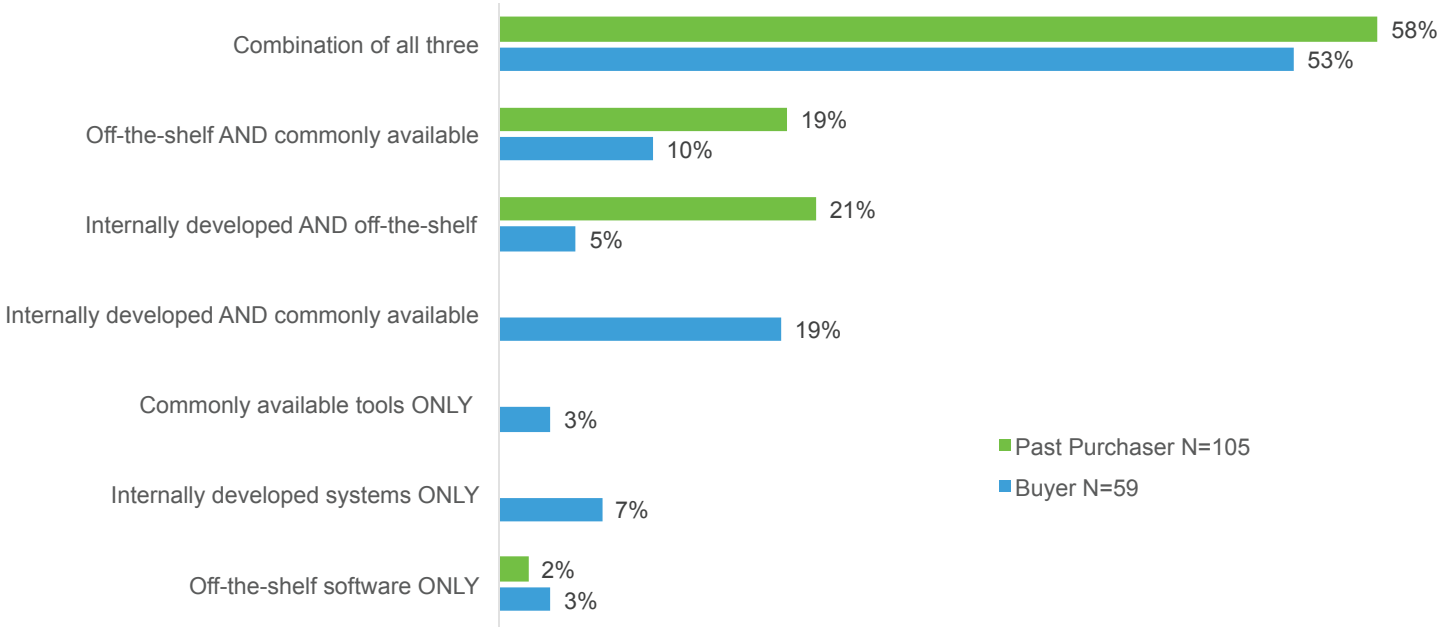
N=164

Current Approach

Buyers are More Likely to Rely on Internal Systems and Common Tools

While buyers seem to rely on commonly available tools and internal systems, these first generation solutions seem to have some staying power, even among past purchasers, who are using them alongside their off-the-shelf software (19%). Figure 12 provides a deeper look at the data management approach of respondents, comparing those who are currently in the market to those who own a software system.

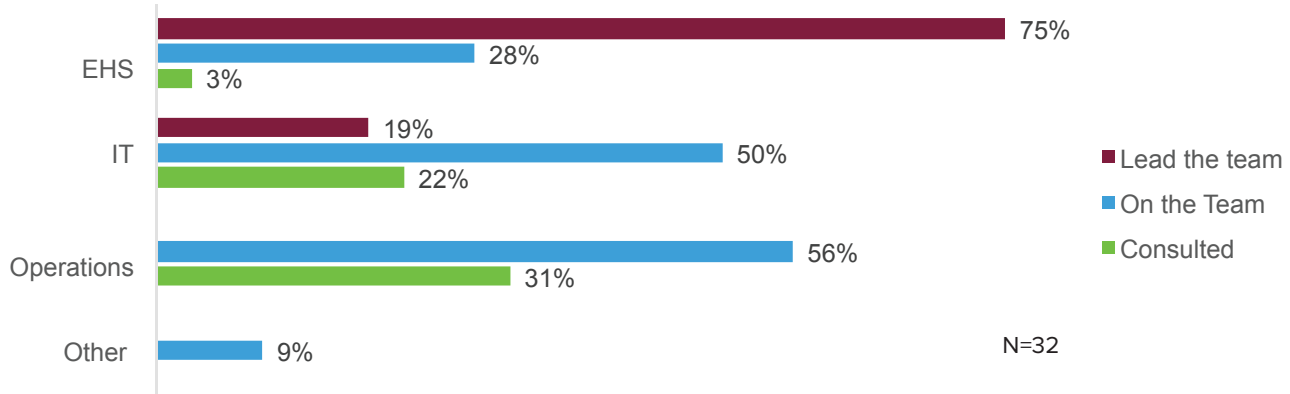
Comparison of Data Management Approach: Past Purchasers vs. Buyers
Figure 12



EHS Leads System Management

According to respondents, the EHS function takes the lead (75%) when it comes to managing the EHS management information system. The IT function and Operations are also likely on the team. Among a smaller set of companies, IT leads system management (19%).

Functions Involved with System Management
Figure 13



System Requirements and Capabilities

System Requirements and Capabilities

Strategy, Technology and Culture Challenges Drive New Purchases

Those who are in the market for a new system reported dissatisfaction or unmet needs based in three main areas: technology, business strategy and culture. The primary driver for a new software system was the opportunity to upgrade the software to either keep up with current offerings (42%), offer greater transparency (36%) or provide better integration (36%).

Significantly, about a third of respondents (32%) of those currently in the market said they did not currently have a software system.

Those who provided comments offered detailed reasons relating to business drivers and dissatisfaction with their existing systems, such as:

"We want to streamline and consolidate the number of systems that we have."

"Recent major acquisition is requiring more robust systems."

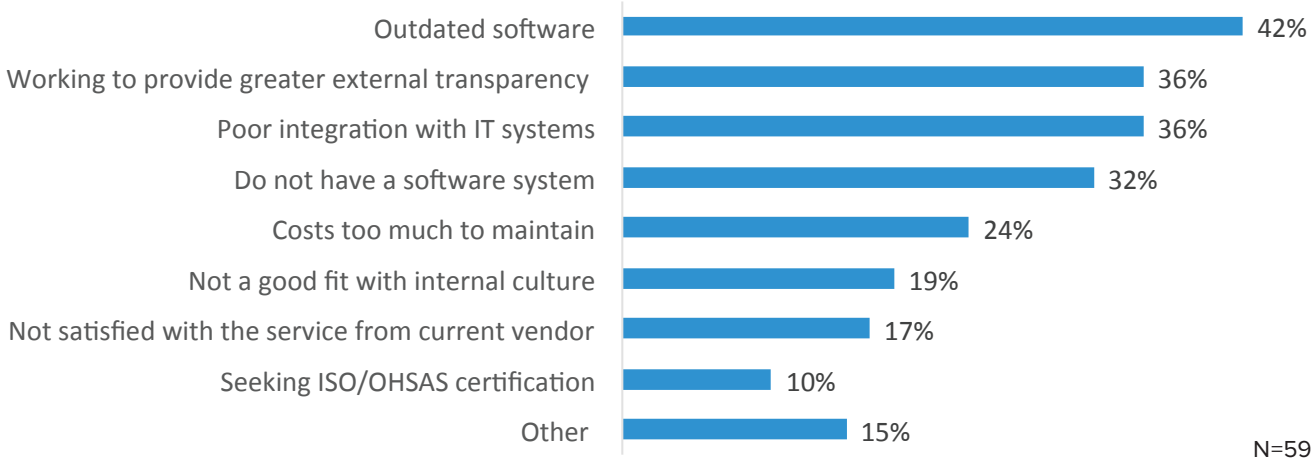
"Current external software system is immature (too many fixes required) and data extraction/analysis very difficult. Modification is expensive and time consuming."

"We also feel we need to better at collecting sustainability data. We want our data to be more accurate and to be collected faster."

"Our internally developed data system is over-customized and overtaxed. As more groups within the organization became users of this system, it was patched and extended. Performance has suffered and it is no longer supporting our needs."

Top Reasons Buyers are Seeking New Software Systems

Figure 14



Accountability and Centralizing Data are Key Objectives for New Software

The primary business objectives for those seeking new software are: driving accountability for performance (17%), centralizing data collection (17%) and building a management system (17%). Reporting, while somewhat less important, still rises to the top as a goal for a new system (14%).

The ranking of these business objectives does not seem to vary widely based on whether shoppers are seeking an enterprise-wide or issue-specific system. Company size (revenue) also does not affect the importance of these objectives.

While the base sizes for each of the risk categories were too small to provide an accurate analysis of objectives based on risk, some directional patterns did emerge. Among medium and higher-risk companies, centralizing data collection seemed to be of greater importance. For those on the lower end of the risk spectrum, companies were more focused on build a management system.

The comments also provided more detail on what companies hope to achieve with their systems including:

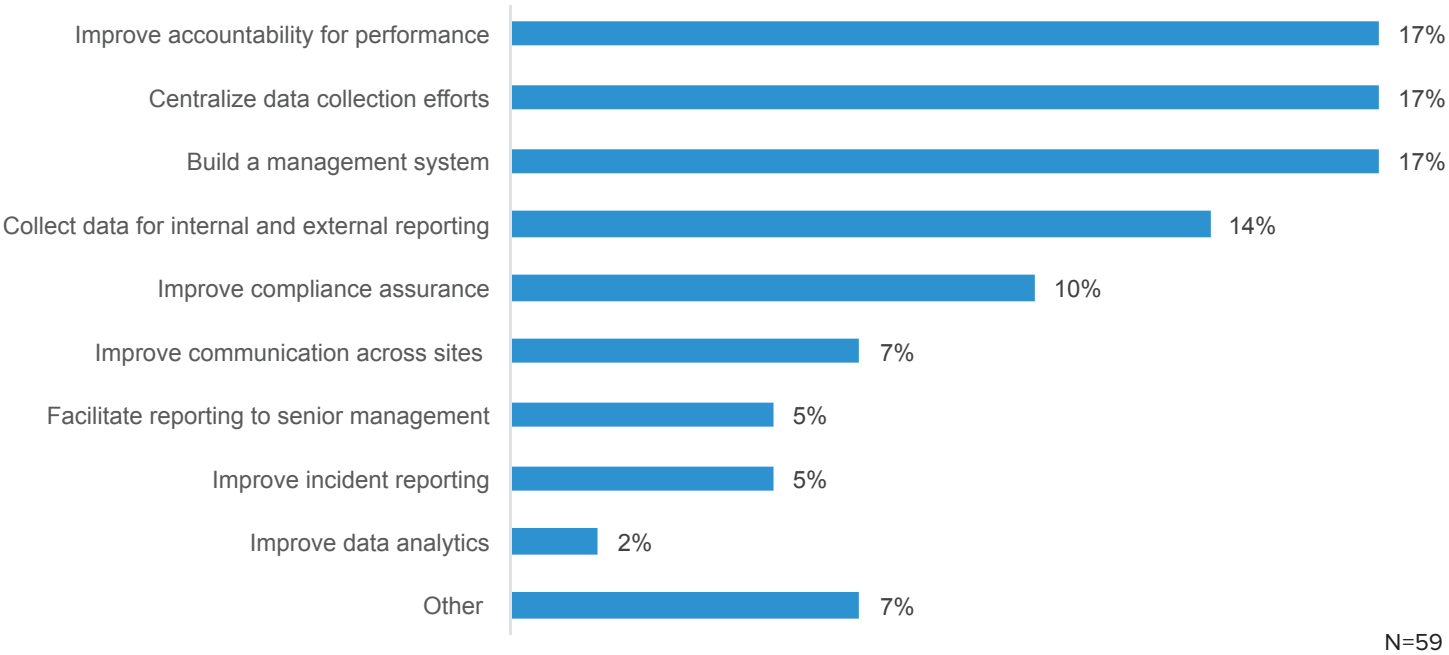
"Collect data for internal and external reporting to identify operational changes required by the continuous improvement process (trending and analysis)"

"Deploy a system that allows us to actively manage our data and set reasonable and realistic goals"

"Provides us with the analytics that management is requesting"

Business Objectives for New Software System: Buyers

Figure 15



N=59

Reporting Matters More to Those Upgrading their Systems

While those in the market for software tend to have similar business objectives for their new systems, reporting seems to be slightly more important to companies that are replacing their existing system with something new. First-time buyers who do not already have a system, on the other hand, are focused on improving accountability (18%), building a management system (24%) and improving compliance assurance (18%).

The tables below depict the top business objectives for buyers purchasing a software system for the first time, versus buyers who already have a software system and are looking to purchase another system.

Comparison of Business Objectives: First-time vs. Returning Buyers

Figure 16

First-time Buyers	Percentage
Build a management system	24%
Improve accountability for performance	18%
Improve compliance assurance	18%
Facilitate reporting to senior management	12%
Centralize data collection efforts	6%
Improve data analytics	6%
Improve communication across sites	6%
Collect data for internal and external reporting	6%
Other	6%

N=17

Returning Buyers	Percentage
Centralize data collection efforts	21%
Improve accountability for performance	17%
Collect data for internal and external reporting	17%
Build a management system	14%
Improve incident reporting	7%
Improve compliance assurance	7%
Improve communication across sites	7%
Facilitate reporting to senior management	2%
Other	7%

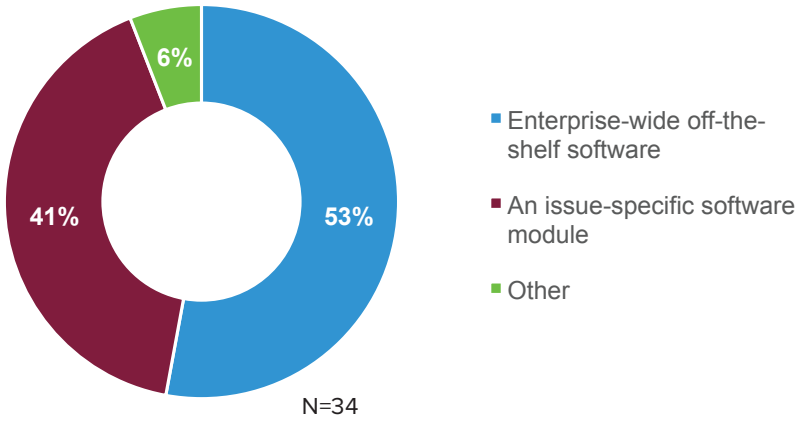
N=42

System Requirements and Capabilities

Half of Buyers Seek Comprehensive Enterprise-wide Systems

Among those shopping for a system, about half are seeking an enterprise-wide off-the-shelf solution, while 41 percent are looking for a module to address a specific EHS or sustainability need. In this survey, 'enterprise-wide' was presented as a discrete choice from 'issue-specific'. While an issue-specific module may, in fact, be implemented across an enterprise, in this context, enterprise-wide was used to imply a comprehensive software approach.

Type of System Buyers Seek
Figure 17

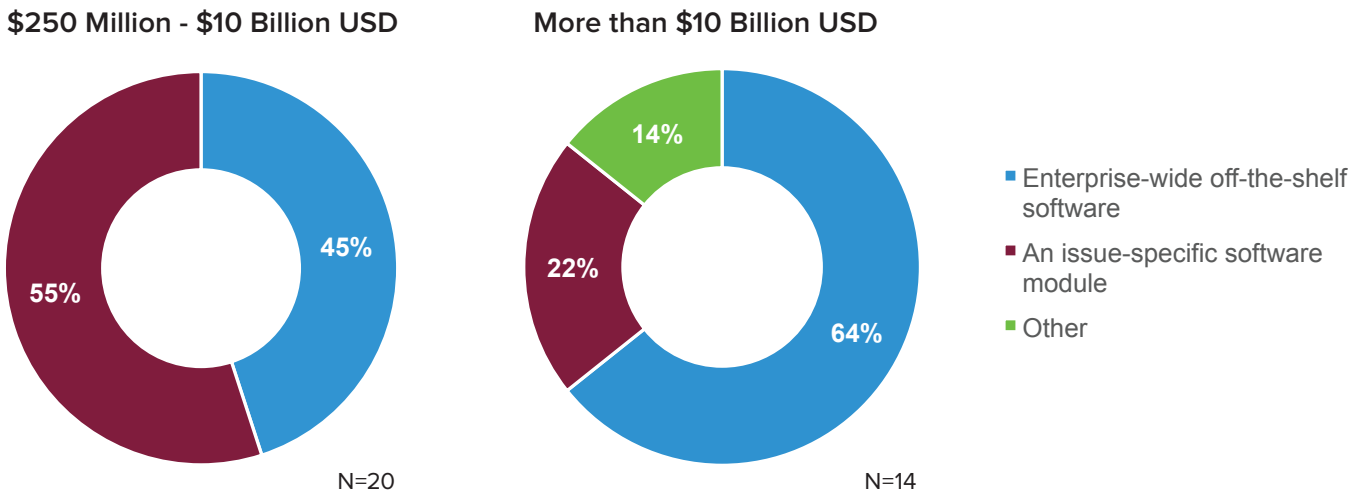


N=34

Larger Companies Prefer Comprehensive Enterprise Systems

While the sample sizes are small, those companies with revenues greater than $10 billion showed a strong preference for enterprise-wide solutions compared to peer companies in the $250 million-$10 billion revenue range.

Comparison of System Type Sought by Revenue
Figure 18



N=20 N=14

Software Buyers Mainly Seek Support for Compliance Activities

In accordance with the key business objectives of improving accountability and compliance assurance, most buyers are looking for systems with strong compliance-related capabilities. Energy and carbon tracking (73%), GHG reporting (61%) and annual sustainability reporting (61%) are the notable exceptions on the top of a list that covers everything from notices of violations to document management.

Summary of Top Desired Software Capabilities: Buyers

Figure 19

Top Desired Software Capabilities	Percentage
Incident tracking	88%
Corrective action tracking	85%
Audit finding documentation	82%
Incident reporting	82%
Incident investigation	82%
Internal reporting	82%
Performance metrics/dashboards/scorecards	82%
Environmental auditing/inspections	76%
Compliance calendar	76%
Energy and carbon management/metrics	73%
Safety auditing/inspections	73%
NOV tracking	73%
Non-Conformance statistics	67%
Risk management	67%
Regulatory change tracking and monitoring	64%
Hazard identification and assessment	61%
Annual sustainability reporting	61%
GHG reporting	61%
Job hazard/Risk assessment	58%
EMS/ISO 14001 management system	58%
Document management	58%

N=33

Compliance Tops List for First-time Buyers and Returning Buyers

The importance of compliance capabilities is largely consistent between both first-time buyers as well as those who already have an off-the-shelf system (returning buyers). The notable exception is in the area of annual sustainability reporting, which seems to matter more to those who are looking to upgrade their current system.

The tables below compare the top capabilities for first-time buyers versus those who already have one and are looking for an upgrade.

Comparison of Desired Capabilities: First-time vs. Returning Buyers

Figure 20

First-time Buyers	Percentage
Performance metrics/dashboards/scorecards	100%
Incident tracking	100%
Audit finding documentation	100%
Environmental auditing/inspections	100%
Safety auditing/inspections	100%
Incident reporting	89%
Incident investigation	89%
Corrective action tracking	89%
EMS/ISO 14001 management system	78%
NOV tracking	78%
Risk management	67%
Non-Conformance statistics	67%
Air emissions management	67%
Regulatory change tracking and monitoring	67%
Job hazard/Risk assessment	67%
Energy and carbon management/metrics	67%
Compliance calendar	67%

N=9

Returning Buyers	Percentage
Internal reporting	92%
Incident tracking	83%
Corrective action tracking	83%
Incident reporting	79%
Incident investigation	79%
Compliance calendar	79%
Performance metrics/dashboards/scorecards	75%
Audit finding documentation	75%
Energy and carbon management/metrics	75%
GHG reporting	71%
NOV tracking	71%
Risk management	67%
Annual sustainability reporting	67%
Non-Conformance statistics	67%
Environmental auditing/inspections	67%
Regulatory change tracking and monitoring	63%
Safety auditing/inspections	63%
Hazard identification and assessment	63%

N=24

System Requirements and Capabilities

Past Purchasers also Largely Sought Compliance Capabilities

In the survey, past purchasers were asked separate questions about what software system capabilities they bought when purchasing their software system and what software system capabilities were actually implemented. The responses from past purchasers also shows that support for compliance activities was on the top of their list. The capabilities they sought are also those they implemented, the data shows. The tables below compare the top capabilities sought with the top capabilities that past purchasers implemented.

Comparison of Software Capabilities: Past Purchasers

Figure 21

Top Desired Capabilities	Percentage
Incident tracking	82%
Corrective action tracking	79%
Incident reporting	78%
Environmental auditing/inspections	76%
Internal reporting	75%
Performance metrics/dashboards/scorecards	75%
Incident investigation	70%
Safety auditing/inspections	67%
Audit finding documentation	67%
NOV tracking	58%
Compliance calendar	55%
Non-Conformance statistics	49%
Energy and carbon management/metrics	47%
GHG inventory	46%
Air emissions management	46%
Wastewater permit management	46%
Annual sustainability reporting	46%

N=101

Top Implemented Capabilities	Percentage
Incident tracking	78%
Incident reporting	78%
Corrective action tracking	74%
Internal reporting	69%
Incident investigation	69%
Audit finding documentation	64%
Environmental auditing/inspections	64%
Performance metrics/dashboards/scorecards	62%
NOV tracking	58%
Compliance calendar	58%
Safety auditing/inspections	49%
Non-Conformance statistics	38%
Document management	37%
Energy and carbon management/metrics	37%
GHG inventory	37%
Wastewater permit management	32%
Annual sustainability reporting	31%

N=78

System Requirements and Capabilities

Buyers Want Solutions that are Easy to Update and Flexible

Among those who are currently in the market, the most important requirement for their new system is that it be easy to update. Where first-time buyers diverge from those who already own software is in cost. In the survey, respondents were asked to rate how important certain software requirements are in their selection process. The tables below represent the requirements that respondents identified as 'Important' or 'Very Important'.

Among first-time buyers, both implementation cost and maintenance cost are high on their list of requirements. For those who have a system, implementation cost falls below flexibility, fit with business model, customer service and user friendliness.

Most Important Requirements: Buyers

Figure 22

First-time Buyers	Percentage
Easy to update	100%
Cost of implementation	100%
Flexibility of configuration	100%
Requires minimal on-going support	89%
Cost of maintenance	89%
User friendliness	89%
Real time metrics tracking and performance measurement	89%
Fit with business model	78%
Flexibility of the customization	78%
Cost to purchase the software	67%
Compatibility with existing IT systems	67%
Out-of-the-box functionality	67%
Reflects our organizational work flows	67%
Provides on-going customer support	67%
Overall knowledge of the software vendor	67%
Multi-language capabilities	67%
Training and customer support	67%
Options for formatting the data output	67%

N=9

Returning Buyers	Percentage
User friendliness	96%
Flexibility of configuration	92%
Provides on-going customer support	92%
Easy to update	88%
Fit with business model	88%
Cost to purchase the software	84%
Cost of implementation	84%
Cost of maintenance	84%
Overall knowledge of the software vendor	84%
Training and customer support	84%
Options for formatting the data output	84%
Requires minimal on-going support	80%
Reflects our organizational work flows	80%
Compatibility with existing IT systems	76%
Out-of-the-box functionality	76%
Real time metrics tracking and performance measurement	76%
Graphical user interface	72%
Speed of implementation	72%
Multi-language capabilities	72%

N=25

Past Purchasers also Sought Flexibility, but Cost Mattered Most

The survey asked past purchasers to rate the importance of software system requirements in their selection. Then, respondents were asked to select the top three criteria, from the same list of requirements, that drove their purchase decision. For past purchasers, flexibility was also a key requirement, but cost was slightly more important when it came to driving the purchase decision. This remained consistent regardless of self-described level of EHS risk.

The table on the left below depicts the most important system requirements for past purchasers, defined by which requirements respondents indicated were 'Important' or 'Very Important'. The table on the right below shows the top system requirements that ultimately drove respondents' purchase decision.

Comparison of Requirements vs. Purchase Drivers: Past Purchasers

Figure 23

Most Important System Requirements	Percentage
User friendliness	87%
Easy to update	83%
Flexibility of configuration	83%
Cost of implementation	82%
Flexibility of the customization	81%
Requires minimal on-going support	78%
Cost of maintenance	77%
Options for formatting the data output	76%
Cost of purchase	75%
Provides on-going customer support	75%
Real time metrics tracking and performance measurement	71%
Fit with business model	69%
Training and customer support	65%
Out-of-the-box functionality	61%
Reflects our organizational work flows	61%

N=95

Purchase Drivers	Percentage
Cost of purchase	43%
Flexibility of configuration	35%
Fit with business model	29%
User friendliness	26%
Flexibility of the customization	21%
Out-of-the-box functionality	19%
Cost of implementation	18%
Compatibility with existing IT systems	13%
Reflects our organizational work flows	12%
Speed of implementation	10%
Multi-language capabilities	9%
Real time metrics tracking and performance measurement	7%
Easy to update	6%
Integration with SAP	6%

N=94

The Purchase Process

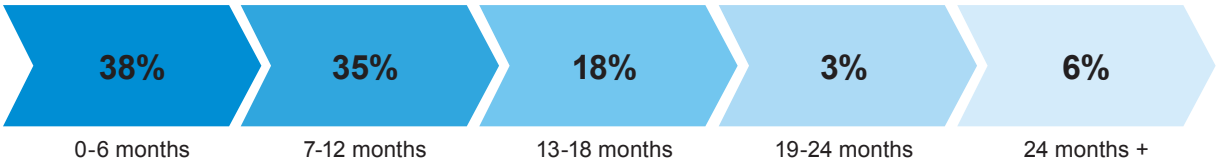
The Purchase Process

The Selection Process Takes About a Year

According to past purchasers, the selection process tended to take between seven and twelve months to complete. Current buyers were more optimistic, with 38 percent expecting to complete the process within six months.

Expected Selection Timeline: Buyers

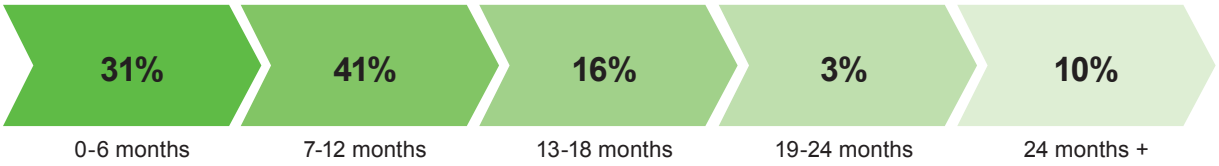
Figure 24



N=34

Actual Selection Timeline: Past Purchasers

Figure 25



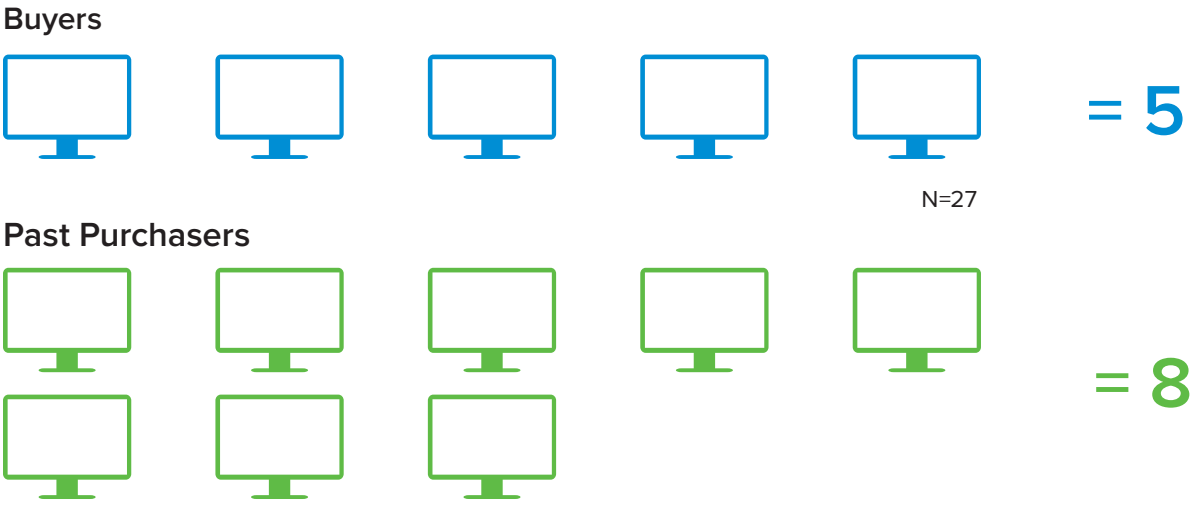
N=95

Shoppers Tend to Review a Handful of Systems

Survey respondents were asked to write in how many software systems they are considering or considered in the past. On average, past purchasers looked at eight different software systems before making a decision. Current buyers are considering five.

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

Figure 26



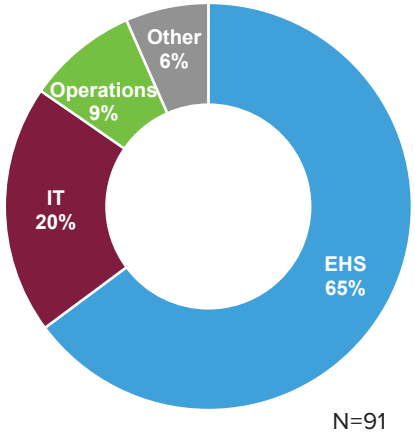
The Purchase Process

EHS Tends to Provide the Budgets

The budgets for EHS and sustainability information management systems primarily comes from EHS.

The Functions that Provide the Purchase Budget

Figure 27



N=91

System Scope Drives Budgets

The main determinant of software budgets was the scope of the desired implementation. Not surprisingly, those shopping for enterprise-wide systems spend more than those seeking an issue-specific system: Buyers expect to spend an average of $339,615 for an enterprise-wide system, while those in the market for an issue-specific system are planning to spend an average of $171,818. Figure 28 demonstrates the amount buyers in the market for new software are budgeting to spend, analyzed based on percentiles and average overall.

Software Purchase Budget: Buyers

Figure 28

	N=	25th Percentile	50th Percentile	75th Percentile	100th Percentile	Average
Enterprise-wide	13	$100,000	$150,000	$300,000	$2,000,000	$339,615
Issue-specific	11	$87,500	$200,000	$200,000	$400,000	$171,818

Past Purchasers Actually Spent Less than Initially Budgeted

The following tables show the amount past purchasers had expected to spend on their new software system versus what they actually spent. Compared to buyers, past purchasers planned to spend more on issue-specific systems.

Planned Purchase Budget: Past Purchasers

Figure 29

	N=	25th Percentile	50th Percentile	75th Percentile	100th Percentile	Average
Enterprise-wide	23	$55,000	$200,000	$450,000	$3,000,000	$437,000
Issue-specific	16	$93,750	$150,000	$400,000	$2,000,000	$391,938

Past purchasers, on average, spent approximately the same amount on enterprise-wide and issue-specific systems, with enterprise-wide systems costing about $38,000 more.

Actual Amount Spent: Past Purchasers

Figure 30

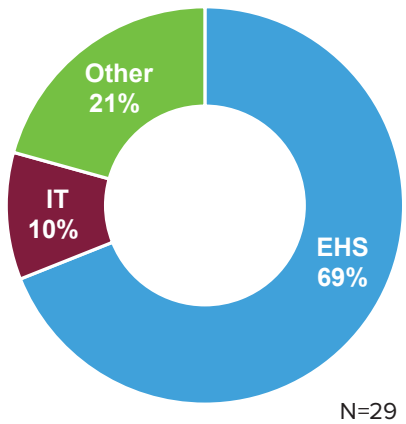
	N=	25th Percentile	50th Percentile	75th Percentile	100th Percentile	Average
Enterprise-wide	23	$36,500	$140,000	$420,000	$2,000,000	$358,696
Issue-specific	16	$86,250	$182,500	$288,750	$1,500,000	$320,000

The EHS Function Decides which System to Buy

EHS will predominately (69%) have the final say in which system to purchase. Other functions respondents noted include finance, accounting and supply chain.

Function that Decides which System to Purchase

Figure 31



N=29

The Larger the Company, the Bigger the Budget

The budgets of companies between $250 million-$1 billion are smaller, on average ($128,750) than their peers with revenues of between $1-$10 billion ($150,000) and those with revenues greater than $10 billion ($460,000).

Among past purchasers, companies with annual revenues of more than $10 billion spent 69 percent more on their systems than companies with $1-$10 billion in annual revenue. These numbers likely reflect the fact that smaller companies tend to be looking for issue-specific software systems.

The tables below show the average software budget for buyers, the average software budget for past purchasers and the average amount that past purchasers actually spent on software. The software budget data was analyzed based on company size in annual revenue for each look.

Average Budget by Revenue: Buyers

Figure 32

Company Revenue	N=	Average
$250 Million – $1 Billion USD	4	$128,750
$1 Billion – $10 Billion USD	11	$150,000
More than $10 Billion USD	9	$460,000

Average Budget by Revenue: Past Purchasers

Figure 33

Company Revenue	N=	Average
$250 Million – $1 Billion USD	7	$333,714
$1 Billion – $10 Billion USD	20	$304,250
More than $10 Billion USD	15	$671,000

Average Spent by Revenue: Past Purchasers

Figure 34

Company Revenue	N=	Average
$250 Million – $1 Billion USD	8	$256,875
$1 Billion – $10 Billion USD	20	$310,000
More than $10 Billion USD	16	$524,875

The Implementation Process

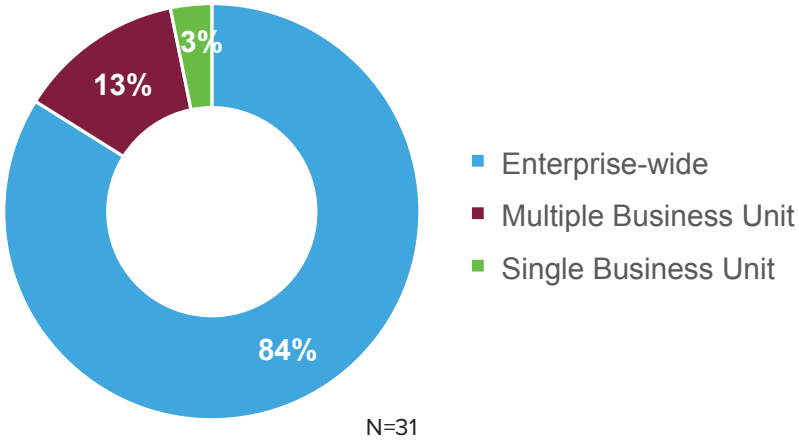
The Implementation Process

Buyers also Plan Enterprise-wide Implementation

Not only are most software shoppers seeking an enterprise-wide solution, but they overwhelmingly plan to implement the software across the entire company. The results shows this to be true regardless of whether the solution addresses a specific EHS need or is an enterprise-wide system.

Desired Scope of System Implementation: Buyers

Figure 35



N=31

Most Companies Plan to Manage the Process Using Internal Resources

Half of those in the market for a new software system (50%) do not plan to use a consultant for selection or implementation. Of those who do plan to use a consultant, most (67%) anticipate using a consultant for both.

Plans to Use a Consultant: Buyers

Figure 36

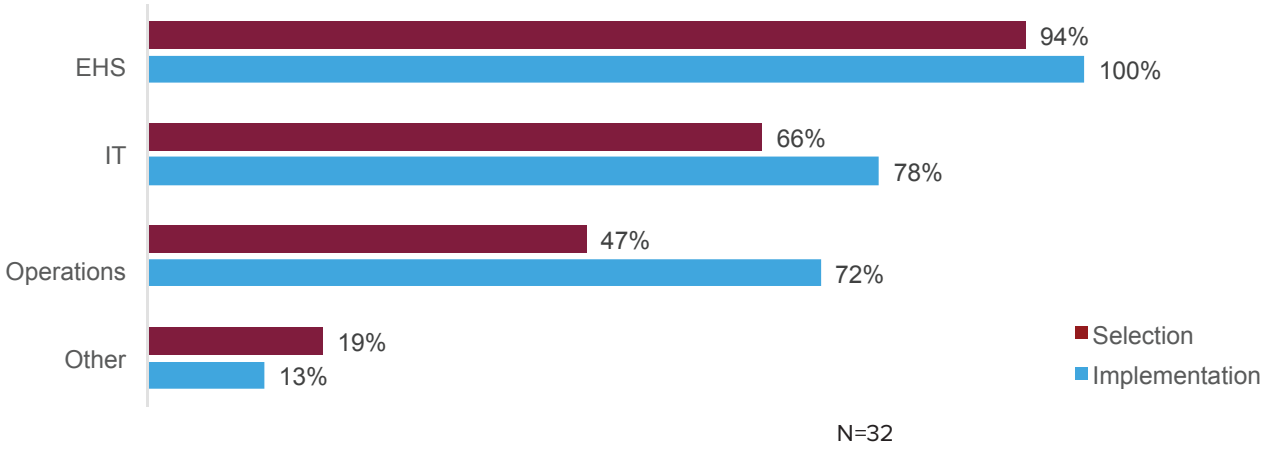
N=32

EHS Expected to Take the Lead in Both Selection and Implementation

EHS takes the lead in the selection process, but IT and Operations get more involved for implementation.

Functions Involved with Selection and Implementation: Buyers

Figure 37

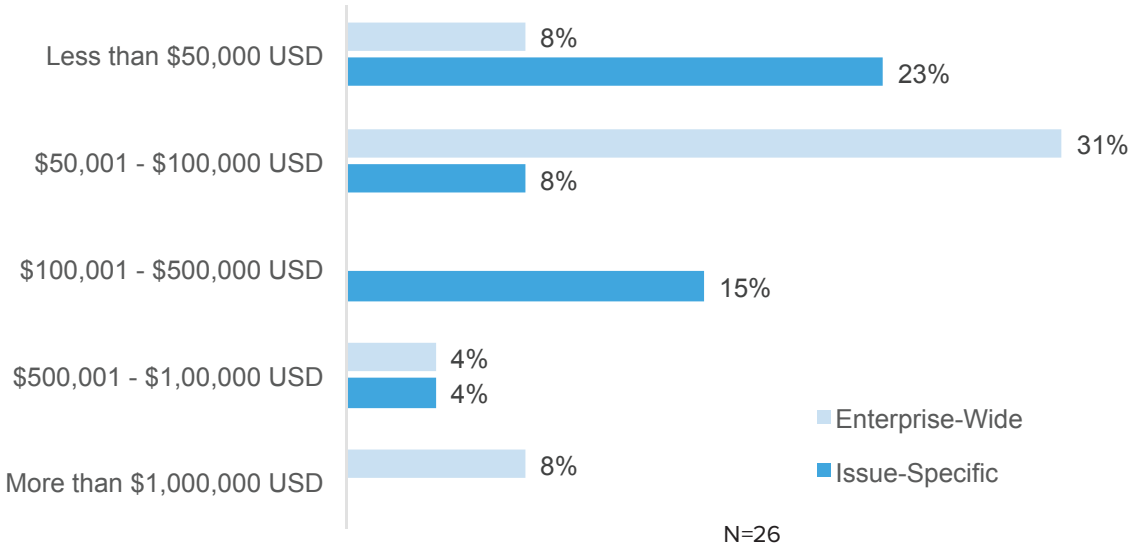


The Implementation Process

System Scope Does Not Directly Drive Expected Implementation Cost

Among respondents who are in the market for an enterprise-wide system, 39 percent plan to spend $100,000 or less on implementation. Twenty three percent of those looking for issue-specific software plan to spend less than $50,000 on implementation.

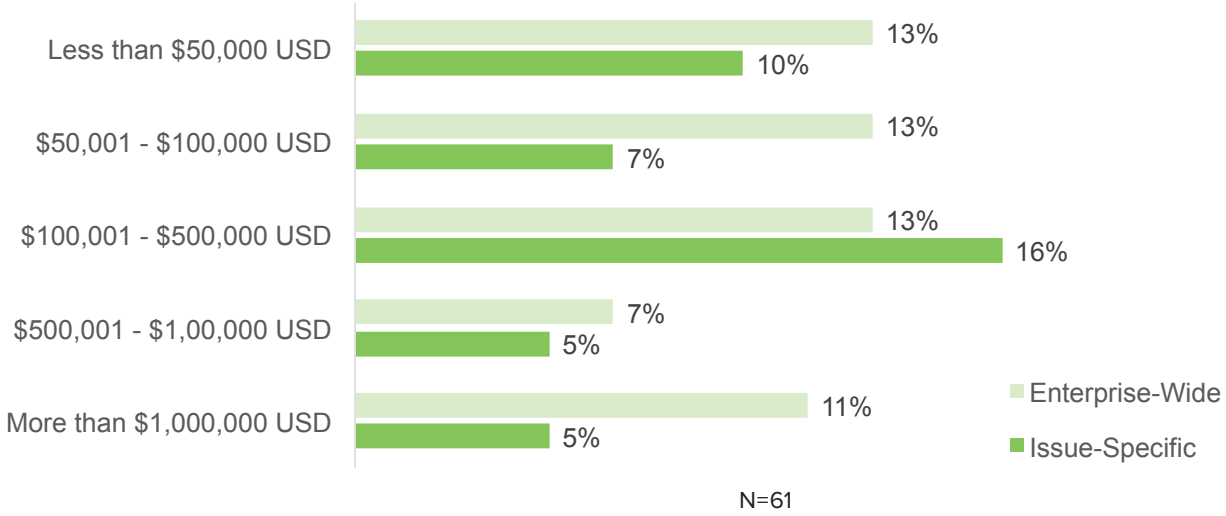
Expected Implementation Budget: Buyers
Figure 38



Past Purchasers Spent more on Implementation than Buyers have Budgeted

Past purchasers reported that their implementation costs ranged from less than $50,000 (23%) to more than $1,000,000 (16%). In addition, respondents who implemented issue-specific systems spent less for implementation costs. However, as seen in buyers' implementation budget, there is an uptick at the $100,001 - $500,000 range for issue-specific systems.

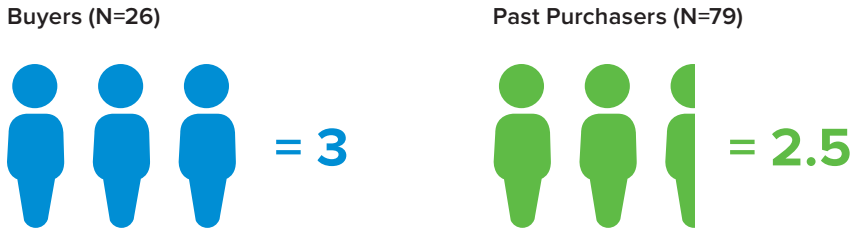
Actual Implementation Cost: Past Purchasers
Figure 39



The Maintenance Process

About Three Employees are Required for System Maintenance

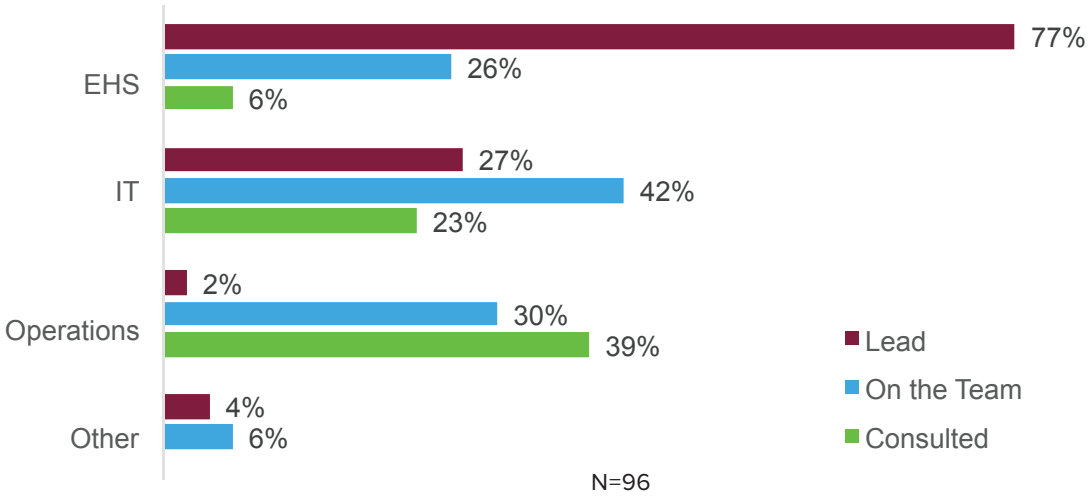
Full-time Equivalents for System Maintenance: Expected vs. Actual
Figure 40



The EHS Function Leads System Maintenance

As with current shoppers, the EHS function takes the lead among past purchasers.

Functions Involved with System Maintenance: Past Purchasers
Figure 41

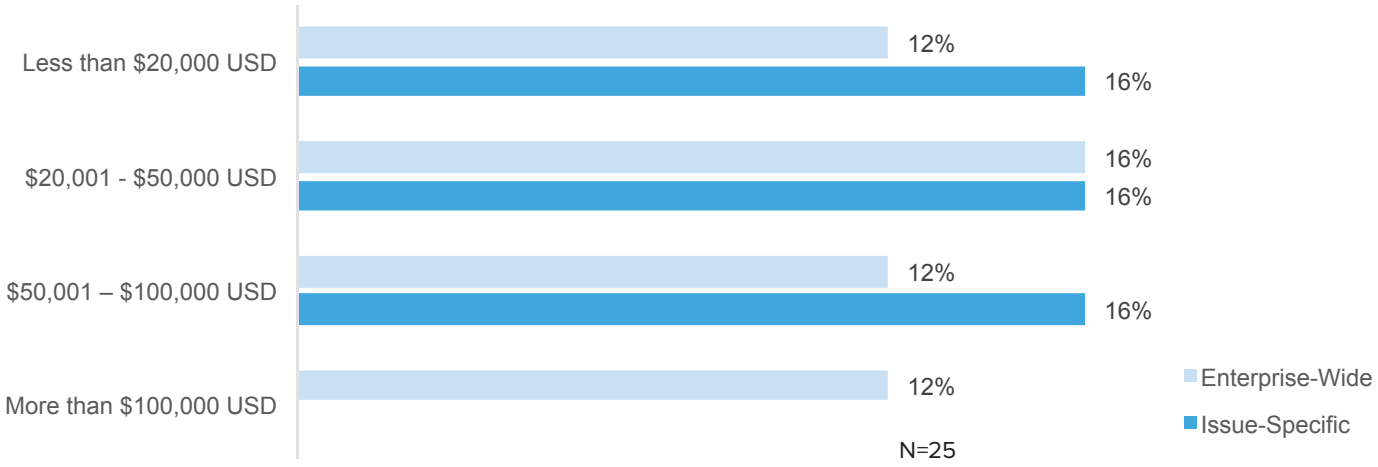


Maintenance Budgets Remain Consistent Despite System Size

Contrary to those in the market for enterprise-wide software systems, respondents in the market for an issue-specific system plan to spend $100,000 or less with an even distribution across all ranges.

Expected Annual Maintenance Budget: Buyers

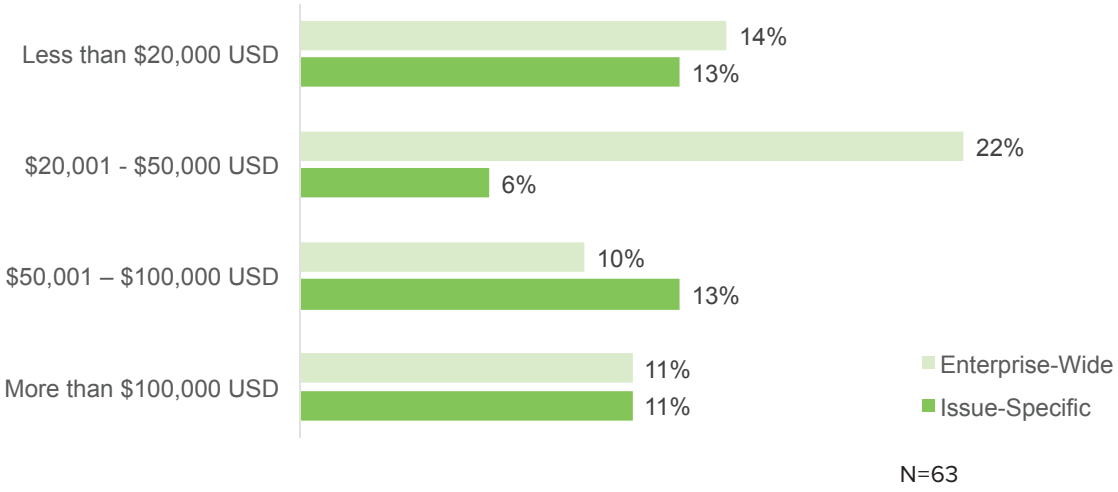
Figure 42



More than Half of Past Purchasers Spend $50K or Less on Maintenance

Actual Annual Maintenance Cost: Past Purchasers

Figure 43



Lessons Learned

Lessons Learned

1 Have a Solid Game Plan

"Plan, plan, plan"

"Phased roll-out is critical to avoiding overload of internal customer base."

"Software is only as good as your business processes; you must have well defined processes and then choose software to support them. Software can help you improve the process, but it's no substitute."

"Be prepared to spend much more time than you ever thought it would need - identify a compact dedicated internal team with strong EHS background to manage the process."

"A significant amount of time was spent on planning the roll out of the software to the organization which helped facilitated a smooth rollout. Additionally, we planned for multiple training sessions on how to use the different modules within the software package."

"Develop a formal plan for implementation at the site level and requirements for site use."

"Be ready to defend against project creep."

2 Be Specific About Your Requirements

"Do not assume "off-the-shelf" means that, nor that there are templates to work from, so know exactly what you want to achieve and how you want to do it, spend the time discussing this with all your vendors and then choose vendor."

"You must mandate implementation to be adopted by all sites."

"Make all vendors demonstrate required functionality before allowing them to bid so that you do not waste time on vendors that can not meet your requirements."

"Being able to determine if site programs can be linked to the software for data collection. Needing a consultant to assist with initial data management and report generation. Also, knowing exactly what the maintenance contract covers and does not cover."

"Make sure that your specifications are thorough."

"Need to be very specific in writing the scope of work."

"Off-the-shelf does not mean off-the-shelf. A software company that has done major installations at other companies does not necessarily know how to do major installations. What you want is not always what you get."

Lessons Learned

3 Don't Take Yes for an Answer

"Vendors will tell you what you want to hear. Can the system be customized? Answer is always "yes". Really need to probe deeper... how fast? extra cost?"

"Vendors can't always deliver what they promise."

"The software will not turn out as it did in the 'dog and pony' shows by the vendor."

4 Prepare for Cultural Resistance

"Be prepared for a long and contentious process."

"Get engagement of all stakeholders from the start to allocate proper resources, assess feasibility of maintenance when determining data granularity look for early wins."

"User input and training as part of the implementation process is critical."

"It is difficult to get folks to let go of their old way of tracking data (spreadsheets, files, etc.) and trust in the new system. Continuous/refresher training is a must."

"An internal company "change management and control" group is extremely important from day 1 in order to make any decisions on changes to the EHS MIS occur in an orderly and comprehensive fashion."

5 Engage the End Users

"Ease of end user functionality is paramount. System code language needs to match internal support capabilities."

"User input and training as part of the implementation process is critical."

"Software tool must solve a recognized problem in a way that the users will actually use. Integration of compliance software into the way the company operates ensures that the software will actually be used."

"Engage all users and stakeholders in the selection process."

"It is important to consider how your workflows will change with the system. Unfortunately during early discussions users don't understand the software and want it to mimic their manual processes exactly, then after implemented realize that what they said they wanted wasn't what they really needed. As much as possible involve the right people early on to ensure that they are engaged in the selection and design process."

Lessons Learned

6 Be Prepared to Customize

"The out-of-box solution required a number of changes and updates provided by the vendor to make the software functional. We started with Beta software that was supposedly fully functional, but the reality was that it wasn't ready to be used right away."

"Flexibility is key, the outputs may not always "look and feel" like expectations, but the data and functionality is likely there."

"One size does not fit all. Sometimes multiple systems that specialize in a particular discipline or area might be a better choice."

7 Be Realistic

"It is never as easy or inexpensive as envisioned/suggested by proposals."

"It takes a lot of internal resources (time) that we did not take into consideration."

"We really could've used more dollars allocated for change management and user buy-in."

"No one system will be a "perfect match" for everything that an organization wants to do with the EHS IMS."

"It is going to take longer than you think and despite reviews, contracts, etc."

"There is no off-the-shelf system that provides everything we want."

Acknowledgements

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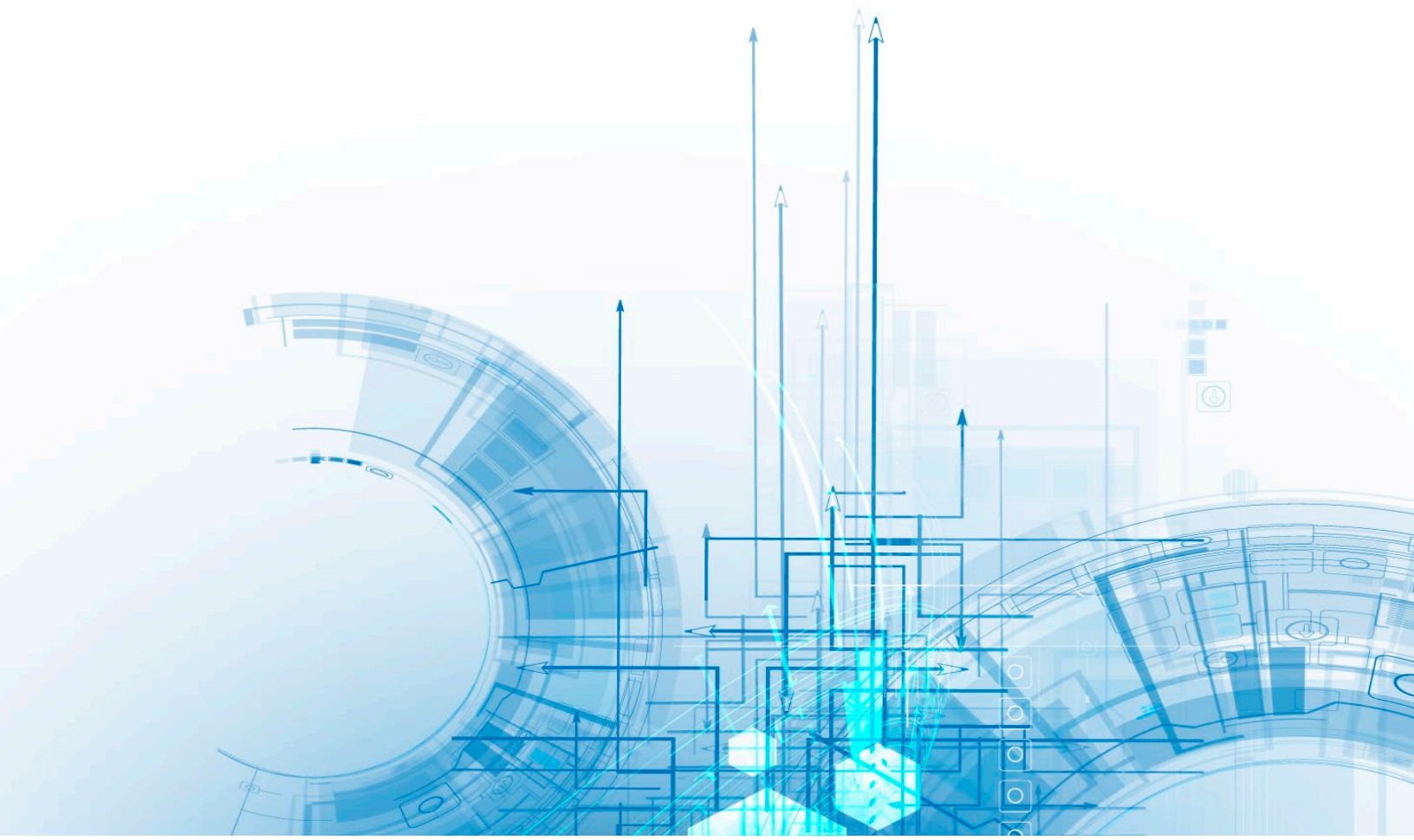

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