THE CHANGING PARADIGM
EHS Information Driven Performance
In an effort to shift from a reactive mindset and better respond to stakeholders’ needs, EHS leaders are prioritizing risk management and pushing for value creation as they devise proactive corporate EHS strategies. However, the business reality is that most EHS budgets are flat or shrinking. EHS leaders are under greater pressure today to operate with a business benefits-driven mindset while guiding investment decisions in EHS staffing, structures, processes and tools.

This paradigm is driving a new way of thinking and, subsequently, a new playbook for EHS optimization within best-in-class organizations. A survey of 33 multinational companies revealed three main themes among companies aligning to this paradigm.

1. Stronger alignment with broader corporate strategy
   - Increased structural alignment and support of corporate and regional operations

2. A desire to achieve enterprise-wide integration of processes, systems and data

3. An ambition to invest for the future through data and digital initiatives that perscriptively or proactively respond to operational or EHS indicators

Our paper, “The Changing Paradigm,” explores shifts in the EHS landscape and reveals insights on how leading corporations are evolving in the spectrum of EHS maturity, while achieving maximum value from their EHS investments.

Key Insights from Companies Surveyed

88% of companies surveyed are making decisions centrally on EHS projects, often with regional delivery

1st priority that drives EHS spend on systems and services is “Value for Money.” EHS leaders are benefits driven

7/10 companies indicate proactive strategy alignment drives conscious EHS project & staff investment

88% of companies are driven by customer & stakeholder demand to set the pace for change

67% of companies will retain their current levels of EHS spend, while expecting better ROIs

The EHS strategic landscape is evolving

Mindset moving from reactive to proactive

EHS budgets are flat or shrinking

EHS leaders have pressure to create greater value for money

Top 3 trends among companies responding to this change

Stronger alignment to strategic priorities

Desire to achieve enterprise-wide integration with processes & systems

Gearing up for the future with data & digital initiatives

90% of companies are implementing digital initiatives to sense and respond using EHS data

Only 57% of companies self-identify as having “standardized” processes and moderate levels of automation, integration & optimization

Most companies surveyed use standalone tools for EHS management

There is an emerging groundswell of change in the Environmental, Health and Safety (EHS) landscape. Companies are expected not only to improve their EHS performance, but also to set the pace for change.
Leadership among corporate EHS champions in global product and service corporations is undergoing a transformation. These EHS champions do not want to simply improve environmental performance and reduce compliance risk for their operations; this mindset belongs to a paradigm of the past.

Corporations are now strategically and proactively linking environmental, social and governance aspirations with their broader corporate mission and vision. This shift is largely driven by customers and other stakeholders who expect consistent improvements in EHS performance and a more invested corporate stance on environmental sustainability. Together, these factors raise the bar for environmental stewardship.

Stemming from this conscious shift, EHS leaders are pushing for excellence and value creation as they devise proactive corporate EHS strategies. These leaders are committed to developing solutions to climate change and other global environmental challenges while governing operations and managing everyday compliance and regulatory risk.

The proactive EHS mindset is also influencing corporations as they work with suppliers and partners, support their employees, and make their operations more sustainable.

**DRIVERS OF THE PROACTIVE EHS CULTURE**

Survey respondents agree that the following drivers are changing the EHS organizational mindset within their corporations and are influencing a proactive EHS culture.

- **Customer and stakeholder requirements**
- **Corporate customers and stakeholders increasingly expect suppliers to provide transparency and operate in a way that aligns with their own sustainability goals. This acts as a strong motivator for change within corporations.**

- **Supply chain risks**

  As companies assume more responsibility for the full lifecycle of their products, the need for greater engagement and control over the supply chain increases. Decisions pertaining to raw material sourcing and stewardship, global labor sourcing, and environmental and social governance are becoming part of general business and market strategies.

- **Investor interest**

  Mainstream investors increasingly recognize the importance of sustainability as a strategy for risk management and value creation.

Respondents also agree that the emerging proactive culture within their corporations is driving new thinking and models for EHS optimization.

One of the key themes that emerged from our market analysis is that this proactive corporate culture and accompanying strategy are significantly directing investment in EHS services, staffing, procurement, technology and maintenance. There is also an increased investment related to analyzing program progress and managing stakeholder expectations.
STRATEGY “MOVES THE NEEDLE” FOR EHS INVESTMENT

According to the survey, there are two primary factors driving EHS investment: strategic internal initiatives and a desire to improve EHS and operational efficiency.

Respondents indicate that their companies are no longer waiting for regulations or the threat of enforcement to invest in EHS improvements and resources. Eighty-eight percent say their corporate strategic initiatives drive investment in EHS. Brand reputation management, public relations and asset management moderately influenced EHS priorities.

Reduction of excessive incident and liability costs have the least influence on EHS priorities, suggesting that companies are employing a more proactive stance to EHS investment and supporting organizational frameworks.

Respondents were asked what were the strongest drivers to increased EHS prioritization within their companies. Most indicated that aligning EHS goals to value creation and corporate goals increases the importance of EHS within enterprises.

Businesses are increasingly recognizing that a wide range of performance improvements can be achieved by proactively managing EHS risks. As a result, EHS information-driven performance has outgrown site-specific compliance issues and now includes strategic enterprise-wide data and process management, analysis, benchmarking and reporting.

Survey respondents shared level of their corporate investment in EHS, their ongoing operational spend and the number and type of EHS organizational resources. This review of EHS investment in programs and resources relative to size (represented through the total number of employees) indicates that EHS spend has a lower correlation to the size of the company and a higher correlation to strategic driving forces and supporting company culture.

Corporations with a higher EHS spend also identify as having a proactive culture with EHS functions strongly aligned to corporate strategy. This proactive corporate culture means that the leaders of EHS have direct sign-off on the purchase of sustainable EHS management framework and technology solutions.

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PATHWAY TO EHS OPTIMIZATION
The push for performance excellence and value creation is forming a pathway for EHS optimization amid best-in-class corporations.
The top three trends noted among these corporations are:
1. Stronger alignment with broader corporate strategy
   • Increased structural alignment and support of corporate and regional operations
2. A desire to achieve enterprise-wide integration of processes, systems and data
3. An ambition to invest for the future through data and digital initiatives that prescriptively or proactively respond to operational or EHS indicators

PUSHING FOR EHS VALUE CREATION
EHS leaders are prioritizing operational excellence. Their number one preference in making EHS purchasing decisions is “value for money.” This benefits-driven mindset is influencing decisions related to the choice of EHS management consultants, technology systems and solutions, investment in EHS skilled professionals, and internal organizational change management training.

Market feedback regarding EHS maturity and value creation directly corresponds to a previous benchmarking study conducted by Arcadis in 2015. This study showed 47% of the companies surveyed were managing EHS for the value it brings and were focusing on cost reduction, organizational savings and streamlined supply chains.
The remaining companies were either in the beginning stages of EHS maturity—striving to retain their license to operate and reduce operational and reputational risk—or on the opposite end—creating new business models, collaborating to develop new markets and innovating to develop new products and services.
EHS BUDGETS ARE FLAT OR SHRINKING

The survey indicates that 67% of companies will retain current levels of EHS spend while expecting better return on investment. This presents today’s EHS leaders with the challenge to “do more with less” as they adjust to the increased pressure to operate with a benefits-driven philosophy while managing their EHS budgets.

Cross-sector analysis of EHS organizational structures

- 38% Centralized
  - Consumer Goods
  - Conglomerate
  - Utility & Power
  - Oil & Gas
  - Rail & Transportation
  - Healthcare & Life Sciences

- 50% Hybrid
  - Telecom
  - Finance
  - Aerospace & Defense

- 12% Decentralized
  - Chemical & Pharmaceutical

EHS IS BECOMING MORE CENTRALIZED

Centralized organizations drive central decision making and enterprise-wide processes, systems and standards. Decentralized organizations are characterized by local (facility or regional) decision making, with few common processes, systems or standards. Hybrid organizations blend the characteristics of both.

The companies that identify as centralized organizations report advantages to having clear reporting lines up to one executive. They indicate that they are aligned at the corporate level rather than regionally and that they operate as one compliance function. This allows them to serve as a center of competency, providing leverage for sourcing or procurement and consistent decision making.

Survey respondents in hybrid organizations indicate that strategic decisions are made at the corporate level with regional execution and delivery.

88% of respondents indicate that they are organized as either centralized or hybrid EHS organizations.
ENTERPRISE-WIDE INTEGRATION FIRST — OPTIMIZATION NEXT!

Survey respondents were asked to identify their organizational maturity across the following stages of EHS maturity:

- **Developing**: reactive processes, disjointed workflows, limited controls, system gaps, manual touchpoints, no organizational competency
- **Managed**: defined processes, continuous workflows, process & system controls, semi-automated, point solutions, low levels of organizational competency
- **Standardized**: standardized processes, increased integration, system optimization, moderate levels of organizational competency
- **Optimized**: highly efficient processes, enterprise integration, maximum levels of optimization, high levels of organizational competency

Fifty-two percent of the survey respondents identify themselves as “standardized”, 42% indicate they are in the “managed” stage of EHS organizational maturity and the remaining 6% gauge themselves at the optimized phase.

Most of these respondents also reported centralized or hybrid EHS organizations where strategic decisions are made at the corporate level with regional execution. These responses indicate that participating organizations believe there is room for improvement, which aligns with their desire to optimize.

Key performance indicators help measure EHS value

Companies are using a combination of leading and lagging indicators to track their EHS performance — with a strong preference for lagging indicators.

Key Performance Indicators (KPIs) can be lagging or leading. A lagging indicator follows an EHS event and measures outputs or results, whereas a leading indicator is a metric preceding a future EHS event, which measures inputs or drivers for the event. Lagging indicators are traditional metrics used to measure compliance with EHS guidelines and regulations after the occurrence (e.g. number of inspections, violations, spills, injuries or fines). The reactionary nature of lagging indicators make them a weaker gauge for prevention and control. Leading indicators, on the other hand, are focused on potential future EHS performance and continuous improvement. These measures are proactive in nature and report on organizational practices to prevent and control adverse EHS events like violations, spills, injuries or fines.

Ninty percent of the companies surveyed track lagging indicators such as environmental spills, exceedances and violations. OSHA inspections are tracked by 62% of the survey respondents. Only 30% report leading indicators like environmental compliance scores.

Survey respondents shared that globalization and operational reorganization were key levers that enabled investment in EHS and sustainability. We identified key themes that organizations perceive as focus areas as they increase their organizational maturity in the EHS and sustainability domain.
Companies are using a combination of leading and lagging indicators to track their EHS performance — with a strong preference for lagging indicators.

<table>
<thead>
<tr>
<th>Leading Indicators</th>
<th>Lagging Indicators</th>
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<tbody>
<tr>
<td>Compliance Scores</td>
<td>Environmental Spills, Exceedances &amp; Violations</td>
</tr>
<tr>
<td>Operational Loss</td>
<td>OSHA Inspections</td>
</tr>
<tr>
<td>Employee Health Complaints</td>
<td>Environmental &amp; OSHA Fines</td>
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Corporations who appear to be most mature in identifying and defining the most influential EHS performance indicators exhibit strong strategic EHS alignment, centralized EHS organizations and commensurate EHS investment.

Based on the analysis of leading company safety metrics, there is a definite preference toward lagging safety indicators, such as Reportable Incidents (TRIR) and Lost Time Injuries (LTIR).

Survey respondents also reflect that they are increasingly seeking deeper insights from data analytics and reporting efficiencies as part of their EMIS solutions. Functionalities such as centralized EHS data management and predictive and prescriptive analytics are necessary at an enterprise-wide level as companies seek to expand their EHS visibility globally.

Not surprisingly, the main expectations of EHS solutions are based on the need for data accuracy and completeness, timeliness, ease of use, and the ability to consolidate data into analytics dashboards.

There is strong preference to develop and maintain consistent EHS data, perform EHS benchmarks, support operational and EHS organizational frameworks, and capture process expertise internally to increase the functional knowledge base within the organization. Respondents also demonstrate a desire to develop, capture and reuse EHS intelligence as much as possible as they become more process dependent, rather than people dependent, commensurate with their desire to evolve in the spectrum of EHS maturity.

This preference supports the clear theme of organizations shifting to centralized EHS systems driven by corporate EHS strategy — the desire to move away from personal tools, individual spreadsheets and standalone systems, and toward approaches that can drive a holistic, systematic EHS approach.

### Frequently used Health and Safety KPIs

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<tr>
<th>Contractor Safety Compliance</th>
<th>Lost Time Injuries</th>
<th>Near Misses</th>
<th>Reportable Incidents</th>
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<tr>
<td>Lowest</td>
<td>Priority</td>
<td>Highest</td>
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Forty-three percent of the survey respondents track Reportable Incidents as the top safety metric. Near Misses are identified as a close second. Contractor safety compliance is the least prioritized indicator.

Leading indicators such as Near Misses are prioritized in mature EHS markets. High-potential incidents and Near Losses (incidents that could result in life-altering consequences) are also tracked as part of the Health & Safety metrics suite.

According to the survey results, many corporations are still relying on lagging indicators. This may hinder their goal to become more proactive and mature. Lagging EHS indicators will force a backward focus. Companies who make the shift and emphasize leading indicators will be better positioned to think and plan strategically to optimize their EHS performance.

Across the board, survey respondents indicate that they review performance relative to their EHS objectives and targets regularly (annually, quarterly or monthly). A majority indicate they review performance monthly.
GEARING UP FOR THE FUTURE WITH DATA AND DIGITAL INITIATIVES

Respondents are candid about their opinions regarding what they see as emerging EHS trends. One-third of the companies have budgets allocated for investing in better dashboards and data analytical tools. These respondents are also prepared for the integration of the Internet of Things (IoT) and Big Data to come to the forefront of EHS management. This is especially true where advanced analytics are applied to large volumes of operational data culled from sensor-equipped machines and devices integrating with environmental asset-related data, enabling a better response to EHS trends and patterns.

Forward-looking organizations are also using social media as a key component of their EHS communication strategies while increasing focus on continuous learning, human performance and organizational change management programs, thereby catalyzing the adoption of a proactive EHS culture.

CONCLUSION:
ADJUSTING TO THE PARADIGM SHIFT

This research presents an overall positive picture for EHS. Multinational corporations are employing a proactive approach to EHS programs and taking a future-focused and integrated view of their environmental, social and governance commitments. This is mirrored in the overall emphasis their executives are placing on the importance of EHS in driving sustainable, strategic outcomes from investment. This approach has substantially shifted from what has been previously witnessed in the market, where EHS projects were planned and executed with limited strategic alignment.

However, in a changing, budget-constrained and value-oriented market, companies cannot afford to lose their license to operate or allow their environmental stewardship goals to lag. This imbalance would adversely impact sales and end-user loyalty.

Companies responding positively to the EHS paradigm shift are demonstrating stronger structural alignment to strategic priorities and a desire to achieve scaled integration with processes, systems and data. They are investing in digital initiatives to sense and respond to changing EHS stimuli, focusing on effective EHS service delivery optimization. They are also investing in enterprise-wide EHS learning, thus moving away from functional silos into better-integrated organizations for EHS optimization.
SURVEY METHODOLOGY & DEMOGRAPHICS

EHS information-driven performance is an important discipline in the context of corporate social responsibility and maintaining license to operate for many organizations. At Arcadis, we focus on driving enterprise transformation for our clients using EHS information as an asset. We help integrate process, data, technology and strategic change leadership to empower our clients to proactively manage their EHS priorities.

We bring innovative solutions to address our clients’ business challenges. Innovating requires a deep insight into the strategic and structural influences of these challenges. To recognize these influences, we developed a market survey to better understand our clients’ EHS drivers, priorities, organizational requirements and best practices.

We asked 33 multinational companies across market sectors with high EHS applicability to obtain insights related to their EHS strategy and structure. We also explored these companies’ current and future EHS investment, areas of EHS focus, and EHS strategy drivers.

More critically, we examined how these companies measure value from EHS while tracking performance in varying stages of organizational maturity. This inquiry revealed how leading corporations are evolving to adjust to the changing EHS paradigm.

We engaged with a cross section of multinational companies in the Aerospace, Conglomerates, Chemical & Pharmaceutical, Consumer Goods, Oil & Gas, Power & Utilities, Telecommunications, Financial, and Rail sectors to understand their current viewpoints on EHS - and their evolution in the spectrum of EHS maturity.

More than half of the survey respondents are EHS leaders with purchase authority and responsibility for planning and implementing company-wide EHS compliance activities. Respondents represent leaders with EHS commitments and projects spread across multiple geographies symptomatic of high levels of global dependency and suggestive of the demand for the proliferation of global EHS standards and capabilities.

Fifty-four percent of the companies surveyed indicate they have operational presence in the Americas. A similar percentage of corporations have a presence in Europe, the Middle East and African regions. A lesser percentage of corporations, around 43%, have EHS presence in the Asia-Pacific region.

Survey respondents represent companies located across the world.
For more information on how your company compares to best-in-class organizations, email us at AskUs@arcadis.com