

DRIVING EHS PERFORMANCE WITH TECHNOLOGY

Enabling Operational Excellence with a
Holistic Technology Framework

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Executive Summary

EHS Management and Operational Excellence: An Intrinsic Relationship

Environment, health and safety (EHS) performance and overall Operational Excellence have always been connected, but global manufacturers have only recently become aware of this intrinsic link between the two, and others still remain oblivious to the relationship. What used to be a siloed aspect of overall enterprise management is increasingly being viewed as a fundamental pillar of corporate performance. This is a welcome trend, for the impacts of EHS performance on Operational Excellence are staggering and have the potential to, on the one side, derail a business entirely, or, on the other, ensure continued success and leadership in the field.

Compromised health and safety performance impacts morale, corporate culture, and retention rates, and also has the potential to build fines associated with noncompliance, lawsuits, claims costs, and other consequences that hit the bottom line and impact operations negatively. A poor safety and environmental record, worsened by instances of serious injuries, fatalities, and incidents, will also impair morale and have a direct bearing on brand image, which in turn can result in loss of customers and public trust.

Also, as we will discuss, EHS is intrinsically related to other

enterprise performance areas, including energy, assets, quality, operations, and quality management.

Between the rise of mobile devices, Big Data, the Internet of Things, social media, and sentiment analysis, there's a new EHS paradigm at hand, and progressive manufacturers need to adapt and adopt the right technological tools in order to compete and outperform effectively.

In this study, LNS Research will

- **Explore the relationship between EHS performance and operational excellence against the backdrop of both 'old' and 'new' EHS landscapes.**
- **Discuss the existing and emerging impacts of compromised EHS performance, with real-world examples of disasters, dollars and data associated with EHS gone wrong.**
- **Present an EHS Roadmap to Operational Excellence by illustrating the connection between improved EHS metrics, processes, and technology and key operational metrics.**

“Compromised health and safety performance impacts morale, corporate culture, and retention rates, and can build fines associated with noncompliance, lawsuits, claims costs, and other consequences that hit the bottom line and impact operations”



SECTION 1

Overview of EHS and Operational Excellence

Overview of EHS Management and Operational Excellence

WHAT DO THEY MEAN?

Before we move into the premise of this guide, as well as the metrics, strategies and actionable objectives related to achieving operational excellence through improved EHS performance, it is important to first describe the LNS Research vision of what two key terms we will be using throughout this guide—EHS Management and Operational Excellence—actually mean.

So before we define the relationship between these two elements of modern manufacturing, let's first take the time to define them individually:

EHS MANAGEMENT:

As most leaders in manufacturing will know, EHS management is the area of an organization that is responsible for ensuring the health and safety of employees, as well as overseeing environmental performance by preventing incidents and accidents and minimizing the adverse effects that result from ongoing operations. EHS management *systems* comprise a set of end-to-end business processes and requirements designed to systematically achieve continuous improvement in EHS performance. EHS management impacts overall enterprise sustainability performance and Operational Excellence and takes into account planning, processes, procedures, and implementation.

A sound EHS management framework should be designed to help an organization achieve EHS performance, evaluate results, provide recommended actions that flow from those results, and ensure adopted

actions actually achieve desired results. EHS management system approaches often feature a cycle of continuous improvement to ensure executive EHS policy is continuously adhered to (at minimum) and EHS performance also continually improves.



Overview of EHS and Operational Excellence

OPERATIONAL EXCELLENCE:

This term describes the ongoing pursuit of an organizational approach that drives a business to achieve the continual improvement of performance metrics across all elements of operation. It begins with identifying and aligning strategic objective across finance and operations, then establishing and applying metrics to evaluate the progress of achieving these objectives. Lastly, when metrics are established and relevant data is collected, corporate performance must be benchmarked against other market-leading companies. These elements need to be pulled together in a feedback loop of continuous improvement to address present and emerging performance gaps.

With metrics and benchmarking data in hand, a company can build a model of operational excellence to improve on each gap that surfaces. This can be done by intersecting the right set of business capabilities—or people, processes, and technologies—and, most importantly, creating an environment for continuous improvement for future initiatives.

What is important to realize is that while much progress has been made over the decades in terms of developing people and processes, both technology and metrics are a newer factor in the conversation, and much work needs to be done to integrate these aspects more effectively.



“The right metrics aligned with people, processes, and technology can help fuel operational excellence.”

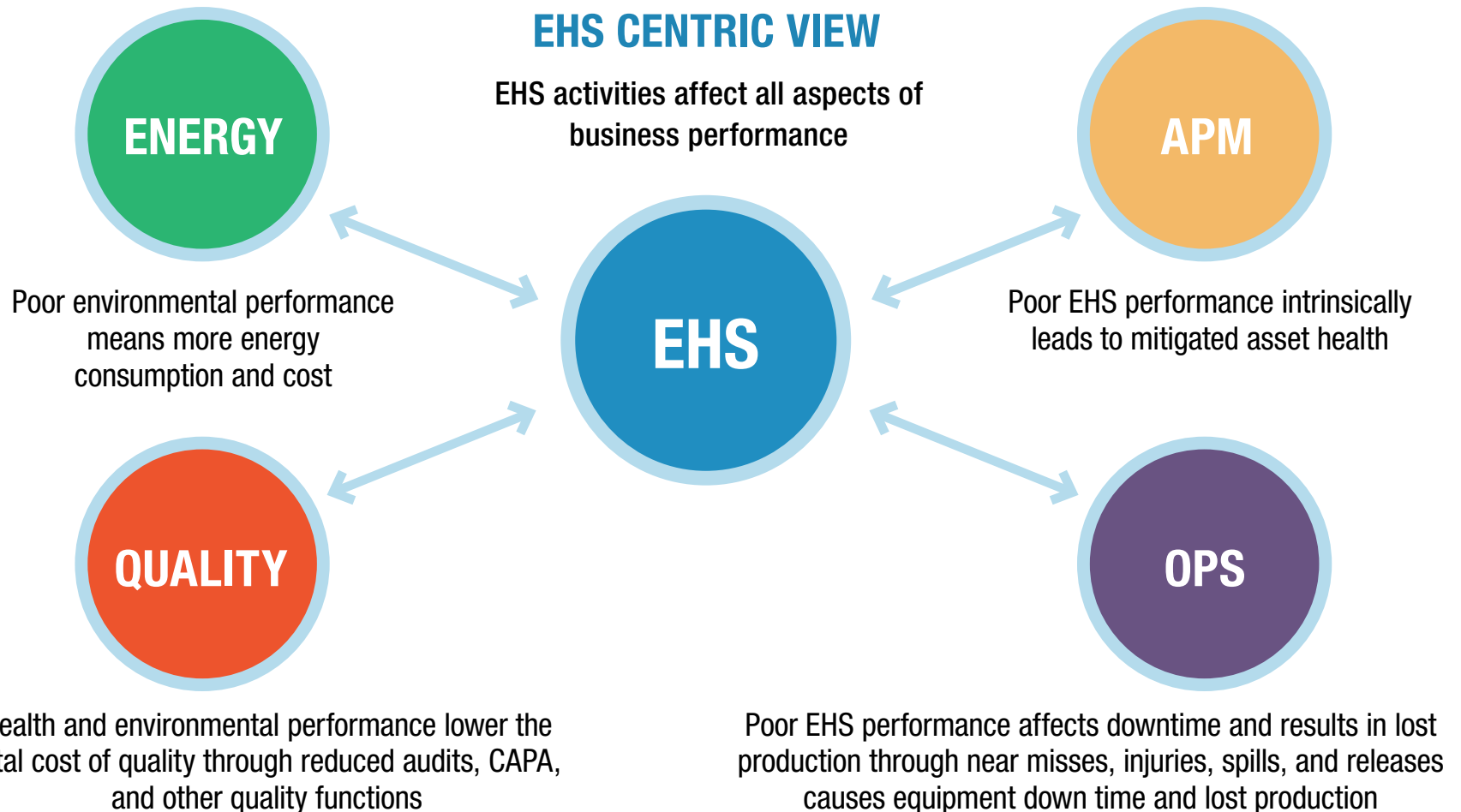
The 360 View

Just as all aspects of enterprise performance are interrelated, EHS performance foundationally affect other areas of enterprise management, including energy, asset performance, quality, and overall operations.

As an example, we can look at the simple fact that equipment failures are one of the main causes of injuries and accidents in any manufacturing environment. The result? In addition to equipment issues that must be resolved, there are additional problems related

to accident costs, lifecycle incident management, lost time and, ultimately, poor safety performance.

Whether it is Asset Performance Management (APM), Manufacturing Operations Management (MOM), Quality Management, or Industrial Energy Management, all areas of performance have a direct bearing on one another, EHS broadly, and, ultimately, OEE—a critical metric for establishing success.



The Role of Overall Equipment Effectiveness

Overall Equipment Effectiveness (OEE) is a fundamentally comprehensive set of performance metrics that helps manufacturers determine how effectively their operations are utilized. It is a KPI used broadly in manufacturing to help establish overall success.

It may be tempting to think of OEE and EHS as unrelated, yet, just as all aspects of enterprise performance have a bearing on overall success, EHS directly impacts OEE.

OEE fundamentally spells improved speed, uptime and efficiency.

Executed well, it means less scrap and rework, less downtime, improved productivity, and better efficiency.

Compromised health and safety performance, and poor EHS training can result in lost time and high turnover rates lead to weak equipment management and a higher risk of failure, downtime, and availability, not to mention heightened risk of misuse, accidents and injuries.

How improved EHS performance impacts OEE:

- Better speed and efficiency
- Less rework, downtime, scrap, and risk
- Improved productivity
- Up to 20% better OEE
- Lower margins and lifecycle incident costs



LNS Research EHS Management Survey

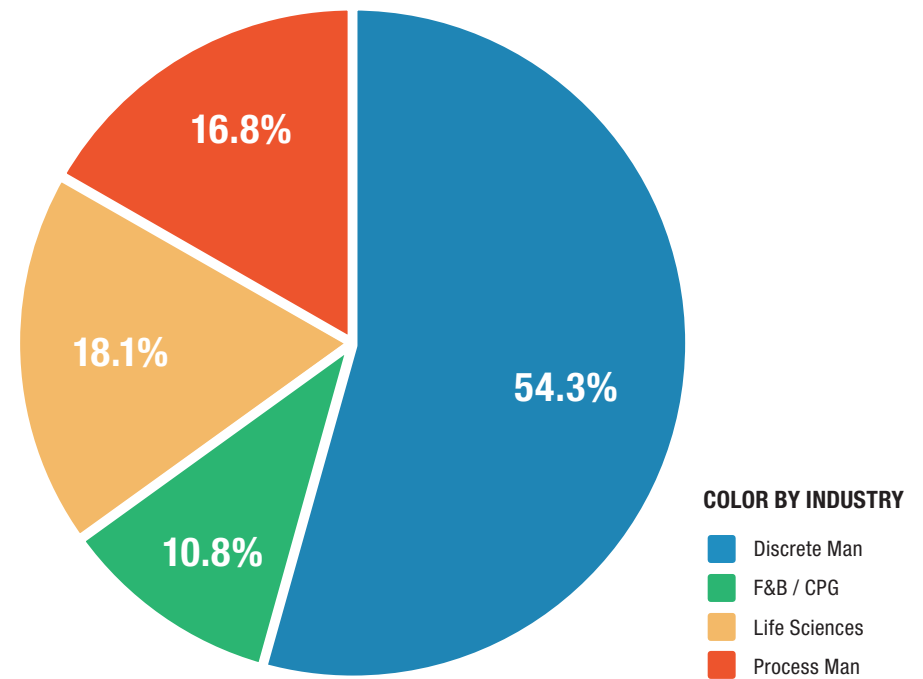
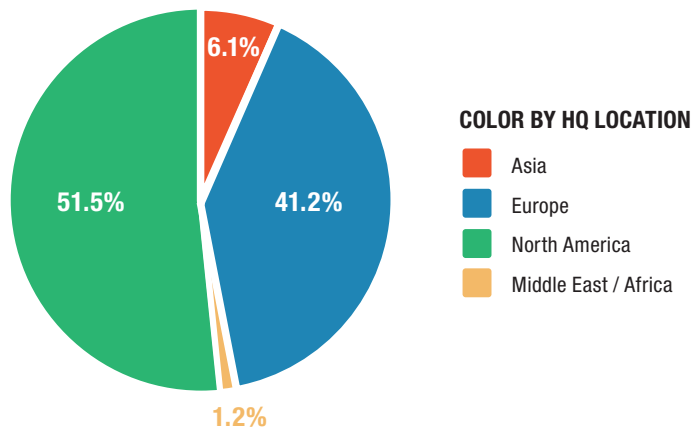
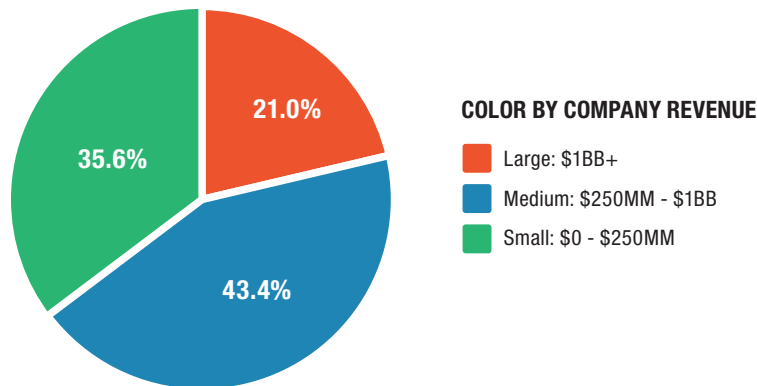
Before getting into the value of EHS aligning with Operational Excellence, let's discuss some of the Research Demographics LNS Research has used to build a dataset based on the issues, costs, concerns and priorities manufacturers have faced recently.

The survey data presented is based on over 300 respondents to our Environment, Health and Safety (EHS) online survey, which provided data commonly associated with product stewardship. Respondents participated in this research to access the research reports LNS Research provides and come from a broad range of industries,

geographies, and company sizes. Respondents have shared insights on business objectives, challenges, the maturity of leadership and business process capabilities, the use of technology, and performance in operational and financial metrics.

Some of the key areas covered by the survey include:

- **Top organizational challenges and barriers to success**
- **Technology and software-based trends and best practices**
- **Maturity levels and strategies for assessing supplier performance**

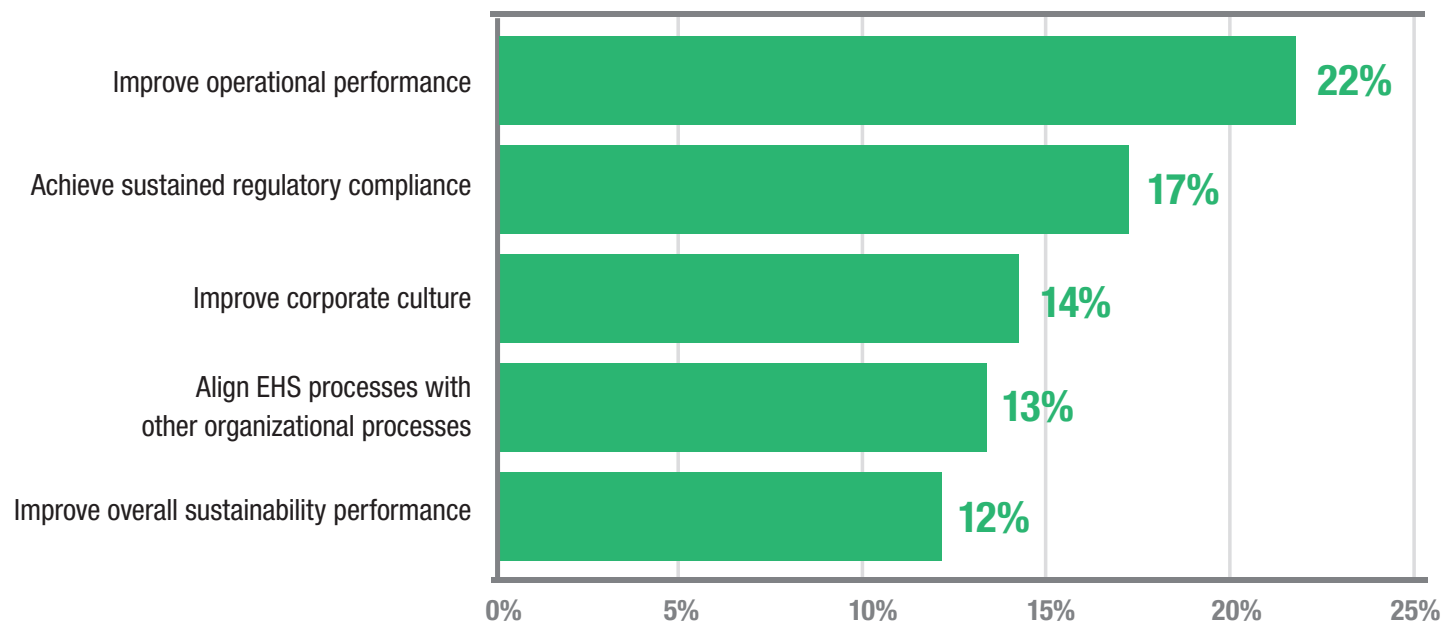


Industry Drivers for Improving EHS Performance

While we have seen degrees of fluctuation among the top strategic objectives for improving EHS performance among the manufacturers surveyed, a few things are clear. Improving operational performance continues to be the top objective for bolstering EHS performance. Achieving sustained regulatory compliance is also a key driver, and that aligns well with many of the motivations to improve product compliance and, ultimately, product stewardship.

EHS leaders in manufacturing continue to focus on operational performance and regulatory compliance

Top 5 Strategic Objectives for Improving EHS Performance



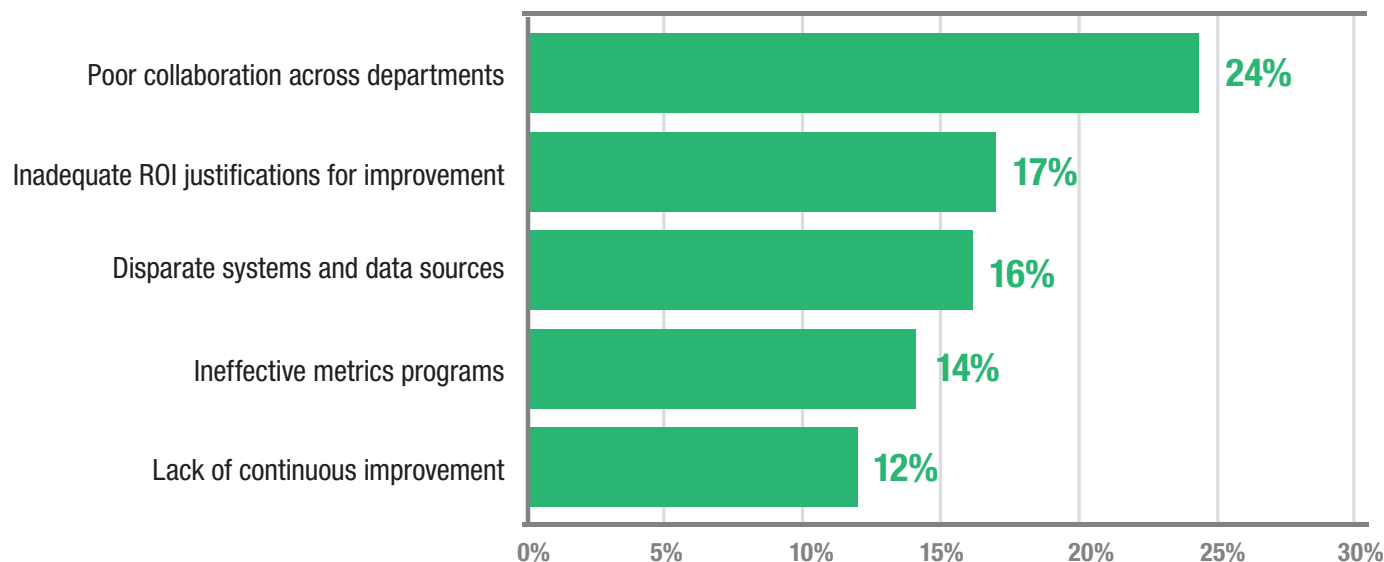
Industry Challenges to Improving EHS Performance

Outside of industry drivers, on the other side of the coin there are top challenges in achieving EHS objectives. Here, there is a different story, but one that aligns with the objectives discussed in the previous section. For instance, ranking highly is poor collaboration across departments—something seen as a regular issue throughout enterprise management programs, be it Asset Performance Management (APM), Quality Management, Manufacturing Operations Management (MOM), and more. Also, connecting disparate management programs to achieve common goals despite different high-level operational objectives continues to present a problem for manufacturers. All this is in spite of the fact improved collaboration between departments will ultimately help businesses achieve universal enterprise objectives.

Second is the need to provide clear return-on-investment (ROI) objectives for improvement. So not only is there the need to improve interdepartmental collaboration to achieve EHS objectives, manufacturers need to establish bottom-line value for senior and department-level leadership to motivate them to aspire towards achieving those objectives.

There is value here in integrating EHS and Operational Excellence into enterprise and operational models across departments and establishing value within those approaches. But if poor collaboration across departments is identified as an issue within individual enterprise performance alone, it can only be imagined how it would manifest across the supply base, where it is arguably just as essential, especially in regards to challenges discussed later in this eBook.

Top 5 Challenges in Achieving EHS Objectives



Principles Behind Achieving Operational Excellence

When considering the why and the how of pursuing Operational Excellence, it is important to look beyond the obvious financial and operational benefits to get a grasp of the principles that drive the pursuit of these achievements in the first place. While there are a number of frameworks and award systems out there, one to consider is the Shingo Prize for Excellence in Manufacturing, based on Japanese industrial engineer Shigeo Shingo, that helps drive manu-

facturing elements around the world.

The Shingo Prize interpretation of Operational Excellence describes a number of key principles that lead toward achieving the ultimate, continuous improvement centered goal of Operational Excellence. While all of these aspects can be related to most aspects of enterprise management broadly, there are a few that pertain to EHS directly.



THE SHINGO PRIZE

for OPERATIONAL EXCELLENCE

The Shingo Prize for Excellence in Manufacturing helps drive manufacturing excellence elements around the world

Principles Behind Achieving Operational Excellence (Cont.)

TREATING INDIVIDUALS WITH RESPECT: Not only does this element mean treating the people in the organization, one on one, with the respect they deserve as individuals, it means respecting their right to responsible, healthy working circumstances, a safe, reliable working environment, and environmental conditions that do not negatively impact either their personal health or safety. The drivers behind these mandates can be fueled by compliance requirements, Corporate Social Responsibility (CSR) imperatives, basic health and safety stewardship goals, or all of the above. Evaluated holistically, these aims, managed poorly, funnel back into poor Operational Excellence. Unsatisfactory health and safety stewardship results in lost time, injury and illness, and fatalities. Noncompliance with basic EHS requirements results in fees, penalties, and loss of business. Consequences of ignorance of CSR responsibilities results in poor brand equity. These factors unravel in a way that impairs overall Operational Excellence.

LEADING WITH HUMILITY: The ‘humility’ factor asks leadership among affected organizations to conjure a degree of humbleness and acknowledge the experienced frontline employees within an organization are as relevant to the operation of the business as those ranked in the higher echelons of executive management. As such, it is important to achieve a balance of respect and understanding for the operational aims of these tiers against the enterprise and financial imperatives met by executive management.

CONSISTENCY OF PROCESS AND SYSTEMATIC THINKING: Finding the right people for the right roles and implementing the right technology to support initiatives can be two achievable aims in and of themselves. However, neither pursuits will go anywhere without the right processes to support the other two elements.



The LNS Vision of Operational Excellence

LNS Research has long espoused Operational Excellence as a key objective across all of its messaging and all of its various practices, including EHS, APM, MOM, Quality, IEM, and beyond.

While some of our principles align with those outlined above, LNS Research believes that four fundamental organizational performance factors feed into Operational Excellence, the penultimate pursuit of enterprise management, and, ultimately, Holistic Sustainability. The latter is what LNS Research believes to be the broadest and most wholesome pursuit a manufacturer can embrace. While it used to connote environmental performance, it means much more today, including the sustainability of finances, people, processes, objectives, technology strategy, brand image, and many other aspects of performance.

Four of the key pillars that feed into Operational Excellence include:

PEOPLE: How effectively is the business observing, managing and improving people, management, and leadership across departments for success?

PROCESSES: Are standard business processes effective, well understood, and driven towards continuous improvement?

TECHNOLOGY: Is stable, useable, integrated software in place that uses centralized systems and data and minimizes redundancies and overlap?

METRICS: Are the right predictive, relevant metrics being used to develop useful analytics and foster continual improvement?

While all of these factors are relevant, it is important to realize that, over the years, much progress has been established on the people and processes front. What lags, however, is notable progress on implementing technology solutions that effectively produce notable improvements in EHS performance.





SECTION 2

The Evolving EHS Landscape

The EHS Landscape

Once upon a time, it was acceptable to approach EHS management from within a silo. Not only was it viewed as ‘separate’ from other enterprise management systems and corporate activities, there was also reduced visibility of EHS performance, executed either effectively or ineffectively.

In the past, a global manufacturer could effectively pull a curtain over the incidence and impacts of a substantial EHS calamity, thereby minimizing the effects on brand image, corporate culture, and consumer awareness.

This was before the advent of a 24-hour news cycle, social media, and social and environmental causes and awareness.

In the past, neither the buying public of retail manufacturers nor the customer base of OEMs were aware with immediacy of the severity of negative events. Forty years ago, the impacts of adverse events, such as Bhopal disaster, the Deepwater Horizon oil spill, or the Savar building collapse would not have had either the immediacy or long-standing impact they would have (and in some cases, have) manifested today, simply as a result of the lack of social traction, public awareness, and all of the brand damage associated with these elements.

Things have changed.

**The 24-hour news, social media,
and environmental awareness
have changed the EHS landscape**



The 'Old' EHS Landscape

The EHS landscape from the 1900s and earlier, right up until after the development of clear and direct environmental and health and safety standards within the US and within industrialized economies around the world around the last half of the 20th century (e.g., those defined by regulators such as OSHA, EPA, etc.) tended to remain rather docile. Until then, regulators around the world did not get too involved into the environment, health and safety matters of businesses around the globe.

Regulatory bodies were gradually implemented to address the issues associated with poor regulatory performance, but two key negative events (among others) helped expedite the presence of governmental and regulatory factors in EHS management towards the 1970s and 1980s. These included:

THE SEVESO DISASTER: This massive explosion within a chemical manufacturing plant in Italy 1976 resulted in countless adverse long-term health affects for the local population, including cardiovascular and respiratory diseases, gastrointestinal cancer, and diabetes.

THE BHOPAL DISASTER: This remains the single largest industrial accident in mankind's history. It happened in 1984 and killed more than 3,000 people immediately and resulted in more than half-a-million injuries over the following 25 years. It was a massive chemical explosion in India that drove industry to develop EHS management systems, and implement those systems organization wide through connected software.

Two key negative events helped drive the presence of government and regulatory factors in EHS management.



Source: Simone.lippi

The 'New' EHS Landscape

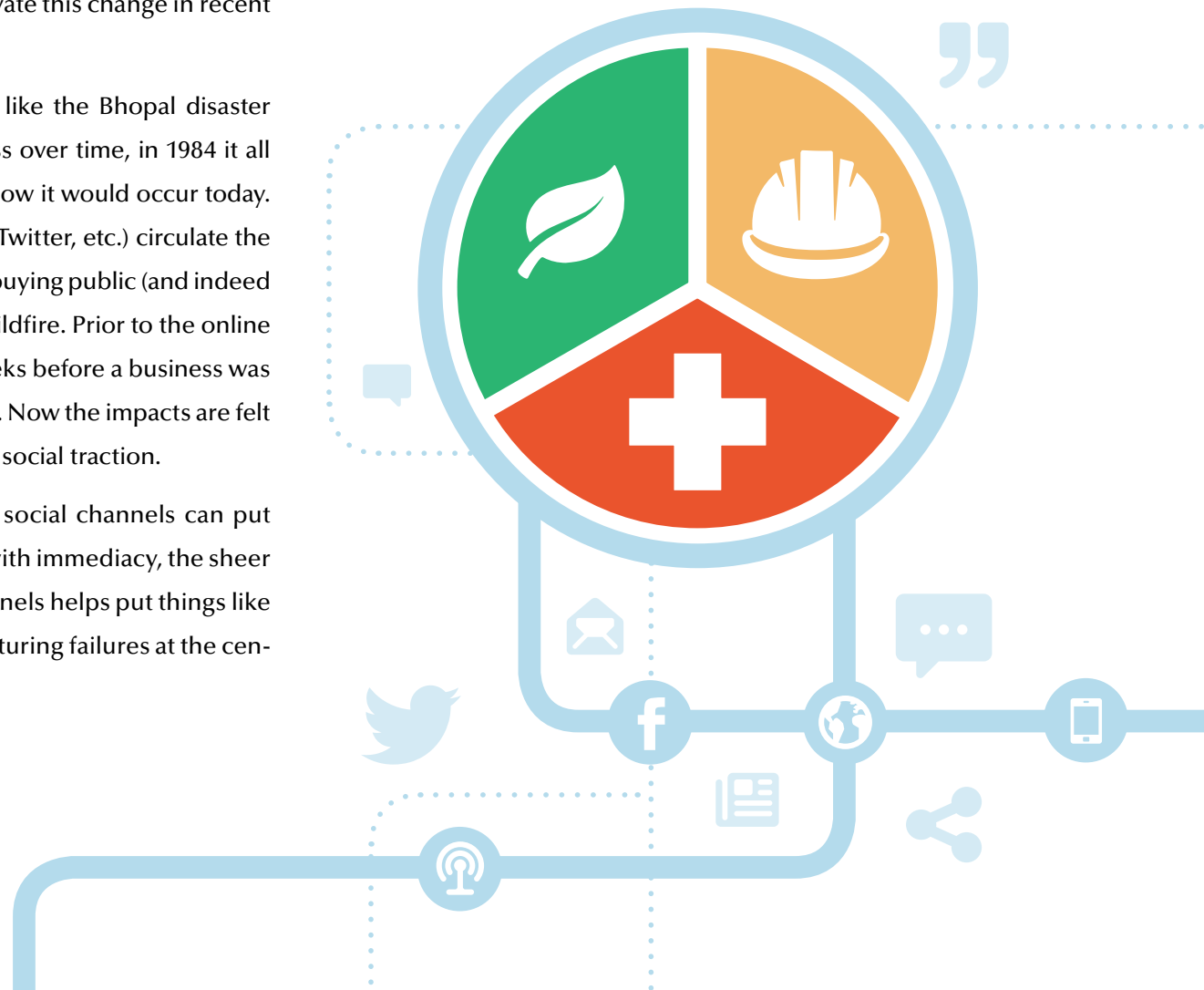
Unlike what transpired throughout manufacturing workplaces in the 1900s, in the 21st century it is a very different game. Not only are regulators aggressively seeking to manage a manufacturer's EHS performance, the public too is acutely aware of how a manufacturer operates and is fully prepared to respond accordingly, namely by shifting purchasing to a competitor or directly exposing the missteps of a once-prized manufacturer to the public.

Some mechanisms that have helped cultivate this change in recent years include:

THE SOCIAL LANDSCAPE: While an event like the Bhopal disaster gained public traction and built awareness over time, in 1984 it all happened at a glacial pace compared to how it would occur today. Social channels (e.g. LinkedIn, Facebook, Twitter, etc.) circulate the knowledge of negative events among the buying public (and indeed potential business partners as well) like wildfire. Prior to the online revolution it might have taken days or weeks before a business was ostracized as the result of a negative event. Now the impacts are felt immediately, as a result to some extent by social traction.

THE RAPID 24-HOUR NEWS CYCLE: Just as social channels can put negative events at the centre of the map with immediacy, the sheer pace and awareness of current news channels helps put things like recalls, airline catastrophes, and manufacturing failures at the centre of public attention immediately.

EMERGING CHALLENGES AND OPPORTUNITIES: Beyond the traction and immediacy afforded by social and news-oriented functions, new challenges and opportunities associated with EHS management also take hold. Big Data, the Internet of Things (IoT), and the increasing reliance of mobile devices within a workplace environment continue to present increasing challenges for EHS leaders.





SECTION 3

Impacts of Compromised EHS Performance

Compromised EHS Performance

The differences between the ‘old’ and ‘new’ EHS landscape are apparent.” While many things have changed, the basic operational aspects that lie behind executing EHS management effectively tend to remain the same. These will be examined in the next section, but below will explore how the impacts of compromised EHS performance actually play out.

The 2013 Savar building collapse in Bangladesh presents a recent example. On the surface, this incident killed nearly 1,300 workers and became the worst accidental structural failure in modern human history. Arguably it was the result of negligent EHS management amongst building management, and also represented a lack of comprehension of the severity of the problem amongst building management, as well as a lack of action to resolve the negative issues associated with then-recent building inspections. Working conditions among Bangladeshi garment workers had already been described as deplorable within the facility and across the region of Dhaka in general. But when the building collapsed in 2013, it represented the worst such collapse in modern history.

Uniquely, not only were individual factory workers and their families affected, Western customers of the goods produced by this factory also felt the repercussions. Big name retailers like The GAP, Joe Fresh, Walmart, Target, and Macy’s—operations that relied on products provided by the Savar (or Rana Plaza) and related facilities—were driven to apologize to regular customers and offer comprehensive compensation packages to families associated with fatalities related to the event. All this because the initial event of photos

displaying garments bearing their brand names amongst the rubble of the building’s collapse were conveyed across social media, gaining widespread traction and immediate demand for corporate response.



Source: rijans

The 2013 Savar building collapse in Bangladesh was the worst such collapse in modern history.

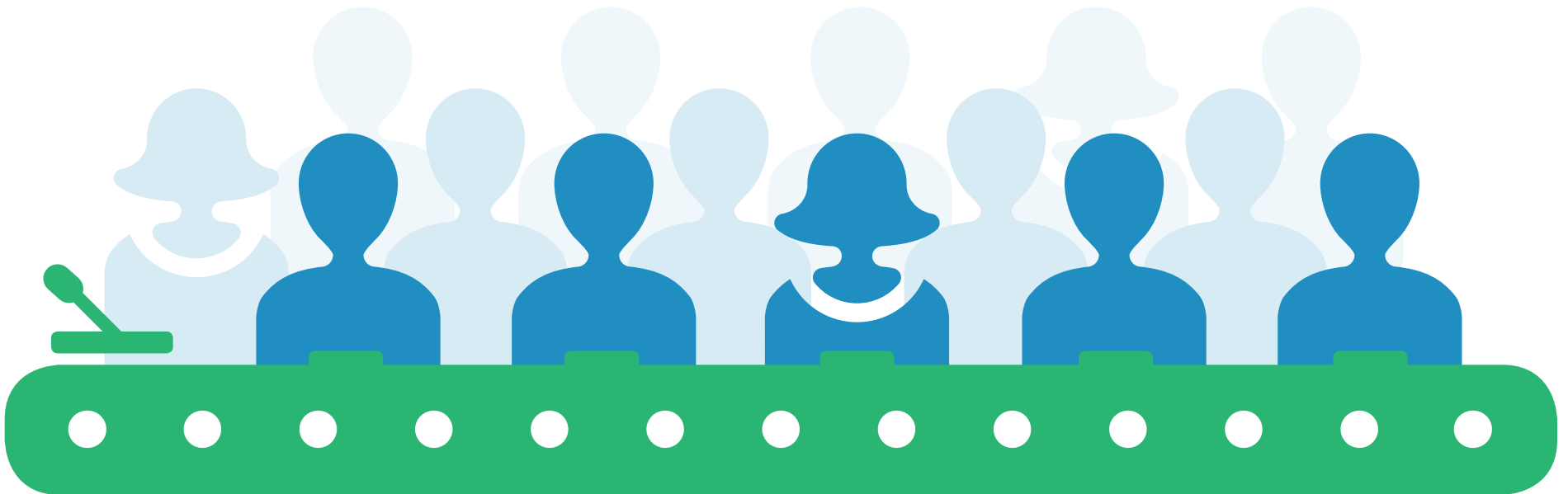
Compromised EHS Performance (Cont.)

While it supposedly has made strides in improving supply chain EHS performance following a wake of bad PR, Apple ranks among the most notable examples of supply chain EHS performance gone wrong. Beginning back in 2010, a series of attempted—and frequently successful—suicides by workers at Foxconn’s facility in Longhua in the Shenzhen in Southern China led to widespread media coverage of the arduous working conditions faced by thousands of employees. Famously, photos of suicide nets installed under company dorm windows made the rounds on social media and gained enormous traction among the buying public.

Foxconn’s Longhua facility represents a substantial part of Apple’s supply chain, where Shenzhen Province’s vast population and cheap

labor force once enabled the company to rely on the production of nearly 140,000 iPhones every day from the facility alone.

When news of the attempted and unsuccessful suicides at the plant, as well as the underlying causes behind them, became public knowledge, Apple adherents and opponents alike around the globe were outraged. In the aftermath, Apple was forced to clamp down on worker conditions across its supply chain and invest considerable PR and communications efforts to put out the wildfire of public criticism that followed. The effectiveness of these efforts is yet to be determined, but it is clear this world leader in computing and mobile devices had to invest significant dollars to address public backlash.



SECTION 4

The EHS Roadmap to Operational Excellence: A Continuous Improvement Journey

The EHS Roadmap to Operational Excellence: A Continuous Improvement Journey

It should now be clear that EHS performance directly factors into Operational Excellence goals and objectives. When EHS technology frameworks are weak, environmental performance suffers and health and safety conditions are poor, the capabilities to achieve overall Operational Excellence are impaired.

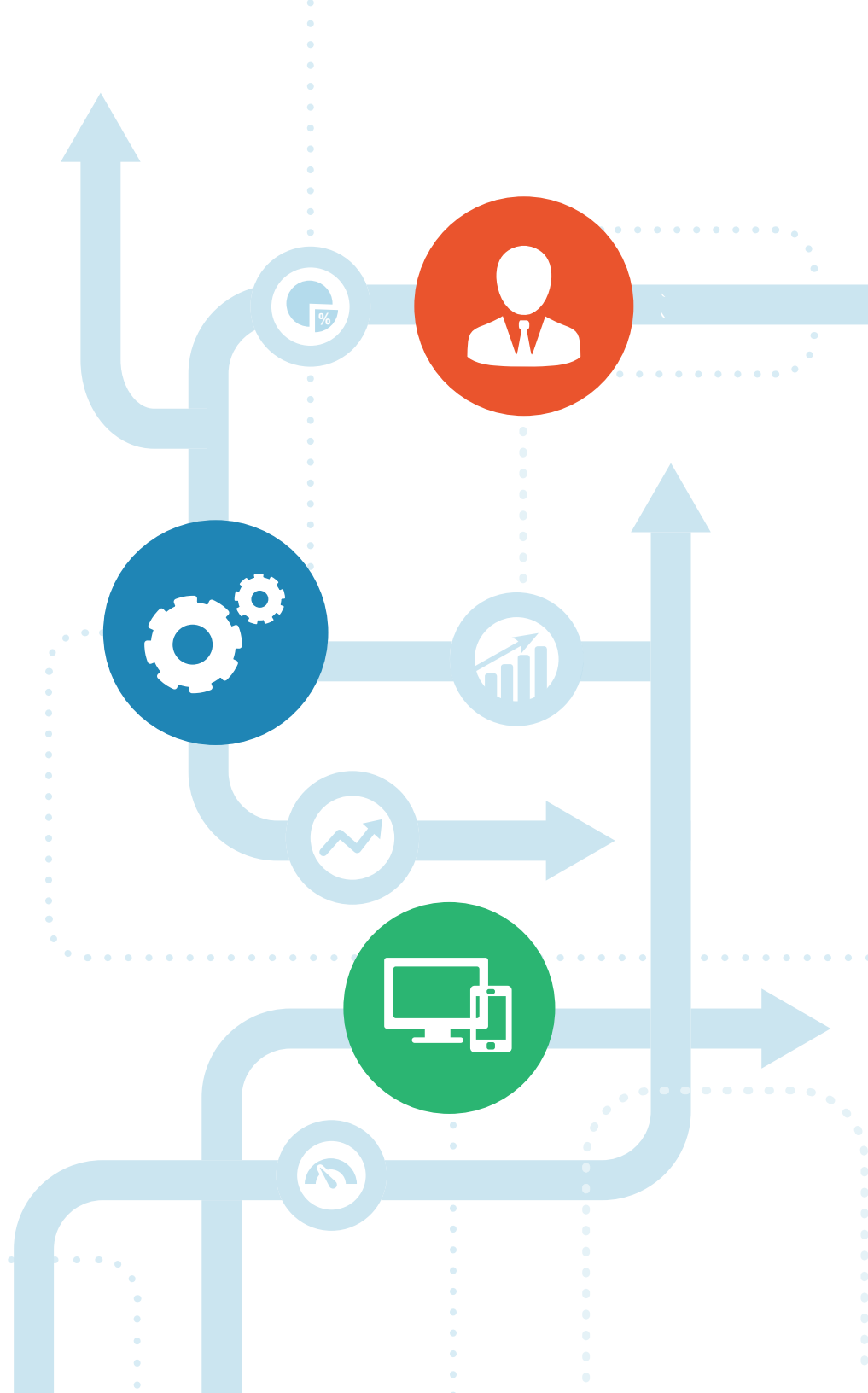
However, a simple reworking of overall enterprise strategy can enable manufacturers to overcome these issues progressively and ultimately achieve improved Operational Excellence. This comes with both a tactical and strategic alignment of three essential factors, namely:

PEOPLE: Establishing the right culture from both a bottom-up and top-down perspective by engaging people effectively.

PROCESSES: Identifying and implementing best practices and processes that will enable us to engage people, foster cultural improvements, and streamline processes.

TECHNOLOGY: Identifying and implementing the right enterprise software tools that align with effective processes, are easily adopted, and foster cultural engagement and ultimately operational excellence.

The following section reviews each of these factors individually.



The EHS Roadmap to Operational Excellence: People

An organization is ultimately as good as its people. However, in manufacturing industries, only the organizations that treat employees with respect and humility, and also view them as essential elements of success, tend to achieve performance excellence. In devising an EHS program that puts people and culture as a central element of supporting Operational Excellence, it is important to keep some of the following best practices and related goals in mind:

“An organization is ultimately as good as its people.”

EHS GOALS	GOALS, OBJECTIVES, AND TARGETS
Communicate importance of EHS Integrate EHS into Recruitment, onboarding, training, continual learning	- Establish formal EHS communication program - EHS assessment and H&S record evaluation during recruitment, onboarding - EHS educational component in onboarding - Illustrate lifecycle safety and incidents costs (financial, human/social, envt.) with EHS educational series
- Establish EHS Culture Goals supported by Metrics - Focus on leading indicators and preventive measures - Establish a ‘EHS Engagement Rate’ to make culture more tangible	- Improve Safety Engagement Rate by 20% - Supporting Metrics: - Safety meeting frequency/safety meeting attendance rate - Safety questionnaire completion rate/safety questionnaire avg. score - Percent of Audit-based CARs closed - Percent of Safety Matters in Performance Appraisals - Absenteeism rate, Turnover rate
Support, sponsor, and continually improve EHS culture	- Establish cross-functional EHS teams with members from executive, management, frontline - Establish an executive level ‘Culture Champion’ (e.g. VP EHS) to sponsor and coordinate efforts

The EHS Roadmap to Operational Excellence: Processes

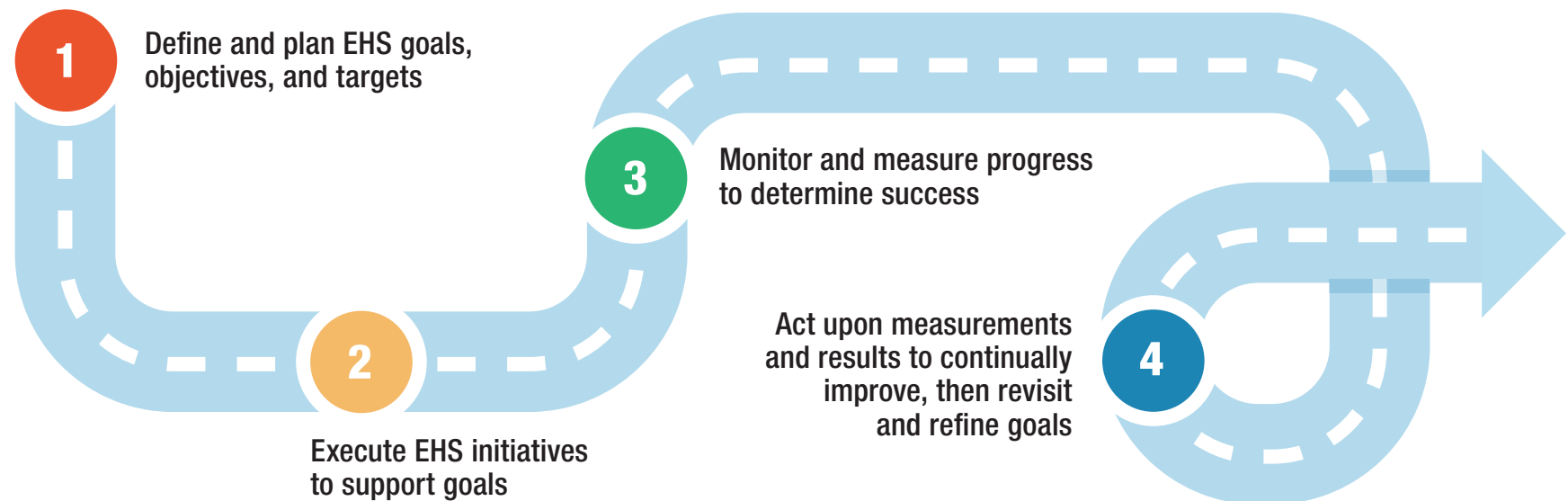
People and culture are of course essential to realizing EHS success and overall Operational Excellence. Technology, metrics, and software too, will play a fundamental role. But what about the connective tissue that runs between these elements—that is, processes, and process management? Even with the right people and technology lined up, without defined processes, performance objectives and Operational Excellence will never truly be achieved. With that, it is imperative that an organization building out an EHS/Operational Excellence strategy clearly defines the processes that will foster success.

Process standards like ISO 14001 or OHSAS 18001 (and, eventually, the incoming EHS standard ISO 45001) are the foundation for processes within EHS management practices. But not all manufacturers manage to effectively implement the right process standard frameworks. However, some still act on a reactive basis and adhere to

minimal compliance-based requirements. That is not an ideal model for achieving long-term EHS and performance and operational excellence. LNS Research sees a patchwork of regulatory requirements, but there is no clear go-to international standard for EHS management.

Never has there been one, integrated process standard framework for companies to turn to, and the lack of this necessary fixture represents a bit of a problem for industry: instead of turning to a widely adopted, integrated model of EHS management, companies often devise their own approaches, and we see a cavalcade of independent approaches to integrated EHS and sustainability management as a result.

But it is important to know is that EHS processes are ultimately supported, in this day in age, by the right software, hence achieving a strategic alignment of process and technology.

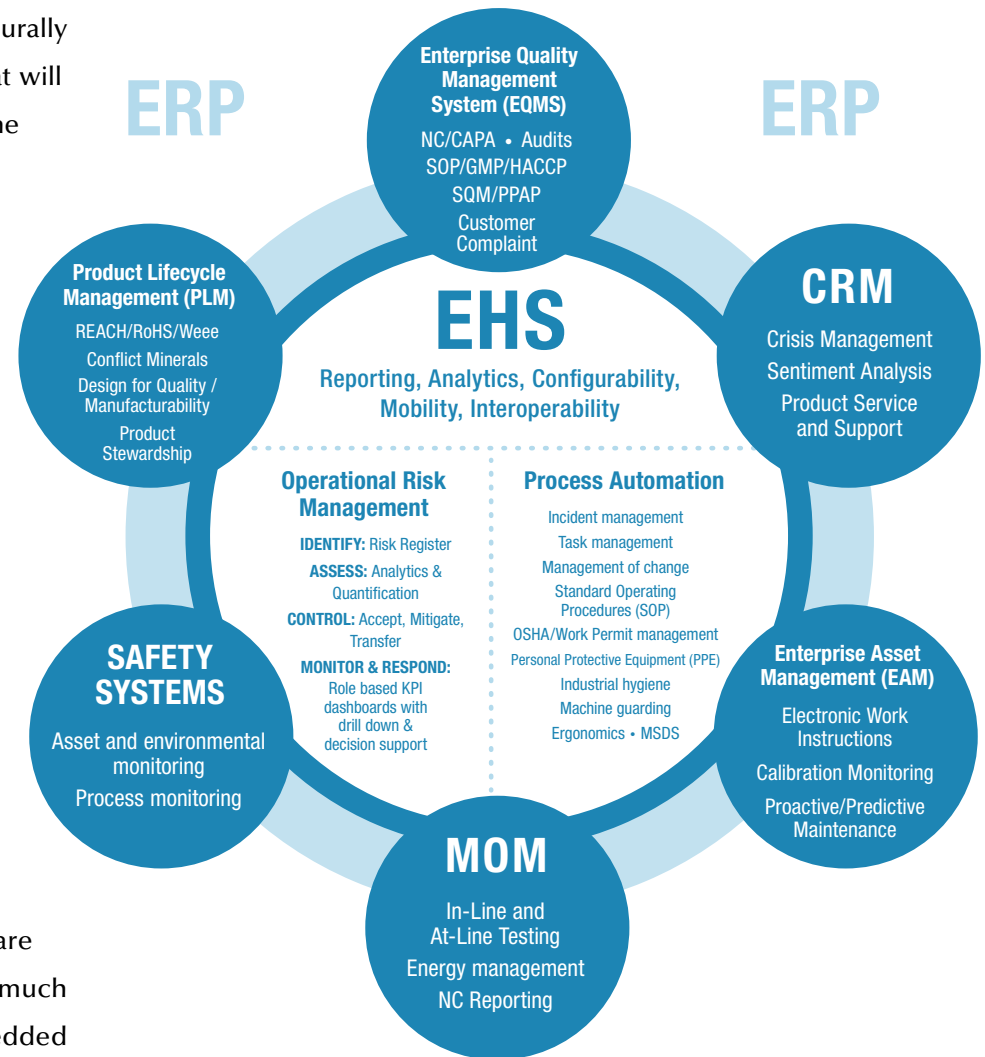


The EHS Roadmap to Operational Excellence: Technology

As established, EHS management is tied inextricably to many other areas of enterprise performance management. Manufacturers leverage software to manage each of these systems individually, though the software systems behind them tend not to be architecturally linked. Behind these systems we often find an ERP system that will have varying levels of integration and interoperability with the other systems. This speaks well to the challenge surrounding disparate systems and data sources revealed in the LNS Research EHS survey findings.

But the need for improved integration with existing and planned systems—EHS and otherwise—presents both a challenge and opportunity for organizations seeking to streamline EHS management and incorporate it into overall sustainability management and operational excellence.

Manufacturers need a robust and well-planned technology strategy in order to better streamline and integrate all of these aspects of enterprise performance and to establish better OEE. Also, directly related to people and culture, the usability of integrated systems needs to be an essential part of any technology strategy. From a process standpoint, businesses will need to have an understanding of how well they want new software tools to adapt to their existing business processes, or how much they want their processes to adapt to the best practices embedded in enterprise software tools.



EHS Software and OEE

In terms of EHS technology and its relationship to OEE, below are a few key values established in the recent LNS Research EHS survey and how they relate to OEE

1. EHS Software: Those who manage EHS programs with EHS software seem to experience significantly better OEE, on the order of 15% to 20% better than those who have not implemented EHS management software. When an EHS incident happens at an organization with poor EHS management, cycle time is increased, quality costs elevate, and equipment performance suffers.

2. Those who believe they have achieved real-time visibility of key EHS metrics through EHS software also benefit from significantly improved OEE. Why does this happen? Partially for the reasons outlined above, but also due to the fact they gain better insight into ongoing EHS-related operations and, as such, are better able to calculate on a forward-thinking basis how those activities impact overall operations.

3. The capacity to align EHS objectives with overall Operational Excellence objectives is significantly greater among those who have effectively implemented EHS software. While many manufacturers still have not implemented EHS management software systems, those that have gain from better insight, understanding and analysis of EHS performance and management, and that funnels back into OEE.

4. Those who have implemented EHS software and established EHS as a top corporate priority have achieved improved OEE performance compared to those who have not. This speaks to the value of executive-level support when it is effectively established. A functional EHS program cannot exist in a vacuum and needs the ongoing support and engagement from an executive sponsor in order to retain relevance and deliver results.

Median OEE Performance

	Implemented	Not Implemented
EHS Software	85%	70%
Real-Time Visibility of EHS Metrics	87%	72%
EHS and Operational Objectives Aligned	85%	50%
EHS Top Corporate Objective	83%	70%

Organizations that have implemented EHS software show a 21% improvement over those that have not.

SECTION 5

Actionable Recommendations and Conclusion

Actionable Recommendations

Once it is understood that only a progressive EHS management program intrinsically tied to overall Operational Excellence goals will help manufacturers achieve compliance with regulatory requirements, minimize the costs associated with negative events (including

supplier failures and noncompliance), and boost brand perception, businesses need to take the next logical steps in order to improve their performance in this regard. Some initial considerations include:



BUILD YOUR CREW: We cannot achieve success in EHS and Operational Excellence improvements without the right *people* and *roles*. Define cultural objectives and get the right people involved that will enable your organization to achieve its Operational Excellence objectives on a continually improving basis. A cross-functional team that links all areas of business activities to the same goals helps fuel EHS performance improvements and meet Operational Excellence objectives.



ESTABLISH A TECHNOLOGY STRATEGY: In your journey to Operational Excellence, the right software will play an essential role. Determine your needs, expectations and desired results. Relate EHS performance metrics to OEE in order to establish the best ROI for the solutions you assess.



ALIGN METRICS WITH GOALS: Metrics can be valuable in and of themselves, but they tell us little when they are not connected to overall objectives. Establish broader objectives first, then build out the set of metrics they will be linked to in order to achieve Operational Excellence. For example, OEE is a strong benchmark of how EHS performance is linked to overall Operational Excellence.



FIND AN OPERATIONAL EXCELLENCE CHAMPION: This executive role should be charged with ensuring efforts to coordinate EHS capabilities in the name of boosting overall Operational Excellence are coordinated and designed to achieve continual improvement. The role can be a Performance Development Coordinator, a VP of Operations, or a COO, but the mandate to manage the Operational Excellence journey ought to be clear.



DEFINE PROCESSES: Investments in metrics, objectives, people, and culture are all wasted endeavors if the organization hasn't established how it is going to get to its destination. As you determine where you want to go, clearly define the set of processes that will enable you to achieve objectives and realize success. Whether you leverage a standard framework like ISO 14001, OHSAS 18001, or the upcoming ISO 45001 for health and safety, commit to a process framework and continual improvement objectives and stick to them.

Conclusion

Environment, health and safety stewardship today is a far cry from what it was two, three, or four decades ago. Not only do governments and regulators have a keen eye on the ongoing EHS performance of manufacturers around the globe, customers, industry, and citizens at large are well aware of an individual manufacturer's EHS performance, courtesy of social media, a pervasive news cycle, evolving regulations, and expanding customer demands.

All of these elements of EHS performance deeply impact overall Operational Excellence performance, meaning financial bottom lines, potential growth, brand image and reputation, and more, in accordance with the 'new' reality of the manufacturing landscape.

As such, manufacturers need to monitor and manage EHS performance on an ongoing basis in relation to overall Operational Excellence in order to ensure growth, boost bottom lines, and maintain and improve brand image.

This can only be accomplished by properly aligning the three elements common to all aspects of manufacturing performance excellence: that is, finding the right people, implementing the right processes, and using the right technology.

A well thought-out approach to that is supported by the right connected, centralized technology will enable any manufacturer to eventually anticipate and ultimately overcome the demands imposed by a more stringent regulatory environment and aware customer base.

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