• UNIFYING HEALTH AND SAFETY MANAGEMENT
• SCORECARD
• BUILDING A STRONG SAFETY CULTURE
• A SAFETY TURNAROUND
NEW CHALLENGES

CALL FOR NEW SCIENCE

Progress is an unstoppable, transformative force. New technologies, product breakthroughs and globalization are arriving one on top of another at a dizzying pace. Innovation makes us more efficient, more productive and more connected. But there is a cost, and that cost is risk. To help mitigate the emerging risks, UL is developing New Science advances. Through fundamental discovery, testing methodologies and equipment, procedures, software and standards, UL is creating new and important ways to make the world a safer place.
WORKPLACE HEALTH & SAFETY
OVERVIEW

An aging, less healthy workforce and the growing need for enhanced worker productivity demand innovations in occupational health and safety management. Our Workplace Health & Safety journal covers four subjects that demonstrate important ways UL’s New Science is helping to make the places people work healthier and safer. We are Unifying Health and Safety Management to help companies better safeguard employee well-being. We are innovating a Scorecard that uses leading indicators so organizations can become more preventive in mitigating safety risks. We have pioneered a new approach, enabling businesses to improve safety by Building a Strong Safety Culture. And we have created a unique learning platform that helped drive A Safety Turnaround at one inspiring company. The advances highlighted in this journal — integrating health and safety management, helping companies shift from a corrective to a preventive focus and ingraining safety in a company’s culture — are all critical to protecting the health and safety of today’s workers.

UNIFYING HEALTH AND SAFETY MANAGEMENT, PG.4
UL innovated software and information solutions that integrate health and safety management to enhance employee well-being and business performance.

SCORECARD, PG.8
UL created a safety scorecard uniquely combining leading and lagging indicators to help companies better prevent workplace injuries and illnesses.

BUILDING A STRONG SAFETY CULTURE, PG.13
UL developed a unique approach, helping companies build a strong safety culture that can continuously move toward peak health and safety performance.

A SAFETY TURNAROUND, PG.17
Aided by an innovative UL learning platform, McWane effected a significant and rewarding turnaround by institutionalizing workplace health and safety best practices.
UNIFYING HEALTH AND SAFETY MANAGEMENT

SCORECARD

BUILDING A STRONG SAFETY CULTURE

A SAFETY TURNAROUND
WHY UNIFYING HEALTH AND SAFETY MANAGEMENT MATTERS

Occupational health and safety management has traditionally focused on safety issues because these are generally easier for organizations to identify and deal with.1 However, a healthy workplace is — by definition — a safe workplace, a fact that underscores the importance of integrating an organization’s health and safety efforts.2 Additionally, while occupational health and safety management has not previously been seen as a way for businesses to maximize the output of their workers, it has become clear that integrating an organization’s health and safety functions can substantially improve worker conditions and, relatedly, the company’s own performance.

CONTEXT

Today’s workforce is evolving. More than half of the workers in the U.S. today are over 40, and the median age continues to rise.3 In fact, by 2015, one out of every three U.S. workers will be over 50.4 Older workers have a greater risk of illness and injury and slower recovery times.5 Workers over 45 years of age spend 72% more time away from work due to workplace injuries or illnesses than do their younger counterparts.6 Importantly, older workers tend to have greater experience and institutional knowledge than their younger colleagues, and the loss of time caused by the absence of an organization’s most highly valued workers can also have a significant negative impact on productivity and operational costs.7 In addition, younger American workers are increasingly less healthy and bring with them a host of modern health-related challenges. They are more likely than their counterparts in other wealthy countries to experience illnesses, injuries, and premature death.8 Relative to occupational health and safety, the stakes today are higher than ever before.

WHAT DID UL DO?

Driven by a commitment to enhance the well-being of employees and eradicate preventable workplace incidents, we closely tracked market trends, listened to customers and examined their business problems. This led us to the realization that integrating the management of health and safety functions would be more potent than the approach employed by the vast majority of organizations, in which these elements are distinct and disconnected.9 With this insight as our guiding principle, we innovated software and information solutions that uniquely integrate health and safety information. We continuously evolve our solution, combining the perspective and skills of our workplace health and safety experts, software engineers and eLearning specialists10 to provide companies with an aggregated, company-wide view of their health and safety performance that:
• Supports and automates workflow
• Provides better insights and visibility to identify root causes
• Directs relevant eLearning when and where it is most needed
• Facilitates more cross-functional decision making.¹¹

UL’s unified software enables businesses to manage their health and safety efforts more effectively across the enterprise.

Our solutions demonstrate that unifying health and safety management is also more efficient and cost-effective. Advantages include:

• Reducing the number and redundancy of deployed systems to eliminate the duplication of separate health and safety management systems typically managed through different organizational silos
• Improving reporting, data-sharing, internal benchmarking, transparency, communication and accountability because there is greater visibility into the data
• Sharpening the breadth and depth of risk analysis to target prevention efforts by engaging a broader base of employees to contribute observations and key insights that can aid in reducing risk¹²

Our integrated health and safety management software can play a central role in maintaining and measuring both the occupational and the overall health and safety of employees. For example, companies that require employees to visit an occupational health clinic annually for general wellness exams are able to categorize employees by health risk and track the wellness of the entire organization over time, and can thus identify potential issues and effectively mitigate the risks. This is critical because employee wellness has a direct financial impact related to lost time, workers’ compensation, injury treatment, etc.¹³

Our software also enables companies to implement a behavioral safety program. Such a program would combine training on safety best practices with an observation-based reporting system that focuses on near misses and unsafe conditions and processes as well as injuries and incidents. Tracking these incidents allows a company to correct safety issues before workers are injured. By integrating health and safety information, our software enables everything from the scheduling of clinic appointments to the tracking of health data to the management of both safety training and an observation-based reporting program to be centrally managed for optimal performance.¹⁴

UL has continuously evolved its unique, integrated PureSafety and OHM safety management software solutions to enable businesses to manage their health and safety efforts more effectively across the enterprise.
IMPACT

In helping businesses integrate health and safety, UL is enabling them to more effectively deal with the growing challenges related to their aging and less healthy workforce. Our innovative software uniquely aggregates health and safety data. This not only improves operational optimization but also helps detect and identify emerging issues through better tracking and reporting of critical data. This, in turn, gives organizations a new ability to improve business performance, while helping to ensure a safer, healthier and more productive workplace."
UNIFYING HEALTH AND SAFETY MANAGEMENT

SCORECARD

BUILDING A STRONG SAFETY CULTURE

A SAFETY TURNDOWN
WHY THE SCORECARD MATTERS

There is growing recognition among businesses regarding the impact that workplace safety and health management can have on organizational productivity, employee well-being and morale, risk management, and operational costs. Given this trend, it is not surprising that companies are increasingly seeking to measure the performance of their health and safety efforts. Unfortunately, most systems available today assess only what has already happened, helping organizations understand the impact to their business and fostering a one-dimensional focus on corrective actions. To achieve more significant outcomes, companies do not only need to measure the impact of what happened; they need metrics to help them identify and understand potential issues and to shift to a more preventive approach to mitigating the risks of workplace injuries and illnesses.

CONTEXT

To help measure the effectiveness and return on investment of their health and safety programs, more companies are turning to safety scorecards. These tools were developed to make it easier for health and safety professionals to use data and metrics to measure the success of their initiatives and to bring visibility on how they are performing. The issue with existing scorecards is that the measures they include are typically limited to lagging indicators. Lagging indicators — including injury rates, the number of injuries and illnesses, workers’ compensation costs, performance against benchmarks (e.g., reduce injuries by 10% over the previous year) — are an important part of an effective safety scorecard. However, these measures focus on the past and what’s already happened. They do not reflect the company’s current strength or potential flaws. Low incidence rates are an admirable achievement, but they do not always mean that potential health and safety hazards are being effectively mitigated. Failure to actively seek out and take preventive actions to address emerging issues may have little visible impact at first, but over time this can lead to conditions that result in serious accidents or catastrophic events.

WHAT DID UL DO?

We were not satisfied with the safety results generated by the prevailing scorecard convention of quantifying only the impact of past events through lagging indicators. With the goal of helping companies ensure the well-being of their workers, UL asked the question, “Which indicators should safety and health professionals...
Specifically, we wanted to identify the measures that would help companies better understand and measure risk and be proactive in reducing or eliminating as many workplace injuries, illnesses and fatalities as possible. Through our experience, we understood that lagging indicator scorecards and the reactive approach they foster could not, for example:

- Indicate the percentage of employees submitting observations and near misses (i.e., warning signs of injuries about to happen or that almost happened)
- Determine the percentage of corrective actions — from observation and near-miss reporting — completed in less than 48 hours, thereby preventing future occurrence
- Give insight into how many investigations were completed in a 48-hour time period after an incident occurred
- Provide the “find/fix” ratio to offer visibility into how effectively an organization addresses the potential issues that have been identified
- Interpret how employees perceive and classify reported hazards
- Show trends or patterns in the causes of incidents
- Indicate new potential threats or issues
- Monitor the effectiveness of health and safety training

UL’s expertise in implementing safety best practices and measuring the results strongly suggested that leading indicators would be the most likely to predict future incidents because they focus on the conditions that create health and safety risks. To develop an optimized set of indicators, UL’s safety experts studied the occupational health and safety literature to account for as many emerging risks as possible. We also met with clients to identify the indicators they were currently using, the ones they were considering and those they wished they could measure. This process yielded a comprehensive list of indicators, which were then refined based on our surveying of companies for feedback. We have created the most extensive set of measurable indicators that have a direct correlation with health and safety outcomes. We now enable organizations to monitor an entirely new set of metrics that were not previously available to them.
We innovated a safety scorecard — delivered as a SaaS (software as a service) or “private cloud” solution — that uniquely encompasses these leading and lagging indicators to help organizations become more prevention-oriented to optimize their safety and health performance. The lagging indicators focus on benchmarking performance (e.g., number of inspections/audits completed, percentage of compliant/safe conditions, percentage of employees trained, etc.) in an ongoing way. Complementing this, the leading indicators align with steps and processes designed to prevent loss and, as part of safety analytics, have the added value of enabling prediction that the probability of an incident or accident will happen if issues are not addressed. They make it possible to take more proactive preventive actions to correct problems before they show up in lagging indicators. In addition, our scorecard allows many indicators to be captured in real time, enabling organizations to take immediate action.

The UL team of safety practitioners and researchers has identified and codified three of the most important leading indicators that show a strong correlation with outcome (losses):

- **The number of people contributing to the process** (inspections, near-miss and observation reporting): We have found that engaging and participating ultimately fosters prevention and leads to better results if and when the company acts on the information being reported. We recommend that organizations evolve their programs to allow for and support reporting of observations of both safe and at-risk conditions. Our research has found that best-in-class companies have at least one observation reported by each employee every week.

- **Amount of time before open issues are closed**: Most organizations have difficulty discerning whether issues identified on inspections or submitted as near misses have been satisfactorily resolved and closed. The most effective businesses not only know what issues have been closed but also, more importantly, set benchmarks on the amount of time they are open, and hold themselves accountable for closure in a timely manner. We consider it a best-practice benchmark to close issues within 48 hours of reporting 80% of the time.

- **Establish a severity rating for those conditions requiring attention**: Most at-risk conditions reported are simply that — something noncompliant deficient and requires attention. The simplest severity rating would include identifying the frequency of occurrence and the severity of the injury that would occur if not corrected. Establishing severity ratings and applying them when at-risk conditions are identified allows a business to provide some level of objectivity to effectively prevent incidents by focusing attention and resources on those conditions and situations that have the highest potential for loss.
Our scorecard was designed to foster early intervention through the reporting of observations and near misses along with learning from incidents and thus informing meaningful discussion within an organization to drives both preventive and corrective actions. To do this, we blended key leading and lagging indicators and made information critical to effective safety and health programs visible to all. We vetted our safety scorecard with early-adopter clients to ensure that it helps businesses more effectively understand, measure and reduce risk.

**IMPACT**

UL works with organizations to create safety scorecards that uniquely incorporate both lagging and leading indicators. To help ensure that a company measures what will enable it to shift from a corrective to a preventive focus to improve its health and safety performance, we work with the company to tailor a scorecard to include metrics that:

- Align with its goals
- Are attainable and easy to measure, providing immediate insight into whether desired outcomes are being achieved
- Have buy-in and support at all levels in the company
- Help drive future performance

Providing visibility through the right blend of metrics maximizes the utilization of both time and resources by helping managers more effectively prioritize when and where to act. The insights our scorecard is designed to provide help improve health and safety performance while reducing a company’s safety risks and costs. At UL, we understand that the only acceptable injury, illness or fatality is one that doesn’t happen.
UNIFYING HEALTH AND SAFETY MANAGEMENT

SCORECARD

BUILDING A STRONG SAFETY CULTURE

A SAFETY TURNAROUND
WHY BUILDING A STRONG SAFETY CULTURE MATTERS

Building a safety culture can help a business maximize productivity and reduce its injury and illness costs by 20 – 40%.¹ This is a critical consideration at a time when companies are increasing their investments in occupational health and safety management to address their workforce issues. However, investment in new systems, by itself, is not sufficient to drive continuous improvement in workplace health and safety. Adopting and embracing a strong safety culture can improve both well-being and productivity.

CONTEXT

Every company wants to keep its workers safe by minimizing workplace injuries, illnesses and deaths. In the U.S., 12 workers die on the job every day, and every year, more than 4.1 million workers suffer a serious job-related injury or illness.² The direct costs of these incidents to businesses include increased workers’ compensation premiums, potential legal expenses associated with litigation and increased regulatory penalties and compliance costs.³ Today, U.S. businesses spend $250 billion per year on costs associated with occupational injuries and illnesses.⁴ There are also important indirect costs, which include diminished productivity, decreased worker morale and damage to a company’s reputation.⁵ Together, these costs and the related consequences point to the fact that, in addition to health and safety programs, there is a need to establish a powerful safety culture to enhance employee well-being and directly involve employees in optimizing an organization’s performance.

WHAT DID UL DO?

UL realized that while health and safety management systems are essential tools to help organizations, the most effective way to improve performance is by helping companies develop a strong safety culture. This insight derives from our experience over more than a decade working with businesses to optimize their occupational health and safety performance. We found that the strongest-performing companies tended to institutionalize health and safety practices as part of their cultures. These organizations incorporate health and safety into their culture-building activities and regularly measure the strength of their culture. The top-performing companies also drive health and safety into their values and into the assumptions, norms and everyday behaviors of their employees.⁶

Building on our initial insight, we found that a strong culture not only contributes to improving safety but is the difference between achieving acceptable compliance and best-in-class safety outcomes. Some of our key findings include:
• Solid compliance and risk management processes can produce disappointing or inconsistent outcomes if cultural issues are not adequately addressed. Over the last few years, many health and safety professionals have begun implementing processes to gather and analyze observational data to make incident-prevention efforts more proactive. This is an important advance, but if companies don’t have a culture that encourages early reporting throughout the workforce, some of the most valuable data will not make it into those processes.

• Developing a risk severity index supported by carefully tracked metrics represents a significant accomplishment for a company. But if the index is not seen, understood and used by upper management, the company’s ability to turn that information into lasting improvements may be limited by a lack of support and conflicting top-level goals and messages to the workforce.

• Employing the best governance processes can’t cover every situation and decision, so a strong culture is needed to ensure that workers and managers do “the right thing” outside such processes.7

Our findings about the importance of culture led us to create a new and innovative approach to working with companies to help them become top performers in occupational health and safety management. UL’s unique focus encompasses worksite conditions, employee behaviors, processes and management systems. We have found that establishing a safety culture can enable a company to achieve long-term, continuously improving results.8

Our culture-building methodology begins with working with companies to establish health- and safety-promoting processes and systems. Processes provide structure and guidance for the workforce while simultaneously solidifying how professionals track and measure health and safety outcomes.9 The right management system defines values, goals and strategies to better align diverse processes and functions while also providing benchmarks to gauge progress and guide corrections.10

As part of our unique culture orientation, we help businesses incorporate early reporting and learning as key elements of their safety culture. Often, early reporting may start with narrowly avoided incidents (i.e., near misses) and evolve to include other types of observations from all members of the workforce once a safety culture is established. Our research has found that more observers generally equates to
better performance because companies acquire significant, deeper information on a larger number of events rather than only those recorded as having already happened, and the best way to increase the observer pool is to make safety a core cultural component of the organization. Analyzing patterns in potentially hazardous near-incidents can help identify their causes and contributing factors. This enhanced learning allows corrective actions to be taken before another incident occurs and helps ensure that workplace conditions and employee behaviors can be adapted to evolving circumstances.\textsuperscript{11}

To facilitate employee engagement and help solidify the safety culture, UL developed a system that is integrated cross-functionally and a software that includes intuitive dashboards modeled after social media networks. This allows employees to easily and anonymously report unsafe conditions and near-miss incidents. We also help companies determine what will be measured and how, using our deep base of cross-industry experience. UL then helps businesses maximize the insights and information provided by the involvement of their employees, from generating initial data to setting clear corrective actions with accountability tracking to ensure that critical tasks are completed on time to achieve meaningful results. This leverages the company’s safety culture and helps further strengthen it by making employee contributions a valuable input.\textsuperscript{12}

**IMPACT**

At UL, we are working to arm companies with integrated processes and systems in which culture permeates every activity and helps drive a consistent, upward progression toward peak safety and health performance. In a strong safety culture, workers engage in safety-conscious behaviors on their own, everyone helps identify potential areas for improvement and participates in enhancing safety processes, and safety management systems become more effective. Ultimately, helping companies build a strong safety culture also helps them get the most return: improved worker productivity, employee engagement and staff safety.
UNIFYING HEALTH AND SAFETY MANAGEMENT

SCORE CARD

BUILDING A STRONG SAFETY CULTURE

A SAFETY TURNAROUND
WHY MCWANE’S SAFETY TURNAROUND MATTERS

Today, both corporate executives and the functional practitioners who focus on occupational health and safety believe that not only is enhancing employee well-being the right thing to do, but it can also make a significant contribution to a company’s business performance. Part of what is driving this belief is the knowledge that an investment in health and safety is directly focused on enhancing a company’s most important asset: its people. McWane’s safety turnaround is important because the company overcame inadequate, underperforming infrastructure and negative publicity to create an award-winning environment, health and safety culture. The McWane case study therefore represents a proof of concept, demonstrating what is possible when an organization makes and follows through on a commitment to improve health and safety in the workplace.

CONTEXT

McWane is a family-owned business that is a leading provider of water, sanitation and fire safety infrastructure products, with a newer focus in the electrical utility industry. The organization has 6,000 employees who work in 25 different manufacturing sites across the U.S., Canada, Australia and China. In 2003, the company suffered from widely publicized safety and environmental problems at some of its facilities. A federal investigation resulted in fines and penalties as well as a prolonged trial in which several employees were found guilty of environmental crimes in 2006. The company acknowledged that it had allowed isolated operational silos to inhibit information-sharing and opportunities to assess and respond to incidents; reported accidents; and other health, safety and environmental trends at the company. McWane took decisive action to turn its situation around and become a benchmark of excellence related to workplace health and safety.

WHAT DID UL DO?

McWane sought to implement a comprehensive, transparent environment, health and safety (EHS) management system that emphasized training and accountability, management commitment, and employee engagement as corporate values. McWane turned to UL for help. Over nearly two decades of working with companies to enhance their occupational health and safety management, we have developed the insight that improving learning is one of the keys to changing and developing a strong safety culture. UL’s expertise shows that it is critical to create a baseline of employee knowledge of the elements of health and safety and to help employees understand both their role and their importance in the process and how exposure to health and safety risks can negatively affect them and the people around them.
After assessing McWane’s situation, we recommended our innovative, web-based learning platform, PureSafety. Our platform uniquely combines adult learning principles, such as interactivity and engaging instructional design, with an in-depth knowledge of safety best practices. PureSafety also automates the learning process, enabling companies such as McWane to:

- Access 700+ health and safety courses in up to 9 different languages
- Report and track incidents
- Manage and learn from incidents, observations and near misses
- Assign corrective actions to avoid future incidents

One of the most innovative features of the PureSafety platform is that it can use details from real-world occurrences to auto-populate in-the-moment news flashes or create customized training sessions based on actual events. Our e-learning courses are developed by a team of subject matter experts and instructional designers and updated as needed to address changes in compliance requirements. Our courses are also unique in that they do not focus only on providing the necessary information to promote adherence to safety best practices. Instead, UL’s eLearning is designed to foster an understanding of what these best practices mean in terms of the role employees play in their own safety and that of their colleagues.

Using our platform allowed McWane to not only improve awareness and compliance among employees but also redirect learning resources to other critical issues such as understanding and correcting workplace hazards. By tracking course completion and compliance behaviors, UL’s learning platform helps improve employee engagement and enhances accountability by helping managers identify employee alignment with objectives and address any employee outliers.

Ongoing education and training, powered by UL’s learning platform, became a key pillar in McWane’s turnaround. Specifically, our efforts contributed to the establishment of an employee engagement-based culture in which all managers were required to complete OSHA 10-hour safety compliance training. They were also required to acquire new management “soft skills” through the National Safety Council’s Supervisory Development course, internal Dale Carnegie “Casting Leadership” training and other classes to enhance their ability to communicate and motivate employees. Employee training was also extensive and included daily safety contacts, weekly toolbox talks, frequent review of incidents and inspections to monitor performance. Audit results were shared with employees, and there was
continuous learning about new equipment and procedures, as well as formalized compliance training and proficiency tests. Our learning platform tracked which employees had completed each training module and at what time. It also aggregated performance across organizational silos and facilitated cross-silo communications.\textsuperscript{12}

**IMPACT**

The McWane turnaround was fueled by the company’s determination and commitment. UL’s learning platform provided powerful tools to help the company operationalize and build safety success. The platform was a catalyst that helped McWane enhance collaboration among health, safety, human resources and operations. This allowed the organization and its collective resources to target efforts to improve working conditions, increase employee involvement and create a shared purpose for the well-being of employees.\textsuperscript{13}

Ultimately, McWane’s efforts helped the company establish a culture of health and safety that achieved a 77% decline in total recordable incident rates between 2002 and 2012 and a 75% decrease in its DART rate (i.e., days away from work, restricted duty and job transfers) during the same period. Amerex Corporation, a McWane company, reported an 88% decrease in workers’ compensation claims between 2006 and 2012; a 76% decline in the total recorded incident rate from 2004 to 2012; and a decline in the number of first aid injury clinic visits, from 175 with $87,500 in expenditures in 2008 to 50 visits with $25,000 in costs in 2012. These tangible results validate the human and business impacts that occupational health and safety management can have on an organization, and highlight the efficacy of both the comprehensive approach UL advocates and our innovative workplace health and safety solutions.\textsuperscript{14}
UNIFYING HEALTH AND SAFETY MANAGEMENT


2 Ibid.


5 Ibid.


7 Ibid.


10 Ibid.

11 Williams, B., Personal Interview, UL, 3 Apr. 2014.

12 Hohn, T., Personal Interview, UL, 26 Feb. 2014.

13 Ibid.


31 Ibid.


34 Ibid.


36 Ibid.


39 Ibid.


47 Ibid.


49 Williams, B., Personal Interview, UL, 3 Apr. 2014.

50 Hohn, T., Personal Interview, UL, 4 Apr. 2014.

51 Williams, B., Personal Interview, UL, 3 Apr. 2014.


53 Hohn, T., Personal Interview, UL, 3 Apr. 2014.


57 Ibid.


66 Ibid.


68 Ibid.

69 Ibid.


71 Ibid.

72 Ibid.

73 Ibid.

74 Ibid.

75 Ibid.

76 Ibid.