

EHS Today®



Are You Being Paid **WHAT YOU'RE WORTH?**

The 2022 National Safety & Salary Survey reveals safety leaders are increasingly being asked to do more with less. p. 8

DEI in the Workplace
p. 13

Metrics for Ergonomics
p. 18

The ROI of Safety
p. 21

**10 Key Elements of a
Heat Safety Program**
p. 24

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FEATURES

ARE YOU BEING PAID WHAT
YOU'RE WORTH? **8**

The 2022 National Safety & Salary Survey reveals that safety leaders are increasingly being asked to do more with less.

BY DAVE BLANCHARD

DEI IN THE WORKPLACE:
TIME TO BREAK DOWN THE SILOS **13**

A diverse workforce is one that can best to uncover and encourage each individual's talents.

BY ADRIENNE SELKO

HOW TO PREVENT INJURIES
AND DEATHS DUE TO
NATURAL DISASTERS **16**

SAFETY TECHNOLOGY IS MORE IMPORTANT THAN EVER IN THE FACE OF CLIMATE CHANGE.

BY GABE GRIFONI

**18** IDENTIFYING METRICS THAT DRIVE A
COMPANY'S ERGONOMICS PROCESS

Similar to the components of a song, a single metric on its own is not as effective as the combination of metrics working together.

BY CHRISTY LOTZ

21 THE ROI OF SAFETY: MAKING
THE BUSINESS CASE FOR SAFETY
AND HEALTH

Workplace safety is an issue businesses can manage and control—if they have the right tools to measure the economic impact of occupational injuries and illnesses.

BY SANDY SMITH

24 10 KEY ELEMENTS FOR A WORKPLACE
HEAT SAFETY PROGRAM

Roughly half of the workforce is at an increased risk for heat illness—make sure you're properly protecting the health of your workers.

BY COURTNEY MINDZAK, MYLES DRUCKMAN,
NICOLAU CHAMMA



columns/departments

Healthy Attitude BY DAVE BLANCHARD	3	New Products	31
News Beat	4	Advertiser Index	31
Lessons in Leadership BY ADRIENNE SELKO	7	A Work in Progress BY NICOLE STEMPAK	32

Continuing Education for Safety Professionals: EHS Education

Every industry and workplace is impacted by occupational safety, and the need to keep workers safe from harm has never been greater. *EHS Today* has launched EHS Education, a new source of on-demand, self-paced continuing education courses on topics that are compelling, up to date and relevant to professionals involved in all activities in the workplace.

EHS Education delivers interactive courses, webinars and training materials designed to help both new and experienced environment, health and safety (EHS) professionals advance their knowledge and leadership capabilities. Taught by prominent subject matter experts, researchers and thought leaders, these courses

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DAVE BLANCHARD

Editor-in-Chief



WHAT EXACTLY IS A SAFETY LEADER ANYWAY?

We went straight to those who know best to get their insights into what safety leadership is all about.

This is my favorite column of the year to write (and maybe it's your favorite to read), as it gives me the chance to step aside and let the readers take over.

Every year, when we conduct the *EHS Today National Safety & Salary Survey* (see p. 8), we offer all respondents the opportunity to weigh in (anonymously) on any EHS profession topic they'd like.

And we get comments—*hundreds of comments!*—that when taken all together become a kind of tapestry of insights into what safety leadership looks like. This year's survey included 1,100 respondents (200 more than last year's survey), and as it'll become clear, safety leaders are as much alike as they are different, with the common denominator being a passion for keeping people safe. The best way I can describe who a safety leader is, what they do every day, and what kinds of workplace issues are most important to them, is to just let them tell you themselves:

- *The stress that is being caused right now from supply chain shortages is significant. Stressed employees are unhappy employees. With the slow supplies, manufacturers are putting more pressure on employees to get the production up, causing even more stress. We need a way to relieve some of the stress that is involved.*

- *As the cost of manufacturing goes up and the labor shortage prevails, more tasks are being added to existing staff, which results in workarounds that do not support regulatory and corporate safety and environmental directives.*

- *I am an EHS consultant. I would never work as the one-and-only safety manager in industry again. Too much stress and strain.*

- *As we are responsible for multiple electrical contractors, not all of our companies have an organizational commitment to safety. It is difficult, if not impossible, to drive safety to the workforce if your management team is not supportive.*

- *As we are more challenged with finding labor, we're finding more people who don't want to be engaged with their work—just collect a paycheck for a short time and leave.*

- *Investing in the employee (i.e., safety) is as important as investing in tools and equipment. This needs to be emphasized to management regularly.*

- *COVID burnout is real. It's been a struggle to stay in the EHS field where I'm consistently viewed as the bad guy.*

- *Our industry is wasting too much time on social and political correctness. It is taking us away from our primary mission, which is to provide a safe work environment for our employees.*

- *Mental health awareness and how to deal with it is a challenge for safety professionals who have been in the field for an extended period of time.*

- *Too many EHS departments don't consider the needs of the business along with EHS goals.*

- *My company encourages certifications in safety and pays for those certifications. This is very encouraging.*

- *It is becoming more important to provide meaningless paperwork to the construction managers than it is to be out on the jobsite providing safety training to the employees who need it.*

- *Currently seeing the field transition with many EHS professionals retiring. More institutions need to provide internship programs.*

- *The biggest challenge is doing more with less and having to meet the expectations of great outcomes—expecting culture changes to occur with no commitment or encouragement from mid-level management. EHS is viewed as a necessary evil versus a value-added commodity with long-term positive impact.*

- *I love what I do and the time that I put towards training the workforce; it shows huge dividends.*

- *We're going through a merger of multiple companies. They've taken the one-size-fits-all approach for safety. Due to the fact that the range of work, company, risk, workforce, etc., varies not only by company but also by site, this approach does not work.*

- *As a young woman in the field, it is hard to get the respect I deserve.*

- *Skilled safety professionals are leaving the workplace for other positions, which leaves gaps in the safety department in terms of personnel and institutional knowledge.*

- *COVID has brought to light the importance of safety professionals, and now we need our pay to reflect this.*

- *I've been a safety professional for more than 25 years and have enjoyed the industry I work in immensely. My motto is: If I won the lottery I would do this for free.*

That's just a small sampling of comments we received. You'll find an even larger collection of comments on ehstoday.com. As ever, we're grateful for the willingness of safety leaders to share the challenges, frustrations, accomplishments and celebrations that characterize a life dedicated to occupational health and safety. Please feel free to share your own definition of what a safety leader is ... after all, who would know better than you?

Dave Blanchard

Send an e-mail with your thoughts to dblanchard@endeavor2b.com.

ESG Performance Boosted by Sustainable Technology Strategy

Ninety-two percent of companies surveyed aim to achieve net-zero targets by 2030.



SURASAK SUWANMAKE | DREAMSTIME

By now, most businesses have voiced their intentions to set specific environmental, social and governance (ESG) goals. However, not all companies have other business strategies aligned to meet these goals.

Only 7% of respondents have fully integrated their business, technology and sustainability strategies, according to a recent study from Accenture, “Uniting Technology and Sustainability: How to Get Full Value From Your Sustainable Technology Strategy.” That’s despite having ranked technology as important or very important for achieving their sustainability goals.

While companies see clear value in having an integrated strategy, they cite a lack of solutions and standards (40%), complexity (33%) and lack of awareness of unintended consequences of technology (20%) as barriers to reaching their goals. This gap between intent and action leads companies to make trade-offs between business and sustainability goals—trade-offs that can be reduced or eliminated with a holistic, sustainable technology strategy.

Looking at how the leadership can play a role, it turns out that only 49% of chief information officers (CIOs) are part of the leadership team setting sustainability goals and just 45% are assessed on achieving these goals.

“Every business must be a sustainable business, and technology is a critical and fundamental enabler—from improving transparency and traceability in global supply chains, to helping measure and reduce carbon emissions,” said Sanjay Podder, technology sustainability innovation lead at Accenture, in a statement. “It is no longer simply optional to put sustainability at the core of how organizations operate. A sustainable technology strategy—one that embeds sustainability in technology, drives sustainability by technology and

scales sustainability by engaging the ecosystem—will help companies deliver 360° value and contribute to the achievement of their broader sustainability goals.”

Accenture notes that an effective sustainable technology strategy helps drive business growth and ESG performance by delivering on three key imperatives:

Sustainability by Technology

Using the power of technology to enable and accelerate sustainability efforts across the organization. Ninety-two percent of companies surveyed aim to achieve net-zero targets by 2030, which will require deployment of advanced technologies to measure, reduce and remove an organization’s carbon footprint. Technology is also key for moving toward responsible value chains, promoting sustainable choices for customers and building a sustainable organization. Of the companies surveyed that successfully reduced emissions in production and operations, 70% used AI to do it.

Sustainability in Technology

Protecting people and the planet by making technology itself progressively more sustainable. As more people go online and the use of technology increases, so do the carbon emissions. It will become a priority to embrace green software that is both carbon-efficient and carbon aware; build trustworthy systems that incorporate privacy, fairness, transparency, robustness and accessibility; and institute the right governance mechanisms. Only two of the 560 companies surveyed said they consider energy efficiency at all stages of the software development life cycle, indicating considerable room for improvement. The report identifies a robust green software development framework that prioritizes material emissions areas, including the software development life cycle, as well as green digital experience, cloud, edge, data centers, AI, distributed ledger technology and infrastructure.

Sustainability at Scale

Pursuing breakthrough innovation with ecosystem partners to develop radically different and more sustainable ways of doing business in the future. No organization can address global sustainability challenges at scale on its own. Companies must work beyond the boundaries of their own organizations to meet the United Nations Sustainable Development Goals (SDGs). Forty-three percent of companies surveyed are now joining industry collaborations, alliances and advocacy groups focused on eco-friendly technology.

“Creating and implementing a comprehensive sustainable technology strategy—one that uses technology to drive sustainability at scale while also making technology itself more sustainable—is now the core mission of the purpose-driven CIO,” Podder adds. “The responsibility is huge, but the opportunity to drive new sources of value and lead the way to a more sustainable future is even bigger.” **EHS**

C-suite May Soon Join the Great Resignation

A majority of executives are seriously considering changing jobs in an effort to improve their well-being.

Employees aren't the only ones who are struggling at work.

A recent survey from Deloitte and independent research firm Workplace Intelligence found that 57% of employees and nearly 70% of the C-suite said they are seriously considering quitting for a job that better supports their well-being. Even so, the C-suite largely doesn't recognize that workers are struggling with their well-being, which has the potential to exacerbate labor shortages further.

"To make well-being a reality, leaders need to first look at redesigning the work in their organization," said Steve Hatfield, Deloitte's Global Future of Work leader, in a statement. "By integrating well-being into the design of work itself, organizations can strengthen the link between employee well-being and organizational performance."

Key findings from the report include:

- **Jobs are harming workers' well-being, and many say they will eventually quit.** A majority of employees (63%) and the C-suite (73%) report that their job doesn't allow them to take time off from work and disconnect. Results also show that for 68% of employees and 81% of the C-suite, improving their well-being is more important to them than advancing their career right now.

- **The pandemic has worsened everyone's health, but executives don't realize how much their employees are struggling.** About one-third of all workers and executives say they "always" or "often" feel exhausted, stressed, overwhelmed, lonely or depressed. Despite this, only around half of employees and two-thirds of the C-suite report that they use all their vacation time, take breaks during the day, get enough sleep, and have enough time for friends and family.

- **Despite their own struggles with well-being, executives are significantly overestimating how well their employees are doing and how supported they feel.** Only 65% of employees rate their physical health as "excellent" or "good," but 89% of executives believe their workers are thriving. Just 56% of employees think their company's executives care about their well-being, but 91% of the C-suite see themselves as caring leaders.

- **The C-suite must take greater ownership and action around matters of health.** A whopping 95% of the C-suite agree that they should be responsible for employees' well-being, but these sentiments aren't translating into action. A majority (68%) admit they're not doing enough to safeguard employee and stakeholder health. **EHS**



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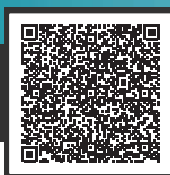
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Compliance Reporting Drops 30% Due to Pandemic

A new study finds the kinds of misconduct, as well as reporting frequency, is changing. That puts workers at risk.

Employees are less likely to observe misconduct and even less likely to report it, according to a recent survey from Gartner, Inc. Compliance reporting has fallen by 30% since the onset of COVID-19.

“Since the pandemic, employees are a lot less likely to speak up if they sense something is wrong, whether or not the frequency of misconduct is higher or lower,” said Chris Audet, senior director of research in the Gartner Legal, Risk & Compliance practice in a statement.

Misconduct is certainly still occurring, albeit in changing ways. And compliance is hearing about it 30% less frequently than before. Gartner found remote employees observe 11% less misconduct than their in-office peers.

The compliance reporting that is happening tells a complex story. There’s been a decline in observed misconduct around travel, gifts and entertainment, as opportunities for those kinds

of misconduct have been significantly lower. Meanwhile, misconduct around bullying, intimidation and unwanted behavior are up 7% for remote workers. Similarly, misuse of time and company assets is up 3%.

There are also new forms of misconduct that are emerging due to a virtual environment, such as inappropriate video back-grounds or online behavior.

“Compliance is generally great at putting measures in place that drive compliance reporting in an office setting,” Audet said. “For example, nearly all compliance leaders have created multiple reporting channels to boost ease of reporting, and four-fifths have standalone anti-bullying or anti-retaliation policies.”

What some compliance leaders are missing is how to translate that virtually. “In many situations, remote employees are going to tell themselves reporting isn’t the right thing to do purely in terms of self-interest,” Audet said. “They are making a cost-benefit calculation and can envisage speaking up working out badly for them.” **EHS**



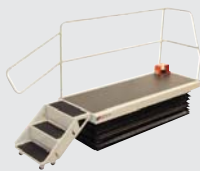
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Adrienne
Selko

Senior Editor



Is Safety Tech Ready for Prime Time?

Augmented reality offers a high-tech and safer way to train new workers coming into dangerous situations.

As safety is a continuous journey, so is technology adoption. While there are several exciting and innovative technologies that enhance safety, there are still some bugs to be worked out.

I recently talked with Joy Gaughan, lead instructional designer at GP Strategies Corp. and owner of Learning Joy, LLC, to get her take on some technology trends.

Simulation, in the form of augmented reality (AR) and virtual reality (VR), has gained notoriety for its training functionality. It's AR, which adds digital elements to a live view, that is more widely implemented rather than VR, which replaces a real-life environment with a simulated one.

"In talking with EHS professionals who work in manufacturing companies, many are starting to use some AR on the machinery because it's an effective way for them to provide simulations on how to operate machinery, which can lower the risk for both early-stage and new employees," says Gaughan.

Getting a feel for how things work can be applied across functions. "Crane operation is another application perfect for AR. You don't want someone picking up a 100-ton piece of metal just to practice, right? Using a virtual space provides an excellent way to understand and feel the movements." And AR is useful in fall protection training, too. "An employee can feel the height and practice tying off and staging," says Gaughan.

The adoption of this technology is becoming more widespread due to dramatic decreases in cost. "It's much more economical for a company to purchase 10 headsets, bring employees into a classroom and train everyone at the same time, thus lowering the ROI of the investment," she says. The headsets used to be big-ticket items, she notes, making it difficult for companies to gain a reasonable ROI.

While AR is coming down in price, that isn't the case yet with VR. The cost of production, access to equipment for extended periods of time and course development costs are still out of range for most companies.

However, both technologies will continue to show up in company training toolkits as they offer a workforce advantage: VR and AR are the preferred method of training for younger workers. Gaughan provides another example of a spray-painting simulation that doesn't use paint. "This is a safe and an inexpensive way for 18-, 19- or 20-year-olds to learn. They aren't exposed to some of the hazardous paints while practicing, and they learn very quickly using this method."

Another technology that has become more sophisticated, less expensive and easily accessible is video. And using 3D cameras has really improved the quality and content. "Video production is much faster and can be used in so many ways to train on safe procedures," notes Gaughan.

Designing the training delivered through these tools presents challenges in today's climate. "Companies are hiring people right out of high school or community college, and many [of these young people] lack basic skill sets. So, they must be brought up to speed even before the company can make the determination if they will be successful for the job they were hired to do," Gaughan explains. This puts additional strain on employers that, in some cases, must take a step back in their spending on these newer technologies.

Gaughan feels that despite the challenges, these technologies are clearly part of any future training and, as is true with any technology, it has to be paired with the human experience. "There needs to be a blended approach that includes the human element," she says. "You need to feel how the equipment moves and shakes and how that affects its operation. This is especially true when it comes to safety, so while a person has been through simulation and is adept, they still need supervision on the job."



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Adrienne Selko

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ARE YOU BEING PAID WHAT YOU'RE WORTH?

The 2022 National Safety & Salary Survey reveals that safety leaders are increasingly being asked to do more with less.

By Dave Blanchard

Where did everybody go?

That question, more than any other, pretty much sums up the state of mind of safety managers in the U.S. in 2022. When *EHS Today* asked the 1,100 respondents to our **2022 National Safety and Salary Survey** what the biggest challenge they faced was, by far the most common answer was a need for more staff, more employees, more resources, more support, or similar statements lamenting too much work and not enough workers.

That probably doesn't surprise anybody reading this article, since the respondents are *EHS Today* readers, but it does illustrate that no matter where safety leaders work, and no matter what industry they work in, they share a common concern: There aren't enough good employees to go around. If you've grown weary of being asked, over and over and over again, to do more with less, then rest assured that you're not alone.

With COVID-19 showing no signs yet of receding as it spawns ever-

infectious new variants, safety leaders are nevertheless expected to have not only protected their workforce throughout all the various pandemic protocols but to have successfully transitioned employees back into something resembling pre-COVID levels of productivity. And they're expected to do all that while facing severe labor shortages that require safety professionals to wear many hats. As one respondent put it, "I am a one-person department with multi-facility responsibility."

The goal of our annual survey is to paint as full a picture as possible of a typical safety leader (not that there really is such a person), based on which responses to any given question appear most frequently. We asked a lot of questions, and we're indebted to everyone who took the time to not only provide us with answers to our demographics questions, but also to sharing (anonymously) the highs and lows of working in the safety profession.

So, after we crunched all the numbers, we can tell you that the average EHS manager is a white male in his 50s who lives in the Midwest. He has more than 20 years of professional experience, works for a manufacturing company and manages a staff of fewer than 10 people. He earns \$99,609, and last year he received a raise of just under 7%. It's quite possible that at least some of you come relatively close to matching that description, but it's at the edges, not the middle of the survey results where things get really interesting.

THE NATURE OF THE JOB

As you can see in the chart titled, "Average Salary by Industry," (see p. 10) the safety professionals who responded to the survey are far from a homogenous bunch, as they work in a couple dozen different industries and sectors. The highest paying sector is research/technology with an average salary of \$131,865, but that sector represents just 2% of the total responses. Other high-paying industries include waste/recycling (\$126,941), mining (\$126,287) and insurance (\$121,700), but they only represent a fraction of the total distribution of safety professionals—1%, 1% and 2%, respectively.

By far the largest group of respondents (29%) work in manufacturing. Light

manufacturing (e.g., apparel, small appliances, household goods) accounts for 15% of the responses and pays an average of \$89,376. Heavy manufacturing (e.g., aerospace, automotive, generators) accounts for 14% of responses with an average salary of \$98,129. The construction industry is also well represented in the survey, with 15% of responses and an average salary of \$106,512.

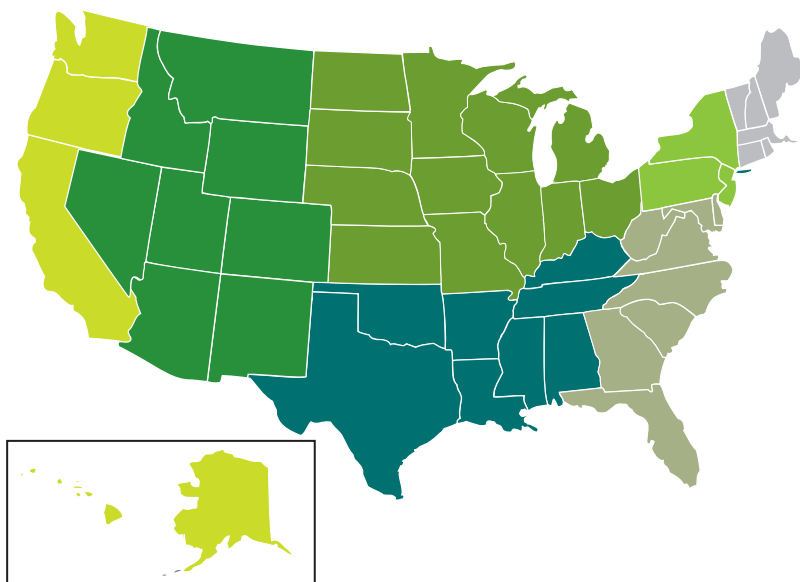
Another interesting feature of the survey is its geographic spread. While most of the respondents are located in the Midwest (where historically much of the manufacturing plants are also located), the 30% of you who live there are not the highest paid. The average salary of Midwest-based safety leaders is \$95,174, which is actually the lowest salary of the geographic regions of the U.S. The highest-paying region (though only accounting for 9% of the response total) is the Middle Atlantic region, which includes New Jersey, New York and Pennsylvania. However, the higher

cost of living in those states might give a Midwesterner pause before deciding to relocate.

We speak generically of "safety leaders," but of course there are various levels of responsibility that the term encompasses, along with commensurate salary levels. For instance, those with a title equivalent to an EHS director/VP earn an average salary of \$133,643; those who are EHS managers/supervisors earn, on average, \$92,835; and EHS professionals (typically, those without any direct reports) earn \$82,894.

Seniority also is a big factor in how well safety leaders are compensated. Those who have more than 20 years of experience in EHS are paid, on average, \$117,358 (and 39% of respondents fall into that category). Conversely, those who are new to the field—with less than five years of experience—earn \$72,664.

In terms of diversity, equity and inclusion (DEI), the safety profession still has a long ways to go to achieve



AVERAGE SALARY BY GEOGRAPHIC REGION

Region (% of response)	Salary
■ Middle Atlantic (NJ, NY, PA) (9%)	\$112,747
■ Mountain (AZ, CO, ID, MT, NM, NV, UT, WY) (9%)	\$104,880
■ New England (CT, MA, ME, NH, RI, VT) (4%)	\$100,284
■ North Central (IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI) (30%)	\$95,174
■ Pacific (AK, CA, HI, OR, WA) (13%)	\$101,708
■ South Atlantic (DC, DE, FL, GA, MD, NC, SC, VA, WV) (16%)	\$98,343
■ South Central (AL, AR, KY, LA, MS, OK, TN, TX) (16%)	\$101,318
■ Other North America (3%)	\$80,951

AVERAGE SALARY BY INDUSTRY

Industry sector (% of response)	Salary
Chemicals (6%)	\$113,073
Construction (15%)	\$106,512
Consulting (5%)	\$120,132
Education (5%)	\$79,374
Food & Beverage (1%)	\$84,550
Forestry & Agriculture (2%)	\$81,696
Government (9%)	\$87,523
Heavy Manufacturing (14%)	\$98,129
Insurance (2%)	\$121,700
Light Manufacturing (15%)	\$89,376
Medical/Healthcare/Pharmaceutical (4%)	\$101,906
Mining (1%)	\$126,287
Oil & Gas (3%)	\$110,076
Research/Technology (2%)	\$131,865
Retail (1%)	\$82,375
Transportation (1)	\$88,875
Utilities (5%)	\$112,837
Warehousing/Distribution/Logistics (4%)	\$81,609
Waste/Recycling (1%)	\$126,941
Other (e.g., Engineering, Entertainment, Security) (4%)	\$94,729

AVERAGE SALARY BY JOB RESPONSIBILITY

Position (% of response)	Salary
Consultant/Academic (7%)	\$104,246
Corporate/Executive/Senior Management (4%)	\$156,091
EHS Director/VP (14%)	\$133,643
EHS Manager/Supervisor (33%)	\$92,835
EHS Professional (25%)	\$82,894
EHS&S (Sustainability) Professional (3%)	\$91,509
HR Manager (1%)	\$83,280
Industrial Hygienist (1%)	\$111,376
Operations/Plant Manager (4%)	\$91,714
Risk Manager (3%)	\$105,138
Training Manager (2%)	\$78,734
Other (e.g., Compliance, Ergonomist, Quality) (3%)	\$85,306

AVERAGE SALARY BY GENDER

Gender (% of response)	Salary
Female (31%)	\$91,219
Male (68%)	\$103,156
Non-binary/Prefer to self-describe/Prefer not to say (1%)	\$110,906

AVERAGE SALARY BY EXPERIENCE

Years in EHS field (% of response)	Salary
Less than 5 (12%)	\$72,664
5-10 (22%)	\$83,287
11-15 (16%)	\$98,440
16-20 (11%)	\$100,736
More than 20 (39%)	\$117,358

anything remotely resembling gender or ethnic parity. Men outnumber women by more than a 2:1 ratio (68% vs 31%) and are paid on average nearly \$12,000 more (\$103,156 vs \$91,219). At first glance, white/Caucasians seem to be in the middle of the salary range at \$98,906, but a closer look reveals they also account for more than 8 out of every 10 jobs. Black/African-American safety leaders have the highest average salary at \$104,642 but account for only 4% of the total number of jobs.

Almost three-quarters (73%) of respondents told us they received a raise over the past year (a big jump from the 61% who said the same in the 2021 survey). Of that number, 20% said their raise was 5% or more, which is a good sign in these inflationary times. Annual bonuses don't seem to be nearly as prevalent, though, as almost half (45%) of respondents said they didn't receive a bonus last year.

Besides the increase in average salary (although your mileage might vary), another good sign for the safety profession is the overall level of satisfaction within its ranks. Despite all the

If you could change one thing about your job, what would it be?

- "The ability to approve and implement capital investments to improve the safety of the facility."
- "Management's knowledge of what a 'modern-day' EHS professional's areas of expertise encompass."
- "Internal IT systems that communicate more broadly with external systems."
- "Less focus on facilities maintenance—that is a time thief."
- "Eliminate the 'safety is out to get us' attitude. We need to be looked at more as coaches and advisors."
- "Bring back a safety committee and not make safety always about funds and funding."
- "Reduce the number of lagging indicators being required by the organization and apply more effort at the proactive leading indicator side."
- "If I worked for a different company, there may be something to change, but with my current organization I'm happy with my position and the way in which EHS is viewed."



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CHANGE IN BASE SALARY OVER PREVIOUS YEAR

(% of response)	Salary
Increased more than 5%	20%
Increased 3-5%	24%
Increased 1-3%	29%
No change	24%
Decreased 1-3%	1%
Decreased 3-5%	1%
Decreased more than 5%	1%

AVERAGE SALARY BY ETHNIC BACKGROUND

Ethnic background (% of response)	Salary
Asian or Pacific Islander (2%)	\$104,038
Black/African-American (4%)	\$104,642
Hispanic/Latino (5%)	\$97,106
Native American or Alaska Native (1%)	\$89,556
White/Caucasian (82%)	\$98,906
Other/Prefer not to say (5%)	\$108,179

AVERAGE SALARY BY AGE

Age (% of response)	Salary
18-24 (1%)	\$66,546
25-34 (10%)	\$80,057
35-44 (16%)	\$95,798
45-54 (27%)	\$100,394
55-64 (34%)	\$108,284
65 and older (12%)	\$98,119

HOW SATISFIED ARE YOU WITH YOUR CURRENT JOB?

	% of response
Very satisfied	28%
Satisfied	46%
Neither satisfied nor unsatisfied	16%
Unsatisfied	8%
Very unsatisfied	2%

HOW SATISFIED ARE YOU WITH EHS AS A CAREER PATH?

	% of response
Very satisfied	46%
Satisfied	37%
Neither satisfied nor unsatisfied	12%
Unsatisfied	4%
Very unsatisfied	0.2%

HOW HAS YOUR COMPANY'S BUDGET FOR EHS CHANGED OVER THE PAST YEAR?

	% of response
Increased	24%
Stayed the same	67%
Decreased	9%

issues, challenges and labor issues facing safety leaders on a daily basis, the percentage of those saying they're satisfied or very satisfied with EHS as a career path remains unchanged from last year: 83%. Also, the number who said they're satisfied with their current job dropped only 2% from a year ago, from 76% in 2021 to 74% in 2022.

In gauging the evolution of the profession, we also asked about various initiatives that have emerged in recent years and, in many cases, been assigned to safety leaders to champion. For instance, 71% of respondents say their companies have a workplace wellness program; 67% of their companies have a DEI initiative; and 56% have a sustainability/ESG (environmental, social and governance) program underway.

Some more good news, especially for those wondering how much additional responsibility safety leaders can be expected to take on: 82% of respondents report that senior

DO YOU ANTICIPATE (OR DID YOU ALREADY RECEIVE) A RAISE TO YOUR BASE SALARY IN 2022?

	% of response
No	28%
Yes, between 1-3%	40%
Yes, between 3-5%	22%
Yes, more than 5%	10%

DOES YOUR COMPANY HAVE A DIVERSITY, EQUITY AND INCLUSION (DEI) INITIATIVE?

Yes	67%
No	33%

DO YOU FEEL THAT FEDERAL OSHA/YOUR STATE OSHA HAS DONE AN EFFECTIVE JOB DURING THE PANDEMIC?

Yes	75%
No	25%

management at their organizations are providing active and visible support for EHS. And while not quite as impressive, 70% of those organizations prioritize safety over production and other business demands. Still, there's a sense that the widening of responsibilities isn't being accompanied by additional staff to help shoulder some of the tasks. As one respondent remarked, "I'd like more than one person in the organization to be involved with sustainability."

Traditionally, at the end of every workday, safety leaders used to be judged by how many workers left for home in the same condition that they arrived, i.e., injury-free. Today, the yardstick for safety leaders has gotten considerably longer, as they're expected to keep workers safe wherever they are—in a facility, at a worksite, on the road, in a home office—and not just physically but emotionally and psychologically as well. The E and the H of EHS are just as vital as the S. If it seems like EHS professionals do the jobs of three different people (if not more), well, based on the survey results, that's a pretty reasonable conclusion.

Thanks to all those who participated in the **2022 National Safety & Salary Survey** and for sharing with your colleagues all the joys, frustrations and ambitions that characterize EHS leaders. **EHS**

The Rest of the Story

You can find more salary information and insights from the 2022 National Safety & Salary Survey at ehstoday.com. *EHS Today* editors will be hosting a free webinar on Aug. 15 delving even deeper into the results; you can register at tinyurl.com/35e7snzp.



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DEI IN THE WORKPLACE: Time to Break Down the Silos

A diverse workforce is one that can best uncover and encourage each individual's talents.

By Adrienne Selko

Diversity, equity and inclusion (DEI) has moved, due to a myriad of reasons, from the initiative status to a strategic necessity. Much of the emphasis in developing DEI programs is to recognize the varying backgrounds, cultures and other characteristics of specific groups of people. Understanding, appreciating and—most importantly—including every employee and tapping into their knowledge are at the heart of DEI's mission.

In the safety realm, the strategy has moved to the understanding that when employees can be their authentic selves and therefore feel secure at work, they can then extend their safety reach toward the entire organization. By clearly identifying, and even labeling, groups of individuals whose contributions might have been overlooked and creating a structure of inclusion, a level playing field is created, which can affect safety in a positive manner.

However, there is another side to this

coin. Are we creating even more siloes by placing people in such categories? Are we missing the much larger picture of looking at everyone equally as humans first?

This article will explore both of those viewpoints. Lorraine Martin, CEO of the National Safety Council (NSC), weighs in on how safety begins at the individual level. Carl A. Hamilton, manager of loss control and risk management services at CooperPoint Insurance Co. and chair for the Blacks in Safety Excellence Advisory Committee for the American Society of Safety Professionals, explores how breaking down silos and expanding our views is the future of safety culture.

A SECURE EMPLOYEE IS A SAFE EMPLOYEE

"If you view safety from the perspective of a company culture at the highest level, safety means having each other's back,"

says Martin. "Our heads are in the game, and we are watching out for each other. Therefore, all leaders—safety professionals included—need to understand the diversity of who they need to serve."

To watch out for each other, employees must "feel that their voices matter, and they are able to use that voice to keep everyone safe," she adds.

Therefore, it becomes the role of companies to create an environment where people are able to speak up when they see unsafe processes and not worry about retribution. "In company cultures where employees may not feel safe or don't feel included, the first reaction to seeing an unsafe situation is to mind your own business," explains Martin. "This culture of non-belonging and potentially fear causes safety hazards to go undetected."

Why wouldn't someone speak up? Well, that's where the cultural differences come into play.

"To understand this hesitancy to speak up, a company must understand the employee's perspective. How do they feel when they come to their workplace? Do they feel they have the ability to bring their voice and their full self to work?" asks Martin. She does see some progress in this area. "We have moved to a place

“We have moved to a place to where companies understand that talent comes from a diverse world. The key is to have a culture that supports those individuals so they can fully participate in the company and its safety culture.”

—Lorraine Martin, National Safety Council



ANNA SEDYSHEVA | DREAMSTIME

where companies understand that talent comes from a diverse world. The key is to have a culture that supports those individuals so they can fully participate in the company and its safety culture.”

And in keeping with this forward movement, in May 2022 the NSC introduced the DEI Safety Champion Recognition program to honor organizations that “strive not only to ensure physical safety but foster an environment where every employee feels secure, welcome and included.”

DATA-DRIVEN DIVERSITY

Understanding the needs of different groups can be based on using data. NSC, which has been around for more than 100 years, has a mission of seeking out methods to prevent injury and potential death.

“We accomplish our mission by looking at the data and seeing what it’s telling us—not only what is putting people at risk, but who is at risk,” notes Martin. For example, a look at data from the construction industry shows that a large number of employees are Hispanic, and

they are injured at a higher rate. Why is this? It could be due to a language barrier or other factors.

“Look at your own data and understand what’s going on. What’s unique about that data and what can you do to make sure that everyone is safe?”

MOVING AWAY FROM SILOS

From Hamilton’s perspective, keeping everyone safe involves minimizing risk. “What I try to remember is who we are as safety professionals. We have a role to protect the organization’s assets and property as well as human capital from any kind of exposure. Human capital exposure includes physical, environmental and I now include DEI in my assessment. I look at DEI as an exposure and seek ways to mitigate the risk from an enterprise perspective.”

Minimizing any risk involves training. “People need to be trained to understand how the culture and vision of the organization is enhanced in an environment that has specific processes and metrics tied to a DEI program,” says Hamilton.

This process is where Hamilton takes

exception to how we currently view DEI. “Everyone has a story and needs to tell that story of who they are,” says Hamilton. “But putting people into categories such as Black or LGBTQ+ further separates people when the point is to view everyone as a human being. You hurt yourself as an organization if you put people into these slots or silos. The questions we should be asking are: What does the organization need? What does this person have to offer?”

Hamilton understands that view is, in fact, a culture shift. “If you are going to move a culture, it takes a long time, and you have to have a strategy. Start with good data and then find a solution,” he says.

And this is exactly what the safety profession is doing by including psychological safety in ISO 45003, he points out. ISO 45003 is a global standard that provides guidance on managing psychological health in the workplace. It looks at psychosocial risk, which ISO states is the “combination of the likelihood of occurrence of exposure to work-related hazard(s) of a psychosocial nature and the severity of injury and ill-health that can be caused

by these hazards.” ISO also notes that well-being at work is part of the equation and states it’s the “fulfilment of the physical, mental, social and cognitive needs and expectations of a worker related to their work.”

Hamilton sees standardizing these concerns as an important milestone for the profession. “This goes way past DEI, but it’s in line with what I teach safety experts, which is that safety encompasses an expansive view that includes the psychological impact of a variety of variables on the employee. Those can include the physical structure and social factors at work, all the way to the neighborhood where a facility is located. All of a sudden, through this standard, a business has to look at things that had no bearing on profitability historically. It’s a real opportunity to think outside of the box.”

But thinking outside of the box does not mean you have to reinvent the box, Hamilton adds. “There is nothing new under the sun,” he says. “We have the tools, but we need to look at things differently.



“The pandemic has proven this. This tragedy has taught us to become better human beings. From a work perspective, the pandemic has taught us to view each employee as a person with a va-

riety of concerns and how to adapt to those issues to ensure productivity. We should view the diverse workforce not from a siloed angle but from how best to uncover an individual’s talent.” **EHS**

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How to Prevent Injuries and Deaths Due to NATURAL DISASTERS

ROMULO TAWAN | DREAMSTIME

Safety technology is more important than ever in the face of climate change.

By Gabe Grifoni

Rain or shine isn't just the motto for mail carriers in the U.S. The same could be said for warehouse workers. In the supply chain world, they're an important link in the chain to make sure goods get from point A to point B. Any disruption can cause major delays and problems.

That's exactly what happened to an Amazon warehouse in Edwardsville, Ill., after it was struck by a tornado last December. Amazon said workers at the warehouse had little time to prepare when the National Weather Service declared a tornado warning on a Friday night. The tornado arrived soon after, collapsing both sides of the warehouse and caving in its roof.

Tragically, six people were fatally injured and another was severely injured. OSHA inspectors looked into whether workplace safety rules were followed and ultimately issued a Hazard Alert Letter to Amazon, requiring the online retailer to review its severe weather emergency procedures.

The incident raises a big issue in warehouse safety. In today's current climate, warehouse workers face not only increas-

ing pressure from supply chain delays and worker shortages, but also natural disasters exacerbated by climate change. As warehouse workers face more risks than ever in the logistics industry, how can operations managers keep their teams safe while minimizing disruptions?

CLIMATE CHANGE AND WEATHER-RELATED DANGERS

What happened in Edwardsville wasn't a one-off event. Unfortunately, workers will face greater risk of being trapped in warehouses due to tornados, hurricanes, fires and other natural disasters as the effects of climate change make our environment less habitable and more dangerous.

As the Earth's temperature continues to rise, natural disasters and extreme weather will become more frequent and/or severe. This increases the annual probability of events that are more intense than manufacturing assets are constructed to withstand, increasing the likelihood of further supply chain disruptions.

For example, tornado activity is picking up throughout the Southeast and in the southern portion of the Midwest.

Research also shows tornadoes are clustering on fewer days in the year so that days with multiple twisters are becoming more common. While it is difficult to prove a direct cause of climate change as the culprit, the data show growing amounts of tornadoes in regions throughout the year and a new epicenter of tornadoes forming in the southern U.S.

It's not just tornadoes that pose a concern; the probability of a hurricane of sufficient intensity to disrupt semiconductor supply chains may grow two to four times by 2040. Furthermore, the probability that heavy rare earths production is severely disrupted from extreme rainfall may increase two to three times by 2030.

In the wake of the growing evidence that climate change-related natural disasters are on the rise, there needs to be a demand for new guidelines that prioritize worker safety. What has worked in the past might not work tomorrow. It's imperative for managers to act now in order to protect their workers from what happened at Amazon's Edwardsville warehouse with clear action plans, depending on the particular weather threats of an area.

INFRASTRUCTURE AND OPERATIONS

Whether it's to protect against a hurricane or tornado, buildings need to be fortified for high force winds. A common form of damage during tornadoes is doors being ripped off, allowing high winds to enter the warehouse and cause further destruction to machinery, inventory and structural components.

Installing doors that can withstand very high winds can help companies avoid this problem. Similarly, large flat roofs are most prone to being damaged or torn from a building, so bracing the roof can help it stay attached.

And, in areas like California, earthquakes are a major concern. To keep inventory secure during an earthquake, rack storage should be bolted to the ground and seismic-rated, meaning it's been specifically tested for durability in times of ground motions often caused by earthquakes. Barriers on the front and back of rack shelving, such as wire mesh, can prevent falls during earthquakes.

Flooding from heavy rainfall and

hurricanes can cause numerous types of damage throughout a warehouse. Not only can it destroy inventory, but it can also negatively impact forklift engines, cause persistent moisture that can lead to mold growth and damage electrical systems.

The first step in preventing flood damage is to keep the interior of the warehouse dry. Drainage pipes can be fitted with non-return valves, and doors and ventilation spaces can be equipped with guards that can minimize water seeping through from the outside. Electrical installations and fuse boxes should be elevated so there's no chance they'll be submerged. Also, forklifts

where they need to go and what they need to do.

Most importantly, emergency preparedness isn't a set-it-and-forget-it type of plan. Make a point of revisiting the procedures, especially if you work in a warehouse with high turnover in employees or seasonal staff. It's important to revisit, reevaluate and ensure everyone knows what to do and where to be in different emergency situations.

TECHNOLOGY

Another prevention element to implement is updated technology that enables constant communication to workers at risk in warehouses. Equipping the work-

When it comes to disasters, there's no chance of a proper response if you and your staff aren't well trained. Further, poorly prepared staff risk the chance of making a disaster worse.

and other warehouse vehicles can be stored on elevated loading bays or another lifted space to help protect them from water damage.

PREPAREDNESS TRAINING

When it comes to disasters, there's no chance of a proper response if you and your staff aren't well trained. Further, poorly prepared staff risk the chance of making a disaster worse.

There should always be a clear emergency chain of command set up before any problems occur. Each department should have both an appointed leader and a backup who will be responsible for gathering employees to the appropriate place. The meeting location should be known and agreed upon ahead of time, and a staff count needs to be taken by each section head when the group arrives at the predetermined location.

Each employee should be trained and tested on the emergency plans for evacuating the building. Warehouse managers should keep multiple copies of these plans visible throughout the facility, and staff should be reminded frequently of

force with up-to-date mobile, wearable devices with optimized communication and emergency alerts can help provide workers with more time to react to dangerous weather situations.

Investing in platforms that allow management to have a bird's-eye view of the location of all workers will provide operations with more efficient ways to get them to safety and ensure no one is unaccounted for. With proper mobile devices, workers can also communicate with management and loved ones to confirm their safety as well as receive any emergency plans and directions instantly in the event of a natural disaster.

Warehouse preparedness is never a bad investment. And with climate change trending the way it has been, it's become a pressing need, no matter what part of the country you live in. **EHS**

Gabe Grifoni is founder and CEO of Rufus Labs, the developer of a connected operator platform for warehouse and industrial environments, comprised of workforce analytics software and rugged wearable technology.



Identifying Metrics That Drive a Company's Ergonomics Process

Similar to the components of a song, a single metric on its own is not as effective as the combination of metrics working together.

By Christy Lotz

Metrics are a vital part of a successful ergonomics process. Typically, the need to implement an ergonomics process comes from the desire to reduce injuries and costs, which are lagging metrics.

Whether an ergonomics process is in early stages of implementation or further along, when identifying metrics for your organization, consider two questions:

- What do we want to achieve?
- How are we going to do it?

The answer to these questions can differ from company to company and from year to year, so staying loyal to one or two metrics is not going to ensure success. In fact, the key to success is understanding how different metrics combined will benefit your organization.

Leaning on a variety of metrics at different times or levels of maturity will keep your organization on the path toward success. Similar to the components of a song (melody, rhythm, bass and harmony), a single metric on its own is not as effective to an organiza-

tion (a.k.a. the audience) as the combination of metrics working together.

Let's dive deeper into the topic of metrics to help you understand what will work best for you. There are three categories of metrics to consider when implementing an ergonomics process:

- leading metrics (melody),
- activity metrics (rhythm) and
- Lagging metrics (bass).

LEADING METRICS

Leading metrics predict the likelihood that an event might occur. Among the three types of metrics, they are the most effective, as we're trying to predict what kinds of events might occur and how we can prevent musculoskeletal disorders (MSDs). Leading metrics should all be tied to risk and the reduction of risk. Systematically managing risk with a few leading metrics will satisfy leadership and keep the team results oriented. Examples include:

- percentage of workstations/jobs at

low risk,

- percentage reduction of MSD risk score and
- percentage of new workstations at low/no risk upon installation.

Leading metrics are the melody of your ergonomics process. Just as having more notes doesn't make the melody sound any better (only different), having too many leading metrics may make the process too chaotic. Therefore, select the appropriate one or two leading metrics to be the main metrics that guide your process.

ACTIVITY METRICS

You could have the best melody in the world, but if you don't have a strong rhythm, or the appropriate cadence, you can quickly move off track. Activity metrics are the rhythm, or the drumbeat of the song; they reflect actions taken or tasks completed. They don't measure how well something is performed or the impact on risk but rather specific activities the team is taking monthly, quarterly and annually to make sure they stay on track and consistent with their goals. Examples include:

- percentage of employees who have received training,
- number of jobs/processes assessed,
- number of workstations improvements identified,
- number of workstation improvements implemented and
- percentage of assessed jobs with a

follow-up assessment completed.

Unlike the melody, more activity in the rhythm section can elevate a song to the next level. The outcomes of risk assessment and improvement activities provide measures of risk level and risk reduction.

Select targets that will be easy for the team to complete—and will drive them through the job improvement process. For example, task the team with completing two assessments per month and also implementing two improvements on previously assessed jobs. This will ensure that improvements are being made and that the focus isn't solely on assessing jobs.

Consider which metrics will drive the desired behavior. For example, consider the image in **Figure 1**. A lot of assessments have been completed and improvements are being identified. However, too few improvements are completed, nothing is prioritized appropriately, no decisions are being made to move improvements forward and we are not completing the job improvement process. Adjusting the activity metrics will be effective because the team will focus less on the number of assessments and more on the number of improvements completed.

LAGGING METRICS

Lagging metrics are typically initial program measures. They are the reason why an organization may implement an ergonomics process in the first place. Frequent injuries and high costs are what set the majority of ergonomics processes in motion. There is no fault in lagging metrics being a driver for the process. However, reducing injuries and costs is more of an end goal to an effective process and less of a metric to monitor success throughout the process.

One of the main reasons lagging metrics are not a good measure of success is that the results require specific activities and actions, and this can take time to yield results. More steps are required along the way to know if you are on the right track. If, at the end of a year of your ergonomics process, you have not achieved the reduction in injuries or costs that you were aiming for, it does not mean you need to change your process. Rather, it means you just aren't seeing the results yet.

Injury and illness rate, days since the

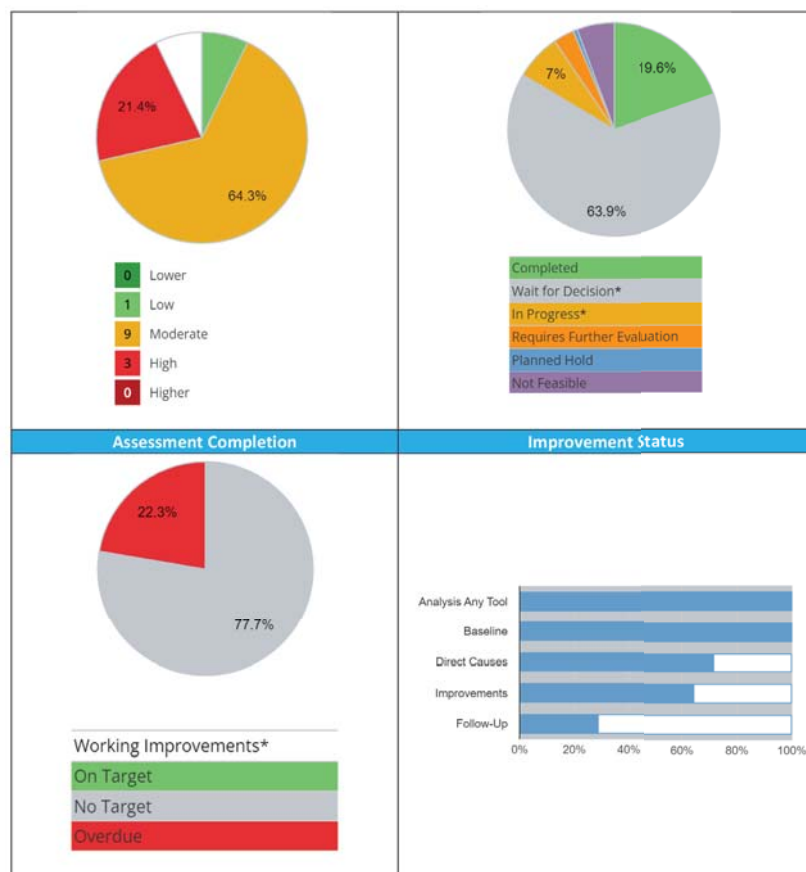


Figure 1 (VelocityEHS)

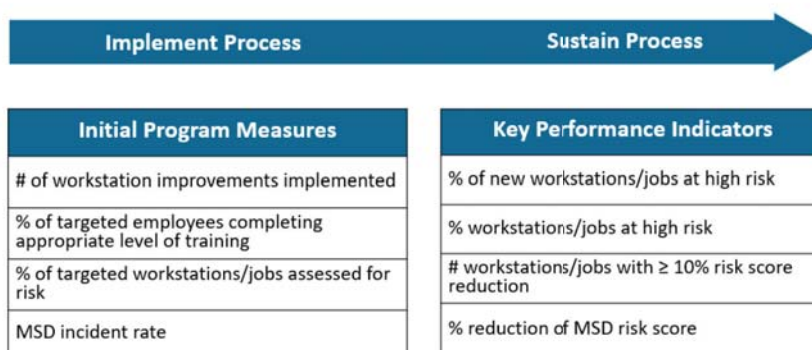


Figure 2 (VelocityEHS)

	Goal	Jan	Feb	Mar
Assessments	5/month	5	4	6
Improvements	1/month	0	1	1
Training	25 People/Month	22	30	25

Figure 3 (VelocityEHS)

Common Metrics				
Timing		Site		Division or Corporate
Launch/ Year 1 Metrics	S1	% of People Completing Assigned Training	C1	% of Sites with Hierarchy Built Out for The Humantech System
	S2	% Targeted Job or # of Assessments Completed	C2	% of Sites with an Implementation Plan Completed
	S3	# of Improvements Implemented	C3	% of Sites with an Ergonomics Team
	S4	# of Engineering Improvements Implemented	C4	% of Ergonomics Teams with ≥ 4 Job Functions Represented on Team
Ongoing Metrics	S5	Improvement (Points, %, or Just Documented Improvement) in Annual Process Review Score	C5	% of Sites with Process Review Completed
	S6	% of New Workstations/Jobs that are High Risk upon Installation	C6	Overall Organization <define percentage> Reduction in Risk Score
	S7	% of New Workstations that were Evaluated with Ergo Design Guidelines Prior to Arrival/Installation at Site	Any site level ongoing metric can also be appropriate to track at Division or Corporate level	
	S8	% or # of Jobs that are High Risk for the Whole-Body Assessment		
	S9	% or # of Jobs that have High MMH Risk		
	S10	% or # of Jobs that are High Risk at Least 1 Body Area		
	S11	% or # of Jobs with a <define value> Reduction		
Metrics Addressing Specific Issues	S12	% of Ergonomics Team Attending Meetings		
	S13	% of Job Assessments with Direct Causes Completed		
	S14	% of Improvements with a Targeted Date Assigned		
	S15	% of Improvements with a Responsible Person Assigned		
	S16	% of Improvements more than <define time frame> Overdue		
	S17	% of Improvements in "Waiting for Decision" Longer Than <define time frame>		
	S18	% of Improvements with a Decision Made within <define time frame>		

Figure 4 (VelocityEHS)

last injury, lost workdays and injury costs are all consequence data happening after the fact. They are still important measures to track, but they don't help us understand if we are moving in the right direction to achieve risk reduction goals.

Lagging metrics are like the bass of a song, which moves in contrast to the rhythm and melody. The bass is important—even vital—to a song's success, but it is not as effective on its own.

COMMUNICATING PROGRESS

Lean on all of the aforementioned measures based on where you are in your process, the culture of your organization and assessment of what is working or not working. For example, consider easy activity metrics when initially implementing the process. As you move into sustaining the process, challenge your organization to move toward more leading key performance indicators (KPIs) that require the team to focus on risk reduction and implementing actions to improve the workplace (see Figure 2).

Remember that metrics are not set

in stone. Feel free to adjust what isn't working for your executive team, ergonomics team or the rest of the workforce. Switching metrics midyear is not a sign of failure; in fact, it helps highlight that you are engaged and flexible. Give metrics time to determine if they'll work for your teams, but don't be afraid to adjust. Often, making adjustments reinvigorates the process and will ultimately make it more successful. The worst thing to do when going down the wrong path is to not turn around.

Just as important as identifying the metrics is the way progress is communicated: How often? To whom? And how? Communication is the harmony of the song, an assist to make everything sound better. Good communication will bring everything together, improve popularity and ensure longevity.

Depending on the audience, you'll want to present information in different ways. Limit visual tracking to the key measures you want to highlight. For activity metrics specific to an ergonomics team, consider a simple color-coded scorecard (see Figure 3). They'll refer to this often to quickly understand if they're on track.

What about your leadership team?

They won't want to get into the weeds of how a song is made—they'll just know a good song when they hear it. It's therefore important to present your leadership team with evidence of progress toward broader goals (see Figure 4).

Look for ways to present information based on the types of questions they'll be looking to answer: How much is this going to cost? When do we expect to see ROI? How successful have we been to date? Do you need anything from me?

To be most efficient and impactful, metrics should be accurate, understandable, meaningful, scalable, actionable and in real time. Although leading measures provide an early warning system and are the most effective way to track the success of an ergonomics process, the best processes don't focus on a single metric.

Just as a song is much better as the sum of its individual parts, the same applies to ergonomics metrics: Use each to make the whole better. **EHS**

Christy Lotz, CPE, is director of ergonomics and senior global enterprise account executive with VelocityEHS, a provider of EHS software solutions.

THE ROI OF SAFETY:

Making the Business Case for Safety and Health

Workplace safety is an issue businesses can manage and control—if they have the right tools to measure the economic impact of occupational injuries and illnesses.

By Sandy Smith

The road to workplace safety and health regulations is long and twisty. Over the years, millions of workers have died as a result of injuries and illnesses caused by their work or workplace—caused, in fact, by employers that perceived safety as a cost center and workers as an easily replaced commodity.

doing business.

This perception stemmed, in part, from consumer safety. Companies felt it was cheaper to pay a large legal settlement than change a manufacturing process or product design.

Probably one of the most well-known safety advocacy efforts was the fight to install seat belts and other safety-related

and injuries—that don't occur. Unlike consumer safety issues, workplace injuries and deaths are often handled outside of the courtroom, by employer attorneys negotiating citations and fines with regulatory agencies and the filing of workers' compensation claims.

Only high-profile cases with large numbers of casualties or those that have an impact on the surrounding community or environment tend to make the news, such as the Deepwater Horizon drilling platform fire and explosion, the Bhopal methyl isocyanate gas leak and the Upper Big Branch Mine disaster.

Investigations of these tragedies often highlight issues similar to those found in consumer safety cases:

- Employers knew about—and ignored—hazards, believing the likelihood of a major incident to be negligible or the cost of a solution to be too high in terms of resources and cost;
- Copies of reports about safety concerns ended up in someone's bottom desk drawer;
- Deferred maintenance; and
- Pressure to meet production deadlines that superseded safety.



In the 1968 article, “*The Economics of Safety*,” Joseph J. Spengler asked: “How [can] an optimal balance ... be achieved between the value of varying degrees of safety and the cost of providing these degrees?” and “How [can] combinations of rewards and penalties ... give rise to a degree of safety that is neither excessive nor deficient but optimal in the sense that its value and cost are in balance?”

The prevailing attitude of the time (and earlier) was that safety—both in the workplace and consumer safety—was a resource-absorbing “product” with associated costs that didn’t necessarily outweigh the benefit of not injuring or killing employees. Injuries and fatalities were (and are) perceived by many organizations as part of the cost of

equipment in automobiles, a move fought by automotive manufacturers because of the additional manufacturing costs associated with installing seat belts and airbags as well as redesigning popular car models to remove structural hazards.

Safety advocates took on these issues in the 1960s, 1970s and beyond, believing that the ultimate return on investment (ROI) of these measures was protecting lives. Meanwhile, a similar battle was being waged in the workplace.

WHEN SAFETY FAILS: MAKING HEADLINES

It’s difficult to calculate the cost of events—chiefly workplace fatalities

THE FINANCIAL COST OF INJURIES

Not all workplace injury and illness cases or fatalities make headlines—in fact, most do not—but that doesn’t mean that they don’t carry an economic cost as well as an emotional and physical toll on the workers and their families.

Workplace fatalities, injuries and illnesses cost employers billions of dollars every year. In its 2021 Workplace Safety Index, Liberty Mutual estimated that U.S. employers paid more than \$1 billion per week for direct workers’ compensation costs—a total of \$58 billion per year—for disabling, nonfatal workplace injuries.

That total doesn’t factor in indirect costs, including training replacement employees,

“Focusing on worker safety can transform an entire organization and dramatically improve culture, quality, productivity, communication and ultimately profits.” —Paul O’Neil, CEO of Alcoa 1987-2000

accident investigation and implementation of corrective measures, lost productivity, repairs of damaged equipment and property, and costs associated with lower employee morale and absenteeism.

The National Safety Council (NSC) estimated that U.S. work-related deaths and injuries cost the nation, employers and individuals \$171 billion in 2019. These cost estimates are a measure of the economic impact of preventable injuries and may be compared to other economic measures, such as gross domestic product, per capita income and personal consumption expenditures. The costs reflect the impact to society, not specifically to employers.

According to the NSC, the total cost of fatal and nonfatal injuries per worker—all workers, not just injured workers—in 2019 was \$1,100. This includes the value of goods or services each worker must produce to offset the cost of work injuries; it is not the average cost of a work-related injury. Cost per medically consulted injury in 2019 was \$42,000, and the cost per death was \$1.22 million. These figures include estimates of wage losses, medical expenses, administrative expenses and employer costs but exclude property damage costs, except to motor vehicles.

CSR AND ESG: PROTECTING VALUABLE ASSETS

Fifty years later, after groundbreaking changes to consumer safety laws and with the costs of injuries steadily rising, society is embracing the belief that corporate leaders and their boards of directors have more than a moral and ethical reason to protect workers; they have a fiduciary duty to do so. The rollout of corporate social responsibility (CSR) and environment, social and corporate governance (ESG) guidelines and reporting have made employee



safety and health high on the list of corporate values required by companies wishing to remain sustainable, viable and profitable entities.

That said, international injury and fatality statistics are staggering. Each year, more than 2 million men and women die from workplace injuries and illnesses, according to the International Labour Organization. Businesses need to understand two things:

- Workplace safety is an issue they can manage and control.
- Safety professionals need better tools and technology for measuring the economic impact of occupational injuries and illnesses.

Both CSR and ESG place great emphasis on creating a safe work environment for employees along with the value a safe and healthy work environment brings to a company’s reputation and bottom line. A 1996 study by Turban and Greening found that a higher level of corporate social performance “may provide a competitive advantage by attracting more applicants.” They also showed that “job applicants have a higher self-image when they work in a socially responsive firm.”

CSR should be seen as an investment

policy in human resources—employees are, after all, a company’s greatest and most valuable asset—and can help to reduce turnover rate, retain the most productive employees, retain high levels of employee engagement and reduce the risk of conflict long-term.

PAUL O’NEILL AND THE STORY OF ALCOA

There is one legendary story that does a better job than any other of linking safety performance with operational excellence. Through the years, many corporate leaders have embraced safety as a measurement of operational excellence, but none so famously as Paul O’Neill.

O’Neill, who was CEO of the Alcoa Corporation from 1987-2000, made waves when he addressed a group of 250 Wall Street analysts and investors in October 1987. “I want to talk to you about worker safety,” he told them. “Our safety record is better than the general American workforce, especially considering that our employees work with metals that are 1500 degrees and machines that can rip a man’s arm off. But it’s not good enough. I intend to make Alcoa the safest company in America. I intend to go for zero injuries.”

Then O’Neill dropped the biggest bombshell of all: “We’re going to put safety over profits,” he added, causing one shareholder to declare that he was a “crazy hippie” who was going to “kill the company.”

“Focusing on worker safety can transform an entire organization and dramatically improve culture, quality, productivity, communication and ultimately profits,” O’Neill theorized. In the case of Alcoa, he was right. Under O’Neill’s watch, Alcoa dropped from 1.86 lost workdays per 100 workers to 0.2. A year after O’Neill’s speech, the company’s profits hit a record high. With O’Neill as CEO, Alcoa’s market value climbed from \$3 billion to \$27 billion, and its annual net income was five times higher than when he started.

Author Charles Duhigg referred to Alcoa’s focus on safety as a “keystone habit,” something that created a change that rippled through the corporate culture at the company in his 2012 book, *The Power of Habit: Why We Do What We*

Do in Life and in Business. Duhigg wrote the focus on worker safety revealed an inefficient manufacturing process, one that created substandard products and was dangerous for workers.

“All that growth occurred while Alcoa became one of the safest companies in the world,” Duhigg wrote. “Before O’Neill’s arrival, almost every Alcoa plant had at least one accident per week. Once his safety plan was implemented, some facilities would go years without a single employee losing a workday due to an accident. The company’s worker injury rate fell to one-twentieth the U.S. average.”

THE RISE OF SAFETY TECHNOLOGY

O’Neill noted that technology advancements—specifically the ability to track injuries in real time—gave Alcoa the ability to transform its safety culture. O’Neill credited the development of a safety-data system at Alcoa for

being a catalyst for dramatic improvements in the company’s safety record during his 13-year tenure as CEO.

Shortly after joining Pittsburgh-based Alcoa in 1987, O’Neill tasked several Carnegie Mellon University graduates to develop the IT infrastructure for a real-time safety reporting system. O’Neill’s vision was to have Alcoa facilities post all injuries and incidents within 24 hours after they occurred, along with the corresponding root-cause analyses and corrective actions. O’Neill wanted the reports to include the names of the employees involved.

In a keynote address to attendees at the 2013 National Safety Congress, O’Neill said, “One of the things I’ve learned is if you’re managing numbers, it feels a lot different than if you’re dealing with individuals, human lives and injuries to people.”

The point of sharing the names was not to penalize the injured employees, he said, but to make those injuries feel “real” to other employees.

“I wanted their co-workers to know, ‘My friend got hurt.’ This is another human being. This is not about OSHA recordable rates or something—this is about individual human beings who are part of our family.”

Alcoa’s safety and financial success under O’Neill undermined the long-standing assumption that injuries and accidents were inevitable by-products in the quest for profits. “People confused the idea that customers and production were the most important thing with the idea that workers had to put themselves at risk for the greater good of the company,” O’Neill told the audience. “It was always a stupid idea. But it took a while to get people to believe that it was neither right nor necessary.” **EHS**

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10 KEY

Elements for a Workplace Heat Safety Program



KORN WITTHANUKARUN | DREAMSTIME

Roughly half of the workforce is at an increased risk for heat illness—make sure you're properly protecting the health of your workers.

By Courtney Mindzak, Myles Druckman and Nicolau Chamma

Globally, extreme heat waves have been increasing in their frequency, duration and magnitude and are expected to continue to rise, according to the World Health Organization. Employers must therefore be prepared to respond to more frequent occurrences of excessive heat to protect the health of their employees.

Heat illness can occur indoors or outdoors—and in any season. Employees may experience heat illness at temperatures much lower than heat advisories because physical labor increases heat stress. Limiting exposure to high temperatures, properly managing work activities and staying hydrated can help prevent heat illness.

When the body cannot stay cool, the inner core temperature rises too high and body systems break down, resulting in heat illness. Heat illness can range in severity from minor heat rash, sunburn and heat cramps to heat syncope (fainting), heat exhaustion, Rhabdomyolysis (loss of muscle tissue) and heat stroke, which can be fatal. Heat can also be an underlying cause of other types of workplace injuries, such as falls and equipment accidents.

Anyone, regardless of age or physical fitness, can experience heat illness. How-

ever, some people may have more difficulty shedding excess body heat and are more susceptible, such as those who are older; overweight or obese; have diabetes; have heart disease; and have hypertension or high blood pressure. The Centers for Disease Control and Prevention (CDC) estimates that 48% of U.S. adults have hypertension and 40% are obese, making it likely that at least half of the workforce is at an increased risk for heat illness.

The Occupational Safety and Health Administration (OSHA) is focusing on heat safety in the workplace and will be conducting more worksite audits under its National Emphasis Program for Outdoor and Indoor Heat-Related Hazards. You need to make sure your workplace is prepared to keep employees safe while working in heat. Here are 10 key elements for a workplace heat safety program.

1. Monitoring Heat Hazards

Managers must be trained to monitor the conditions in the workplace and respond to excessive heat. There are many factors that have a role in creating an occupational heat stress risk to employees, including:

- Environmental conditions (e.g., temperature, humidity, sunlight and air speed), especially over

sequential days.

- Worksite heat sources (e.g., heavy equipment, hot tar, ovens, furnaces).
- Level of physical activity/strenuous workloads.
- Heavy or synthetic clothing or personal protective equipment (PPE).
- Individual risk factors and other high-risk conditions.

With the help of an occupational health advisor, consider installation of wet bulb globe temperature (WBGT) monitoring devices—the gold standard for precisely measuring heat stress. WBGT measures heat stress in direct sunlight and takes into account temperature, humidity, wind speed, sun angle and cloud cover. If WBGT is not available, continuously monitor the local heat index and accordingly plan heat safety precautions.

2. Medical Monitoring of Employees Working in Heat

Medical monitoring for all employees exposed to heat stress should include pre-placement and periodic medical evaluations to assess personal risk factors for heat illness. Continuous medical monitoring may be recommended for employees working in high levels of heat stress (e.g., core temperature, hydration, pulse and/or blood pressure). An occupational health advisor should be engaged to develop a medical monitoring program specific to the worksite.

3. Emergency Action Plan

Establish a worksite emergency action plan that outlines how to recognize the signs of heat illness, administer first aid,

provide immediate cooling measures and contact emergency medical services. Ensure all employees know the emergency action plan and conduct regular refresher training, especially during heat advisories.

4. Heat Safety Education

Educate all employees about heat safety before they begin work in a hot environment. Provide educational materials in a language and literacy level that employees can understand. Heat safety education programs should include:

- The importance and process of acclimatization and how to follow the plan.
- How to recognize the signs and symptoms of heat illness.
- Clear procedures to follow when someone has symptoms of heat illness, including first aid and how to call for medical assistance.
- What causes heat illness (e.g., temperature, humidity, sun/wind exposure, workloads).
- How to minimize risk from heat illness (e.g., hydration, rest cycles, monitoring for symptoms).
- How to use heat-protective PPE (e.g., sunscreen, hats, cooling vests).
- Effects of lifestyle factors on risk for heat illness (e.g., use of drugs and alcohol, obesity).

Encourage employees to download apps, such as the OSHA-NIOSH Heat Safety Tool, to monitor local weather conditions and notify users of heat advisories. OSHA also has a Heat Illness Prevention Training Guide available in English and Spanish.

Managers should receive additional training on how to implement the acclimatization plan, respond to weather advisories, and monitor and encourage both hydration and rest breaks.

5. Acclimatization

Acclimatization is a physiological process that improves the body's tolerance to heat by gradually increasing the duration of heat exposure. It can take anywhere from several days to two weeks to adjust. Some acclimatization factors to consider:

- Most heat-related fatalities occur in the first few days of exposure because the body isn't acclimatized.
- Acclimatization can be lost in just a few days away from the hot environment.

- Non-physically fit employees may require more time to acclimatize.
- Training and education are critical for both managers and employees.

Benefits of acclimatization include:

- Increased sweating efficiency (greater sweat production, reduced electrolyte loss in sweat).
- Work is performed at a lower core temperature and heart rate.
- Increased blood flow to the skin to lose heat.

CDC/NIOSH recommend that employees new to hot environments work 20% of the usual workday and gradually increase their time by 20% every day thereafter. Employees returning to the hot environment after an absence should start at 50% of the usual workday and gradually increase their time by 10% every day thereafter. This is a general time frame, which may need to be altered based on an individual's risk profile.

6. Engineering Controls

Use engineering controls to reduce heat stress on employees, including:

- Reduce physical demands of the job by using powered devices for heavy tasks, such as forklifts.
- Use air conditioning, fans or misters; however, ensure any moisture generated is not a safety risk.
- Provide tents, shades or canopies.

7. Hydration Plan

Provide an adequate and accessible supply of cool, potable water with individual drinking cups or bottles. Managers should encourage and monitor employees' hydration. Employees should drink 1 cup of water every 15-20 minutes (32 oz./1 liter of fluid per hour). During prolonged sweating over several hours, they should drink sports drinks with balanced electrolytes and eat regular light meals to replace salt lost in sweat.

Provide convenient access to adequate toilet facilities. This will ensure employees do not avoid drinking water to delay bathroom use during work.

8. Work/Rest Cycles and Reschedule Work

Managers should consider shifting work schedules to earlier or later in the day during excessive heat conditions. Employees should take regular rest breaks in a cool/shady area to allow the

body to cool down. In general, employees should have mandatory 15-minute rest breaks every hour. Rest periods may need to be longer or more frequent during extreme heat conditions.

Shorten work periods and increase rest periods based on the following conditions:

- As temperature, humidity and sunshine increase (WBGT).
- When there is little or no wind or air flow.
- If employees are wearing heavy protective clothing or equipment.
- If workload is heavy or strenuous.

9. Use the Buddy System

Heat illness can make people confused and unaware they are experiencing symptoms. Assign work buddies to monitor each other for signs of heat illness and ensure they are following the hydration and work/rest cycle plan. If employees must work alone, conduct regular remote wellness checks with those employees.

10. PPE and Clothing for Heat Safety

PPE for prevention of heat illness may include wide-brimmed hats, sunscreen or cooling vests that circulate cool liquid or have ice packs. If safe to do, employees working in heat may also want to sprinkle water over their skin or clothing or keep a damp cloth on the back of the neck.

When the job does not require specialized clothing to protect against other hazards (e.g., flame resistant and arc rated clothing), encourage employees to choose clothing made from cotton or natural fibers rather than synthetic material. Avoid dark-colored, heavier clothing and opt for light-colored, lightweight cotton clothing. **EHS**

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KEYNOTE SESSIONS



EHS Leadership Emerging from the Pandemic—Stronger Than Ever

Attendees will learn how Rockwell Automation's EHS director manages cross-functional teams, delegates and defines work streams, builds relationships, and influences global teams, and manages unexpected change, while integrating EHS further into the business. They'll also learn how to demonstrate to senior management the benefits of company-wide safety leadership.

Speaker: Majo Thurman, Director Environmental, Health & Safety, Rockwell Automation



Panel Discussion: How to Create a World-Class Safety Culture

Attendees will learn from past winners of the America's Safest Companies award how to ingrain a culture of safety within their organizations, how to engage and involve employees in the entire EHS process, and how to demonstrate to senior management the benefits of company-wide safety leadership.

Speakers: Bill D'Amico, Global Director S&H, Victaulic Company

Rod Courtney, CHST, CUSP, WCLS, HSE Manager, Ampirical

Ryan Tucker, EHS & Sustainability Manager, Fastenal Company



Charging into the Future: Electric Vehicle Panel Discussion

With environmentally-friendly electric vehicle (EV) manufacturing surging in Ohio and surrounding areas, take this opportunity to learn manufacturing and EHS best practices from battery maker Ultium Cells (a GM/LG Electronics joint venture), Eaton eMobility and other automotive OEMs and Tier-1s.

Speaker: Scott Adams, President, eMobility, Eaton

More panelists to be announced.

2022 SHOW PREVIEW

CONFERENCE SESSIONS

Session details are subject to change. Updates can be found at safetyleadershipconference.com.

TUESDAY OCTOBER 18, 2022



Safety Workshop Presented by Pilz Automation Safety, L.P.
1:00 PM - 2:00 PM

WEDNESDAY OCTOBER 19, 2022

8:15 AM - 9:45 AM

Presentation of the 2022 America's Safest Companies Awards

EHS Today recognizes companies that go above and beyond for their commitment to occupational health, safety, environment and risk management.



Safety Management Track

10:00 AM - 11:00 AM

Session on Safety Management Brought to You by a Preferred Partner from EHS Today
Speaker coming soon!

11:00 AM - 12:00 PM

Best Practices for Handling an OSHA Audit and Contesting OSHA Citations
Speaker: John Ho, JD, Cozen O'Connor

Safety Solutions Track

Workplace Violence: Understanding the Risk and Possible Technology Solutions for Fatality Prevention
Speaker: Kenna Carlsen, National Safety Council

Session on Safety Solutions Brought to You by a Preferred Partner from EHS Today
Speaker coming soon!

2022 SHOW PREVIEW

CONFERENCE SESSIONS CONTINUED

Session details are subject to change. Updates can be found at safetyleadershipconference.com.

WEDNESDAY OCTOBER 19, 2022

1:30 PM - 2:30 PM

So, You're in Charge of Safety. Now What?

Speaker: Bill Gibson, ASP, Del-Co Water Company

Creating an EHS Strategy to Support Sustainability

Speaker: Jim Lane, The Goodyear Tire and Rubber Company

3:00 PM - 4:00 PM

Improve Employee Engagement Through Safety Leadership

Speaker: Sammy Davis, CSP, Gr. IOSH, Papa John's International

Wearable Safety Tech: Top Considerations and Field Use Cases

*Speakers:
Thomas West, SPHR, SHRM-SCP, COSS - MakuSafe
Mark Jones, CIH, CSP - Plastipak Packaging*

THURSDAY OCTOBER 20, 2022

Safety Management Track

Safety Solutions Track

10:30 AM - 11:30 AM

A Strong Safety Culture — No and Heck No!

*Speakers:
Richard Fulwiler, PhD, Transformational Leadership Associates and Harvard School of Public Health
Stephen Jenkins, MSc, Cintas Corp.*

Protect Your Workers by Building an Effective Heat Stress Management Plan

*Speakers:
Margaret Morrissey, President, National Heat Safety Coalition
Matt Block, Director, Health and Safety, Magid*

11:30 AM



Safety Plant Tour at Goodyear Tire and Rubber Company
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The Appleton Powertite Lock Collar from Emerson prohibits unauthorized access to high-voltage electrical connections. The device fastens over connector and plug connections and is secured with a padlock. It facilitates safety by allowing only qualified and authorized electricians to access the connections, thereby reducing exposure and eliminating potential safety hazards. The rugged and thick resin construction can withstand extreme environments. The collars fit both the 60 Amp and 100 Amp versions of the Appleton Powertite pin-and-sleeve plugs and connectors.

Emerson Electric Co.

www.emerson.com/en-us



UV Protection

Milwaukee Tool's BOLT sun protection accessories connect to all Milwaukee hard hats and helmets, making it easy and fast for workers to shield themselves from the sun. The BOLT Sun Visor and Sunshade block UV rays by providing 360-degree UV protection. A 50+ UPF rating blocks out 98% of UV radiation while a tinted brim reduces glare and increases visibility. The visor can be used with a face shield or eye visor when flipped back into retention slots. To prevent odor and bacteria build-up, the shade is constructed with a breathable mesh material that dries fast and is antimicrobial.

Milwaukee Tool

www.milwaukeetool.com

NICOLE
STEMPAK
Managing Editor



IT'S NOT BUSINESS. IT'S PERSONAL.

Safety is a requirement, but it's also a promise and commitment to workers.

I guess you could say I'm a bit of a policy nerd. I do, after all, cherish a free travel mug I received from the U.S. Census Bureau ahead of the 2010 census; the bureau ranks as one of my Top 5 favorite federal government offices. So, it was with this same enthusiasm that I attended an early morning session at the ASSP's Safety22 Conference and Expo this past June in Chicago.

The reason? Assistant Secretary of Labor Doug Parker would be having a discussion with Blaine Krage, ASSP's senior media relations specialist. Krage did a fabulous job asking Parker a wide range of questions, and I appreciated the opportunity to hear from the head of the Occupational Safety and Health Administration (OSHA).

Parker talked about how the agency is still working to extend the Emergency Temporary Standard for health care. Once that's done, OSHA will finish drafting a comprehensive infectious diseases standard, a playbook OSHA and employers can refer to in the event of another infectious virus or even regional outbreaks of tuberculosis and measles, among others.

OSHA is continuing to focus on heat-related hazards as part of the National Emphasis Program it announced earlier this year (*see p. 24*). They're also looking at actions to help reduce workplace violence, particularly in health care settings. Parker mentioned so many more initiatives than I can mention.

I took dutiful notes about the forthcoming initiatives, but it was something else Parker said that caught my attention.

He said, "It's important that we respond to the needs of our workers. One of the ways we do that is to relate back to the personal. What are the things that are most important to us? The health and safety of our families, our kids."

"What we do as an organization is not just compliance. We're keeping families together. We're keeping people healthy enough that they can play with their grandkids and not drag around an oxygen tank."

Parker's answer creates a powerful and vivid image in my mind. It reminds me of why I got into journalism, and it may remind you of why you got into safety.

That's the thing I've learned after nearly two years covering this industry. Most safety professionals have a safety story of their own. Perhaps it was a workplace accident, injury or near miss from a family member, such as a dad or an uncle. Or

maybe it's an accident, injury or near miss that has changed your life forever.

You're not in this field for the money, as the answers to our 2022 National Safety & Salary Survey show (*see p. 8*). You're in it to make a difference. Safety is a calling to you, much in the same way as physicians talk about medicine and teachers talk about education.

As someone who watches and reports from the sidelines, it seems like getting personal is a tool the safety profession can—and should—tap into more often.

Think about how Paul O'Neill had Alcoa develop a real-time safety reporting system (*see p. 21*). He wanted the reporting to be highly visible, but he also wanted it to include the employees' names—not as punishment but to reinforce that there's a person, a colleague and a friend behind that number in the injury or accident columns. That's makes safety real and personal.

I know you're drowning in work and don't need someone telling you something else to do, so instead I'll just remind you of something from Nora Ephron's film "You've Got Mail."

During a pivotal plot point in the movie, Joe Fox (Tom Hanks) tells Kathleen Kelly (Meg Ryan) that driving her independent children's bookstore out of business wasn't personal; it was just business.

Kathleen's response is so astute and goes far beyond the scope of a (very good) rom-com. She says, "What is that supposed to mean? I'm so sick of that. All that it means is it wasn't personal to you. But it was personal to me. It's personal to a lot of people. What is so wrong with being personal, anyway? Because whatever else anything is, it ought to begin by being personal."

Indeed, only when something—especially a business objective or government requirement—becomes personal is when things can really change for the better.



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