

BEYOND COMPLIANCE

From emerging trends to supply chain knowledge, here's what to consider when choosing the right PPE for your workforce.



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Executive Summary

In today's evolving workplace, personal protective equipment (PPE) is more than a compliance checkbox, it's a reflection of a company's commitment to its people. This white paper explores how organizations can move beyond regulatory minimums to create a proactive, data-informed, and worker-centered approach to PPE selection.

Compliance-driven programs have inherent limitations. That's why we'll cover the importance of aligning PPE with real-world risks, worker comfort, and evolving standards from organizations like ANSI and NIOSH. Through relatable personas – Ray, Jose, and Makenzie – we illustrate how PPE can be tailored to individual roles, environments, and needs.

We'll explore emerging trends in PPE, including how the integration of data analytics and more sustainable gear can cut costs. Also, smart inventory systems and usage tracking are transforming how safety professionals manage PPE programs. It's becoming easier to forecast, reduce waste, and improve compliance.

We also highlight the strategic role of EHS professionals in navigating global supply chains, building resilient sourcing strategies, and partnering with suppliers to ensure consistent availability. Tools like vendor managed inventory (VMI) and point-of-use systems are helping organizations reduce risk and streamline operations.

Finally, we emphasize the importance of safety culture. This means creating a workplace where PPE is not only available but trusted, understood, and embraced. Drawing on insights from ISN's SIF analysis and IOSH's research on workplace wellbeing, we show how a holistic approach to safety – one that includes proactive planning – can reduce injuries, improve morale, and strengthen organizational resilience.

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10 Takeaways from this whitepaper



- 1 | **PPE is more than compliance** PG. 6
It's a reflection of a company's values and commitment to its people. Regulatory minimums are just the starting point.
- 2 | **Fit, comfort, and hazard alignment matter** PG. 6
Cost and compliance are important, but they aren't the only reasons to choose PPE. Instead, select gear based on risks, worker comfort, and evolving standards.
- 3 | **Personalization drives protection** PG. 9
Personas like Ray, Jose, and Makenzie illustrate how PPE must be tailored to individual roles, environments, and needs.
- 4 | **Data and technology are game changers** PG. 10
Smart inventory systems, usage tracking, and data analytics enable proactive safety decisions, reduce waste, and improve compliance.
- 5 | **Sustainability and cost efficiency can coexist** PG. 11
Reusable, recyclable, and responsibly sourced PPE can reduce long-term costs and support ESG goals.
- 6 | **Culture is the cornerstone** PG. 11
When PPE is trusted and embraced, a strong safety culture can thrive. This leads to fewer injuries, better morale, and greater organizational resilience.
- 7 | **Supply chain resilience is a safety strategy** PG. 13
EHS professionals play a strategic role in sourcing, inventory planning, and supplier partnerships – especially during disruptions.
- 8 | **The right supplier is a strategic ally** PG. 15
Vendor managed inventory (VMI), point-of-use systems, and trusted supplier relationships help ensure PPE is available when and where it's needed.
- 9 | **How the PPE lifecycle enhances safety** PG. 17
From hazard assessment to end-of-life disposal, managing the full PPE lifecycle improves outcomes and reduces risk.
- 10 | **This is a call to action** PG. 18
PPE should be treated not as a product, but as a promise to protect every worker, every day.



A common problem

Ray, Jose, and Makenzie all face the same problem. Ray is a welder, Jose's on a production line, and Makenzie is on a construction site. The problem they share? It's a common one. And it's personal.



Ray is an experienced welder; he's been at this for ages, facing intense heat and hazardous conditions every day.



Jose's in his 40s, working on a fast-paced production line navigating sharp machinery and performing repetitive tasks.



Makenzie is fresh out of school, beginning her career on construction sites where she's exposed to falling objects and loud noises.

Each is at a different stage in their career. Each works in a different environment. And each has this problem: Their PPE, their personal protective equipment, isn't all that personal.

Making it personal

PPE is designed to reduce the risk of injury ... but not all PPE is created equal. While OSHA regulations provide a critical baseline for workplace safety, they don't always reflect the best protection available.

That's where standards from organizations like ANSI come in, raising the bar for performance, fit, and long-term worker well-being. These consensus standards – outlined by the International Safety Equipment Association – help define how PPE should be tested, classified, and selected for specific hazards.¹

OSHA tends to rely on ANSI's expert consensus knowledge and collaborative standards-setting to align its regulations with industry best practices.

To be clear, OSHA regulations are essential. They establish a baseline for worker safety, ensuring that employers provide PPE that meets basic protective requirements. However, these regulations often reflect the minimum necessary to prevent immediate harm, leaving gaps in long-term health and wellness. For instance:

- Ray requires flame-resistant clothing, eye protection, and respirators. OSHA mandates basic shielding and respiratory protection, but in this case ANSI and NIOSH standards push further. They consider factors like infrared radiation exposure, face seal integrity, and heat stress prevention.

- Jose needs cut-resistant gloves, hearing protection, and ergonomic support. While OSHA defines basic cut and noise thresholds, ANSI levels consider advanced testing methods and user comfort, crucial for long-term injury prevention.
- Makenzie faces fall risks while working at heights, airborne particulates, and noise levels far exceeding OSHA's 8-hour time-weighted average (TWA) limit. ANSI standards provide more descriptive fall protection guidelines, dust filtration processes, and hearing protection guidance.

Going beyond regulatory baselines matters, because it reduces injuries, lowers workers' comp claims, and boosts morale. ANSI-rated equipment is typically designed for higher durability, better fit, and more specialized protection.

As IOSH (Institution of Occupational Safety and Health) research shows, proactive investment in workplace wellbeing – including mental health and physical safety – can reduce absenteeism, improve morale, and foster a culture of trust and care.² Taking a proactive approach to PPE demonstrates a company's commitment to safety, setting a cultural tone that values worker safety.

Three examples



ANSI-rated cut-resistant gloves not only protect against accidental lacerations but also improve grip and comfort, reducing fatigue and boosting Jose's morale.



High-performance face shields and respirators protect welders like Ray from long-term respiratory illness, flying debris, and eye strain.



Advanced fall protection harnesses offer Makenzie peace of mind when working at heights, granting her the confidence to work efficiently without the distraction of the hazards that surround her.



The ROI of better PPE

Fewer Injuries

Higher-quality PPE reduces the risk of accidents and long-term health issues.

Lower Workers' Comp Claims

Fewer injuries mean fewer claims and lower insurance premiums.

Improved Morale

Comfortable, well-fitting PPE shows workers they're valued, which boosts engagement and retention.

Reduced Waste

Durable, reusable PPE lowers replacement frequency and supports sustainability goals.

Long-Term Savings

Investing in better PPE reduces downtime, turnover, and total cost of ownership.



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Emerging trends

Comfort and personalization of PPE are all too often overlooked in compliance-driven safety programs, but they play a critical role in worker acceptance and consistent use. Safety managers who prioritize fit, comfort, and usability can significantly increase PPE compliance and reduce incident rates due to PPE removal or misuse.

You can't hand Ray just any respirator for welding, and Mackenzie deserves more than a one-size-fits-all solution in pink. It's become increasingly common for manufacturers to offer varied sizing and female-specific designs that accommodate a wide array of body types, addressing a long-standing issue in industries with a diversifying workforce.

A common leading PPE category is hand and arm protection. Glove materials are becoming thinner while cut resistance, comfort, and

longevity are increasing – all for lower overall prices. Cut-resistant sleeves are following suit – cooling materials are being developed to improve comfort *and* cut resistance.

More manufacturers are offering cooling vests for line workers like Jose. There's moisture-wicking, flame-resistant clothing for the Rays of the world (i.e., welders). And for Mackenzie, there's breathable high-visibility gear to improve her comfort and performance when building in extreme environments. Also worth noting, companies are shifting to technology for inventory management. Why? Because it frees up their time while offering a chance to capture data that helps drive decisions.



Technology is everywhere

The integration of data analytics into safety programs is transforming how PPE and safety equipment are selected, deployed, and evaluated. Rather than relying on lagging indicators like injury logs or OSHA citations, progressive safety managers now use real-time and historical data to take proactive actions to protect employees.

By pairing a PPE program with a vending solution, for example, safety professionals can track PPE issuance and usage across departments, which can reveal patterns in overuse, misuse, or a lack of compliance. This might become evident in many ways. One example? Frequent reorders of a specific glove, for instance, might signal premature wear, which suggests a mismatch between the PPE and the task.

Platforms that analyze data from near-misses, inspections, or even wearable tech can forecast where incidents are likely to occur, allowing managers to intervene with better PPE or additional training. Plus, agencies like NIOSH provide research-backed guidance on how to select, fit, and evaluate PPE in these evolving environments.³

Quantifying the ROI of higher-grade PPE (which could be merited in these scenarios) supports justification to upper management and can often lead to overall cost savings, not to mention reduced usage, which could aid sustainability goals. In order to see positive impact here, it is crucial to look past piece-price and look at the total cost of ownership for any PPE or safety equipment.

Smarter PPE, smarter spend

Two myths that are quickly fading: 1) high-quality PPE comes at the expense of financial responsibility. 2) environmental impact is an afterthought. Today's market offers a growing range of products offering environmental benefits in terms of reusability, materials, packaging, and end-of-life solutions (recycling and recovery).

Replacing single-use items with longer-lasting products, such as elastomeric respirators or hearing protection, can pay dividends in this endeavor. PPE made from recyclable plastics or biodegradable materials are becoming exceedingly present and popular, especially in industries with high PPE usage.

This concept extends to products with sustainable packaging and ethical sourcing, which are becoming common factors in procurement decisions. These technologies can be highlighted in marketing materials or ESG reports as a competitive differentiator, which can enhance a company's public image and social responsibility profile.

Important: Let's not forget that these steps often reduce total PPE costs in the long run.

To reemphasize the strategic value of this endeavor, let's remember that these decisions directly affect worker comfort, well-being, and morale. It can help attract and retain skilled labor in all industries including those facing talent shortages. Arguably more important, it can reduce injury rates tied to poor PPE compliance or fit.

Regarding the implementation of some of these ideas, **here are some tips.**

- ▶ **Conduct annual PPE comfort and fit surveys**
- ▶ **Involve end-users in product trials and vendor evaluations**
- ▶ **Offer multiple PPE options where possible, and sensible, rather than one-size-fits-all solutions**



Trust your source

So where do you turn for guidance on these evolving trends? Where can you go for information you can trust? WHO do you trust? If you're already familiar with ASSP, that's a great resource. If not, learning about that organization is a good first step. Now consider your goals with your current distributor partner(s).

Are they a trusted and strategic partner who you have a mutually beneficial relationship with, or someone who you simply negotiate contract terms with from time to time? Do they understand your "needle" and, if so, are they proactively trying to help you move it?

What sources do you use to gain current insights into the challenges you're facing? What is a source? It could be a regular publication

you enjoy or maybe one a colleague suggested to you. It could be someone who's supported your facility for years and knows the needs of your business.

That's where you turn: a trusted source.

If there's a question you have about safety, and you can't get the answers you need from those sources, you need new sources. A solid source will have firsthand knowledge and the ability to direct you to deeper resources that are trustworthy and relevant.

In a world where safety, sustainability, and smart spending intersect, your choice of PPE – and your source – matters more than ever.





Knowing the PPE supply chain

A deeper understanding of the PPE supply chain empowers EHS professionals to make smarter decisions, reduce risk, and foster a proactive safety culture.

The effectiveness of any EHS program is closely tied to the reliability of the PPE that supports it. While PPE is often treated as a procurement function, EHS managers play a critical and strategic role in ensuring that the right products are sourced, available, and implemented in ways that protect workers and maintain compliance.

PPE supply chains are global by design. From nitrile gloves manufactured in Southeast Asia to respiratory filters sourced from Europe, the vast majority of PPE products depend on international logistics and raw material flows. Disruptions, whether due to geopolitical tensions, natural disasters, or public health emergencies, can significantly disrupt availability and lead times.

Moreover, the supply chain is tiered, meaning that many distributors rely on the same limited pool of manufacturers at the plant level, way upstream. Even if multiple brands are available in the marketplace, the underlying supply may be constrained. EHS managers should be aware of these dependencies and advocate for transparency in the sourcing process.

One way to navigate these complexities is by partnering with suppliers that offer exclusive product lines developed through direct manufacturer relationships. These programs often provide greater visibility into sourcing, more consistent availability, and tighter quality control. These advantages can help EHS professionals plan with confidence and respond to disruptions more effectively.

What to ask your PPE supplier

Use these questions to evaluate if your supplier is just a vendor or if they are more of a true safety partner.

Sourcing & Supply Chain

1. Where is this PPE manufactured, and what are the lead times?
2. Do you have direct relationships with manufacturers or rely on third-party sourcing?
3. How do you handle disruptions in the supply chain?

Product Quality & Fit

4. Can you provide PPE options tailored to different body types and job roles?
5. Are your products tested to ANSI, NIOSH, or other relevant standards?
6. Do you offer samples or trials for end-user feedback?

Inventory & Data

7. Do you offer VMI or point-of-use systems?
8. Can you provide usage data by department or job function?
9. How do you help forecast demand for seasonal or project-based needs?

Sustainability & Lifecycle

10. Do you offer reusable or recyclable PPE options?
11. What are your end-of-life disposal or recycling programs?
12. Are your products and packaging environmentally responsible?

Partnership & Support

13. How often do you review product performance with clients?
14. Do you offer training or support for PPE implementation?
15. How do you stay informed about evolving safety standards?



From supplier to safety ally

To navigate these complexities, EHS managers must look beyond transactional relationships and build strategic partnerships. EHS managers can and should view PPE distributors as strategic partners in risk management.

The most effective partnerships are grounded in consistent communication, trust, and a shared understanding of operational needs. This includes collaborative forecasting. In other words, it's important to openly share information about PPE requirements or anticipated demand spikes due to things like seasonal work, special projects, or regulatory changes. Doing so enables suppliers to plan inventory more effectively and ensure timely delivery.

Additionally, VMI programs can bring tremendous value in this endeavor, especially those fueled by technology. Leveraging VMI programs can reduce administrative burden and ensure timely replenishment for high-usage products like gloves, safety glasses, or hearing protection.

Some suppliers offer inventory solutions that combine on-site service with digital tools to automate replenishment and track usage trends. These programs help reduce stockouts, minimize overordering, and free up internal resources by streamlining the management of high-turn PPE items.

When backed by real-time data and responsive support, these solutions become a powerful extension of your safety strategy by ensuring the right products are always where they're needed, when they're needed.

The PPE Lifecycle

Understanding the full lifecycle of PPE helps EHS professionals make smarter, more sustainable decisions.

Here are the key stages:

1 Hazard Assessment

Identify workplace risks and match PPE to specific hazards (e.g., cuts, noise, chemicals, falls).

2 Product Selection

Choose PPE that meets applicable standards (ANSI, NIOSH, ASTM) and fits the user population – considering comfort, gender-specific fit, and job function.

3 Procurement & Sourcing

Source from reliable suppliers with transparent supply chains. Consider exclusive lines or direct manufacturer relationships for better availability and quality control.

4 Distribution & Access

Use point-of-use systems or VMI programs to ensure PPE is available where and when it's needed without overstocking.

5 Training & Fit Testing

Educate workers on proper use, care, and limitations. Conduct fit testing for items like respirators and hearing protection.

6 Usage Monitoring

Track PPE usage by department or individual to identify trends, gaps, or misuse. Use data to inform future decisions.

7 Maintenance & Inspection

Regularly inspect reusable PPE for wear and tear. Replace or repair as needed to maintain protection.

8 End-of-Life & Disposal

Follow proper disposal protocols. Explore recycling or reuse programs to reduce environmental impact.



Balancing standards, comfort, and visibility

While cost is always a factor, PPE must first and foremost match the hazard and meet applicable standards such as ANSI, NIOSH, or ASTM. When it makes sense, standardizing product selections across sites or departments can streamline training, reduce user error, and improve inventory control.

That said, standardization should never come at the expense of comfort or protection. Ergonomic PPE – especially for individuals like Jose, who may have specific physical needs – can lead to better compliance, fewer injuries, and a stronger safety culture overall.

Tracking PPE usage isn't just a logistical task, it's a valuable safety metric. Patterns in issuance can reveal risk hotspots or areas of non-compliance, helping safety teams intervene more effectively. Many organizations now use digital tracking systems that tie PPE usage to individual workers, departments, or specific tasks.

Of the almost 100,000 severe injuries reported to OSHA in 2023, more than 81% resulted in a worker being hospitalized.⁴ This underscores

the need for PPE that not only fits but also protects against the most common and severe risks.

To bring structure and visibility to PPE distribution, companies are increasingly turning to point-of-use inventory systems. These systems allow workers to access the gear they need on demand, while capturing detailed usage data. That data can then be used to monitor consumption patterns, identify compliance gaps, and make smarter inventory decisions.

Beyond tracking, these systems also reduce administrative workload. By automating replenishment and minimizing manual oversight, they help ensure that high-use items like gloves, eyewear, and hearing protection are always available without the risk of overstocking or waste.

The result is an approach to PPE management that supports both safety and operational goals, while staying efficient, responsive, and data-driven.



The final step

Personal protective equipment is more than a regulatory requirement, it's a reflection of a company's values. When organizations go beyond compliance to prioritize comfort, fit, and supply chain resilience, they send a clear message: We care about our people.

Understanding your workforce's PPE needs, selecting the right equipment, and staying current with innovation is essential, but it's only part of the equation. The next challenge is ensuring that equipment consistently reaches the people who rely on it, without delay or disruption.

In today's environment, supply chain interruptions are more common than ever, affecting pricing, availability, and lead times. Managing this starts with clarity. A Job Hazard Analysis (JHA) – a process recommended by OSHA as part of its PPE standards⁵ – helps identify

risks and apply the hierarchy of controls (eliminating or reducing hazards through engineering or administrative measures) before relying on PPE as the final line of defense.

Once you reach that point, it's time to focus on the specific PPE needs across your workforce. From head to toe, the right gear should not only protect, it should also empower. It should fit well, feel right, and instill confidence.

The future of workplace safety isn't just about checking boxes. It's about making smarter choices, listening to workers, and staying agile in a changing world. Because Ray, Jose, and Makenzie – and every worker like them – deserve more than the bare minimum. They deserve PPE that's personal. Purposeful. And ready when they are.



Sources

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As the world leader in inventory management technology, Fastenal knows how usage data can change the way you see your safety program. From gloves and glasses to coveralls and hazmat suits, your PPE has a story to tell.

Compliance improvements can start with something as simple as an email or quick phone call.

Let's talk!



Send your safety-related questions to **safetyquestions@fastenal.com**. This email address is dedicated to handling safety inquiries and providing assistance.



You can call **833-FNL-SAFE**. Fastenal has a tech hub center staffed with people whose sole responsibility is to help customers with their technical questions in real time. The commitment is to respond to every request within 15 minutes.