



AI SOLUTIONS FOR BUSINESS

Overcoming the barriers of PPE compliance with the use of artificial intelligence

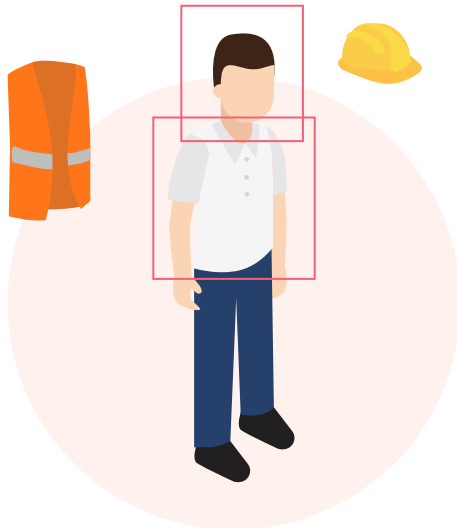
AI-PPE Compliant

White paper

Introduction and Overview

The safety of employees in the workplace is integral to any business, and with tighter government legislation, workers are better protected by the law than ever before. However, despite this, or perhaps because of it, workplace accidents still pose a serious threat to businesses' financial viability.

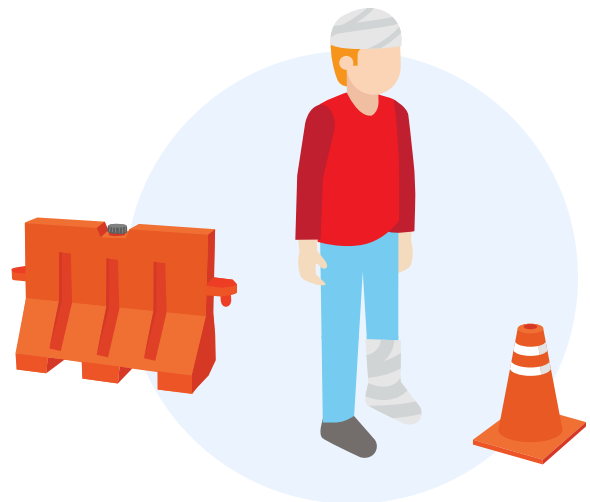
This threat is extremely prevalent in industries that operate in potentially hazardous environments, such as construction, manufacturing, engineering or biomedical, hence why the extra precaution of wearing Personal Protective Equipment (PPE) for employees is enforced in these industries. Unfortunately, this does not simply solve the problem of accidents in the workplace as, no matter how many times you run through safety drills or training talks, some workers will always forget basic precautions, including their PPE.



£14.9
billion per year

overall cost of work-related injury

Source: hse.gov.uk



31.2
million days lost

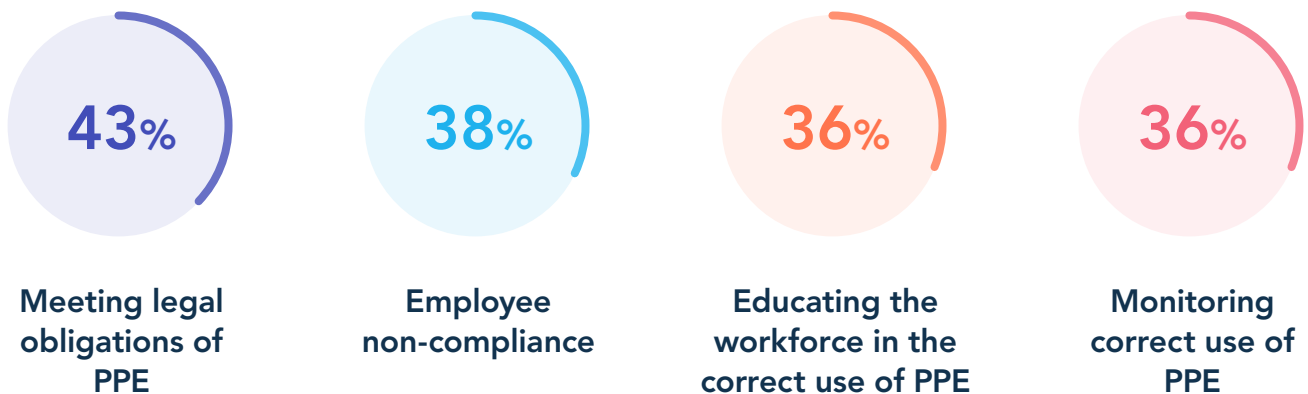
due to non-fatal accidents and ill health

At Cortexica, we work with health and safety professionals to ensure employee safety with the application of artificial intelligence and machine learning for object recognition and video analysis. Our AI-PPE Compliant solutions deliver real-time video analytics that enable clients to make better informed decisions based on a higher awareness of their surroundings.

To better understand how these systems benefit businesses working in high-risk environments, we surveyed 100 board-level and C-suite professionals who are directly responsible for the health & safety of workers within industries such as construction, engineering, manufacturing and biomedical.

Setting the scene: What are the challenges facing businesses that need to stay compliant in terms of personal protective equipment (PPE)?

Our survey shows that traditionally, the key challenges businesses have faced with regards to PPE have been:



It is evident from these findings that the past challenges all stem from ensuring the correct use of PPE among the workforce. As new tech solutions make their way on to the market to address these issues, do health and safety professionals predict these challenges will continue in the future, or are they expecting a new set of difficulties?

Future challenges surrounding PPE

According to respondents, employee compliance will continue to be a big concern moving forward, with over a third (35%) believing that their main focus in the next 1 to 5 years will need to be the continued monitoring of their growing workforce.

Increasing standards and stricter legislation involving PPE is the greatest worry to respondents (51%), as they try to minimise their liability for workplace incidents. After all, if those responsible for implementing PPE are unaware of the latest legislation, it could cost the company hundreds of thousands in injury claims and insurance.

Solutions to the challenges

With the speed of technological progress, there are now an array of industry-ready automated solutions that are available to address PPE-related concerns.

The most popular solution, at 35%, comes in the form of AI video-monitoring which can identify PPE non-compliance in real time. These kinds of systems can provide a single answer to a lot of PPE challenges in one go; whether these be issues with employee non-compliance, workforce monitoring or legal obligations.

The other favoured solution to prevent workplace injuries, at 32%, is wearable technology (think Fitbit, but for high-risk environments) that can monitor vitals including heart-rate and body temperature.

Away from specific technological solutions, respondents indicated that the development of new PPE materials (30%), and safer workplace equipment (27%) will help by making the general working environment safer and increase PPE effectiveness at a basic level.

So, what technologies would respondents most like to see implemented in their business?

The damage from PPE failure

How many injuries are preventable?

According to our survey, we found on average 27 injuries lead to days off work for each business interviewed, of which **29%** (that's almost 8 injuries per business) could have been prevented through the proper use of PPE.

Most of these accidents are a result of human error when dealing with industrial machinery, as well as heavy lifting and handling. Those responsible for the health and safety of their workers should be aware that these areas in particular are where business can do better to prevent injuries and save the business money.

How much money does PPE failure cost?

According to our survey we found:



84%

of businesses lost money from injuries due to PPE non-compliance in the last year

30%

of businesses lost more than £250,000 through improper use of PPE in the last year

5%

of businesses lost over £1m through improper use of PPE in the last year

The damage from PPE failure

Where is the money being lost?

The biggest financial hit businesses take following a workplace injury is compensation pay-outs to injured employee(s), with **30%** of businesses surveyed stating that they lose the greatest amount of money via the courts. Not forgetting the vast amount of money spent on legal representation in these situations, **29%** of respondents state that the cost of lawyers is just as much, if not more than the pay-outs themselves.

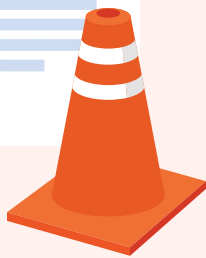
The hidden costs of workplace accidents

Workplace injuries have consequences that reach far wider than the direct costs. The hidden, indirect damage caused from PPE failure and resulting workplace injuries is also considerable. For instance:



80%

say they lose productivity



71%

say it makes it more difficult to recruit the right people



69%

say they lose new business opportunities

Winning the PPE race

For businesses at risk of dealing with the fallout of workplace injuries and PPE non-compliance, it is clear that video-monitoring systems which take the human error out of PPE monitoring are the way forward, and it is what health and safety professionals want to see. So, how can businesses progress towards this goal?

Key barriers to the implementation of automated systems

With AI video-monitoring solutions touted as the answer to staying PPE compliant, and with the cost of PPE failure so high, why are so many businesses still manually monitoring PPE?

The key issue preventing large-scale adoption of new products seems to be lack of awareness of available solutions. According to our feedback, health and safety professionals are most concerned about the following when adopting new AI solutions:



Although the talk of AI technology may seem complicated to those who are unfamiliar with it, the truth is that products like AI PPE-Compliant from Cortexica have been designed specifically to make life easy for both decision-makers and employees alike. While our solution focuses on monitoring employee PPE, it does so while keeping workers anonymous – focusing purely on what is being worn, not faces or behaviour. It is up to AI vendors like us, and the tech industry more generally, to help educate health and safety professionals and to address their concerns.

The future of AI in PPE

Despite these concerns, respondents were nevertheless optimistic in their outlook of the benefits current AI systems could bring to tackle the challenges previously highlighted with PPE. In fact, while **81%** agreed that AI-PPE Compliant systems will increase the speed and accuracy of identifying potential dangers, **77%** would go further and encourage businesses to invest in real-time, video-monitoring technology.

When looking to the future of their own businesses, nearly two thirds (**64%**) believe that their company would specifically benefit from AI PPE video-monitoring and will be actively looking to invest in an automated system of this nature within the next 1-5 years.

In industries where employees are putting themselves in harm's way to deliver for their business, simple mistakes can lead to dire consequences. This is why Health and Safety is an industry which is ripe for disruption, adaption and technological evolution.

Humans make mistakes – particularly if they're on long shifts and have to monitor hundreds of employees at the same time. Products like AI PPE-Compliant, which can monitor any number of people continuously and constantly, never get tired or bored and are more accurate in spotting issues. Additionally, the time that AI can save collecting and analysing data allows Site and Safety Managers to focus on new strategic and innovative ways to improve safety for everyone in the workplace, instead of constantly checking in on employees.

This is why so many businesses are ready to install AI solutions.

They are available and ready to go, and it's never been easier to protect your workers.



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