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MINING AX01160

The technology marketplace for heavy industry

## Camera and wearable AI solution that optimises plant and worker safety

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# CAMERA AND WEARABLE AI SOLUTION THAT OPTIMISES PLANT AND WORKER SAFETY

## How it works

Oil and gas, energy, and metal and mining operations have a lot of potentially dangerous hazards. It is challenging for organisations to efficiently manage all the risks in these environments, and so accidents are more likely to happen. Not only can this lead to serious injuries and, in some cases, fatalities, it can also mean that hours of production time are lost and hundreds of millions of dollars in costs are run up for repairs, medical fees, and lawsuits.

Traditional video surveillance alone is not practical in plants that often cover vast distances, and supervisors cannot supervise every single staff member 24/7. By combining cameras, industrial-grade wearables, sensor-fusion-based artificial intelligence, and computer vision real-time location services, this industrial health and safety AI platform and ecosystem can predict accidents and stop them from happening.

The solution's network of cameras and industrial-grade wearables, fixed with sensors and real-time location services, send their data to manager portals where actionable insights are displayed and analysed. The end-to-end solution then alerts management and the workforce in real time to potential safety hazards. Alerts are made via email or SMS or by wearables, lights and sirens.

By continuously monitoring worker behaviour and generating a more complete situational understanding of every worker's environment, this solution can intervene intelligently and help prevent accidents in real time. It can also work on edge without a connection and then automatically download the data it has collected once it's connected to a network. This means it can operate even in remote locations, such as mines or exploration sites, where there is no internet.

Potential incidents this solution can monitor include geofencing, PPE use, safety zone compliance, poor posture, and vehicle-worker collision potential. It also includes a coaching module that uses gamification and rewards to help modify behaviour to improve adherence to health and safety standards.

**Key facts**

over

**90%**

accuracy for detection of safety incidents before they happen

under

**1s**

in-zone alert time

up to

**$6**

indirect cost saving per $1 direct investment

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# TOP BUSINESS BENEFITS

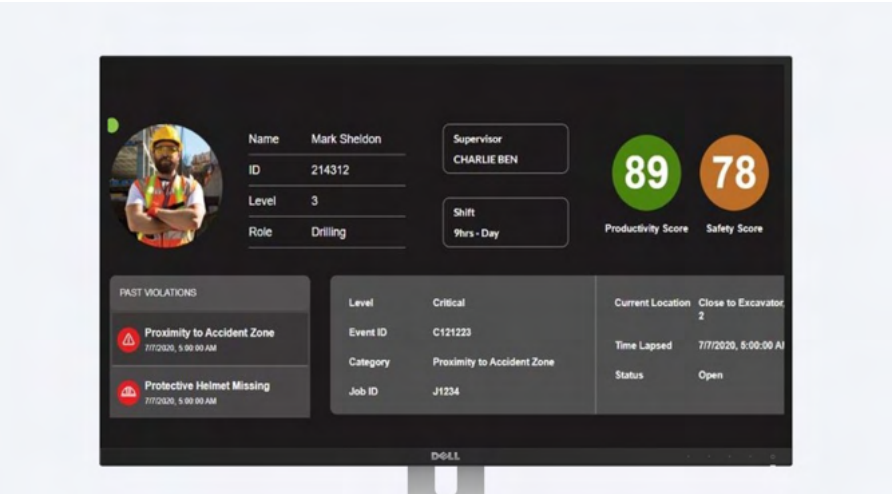
**There are four main business benefits of this industrial health and safety AI platform and ecosystem:**

- Reduces asset outages and improves margins
- Improves worker safety
- Improves asset safety
- Increases productivity

The solution uses a combination of cameras, wearables, and artificial intelligence to indicate when accidents are likely to happen within the time needed to stop them happening. It can be used to improve PPE use, reduce collisions, monitor geofences, detect fall risks, highlight crane issues, discover problems with posture, and monitor forklift safety, amongst a host of other issues.

By providing real-time situational awareness and activity insights, it ensures that workers are acting within health and safety guidelines. Where an incident can be avoided, it notifies supervisors who can then take preemptive action. It also enables supervisors to conduct proactive training to reduce the chances of future safety breaches occurring, providing huge health and safety benefits and cost savings.

A recent study in the US by the National Safety Council concluded that indirect costs to organisations experiencing industrial accidents are 4-10x the direct costs - safety incidents most definitely have significant costs, let alone reputational damage and actual injuries.




**Screenshot of solution dashboard**

**Top benefits**

- Reduces asset outages and improves margins
- Improves worker safety
- Improves asset safety
- Increases productivity

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# CUSTOMER SUCCESS STORIES

## A global steelmaker in South Korea

A global steelmaker in South Korea, turning over 1.8 billion dollars in annual revenue, committed to a multi-million-dollar expansion of its use of this platform after an initial pilot. The expansion focuses on using the power of the solution to enhance the safety protocols already in place for initiatives such as personal protective equipment (PPE) compliance, virtual fencing of restricted areas, crane-to-crane accident avoidance, crane-to-worker incident avoidance, cobble events, and SOS/fall detection. The three-year deployment plan will cover their entire facility, which spans over 10 million square feet. The platform and ecosystem will support this steelmaker in not only being a leader in special steelmaking, but a continued leader in safety.

## The largest independent manufacturer of hollow structural sections and steel pipe in North America

The largest independent manufacturer of hollow structural sections and steel pipe in North America and this solution provider joined efforts to use the platform to increase safety measures at the manufacturer's facilities. The platform and ecosystem is currently in place at a facility in Blytheville, Arkansas, creating a paradigm shift from a reactive to a proactive approach to preventing workplace injuries and accidents. Initial efforts are focused on using the power of artificial intelligence (AI) and computer vision (CV) to enhance the safety protocols already in place for logistics and the tarping of trucks in the facility's shipping bays. It ensures proper use of the tarping system and provides, for the first time, proactive alerts to drivers, team members, and plant management when the tarping safety system is not properly in use.

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# FAQ

## Does this solution work with all technologies?

This solution integrates with most oil and gas and metals and mining technologies. It is a technology-agnostic platform and ecosystem that ties together disparate industrial technologies, such as edge servers, real-time location services (RTLS), computer vision (CV), lidar/radar, and wearables, allowing them to interact in ways not possible independently.

## Can it help with COVID-19 infection control?

Yes, this solution can help stop the spread of COVID-19 by highlighting where PPE is not worn appropriately and where social distancing guidelines are not being adhered to. It can also implement on-site body temperature checks on contact tracing.

## How is the solution licensed?

We price on a zone by zone basis. A zone can be up to 10,000 sq. ft.

## Can you provide the sensors and wearables?

Yes, we can both interoperate with existing devices or provide new, low-cost wearables, sensors, and cameras to ensure the solution delivers on its business goals.

## What are the primary use cases?

More use cases are added regularly, but at time of writing most customers are looking to solve the following scenarios: PPE detection, anti-collision, geofencing, fall detection, crane detection, posture detection, and forklift safety.

# About Axora

Axora is the global technology **marketplace** for heavy industry. We source the best innovative solutions, to solve the biggest industrial problems.

Our service helps industrial companies to discover, evaluate, procure and deploy technology from all over the world.

Entrusted globally by 100s of industrial leaders and innovative solution providers, we help companies take action to hit their safety and sustainability goals.

# About the solution provider

This US-based industrial health and safety AI company has the backing of a leading global start-up incubator and an industrial conglomerate. Its innovative platform and ecosystem proactively prevents and avoids industrial accidents, and is already saving its customers millions of dollars of unnecessary maintenance costs and lost production.

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