

The Road to EHS Maturity in the Manufacturing Industry

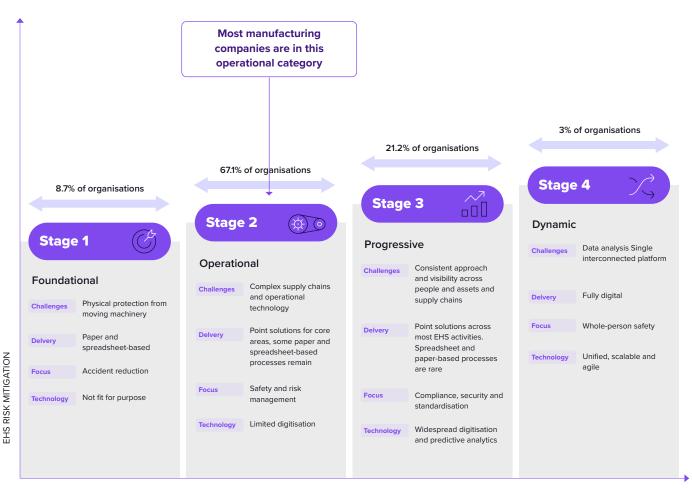


The Global EHS Readiness Index (GERI) provides insights from over 1000 Global Health and Safety Leaders. This benchmarking report provides a comparison of EHS maturity in the Manufacturing Industry versus all industries in the study.

Manufacturing workers encounter a range of serious EHS hazards. These include exposure to hazardous chemicals, airborne contaminants, and combustible dust; risks from heavy machinery, moving parts, and lockout/tagout failures; ergonomic strain from repetitive motions and manual handling; noise-induced hearing loss; fire and explosion risks; slips, trips, and falls in high-traffic areas; electrical hazards; confined space dangers; and the risk of struck-by or caught-in incidents. Additionally, workplace stress and fatigue can contribute to increased safety and psychosocial risks.

The recent HSI and Focus Network Global EHS Readiness Index (GERI) highlights major gaps in EHS posture in the sector and oers guidance on how to optimise EHS outcomes. Technology plays a key role in managing EHS risk in manufacturing

Figure 1Evolution of the EHS Function in the Manufacturing Sector



TECHNOLOGY ADOPTION

The Key Challenges Faced in the Manufacturing Sector



The GERI report highlighted common challenges within the Manufacturing Sector, detailed below.

External factors continue to introduce new risks. For example, supply chain disruptions and evolving regulations not only impact production efficiency but also contribute to increased safety risks, such as equipment shortages, rushed work, and heightened stress levels. Additionally, workforce shortages can lead to longer shifts, fatigue-related incidents, and increased pressure on employees to meet demanding production targets.

"Data collected from our connected assets, not only makes our facilities safer, but also increases efficiency"

While data is collected to assist in efficiencies and safety, managing psychosocial risks remains challenging. According to a Health and Safety VP at a global manufacturer with more than 10,000 employees, "Data collected from our connected assets, not only makes our facilities safer, but also increases efficiency"



Another Health & Safety Director at a manufacturer with 5000+ employees commented that, "Psychosocial risk is difficult to manage because controlling it creates more burdens and administration for our workforce."

Leading EHS implementation challenges faced by manufacturing organisations include:

"Psychosocial risk is difficult to manage because controlling it creates more burdens and administration for our workforce."



Complexity and lack of interoperability

The complexity of manufacturing supply chains and specialised operational technology, makes it extremely difficult to apply EHS and ESG policies consistently. EHS visibility and consistent EHS policy implementation is increasingly important in the sector.



Cybersecurity issues

The manufacturing sector is one of the leading targets for cyber attackers. According to the World Economic Forum, it is the most targeted sector for cyberattacks. It is particularly vulnerable because of its complex supply chains and use of operational technology.



Psychosocial factors and fatigue

Stress associated with long shifts and burnout make mental health issues more likely to occur in the manufacturing sector. This is exacerbated by an increase in inappropriate and aggressive employee behaviour.



Physical, chemical and electrical hazards

Manufacturing workers are subject to a variety of physical risks including slips, falls and trips, noise, and accidents involving moving machinery. Chemical and electrical hazards are widespread.



Adoption and usability of processes

Manufacturing is becoming increasingly digitalised with workers using technology for most tasks. Adding additional processes and technologies to manage EHS risk requires focus on usability to ensure widespread adoption. EHS technology needs to be embedded into operations to ensure adequate adoption.



Environmental sustainability

As well as the widespread creation of emissions, manufacturing firms also create environmental hazards in the workplace such as the use of toxic chemicals. Increasing EHS leaders are expected to comply not only with environmental hazards in the workplace but also ESG objectives set by their companies and regulations set by governments.

EHS Maturity in Manufacturing: Areas of Focus

Focus Network's recent Global EHS Readiness Index (GERI) report reveals mean maturity scores by attribute for the manufacturing sector, in percentages, where 100% is the highest score. Respondents were asked a series of questions relating to each component of the EHS function. Responses to these questions were then used to determine maturity for each component. For example, an organisation that indicates it cannot detect mental health incidents is given a very low score for psychosocial and mental health maturity. Another example is an organisation that indicates it has a centralised compliance management system in place. This contributes to a higher maturity score for compliance obligations. Maturity levels for each component are then aggregated to give an overall mean EHS maturity score.

The manufacturing sector is defined as operational from an EHS perspective, relative to other industries. Nevertheless, it is worth highlighting the EHS areas that require the most focus. Notably the gap between the psychosocial and mental health risk factor in manufacturing and the mean risk factor across all industries is high. Clearly much more emphasis needs to be placed on this factor.

Figure 2 shows EHS components for the manufacturing sector that are the least mature. These reveal the biggest gaps in EHS posture for manufacturing organisations. It is these areas that require particular attention. It also illustrates the mean percentage score across all industries. Notably the sector is less mature than the mean for all industries in security and in mental and psychosocial risk.

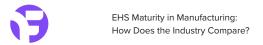
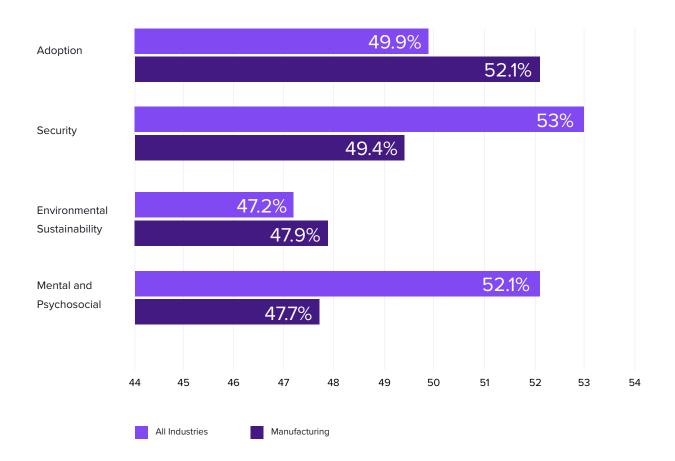


Figure 2
EHS Components with Low Maturity in the Manufacturing Sector



Adaptable, Frictionless and Interoperable EHS Technology is Needed for the Manufacturing Sector

EHS leaders in the manufacturing sector need to unify their risk management systems and gain visibility across all EHS functions. This means that companies need to:

Understand their level of EHS technology maturity. They need to identify what they need to do to ensure that they progressively develop their EHS posture.

Have a consistent and unified view of all activities across their supply chains.

All documentation and data should be found in one place. Management and individual workers need visibility of all EHS processes and their implementation. Only 17% of manufacturing firms have a universal EHS management system that offers visibility across assets, according to the GERI study.

Ensure workforce adoption. Manufacturing workers are often overwhelmed with operational technology to do their jobs. Any additional or new technologies must be usable and relevant. 52% of manufacturing leaders cite adoption of processes and culture as the major challenge they face according to the GERI study.

Ensure that technology is adaptable and future-proof. The manufacturing sector is undergoing radical change as Industry 4.0 technologies are implemented. EHS solutions will need to keep pace with this change and ensure that solutions can be re-configured and improved continuously.

Fully leverage data. Data needs to be collected and analysed across supply chains to optimise EHS workflows and ensure compliance. Focus needs to be placed on data integrity and data security. The GERI study reveals that only 10% of manufacturing companies have a robust and integrated data capturing system.

Emerging EHS Trends in the Manufacturing Sector

As Industry 4.0 technology transforms the manufacturing industry, it's also having a significant impact on safety. The growing implementation of AI, networked devices, and new robotics are changing how manufacturing companies keep workers safe on the job.

New technology trends are helping to protect workers from the serious safety threats — such as hazardous chemicals and heavy machinery.

These trends include:



The use of drones, robots and automation.

Effective safety technology minimises human exposure to safety threats. Drones, robots, and automation reduce the need for workers to be physically close to safety hazards. For example, falls remain a common cause of injury and death in manufacturing facilities. Robots can reduce the number of workers exposed to dangerous heights.



Al and predictive Analytics. Al analyses vast amounts of unstructured data. For manufacturing companies, the technology can enable new predictive models that use data to forecast future events, such as machine failures or possible safety events. Al is a very powerful tool when combined with another Industry 4.0 technology trend — connectivity and networked devices.



Digital twin technology. Digital twins are virtual representations of an object, asset, building, or site. They simulate real-world processes and situations. Often, once an asset is being used, information about that asset becomes siloed or disaggregated, making it difficult for technicians, managers, and engineers to truly understand how the asset is functioning. The simulated view provided by digital twins provide can help solve this problem — making safety issues much easier to catch. As real-time data becomes more accessible and available due to IoT devices and other networked information sources, digital twins become even more effective. An effective digital twin serves as a real-time model of a manufacturing facility, capable of tracking the movement of workers and machine performance. Digital twins highlight dangers and inefficiencies enabling a fast response to make facilities safer or more productive.



As new technology is adopted within the Manufacturing sector, so does the move to more advanced EHS processes and systems. These trends are summarised below.

Figure 3The Evolution of the EHS Function in the Manufacturing Sector

	Traditional	Modern	Emerging
EHS Function	Manual	Digitised	Data-driven
Delivery	Paper-based and spreadsheets	Multiple point solutions and IoT	Single platform across the supply chain
Staff	Support	Enable compliance	Drive performance
Focus Areas	Reducing physical accidents	Risk management across the supply chain	Whole-person safety
Challenges	Supply chain complexity and risk	Consistency across supply chains	Unified view and data integration
	1990s	2020	2030





About Focus Network

Focus Network is a data-driven networking, research, and advisory hub dedicated to delivering localised insights and assessments for businesses around the globe. Our aim is to support senior executives and their teams in accelerating their overall strategies and investments.

About

HSI Donesafe

HSI Donesafe simplifies safety, compliance, and risk management with an easy-to-use, configurable platform. Trusted by 2,000+ companies globally, it oers 60+ modules, Al capabilities, and built-in reporting. A Verdantix 2025 EHS Software Leader, it empowers teams to streamline safety while ensuring scalability, flexibility, and eciency - without reliance on technical support.

focusnetwork.co

donesafe.com

Disclaimer

Whilst reasonable efforts have been made to ensure that the information and content of this product was correct as at the date of first publication, neither Focus Network nor any person engaged or employed by Focus Network accepts any liability for any errors, omissions or other inaccuracies.

Readers should independently verify any facts and figures as no liability can be accepted in this regard - readers assume full responsibility and risk accordingly for their use of such information and content.

Any views and/or opinions expressed in this product by individual authors or contributors are their personal views and/or opinions and do not necessarily reflect the views and/or opinions of Focus Network.

