

Implementing Industry 4.0: HR Challenges and Opportunities in Manufacturing

The ever-changing demands placed on the manufacturing industry have required the sector to evolve and adapt exponentially throughout its existence. When people hear the words ‘industrial revolution’ they often think back to the very first industrialisation that took place in the 1700s. We are now, 323 years later, deep in the developments of a fourth industrial revolution, known as ‘Industry 4.0’

The term was first coined in 2011 during a high tech strategy project being driven by the German government. Klaus Schwab, the founder and executive chairman of the World Economic Forum, describes industry 4.0 as ‘ a range of new technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries’. McKinsey further refined this definition in 2022, to specify that Industry 4.0 is ‘next phase in the digitization of the manufacturing sector, driven by disruptive trends including the rise of data and connectivity, analytics, human-machine interaction, and improvements in robotics’. Schwab highlighted the challenges that decision makers will face as part of these high velocity developments. He suggests that it will take a collaborative effort across society to ensure that this revolution remains ‘empowering and human centred’.

With this challenge in mind, how can employers play their part in this transformation?

Within this article, Croner assesses the HR challenges and opportunities associated with industry 4.0.

HR Challenges and Solutions in Implementing Industry 4.0

Recently in 2021, Krzysztof Ejsmont published research findings that assessed ‘The Impact of Industry 4.0 on Employees’. Within this research paper, Ejsmont makes the comment that ‘The biggest challenge of I4.0 seems not to be technology, but people.’ This further emphasises the importance of prioritising strong HR processes alongside the implementation of digitisation in the workplace. Lets have a look at how employers can combat this challenge:

Challenge: Increases in automation, robotics and digitalisation will require employers to adjust the competencies and the required experience/qualifications for existing roles. (Gorecky, Dominic, et al 2014).

Solution: Provide upskilling sessions to existing workers who are trained on traditional manual labour processes, so that they can develop the skills required to competently complete the automated tasks. Training should take place well ahead of the implementation of automated/digitalised tasks, to ensure that staff have adequate time to digest the training and develop new competencies.

Challenge: Identifying the skills that are most likely to be in high demand, to ensure that upskilling/reskilling is actioned accordingly (Hirsch-Kreinsen, H 2016)

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Solution: Ensure that your business dedicates to researching the developments to job roles and technology within the manufacturing sector. This can be allocated to an inhouse HR professional, or any member of management that oversees recruitment and training. Research papers and studies conducted by industry professionals can be invaluable in identifying trends, as well as monitoring announcements and job postings from sector leading businesses. This can indicate which skillsets are in the highest demand and show which areas to begin upskilling first.

Challenge: Preparing for job losses caused by new technologies and an adjustment to role roles. (Hirsch-Kreinsen, H 2016)

Solution: In some instances, employers may find that some job roles are eliminated entirely due to the automation of a task. Employers must always make efforts to retain existing staff where possible, through changing job roles and providing training. However, there are circumstances where redundancies and terminations may be unavoidable. Ensure that the redundancy consultation is announced as soon as possible and communicated clearly to employees.

Challenge: Some staff members may have an existing stigma against newer modern technologies, such as robotics, due to the threat they present to manual labour workers. A 2022 study by Harvard Business Review showed that 42% of surveyed workers had a negative sentiment towards robots in the workplace.

Solution: Communication is key, you should take a proactive approach to telling staff

about the upcoming technology implementation and its potential impact on job roles. You want your employees to feel secure and confident, so you should offer training programs and upskilling workshops. These sessions will help workers transition into new roles, or acquire skills that will compliment digitisation in the workplace. By upskilling existing staff, you can eliminate anxiety surrounding the future of workplaces, especially if staff are actually engaged in creating this future.

Opportunities for HR in Industry 4.0

So, we've discussed several of the main HR challenges that businesses will face throughout this industrialisation, but what opportunities are going to arise as a result of this revolution, and how can you utilise strong HR to achieve this?

Opportunity: Allows for workers in labour roles with typically limited technical skills to have the opportunity to develop new skills sets that can further their career and improve job stability.

HR's Role: As we've mentioned several times, staff training and development is key to supporting staff through the changes of Industry 4.0. While investing in high quality staff training can be considered a challenge for employers, it also increases the chance of high staff retention and shows that you're willing to invest in the future of your workers. UK recruitment agency Randstad published research into retaining manufacturing

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workers, their findings confirmed that manufacturing workers typically stay with companies who offer the possibility of permanent employment and greater future earning potential.

Opportunity: Industry 4.0 technologies empower businesses to optimise workforce management and improve employee engagement. For instance, IoT sensors and data analytics can be leveraged to monitor employee performance, well-being, and overall satisfaction in the workplace.

HR's Role: It's vital that either management or your HR department utilise the real time data that becomes available, so that it informs the development of personalised training programs and tailored employee experiences, contributing to increased productivity and satisfaction among the workforce.

Opportunity: Industry 4.0 has the potential to streamline manufacturing processes and improve operational efficiency. These advancements can lead to reduced work hours, increased flexibility in work schedules, and potentially less strenuous

HR's Role: Employer's should be prepared to process an increased amount of flexible working requests as a result of reduced workloads. The feasibility and impact of such initiatives can vary widely depending on the workplace and the specific factors that contribute to it's success. It's also important to communicate to staff the healthy boundaries to maintain between work and personal life, as the modern technologies Industry 4.0 brings can contribute towards the growing 'always switched on' mindset

Its also important to ensure that any ongoing upskilling/training does not impede onto an employee's personal life wherever possible.

Opportunity: Through the implementation of predictive maintenance technology, smart PPE and real time data drive safety analytics, employers can minimise the need for human intervention in high-risk activities. Human workers can be freed from hazardous tasks and benefit from the early detection of equipment malfunctions. By leveraging these capabilities, employers can expect a reduction in workplace accidents and injuries.

HR's Role: In order to utilise the technology that will contribute towards enhanced worker safety, employees must be provided with the necessary training, as well as embrace a culture of safety within the organisation. Businesses should implement open communication channels to gather feedback from employees regarding safety concerns and incidents. It's also recommended to take continuous feedback on training sessions, to ensure that these are actually benefitting employees.

Conclusion: HR's Role in the Evolution of Manufacturing

In conclusion, Industry 4.0 has ushered in a new era of challenges and opportunities for HR in the manufacturing sector. Efforts to address the challenges associated with automation, digitalization, and the potential for job losses involve proactive strategies such as upskilling sessions, thorough skills assessments

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and clear communication to alleviate employee scepticism towards modern technologies.

Concurrently, Industry 4.0 presents promising opportunities for HR, including the development of new skill sets for labour roles, optimization of workforce management, increased operational efficiency, and enhanced worker safety through predictive maintenance technology and smart PPE. HR's responsibilities encompass fostering a culture of safety, providing necessary training, and gathering continuous feedback to ensure the overall well-being and engagement of the workforce in the [manufacturing sector](#).

As a member/client of a Croner Partner, you can access expert complimentary support from Croner. If you're worried about how to handle the implementation of new technologies into your workplace, do not hesitate to contact their advisers on [0844 561 8133](tel:08445618133). Please ensure you quote your CGL account reference number to access the telephone advice.

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