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Filling the Skills Gap in a New Era of Manufacturing



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The Fourth Industrial Revolution has paved the way for a systemic transformation in how the world operates and how customers are served. Most industries started taking small steps toward digital transformation[1] before the COVID-19 pandemic ballooned into a global crisis. The pandemic has only accelerated the need for the analog-to-digital switch, forcing everyone from global corporations to mom-and-pop shops to step on the gas toward a digitized future.

When the global economy shut down in 2020, the manufacturing industry witnessed a historic slowdown. Now ramping back up to pre-pandemic production levels, manufacturers are embracing digital changes, hoping to use new technology to help mitigate pandemic-related disruptions. Such changes include installing cobots (collaborative robots) or other automation equipment to ensure production viability should another global crisis cause the same amount of disastrous interruption.

Not only is the rate of supply and demand changing as the economy attempts to rebound, but so are the duties and responsibilities of the workers in these stages of production. Digital expansion in any industry presents a need for skilled workers. In manufacturing, experts predict 4 million jobs will become available during the next decade, with approximateky 2.1 million of these openings going unfilled due to the lack of skilled workers. To address this gap, manufacturers must focus on training existing workers who aren't adept in digital practices as well as finding new talent to help fill skills gaps. Reskilling, upskilling, and adapting hiring strategies will be the three main keys to unlocking manufacturers' digital future.

In this guide, we'll review the challenges manufacturers face in the wake of digital transformation, explore how they can adjust current practices to adapt to this new era of production, and offer tips on sourcing a new generation of talent for the future of manufacturing.

1. https://www2.deloitte.com/us/en/insights/industry/manufacturing/future-of-work-manufacturing-jobs-in-digital-era.html

Manufacturing's New Look

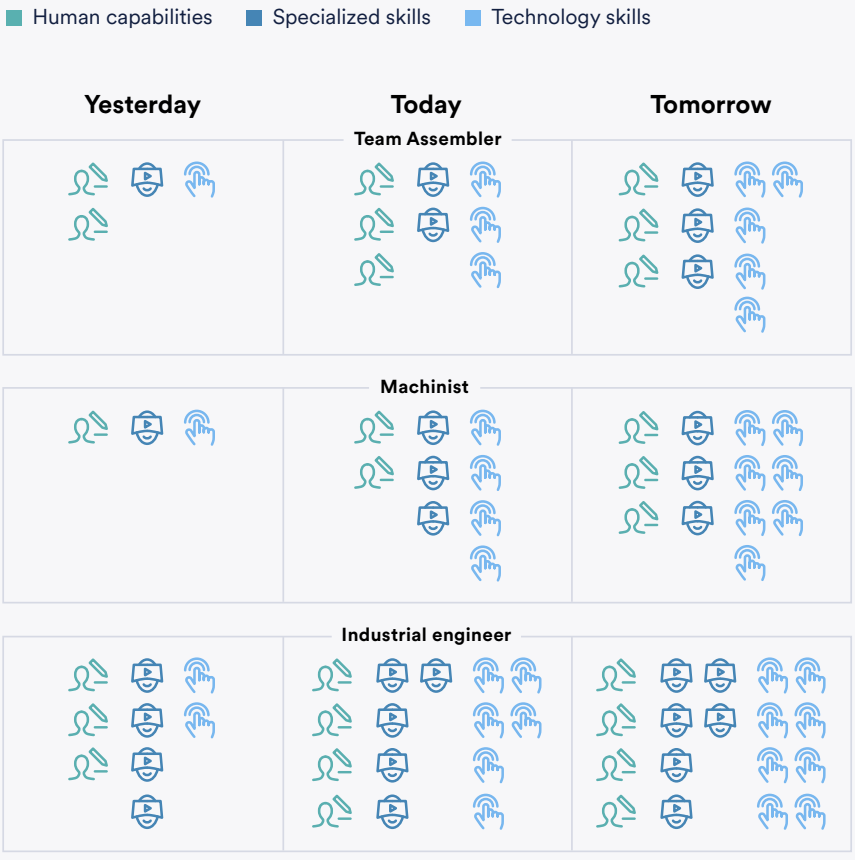
The manufacturing industry isn't what it used to be, even compared with just a few years ago. As technology advances at warp speed, a fairly wide skills gap is revealing itself.

Changes to processes on the manufacturing floor may look like:

- Switching from manual to digital platforms for tasks like purchasing, which may necessitate new steps in the supply chain.
- Replacing other manual tasks with automation and artificial intelligence (AI).
- Expanding product lines as dependency on local manufacturing—which increased in 2020 due to the COVID-19 pandemic—continues to increase.

The changing nature of skills, roles, and jobs further challenges manufacturers

An illustration of how current manufacturing jobs are likely to change in coming years.



*Source: Deloitte analysis based on data from O*Net. Deloitte Insights. deloitte.com/insights*

Human capabilities

- Basic digital learning agility
- Management of resources
- Decision-making/problem-solving
- Ability to handle multipleteams and team members
- Advanced digital skills such as process twin development and testing

Specialized skills

- Understanding and working with state-of-the-art robotics and automated equipment
- Data analysis
- Proficiency with advanced manufacturing technologies
- Automated process monitoring and control
- Production process proficiency
- Leveraging digital systems

Technology skills

- Understanding of connected equipment and industrial control software
- Computer aided manufacturing (CAM)
- 6-sigma DMAIC or DFSS certified
- Advanced customer data analytics
- Advanced computer skills and knowledge of document and speardsheet products
- Working knowledge of statistical analysis