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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 transformation¹ 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 approximately 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.

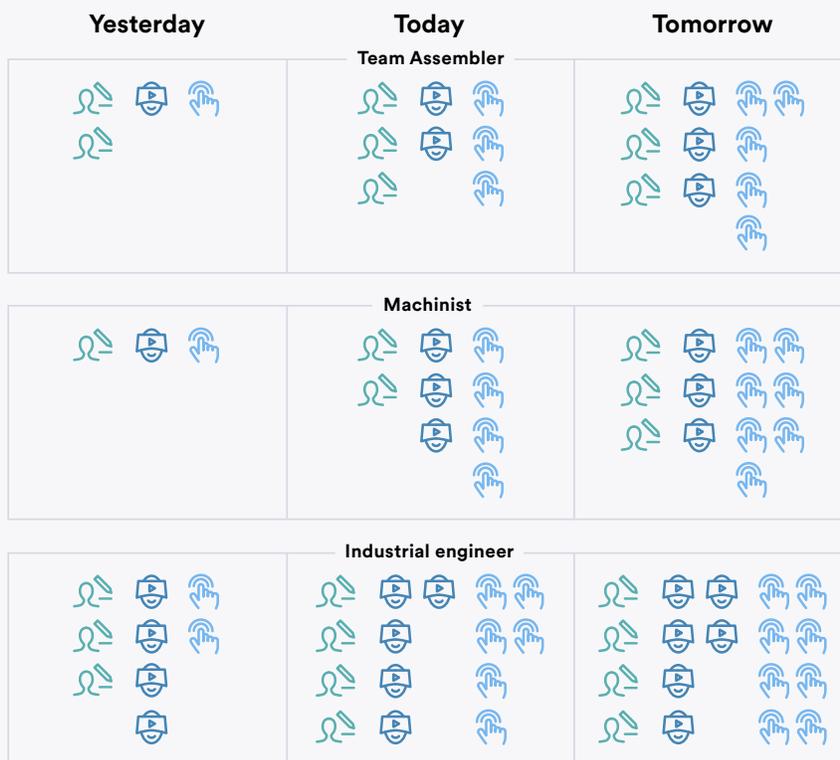
Changes to processes on the manufacturing floor may look like:

- 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.

■ Human capabilities ■ Specialized skills ■ Technology skills



Human capabilities

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

Specialized skills

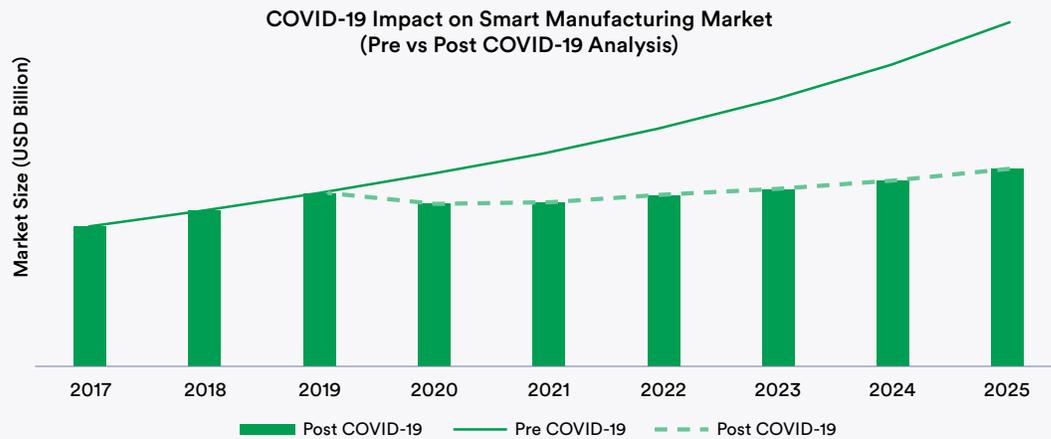
- Understanding and working with state-of-the-art robotics and automated equipment
- Data analysis
- Proficiency with advanced manufacturing technologies
- Automated process monitoring and control
- Production process proficiency
- Leveraging digital systems

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 spreadsheet products
- Working knowledge of statistical analysis

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

Swapping out manual machinery for computerized machinery aligns with a booming “smart manufacturing” market, which is poised to grow from a \$181 billion industry in 2021 to a \$220 billion industry by 2025.²



Source: Press Release, Investor Relation Presentation, Annual Report, Expert Interview, and MarketsandMarkets Analysis

Implementing new technology doesn’t happen overnight, and neither does educating employees on how to use it. Next, we’ll look at how manufacturers can start closing the skills gap by reskilling and upskilling workers and review examples of global brands that have already begun these tasks in anticipation of their own digital transformations.

Closing the Manufacturing Skills Gap

With digital transformations fully underway, manufacturers need to make sure staff are properly trained and knowledgeable about new tech and processes. This may involve upskilling—or increasing existing workers’ skills to help them improve in their current roles—and/or reskilling, which involves teaching workers new skills to enable them to perform different jobs. Although most modern workers may have a basic understanding of new types of technology, the industry changes quickly and manufacturers need to ensure their staff are on top of processes like additive manufacturing, digitalization, and automation.

² <https://www.infojiniconsulting.com/blog/trends-changing-the-manufacturing-hiring-landscape-post-covid>

UPSKILLING AND RESKILLING VS. HIRING

Manufacturers always have the option to look to outside talent who may already have had training in certain technologies, but studies show that reskilling and upskilling existing workers is much more cost-effective than hiring new ones.

External Hires

- **52 days** to hire a new employee³
- **Tens of thousands** of dollars for recruitment fees, advertising, and onboarding
- New hire turnover is **2 to 3 times** more likely⁴
- Up to **2 years** to get up to speed⁵
- Can cost up to **6 times more** to hire externally than to train from within

Reskilling and Upskilling

- Already knowledgeable about internal processes and systems
- Post-training **productivity** gains outweigh time lost to training
- Reskilling is **half the cost** of recruiting externally (based on the median salary in the US)⁶

INVESTING IN TRAINING

According to a survey from the National Association of Manufacturers' Manufacturing Institute, nearly 80% of manufacturers began to address the skills gap as early as 2018 by investing more than \$26.2 billion in both hiring and training efforts.⁷

Several global brands have already invested billions into upskilling and reskilling workers to help them build upon existing skills or learn new ones.⁸ PwC, for example, has put \$3 billion toward upskilling 275,000 workers; Amazon has invested \$700 million to retrain one-third of its U.S.-based workers and help them transition from non-tech roles to tech roles; and Accenture pledged to spend nearly \$1 billion per year to retrain workers who are at risk of losing their jobs to automation.

3. <https://www.shrm.org/hr-today/trends-and-forecasting/research-and-surveys/Documents/2016-Human-Capital-Report.pdf>

4. <https://joshbersin.com/2019/10/build-vs-buy-the-days-of-hiring-scarce-technical-skills-are-over>

5. <https://recruitshop.com.au/blog/2017/05/01/long-take-employee-fully-productive>

6. <https://hrexecutive.com/its-time-for-a-reskilling-revolution-heres-why>

7. <https://www.themanufacturinginstitute.org/research/the-manufacturing-institute-training-survey-2020>

8. <https://www.businessinsider.com/companies-investing-retraining-upskilling-reskilling-2020-10#in-june-2019-accenture-said-it-would-be-spending-nearly-1-billion-each-year-to-retrain-its-workers-5>

At Fountain, nearly one-third of our customers use at least one of three training integrations we offer (Northpass, EduMe, and Lessonly). During a recent Fountain-led webinar titled “Talent Acquisition Strategies to Combat the Labor Shortage,” Richele Middlebrooks, Director of Talent Acquisition at Grocery Outlet, explained how education programs are helping workers get professional certifications to expand their career opportunities beyond the distribution center.⁹

A STARTING GUIDE

At the most elementary level, leaders should administer an annual training program that includes updates to any existing operations and machinery. This might include a combination of classroom or virtual sessions and hands-on training on the factory floor. Additionally, rotational training programs can help keep workers abreast of ongoing changes that may occur more frequently or unexpectedly.

Varied styles of learning tend to be more successful in information retention. Including both written and visual content gives learners the option to absorb content in a way that suits their learning style. Finally, infuse flexibility into training by replacing days-long sessions with on-demand, mobile-friendly, easily digestible sessions, which also allows workers to revisit content as needed.

Hiring for a New Era

Balancing new hires with seasoned workers can be a delicate task, but leveraging the advancements of technology can help hiring managers sort through top-tier candidates and conduct the bulk of their hiring duties digitally.

A survey from Jobvite¹⁰ revealed 34% of recruiters feel AI makes their job better, especially for the following tasks:

- Scheduling interviews (78%)
- Communicating with candidates (53%)
- Inputting applications (49%)

9. <https://get.fountain.com/webinars/talent-acquisition-strategies-to-combat-the-labor-shortage>

10. <https://www.jobvite.com/wp-content/uploads/2021/03/Jobvite-2021-Manufacturing-Recruiting-Trends-FINAL.pdf>

Manufacturers who previously may have focused more on time to hire are instead shifting their efforts toward quality hires who can commit to long-term roles. Broadening the talent pipeline will reveal applicants with diverse backgrounds from a variety of industries who can lend their expertise in digital operations or even in leading teams through digital transformations.

Hiring for such positions shouldn't be limited to those who are adept in technology. Job listings should also express the necessity for non-tech skills such as conceptual thinking, decision making, and social flexibility (i.e., the ability to excel in a frequently changing work environment).

Social media is a tool that not only can help build brand awareness but also can advertise job openings. Social channels enable the presentation of manufacturing to young, enthusiastic, and tech-savvy jobseekers who may not normally consider the industry to be a desirable career path.

Recruiters also can start even earlier by instituting pilot programs at local high schools or by hosting "open house" events to allow students to see what highly skilled, well-paid careers in manufacturing could look like.

Conclusion

The pandemic changed nearly every aspect of human life as we once knew it. As one of the hardest-hit industries, manufacturing has had to pivot and navigate the post-pandemic world by remaining flexible with evolving consumer demands and adopting technology to meet those demands.

But these new challenges—like the skills gap—also present new opportunities for manufacturers to rethink how they operate, train, and hire. The threat of robots running the world isn't a threat when humans are adept at supervising digitally powered tasks and applying critical thinking and problem solving where robots cannot. The future has arrived much earlier than expected, but so long as automation exists, so will the need for highly skilled humans.

ABOUT FOUNTAIN

Fountain's all-in-one high volume hiring platform empowers the world's leading brands to streamline and scale their recruiting function. Our mobile-first platform keeps candidates engaged and reduces drop-off via built-in automated scheduling, text, and email reminders. Candidates can apply anytime, anywhere in minutes, right from their phone. It enables on-the-go hiring managers to move quality talent through the pipeline, reducing time to fill. Fountain provides local, regional, and company-level analytics to make data-driven decisions. Our drag-and-drop workflow allows for quick changes to accommodate fluctuations in hiring needs. Fountain's global customers hire over 1.2 million workers annually in 78 countries.

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