

Strategies to Transform Your Workforce for IoT

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KEY TAKEAWAYS

- To bridge the workforce skills gap, manufacturers must focus on technology and employee development.
- As Baby Boomers retire, industrial manufacturing companies need to rethink how they attract and retain talent.
- In the short term, creative approaches are required to address workforce challenges.
- Now is the time to take a strategic approach to workforce development.
- To become an employer of choice, manufacturers must be purpose-driven and accommodate both career and gig workers.

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OVERVIEW

Transformation can be a scary word for people and organizations, especially for employees who fear that automation, digitization, and the Internet of Things could be a threat to their jobs and their economic futures. At the same time, in today's tight labor market, manufacturers need to retain their workforces and drive employee engagement. This is challenging when approximately 60% of workers lack basic digital skills.

Strategic workforce development plans are critical for building a future-proof workforce and HR must collaborate with other business divisions to ensure sustainable impact.

CONTEXT

Josh Angel, Marianne Donoghue, and Sebastian Herrmann discussed how manufacturers can grow digital competencies in their existing employee bases, while meeting business needs. They also shared how companies can attract new talent from the younger generations.

KEY TAKEAWAYS

To bridge the workforce skills gap, manufacturers must focus on technology and employee development.

Technology and workforce development are converging. Both areas must be considered together, as manufacturers tackle their workforce challenges and develop their businesses.

A wide variety of technologies are transforming the workplace. Artificial intelligence and machine learning are the foundation of predictive maintenance and data analytics. Manufacturers are looking at data contextualization and the convergence of IT and OT data, as well

as the development of IoT platforms and applications. Advanced manufacturing relies on technologies like 3D printing, digital twins of parts, and even simple digital work instructions. In terms of the shop floor and supply chain traceability, augmented reality and mixed virtual reality are also playing an important role.

On the workforce side, it is imperative that manufacturers reach students at a younger age. Many people still have an outdated view of manufacturing, which is a huge disservice to the industry and the workforce. STEM in manufacturing is a lucrative, in-demand, and stable career path. Talking about manufacturing technologies like robotics and AI is a great way to make this sector more attractive to young people. Vocational training programs are an effective model for bringing younger people into the industrial world at an earlier stage to bridge workforce skill gaps. It is also essential to reach out to existing manufacturing employees to discuss the benefits of upskilling.

We're in an exciting convergence of technology and workforce in manufacturing. We have to acknowledge, however, that technology alone won't run the industry or the critical infrastructure that is the core of manufacturing. It takes a human touch that complements technology.

Josh Angel, Siemens Advanta

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As Baby Boomers retire, industrial manufacturing companies need to rethink how they attract and retain talent.

From a workforce demographics perspective, manufacturers find themselves at an interesting turning point. Baby Boomers represent about half the workforce at industrial manufacturing companies, and this generation has only five to ten years left in their careers. The other half of the workforce consists of younger employees, many of whom are digital natives.

Manufacturers must leverage the new capabilities that younger workers possess, while managing the loss of skills and institutional knowledge as older employees retire. This transition needs to be handled in a structured way, through upskilling measures, mentoring paths, and more.

To attract and retain younger workers, manufacturers must focus on two questions:

1. **What does the future of the company look like?**
Manufacturers must think about this in a structured way and then consider which workforce skills will be needed to support this vision.
2. **What type of work environment will encourage employees to stay?** Rethinking the workplace holistically from the perspective of workers is crucial. Leadership teams need a clear vision that inspires workers. Manufacturers also need to reconsider the traditional shift work model. Being onsite every day may not be the right approach. In the past, the biggest incentive for employees was their salary or hourly rate. That's not necessarily the case today. People want to feel valued for the skills they bring to the table, such as digital competencies or the ability to collaborate.

In the short term, creative approaches are required to address workforce challenges.

LIFT works with different organizations to transition people to industrial work. Operation Next, for example, is targeted at military and National Guard employees. This program provides tuition to attend skilled trades training, such as robotics, welding, CNC operations, or industrial maintenance.

Recently, a manufacturer urgently needed CNC operators. To address this pressing need, the company worked with LIFT to train employees as CNC operators. The manufacturer sent employees to Michigan for a week of training and paid for their travel and accommodations. This program benefited both the company and the employees.

Creative approaches to reskilling staff like these are critically important. One of the biggest challenges facing the current workforce is supporting their families. Most people can't take a month off from work to participate in training. Going to classes at night and on weekends can also be difficult.

LIFT has taken a hybrid approach to its training programs. At home, students conduct simulations and learn theory on their computers at a time that is convenient for them. In-person meetings are devoted to hands-on learning. Hybrid learning means makes upskilling opportunities more attainable for people already in the workforce.

Now is the time to take a strategic approach to workforce development.

Manufacturers must analyze their company strategies, identify their workforce requirements, evaluate the current state of their workforce, and design targeted training programs to fill the gaps. Workforce development needs to be managed as a holistic program and the process needs to start today.

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Josh Angel and Sebastian Hermann made the following observations:

- **Knowledge transfer can begin with small steps.** Prepare for how employees with decades of experience will transfer their knowledge to employees who just graduated from a trade school or a university. These steps don't have to be huge. Even small changes in support of the future are helpful.
- **Implementing new technology can take months.** During the pandemic, for example, many companies had to transform overnight and some didn't survive. The ones that did were already thinking about how to transition to new ways of operating.
- **Gaining transparency into the existing workforce is essential.** Many companies don't know what competencies their employees have today. This is an important first step before developing a workforce strategy.
- **Technology can be used to improve the employee experience.** From a consumer perspective, we are in the midst of an experience-driven economy. However, most manufacturers have thought very little about employees' experience in the workplace, which is where people spend most of their time. Technology has the potential to restore work-life balance to employees.
- **Manufacturers need to promote careers, not jobs.** This means offering employees lifelong learning and multiple pathways to success. Workers need to develop knowledge that is stackable and portable. This approach will inspire new talent and make manufacturing cool again.
- **Over time, manufacturers must evolve their training programs.** It is important for companies to have a plan for training and upskilling employees based on what will be required in the next five to ten years. A best practice is to set milestones five to ten

years in the future to review the business landscape and re-evaluate training programs. In this way, manufacturers can add new capabilities that employees need to be trained on and eliminate skills that are no longer needed.

Students need to recognize that manufacturing isn't just about an hourly job. They can grow within a company and move upward. We need to work with counselors and teachers in K-12 systems to reinforce this message. University for everybody isn't the best option and skilled trades could be a good option for 4.0 students.

Marianne Donoghue, LIFT

To become an employer of choice, manufacturers must be purpose-driven and accommodate both career and gig workers.

Younger generations of workers want to make a positive mark on the world. To win over this talent pool, manufacturers need to communicate their purpose in compelling, genuine, and understandable ways and then live it. It is important for companies to rethink their contribution to the world.

The gig economy also demands that manufacturers take a new approach to work. Employees show up for a gig because they want to work on interesting projects. Their motivation is seldom purely monetary. Most companies, however, are set up for lifelong employment, not for quick onboarding and offboarding of gig workers. Manufacturers must create structures and processes that will work for both types of work models.

Institutional change is required if manufacturers want to participate in the gig economy and tap into talent pools like data scientists and software developers. It's a big task to act on. Companies must create structures and processes that work for both types of work models.

Sebastian Herrmann, Siemens Advanta

BIOGRAPHIES

Josh Angel

Vice President, Digital Transformation Industries and Real Estate, Siemens Advanta

Josh Angel graduated from Azusa Pacific University in 2005 with a BS in Marketing and Management. He has since spent more than 13 years managing profit and loss, business development, account management, strategy, and sales operations. Having launched his career at Siemens in 2008, Josh has served in Channel Management, Product Management, Sales Operations, Business Development and Sales, Business Unit Leadership and most recently Head of Strategy.

Marianne Donoghue

Senior Director of Talent Programs, LIFT (Learning Innovations for Tomorrow)

Marianne Donoghue is the Senior Director of Talent Programs at LIFT, Learning Innovations for Tomorrow. Her current focus is managing LIFT's national workforce programs including Operation Next NIST and MEEP and local programs in the LIFT Learning Lab in Detroit. LIFT's Talent programs operate to provide a qualified workforce for the advanced manufacturing industry benefits both the workforce and industry. Prior to her current position at LIFT, she was the Director of Education and Workforce Development programs at LIFT.

Before working at LIFT, Marianne was the Assistant Director of Outreach at Oakland University in the School of Engineering and Computer Science. Prior to that, she worked for Pontiac Community Schools as a Mathematics and STEM instructor.

Sebastian Herrmann

Consulting Partner, Siemens Advanta

Sebastian Herrmann is a Consulting Partner at Siemens Advanta, as well as a people and healthcare enthusiast, focusing on digitalization and how people and organizations transform in conjunction with their business strategy. He can look back at 15 years of experience in consulting and technology where he gained extensive experience in people and organizational transformation alongside forming new digital strategies. Before starting his consulting career Sebastian combined technology with his passion for people and organizational transformation and founded a company in that very space.

Today, he leads the Workforce Development and LifeScience Vertical globally and supports multiple customers on their digital transformation journey with a strong emphasize on the most important puzzle piece – the people.