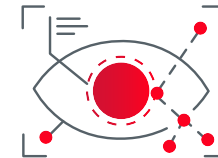
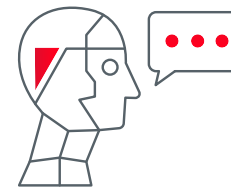
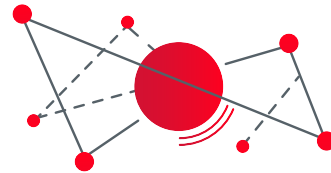
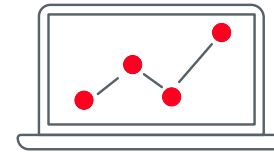
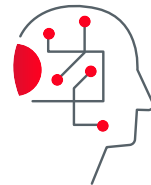
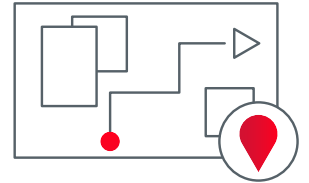
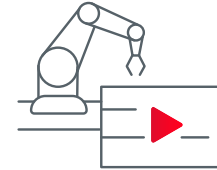
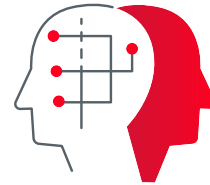
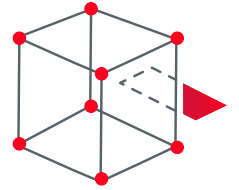
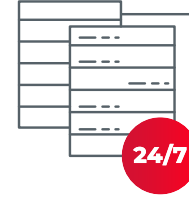
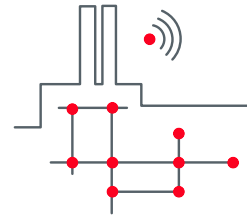


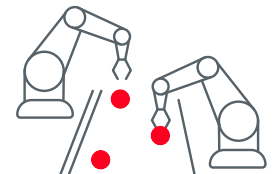
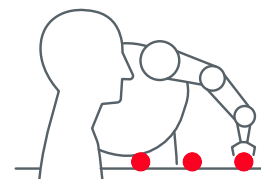
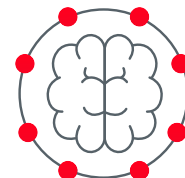
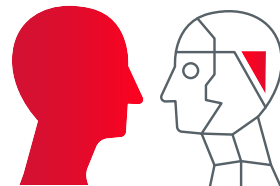
Accelerating the

M4.0

Learning Curve



With in-person training on hold during the pandemic, digital training can fill an important role and generate an ROI as high as 127%.



THE LONG-STANDING NEED FOR SKILLED TECHNICIANS ON THE factory floor has become an urgent concern. While worker shortage was already a chronic problem for manufacturers, the pandemic introduced a further element of turmoil for recruiting, hiring, and training new or existing talent. As many manufacturers are either resuming normal operations after a shut-down or experiencing a sharp uptick in demand for their products, this struggle has become all the more apparent.

While the pandemic put a pause on bringing job recruits into production facilities, it also accelerated the number of older workers entering retirement. This further amplifies the knowledge gap that already existed between those older skilled workers and newer workers with less experience.

A study from Deloitte and the Manufacturing Institute had already projected the skills gap crisis to result in an estimated 2.4 million unfilled positions between 2018 and 2028. The same study concluded that the current talent shortage was caused by three key factors: A lack of skill sets to support the implementation of advanced technology, a negative perception toward manufacturing career paths, and the ongoing retirement of baby boomers. All three realities present major challenges for companies that are looking to capitalize on automation, augmented reality, cloud-based technology, and other aspects of Manufacturing 4.0.

Digital Training Presents Opportunity

Despite these layers of challenges, there is a silver lining for manufacturers. Digital production technologies and digital learning platforms are creating new opportunities and introducing entirely new ways to educate and train work-

ers. By prioritizing ongoing digital training, manufacturers can retain and transfer crucial skills between workers, help technicians develop the hard and soft skills that they need to succeed in the new digital factory, and recruit young, essential talent by presenting them with the digital workplace tools they demand. This is key to changing public perception about an industry that many young workers have ignored because they do not feel it offers a highly digital work experience.

Training is not only key to acquiring knowledge, but it also has a direct impact on future job performance, workplace safety, equipment OEE, and overall job satisfaction/employee retention. A robust digital training program can be essential to meeting production goals and ultimately increasing profitability.

Rapid Knowledge Transfer

While current events have impacted manufacturing in a multitude of ways, training remains an ongoing and urgent need. Digital networks have enabled remote learning and in some cases have made training more efficient. For example, ATS has been using technical simulators for years to train technicians and help them gain troubleshooting experi-

ence with highly complex production machinery. However, the pandemic has caused training providers to pivot and add more virtual learning to existing training programs.

Because ATS deploys technicians to a variety of production facilities across the nation, training must be available in each location. While training was once conducted in-person in a classroom setting, ATS now sends digital training packages to its job sites. These packages include a training simulator, camera and speakers. Students at different locations then interact with the simulator as an instructor guides them virtually.

The major benefit of virtual instruction is that it drastically improves the teacher-to-student ratio. Previously, in-person training consisted of one instructor teaching between 6-10 technicians at a time. But with virtual training, remote instructors can teach a significantly higher number of technicians in less time. This results in a ripple effect of knowledge transfer that greatly expands informational outreach and allows high-level technicians to share their expertise far and wide before retiring. Preserving this knowledge as part of a digital learning library and accelerating the learning curve for newer workers allows companies to work against the ticking clock and bridge the skills gap between generations.

Custom Program, Maximum Results

One way to structure a custom digital skills program is to administer a skills assessment to each technician. This assessment will validate the over-

all skill gaps and identify individual areas for development. A robust program should include everything from broad introductory topics for newer, less experienced workers to highly advanced courses for more senior team members. Each technician can then be assigned an education outline to complete throughout the year or within another established timeline. This then becomes a renewable training program that manufacturers can use to track progress and document training records.

Managing training on an individual basis ensures that every worker receives the specific training he or she needs to excel on the factory floor. It eliminates the broad, guess-and-check strategy that can cause companies to waste time and money teaching skills that technicians already know. This cost-effective approach matches each technician to the appropriate courses and ensures that each training investment is one well spent.

How To Attract Younger Talent

Stigmas surrounding the manufacturing industry have undoubtedly contributed to the talent shortage. Often regarded as labor-intensive, monotonous, and un lucrative, the industry is struggling to generate appeal and recruit top talent. By investing in technical training, companies can gain new ground in highlighting and developing advanced skills that define the digital factory.

Time is certainly of the essence for manufacturers as senior-level technicians continue to retire and leave the workforce.



Manufacturing 4.0 has introduced an entirely new digital platform that leverages engineering, electrical, and mechanical expertise like never before. This is where manufacturers need to gain the attention of talented candidates who are currently applying their education to other fields. One of the best ways for manufacturers to do this is by demonstrating their own digital aptitude during the recruiting and hiring process, utilizing digital platforms to familiarize candidates with the company and showcase promising career opportunities.

According to the Deloitte study, manufacturing executives said that the top five needed skill sets over the next three years include technology/computer skills, digital skills, programming skills for robots/automation, working with tools and technology, and critical thinking skills. Manufacturers must emphasize the advancements and improvements that are placing them on the cutting-edge of digital technology.

Learning More in Less Time

Setting aside time for ongoing training has often been another challenge for manufacturers, especially those who rely heavily on workers to meet relentless production demands. Once technicians are initially trained, companies find it difficult to balance ongoing training with production needs on the floor. Yet ongoing training is

crucial to understanding and fully leveraging new technology.

On-demand digital learning can be one solution to continually developing skills without demanding excessive amounts of time. ATS delivers short, 5-10 minute training videos focused on specific technical issues that are commonly reported across job sites. Because the videos are short and digestible, many of the ATS on site teams will show them during shift change meetings or in weekly training days.

Short training videos can also be more appealing to those earlier in their careers who prefer learning in smaller doses. Rather than forcing technicians to sit in a classroom for hours and ultimately retain less information, shorter videos encourage more autonomous learning at an individual's preferred pace.

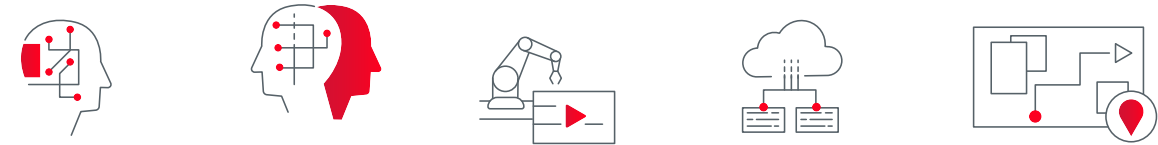
Building Digital Strength

Having a technically skilled workforce is absolutely crucial for manufacturers. However, most decision makers are so time-constrained that they cannot dedicate the necessary time and energy to properly train their teams. Companies rely on a fully trained workforce to maximize uptime, ensure workplace safety and meet production goals. But it is up to manufacturers to make training a priority and give technicians the tools they need to thrive in their respective roles.

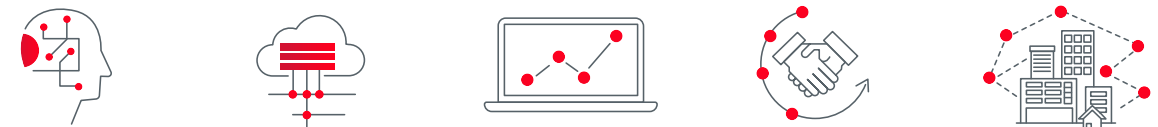
2020 has shown us just how unpredictable the global market can truly be. The 2020 Manufacturing Outlook by Deloitte ad-



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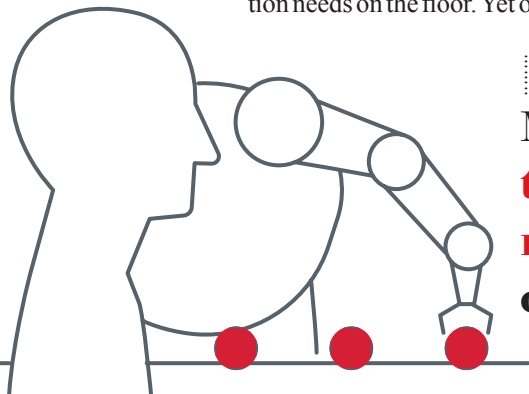
vocates for digital “muscle building” to increase operational flexibility and minimize risk. The faster that manufacturers can grasp AI, cloud computing, robotics and other digital technology, the better they can respond to unpredictable market changes and threats. Advanced digital training will position manufacturers to maintain a highly skilled workforce that can pivot and respond to various operational challenges, including economic crises. Whether the training is conducted in-house or outsourced to a third party, manufacturers need to strengthen their digital muscle to capitalize on market opportunities and protect themselves against market disruption.

Overcoming the Hurdle

ATS continues to invest in its training program, providing more than 58,000 hours of technical training to ATS technicians in 2019. This translates to advanced and versatile skill sets, increased workplace safety, greater job confidence,

proactive job performance and improved employee retention. An intensive study of internal CMMS data showed that optimized maintenance training is directly correlated to achieving operational excellence and can generate an ROI as high as 127%.

Many in the industry say that there is no viable solution to the skills gap crisis. But the implementation of strategic and advanced digital training says otherwise. This is especially true with the recent emergence of virtual training that accelerates the learning curve and greatly expands the potential for knowledge transfer. Time is certainly of the essence for manufacturers as senior-level technicians continue to retire and leave the workforce. But given the positive results that we've seen with digital training thus far, I believe there is reason to be optimistic for successfully retaining knowledge and recruiting the younger generation to bridge the skills gap for Manufacturing 4.0. **M**



Manufacturers must emphasize the advancements and improvements that are placing them on the cutting-edge of digital technology.