

 **APUINSIGHTS**  
Product of APU Commercial Information Services LLC

# UPSKILLING & TALENT MANAGEMENT **IN THE DIGITAL MANUFACTURING ERA**

APU is a knowledge-based consultancy company providing research and analysis, data, technical and business advice and services, sought by business leaders and strategists, to help them capture tomorrow's opportunities, today.

APU delivers market research reports covering markets, industries, countries, companies and technologies.

By continuously updating our desk research, and leveraging market research publications from leading institutes and consultancies worldwide, we provide relevant, current and credible research, critical to the success of your business.

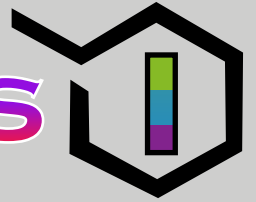
Our clients use our insights, critical analysis, statistics and forecasts to help make strategic business decisions and grow their organizations. Our approach combines deep insight into the dynamics of industries and markets to help clients build more capable organizations and sustain lasting results.

### **Global Business Intelligence**

Trends and forecasts for 18 global industries and over 1200 industry subsectors in up to 60 economies.

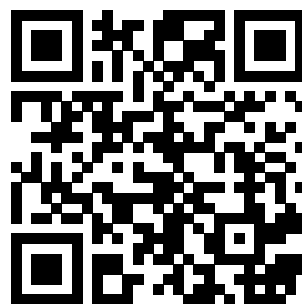
Our subscription services for data, news, analysis and forecasts, help clients understand how the world is changing and how that creates opportunities to be seized and risks to be mitigated and managed.

# DIGITAL FUTURES



DIGITAL FUTURES is an online content publication platform catering for technology business leaders, decision makers and users, by sourcing and sharing valuable information and best practices in connection to the latest emerging technologies trends and market developments that leverage capabilities and contribute towards enhanced enterprise-wide performance.

DIGITAL FUTURES



WATCH  
DIGITAL FUTURES VIDEO



WATCH VIDEO

LEARN  
MORE



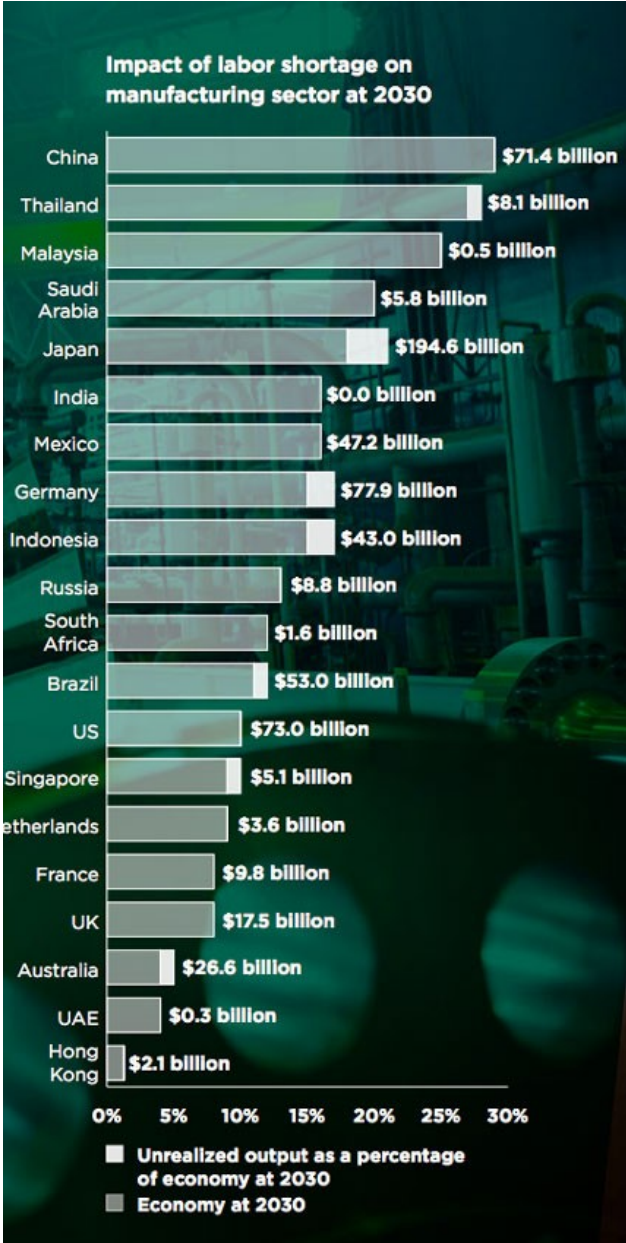


# UPSKILLING & TALENT MANAGEMENT IN THE DIGITAL MANUFACTURING ERA



Mobile sensors can monitor stock from the manufacturing floor to a retail shelf or customer's doors; throughout the distribution channel. Machines send quality control alerts, mistakes, scarcity of supply or breakdown. Predictive analytics software automatically fixes maintenance on the basis of travel and current repair schedules for trucking fleets. All of this is enabled by various technologies: mobile, cloud computing, analytics, automation, artificial intelligence (AI), the Internet of Things (IoT), 3D printing, autonomous robots as well as augmented and virtual reality (AR/VR). What happens will be dictated by people, customers, and workers. And perhaps, this is the primary promise of the fourth industrial revolution:

people-related transformation and innovation including a direct relationship between manufacturing and the consumer. When jobs in manufacturing began to increase, with 12.84 million employment growth in January 2019, their filling became more difficult. According to National Association of Manufacturers, more than 500,000 manufacturing jobs are currently open. But an additional issue enhanced the current employment situation on manufacturing industry. Closed factories were dramatically increased during the recession period and still, nowadays, there is a blend of instability in the development of even the large firms, supplemented to the generalized aggressively investments on the emerging automation technologies and the required highly skilled workers.



*Fig 1. Impact of labor shortage on manufacturing sector at 2030. LinkedIn. (2019). These Industries Will Face the Biggest Talent Shortages by 2030.*



## WHY MANUFACTURING TRANSFORMATION COULD FAIL?

Many organizations, approach digital conversion as a project to be finished; but this is a method, not an objective. If this is not recognized, the organization will eventually be as strict as before. In order for the next transition to work as an incentive, it is essential to establish inner processes which enable a culture of continual improvement with both leadership and employees. Gartner found that the lack of abilities poses a severe danger to transformation attempts of organizations. In fact, it is shown that only 20% of employees have the skills needed for their current and future roles. Organizations that want to be successful must invest in personnel training and be ready to hire from outside. Data analytics, machine learning, cloud computing and safety are key fields to focus on.



Moreover, according to Catarina Abrantes at Russell Reynolds Associates, participants to the industrial sector have identified the effectiveness of accessing third-party or other client data and the ability to use and analyze it as challenges. More than a third of industrial organizations, according to Russell Reynolds said that they do not have enough information from third parties. A digital ecosystem can exponentially improve the efficiencies of a conversion program, covering vendors, clients and other partners. The major concern for modern manufacturing companies is about filling the employment gaps created by the current technological evolution<sup>1</sup>. Dealing with this talent gap is a major concern for an industry already finding difficulties to meet demand.

Standing on these difficulties, training workers in new technologies is the focus of many companies. For example, Honeywell Technologies is using augmented reality (AR) and virtual reality (VR) to help companies onboard and train workers. While many businesses invest in training to on-site technology, they also invest strongly in apprenticeship programs, from which they teach the necessary skills in digital production. Many businesses have also used high school students' programs and paid for their jobs while they were studying. Reforming education, improving training, and apprenticeship programs will go a long way toward solving the skill gap<sup>2</sup>.

## TOWARDS THE TOTAL DIGITAL TRANSFORMATION

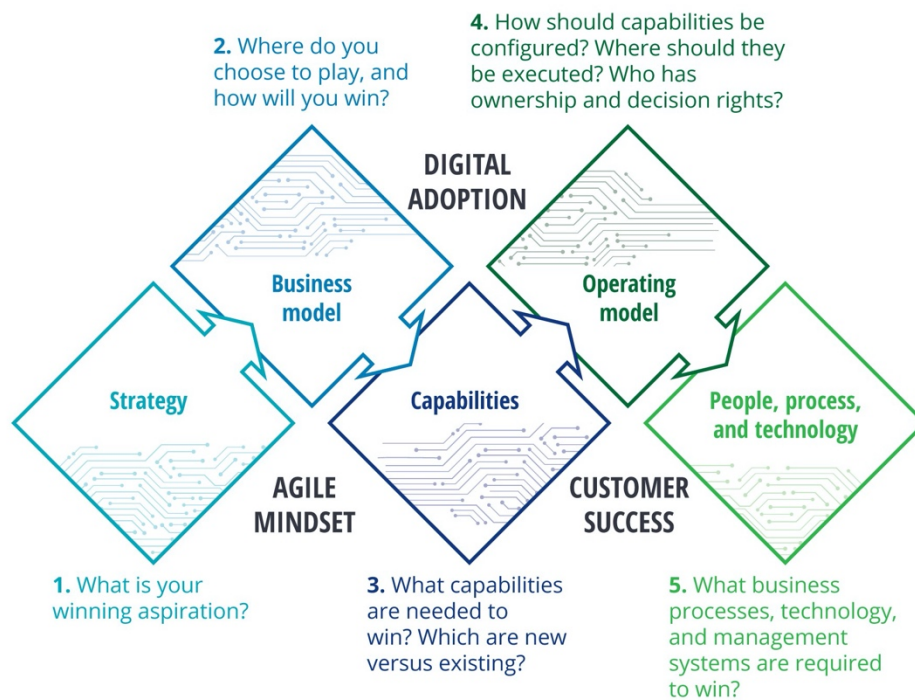
Digital transformation is a fundamental transformation of business and organizational operations, procedures, skills and models in order to take full advantage of current and future change and possibilities within the blend of Digital Technology and its accelerating effect in society. Digital transformation is used mainly in a company setting and affects other organizations such as government agencies, public sector organizations, and companies that are engaged by using one or more of these current and emerging technologies to address social problems, such as pollution and the ageing population<sup>3</sup>.

A digital transformation strategy is aimed at building the ability, more rapidly, better and innovatively in the future, to fully exploit the opportunities of new technologies. A digital path of conversion requires an integrated strategy and a clear roadmap involving a number of stakeholders over and above silos as well as internal and external restrictions. Digital transformation involves the application of digital techniques to improve the procedures, ameliorate client experiences, and concentrate on the areas where company and client values are fulfilled. In order to promote or enhance procedures and techniques, digital transformation even extends beyond digital techniques.



## Digital industrial transformation framework

Digital industrial transformation begins with strategy, which is carried through to redesigning talent models, transforming processes, and retooling technology. Leaders screen each decision to confirm that it will contribute to agility, promote digital adoption, and deliver value to customers.



Sources: Deloitte analysis.

Deloitte Insights | [deloitte.com/insights](https://deloitte.com/insights)

Fig 2. Digital industrial transformation framework.

## **REFERENCES**

1. Raconteur. (2019), Future of Manufacturing.
2. Adrienne Selko. (2019) How Manufacturers are Tackling the Skills Gap.
3. I-SCOOP(2019), Digital Transformation: Online guide to digital business transformation.

