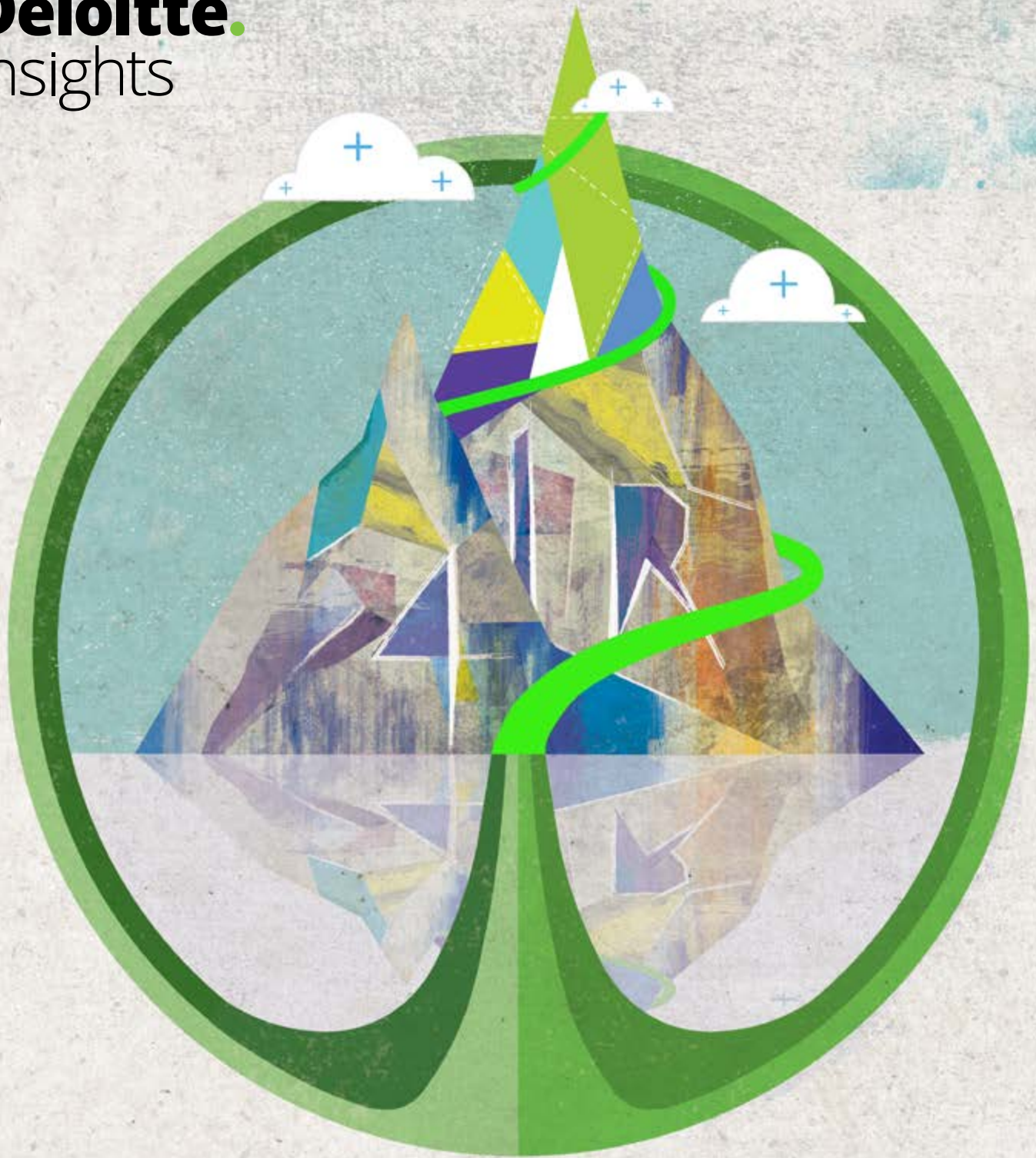


Deloitte.
Insights



The Fourth Industrial Revolution

At the intersection of readiness and responsibility

Views from Industrial Products leaders from countries across Europe, the Middle East and Africa

Contents

Introduction	2
Executive summary	3
Strategy: When strategy leads, success follows	5
Societal impact: Recognising the social responsibility of business	9
Talent: An investment priority for business	13
Technology: A focus on protecting business	17
Summary: Time to accelerate	20

Introduction

THE BUSINESS WORLD is witnessing a silent, but powerful shift. In the past, the sole purpose of an organisation's existence was to generate profits for its shareholders. Today companies are being judged against a wider set of environmental, social and governance measures in addition to their financial performance. The Davos Manifesto of the World Economic Forum promotes this better form of capitalism, where the purpose of a company is to serve not only its shareholders, but all of its stakeholders – employees, customers, suppliers, local communities and society at large. In addition to exploring the plethora of opportunities that Industry 4.0 brings, leaders are starting to feel the weight of this responsibility.

This report examines the intersection of readiness and responsibility. It seeks answers to questions such as “how do leaders balance profit with purpose while transitioning their business to Industry 4.0?” and “how do companies use advanced technologies to drive business forward while acting in more socially and environmentally responsible ways?”

This is the first time that views from Industrial Products (IP) leaders, who participated in Deloitte Global's third annual survey of C-suite executives are being published. This survey provides data for *The Fourth Industrial Revolution: At the*

intersection of readiness and responsibility.

Insight in this report is based on responses from 99 executives of IP companies in Europe, the Middle East and Africa. Data was collected during the second half of 2019.

However, COVID-19 has dramatically altered the business environment since the survey was conducted. The short-term impact on organisations and their workforces has been severe. Operations for many IP businesses in some EMEA countries ground to a halt as social distancing measures were implemented, while the impact in other countries was less severe. Supply chains have been severely interrupted and customer demand has become erratic. The long-term impact of COVID-19 on the IP sector is not yet clear. Some companies may see activity return to the levels before the pandemic, but prospects for other sectors look markedly different compared to pre-crisis times.

While the pandemic has caused major disruption, many businesses achieved a step-change in their use of new digital technology born out of necessity. Digitisation has had an impact far wider than just production: many companies are now getting better at managing supply volatility and predicting customer demand. Therefore, this report also examines the impact of COVID-19 on each of the topics discussed.

Executive summary

THE FOURTH INDUSTRIAL Revolution or Industry 4.0 brings together physical assets and advanced digital technologies – such as the internet of things (IoT), artificial intelligence (AI), robots, drones, additive manufacturing and cloud computing – that collect, analyse and act on information. Thus, Industry 4.0 enables companies, consumers and society to make more flexible, intelligent and data-driven decisions.

Some associate these advanced technologies with generating a profit and maximising efficiency. However, according to our findings, organisations that understand how technology can help improve all areas of business perform better. These areas include overall business strategy, talent strategies, societal impact and technology decisions.

When strategy leads, success follows

The 2019 Global Readiness report indicated that the lack of holistic, long-term Industry 4.0 strategies holds many companies back from harnessing the full potential that technology offers. This year's EMEA IP figures show that leaders still have much to do. Only 13 per cent of EMEA IP leaders say their companies have comprehensive Industry 4.0 strategies, slightly ahead of other sectors globally, but behind other industries in EMEA.

The lack of a joined-up, organisation-wide approach is unfortunate because survey data suggests companies that have comprehensive Industry 4.0 strategies are growing faster and their executives are more confident about grasping on technology-driven opportunities.

Survey data also shows more leaders in EMEA IP than in other geographies are investing in Industry 4.0 to drive greater revenue, reduce costs and improve productivity and efficiency of their businesses. While this would suggest short-termism rather than focusing on the longer-term potential of technologies, things could change: more executives in EMEA (both IP and other industries) than elsewhere are telling us that they are planning to update their business models to prepare for Industry 4.0.

In addition to the disruption and loss of revenue inflicted by the COVID-19 pandemic on the majority of EMEA IP organisations, it may have exposed existing business issues or risks and forced leaders to undertake a comprehensive review and reform of company-wide operations. Industry 4.0 technologies can also have an important role in helping businesses recover faster and achieving a step-change in their business models.

Recognising the social responsibility of business

Businesses are beginning to find a balance between profit and purpose, mostly due to increased pressure from external stakeholders, employees and, in EMEA, regulators.

Nearly all business leaders surveyed are concerned that climate change could have a negative impact on their organisations, but only a third of EMEA IP executives – lower than elsewhere – believe climate change should be a top priority for the current generation to resolve. This may be because organisations are already subject to European-wide climate change regulations.

However, business leaders are increasingly accepting responsibility to act and start rolling out programmes to address their societal and environmental impact. Eight in ten EMEA IP leaders say their organisations developed or changed products and services to make a positive societal or environmental impact and to reduce resource scarcity, while two-thirds already have initiatives in place that will have a positive impact on sustainability.

Many EMEA IP businesses have supported their national healthcare systems during the unprecedented situation, with some making medical equipment, while others providing additional services, such as carrying crew or medical supplies.

Talent: An investment priority for business

The workplace is undergoing rapid change. Generational and technological shifts are creating new expectations and new skill requirements for IP companies. Because of this shift, more than three-quarters of EMEA leaders (both IP and other industries) include understanding current and future skill requirements in their top investment priorities. Focusing on skills also makes them more confident than leaders in other regions that their organisations will have the right Industry 4.0 skills to compete in the future.

Leaders across all geographies think it more important to invest in training and developing their current workforce than hiring, while many EMEA IP executives also recognise that training programmes must evolve to include soft skills in addition to hard skills.

EMEA leaders in general and EMEA IP executives in particular are ahead of other regions in planning to increase the number of gig workers supporting their organisations over the next five years.

While COVID-19 may temporarily shift some of the talent dynamics in favour of more pressing business priorities, it has strengthened the role of Industry 4.0 technologies, a role that is expected to increase as organisations settle into the 'next' normal.

Technology: A focus on protecting business

The wide range of technologies that make up Industry 4.0 provide endless opportunities to disrupt and transform businesses, but many organisations are not using such technologies to their full potential.

The majority of leaders invest in Industry 4.0 technologies to increase revenues and reduce costs, and twice as many executives see protecting their business as more of an investment priority than disrupting competition.

EMEA IP leaders believe that IoT, AI and cloud infrastructure will have the most impact as these technologies are thought to help create better connected, data-driven, highly efficient and agile organisations.

Industry 4.0 technologies also have the potential to help organisations recover more quickly from the COVID-19 pandemic and emerge more resilient and efficient in the future.

Strategy: When strategy leads, success follows

Comprehensive Industry 4.0 strategies stimulate growth and business confidence

Our fast-moving world requires companies to be focused, resilient and forward-looking. It is therefore critical for businesses to develop effective, holistic strategies that make the best use of Industry 4.0 technologies. It is also equally important to understand how these technologies can strengthen relationships with suppliers and customers. The case for leaders to have a clear vision and strategy on how Industry 4.0 technologies can help their organisation respond,

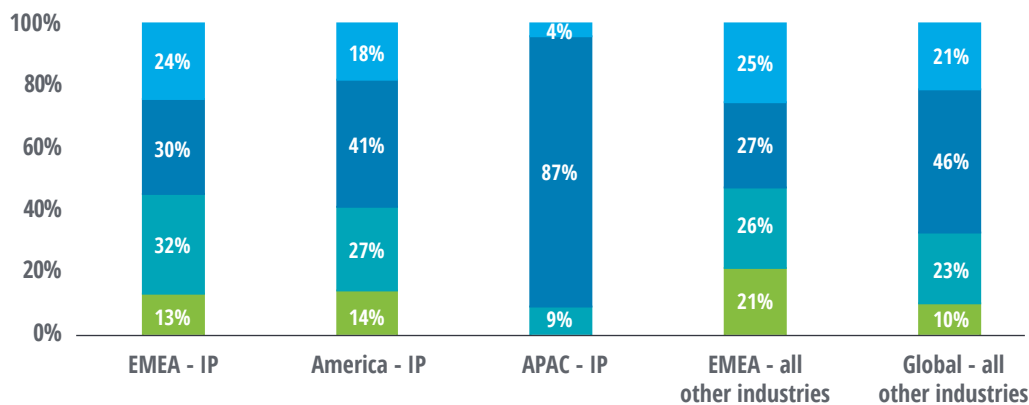
recover and thrive has never been stronger than in the wake of the COVID-19 pandemic.¹

Figure 1 shows that EMEA IP companies have much to do: only 13 per cent of their leaders said that their organisations have comprehensive Industry 4.0 strategies compared with 14 per cent of IP executives in the Americas region and 21 per cent of CXOs in EMEA (all other industries). While the proportion of leaders in EMEA and Americas IP indicated that they have no formal strategies or are taking an ad-hoc approach in specific areas is broadly similar (between 52 and 59 per cent), they are significantly ahead of their peers in IP in the Asia-Pacific region.²

FIGURE 1

A limited number of organisations have comprehensive Industry 4.0 strategies

- No formal strategy at this time
- We are taking an ad-hoc approach in specific areas as needed
- We have begun developing a broader, organisation-wide strategic approach
- We have a comprehensive, holistic strategy that goes across our organization



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802

Source: Deloitte analysis.

The lack of a comprehensive Industry 4.0 strategy could mean that organisations focus on the short-term impact of technologies rather than explore their longer-term benefits.

EMEA (both IP and all other industries) businesses may seem to be lagging behind other regions in determining their strategy, but this could mean that they are focusing more on business model transformation than operations improvement. Figure 2 shows that 30 per cent of EMEA IP CXOs said they were conducting or had conducted an audit of their organisation to understand gaps and opportunities for Industry 4.0 preparedness, with another 48 per cent planning to do so. A smaller proportion, 20 per cent of EMEA IP leaders, have updated or are currently updating their company’s business model to prepare for Industry 4.0. Another 51 per cent of EMEA IP leaders is also planning such business model updates. In contrast, more than half of companies globally are conducting such audits, but less than 10 per cent of leaders are planning to make changes to their business models in light of the audit.

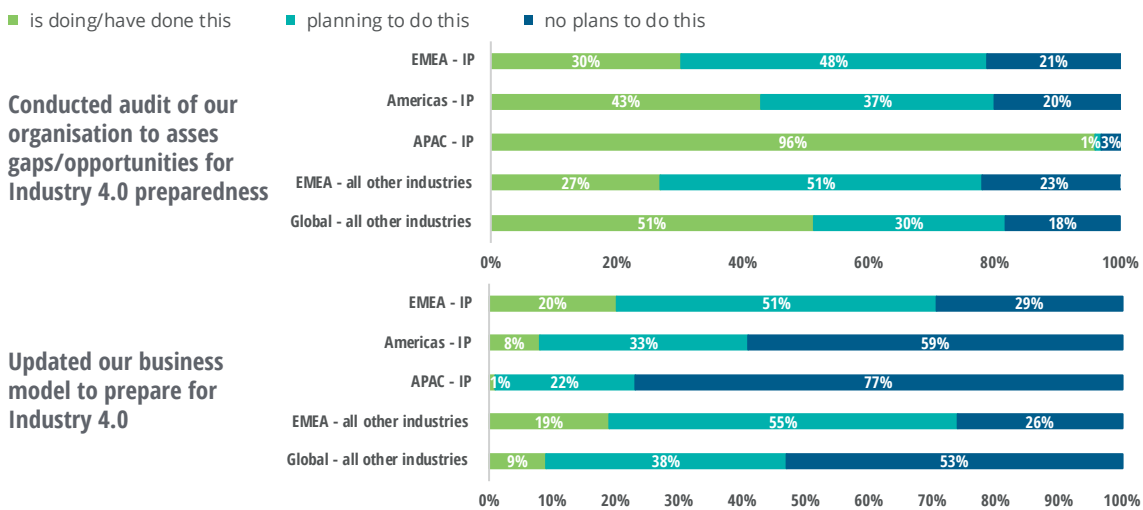
Results from IP leaders in the Asia-Pacific region are even more dramatic: 96 per cent of companies have conducted an audit to find opportunities for Industry 4.0, but only one per cent is prepared to adjust their company’s business models. This may suggest that leaders in the Asia-Pacific region are perhaps more interested in operations improvement than business model transformation.

If plans to update business models are actually carried out, and possibly even accelerated by COVID-19, we would expect to see a corresponding increase in the number of companies with all-encompassing Industry 4.0 strategies in future editions of this report.

While many factors play a part in a company’s success, organisations that have comprehensive Industry 4.0 strategies appear to be sustaining stronger growth. Sixty-nine per cent of the EMEA IP companies in our survey that had comprehensive strategies in place generated at

FIGURE 2

Most EMEA IP organisations are yet to assess their preparedness and update their business models for Industry 4.0



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802

Source: Deloitte analysis.

least ten per cent growth in the last financial year. In contrast, 44 per cent of companies that have no strategies or take an ad-hoc approach to Industry 4.0 registered at least ten per cent growth in the same period. Similar observations have been made by the *2019 Deloitte and MAPI Smart Factory Study: Capturing value through the digital journey*.³

Having an organisation-wide Industry 4.0 strategy also makes a real difference to business confidence. Nearly 70 per cent of EMEA IP CXOs feel confident to seize Industry 4.0-related opportunities. Conversely, only 20 per cent of those with ad-hoc or no strategies expressed confidence of being able to do so.

Investment in Industry 4.0 is driven by maximising revenue and reducing cost – more in EMEA IP than elsewhere

Increasing revenues and reducing costs are the top drivers for investing in Industry 4.0. This is the

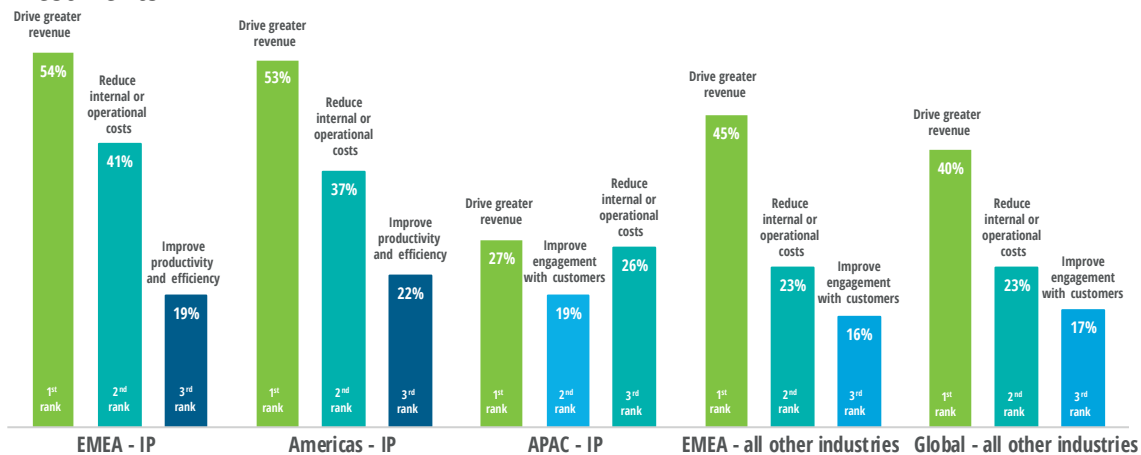
case in all geographies covered in this report, but more so in EMEA IP, where 54 per cent of leaders ranked driving greater revenue as the main outcome they hoped to achieve by investing in Industry 4.0 (see Figure 3). Forty-one per cent of leaders selected cost reduction as their second choice (out of ten choices).

Could this mean leaders are too focused on the short-term, rather than long-term impact of Industry 4.0 technologies? No, not really. Companies need to generate profits to be able to invest in people, technologies and manage their societal and environmental impact.

However, the lack of interest in targeting Industry 4.0 investment to change business models, disrupt the industry or differentiate the company from competitors does reflect an emphasis on shorter-term gains – such as maximising revenue or reducing costs – rather than exploring longer-term opportunities. It may also suggest a level of risk aversion to changing business models.

FIGURE 3

Greater revenue, cost reduction and efficiency improvements drive Industry 4.0 investments in EMEA IP



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802

Source: Deloitte analysis.

Note: * Per cent of EMEA IP&C respondents who ranked these outcomes at the respective rank.

Deloitte Insights | deloitte.com/insights

COVID-19 impact

The COVID-19 pandemic has caused a sharp decrease in demand for most IP products and services and an increase for others. On the supply side, operations have reduced significantly or stopped altogether due to social distancing measures and/or lack of demand, and entire value chains were temporarily disrupted. Elsewhere, operations needed to be reconfigured to support the sudden surge in demand in a short space of time.

In the short term, leaders focused on ensuring employee safety and maintaining the viability of their businesses, including by swiftly reducing costs. However, it is just as crucial that leaders consider how their organisations move to the recovery phase and emerge more resilient as economies come out of the lockdown.

The pandemic may have exposed already existing issues or risks, for example, the importance of understanding the real-time status of assets, operations, the workforce and products in the supply chain or distribution networks. Therefore, COVID-19 could force many leaders to undertake a comprehensive review and reform of company-wide operations.

Industry 4.0 technologies can have a crucial role in helping businesses recover from the pandemic and achieve a step-change in their business models. It is therefore more important than ever for CXOs to develop an all-encompassing Industry 4.0 strategy to ensure their business takes advantage of the technologies. Industry 4.0 technologies can provide not only short-term benefits such as cost improvements, but also the medium- and long-term flexibility and stability advantages that connected, data-driven organisations enjoy.

Societal impact: Recognising the social responsibility of business

WHILE MAXIMISING PROFIT continues to be the main driver for investments and strategies for CXOs in this survey, there is a wider recognition that companies need to look beyond the needs of their shareholders and define their broader sense of purpose. There has also been a considerable rise in Environmental, Social and Governance regulations in many major economies over the past decade and investors are paying increasing attention to non-financial risks that can affect the long-term viability of organisations. Leaders realise that focusing on their employees, customers, suppliers and, more widely, their societal and environmental impact not only provides their companies a better chance for a longer-term, sustainable future. It is also the right thing to do.

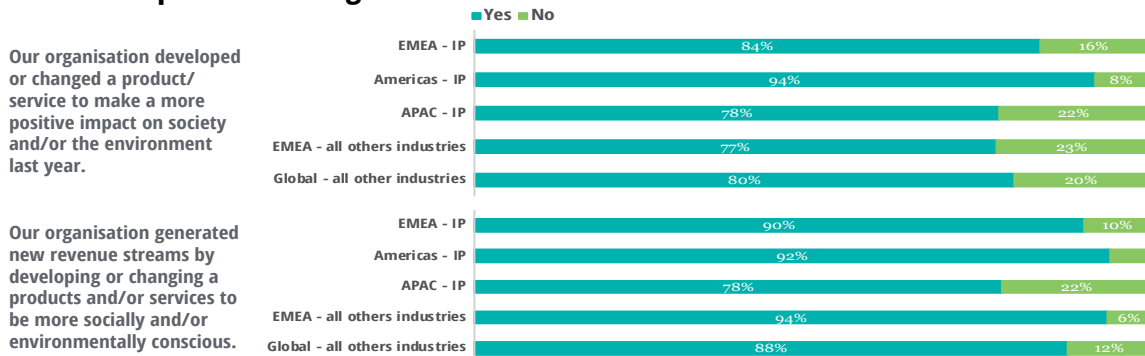
Finding the balance between profit and purpose

Balancing purpose and profit is a critical issue for many leaders. Indeed, EMEA IP executives thought it was the second most important issue – after safeguarding privacy – that the current generation is responsible for solving (see Figure 6).

For many companies, making a positive impact on society and/or the environment forms a key part of their purpose. According to Figure 4, 84 per cent of EMEA IP executives reported that their organisations developed or changed a product or a service last year to make a more positive impact on society or the environment. An even higher proportion, nine in ten leaders, said that these efforts were also generating revenue.

FIGURE 4

The vast majority of companies have products or services that have both a positive societal impact and also generate revenue



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802

Source: Deloitte analysis.

Industry 4.0 plays an important role in striving for a broader purpose as 82 per cent of EMEA IP executives ranked making a profit while making a positive contribution to society as their top Industry 4.0 investment priority.

Customer and employee pressure

Where does the pressure come from for companies to get involved in societal impact initiatives? Figure 5 shows that in EMEA IP external stakeholders – such as clients, customers and investors – closely follow the focus on generating revenue. In contrast, for IP CXOs in the Americas it is enhancing corporate reputation that drives companies to focus on societal impact initiatives.

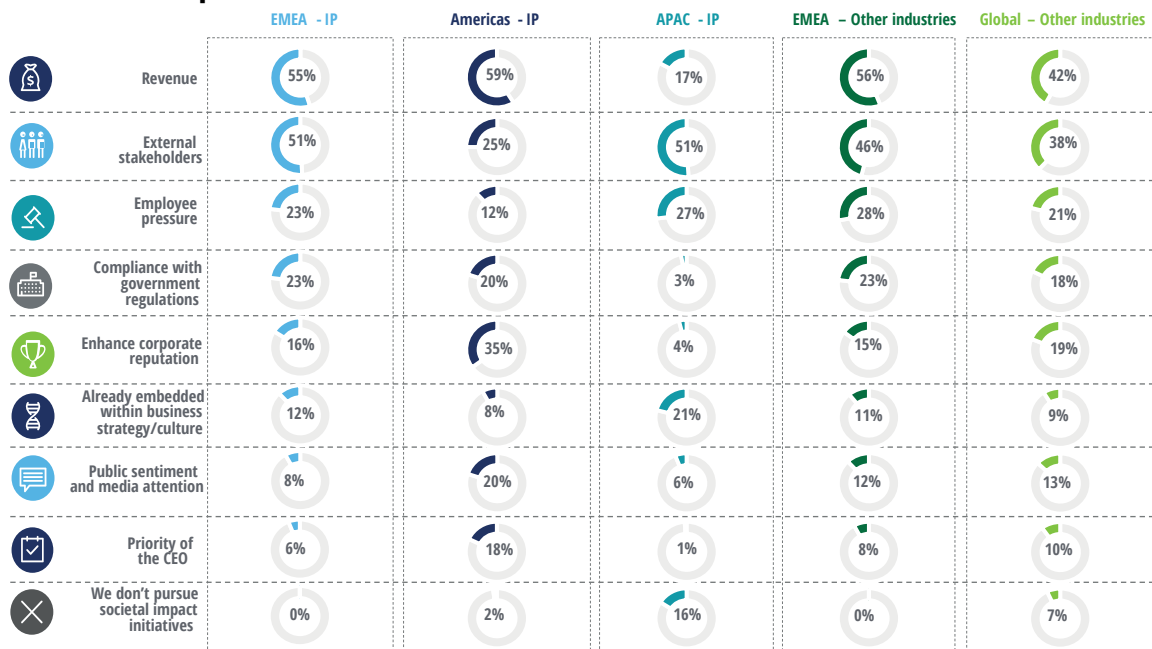
Employee pressure shares third place with compliance with government regulations in EMEA IP. This is perhaps not surprising given that the EU has more stringent legislation regarding societal and environmental matters as well as the more ambitious carbon emission reduction targets.

Employees and customers are increasingly interested in a company’s social purpose and its environmental impact, such as carbon and water footprints. They are also exerting pressure on companies to reduce waste and materials as well as minimise the pollution that results from their operations.

Millennials and Generation Z are particularly aware of businesses’ environmental and social impact, according to *The Deloitte Global Millennial Survey 2019*.⁴ While their main concerns may be

FIGURE 5

Revenue and external stakeholders are the main reasons why organisations focus on societal impact initiatives



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802

Source: Deloitte analysis.

Deloitte Insights | deloitte.com/insights

climate change, protecting the environment and natural disasters, they also believe that businesses should focus on providing employment, enhancing the livelihood of employees and enhancing society. As savvy customers, they increasingly put their money where their values are: 42 per cent of millennials said they have started and/or strengthened business relationships because they believe the company’s products or services have a positive impact on society or the environment.

Climate change and resource scarcity in focus

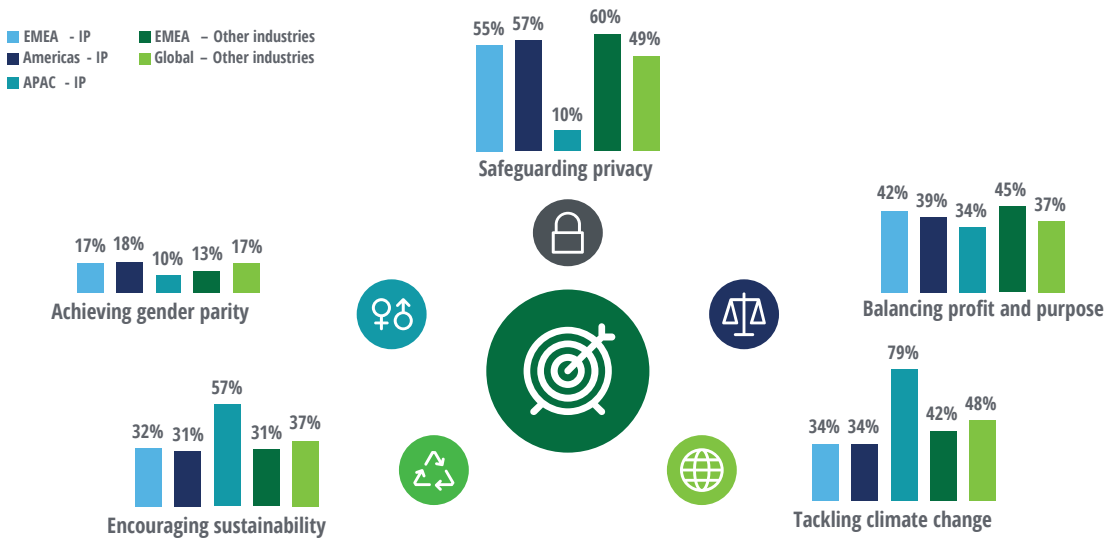
The past year has seen a significant rise in environmental activism globally. The ‘Greta-effect’ put climate change firmly in the limelight as many of the messages resonated with the media, politics and the business world. With the growth of climate activism coinciding with some of the most devastating weather events on several continents, the messages were hard to ignore.

In our survey nearly all – 98 per cent – of EMEA IP leaders agree or completely agree that climate change will adversely affect their businesses. However, tackling climate change only comes third on the list of priorities that the leaders believe their generation is responsible for solving (see Figure 6). Why is this? In EMEA, companies may feel that they are already acting on climate change by participating in governmental or European Union-wide climate change initiatives, such as the European Union Emissions Trading Scheme. The Scheme limits emissions from thousands of power plants and manufacturing installations as well as hundreds of aircraft operators flying between European Economic Area airports.

Given the catastrophic, climate-related events that the Asia Pacific region has witnessed over recent years, it is not surprising to see that IP leaders in those countries believe that tackling climate change and encouraging sustainability should be the top priorities for the current generation (see Figure 6).

FIGURE 6

Priorities leaders believe their generation should be responsible for solving



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802

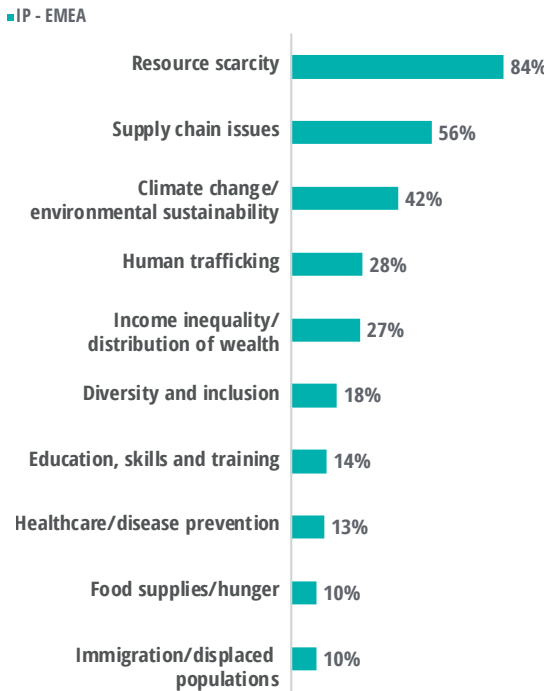
Source: Deloitte analysis.

Although a smaller number of EMEA IP leaders see tackling climate change as a priority, a higher proportion are taking action. Nearly two-thirds of EMEA IP leaders claim their companies already have initiatives in place that have a positive effect on sustainability – such as reducing travel and eliminating plastics – and another 23 per cent are planning to do so.

In addition, many leaders are investing in initiatives aimed at mitigating the potential impact of climate change because of concerns about the impact of environmental issues can have on their businesses. Figure 7 shows that a high proportion of EMEA IP CXOs – 84 per cent – have programmes to address resource scarcity and 42 per cent are focused on climate change or environmental sustainability.

FIGURE 7

Eight in ten EMEA IP organisations have programmes to address resource scarcity



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802
Source: Deloitte analysis.

COVID-19 impact

The COVID-19 pandemic has presented leaders with a serious challenge to protect their workforce and maintain business continuity and stability. Businesses and their leaders will no doubt be judged by the way they have handled the rapidly changing situation.

A number of IP businesses chose to get involved in initiatives with a wider societal impact, such as responding to government calls to assist the healthcare sector during the pandemic. Across EMEA, several IP companies announced their commitment to support the need for medical equipment, including ventilators and test kits, either by making them or redirecting their facilities and parts of their supply chain to manufacture components. Some companies provided additional services, such as delivering medical supplies, crews and patients while others made donations to specific COVID-19-related funds.

Talent: An investment priority for business

The skills struggle is real

The workplace is undergoing rapid change. A number of engineering-led industries – including IP – face acute challenges with ageing workforces. Some companies experience management gaps at multiple levels as well as skills gaps, while others question how to transfer industry, company and subject matter knowledge effectively and accessibly.

Attracting the right talent in sufficient numbers is becoming more difficult at a time when work expectations are shifting: Millennials and Gen Z are looking for meaningful work and agile ways of working. In addition, they also seek a level of autonomy and employers that are ethical and socially and environmentally conscious.

Industry 4.0 technologies are also revolutionising and disrupting the workplace, creating new roles and putting a number of jobs at risk of automation. Although routine and predictable tasks will be at the highest risk, automation is forcing organisations to reconsider how they can make each task more efficient.

Technical and generational changes are also creating a shift in the skillset that IP companies need now and in the future. Today, the majority of

skills that companies seek are science, technology and engineering-driven. This need will only rise in the future. The amount of data IP companies generate is growing exponentially because of higher levels of automation, connected assets, sensors and other types of new and emerging technologies. IP companies will need more data scientists who can manipulate this large volume of data and turn it into actionable insight. This view is also echoed by the 2020 Deloitte report *Implementing the smart factory: New perspectives for driving value*.⁵

Employees will also need additional social skills as well as more advanced critical thinking, creative, communication and collaboration skills to better adapt to the changing technology landscape and to work with automation, artificial intelligence and robots.

IP companies will inevitably see competition for highly skilled people with strong cognitive and creative skills intensify as they are in high demand across many industries.

Executives are acutely aware of workforce challenges, but they need an idea of what skills their organisation will require in the future to be able to formulate clear strategies on how to acquire them.

This is why three-quarters of EMEA IP leaders said that understanding what skills will be needed to compete effectively now and in the future is the second most important Industry 4.0 priority (after making a profit while making a positive contribution to society) where they are planning to invest the most (see Figure 8).

Do companies possess the necessary Industry 4.0 skills now to be able compete in the future? Given the investment focus on finding out what skills will be needed, executives in the EMEA region show more confidence than leaders in other regions that their companies possesses the right skills for the future (see Figure 9).

FIGURE 8

Profit generation and skills improvement are EMEA IP Industry 4.0 investment priorities

- Making a profit while positively contributing to society
- Understanding what skills will be needed to compete effectively now and in the future
- Training and developing a workforce with the skills needed to compete effectively



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802

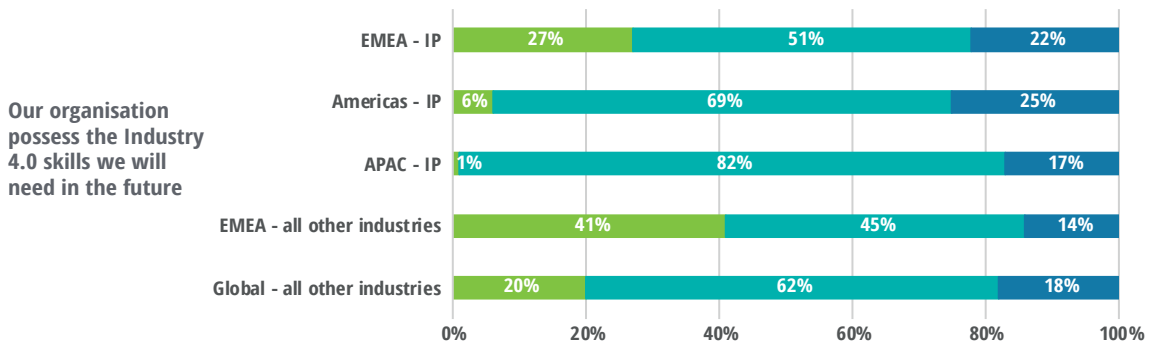
Source: Deloitte analysis.

Deloitte Insights | deloitte.com/insights

FIGURE 9

EMEA (all other industries) leaders have the most confidence in their organisations' Industry 4.0 skills

- Completely agree
- Somewhat agree
- Do not agree at all



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802

Source: Deloitte analysis.

Deloitte Insights | deloitte.com/insights

Training before hiring

Workforce training and development features among the top three Industry 4.0 investment priorities in all geographies surveyed except for IP leaders in the Americas.⁶ Training and workforce development is significantly more important than attracting and retaining the right talent, which for EMEA IP CXOs comes close to the bottom on the investment priority list.

Leaders also recognise the need for skills that are not traditionally associated with engineering-led industries. Nearly a third of EMEA IP leaders completely agree and another 49 per cent somewhat agree that their company's training programme must include a combination of hard (i.e. technical, job-specific) and soft (i.e. effective communication, empathy) skills to be prepared for Industry 4.0.

Furthermore, 79 per cent of EMEA IP leaders said that they already have or are creating a company culture of lifelong learning, including ongoing training and development opportunities. While this figure is lower in Americas IP leaders at 53 per cent, it rises to 96 per cent in APAC IP respondents.

The gig economy is here

The gig economy is not a new phenomenon. Businesses always hired independent contractors and freelancers, but advancements in technology have led to a rapid growth in the number of short-term jobs and tasks that can be done flexibly and remotely. Indeed, millions of people around the world have now made contractual work their main or secondary source of income. The *2019 Deloitte Global Human Capital Trends* (HCT) considers the 'alternative workforce' – one form of which is the gig economy – now mainstream.

The idea of the gig economy appeals to most millennials and Gen Zs. According to *The Deloitte Global Millennial Survey 2019*, 84 per cent of Millennials and 81 per cent of Gen Zs would consider joining the gig economy.⁷

Gig workers today perform a much wider range of business activities than ever before and include highly skilled contractors, specialists and consultants. The HTC advises organisations to use gig workers more strategically because of the tightening talent markets and the growth in alternative workforce supply.

Figure 10 shows that EMEA IP leaders are open to employing gig workers: 82 per cent of them completely or somewhat agree that they are planning to increase their numbers within their organisation in the next five years.

While attitudes towards gig workers are relatively similar across the EMEA region, there are broader differences globally. For example, 88 per cent of Asia Pacific IP leaders have no plans to employ gig workers.

What are the main reasons for such large geographical differences? Several factors could be driving these differences including:

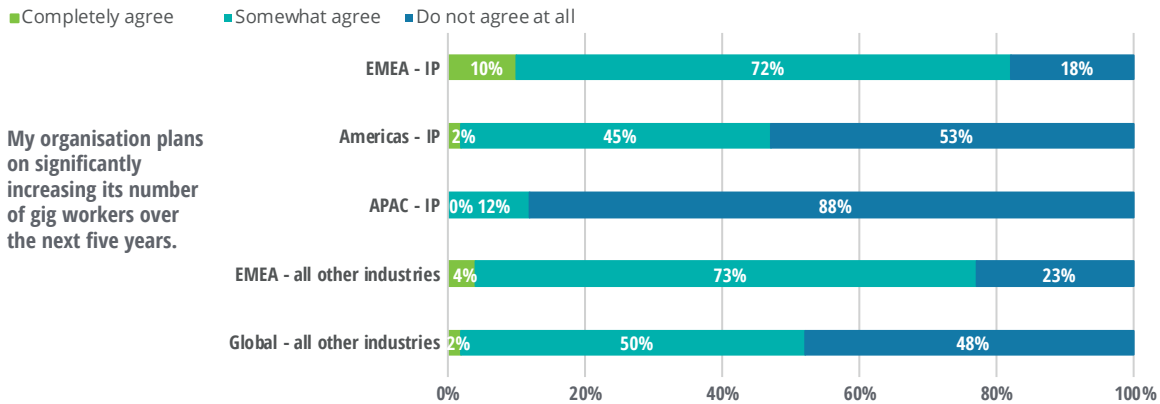
- high employer social security contributions required, making it more beneficial to employ alternative workforce
- higher rates of unemployment, which increases the availability of labour on digital platforms
- higher rates of internet penetration, making large-scale digital employment platforms more easily accessible.

COVID-19 impact

The COVID-19 pandemic is likely to change workforce dynamics dramatically. Some talent pressures may temporarily ease, with other business issues perhaps taking priority over training and development. Attitudes towards gig workers could also shift. However, the role that technology has played during the lockdown has increased significantly and is only expected to grow as organisations adapt to the ‘next’ normal.

FIGURE 10

EMEA (all other industries) leaders have the most confidence in their organisations’ Industry 4.0 skills



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802

Source: Deloitte analysis.

Deloitte Insights | deloitte.com/insights

Technology: A focus on protecting business

Profit and protection remain priorities

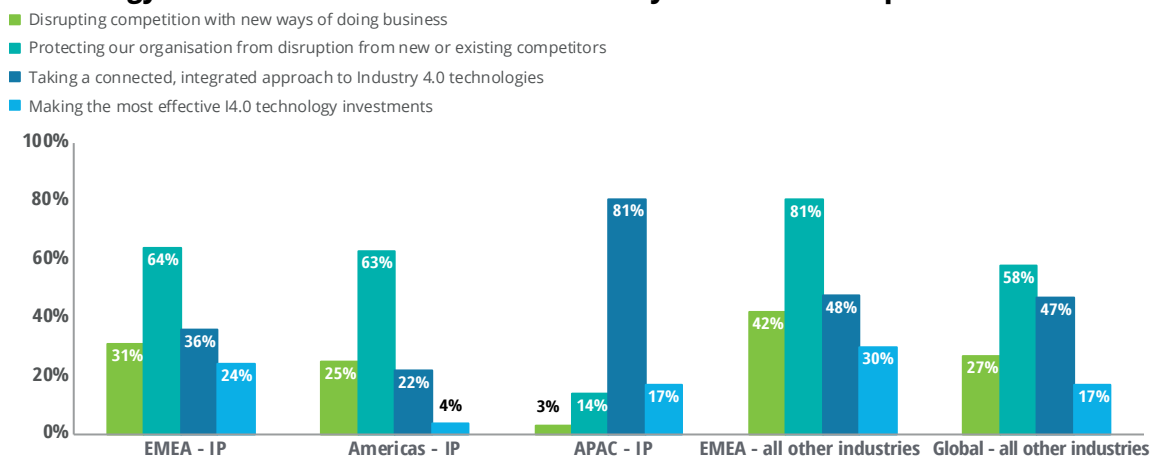
The myriad of technologies that make up Industry 4.0 – including robotics, analytics, artificial intelligence and additive manufacturing – provide endless opportunities for businesses.

However, as noted earlier in this report, executives we surveyed were mostly focused on investing in Industry 4.0 technologies in the hope to increase revenues and reduce costs.⁸

Causing disruption by using Industry 4.0 technologies within their own organisations or in the wider industry comes further down the leaders' investment priority list, as Figure 11 shows. Less than a third of EMEA IP executives thought disrupting competition with new ways of doing business was an investment priority compared with nearly two-thirds of leaders, who considered investing in Industry 4.0 technologies to protect their business. Further, only two per cent of EMEA IP leaders mentioned disrupting their industries among the five greatest outcomes they hoped to achieve with their Industry 4.0 investments.⁹

FIGURE 11

Disrupting competition, taking a connected approach and making effective technology investments are not seen as Industry 4.0 investment priorities in EMEA IP



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802

Source: Deloitte analysis.

Note: Figure 3 contains the EMEA top three priorities, while Figure 11 focuses on lesser priorities.

It has also been noted elsewhere that a relatively small proportion of leaders have a comprehensive, holistic strategy for Industry 4.0, with a higher proportion starting to develop broader approaches.¹⁰ When it comes to investment, Figure 11 shows that EMEA and Americas IP leaders are less keen to invest in connected approaches to Industry 4.0 technologies. In contrast, 81 per cent of Asia Pacific IP leaders surveyed considered the development of a connected, integrated approach to Industry 4.0 technologies an investment priority. This could be because the large majority of Asia Pacific IP executives do not have a holistic Industry 4.0 strategy in place and only a small proportion have begun to build organisation-wide strategies.

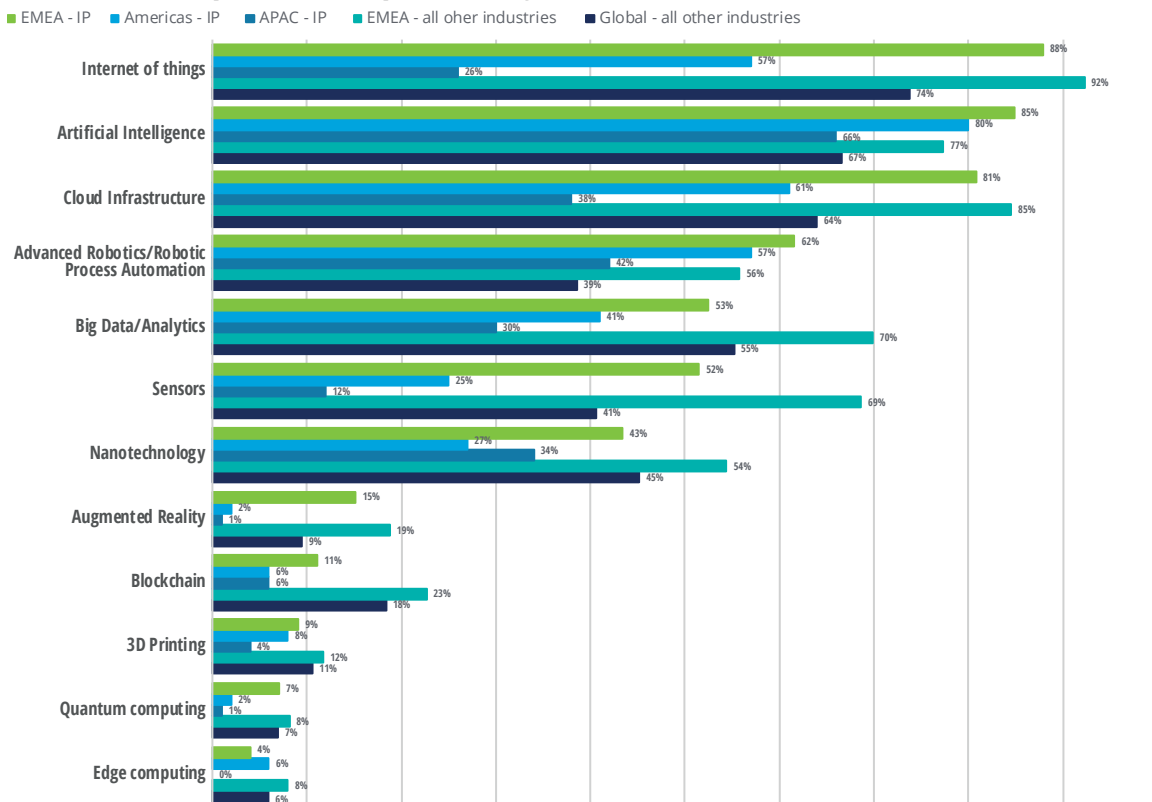
IoT, AI and Cloud expected to transform businesses

Which technologies are going to have a profound impact on organisations? Figure 12 shows that EMEA IP leaders expect IoT, AI and cloud infrastructure as well as advanced robotics (AR)/robotic process automation (RPA) and big data/data analytics (DA) to revolutionise the way their businesses work.

There is a strong relationship between these technologies as they work together to help create better connected, data-driven, highly efficient and agile organisations. These technologies connect the digital and physical worlds by collecting (IoT, sensors) and analysing (RPA, DA) data stored in

FIGURE 12

Internet of things, artificial intelligence and cloud infrastructure are expected to have the most profound impact on organisations



EMEA - IP n=99; Americas - IP = 51; APAC - IP = 77; EMEA all other industries n=724; Global all other industries n=1,802

Source: Deloitte analysis.

the cloud to predict (AI) and improve (RPA) business processes in a seamless loop.

Business leaders throughout all the regions were less interested in technologies such as blockchain, quantum or edge computing. This could indicate that organisations are not yet ready to embrace these.

Expectations regarding the impact of Industry 4.0 technologies vary widely between regions. Leaders in the EMEA region (both IP and other industries) expect Industry 4.0 technologies to have a larger effect on their organisations than IP executives in Asia Pacific countries. Adoption of these technologies in recent years has accelerated in the more advanced economies – which typically have higher labour costs. These economies can therefore not only see the costs but also the benefits of such technologies. Leaders of IP companies in the Asia Pacific countries may see things differently as their organisations do not face the same issues regarding labour costs and shortages.

COVID-19 impact

Industry 4.0 technologies could play an important role in helping organisations recover from the COVID-19 pandemic more quickly and become more resilient and efficient in the future.

The focus of the pre-COVID-19 world on IoT, AI and cloud is likely to continue in the post-COVID-19 era as the importance of real-time data for businesses grows. Businesses can recover more quickly if they understand the impact on demand for certain products and services, know how people and assets are performing, where raw materials, work-in-progress and finished goods are in the supply chain and the distribution network.

AI and machine learning can help respond to rapid change in requirements by reassessing and replanning activities faster.

More companies may also start exploring how robots can be used in their businesses after the disruption to global supply chains and the introduction of social distancing measures.

While IP companies were not particularly interested in augmented reality technologies prior to the pandemic, such technologies could help train workers to perform new tasks more quickly. This in turn could ease some of the skills shortages in the short and medium term – especially while social distancing requirements are in place and/or facilities are being repurposed either temporarily or to make new products.

Digital twins may also attract more interest in the future as they can provide a virtual, real-time representation of a product or an asset. Digital twins can also be used for remote monitoring and can help make decisions on improving performance, efficiency and quality easier. Coupled with manufacturing execution systems, digital twins can significantly reduce the need for employees to be on site, thus helping companies adhere to social distancing measures.

Additive manufacturing has played an important role in supporting the health sector during the coronavirus outbreak. Some companies produced respiratory valves and testing kits for hospitals, while others produced personal protective equipment, such as face masks and shields.

Overall, technologies – especially those enabling workforce to continue to work from home - were adopted at a considerably faster pace due to the pandemic. This trend is likely to continue in the future.

Summary: Time to accelerate

OUR SURVEY'S EXAMINATION of the intersection between readiness and responsibility in the Industry 4.0 era highlights how traditional business objectives, transformational technologies, evolving skills and growing obligations to the greater good come together. Some responses, such as those indicating a focus on employee development and societal issues, show progress. Others, such as a continuing focus on short-term objectives and a lack of interest to embrace the full potential of Industry 4.0 technologies across their organisations, seem missed opportunities.

Understanding, developing and implementing integrated Industry 4.0 technologies should be a priority for all organisations. Such technologies can improve business and benefit society at the same time – and should be used for both.

Leaders, whose organisations either lack formal strategies to take advantage of Industry 4.0 technologies or who rely on ad-hoc approaches, should consider:

- conducting a strategy/portfolio review in the wake of the COVID-19 pandemic
- conducting audits to identify gaps and opportunities for Industry 4.0 technologies
- developing holistic Industry 4.0 strategies based on the findings of the audits

- updating business models to prepare for Industry 4.0
- taking a connected, integrated approach to implementing Industry 4.0 technologies
- creating leadership roles focused on Industry 4.0 and empowering these leaders to influence Industry 4.0 investments and changes that cut across the organisation
- establishing dedicated teams focused on innovation
- strengthen the resilience and sustainability of supply chain
- providing incentives for suppliers and partners to adopt Industry 4.0 technologies.

As organisations more effectively capitalise on the opportunities provided by the Industry 4.0 technologies, leaders also need to consider the impact such technologies could have on their workforce, their profits and the environment. Therefore, IP leaders should:

- explore how to use Industry 4.0 technologies to advance societal and environmental initiatives
- understand the skillset that their company will need now and in the future

- establish a culture of lifelong learning, training and development so that their workforce can take full advantage of Industry 4.0 technologies
- develop and update products and services and invest in technologies that have a positive societal impact

- put programmes in place that will have a positive impact on the environment..

The survey findings show that businesses are trying to find a balance between profit and purpose. A sharper focus on the longer-term benefits and broader adoption of transformational technologies that benefit both business and society will help leaders reach their goal faster.



Endnotes

1. <https://www2.deloitte.com/uk/en/pages/about-deloitte-uk/topics/covid-19.html>
2. The global data excludes IP data and refers to all other industries globally.
3. https://www2.deloitte.com/content/dam/insights/us/articles/6276_2019-Deloitte-and-MAPI-Smart-Factory-Study/DI_2019-Deloitteand-MAPI-Smart-Factory-Study.pdf
4. <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/deloitte-2019-millennial-survey.pdf>
5. <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/energy-resources/deloitte-uk-implementing-the-smart-factory.pdf>
6. For IP leaders in the Americas, Making a profit while positively contributing to society (76 per cent), Finding growth opportunities for existing products and services (75 per cent) and Understanding what skills will be needed to compete effectively now and in the future (63 per cent) are the top three investment priorities for Industry 4.0.
7. <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/deloitte-2019-millennial-survey.pdf>
8. See Figure 3.
9. Respondents were presented with ten possible outcomes, asked to select five and rank them in order of importance.
10. Figure 1.

Deloitte.

Insights

Sign up for Deloitte Insights updates at www.deloitte.com/insights.



Follow @DeloitteInsight

Deloitte Insights contributors

Editorial: Vincent Rutgers, Duncan Johnston, Nick Davis, Netti Farkas-Mills (author)

Creative: Bijoy Biswas

About Deloitte Insights

Deloitte Insights publishes original articles, reports and periodicals that provide insights for businesses, the public sector and NGOs. Our goal is to draw upon research and experience from throughout our professional services organization, and that of coauthors in academia and business, to advance the conversation on a broad spectrum of topics of interest to executives and government leaders.

Deloitte Insights is an imprint of Deloitte Development LLC.

About this publication

This publication contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or its and their affiliates are, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your finances or your business. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser.

None of Deloitte Touche Tohmatsu Limited, its member firms, or its and their respective affiliates shall be responsible for any loss whatsoever sustained by any person who relies on this publication.

About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee ("DTTL"), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as "Deloitte Global") does not provide services to clients. In the United States, Deloitte refers to one or more of the US member firms of DTTL, their related entities that operate using the "Deloitte" name in the United States and their respective affiliates. Certain services may not be available to attest clients under the rules and regulations of public accounting. Please see www.deloitte.com/about to learn more about our global network of member firms.