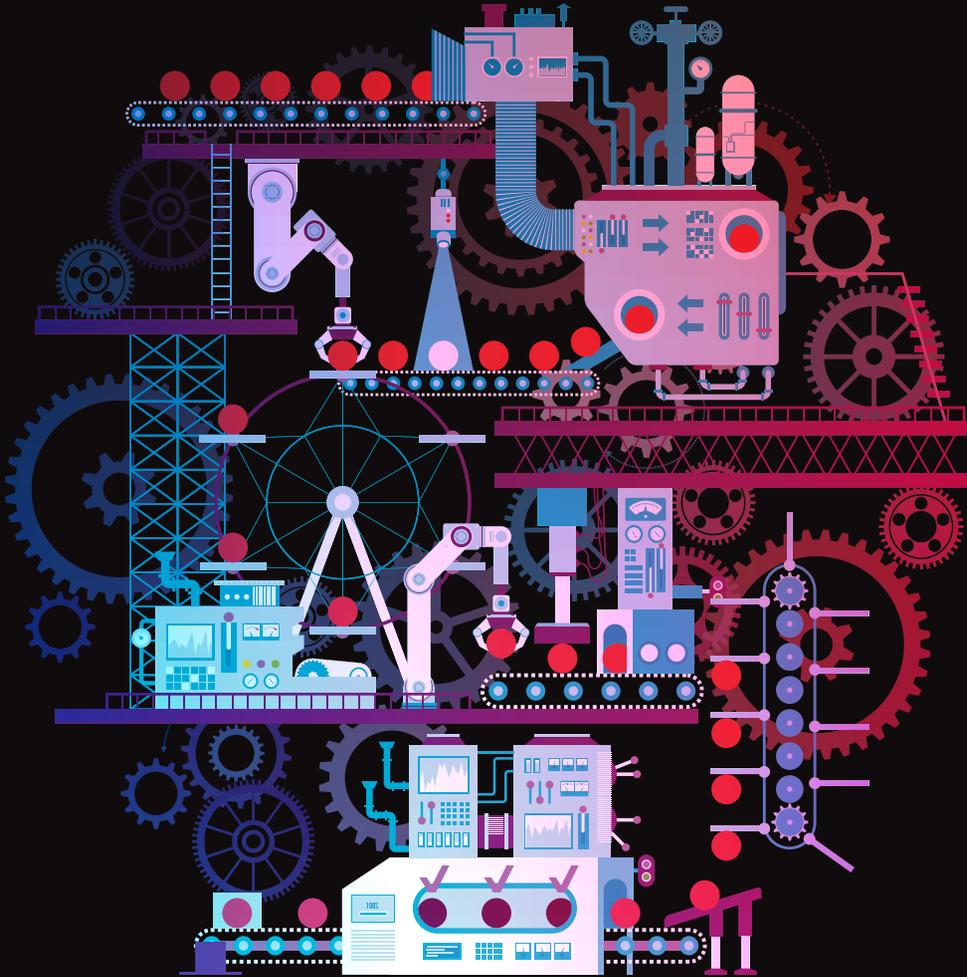


Deloitte.



Assembling a strong future
Industrials Outlook 2018

In this publication, references to Deloitte are references to Deloitte LLP, the UK affiliate of Deloitte NWE LLP, a member firm of Deloitte Touche Tohmatsu Limited. In this report, we have defined the industrial sector to include the following sub-sectors: aerospace and defence, chemicals and industrial products and services.

Foreword

Welcome to the Industrials Outlook 2018 which examines current and future trends likely to affect businesses in this sector.

The manufacturing sector contributes around 10 per cent of UK economic output, of which industrials account for over half. The UK industrial sector includes aerospace and defence, chemicals as well as industrial products and services.

Over the last year, the industrials sector was characterised by robust performance, exceeding the expectations of many, continued digital transformation across the value chain and uncertainty relating to the future regulatory landscape. Strong domestic and global demand and the continued weakness of sterling led to buoyant growth and optimism.

Across the industrials sector, we consider the biggest opportunities and challenges in 2018 relate to digital, people and the new regulatory landscape.

The overall outlook for the industrials sector remains positive with continued growth anticipated this year. Although businesses face ongoing challenges from uncertainty relating to the impact of Brexit, we believe these can be mitigated through considered and proactive scenario and contingency planning. Businesses most likely to prosper are those which consider how they can mitigate risks but also maximise opportunities.

We hope you find our short report useful in your strategic thinking and look forward to discussing our analysis in more detail with you.



Duncan Johnston

Industrial Products and Services Lead Partner

Industrials: Performance review and outlook for 2018

The economic contribution of the manufacturing sector as a whole is approximately 10 per cent of total economic output. Industrials account for over half of turnover in the industry¹.

The industrial sector includes aerospace and defence, chemicals and other industrial products and services. These support high value manufacturing in the UK and also underpin many related sectors such as automotive, energy, transport and other process industries. Around 75 per cent of the sector's investment is in research and development (R&D), where expenditure has risen year on year since 2010.

Buoyant performance and outlook despite challenges

Confounding the expectations of many a year ago, growth and business confidence across the sector were buoyant over the past year. In the last three months of 2017, UK manufacturing output expanded by 1.3 per cent following a similar growth rate in the third quarter.²

Manufacturers expect further growth: the IHS Markit/CIPS Purchasing Managers' Index was 56.3 in December, significantly above the 50.0 mark which indicates expansion.³ The UK is a leading exporter of manufactured products, accounting for approximately nine per cent of total EU sales, making the UK the fourth-largest producer behind Germany, Italy and France.⁴ The depreciation of sterling has made goods produced in the UK comparatively cheaper although it has also raised the cost of imports, thus raising inflation and squeezing consumer spending.

The industry has faced challenges due to cost pressures, industry disruption as well as political and economic uncertainty. According to the Deloitte CFO Survey: 2017 Q4, CFOs see increasing risks to their business from Brexit and a perceived slowing of growth in the UK economy. They are reacting with a renewed focus on cost control. However, domestic concerns have not blunted CFOs' search for growth and opportunities.

As presented in Figure 1, we believe that industrial businesses should focus on:



digital and technology – with developments in Industry 4.0 and its ramifications for production, supply-chain processes and interactions with the end-customer. The innovations that businesses invest in will support productivity across the sector.



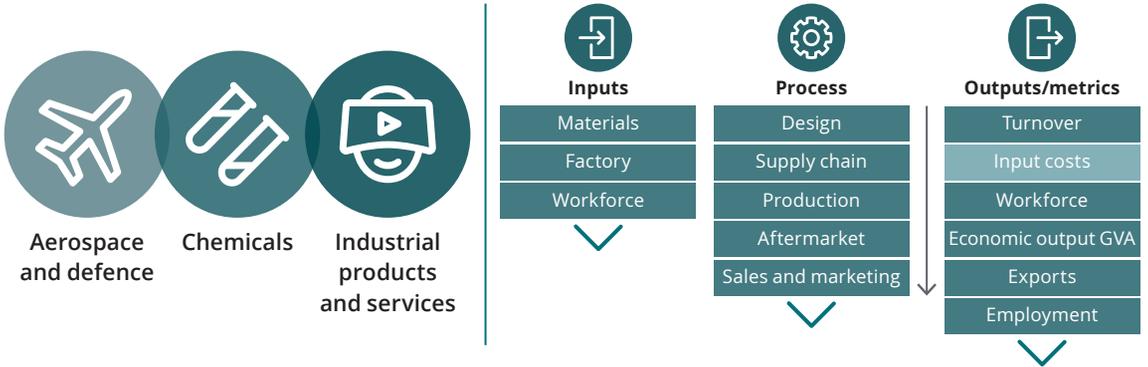
people – as businesses continue to seek to attract, develop and retain talent in the most cost-effective way. This will be important to develop the capabilities of employees across the industry to ensure the best people are available to meet growing demand.



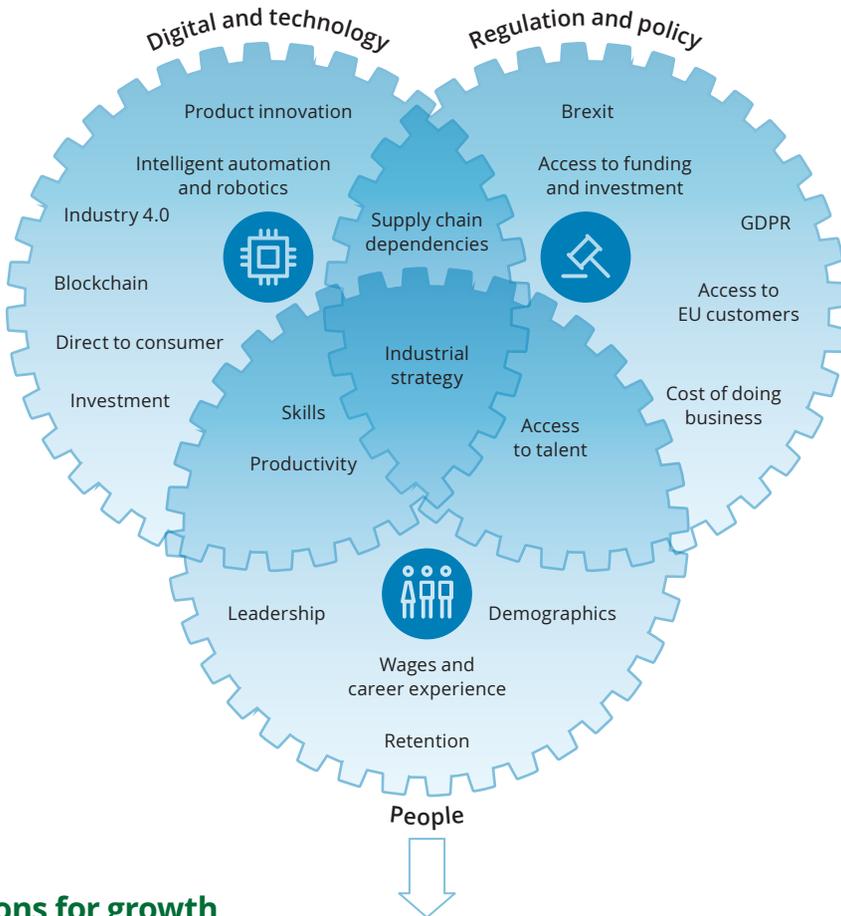
regulation and policy – and the business response to the new landscape, particularly the uncertainty relating to Brexit and also in relation to the introduction of GDPR which will require businesses to prepare and adjust with minimal disruption.

2018 outlook at a glance

Context

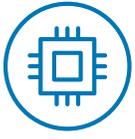


Key issues for 2018



Implications for growth

Business objectives	Investment in new technology	Investment in capacity	Scenario planning	Talent strategy	Retail propositions
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Transformation through digital and technology developments

Companies across the sector have been at the forefront of digital innovation, leading the way for other industries in the adoption of technologies such as additive manufacturing, machine learning and smart automation.

In its Industrial Strategy white paper, the UK government set out its aim to enhance the country's industrial competitiveness, addressing long-term economic challenges, improving living standards and increasing economic growth by raising productivity. The government has expressed its desire to encourage the highest value activities to remain in, or move back to, the UK with priority areas including digital technologies for productivity improvements, systems flexibility and resource efficiency.⁵ We look forward to working with government and businesses to support related initiatives over the coming year.

The increasing pace of technological change means that this is a critical year for businesses investment decisions to ensure the sector can enhance productivity and remain competitive. For instance, a report by the World Economic Forum predicts a tipping point for additive manufacturing or 3D printing by 2022.⁶

Businesses are embracing the developments, making use of smart technology across products and services to do more than simply automate production. Supply chains need to be more agile than ever due to pressures from new competitors and end-customer demands while at the same time achieving lower costs and increased productivity.

Developments in Industry 4.0 are encouraging product innovations and disrupting end-to-end supply chains⁷. Businesses are embracing the developments, making use of smart technology across products and services to do more than simply automate production. Supply chains need to be more agile than ever due to pressures from new competitors and end-customer demands while at the same time achieving lower costs and increased productivity. In order to achieve this and more, businesses could consider building capacity while interest rates are low. However, we believe investment priorities should be based on technology (and skills), rather than capacity, to promote more agile and efficient ways of working.

Industry 4.0 – Key benefits

Industry 4.0 increases productivity and agility of supply chains and will affect how the sector evolves over the coming years. Industry 4.0 combines the Internet of Things with physical and digital technologies, such as analytics, additive manufacturing, robotics, artificial intelligence and augmented reality to make operations more digital. Key benefits include:

- supply chain visibility;
- efficiency improvements through stock optimisation and predictive analytics for resupply;
- reduction in process lead times; and
- enhanced end-customer experience through customisation.

Technology has supported businesses in the convergence of industries and the growing importance of the consumer. Companies that produce goods used by consumers rather than business, are increasingly seeking to develop their own distribution 'direct to consumer'. Businesses are also generating more revenue from aftermarket services which highlights a further opportunity to use and monetise customer data, subject to regulations which are outlined in subsequent sections.

Further progress with technologies such as blockchain have the potential to play a role in underpinning this industry transformation by removing the need for intermediaries.⁸ By 2020, according to research by Gartner, 40 per cent of the world's blockchain business value-add will be derived from the manufacturing sector.⁹



In 2018, businesses should decide how, where, and when to invest in new technologies and identify which options will create the most value. Businesses that are most likely to succeed will:

- review investment opportunities while interest rates are low – relevant for larger businesses in particular;
- develop a talent strategy to ensure employees are upskilled with the latest technology – most applicable for smaller businesses where employment costs are relatively higher as a proportion of all costs;
- consider future retail propositions – how can new technology enable better understanding and interaction with the end-customer.



Talent – attract, retain and develop people to support growth

The world of work is transforming rapidly due to shifts in technology, demographics and changing expectations of the workforce. As the ‘future of work’ evolves, companies should consider how to harness new technologies and engage the next generation workforce effectively.

The industrial sector employs a highly skilled workforce with an average wage above the national average. There is a growing number of apprenticeships in the sector. However, according to Engineering UK, an additional 1.8 million engineers and technicians are likely to be required by 2025.¹⁰ The industry requires a broad range of high-value skills and disciplines and these capabilities make the UK an attractive place for businesses to operate in. Due to the specialised nature of many roles, businesses recruit from a global workforce, as either permanent staff or contractors.

However, a study by Cranfield University highlights a shortage of skills in the UK in robotics and artificial intelligence, data analysis and innovative abilities. And, the UK industrial sector has an ageing workforce which compounds this issue. Given that by 2025, around three-quarters of the global workforce will be millennials – who are more ‘tech-savvy’ – there is an opportunity for businesses to attract and develop this talent to support the industrial sector. Brexit may make it harder to attract and retain the best people in the short-term, as outlined in the subsequent section.

Companies are applying robotics engineering and other innovative manufacturing technologies, sometimes replacing tasks previously done by employees. There is evidence of training and upskilling to enable employees to focus on higher value activities instead of roles that can be automated or made more efficient through technology.

These include functions that require advanced levels of cognitive ability and skills, as well as related knowledge. Research by Deloitte shows that the companies could benefit from a wider pool of talent by seeking people with creative, collaborative and cognitive thinking skills.¹¹ The government acknowledges the need to focus developing new skills as well as new ways of learning to respond to equip workers with the capabilities required in future. The new National Retraining Scheme, outlined in the government’s Industrial Strategy, includes investment for digital training to help re-skill people. It is critical to start this process early given the long time it may take to realise benefits from such schemes.

According to Deloitte Research, companies which have implemented new strategies that actively created value and deployed new business models to reflect the needs of their market and workforce outperform their peers. Human resources leaders will need to take innovative approaches to staffing in future to adapt to the transformation throughout the industrial sector. Strategy and operations leaders will need to embed a culture that ensures that their business can respond to forthcoming changes.



In 2018, firms should develop talent strategies that are aligned to the overall business objectives. Those most likely to succeed will:

- conduct a comprehensive review of opportunities and risks over the next year to understand what this means for talent;
- develop a talent strategy to ensure employees are upskilled with the latest technology – most applicable for smaller businesses where employment costs are relatively higher as a proportion of all costs;
- consider future retail propositions – how can new technology enable better understanding and interaction with the end-customer.



Prepare for regulatory uncertainty and policy changes

The political and regulatory landscape in which the industrial sector operates is changing as the industrial sector has become more digital, more exposed to the global market and able to make more use of consumer data. The government has identified the industrial sector as an engine of growth and also has a role to play in supporting it, through initiatives such as the Industrial Strategy.

The cost of doing business may increase in the short term due to Brexit. For businesses in this sector, the most pertinent issues will relate to market access (including customs duties and regulations), movement of people and currency and foreign exchange exposures.¹²

The accessible workforce could fall and labour costs could increase as mobility between the UK and the EU is affected by Brexit. Global and pan-European supply chain operations that involve just-in-time processes or where delays would impact commercial delivery or product quality may face additional administrative costs and could face delays in production. Access to customers as well as funding and investment from the EU could also be affected.

Only a third of companies in the sector have made contingency plans for Brexit related risks.¹³ However, Brexit can also generate opportunities for the sector, bringing forward innovation in the UK and developing domestic supply chains.

The General Data Protection Regulation (GDPR), which comes into effect in May 2018 will have implications for how data is used and how it is handed and transferred across geographies. GDPR aims to enhance the rights of individuals about how their data is stored and used, and place more stringent obligations on organisations handling personal data. UK companies must adapt their systems and processes to be compliant. GDPR puts the onus on businesses that hold personal and sensitive data to be responsible for obtaining permission to use that data and ensure it is adequately protected.

Businesses will also need to review how changes in the regulatory and political landscape may affect how they are structured and where they are located as well as the subsequent impacts on compliance responsibilities. For instance, a change in business structure could increase or decrease tax obligations which might then result in changes to cash flow.



In 2018, firms should take into account scenario and contingency plans for the uncertainty relating to Brexit and regulatory changes. Organisations most likely to succeed will:

- develop and test business continuity plans;
- carry out scenario planning and talent strategy to understand impact of accessible workforce;
- explore potential collaborations such as partnerships with governments and/or other companies – including small and medium-sized enterprises and universities/academia;
- understand implications for business configuration and location decisions.

Sub-sector considerations

The opportunities and challenges for the year ahead, outlined in the previous section, are relevant across all sub-sectors. Specific considerations are presented below.



Aerospace and defence



In 2018 it will be important for businesses in this sector to:



Consider strategies that respond to lower cost overseas competitors



Review opportunities for growth – increases in production for commercial aircraft and reduced public sector defence budgets



Invest in intelligent automation, robotics, augmented reality and wearable technology implement new cognitive and AI technologies and retrain people to use these tools



Understand opportunities (and risks) of advanced technologies such as additive manufacturing to enhance production processes



Consider how to support domestic suppliers in terms of spending by prime contractors in the UK (relative to spending on suppliers in other countries)¹⁴



Address long-term challenges through the Defence Growth Partnership



Develop non-traditional partners to innovate through more digital, automated and agile approaches.

“Attraction, development and retention of the right people will be critical for supporting growth in the sector. There are a number of opportunities across aerospace and defence, particularly relating to advanced technologies.”

Stacey Winters, Aerospace and Defence sector leader, Deloitte



Chemicals



In 2018 it will be important for businesses in this sector to:

- 

Evaluate strategies to serve the right markets and customers, secure future growth and respond to external market pressures/challenges
- 

Continue to refine and optimise their operational portfolios to maximise margins and ensure focus on core competencies
- 

Invest in digitally enabled operating and business models and review disruptive technologies, to ensure they capitalise on innovation in the sector
- 

Maintain strong capital discipline, including cost cutting/control and working capital management
- 

Review their positioning as sector M&A and consolidation continues, both from the perspective of the UK being an attractive target market, and also as a strategic tool to achieve their objectives
- 

Plan their risk mitigation strategies to various Brexit scenarios, particularly in response to the potential impact on exports/imports, attracting and retaining talented employees and regulatory changes/uncertainty.

“In the short term, businesses are expected to be focused on digital opportunities that will make immediate operational improvements to ensure their business models are robust. However, longer term the chemical industry can benefit from more radical transformation across the sector – from business processes to customer relationship management.”

Mark Adams, Chemicals sector leader, Deloitte



Other industrial products and services



In 2018 it will be important for businesses in this sector to:



Consider strategies that respond to lower-cost overseas competitors – streamlining and improving efficiency in the supply-chain



Work with government in delivery of the aspirations set out in the Industrial Strategy white paper, particularly through AI and clean growth initiatives



Focus on how to benefit from Industry 4.0 in production and interactions with consumers – integrating information technology and operations technology, connecting physical to digital and vice-versa



Invest in intelligent automation, robotics, augmented reality and wearable technology implement new cognitive and AI technologies and retrain people to use these tools



Plan response to Brexit scenarios



Focus on attracting, developing and retaining talent to support growth and productivity across the sector.

“Industrial products and services provide a valuable contribution to the UK economy. Industry 4.0 provides opportunities for businesses to improve productivity further while initiatives through the Industrial Strategy will also support businesses and talent across the sector.”

Duncan Johnston, Industrial Products and Services sector leader, Deloitte

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Endnotes

1. See: <https://www.ons.gov.uk/businessindustryandtrade/manufacturingandproductionindustry/bulletins/ukmanufacturerssalesbyproductprodcom/2016intermediateand2015finalresults>
2. This preliminary estimate for Quarter 4 represents growth in the three months to December 2017 compared with the previous quarter. See: Gross domestic product, preliminary estimate: October to December 2017, Office for National Statistics, 2018
3. IHS Markit/CIPS UK Manufacturing PMI, January 2018
4. See: <https://www.ons.gov.uk/businessindustryandtrade/manufacturingandproductionindustry/bulletins/ukmanufacturerssalesbyproductprodcom/2016intermediateand2015finalresults#uk-total-manufacturers-product-sales-increase>
5. See: <https://www.gov.uk/government/collections/innovate-uk-manufacturing-and-materials>
6. See: http://www3.weforum.org/docs/WEF_GAC15_Technological_Tipping_Points_report_2015.pdf
7. First used at the Hannover Messe trade fair in 2011, the term "Industry 4.0" refers to a "fourth industrial revolution" that builds on the earlier revolution in relation to industrial automation
8. Blockchain is a digital, decentralised, distributed ledger that provides a way for information to be recorded, shared and maintained by a community. Further details on the concepts and workings of blockchain can be found in previous reports by Deloitte. See: <https://www2.deloitte.com/uk/en/pages/innovation/articles/blockchain.html>
9. Forecast: Blockchain Business Value, Worldwide, 2017-2030, Gartner, March 2017
10. See: <http://www.telegraph.co.uk/business/2017/03/04/uk-firms-engineers-banks-struggle-fill-skills-shortage/>
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14. Government survey of prime contractors with significant operations in the UK which captured aerospace supply chain procurement spend in the UK and globally. Department for Business, Innovation and Skills, 2016



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