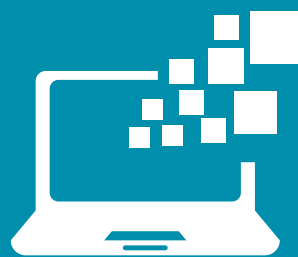


GOING DIGITAL The Challenges Facing European SMEs

EUROPEAN SME
SURVEY 2019

France
Germany
Poland
Spain
United Kingdom



A COOPERATION OF





GOING DIGITAL The Challenges Facing European SMEs

**EUROPEAN SME
SURVEY 2019**

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Big data, artificial intelligence, cloud computing – these are just some of the technologies that immediately come to mind when thinking about digitalisation. They are not a future matter anymore and, arguably, will continue gaining relevance in the coming years. Consequently, adapting to these realities is a matter of need rather than a matter of choice.

This holds true for the small and medium-sized enterprises (SMEs) in Europe, many of which risk their competitiveness if they fail to embrace digitalisation. Given that SMEs are a key driver of the European economy, accounting for the majority of firms and creating large shares of employment and value added, a loss in their competitiveness would not be without consequences.

Where do our SMEs stand in the digital transformation process? What are the obstacles they face? What role do financing constraints play? And what can policy makers more generally and National Promotional Institutions (NPIs) in particular do to support them, taking into account the important role SMEs play for our economies?

To find answers to these questions, Bpifrance, KfW, BGK, ICO and the British Business Bank have set up a joint survey of SMEs in France, Germany, Poland, Spain and the United Kingdom. Having reliable and comprehensive information on SMEs' opportunities and difficulties is vital to assess their situation and, eventually, provide them with useful instruments. Collecting original data for the first time together, we are also breaking new ground in our long-standing cooperation. We are deeply convinced that the effort is worthwhile and look forward to continuing our joint research in the future.

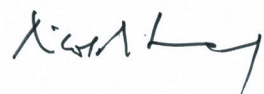
The results are intriguing. SMEs are aware of the need to digitalise. More than one in two SMEs are concerned that they may lose out in international competition if they do not adopt new technologies. Nevertheless, for only one in three SMEs, digitalisation is a top priority. Insufficient digital infrastructures, as well as cyber security concerns, are key obstacles for SMEs in all five countries. At least as important, however, is the lack of digital skills among their employees, as well as on the external labour market.

SMEs are often considered as more flexible than larger organisations in adapting to new developments but are also more constrained in terms of finance or labour. Addressing these shortages will be a key task for policy makers, but also for NPIs like Bpifrance, KfW, BGK, ICO and the British Business Bank. We are continuously striving to improve our promotional instruments and to find innovative financing solutions, anticipating the needs of our SMEs and taking responsibility for our economies in the digital transformation process.

In providing new evidence on how SMEs in five different European countries deal with new technologies, we can hopefully contribute to finding the right policy answers to the digital challenge. In this spirit, we wish you an insightful and inspiring read.

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Foreword

The development of small and medium-sized enterprises (SMEs) has been a focal point of interest of National Promotional Institutions (NPIs) for many years and will continue to be an important task. SMEs drive investment and innovation, create substantial value added and provide the majority of jobs in European countries, including France, Germany, Poland, Spain and the UK.

To keep European SMEs viable and competitive, Bpifrance, KfW, BGK, ICO and the British Business Bank first and foremost strive to improve access to finance for SMEs. Despite generally favourable financing conditions and low interest rates, young and innovative SMEs in particular experience financing difficulties. The evidence suggests that promotional funds are able to cover a reasonable part of the financing gap.

As SMEs' business environment changes, however, their financing needs also change. A development that does not only have a strong impact on SMEs' business environment but also creates completely new business models is digitalisation. Following the logic of the World Economic Forum, the invention of the steam

engine was the beginning of the first industrial revolution, electrification started the second and automation symbolises the third, then the integration of digital technologies is the main element of the fourth industrial revolution.

Against this background, it may come as a surprise that digitalisation is a top priority for only one in three SMEs. Challenges related to the adoption of new technologies range from building up digital infrastructure to ensuring cyber security and overcoming a lack of employees' skills. Our survey also suggests that competitive pressure is a key driver for the adoption of new technologies. Acting in global markets, many European SMEs will increasingly feel the need to step up their digitalisation efforts.

We are deeply convinced that the investment and educational needs of European SMEs related to digitalisation will significantly increase in the near future, as will their need for appropriate financing solutions. We hope that

our survey offers valuable information to design effective promotional policies to keep our SMEs a vital part of the economy in a digitalised world. What is more, we hope that this report will increase the digital awareness of business communities, decision makers and societies. After all – and this is perhaps the most important message of our survey – those who take up the challenge of digitalisation are those who have particularly positive expectations regarding their future.

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GENERAL PART

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- Although there is some regional heterogeneity, small and medium-sized enterprises (SMEs) in France, Germany, Poland, Spain and the UK are generally in sound shape, experiencing robust revenue growth and favourable financing conditions. Only one in ten SMEs seeking access to external finance report having major difficulties.
- According to their own assessment, European SMEs are reasonably competitive, with high quality products and comprehensive customer services being their main strengths. Taxes and charges, in addition to regulations and bureaucracy, continue to be major points of dissatisfaction among European SMEs.

- Digitalisation is of strategic importance for many European SMEs. More than one in two consider the adoption of new technologies to be necessary in order to secure their own competitiveness.
- For European SMEs to advance further in the digital transformation process, a variety of obstacles must be overcome, including IT security concerns and a lack of digital infrastructure. A quarter of SMEs perceive a lack of appropriate financing possibilities as a key barrier to digitalisation in their company.

- Insufficient digital skills of their employees are another important problem from the point of view of European SMEs. Digital skills are also lacking on the external labour market, which makes recruiting IT specialists difficult for SMEs. A majority of SMEs therefore relies on training their staff.
- Although SMEs which give top priority to digitalisation anticipate that the new technologies will render some tasks or jobs obsolete in their company, most of them expect the total number of employees to remain stable in the future – or even to grow.

Europe is currently confronted with different developments which are likely to have a profound impact on its economy and society. The digital transformation is certainly one of them. Digital technologies open up new possibilities to communicate, to organise workflows and production processes or to learn about and interact with customers and suppliers. In fact, they give rise to entirely new business models.

The future competitiveness of the European economy will increasingly depend on how successfully our companies can exploit the opportunities offered by these new technologies. This cannot be left as a task only

for large multinationals. Rather, it is the successful digitalisation of European small and medium-sized enterprises (SMEs) that will determine the future of the European economy. After all, SMEs provide the majority of jobs and generate the largest part of value added in European countries.

To assess SMEs' current competitiveness and to evaluate where they stand in the digitalisation process, Bpifrance, KfW, BGK, ICO and the British Business Bank as National Promotional Institutions (NPIs) have for the first time set up a joint survey of more than 2,500 SMEs in five European countries – *the European SME Survey*⁽¹⁾.

Our results show that SMEs in France, Germany, Poland, Spain and the UK are in sound shape overall. They experience robust revenue growth and benefit from generally favourable financing conditions, although regional heterogeneity exists. According to their own assessment, European SMEs have important strengths in international competition, such as the high quality of their products or services. In order for SMEs to faster progress in the field of digitalisation and use new technologies to keep and expand their competitive edge, however, several obstacles have to be overcome.

(1) *The European SME Survey is designed as an online survey based on online access panels. It covers SMEs from the non-financial sector with 20–249 employees. Survey responses are weighted by size and sector to represent the population of non-financial SMEs with 20–249 employees in each of the five countries. Country averages are simple averages, giving each of the five countries the same weight. For more details, see Methodology.*

ECONOMIC SITUATION AND INTERNATIONAL COMPETITIVENESS OF EUROPEAN SMES

The overwhelming majority of European SMEs has experienced stable or increasing revenue

In terms of revenue, SMEs in France, Germany, Poland, Spain and the UK developed quite positively in 2018: A large majority (88%) reports stable or increasing revenue for the last year, in comparison to the year before. To be more specific, about 44% experienced revenue growth of at least 5% (Figure 1). About 9% of SMEs even recorded an increase of more than 10%. In contrast, less than 12% experienced a decrease in revenues.



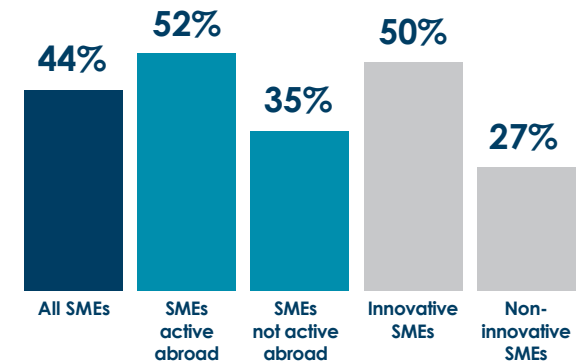
A significant share of SMEs generates at least part of its revenues abroad. On average, about 58% of SMEs were active on foreign markets in 2018, ranging from 45% in Germany to 72% in Spain. Manufacturing SMEs as well as larger SMEs are more likely to be active abroad: the share of exporters was 77% among manufacturers and 65% among SMEs with 50 to 249 employees, as opposed to 55% among SMEs with 20 to 49 employees – a pattern that is well known from other studies⁽²⁾.

Internationalised SMEs⁽³⁾ generally perform better than their purely domestic peers. While 52% of SMEs with cross-border sales experienced an increase in revenue of 5% or more in 2018, only 35% of SMEs without foreign activities achieved such revenue growth rates (Figure 1).

The same is true for innovative SMEs⁽⁴⁾. While 50% of them saw an increase in their revenue by 5% or more, only 27% of non-innovative SMEs were that successful.

(2) See Bpifrance et al. (2018).
(3) See Glossary.
(4) See Glossary.

FIGURE 1 SHARE OF SMES WITH ROBUST REVENUE GROWTH^{(5) (6)}



(5) Unless otherwise stated, all results are country averages.
(6) See Glossary.

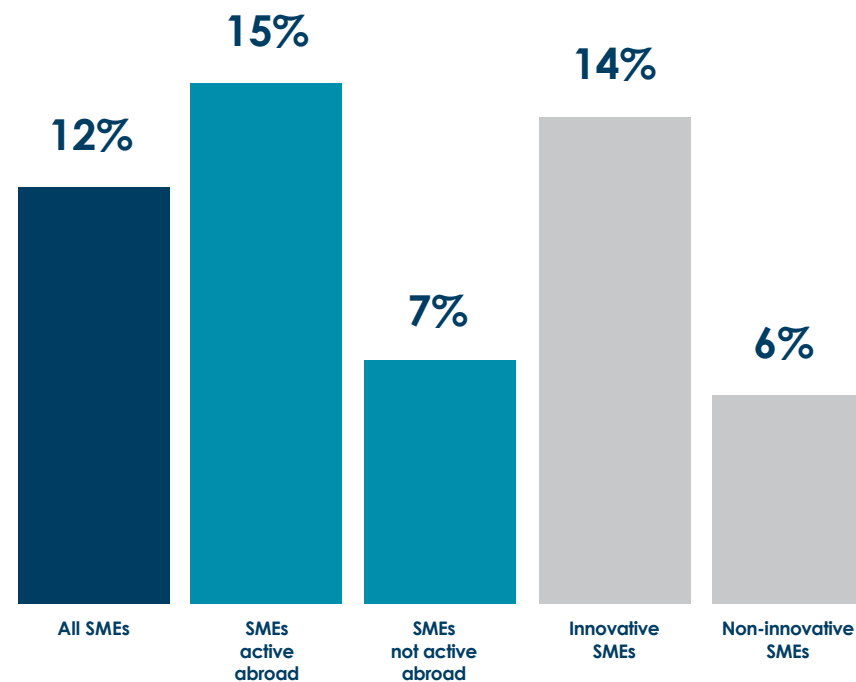
Financing difficulties are more prominent among internationally active or innovative SMEs

When evaluating SMEs⁽⁷⁾ difficulties in accessing external finance, we find that the results of our survey are roughly in line with other studies such as the *EIF SME Access to Finance Index*. On average, only about 5% of SMEs which currently use or plan to use external sources of finance face very severe difficulties in accessing it and 7% experience major difficulties. About 26% report moderate difficulties, 30% minor difficulties and 32% no difficulties at all. However, there is considerable heterogeneity across countries, with German SMEs less frequently reporting difficulties in accessing external finance than SMEs of the other four countries, particularly in Spain and the UK.

Generally, SMEs active abroad are more often affected by financing difficulties than those concentrated on the domestic market (15% vs 7% with very severe or major difficulties, Figure 2). Similarly, innovative SMEs are more likely to report financing difficulties than non-innovative ones (14% vs 6%). The perception of risk associated with foreign activities and innovative projects may be the reason for these observed differences.

(7) See EIF (2019).

FIGURE 2 SHARE OF SMEs FACING DIFFICULTIES IN ACCESSING EXTERNAL FINANCE



Note: Among SMEs which currently use or plan to use any external source of finance.

Three out of ten SMEs currently use promotional funds

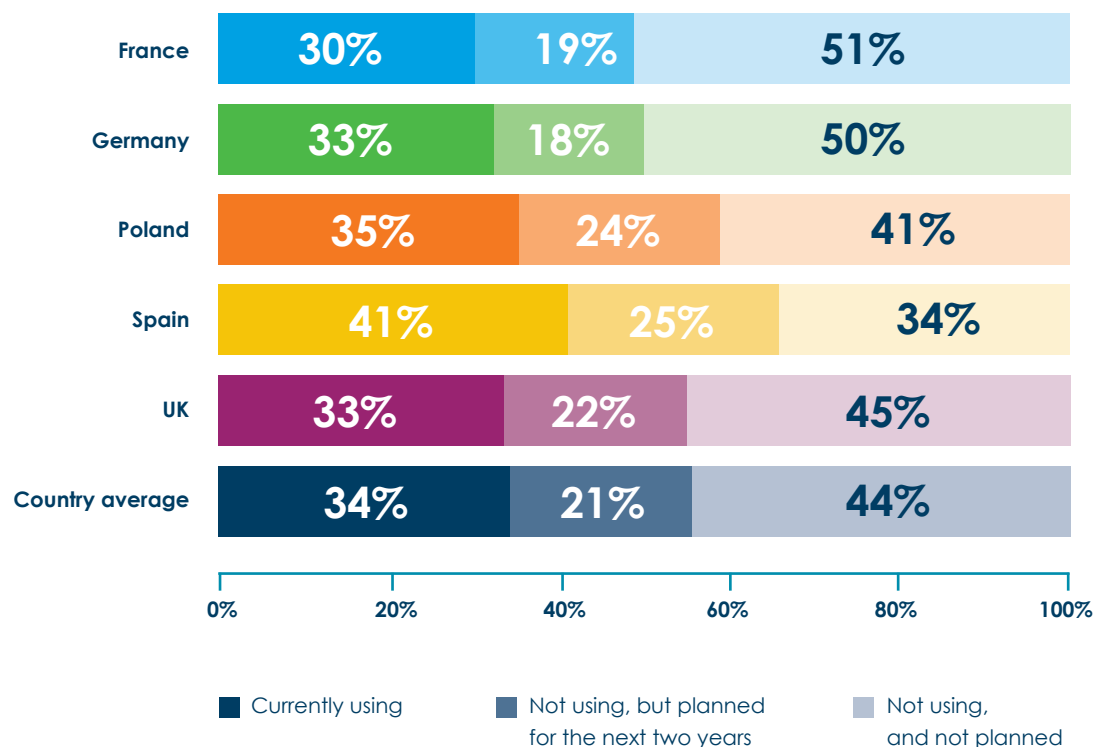
Financing restrictions must be taken seriously as they can hinder investment, innovation and internationalisation activities of SMEs and thus affect their long-term competitiveness.

To finance these activities, SMEs currently rely on multiple sources of finance, which can be roughly summarised into equity, debt, promotional funds and alternative sources of finance such as leasing or factoring⁽⁸⁾. While debt is the most commonly used source of finance, with about 77% of SMEs drawing on bank loans and other forms of debt, equity is nearly as important, with about 74% of SMEs using it. About 54% also rely on alternative sources of finance.

Promotional funds, such as subsidised or guaranteed loans, are currently used by about 34% of European SMEs, with minor regional differences. Additionally, 21% of SMEs are planning to do so in the next two years (Figure 3). This suggests an important role of promotional funds in closing the financing gap of SMEs. In fact, mitigating market failures and keeping the access to finance open for SMEs is a key task of NPIs. For this task, promotional instruments are not limited to debt financing. Providing equity financing to SMEs is gaining importance, also for NPIs.

⁽⁸⁾ The survey covered nine different sources of finance: bank overdraft, bank loans, trade credit, and credit cards (summarised as "debt"), retained earnings and equity capital (summarised as "equity"), factoring and leasing or hire-purchase (summarised as "alternative sources of finance") and promotional funds.

FIGURE 3 SHARE OF SMEs USING PROMOTIONAL FUNDS AS A SOURCE OF FINANCE



European SMEs are under competitive pressure

In recent years, dynamic technological changes and market globalisation have had a significant impact on the business environment of European SMEs. They are under increasing competitive pressure, especially those which act on international markets, and they face a variety of challenges. Managing the digital transformation, getting access to finance or finding qualified employees are just some of them. Overcoming these difficulties and enhancing SMEs' international competitiveness will be crucial to ensure employment and growth in European economies.

In order to assess European SMEs' position in international competition, to reveal their strengths and weaknesses and to identify potential fields of action, we have asked SMEs in France, Germany, Poland, Spain and the UK to compare themselves with their most important competitors with regard to various aspects. We have taken into account both firm specific factors, such as price or quality of their products or services and location factors, such as transport and digital infrastructure, political stability or availability of skilled employees and external finance.

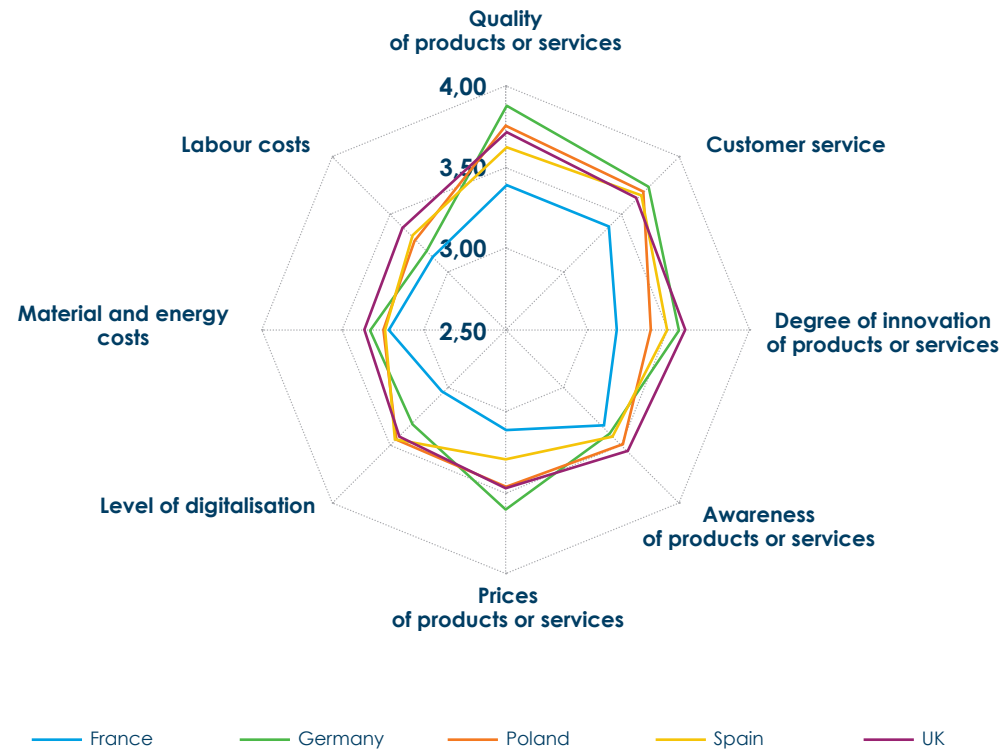
Quality and customer services are European SMEs' main strengths

SMEs in the five countries consider themselves to be reasonably competitive in most aspects covered by the survey, perceiving the quality of their products and their customer service as their key competitive advantages (Figure 4). Material, energy and labour costs are, in contrast, aspects where they perceive themselves rather at a disadvantage. Comparably high costs of production find their counterpart in rather high prices. In this regard, many European SMEs consider themselves to be only moderately competitive. Compared to other aspects of firm performance, SMEs also rate their digital performance as rather a weakness in international competition.

Level of digitalisation falls behind other aspects of competitiveness

A deeper dive into the results reveals that French companies view themselves most critically in almost all aspects mentioned in the survey. Nevertheless, also for French SMEs, the high quality of their products and comprehensive customer service are those aspects where they see themselves performing best. German and British SMEs, in contrast, consider themselves to be rather competitive in various regards. However, while SMEs from the five countries view their competitiveness differently in various areas, in none of the countries do SMEs indicate their level of digitalisation to be a strong suit.

FIGURE 4 FIRM PERFORMANCE



Note: To determine firm performance, SMEs were asked to rate their performance relative to their main competitors with regard to the various aspects, from 1 (significantly worse) to 5 (significantly better). Weighted averages of SMEs with overseas revenue in the last financial year.

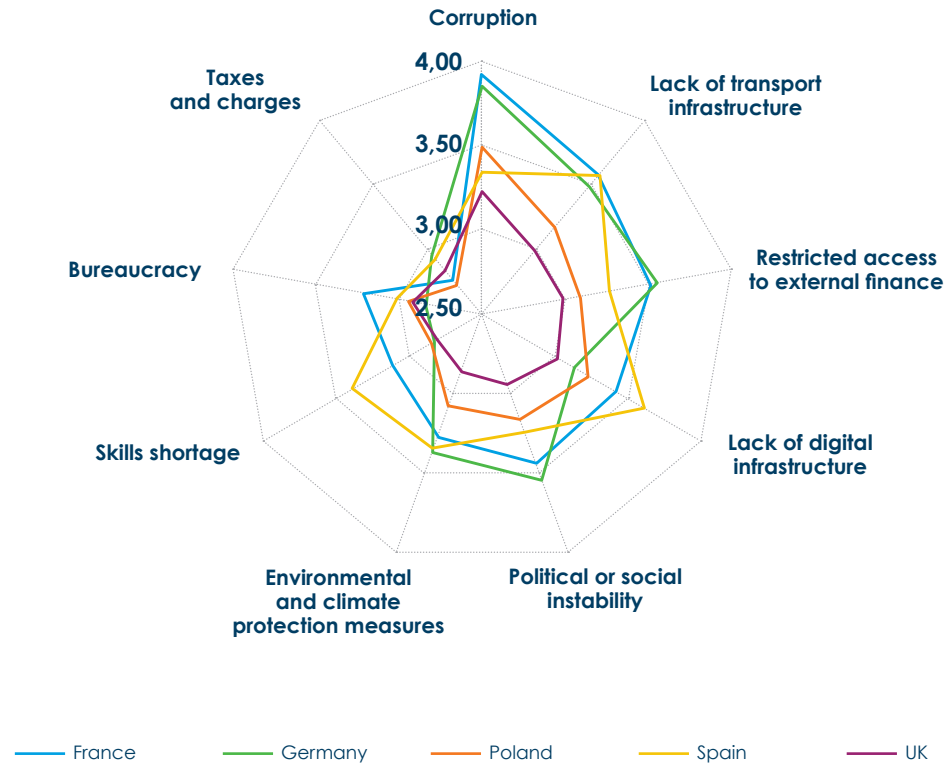
European SMEs feel particularly affected by taxes and bureaucracy

SMEs' international competitiveness also depends on location and country specific conditions, such as infrastructure, taxes or regulations. Contrary to firm specific aspects, these factors are largely out of an SME's direct control.

Although there is considerable heterogeneity in the assessment of the different location factors across countries, SMEs in France, Germany, Poland, Spain and the UK all perceive taxes and charges, as well as bureaucratic hurdles, to be a major constraint to their international competitiveness (Figure 5). Skills shortage is another issue which hampers many European SMEs' competitiveness but is perceived as a greater burden in Germany than in Spain, for instance. Corruption, on the other hand, is affecting SMEs' competitiveness to a lesser extent. The lack of transport infrastructure also only moderately affects SMEs' competitiveness, according to their own assessment.

British and Polish SMEs are generally those which are most critical about their environment. French SMEs, in contrast, are relatively positive about the conditions under which they operate in their country. Restricted access to external finance affects European SMEs' competitiveness only moderately, although in some countries more than in others, confirming our previous results.

FIGURE 5 COUNTRY PERFORMANCE



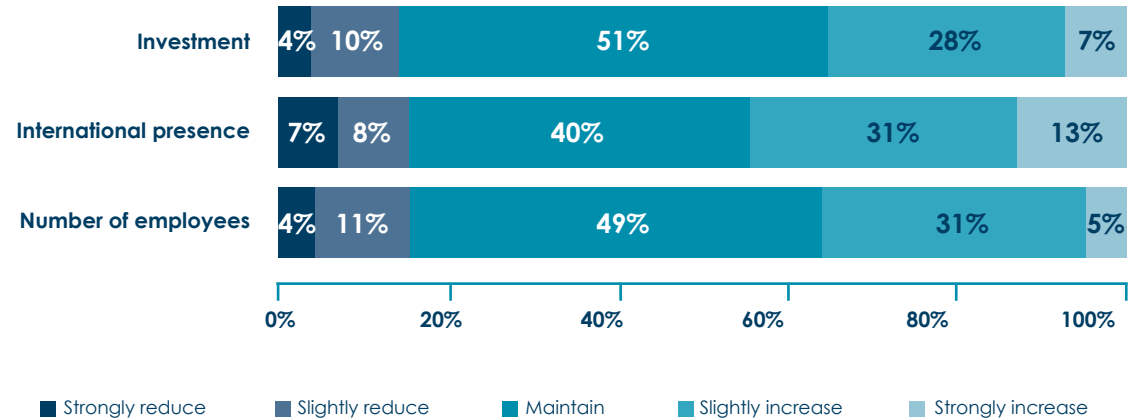
Note: To determine country performance, SMEs were asked to rate to what extent the factors specified were currently affecting their competitiveness, from 1 (very strongly) to 5 (not at all). Weighted averages of SMEs with overseas revenue in the last financial year.

European SMEs' investment will remain robust in the coming years

Continuous investment and innovation are crucial for SMEs to ensure and enhance their future competitiveness. SMEs in France, Germany, Poland, Spain and the UK are generally rather optimistic in this regard. About one in three SMEs intend to expand their investment volume in the next two years, one in two want to at least maintain their current investment volume (Figure 6). Only a minority of SMEs, about 14% on average, plans to reduce its investment volume.

A similar picture emerges with regard to SMEs' international presence. About 44% of SMEs in the five countries intend to increase their international presence. This may seem surprising, given the current context of rising trade tensions and international uncertainties. However, most trade of European SMEs takes place with neighbouring countries within Europe, to which the rules of the Single Market apply. Taking this into account, the high share of British SMEs which will likely reduce their international presence, nearly 25% as opposed to the five country average of 15%, does not come as a surprise.

FIGURE 6 SMEs INTENTIONS REGARDING INVESTMENT, INTERNATIONALISATION AND EMPLOYMENT IN THE NEXT TWO YEARS



75%
of European SMEs intend to introduce innovations in the next two years

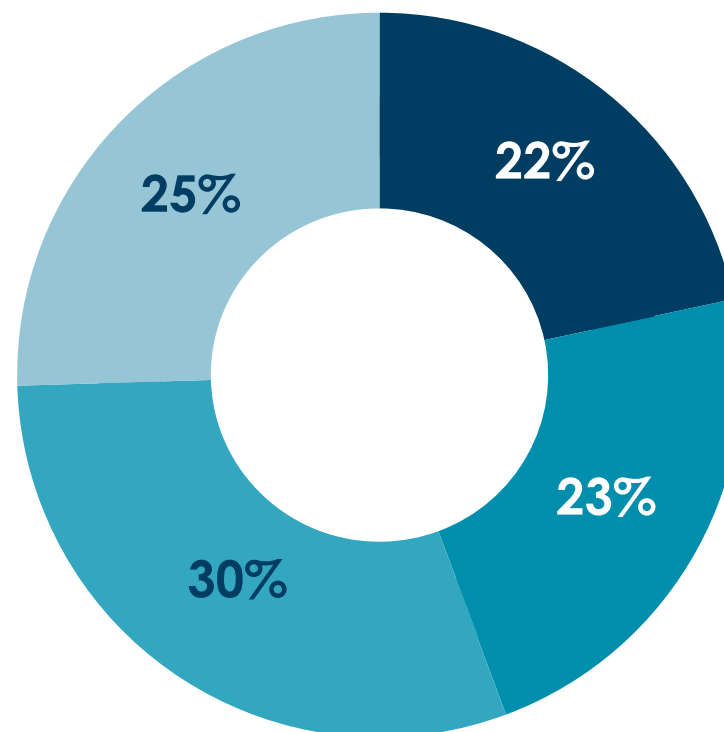
European SMEs intend to innovate ...

A large majority of SMEs (75%) also intends to introduce product or process innovations within the next two years (Figure 7). About a third even plans to introduce both process and product innovations.

... and build up employment

With respect to employment, it stands to reason that SMEs will continue to play a significant role in the five countries considered in this report. About one in two SMEs want to maintain the size of their workforce. A substantial share, namely 31%, intends to slightly increase and about 5% even plan to strongly increase the number of employees.

FIGURE 7 SMEs INTENTIONS TO INTRODUCE INNOVATIONS IN THE NEXT TWO YEARS



- Product innovation
- Process innovation
- Both product and process innovation
- Neither product nor process innovation

DIGITALISATION

Competition is a key driver of digitalisation

Digital technologies are changing the way in which firms do business and interact with their customers and suppliers. Advancing digitalisation in SMEs is a promising approach to enhance their international and national competitiveness: As shown in the OECD roadmap for digitalisation, businesses which are frontier firms in digitalisation see higher revenue and productivity compared to less digitally inclined firms in the long run⁽⁹⁾. Generally, access to information and communication technologies reduces search and distribution costs. E-commerce in particular helps firms to connect with distant customers.

Clearly, understanding the impacts of digitalisation and the challenges faced by SMEs in transforming their business strategies and operations is of interest to NPIs. The aim of this survey was to analyse how SMEs approach digital transformation and to identify the obstacles they face in adopting new technologies. The survey also assesses the benefits digitalisation might bring in terms of ensuring a competitive edge.

⁽⁹⁾ See OECD (2018).

For one in three European SMEs digitalisation is a top priority

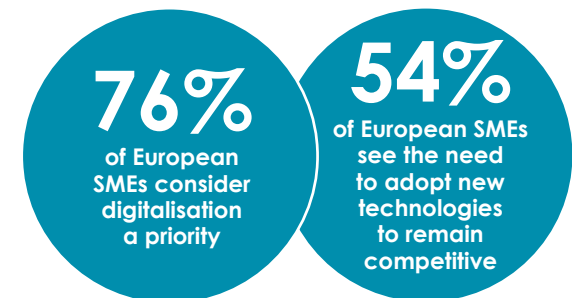
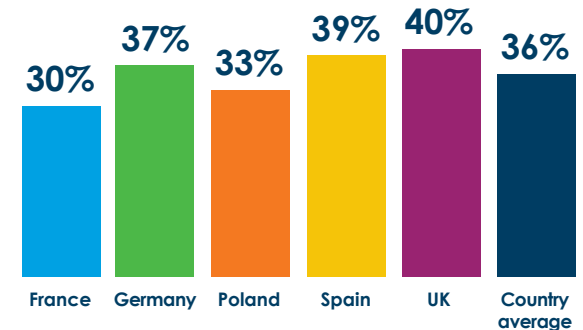
SMEs invest to improve business performance – whether in the short or long term. Investment decisions are often led by business owners or senior managers with responsibility for financing the adoption of new technologies. A tech-savvy management culture, alongside a business strategy focusing on better use of technology throughout business services and operations, can lead to a more productive and profitable future⁽¹⁰⁾.

Two thirds of SMEs report that their senior management consider digitalisation a priority, of which more than a third (36%) consider it a top priority⁽¹¹⁾ and 40% a medium priority. The share of SMEs with top priority on digitalisation is slightly larger in the UK, Spain and Germany than in France and Poland (Figure 8).

Digitalisation is driven by internal and external factors, e.g. the motivation of the senior management team and pressure from competing firms. On average, more than one half (54%) of the SMEs in the five countries confirm that they adopt new technologies to remain competitive, with some variation between countries. Nearly three fifths (59%) of SMEs in the UK, compared to 48% in Germany, stress the importance of competitive pressure in the decision to adopt new technologies.

⁽¹⁰⁾ See OECD (2017).
⁽¹¹⁾ See Glossary.

FIGURE 8 SHARE OF SMEs IN WHICH DIGITALISATION IS A TOP PRIORITY FOR THE MANAGEMENT



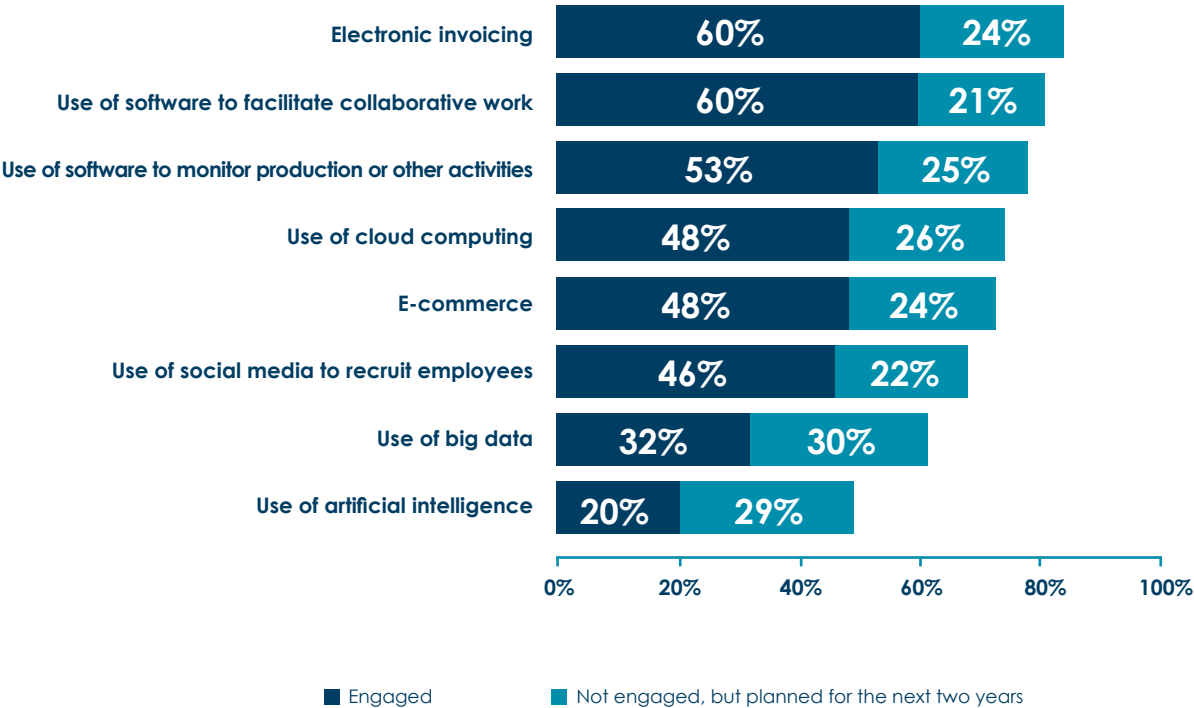
Digital activities of European SMEs are diverse

Looking at technology adoption, the survey shows that a high share of SMEs has started, or is planning, to take up digital activities (Figure 9). The most common activity is electronic invoicing (60%), followed by the use of software to facilitate collaborative work (60%) and to monitor production processes (53%).

New and emerging technologies, such as big data (32%) and artificial intelligence (20%), are used less often. However, almost a third of SMEs report that they are planning to adopt the use of artificial intelligence and as many plan to implement big data analyses in the next two years.

A deeper dive into the results shows significant differences between SMEs depending on the level of priority their management places on digitalisation. SMEs with digitalisation as a top managerial priority undertake a wider range of digital activities. For instance, the more tech-savvy the management, the more likely they are to make use of social media to recruit new employees (60%) compared to a management who place only medium, low or no priority at all on digitalisation (38%). This supports the argument that managerial priority is closely connected with technology adoption across all types of digital activity and innovation.

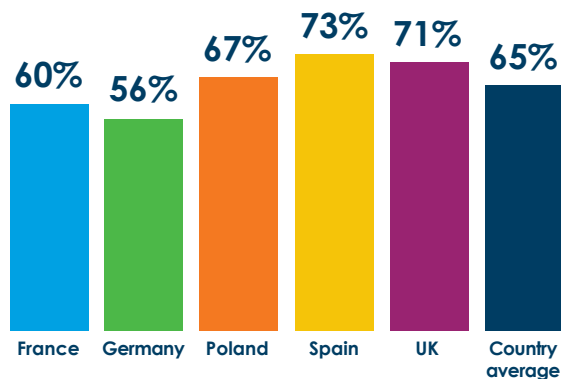
FIGURE 9 SHARE OF SMEs WHICH CURRENTLY ENGAGE OR PLAN TO ENGAGE IN DIGITAL ACTIVITIES



Two thirds of SMEs are digitalised

SMEs take a varied approach to digital activities. Our survey shows that 65% of them are engaged in at least three digital activities (digitalised SMEs⁽¹²⁾, Figure 10). SMEs in Spain and the UK attach a higher priority to digitalisation than the country average and are also most likely to be engaged in digital activities. In comparison, French SMEs put a lower level of emphasis on digital technology and are also less engaged in digital activities. The response of SMEs in Germany is more nuanced: Although they place a slightly more than average priority on digitalisation, the reported level of uptake is the lowest. For Polish SMEs it is rather the other way around. Compared to the European average, they are less likely to give top priority to digitalisation but more likely to actually use the new technologies.

FIGURE 10 SHARE OF DIGITALISED SMEs

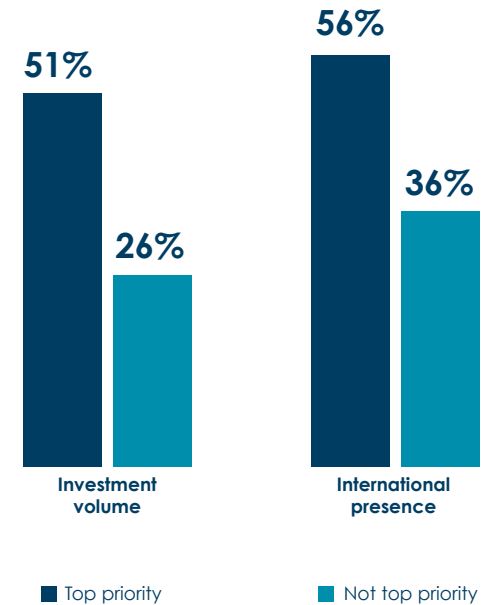


(12) See Glossary.

Digital priority links with higher intent to invest, innovate and internationalise

The survey suggests that about half of SMEs which attach top priority to digitalisation (51%) intend to increase their investment volume and even more (56%) plan to expand their international presence within the next two years (Figure 11). In contrast, among SMEs with a less digitally inclined management only around one quarter (26%) intend to increase their investment volume and a third (36%) their international presence. This suggests that SMEs which prioritise digital activities are able to invest and export more. Effective adoption of technology across SMEs can spur the whole economy and make it more competitive both nationally and internationally.

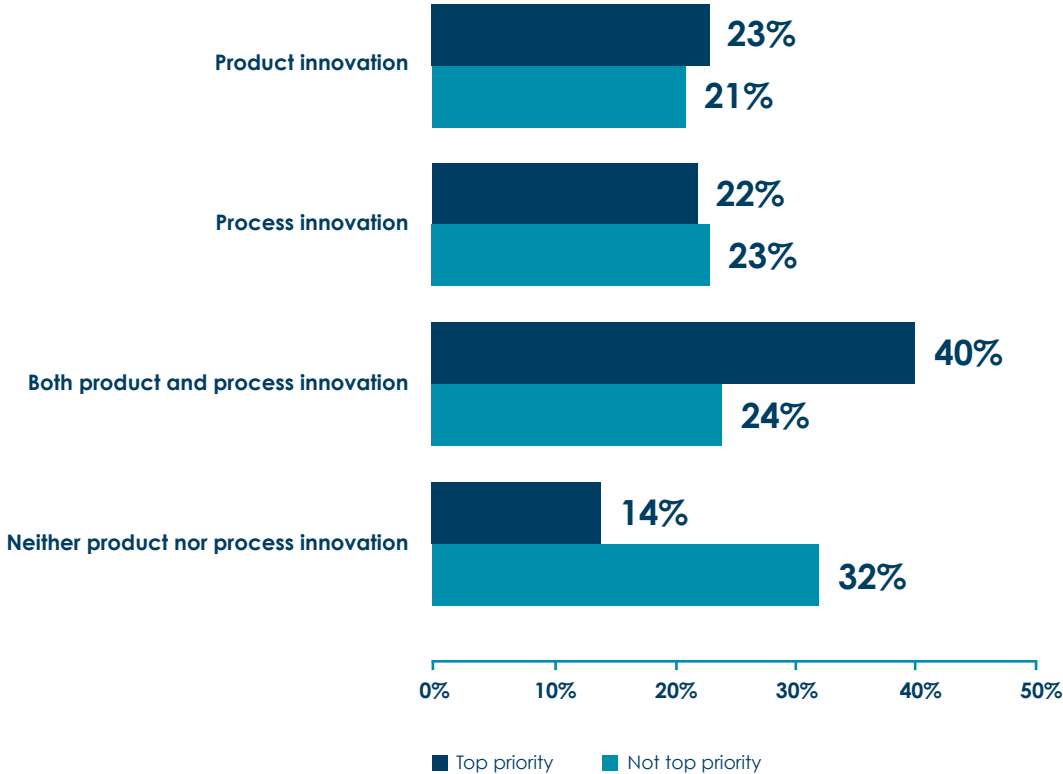
FIGURE 11 SMEs INTENTIONS ABOUT INVESTMENT AND INTERNATIONALISATION DEPENDING ON DIGITAL PRIORITY



Note: Share of SMEs which intend to slightly or strongly increase their investment volume and their international presence in the next two years.

The contrast between the two styles of management, as measured by the prioritisation of digital technologies, is also apparent in their approach to innovation (Figure 12). The survey finds that the likelihood to introduce both new products and new processes is higher among digitally inclined SMEs (40%) than among those that are less so (24%). Almost one third (32%) of SMEs with a management team that does not prioritise digital transformation have no plans to innovate either processes or products compared to fewer than one in six firms (14%) which afford a higher priority to digitalisation.

FIGURE 12 SMEs INTENTIONS TO INTRODUCE INNOVATIONS IN THE NEXT TWO YEARS DEPENDING ON DIGITAL PRIORITY



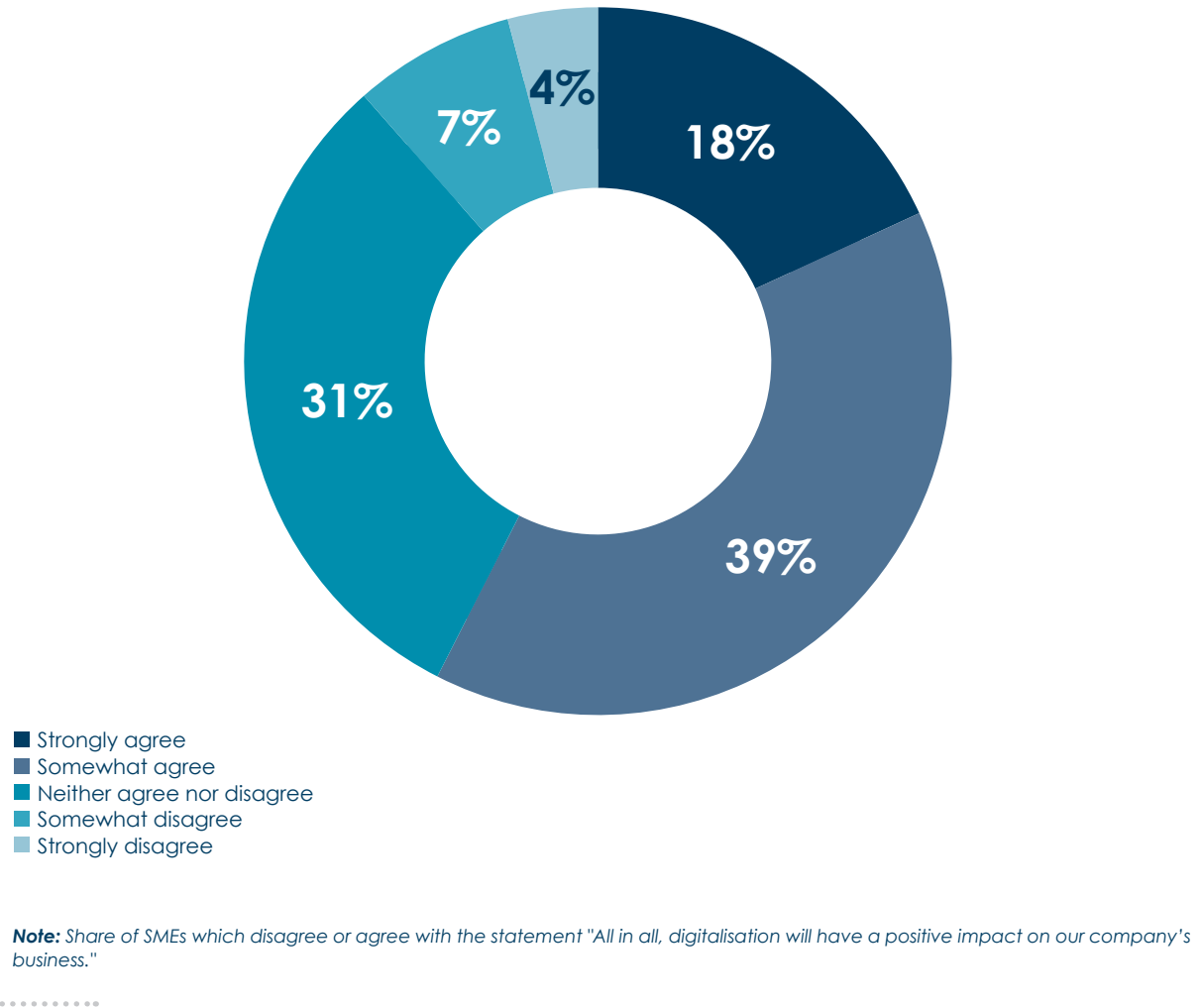
Most SMEs expect a positive impact of digitalisation on their business

Overall, SMEs in France, Germany, Poland, Spain and the UK are seeing more chances than risks of digitalisation. On average, almost three in five SMEs (57%) agree with the statement that digitalisation will have a positive impact on their company's business over the next five years (Figure 13).



Unsurprisingly, SMEs' expectations are linked to the importance they attach to new technologies. Three quarters of SMEs (74%) with digital management priority expect a positive impact from investment in digital technologies on the company, as opposed to one half of SMEs (49%) which put medium to no priority to digitalisation.

FIGURE 13 EXPECTED IMPACT OF DIGITALISATION ON SMEs' BUSINESS



IT security and employees' digital skills gap are key barriers to digitalisation

SMEs face a number of obstacles to digitalisation. The two main obstacles to the adoption of digital technologies are concerns surrounding IT security and the need to recruit and retain highly skilled staff with digital expertise (Figure 14).

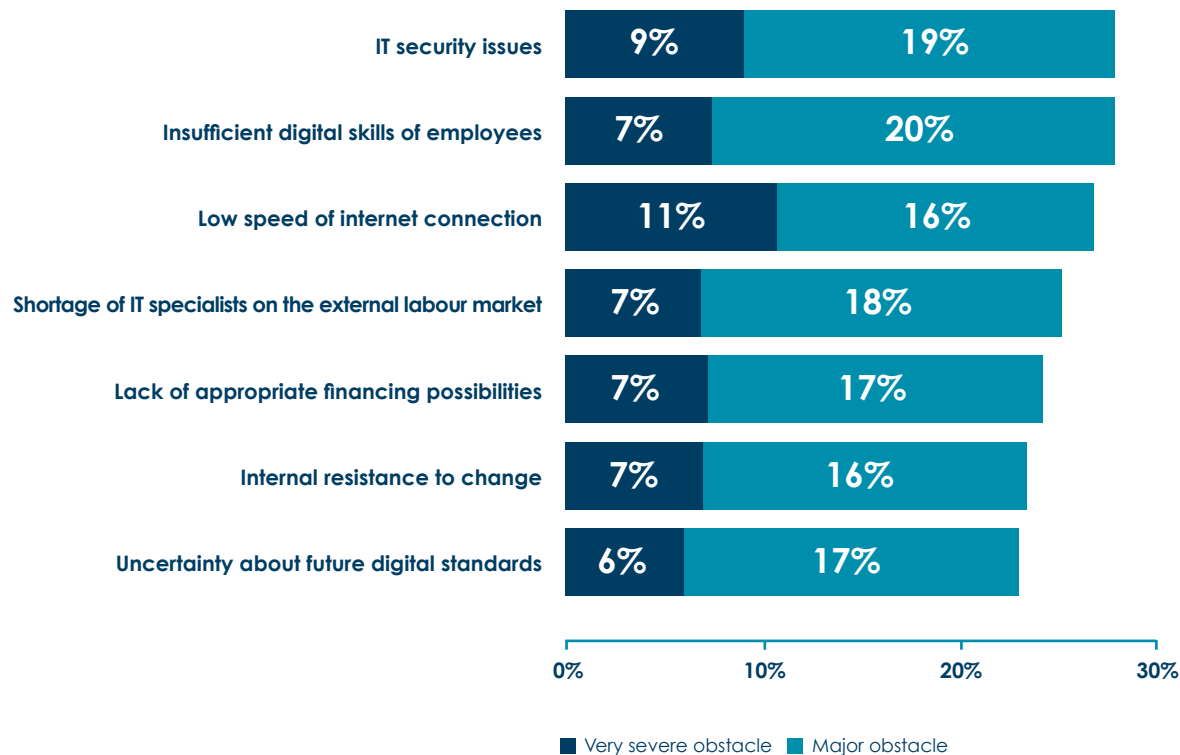
Almost one tenth (9%) of SMEs report that IT security issues are a very severe obstacle and almost one fifth (19%) say it is a major obstacle to digitalisation in their companies. SMEs' increased awareness of the danger of security breaches adds an additional layer of complexity in the planning towards a more digital business.

In particular, SMEs need to upskill their staff on safeguarding their information and assets. This is an ever more pertinent issue at a time when cybercrime is becoming increasingly pervasive and complex. The KfW SME Panel finds evidence that between 2013 and 2015, one in three German SMEs experienced cyber security incidents⁽¹³⁾.

Not having the right skills in place to implement and benefit from the adoption of new technology is the second greatest overall barrier, with slightly less than a third (27%) saying it is a very severe or major obstacle. The challenge of lacking the right digital skill set is critical for SMEs as digital technology is fundamental in remaining competitive.

The third most reported obstacle for SMEs to digitalise is the low speed of internet connection. Digital infrastructure should be a key priority for governments, as it is a critical enabler for wider adoption of digital technology.

FIGURE 14 OBSTACLES TO DIGITALISATION



(13) See Schwartz (2016).

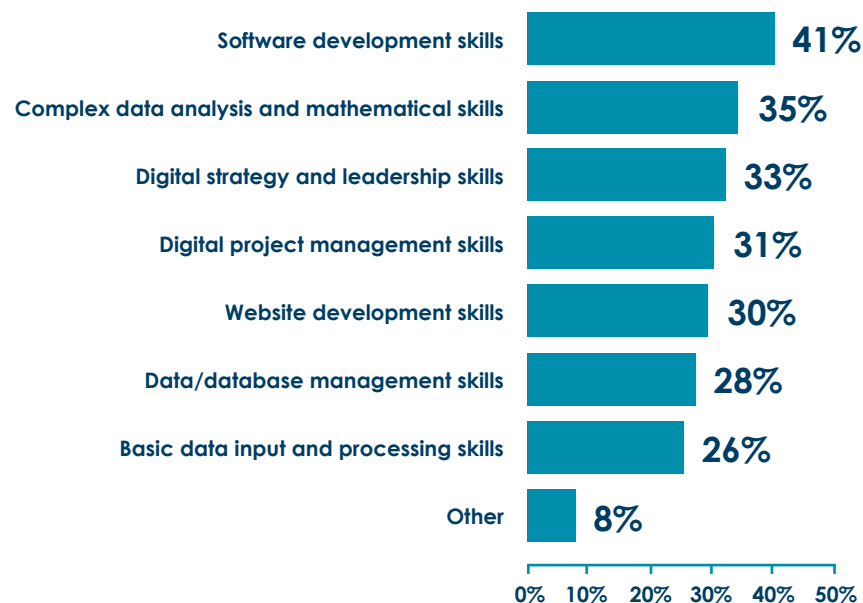
SMEs need a broad range of digital skills

The OECD finds that SMEs have higher skill deficiencies than large firms and SMEs' training efforts are on average significantly weaker per employee than in larger firms⁽¹⁴⁾. A pervasive shortage of digital skills can severely impact SMEs in their efforts to adopt new technologies. Thus, it is essential for SMEs to widen the skill set and competencies of existing staff and be able to recruit externally when investing in technology.

Looking at which skills SMEs are missing, the survey shows that software development skills are ranking highest (41%, Figure 15). About one third of SMEs report insufficient skills in complex data analysis and mathematics (35%). In contrast, only one in four SMEs (26%) miss basic data input and processing skills in their workforce.

The survey also shows that a substantial share of European SMEs lacks digital strategy skills (33%) as well as digital project management capacities (31%). This is particularly severe, as these skills are crucial for the initiation of the digitalisation process and the successful adaptation of new technologies.

FIGURE 15 THE DIGITAL SKILLS MISSING IN SMEs



Note: Share of SMEs which see a particular lack of the respective skill, among SMEs which see insufficient digital skills as an obstacle to digitalisation.

(14) See OECD (2013).

European SMEs take a variety of measures to close the skills gap

SMEs in France, Germany, Poland, Spain and the UK attempt to address these skills gaps in various ways. On average, three out of four SMEs (75%) are currently recruiting or plan to recruit new employees over the next two years to acquire the necessary skills. A similarly high percentage of respondents reports providing or planning to provide in-house training (76%) or external training (74%) to develop the digital skills of their existing staff.



Just over one half of SMEs in the five countries (54%) report that they are currently employing or planning to employ agency workers. A possible explanation for this lower number could be that SMEs would rather employ staff for the longer term. However, the survey shows that almost two thirds of European SMEs (64%) report outsourcing digital tasks, suggesting outsourcing⁽¹⁵⁾ is more frequently used as a solution in comparison to hiring agency workers.

Recruiting employees with advanced digital skills comes with difficulties

SMEs trying to recruit employees with advanced digital skills face a number of difficulties. Firstly, almost one half of SMEs which are currently recruiting or planning to recruit employees with advanced digital skills (46%) report a general shortage of applicants with the required skills as a main reason for not being able to maximise the potential of digital technologies. This general shortage of applicants seems particularly burdensome for German SMEs⁽¹⁶⁾.

Secondly, the increasing demand for digital skills seems to have had an effect on salary expectations. Slightly more than two fifths (42%) of European SMEs say that high salary expectations of applicants make it difficult to recruit employees with advanced digital skills. The survey shows that SMEs are less likely to regard their company's reputation (17%) or location (17%) as a barrier for recruiting new employees with the required skill set.

(15) See Glossary.

(16) See German Country Chapter.

SMEs appear confident about the impact of digitalisation on employment in the long run

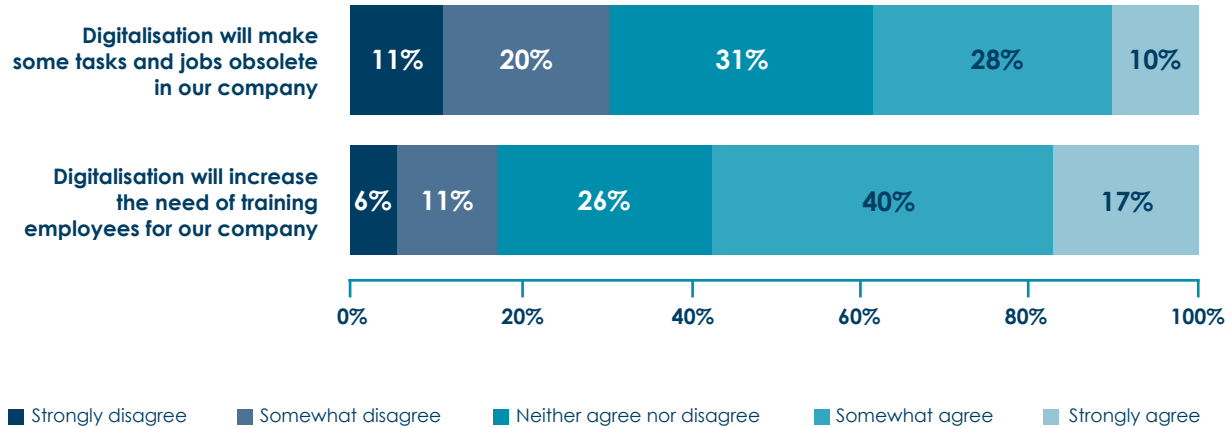
Digitalisation is driving structural change within the labour market overall, affecting employment in small businesses. Automation can not only drive improvements in output and productivity but also lead to the loss of jobs⁽¹⁷⁾. Existing jobs will change form and new jobs will emerge as the digital revolution unfolds.

The survey shows that almost two fifths (38%) of SMEs agree that digitalisation will make some tasks and jobs obsolete in their company (Figure 16). However, almost one third of respondents (31%) disagree with this statement. German SMEs (48%) are more likely to disagree that digitalisation will make tasks or jobs obsolete than Spanish SMEs (19%), for instance.

The change digitalisation brings to the nature of employees' roles in small businesses means the skills required to perform these roles also evolve. Almost three in five firms (57%) expect an increase in the need to train employees in the company as a result of digitalisation.

(17) Autor et al. (2003) show that computers have displaced workers in a wide range of routine roles, including many administrative and manufacturing jobs. Similarly, Rodrik (2015) indicates that manufacturing employment has steadily declined globally over the course of the 20th century.

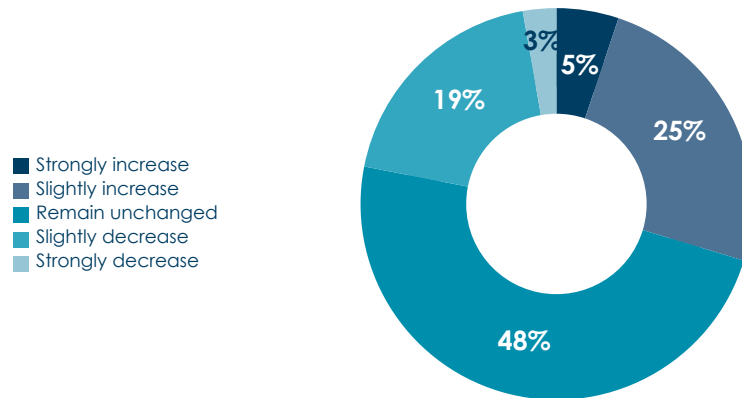
FIGURE 16 EXPECTED EFFECTS OF DIGITALISATION ON EMPLOYMENT IN SMEs



In a nutshell, SMEs will need to emphasise retraining and upskilling their employees to undertake new tasks supported by digital technologies, otherwise they risk not maximising the returns from their investment.

The disruptive nature of new technology can take some time to ripple through the economy and show its impact on overall employment. In this survey, SMEs in France, Germany, Poland, Spain and the UK were also asked about their expectations on the impact of digitalisation on employment in five years time. While on average approximately one half (48%) of them believe that digitalisation will have no impact, almost a third (30%) predict a positive effect on the number of employees within their firm (Figure 17). The countries with the most positive outlook towards digitalisation's impact on SMEs' employment in the long run are Spain, where 37% of SMEs expect the number of employees to increase, and the UK (38%).

FIGURE 17 IMPACT OF DIGITALISATION ON OVERALL EMPLOYMENT IN SMEs WITHIN THE NEXT FIVE YEARS



Interestingly, the survey finds that SMEs which anticipate that some jobs will become obsolete in the short term are also more likely to expect a positive net effect of digitalisation on employment in the long run. This is in line with the economic literature, which shows that a new wave of innovations has a positive impact on employment⁽¹⁸⁾.

(18) See Mokyr et al. (2015).

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FRANCE



Sabrina El Kasmi and
Laetitia Morin (Bpifrance)

- French SMEs experienced robust growth in the last financial year and are confident about their future business activity.
- However, they feel less competitive than their European counterparts with digitalisation being one particular aspect they do not consider as a competitive advantage.
- Although a majority of French SMEs, especially digitalised ones, are aware that digital transformation is necessary to remain competitive and expect a positive impact of digitalisation on their future business activity, most business owners or senior managers do not make digitalisation a top priority.
- Moreover, French SMEs report facing a broad range of obstacles to digitalisation. Low speed of internet connection, concerns over cyber security issues and lack of digital skills are the main ones.
- French SMEs also report missing digital leadership capabilities. Hence the importance of supporting business owners in the digital transformation of their firms.
- To conclude, if investment in digital infrastructure is a precondition to the digitalisation of SMEs, training is also key. Beyond its financing role, Bpifrance therefore provides consulting and training services to support business leaders in their digital projects.

French SMEs are healthy, supported by favourable financial conditions

84% of French SMEs surveyed report stable or increasing revenue for the last financial year. One out of three SMEs report revenue increasing by more than 5%. Unsurprisingly, innovative and internationalised SMEs⁽¹⁹⁾ performed better. More specifically, 41% of SMEs active abroad and 40% of innovative SMEs (representing respectively 58% and 73% of the sample) experienced a robust revenue growth⁽²⁰⁾ (Figure 18).



(19) See Glossary.
(20) See Glossary.

External financing difficulties are rather low amidst the backdrop of loose monetary policy. More than 20% of SMEs with less than 50 employees report significant difficulties to access external financing (vs only 13% of SMEs with at least 50 employees), suggesting that, in France, difficulties of financing primarily affect small businesses⁽²¹⁾. It may be noted that these results are higher than those reported in other surveys⁽²²⁾.

Bank financing⁽²³⁾ is the main source of funding for French SMEs, with about 76% of them using bank loans and other forms of debt to finance their activities. It may be noted that the use of bank loans (61%) is more common in France than in the other European countries surveyed (46% for the five country average). Equity capital, including retained earnings, is also broadly mentioned by French SMEs (68%) but less than the average observed in the five countries (74%).

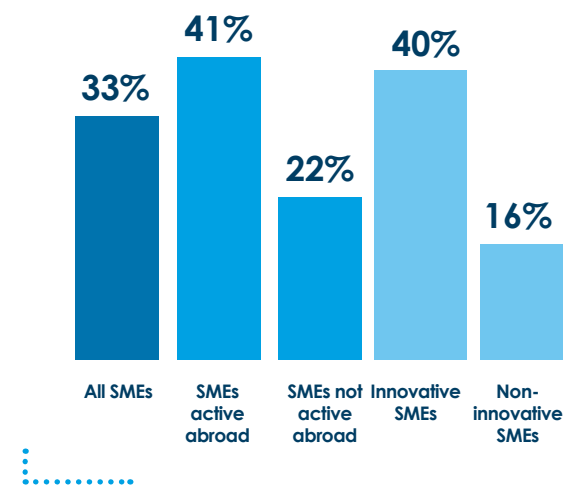
It is interesting to note that 30% of French SMEs report using promotional funds, such as subsidised or guaranteed loans, to finance their projects, a share slightly below the European country average (34%).

(21) In order to address this problem of size, Bpifrance strongly focuses on SMEs and especially on very small businesses, i.e. firms with less than 10 employees. It supports them with several products, including guarantees (guaranteeing loans granted by banking partners) and business loans in partnership with commercial banks (co-financing).

(22) See Banque de France (2019), Bpifrance Le Lab (2019a).

(23) Bank loans, bank overdrafts, credit cards and leasing or hire-purchase.

FIGURE 18 SHARE OF FRENCH SMEs WITH ROBUST REVENUE GROWTH



Competitiveness is still a major challenge for French SMEs

French companies' competitiveness issues are pointed out in several reports⁽²⁴⁾. If the price competitiveness of French exporters vis-à-vis the rest of the Eurozone has improved during the last few years, supported by government measures designed to lower labour costs (mainly the CICE⁽²⁵⁾ and its scheduled replacement by reduced social security contributions), French exporters have room to improve on non-price competitiveness (e.g. innovativeness, product quality, and organisational efficiency). For example, according to a survey from Rexecode⁽²⁶⁾, French products are still considered abroad as more expensive on average than competitors' products of similar quality.

(24) See Bas et al. (2015) or Conseil National de Productivité (2019).
 (25) Tax credit for employment and competitiveness.
 (26) See Rexecode (2018).

Our survey shows that French SMEs themselves feel pessimistic about their performance relative to their main competitors, perceiving themselves most critically in almost all aspects mentioned in the study, including the level of digitalisation. The quality of their products and services is the aspect in which they see themselves performing best. All in all, the average firm performance score⁽²⁷⁾ reaches 3.2 of 5, the lowest among the five countries. This finding echoes our report on internationalisation of European SMEs⁽²⁸⁾, where we show that compared to their European counterparts, French SMEs are less likely to export and perceive more difficulties when engaging in exports. However, the consistency of this low self-rating by French SMEs could also suggest a pessimistic bias.

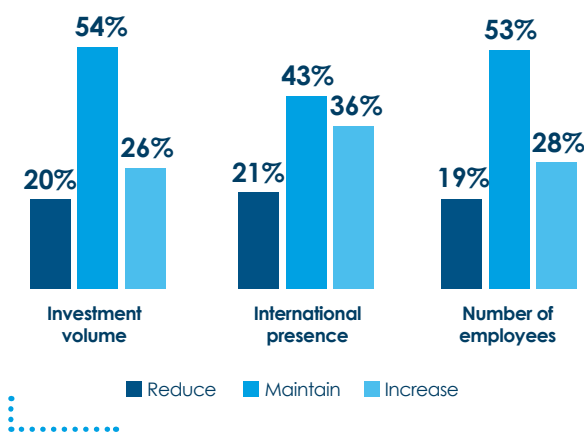
In contrast, French SMEs are relatively positive about the general conditions in their country. Compared to the other four countries, they especially feel less affected by corruption, bureaucratic hurdles and lack of transport infrastructure. The major barriers identified are taxes and charges as well as skills shortage. On this latter issue, a Bpifrance/Rexecode survey shows that 82% of SMEs with recruitment needs in the period between May 2018 to May 2019 met difficulties in recruiting⁽²⁹⁾.

(27) See the note in Figure 4 in General Part.
 (28) See Bpifrance et al. (2018).
 (29) See Bpifrance Le Lab, Rexecode (2019b).

Nevertheless, French SMEs remain confident about their future business activity

In the next two years, 26% of SMEs plan to increase their investment volume, 38% their international presence and 28% the number of employees. That is higher than the share of SMEs planning to reduce them (Figure 19).

FIGURE 19 FRENCH SMEs INTENTIONS REGARDING INVESTMENT, INTERNATIONALISATION AND EMPLOYMENT IN THE NEXT TWO YEARS



About three quarters (73%) of SMEs intend to introduce either process or product innovations in the next two years. This result appears relatively high as only slightly more than half of French firms with 10 or more employees have innovated over the 2014-2016 period⁽³⁰⁾. A quarter (24%) of SMEs intend to introduce both.

(30) See Insee (2018).

Most French SMEs are aware of the need to digitalise but don't put a high priority on it

Digitalisation is a key challenge for France as on this topic the country lags behind the European average. According to the European Commission's *Digital Economy and Society Index (DESI)*, France ranks 15th out of the 28 EU Member States in terms of digital performance⁽³¹⁾.

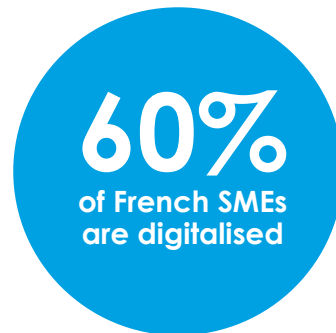
The digital transformation is thus a major issue for French SMEs. As digital technologies are changing the way we work, SMEs need to adapt to this new environment and transform their processes and business models. The French government is aware of this challenge and has implemented an internet portal dedicated to the digital transformation of SMEs and microenterprises (called *France Num*).

In contrast, 70% of French SMEs' business leaders do not consider the digital transformation of their company as a top priority⁽³²⁾, the highest share among the five countries of the study. This result may seem surprising as the level of digitalisation is the topic on which French firms feel less competitive relatively to their main partners.

(31) See European Commission (2019). *The Digital Economy and Society Index (DESI)* is a composite index that summarises relevant indicators on Europe's digital performance and tracks the evolution of EU Member States in digital competitiveness.

(32) See Glossary.

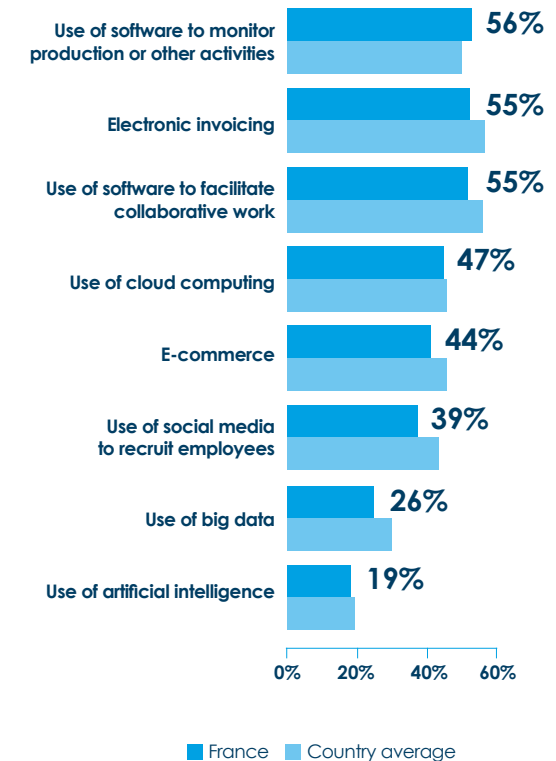
However, most of French SMEs have begun their digital transformation. 60% are engaged in at least three of the digital activities mentioned in Figure 20 (digitalised SMEs⁽³³⁾). This is consistent with the results of the Bpifrance Le Lab/ Rexecode survey showing that in Q3 2019, 53% of SMEs have started their digital transformation⁽³⁴⁾.



(33) See Glossary.

(34) See Bpifrance Le Lab, Rexecode (2019a).

FIGURE 20 SHARE OF FRENCH SMEs WHICH CURRENTLY ENGAGE IN DIGITAL ACTIVITIES



Digitalisation is key for French firms' performance

SMEs in which top management places a high priority on digital technology show better economic performance. 49% of these SMEs experienced a robust revenue growth in the last financial year compared to 27% of SMEs with a management placing a low to medium priority on digitalisation. Digitalised SMEs also have better expectations for the next two years in terms of investment, internationalisation, headcount and innovations. Around a third anticipate investing more, increasing their international presence and hiring more. 82% intend to introduce either product or process innovation. Non-digitalised SMEs are more pessimistic: only around 15% of them intend to increase their investment, international presence and headcount and 40% of them do not anticipate any innovation.

Besides, a majority of SMEs expect digitalisation to have a positive impact on their business in the next two years (59%), while only 11% disagree.

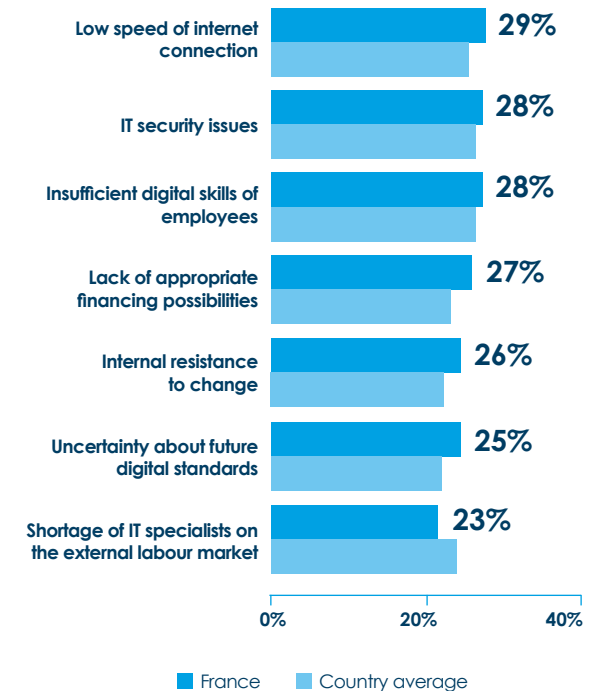
SMEs encounter obstacles to digitalisation but measures are in place to reduce them

Low speed of internet connection is the main obstacle to digitalisation mentioned by French SMEs (29%). This result is consistent with the DESI scoreboard which places France 20th in terms of connectivity. To overcome the challenge of low speed internet connection, the French Government launched in 2013 a EUR 20 billion plan over ten years to develop new infrastructure in order to enable everyone to access a very high-speed connection everywhere in the country.

The connectivity obstacle is closely followed by concerns about cyber security (28%) and insufficient digital skills of employees (28%). Next come lack of financing availability and internal resistance to change (Figure 21).

All the obstacles quoted are more prevalent for French SMEs than for the average of European SMEs, except for shortage of IT specialists, which again raises the question of a potential pessimistic bias affecting French SMEs.

FIGURE 21 MAJOR OR VERY SEVERE OBSTACLES TO DIGITALISATION FACED BY FRENCH SMEs



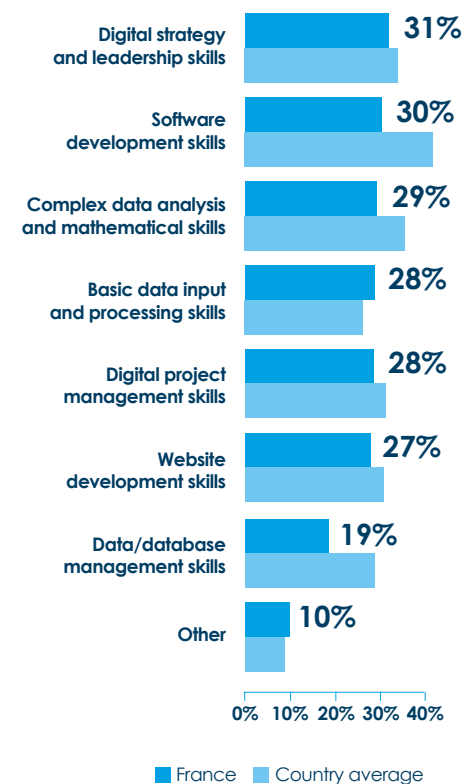
Bpifrance plays a major role in supporting firms in their digitalisation transformation. Beyond its financing role, Bpifrance provides consulting and training services to support business leaders in their digital projects. Bpifrance has also published some educational studies⁽³⁵⁾ and a practical guide⁽³⁶⁾ to support business leaders in the development of the roadmap of their digital transformation and help them prioritise their actions. A mobile app Digital Guide, which offers educational contents and didactic tools, is also available.

French SMEs lack a range of digital skills but to a lesser extent than SMEs in other surveyed countries

A substantial share of French SMEs (31%) reports a lack of digital strategy and leadership skills (Figure 22). Yet, digital transformation is a broader transformation that must be shaped by firms' leaders. It can not only be defined by the adoption of digital tools and processes⁽³⁷⁾. Senior managers must pave the way for digital transformation and win the support of their teams, at the risk of facing strong internal resistance. According to our survey, a quarter of SMEs indeed report that internal resistance to change is a major or very severe obstacle to digitalisation.

French SMEs also suffer from a lack of software development as well as complex data analysis and mathematical skills, but to a much lesser extent than in other countries (respectively 30% and 29% vs 41% and 35% for the five country average). As previously mentioned, French SMEs are less concerned by the shortage of IT specialists on the external market. Thus, they have fewer hiring difficulties. However, French SMEs report that high salary expectations of staff with advanced digital skills represent a significant challenge.

FIGURE 22 THE DIGITAL SKILLS MISSING IN FRENCH SMEs



Note: Share of SMEs which see a particular lack of the respective skill, among all SMEs which see insufficient digital skills as an obstacle to digitalisation.

(35) See Bpifrance Le Lab (2019b).
 (36) See Bpifrance Le Lab (2019c).

(37) See Bpifrance Le Lab (2017).

Digitalised SMEs are more convinced of the positive impact of digitalisation and more aware of the challenges it poses

The French SMEs surveyed are rather optimistic about the consequences of digitalisation. 59% believe digitalisation will have a positive impact on their business compared with 12% expecting that it will not. Unsurprisingly, digitalised firms are by far more confident (66%) than non-digitalised ones (48%).



(38) See Arntz et al. (2016) and Le Ru (2016).

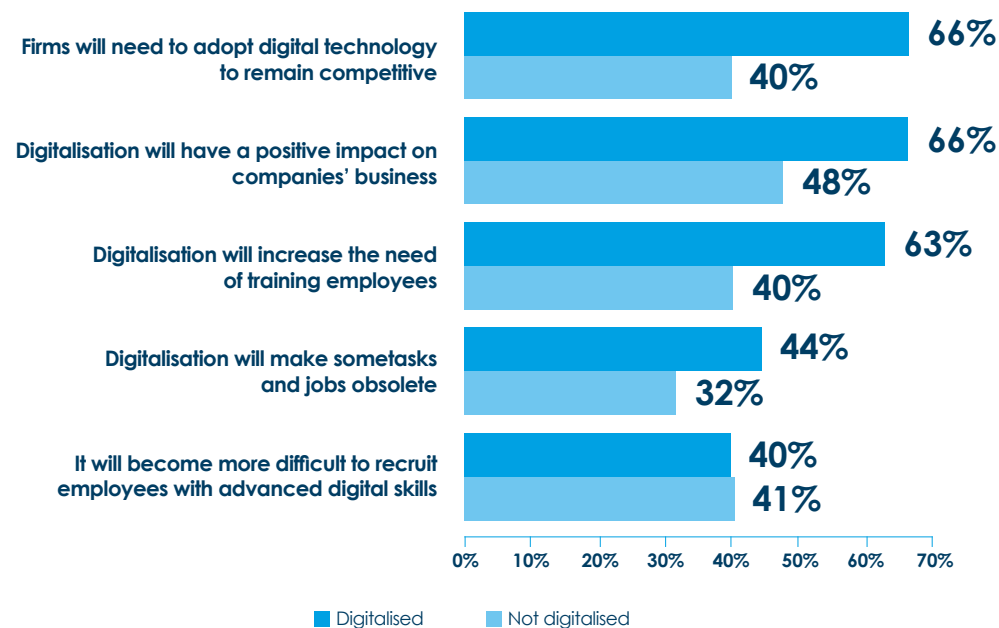
Digitalised SMEs are also more convinced of the importance of being digitalised to secure their competitiveness (66% of digitalised SMEs vs 40% of non-digitalised ones).

Moreover, digitalised SMEs seem more aware of the challenges posed by digitalisation (Figure 23), especially regarding the labour market. 39% of French SMEs surveyed agree digitalisation will render some tasks and jobs obsolete (44% of digitalised SMEs). Consequently, 54% agree they will have to further train their employees (63% of digitalised SMEs).

All in all, the expected impact of digitalisation on employment is slightly negative as 19% predict that digitalisation will increase their workforce compared with 29% anticipating digitalisation to decrease it. Interestingly, SMEs agreeing that digitalisation will render some jobs obsolete are more likely to expect that digitalisation will lead them to increase their total number of employees.

The potential impact of digitalisation on employment has been extensively studied. According to recent studies, the share of jobs at risk of automation in France is estimated around 10% to 15%⁽³⁸⁾.

FIGURE 23 EXPECTED IMPACT OF DIGITALISATION ON FRENCH SMEs WITHIN THE NEXT FIVE YEARS...



Note: Share of digitalised SMEs and non-digitalised SMEs which agree on the respective statements.

GERMANY



Dr Jennifer Abel-Koch (KfW)

- German SMEs have experienced robust revenue and employment growth in the last financial year, not least due to their success on foreign markets.
- Although digitalisation is gaining foothold among German SMEs, it is not one of their competitive strengths, according to their own assessment. In many digital activities, they still lag behind their European peers.
- Important obstacles include the lack of digital infrastructure and cyber security issues but also the lack of digital skills – both within the company and on the external labour market.
- German SMEs are missing a broad spectrum of skills among their employees, ranging from basic digital competencies to advanced programming skills and digital leadership capabilities.
- To tackle this skill gap and build up digital know-how, SMEs in Germany train their employees, more than their peers in France, Poland, Spain or the UK. This seems urgently necessary, as the shortage of digital experts on the external labour market is particularly pronounced in Germany.
- Thus, while investments in digital infrastructure are crucial, the public debate must not lose sight of digital education, which needs to be strengthened if future skill needs are to be matched.

In international competition, German SMEs are well-positioned

Germany is characterised by a diverse and internationally competitive SME sector, providing nearly two thirds of the economy's jobs and generating more than half of its value added⁽³⁹⁾. German SMEs continue to see their strengths in producing high quality, innovative goods, along with comprehensive customer services. In international comparison, they still benefit from favourable location conditions. In particular, SMEs judge access to finance to be better in Germany than in any other of the five countries. Corruption does not seem to be an issue, nor do political or social instability impede their business⁽⁴⁰⁾. In recent years, SMEs have particularly benefitted from favourable economic conditions and experienced robust revenue and employment growth⁽⁴¹⁾.

Yet, many challenges lie ahead of German SMEs. The business climate is starting to cloud over and export growth has been rather weak from January to July 2019 year-on-year. In addition, German SMEs face important structural changes. In particular, the demographic development will likely reinforce the skills shortage, which many companies already see as a competitive disadvantage. The digital transformation will also continue to impact on SMEs, creating opportunities but also entailing risks for their future business.

(39) See European Commission (2018a). The estimates refer to SMEs defined as companies from the non financial sector with less than 250 employees.

In digital activities, German SMEs still lag behind ...

Digitalisation is increasingly gaining a foothold in the German SME sector. More and more companies are successfully completing digitalisation projects⁽⁴²⁾. Yet, German SMEs still do not assess digitalisation to be one of their major strengths in international competition. A comparative analysis of their digital activities confirms this view. Only 58% of SMEs in Germany are engaged in three or more such activities and thus considered as digitalised⁽⁴³⁾ – less than in any other of the surveyed countries⁽⁴⁴⁾. The use of software to facilitate collaborative work is most common, with 62% of SMEs currently being engaged in this activity (Figure 24). Nearly as many SMEs rely on electronic invoicing, that is they transmit structured invoice data that can be automatically processed by their customers.

More advanced digital technologies are less widespread among German SMEs. Only one in four of them currently works with big data and less than one in seven applies methods of artificial intelligence. In all other surveyed countries, the share of SMEs engaging in these activities is higher, with the UK leading the field.

(40) In this, the current survey confirms earlier results on SMEs' international competitiveness, see Abel Koch (2016).

(41) See Schwartz (2018).

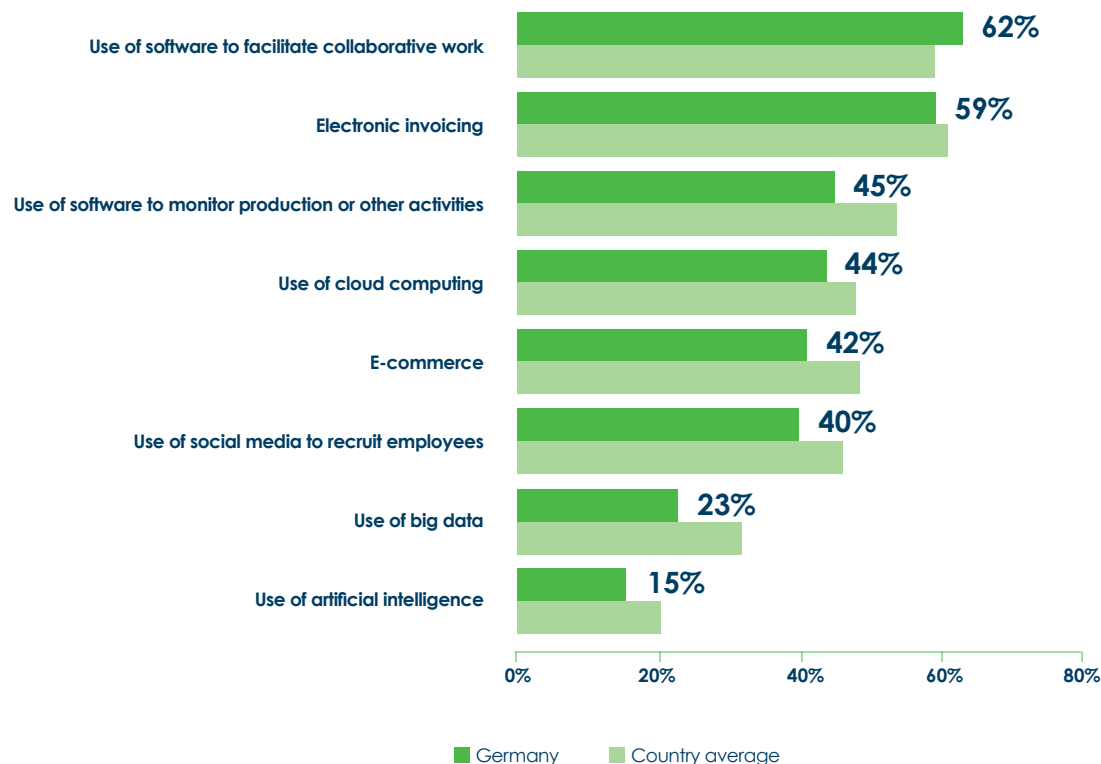
(42) See Zimmermann (2019).

(43) See Glossary.

(44) See Figure 10 in General Part.



FIGURE 24 SHARE OF GERMAN SMEs WHICH CURRENTLY ENGAGE IN DIGITAL ACTIVITIES



... but have realised the need for action

While not being among the digital leaders, many German SMEs have realised the importance of making progress in this regard. About 48% of the surveyed enterprises are convinced that they need to adopt new digital technologies to remain competitive. In about 37% of German SMEs, the management attaches a top priority⁽⁴⁵⁾ to digitalisation, slightly more than the European average. No priority is given to digitalisation in only 8% of the surveyed enterprises.

Making digitalisation a strategic issue pays off. At 11%, the share of SMEs experiencing a robust revenue growth⁽⁴⁶⁾ is twice as high among those SMEs that attach a high priority to digitalisation than among those that do not. As in other European countries, SMEs in Germany are more likely to invest and innovate if they embrace digitalisation and they are more inclined to create new jobs.

Eventually, while being slightly less optimistic than their European peers, more than half of German SMEs expect that digitalisation will have a positive impact on their business within the next five years. Just one in ten SMEs fears that digitalisation may be a risk rather than a chance for their company.

⁽⁴⁵⁾ See Glossary.

⁽⁴⁶⁾ See Glossary.

Lack of digital infrastructure and skills are key obstacles

To design effective policies, it is important to understand what actually hinders SMEs in their digital transformation process. The results of our survey suggest that in the largest European economy, the low speed of internet is the most important barrier to digitalisation in SMEs⁽⁴⁷⁾. About 27% of the enterprises surveyed in Germany perceive it as a major or even very severe obstacle, which corresponds to the average across the five countries considered in this study (Figure 25). Also in the EU at large, Germany currently ranks only 11th among the 28 Member States in terms of internet connectivity, as indicated by the European Commission's *Digital Economy and Society Index (DESI)*⁽⁴⁸⁾. In 2017, the German government, as well as telecommunication and network companies, agreed on the *Gigabit Initiative for Germany*, which defines ambitious targets to make the country one of the leading nations regarding digital infrastructure by 2025. However, this would require investments worth EUR 100 billion between 2014 and 2023. In the past, Germany regularly missed its digital infrastructure goals⁽⁴⁹⁾.

(47) Unsurprisingly, SMEs which put higher priority on digitalisation also see more obstacles. While the ranking of obstacles slightly differs between SMEs which are digitally active and those which are not, both perceive low speed of internet and insufficient digital skills of employees as the two most important obstacles.

(48) See European Commission (2019).

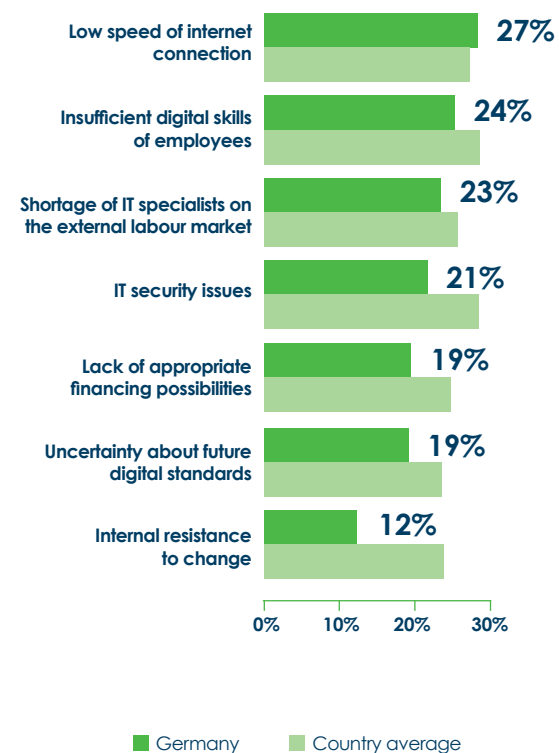
(49) A comprehensive overview of the digital infrastructure in Germany and the EU is given in Heymann et al. (2018).

While improving the digital infrastructure will be crucial for Germany to ensure its international competitiveness, fostering the digital skills of its labour force seems equally important. About one quarter of German SMEs perceive insufficient digital skills of their employees to be a major obstacle to digitalisation in their company. This share rises to a third among those enterprises for which digitalisation is a strategic priority. Hiring new employees with the necessary skills is often not easy either. Nearly one quarter of German SMEs perceives the shortage of IT specialists on the external labour market to be a serious constraint to the digitalisation of their business. Figures from the German Federal Labour Office and the German Economic Institute suggest that between 2014 and 2019, the gap between vacant IT jobs and the number of unemployed IT experts more than tripled from 19,000 to 59,000⁽⁵⁰⁾. It is to be expected that this shortage will further increase as digitalisation proceeds, underlining the need to take action.

IT security concerns are slightly less important for German SMEs, in particular in comparison with their European peers. While in all other countries, IT security concerns are among the most commonly reported obstacles to digitalisation, they are placed only fourth in Germany.

(50) See Institut der deutschen Wirtschaft (2019).

FIGURE 25 MAJOR OR VERY SEVERE OBSTACLES TO DIGITALISATION FACED BY GERMAN SMEs



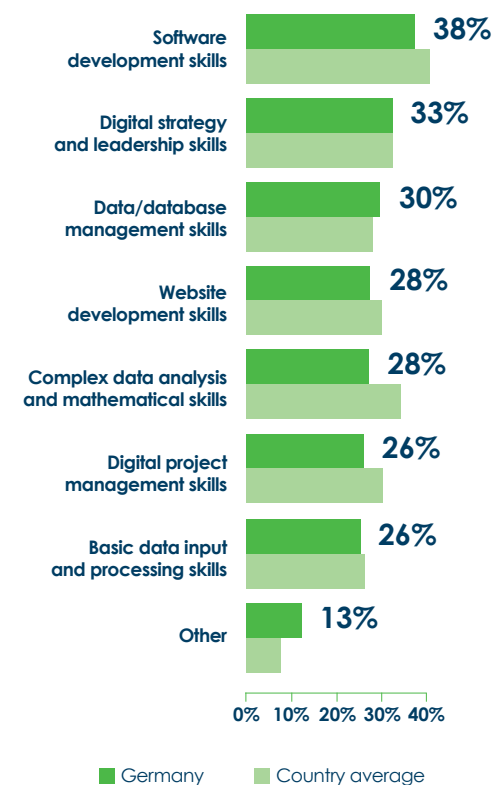
Another pronounced difference exists regarding the internal resistance to change. It is perceived as a major obstacle to digitalisation by only 12% of German SMEs. In France, Poland, Spain and the UK, the share is twice as high. One potential explanation for this finding is that German SMEs are less likely than their European peers to expect that digitalisation will render tasks and jobs obsolete in their company⁽⁵¹⁾. If employees are more confident of keeping their jobs in the digital age, it stands to reason that they are also more open to the implementation of the new technologies.

German SMEs are missing a variety of digital skills ...

Having identified insufficient digital skills as a key obstacle, what are the specific competencies that are missing? In fact, German SMEs are missing a broad spectrum of hard and soft digital skills among their employees (Figure 26). About 38% of SMEs report insufficient digital skills among their employees to be an obstacle to digitalisation see a special need in software development skills. Nearly as important, however, would be digital strategy and leadership skills, which about 33% of the surveyed German SMEs miss in their workforce. About one quarter even sees a lack of basic data input and processing skills, which is about the European average.

In 2014, the *International Computer and Information Literacy Study* revealed that nearly 30% of German schoolchildren do not have basic computer skills and hence are lagging behind in international comparison⁽⁵²⁾. This has triggered a large debate in Germany on how to enable schools to provide a better digital education. Only recently, the German legislation agreed on the *DigitalPakt für Schulen*, which provides for funds of EUR 5.5 billion for digital equipment in schools. However, training digital skills needs qualified teachers and should not stop at school or university. Developing the digital skills of their employees is also a key challenge for SMEs.

FIGURE 26 THE DIGITAL SKILLS MISSING IN GERMAN SMEs



Note: Share of SMEs which see a particular lack of the respective skill, among all SMEs which see insufficient digital skills as an obstacle to digitalisation.

(51) This result seemingly contradicts Arntz et al. (2016) or Nedelkoska et al. (2018), who find that the share of jobs at risk of automation is higher in Germany than in most other European countries. This is mainly due to Germany's relatively strong focus on manufacturing, where many of the jobs at risk are located (e.g. assembly line workers). However, German manufacturers tend to be larger than their European peers and hence often do not count as SMEs. German SMEs, in contrast, operate relatively more often in the services sector. Here, most of the tasks and jobs are not as easy to substitute (e.g. lawyers or nurses). Rather, it is to be assumed that the number of jobs in the German service sector will increase in absolute terms as a result of digitalisation, see e.g. Walter et al. (2016). For a summary on the state of the debate on the labour market effects of digitalisation in Germany, see also Müller (2019).

(52) See Fraillon et al. (2014).

... but are committed to training their employees

In fact, about 58% of SMEs in Germany provide in-house training such as workshops, seminars, or e-learnings for their employees to enhance their digital competencies. These are relatively more than in any other of the surveyed countries. Another 20% of the SMEs do not offer such trainings yet but plan to do so in the next two years. One in two German SMEs offer external training for their employees to acquire the necessary digital skills, slightly more than the European average⁽⁵³⁾. Outsourcing digital tasks to external contractors is, however, not as attractive. Only 30% of SMEs make use of this option.



(53) KfW's ERP-Digitalisation and Innovation Credit (ERP-Digitalisierungs- und Innovationskredit) provides finance to SMEs not only to support the introduction of cloud technologies, the development of big data applications or the implementation of data security concepts, for instance. The programme also explicitly covers digital training measures for employees.

And if they need additional personnel, German SMEs prefer permanent employees to agency workers: While nearly 46% of SMEs report that they are currently recruiting new staff to fill their digital skills gap, only 20% rely on agency workers – substantially less than in any other of the surveyed countries. This is not least due to German labour market regulation. Since April 2017, the German employee lending law imposes stricter rules on agency work, further limiting the duration of the contract and requiring equal pay for agency workers and permanent staff, for instance.

Tight labour market makes recruiting digital talents difficult for SMEs

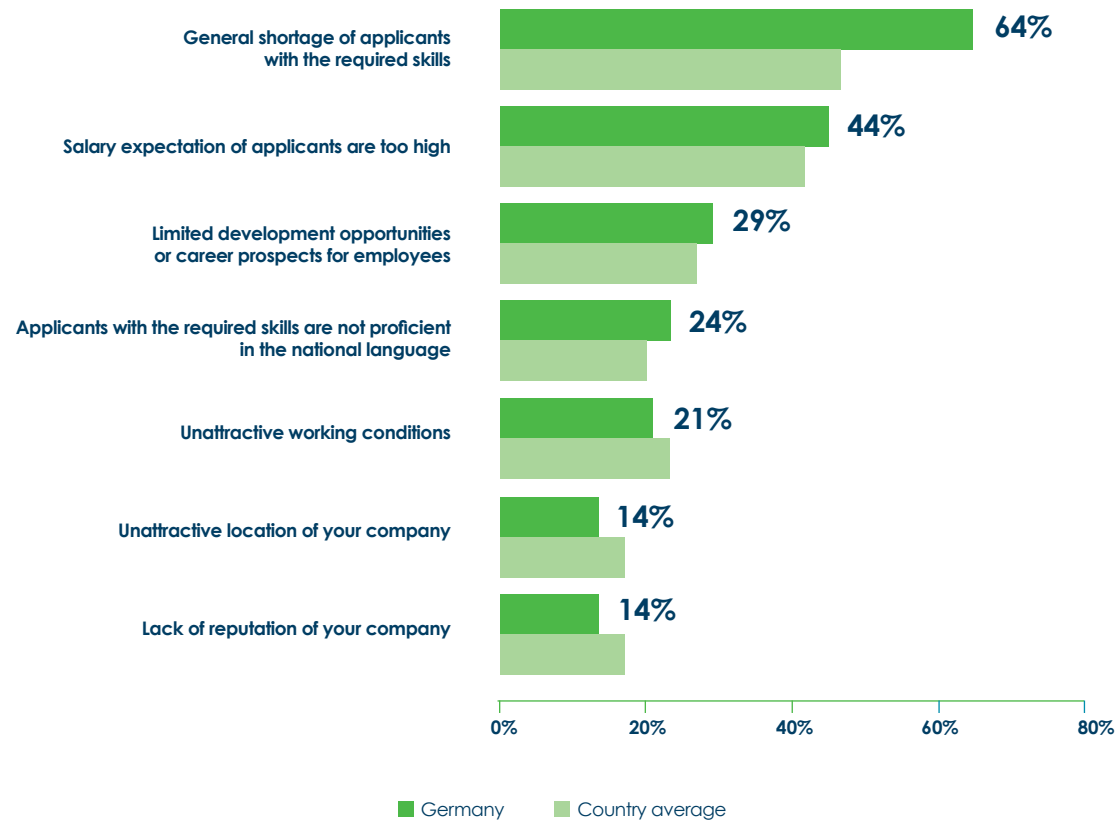
Three out of four German SMEs are either recruiting employees with advanced digital skills or plan to do so in the near future. These SMEs face a number of difficulties.

The shortage of skilled labour is particularly striking in this regard. It presents two out of three SMEs with problems, nearly twice as much as in France, for instance (Figure 27). A related issue is the salary expectations of applicants, which 44% of the recruiting SMEs feel are too high. This underlines that the skills shortage more generally and the lack of IT experts more specifically are a serious risk for German SMEs' international competitiveness.

Other difficulties are rather internal to the company but fall back in importance compared to the shortage of digital talent. For instance, about 29% of the surveyed companies report that limited development opportunities or career prospects make it difficult to attract employees with the required digital skills. It can be assumed that this is more a problem for SMEs than for large companies with well staffed IT departments. Moreover, one in five SMEs perceives unattractive working conditions to be a main obstacle in finding workers. A lack of reputation or an unattractive location is seen as a disadvantage by only one in seven German SMEs.

Interestingly, about 24% of the SMEs in search of digital talent report that applicants with the required skills are not proficient in the national language. This underlines that when labour migration is to attenuate the skills shortage not only in Germany, but also in other European countries, language issues must not be ignored. Instead, in order to successfully attract skilled professionals from abroad and integrate them into the German labour market, there must be suitable opportunities to learn the national language.

FIGURE 27 THE DIFFICULTIES OF GERMAN SMEs IN RECRUITING DIGITAL TALENT



64%
of German SMEs with digital recruitment needs are faced with difficulties due to a shortage of applicants with the required skills

Note: Share of SMEs which experience the responding difficulty in recruiting employees with advanced digital skills, among all firms which currently recruit or plan to recruit new staff.

POLAND



Anna Topczewska (BGK)

- SMEs in Poland are generally in a sound financial condition, experiencing strong revenue growth.
- Most SMEs rely on retained earnings and equity capital to finance their investment, innovation and internationalisation activities.
- Moreover, about four in ten Polish SMEs participating in our survey currently use promotional funds, e.g. grants, subsidised or guaranteed loans. A quarter (24%) of companies that do not use such instruments are planning to do so in the next two years.
- Digitalisation is gaining foothold among Polish companies giving top priority to digitalisation. Competitive pressure is the main driver of this process.
- In order to advance further in the digital transformation, SMEs have to deal with numerous obstacles ranging from IT security issues to insufficient digital skills of their employees.
- Recruiting new staff and offering in-house and external training are the main responses of Polish SMEs to the existing skills gaps.
- Despite numerous obstacles and potential challenges, most of Polish SMEs surveyed believe that the digitalisation process will have a positive impact on their business within the next five years.

The Polish small and medium-sized enterprise (SME) sector – defined for the purpose of the study as firms with 20 to 249 employees⁽⁵⁴⁾ – is smaller than in other EU countries. This is because the composition of enterprises in Poland is dominated by micro enterprises (less than 10 employees), with a contribution to GDP of more than 30%⁽⁵⁵⁾. The number of SMEs⁽⁵⁶⁾ per head of the adult population is slightly lower than the EU average. The share of SMEs in Polish GDP is around 50%⁽⁵⁷⁾.

Considering the pivotal role of SMEs in economic growth, and the potential for further development in Poland, it is highly important to explore the current situation and challenges that stem from digitalisation, in addition to possible growth barriers and limitations. The aim of this chapter is to characterise the current situation of SMEs in Poland, their plans and challenges, focusing on those arising from digitalisation and the implementation of new technologies.

Polish SMEs are in a sound financial condition

The surveyed SMEs in Poland are in a sound financial condition. For the last year, most companies report an increase in revenue compared to the previous financial year. In just over half (52%) of the surveyed companies this increase was at least 5%. Only 7% of the companies indicate that in the previous year their revenues decreased.

Interestingly, higher revenues were recorded by internationalised and innovative SMEs⁽⁵⁸⁾ (Figure 28). The share of robust revenue growth⁽⁵⁹⁾ firms rises to 58% for SMEs active abroad and to 57% for innovative SMEs.



(54) See Methodology.

(55) See PARP (2019).

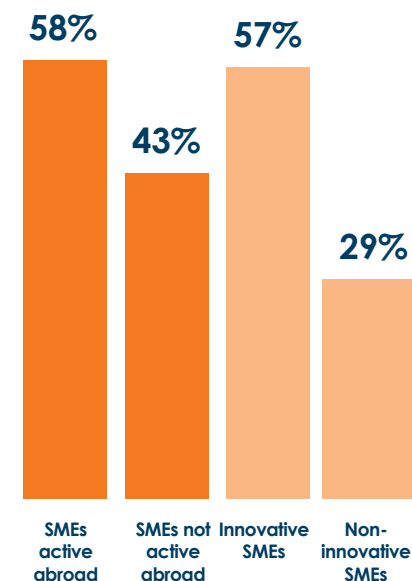
(56) As defined by Eurostat, i.e. firms with 0 to 249 employees.

(57) See European Commission (2018b).

(58) See Glossary.

(59) See Glossary.

FIGURE 28 SHARE OF POLISH SMEs WITH ROBUST REVENUE GROWTH



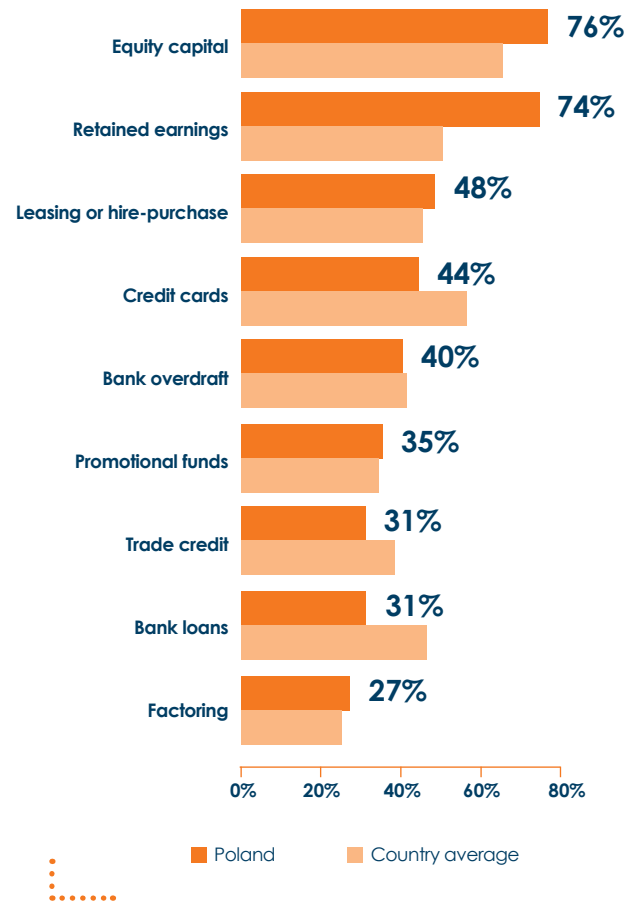
The majority of SMEs report minor to moderate difficulties in access to finance. In comparison, SMEs in the five countries experienced, on average, slightly more severe problems with respect to access to finance. Major to very severe difficulties in accessing external finance was a problem for 12% of all surveyed SMEs.

Retained earnings and equity capital among the most popular sources of finance for Polish SMEs

According to the study, the most popular sources of finance for Polish enterprises are retained earnings and equity capital, respectively 74% and 76% of companies indicate using such forms of financing (Figure 29). This is a much high share than in other European SMEs. Another important source of financing used by Polish as well as by other European SMEs is leasing or hire-purchase – 48% of Polish SMEs declare they currently use these forms of external funding. Additionally, 35% of SMEs report the use of promotional funds. The share of such instruments is close to the European country average of 34%.

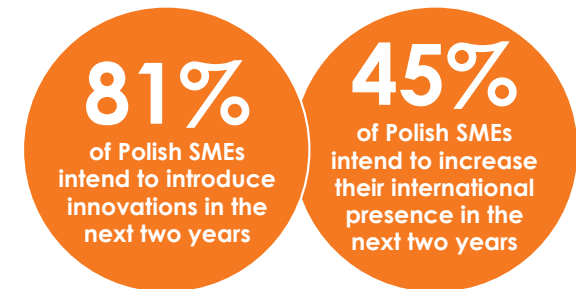
At the same time, credit instruments (such as bank overdraft, bank loans, trade credit or credit cards) are less popular among Polish companies compared to the European country average.

FIGURE 29 SOURCES OF FINANCE CURRENTLY USED BY POLISH SMEs



Product and customer service quality are the main competitive advantages of Polish SMEs

In comparison to their main competitors, Polish companies feel moderately competitive in most aspects mentioned in the survey, perceiving the quality of their products or services and customer service as their main competitive advantages. In contrast, taxes and charges, bureaucracy and skills shortage are considered as factors that limit their competitiveness. The factors that affect SMEs to the lowest extent are corruption, lack of transport infrastructure and shortage of digital infrastructure.



Internationalised and innovative SMEs rate their own competitiveness higher than firms that are not innovative or active abroad.

Polish SMEs intend to be more innovative and to increase their international presence and investment volume

Most Polish SMEs (81%) intend to introduce either product or process innovation within the next two years. In comparison, the share of European SMEs aspiring to be more innovative is 75%. Concurrently, 45% and 41% of Polish SMEs are about to slightly or significantly increase their international presence respectively their investment volume. These results are slightly above the European country average which respectively amounts to 44% for international presence and to 36% with regard to investment volume.

Bank Gospodarstwa Krajowego (BGK) as a state development bank actively supports entrepreneurs and implements numerous development programmes that aim at supporting innovation. One of the most widely used instruments aiming at supporting Polish SMEs in the process of implementing new technologies is the *Technological Credit*. This credit was introduced in 2009 and is granted by commercial banks. BGK's role is to pay off part of an incurred credit in the form of a technological bonus from the *Technology Credit Fund*⁽⁶⁰⁾.

(60) See Measure 4.2 IE OP Technology Credit.

Digitalisation is a top priority for every third SME in Poland

One third of Polish SMEs consider digitalisation as a top priority⁽⁶¹⁾ for their management. For 33% of Polish SMEs, new technologies have a high or very high priority while 29% of them claim to attach a low or no priority to digitalisation. This relatively high prioritisation level for digital activities given by Polish SMEs is consistent with the results obtained for other European countries, where 36% of SMEs' management claim to put high or very high priority on digitalisation.

One of the key factors determining the high priority of digitalisation for SMEs' top management is the desire to remain competitive in the market. More than half of Polish companies agreed that they will need to adopt new technologies in the next five years to remain competitive.

(61) See Glossary.

The Polish Ministry of Digitalisation is aware of the growing influence of the digital transformation on the competitiveness of Polish SMEs. It created the *Digital Poland Project Centre (CPPC)*⁽⁶²⁾, which is a state budget unit responsible for implementing projects in the four priority axes of the *Operational Programme Digital Poland*. The aim of the Programme for 2014-2020 is to strengthen the digital foundations of Polish development. It supports building high-speed infrastructure, effective and user-friendly e-services and enhancing digital competences of society⁽⁶³⁾.

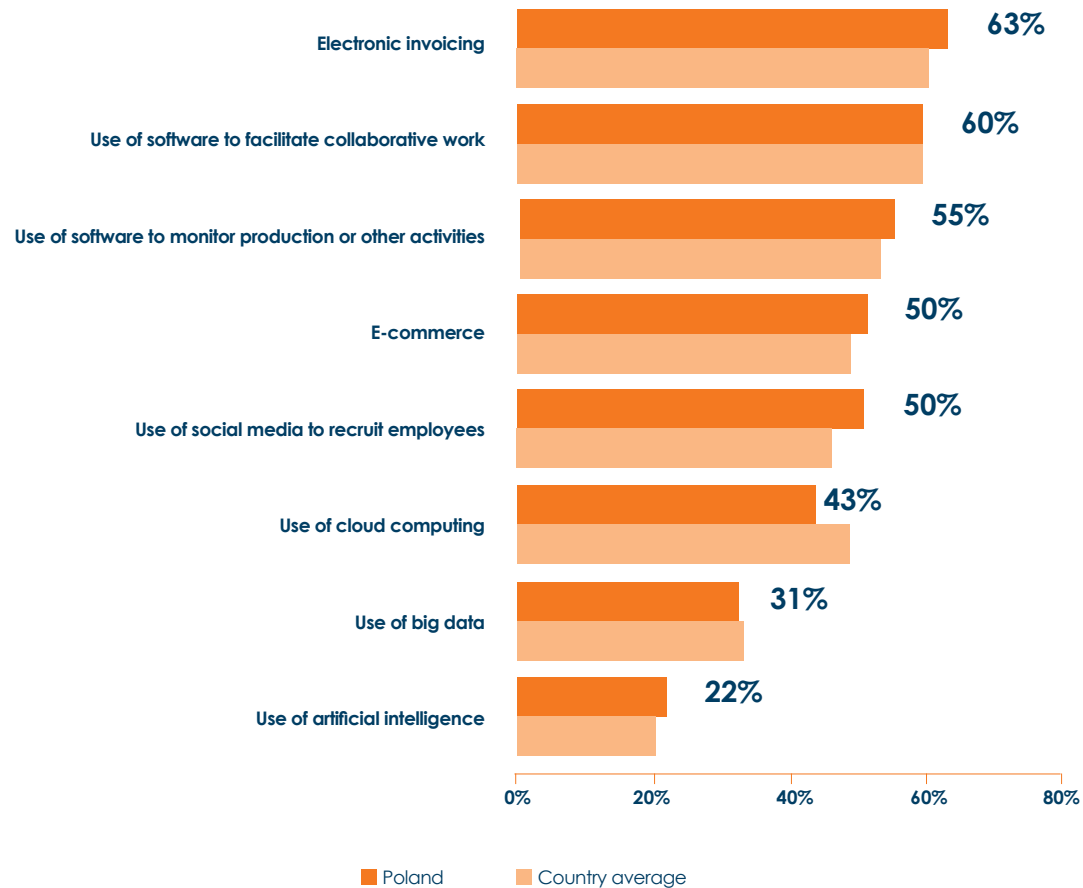
As the majority of surveyed SMEs in Poland is aware of the growing importance of digitalisation, most of them are already engaged in some kind of digital activity.

Digital activities that are most commonly used or planned to be used by Polish SMEs in the next two years are electronic invoicing and the use of software to facilitate collaborative work or to monitor production (Figure 30). Although activities such as big data or artificial intelligence are used by a minority of SMEs (respectively 31% and 22%), more than one third of the surveyed companies plan to implement such solutions within the next two years.

(62) Within the CPPC, BGK is responsible for the selection of financial intermediaries and the verification of their financial activities.

(63) For more information, see Regulation No. 15 of the Minister of Digitalisation of May 24, 2016.

FIGURE 30 SHARE OF POLISH SMEs WHICH CURRENTLY ENGAGE IN DIGITAL ACTIVITIES



... as they are aware of benefits from digitalisation

The survey also shows that Polish companies are increasingly appreciating the benefits of digitalisation and becoming more aware that introducing technological innovation is essential for their future development. Almost half (46%) of Polish SMEs agree that digitalisation will have a positive impact on their business.

SMEs with a top priority on digitalisation are also more determined to increase the volume of investments, introduce innovative solutions and increase employment within the next two years. Among Polish SMEs that highly prioritise digitalisation, the share which intends to increase their investment volume reaches 57%. Over 58% of these firms plan to enhance their international presence and 54% expect to increase the number of their employees. Similar but slightly weaker tendencies can be observed in other surveyed European countries.

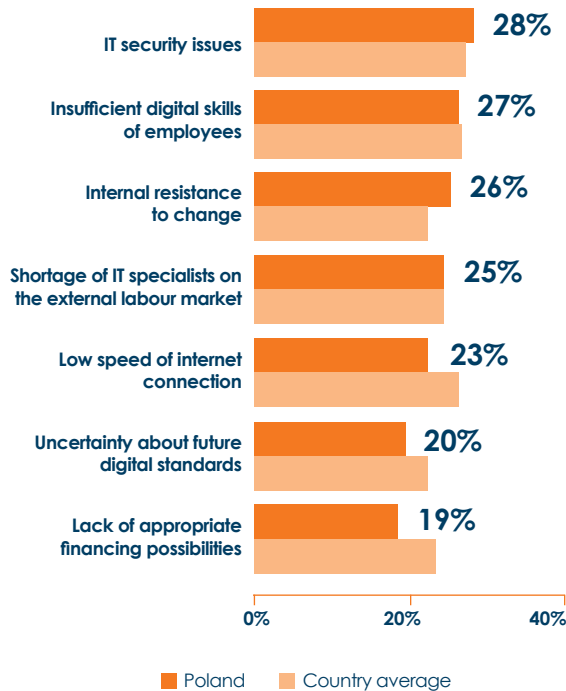
Lack of qualified employees is one of the main obstacles of digitalisation for Polish SMEs

An increasing need to hire new employees resulting from digitalisation can also entail obstacles or limitations. Polish SMEs indicate that a lack of qualified employees is one of the most important difficulties that SMEs will have to deal with in the future (Figure 31).

Other obstacles to digitalisation highlighted by companies are IT security issues and internal resistance to change. These results are consistent with the country average, as most European companies agree that IT security issues and insufficient digital skills of employees are among the most severe obstacles to digitalisation.

Almost half of SMEs report that their employees are lacking sufficient software development skills. Additionally, over one third of SMEs see a particular lack of complex data analysis and mathematical skills, in addition to website development skills among their employees.

FIGURE 31 MAJOR OR VERY SEVERE OBSTACLES TO DIGITALISATION FACED BY POLISH SMEs

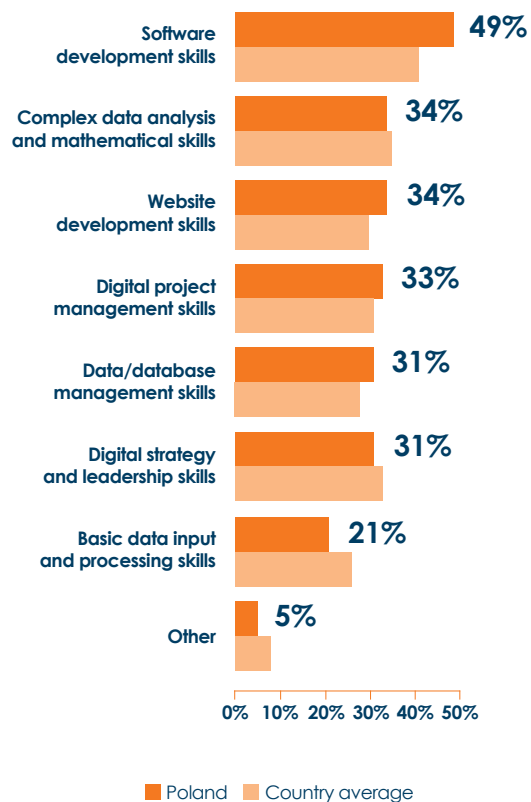


Polish SMEs are missing a variety of digital skills...

As a consequence of the growing difficulties caused by a shortage of appropriate digital skills amongst employees (Figure 32), SMEs see increasing obstructions in the recruitment process. Over 36% of Polish SMEs are concerned that it will become more difficult to recruit employees with advanced digital skills. Moreover, 57% of Polish SMEs agree that digitalisation will increase the need of training employees for their company.

57%
of Polish SMEs believe that digitalisation will increase the need of training employees

FIGURE 32 THE DIGITAL SKILLS MISSING IN POLISH SMEs



Note: Share of SMEs which see a particular lack of the respective skill, among all SMEs which see insufficient digital skills as an obstacle to digitalisation.

... thus they are planning to recruit new staff

Asked about potential measures taken to fill these skills gaps, 52% of Polish SMEs indicate recruiting of new staff (Figure 33). This is slightly higher than the country average, as 45% of European SMEs are currently recruiting new staff.

FIGURE 33 MEASURES CURRENTLY TAKEN BY POLISH SMEs TO ACQUIRE DIGITAL SKILLS



In general, the most popular measures planned by European SMEs are offering in-house and external training for employees. Respectively 50% and 47% of European SMEs consider such activities which enable them to fill the skill gaps associated with a shortage of qualified employees. Slightly less popular amongst Polish and European SMEs are measures such as outsourcing tasks to external contractors and employing agency workers.

Polish SMEs are optimistic regarding the digitalisation process

Despite the obstacles and possible limitations, 59% of SMEs in Poland believe that the digitalisation process will have a positive impact on their business within the next five years. The share of optimistic companies is even higher among digitalised SMEs. 67% of companies that are currently engaged in at least three digital activities agree that digitalisation will have a positive impact on their business.

SPAIN



Miguel Fernández Acevedo (ICO)

- Spanish SMEs show a degree of internationalisation and revenue growth in line with the other countries. Their level of innovation is also high.
- Use of financial instruments is slightly above the five countries' average, as are the difficulties of accessing these instruments.
- Spanish SMEs rate their competitiveness in line with the average of the five countries. They consider a lack of labour skills to be a less pressing problem than in other countries.
- SMEs are optimistic regarding their future plans, with above-average investment and hiring intentions.
- SMEs are more likely to assess digitalisation as a priority than the five countries' average and consequently are more digitalised.
- Overall, SMEs consider digitalisation to be a positive phenomenon but they are aware of some drawbacks in specific aspects, e.g. some jobs will disappear, the need for capacity building will grow, and investment in technology will be needed.
- Digitalisation obstacles are perceived slightly differently to the five countries' average, as the labour market differs in Spain. However, Spanish SMEs also see a lack of digital skills in the market.

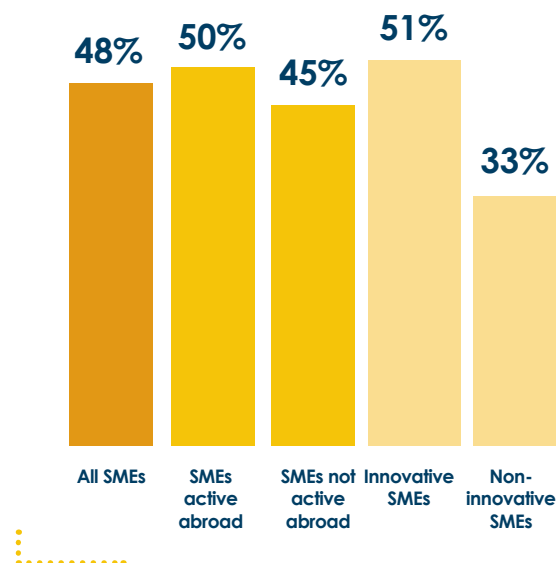
Spanish SMEs show solid figures which are in line with SMEs in neighbouring countries.

Spanish SMEs that took part in the survey⁽⁶⁴⁾ report growth in revenue in line with the average of the five countries. Only 12% of SMEs report a decrease in revenue in their last financial year in comparison with the previous one. The majority of SMEs (88%) reports an increase in revenue: 40% increased their turnover by up to 5% and 48% increased their turnover by at least 5% (Figure 34).

Almost three-quarters (72%) of Spanish SMEs reported revenues from overseas markets, well above the five countries' average of 58%. However, considering only those companies active abroad, 28% of their revenues come from overseas markets, in line with the average of the five countries.

Spanish SMEs are more likely to report robust revenue growth⁽⁶⁵⁾ if they are internationalised⁽⁶⁶⁾ or if they are innovative⁽⁶⁷⁾ (Figure 1). The difference in growth performance of innovative as opposed to non-innovative Spanish SMEs is similar to the other four countries. However Spain has the lowest difference in growth rates between those internationalised and those not active abroad, reflecting the robustness in recent times of Spanish internal demand.

FIGURE 34 SHARE OF SPANISH SMEs WITH ROBUST REVENUE GROWTH



Spanish SMEs are significantly more likely to use equity capital, credit cards or promotional funds

Spanish SMEs are more likely to use most types of external finance (Figure 35). More Spanish SMEs are using equity capital (74%), credit cards (68%), bank loans (56%), trade credit (53%), bank overdrafts (48%) and promotional funds⁽⁶⁸⁾ (41%) compared to the five countries' average. In contrast, they are less likely to use retained earnings (39%), while the use of factoring (26%) and leasing (45%) is roughly on average.

88%
of Spanish SMEs reported stable or increasing revenue for the last financial year

(64) Firms with 20 to 249 employees, see Methodology.

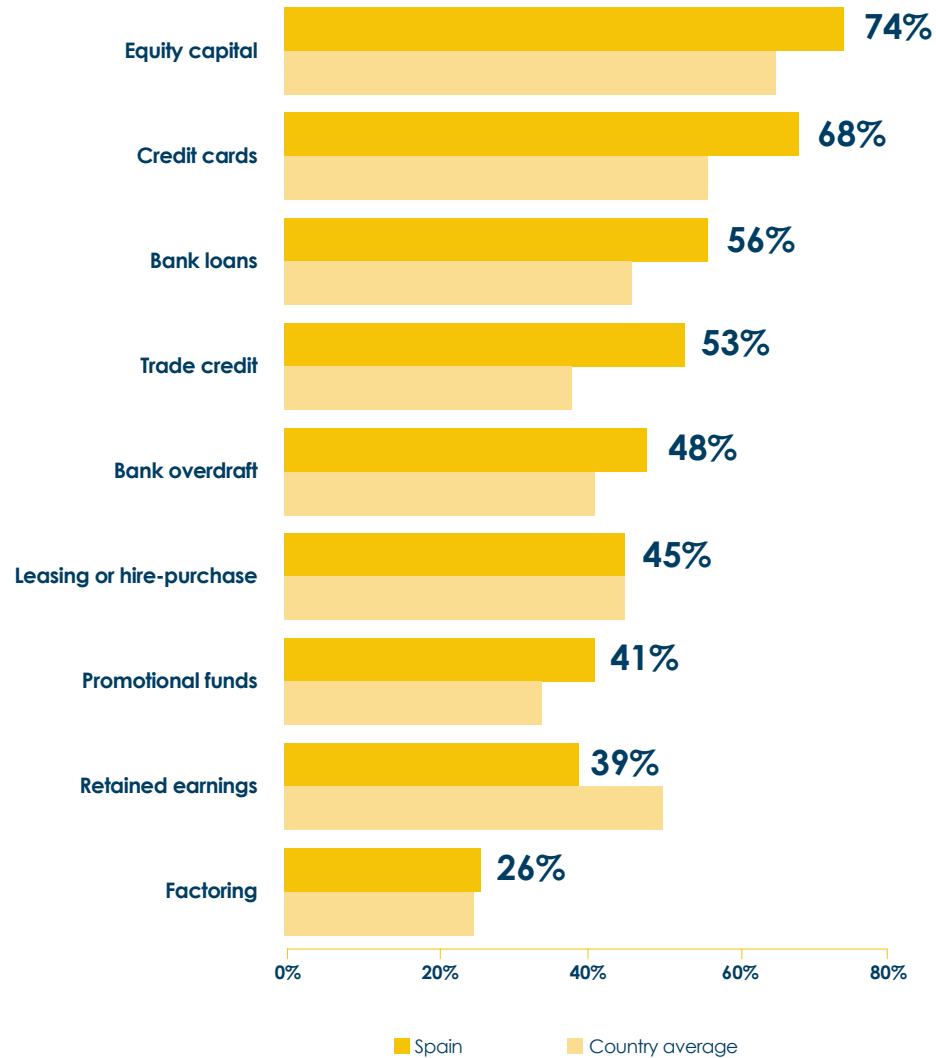
(65) See Glossary.

(66) See Glossary.

(67) See Glossary.

(68) Such as subsidised or guaranteed loans

FIGURE 35 SOURCES OF FINANCE CURRENTLY USED BY SPANISH SMEs



Access to external finance for Spanish SMEs is similar to the average of the five countries: 58% of Spanish SMEs report minor or no difficulties at all (62% on average for the five countries) and only 9% of SMEs perceive very severe or major difficulties (12% on average). Between both extremes, 33% of SMEs report moderate difficulties in accessing external finance (26% on average). These findings are consistent with other available sources⁽⁶⁹⁾.

41%
of Spanish SMEs
use promotional
funds

(69) See EIF (2019).

Spanish SMEs rate their own competitiveness in line with other countries' SMEs

Spanish SMEs have a similar perception about their own degree of competitiveness as the five countries' average. They consider customer service and quality of products and services as their main competitive advantages. Spanish SMEs identify material and energy costs as their weakest competitive factor.

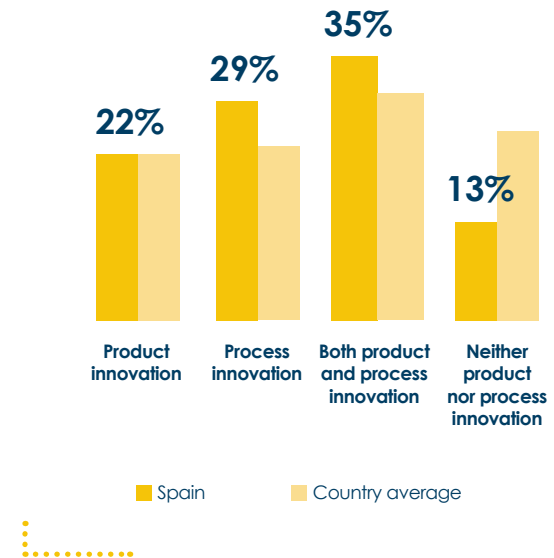
Spanish SMEs identify infrastructure (both transport and digital) as the country-level competitiveness factor where Spain performs the best, while bureaucracy and taxes have the worst rating. It is worth mentioning that the skills shortage factor is reported significantly less by Spanish SMEs compared to those in the other four countries. The latter may be linked with the Spanish unemployment rate, which is still above the European average. It is also noticeable that the assessment of corruption, political instability and financing are not significantly different to those in other countries.

Assessments of competitiveness tend to be similar whether considering all firms or only those internationalised.

More Spanish SMEs are planning to invest, increase their international presence or hire employees

The share of SMEs planning to increase their investment volume, international presence or number of employees is significantly higher than those planning to reduce them. Spanish SMEs are more likely to be planning to increase their investment volume and their number of employees than the five countries' average, while in terms of increasing its internationalization level Spanish SMEs tend to increase it in line with the five countries' average. Spain also has the highest percentage of SMEs planning to introduce innovations, with 87% of them planning to introduce some kind of innovation, either product, process or both types (Figure 36).

FIGURE 36 SPANISH SMEs INTENTIONS TO INTRODUCE INNOVATIONS IN THE NEXT TWO YEARS



Digitalisation is among the top priorities of SME managers in Spain

More managers of Spanish SMEs consider digitalisation a top priority⁽⁷⁰⁾. 39% of managers gave digitalisation high or very high priority (36% in the five countries' average) and only 17% of Spanish SMEs consider that digitalisation is not a priority or that it has a low degree of priority (24% in the five countries' average). This is consistent with the European Commission's *Digital Economy and Society Index*⁽⁷¹⁾, where Spain ranked 11th in 2019 (13th in 2017), with an above-average improvement in the last three years.

The prioritisation of digitalization can be observed across all sectors, but it is the retail sector where SMEs are most concerned with their digital transformation. Studies show that the Spanish retail sector lags behind European leaders in terms of digital technologies⁽⁷²⁾, so the high prioritisation may indicate that Spanish retail SMEs have understood the need to close the current gap.



(70) See Glossary.

(71) See European Commission (2019).

(72) See ICE (2019).

SMEs are optimistic about the overall impact of digitalisation

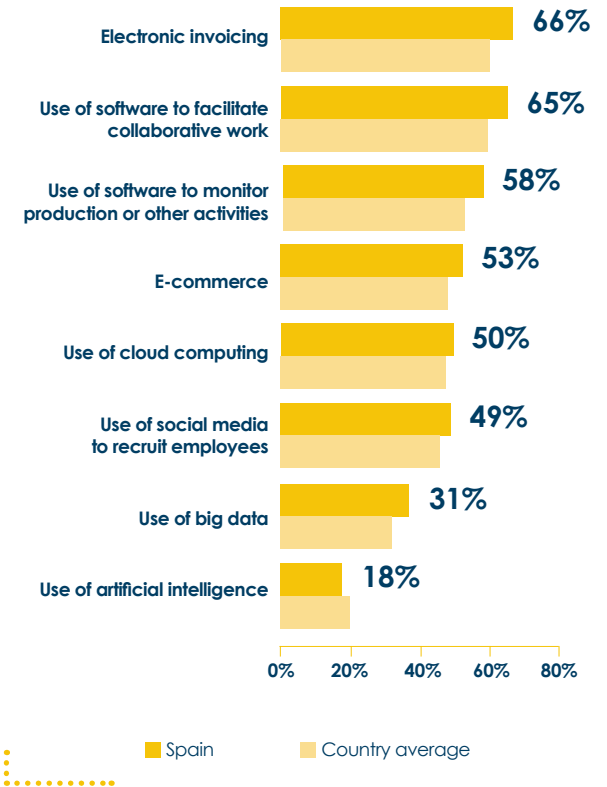
Spanish SMEs also expect that digitalisation will have a positive impact on their business (59%), while the percentage of SMEs expecting it to have a negative impact is just 10%. Despite this positive overall estimation, Spanish SMEs understand that for a beneficial outcome, specific actions are necessary. Most SMEs think that the need for specific training will grow (59%) or that the company will have to adopt new technologies to remain competitive (56%), with almost half (45%) expecting that some tasks and jobs will become obsolete.

Spain has the highest share of digitalised⁽⁷³⁾ SMEs (73% of SMEs), consistent with the prioritisation of digitalisation by SMEs' management. The results of this survey are also consistent with previous works of a similar nature⁽⁷⁴⁾.

(73) See Glossary.

(74) See Ministerio de Economía y Empresa (2017).

FIGURE 37 SHARE OF SPANISH SMEs WHICH CURRENTLY ENGAGE IN DIGITAL ACTIVITIES



Electronic invoicing and use of software are the most used digital activities

As shown in Figure 37, 53% of SMEs are involved in e-commerce practices. This percentage differs significantly between those SMEs that are internationalised (60%) and those that are not (33%). This shows that when an SME uses e-commerce (similar conclusions could be drawn considering digital activities as a whole) it has a higher chance of internationalization and vice versa.

Digitalised SMEs tend to have higher revenues, are more innovative and are more likely to intend to hire new employees. There is also a relationship between digitalisation and access to finance: Among SMEs where the management consider digitalisation as a top priority, 71% of them have no difficulties or minor difficulties to obtain financing, while among SMEs where digitalisation does not have such top priority, this percentage drops to 53%.



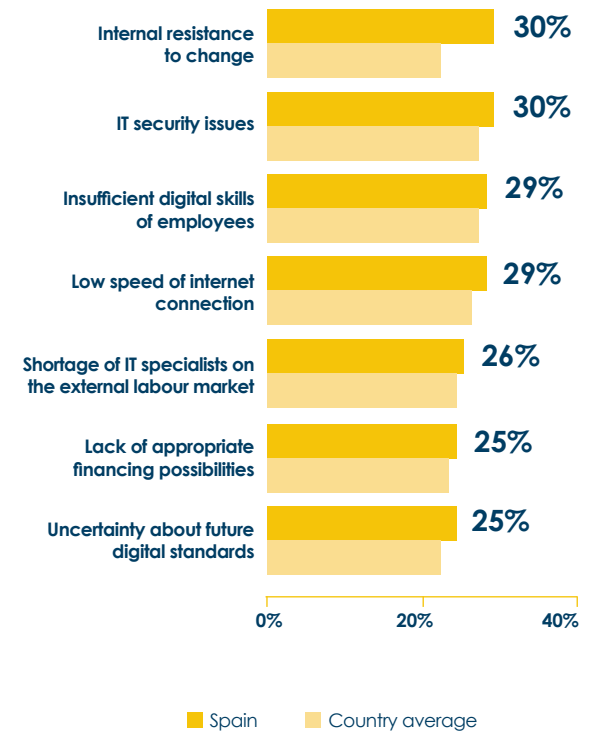
Internal resistance, security and lack of digital skills are the main obstacles to digitalisation

Spanish SMEs are more likely to evaluate barriers to digitalization as a major or very severe obstacle than the five countries' average (Figure 38). Internal resistance to change ranks as the most frequently cited, while in the five countries' average it is among the least frequently mentioned. This may be linked with the third most cited barrier, the lack of digital skills in the organisation, as some employees resist new technologies because they feel they are not prepared. The overall picture is similar to the five countries' average, as the second obstacle (IT security) is also the other main concern in Spain.

The assessment of access to finance of Spanish SMEs is similar to the five countries' average (both when referring to competitiveness in general and when assessing the obstacles to digitalization), but this is not the case for the labour market. As stated previously, lack of skills (in general, not for digitalization purposes) is a less pressing concern for Spanish SMEs than for the other four countries, which could reflect the comparatively high level of unemployment in Spain. However, when referring to digital skills, Spanish SMEs assess this problem in line with the five countries' average. Again, the situation of relative abundance of workers in the Spanish labour market emerges when observing the answers to the statement about the growing

difficulty to recruit employees with advanced digital skills: only 32% of Spanish SMEs agreed to this statement, which is by far the lowest percentage of agreement among the five countries (five countries' average 39%).

FIGURE 38 MAJOR OR VERY SEVERE OBSTACLES TO DIGITALISATION FACED BY SPANISH SMEs



Spanish SMEs see sufficient labour capacity but also perceive a lack of digital skills

Consequently, even though Spanish SMEs are slightly less worried than the average of the five countries about skills shortage, the situation is slightly different when moving to digital skills, as Spanish SMEs are in line with their European peers assessing that finding the right digital skills is increasingly difficult.

Additionally, the relevance of this problem may grow in the coming years. One possible indicator of this is the intention of Spanish SMEs to recruit more employees to assist with digitalisation. 37% of SMEs expect such an increase while the five countries' average is just 30%.

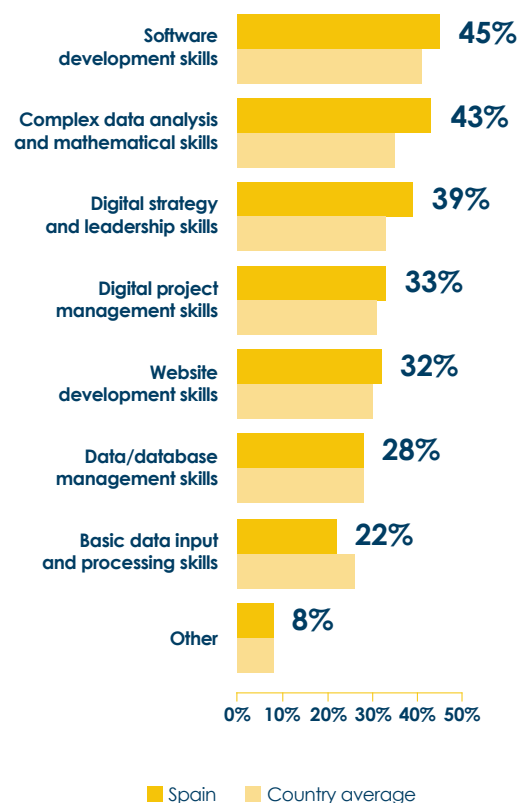
At a national level, some actions are underway to address these challenges. There is a Strategic Plan⁽⁷⁵⁾ for the period 2017-2020 that continues and specifies previous and broader plans⁽⁷⁶⁾. It includes several measures to support companies in their digital transformation and other measures that aim to advance in the line of a more digital public administration, among other lines of work.

Moving to the SMEs that see the lack of digital skills as an obstacle to digitalisation, these SMEs consider the effectively missing skills in a similar way (slightly more frequently) to the five countries' average (Figure 39). As in the other countries, Spanish SMEs regard software development skills and the analysis of complex data as the more frequently missing skills.

⁽⁷⁵⁾ See Red.es (2017).

⁽⁷⁶⁾ See Ministerio de Industria (2013).

FIGURE 39 THE DIGITAL SKILLS MISSING IN SPANISH SMEs



Note: Share of SMEs which see a particular lack of the respective skill, among all SMEs which see insufficient digital skills as an obstacle to digitalization.

In relation to these missing skills, half of Spanish SMEs are considering offering training (both in-house and external) to their current employees, while one in three concerned SMEs are considering recruiting new staff to address the lack of digital skills. This is slightly below the five countries' average. In Spain, the possibility of outsourcing⁽⁷⁷⁾ is mentioned more often (by around 40% of SMEs) than recruiting new employees, while the employment of agency workers is the last option used to acquire said skills, consistent with the five countries' average. Offering training is also the preferred option according to the five countries' average, followed by the recruitment of new employees.

⁽⁷⁷⁾ See Glossary.

UNITED KINGDOM



Leath Al Obaidi (British Business Bank)

- A majority of UK SMEs' management view digitalisation of their firm as a top priority.
- Management priority to digitalise correlates with the introduction of innovative products and processes but not exclusively.
- UK SMEs lead on digital activity take-up in comparison to their European counterparts. Additionally, one fifth of SMEs who have not digitalised are planning to introduce digital activities in the next two years.
- However, SMEs face the hurdle of obtaining and maintaining digitally skilled employees.
- To solve the digital skills gap, UK SMEs are proactive with their approach in upskilling current employees or looking externally for the required know-how.
- The long-term view of UK SMEs on digitalisation is positive and more than half report that digitalisation is necessary to remain competitive.

Twenty years on from the launch of broadband services in the UK, the internet is now used by the vast majority of UK businesses⁽⁷⁸⁾. Yet, UK SMEs face the challenge of adapting to continued digital technological advancement.

For UK firms to remain competitive and respond to the change of consumer behaviour driven by digital technologies they need to align their business strategies with digital technology.

The UK country chapter reviews the survey evidence on SMEs' response to digitalisation and the remaining challenges.

40%
of UK SMEs that consider digitalisation a top priority intend to introduce innovations in the next two years

(78) See SQW (2015).

UK managers place a high priority on digitalisation

Two fifths (40%) of UK SMEs say that digitalisation is a top priority⁽⁷⁹⁾ for their management. In comparison, the five country average lies at 36%.

The survey finds that management support is critical in the digitalisation of the company. The survey results show a positive correlation between firm management prioritising digitalisation and higher digital take-up, as well as a willingness to invest and innovate more.

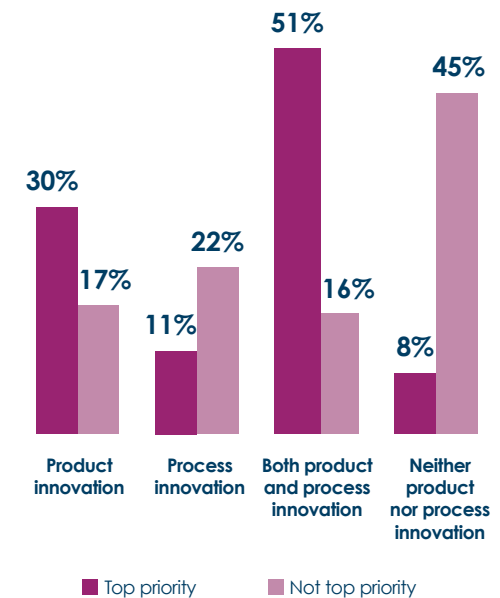
However, these managers also see more obstacles to digitalisation and a greater digital skills gap in the labour market in comparison to managers who do not consider digitalisation as a priority.

Half of SMEs (51%) where management prioritise digitalisation are innovative⁽⁸⁰⁾ compared to 16% with less digitally inclined decision makers (Figure 40).

(79) See Glossary.
(80) See Glossary.

Almost a third (30%) of SMEs with digitalisation as a top priority are planning to launch an innovative product only in the future. However, a focus on digitalisation appears less important for process innovation, almost one fifth (22%) of managers who are less inclined towards digitalisation are planning to introduce more innovative processes in their company, which is double the rate of the digitally motivated managers (11%).

FIGURE 40 UK SMEs' INTENTION TO INTRODUCE INNOVATIONS IN THE NEXT TWO YEARS, DEPENDING ON DIGITAL PRIORITY



The UK has a high rate of adoption of digital technologies

The UK has the highest adoption rate for five of the eight digital activities covered in the *European SME Survey* (Figure 41). Notably, the adoption and use of cloud computing (58%) are ten percentage points higher than the five country average. Furthermore, almost one quarter (23%) of UK SMEs are planning to implement cloud computing in the next two years, which suggests that adoption of cloud computing will be wide ranging across UK SMEs in the near future.

Cloud computing brings SMEs significant benefits as they can use computing as a service, rather than a product that runs locally on a system. It enables SMEs to adapt to their business growth by being digitally flexible and scalable.

53% of SMEs undertake e-commerce activity⁽⁸¹⁾, giving the UK the highest adoption rate alongside Spain. In the next two years, almost one fifth (17%) of the UK's SMEs are planning to make use of e-commerce. This helps increase the turnover of SMEs, which account for significant sales volumes. According to the Office of National Statistics (ONS), businesses with 50-249 employees had sales of GBP 41.8 billion in 2017⁽⁸²⁾. Furthermore, UK firms adopting e-commerce can reach customers abroad more easily. Three fifths (60%) of UK SMEs which use e-commerce are also active abroad.

⁽⁸¹⁾ It is worth noting that e-commerce can be a business-to-consumer or business-to-business activity.

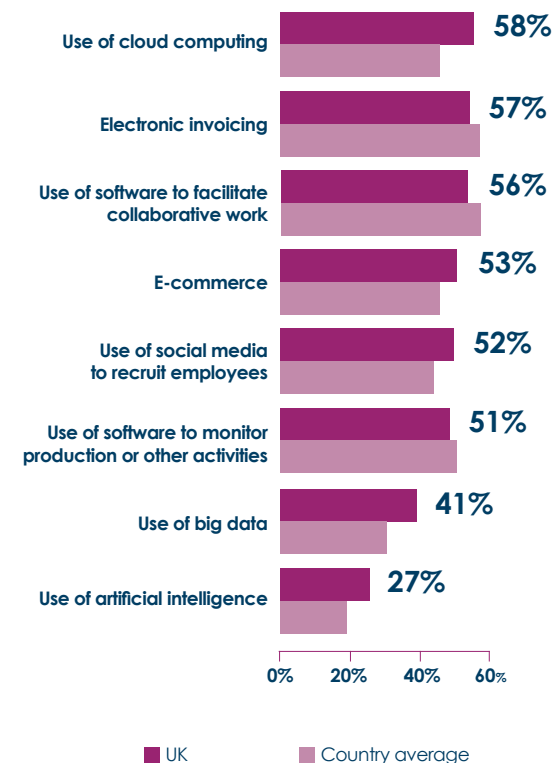
⁽⁸²⁾ See ONS (2018).

Current levels of SME adoption of big data (41%) and artificial intelligence (27%) are also relatively high in the UK compared to the five country average at 32% and 20% respectively.

However, in comparison to their European counterparts, UK SMEs are fourth in the adoption of electronic invoicing (57%), use of software to facilitate collaborative work (56%) and to monitor production (51%). All three digital activities have further potential to improve the productivity of SMEs.

The adoption of one digital technology can lead to a virtuous cycle where take-up lowers the hurdle of further technological adoption. For example, developing big data capability provides the starting point for future adoption of machine learning or artificial intelligence. This suggests that the positive digital adoption results from the survey provide a strong base for productivity improvements in the coming years.

FIGURE 41 SHARE OF UK SMEs WHICH CURRENTLY ENGAGE IN DIGITAL ACTIVITIES



SMEs in the UK face similar obstacles to digitalisation as their European counterparts

The survey shows that UK SMEs are broadly in line with their European peers regarding the obstacles to digitalising the company. The three foremost obstacles are IT security (30%), insufficient digital skills of employees (30%) and shortage of specialists (29%), all identified by around a third of SMEs (Figure 42).

With businesses becoming more and more reliant on digital systems and processes, for example through increased use of cloud applications, their potential exposure to attacks – or accidental loss of data – increases. SMEs are particularly vulnerable, as they have fewer resources available to ensure that they are adequately protected.

A particularly concerning type of cyber crime is the rise of ‘ransomware’ attacks, where malware restricts access to an SME’s computer system and demands that they pay a ransom in order to regain access. In order to overcome increasing risks associated with cyber crime (including the risk of it acting as a brake on digitalisation initiatives), it will be particularly important to raise business awareness and confidence in these areas – especially among SMEs.

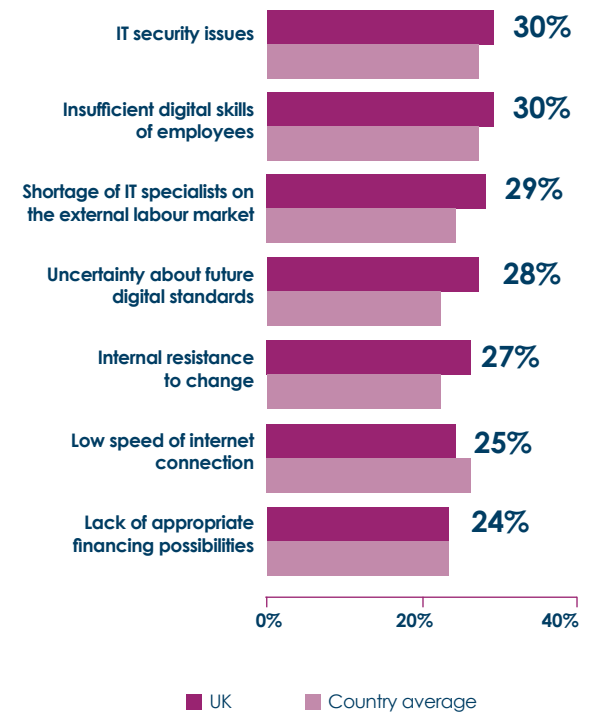
UK SMEs consider lack of appropriate finance as hindrance to digitalise

Almost a quarter (24%) of UK SMEs consider lack of appropriate finance as a hindrance to digitalise their firm. This chimes with the access to finance question the European SME Survey asked for this report, as a standalone question rather than in connection to digitalisation.

Almost one fifth (19%) of UK SMEs reports difficulties in accessing finance⁽⁸³⁾. The finding is largely in line with the *BVA BDRC SME Finance Monitor 2019*, where 22% of UK SMEs say that they face moderate or major obstacles in accessing finance⁽⁸⁴⁾.

This question is significant as it can be argued that difficulties in accessing finance are an additional barrier to the digitalisation of SMEs.

FIGURE 42 MAJOR OR VERY SEVERE OBSTACLES TO DIGITALISATION FACED BY UK SMEs



(83) For more information see General Part.

(84) See BVA BDRC (2019).

Digital skills are an essential enabler of digitalisation

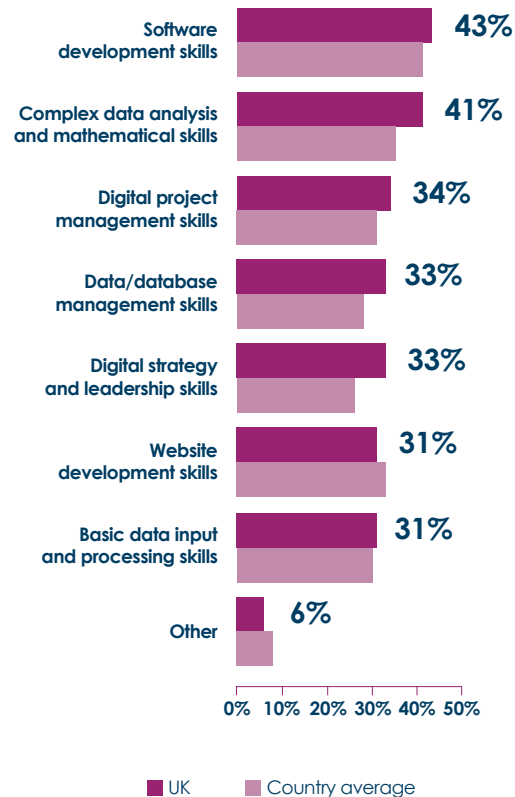
Increasing digital skill levels are an essential requirement to deliver the benefits of digitalisation to SMEs.

While the UK leads most categories on the digital activity side, SMEs also report a digital skills shortage in the labour market (Figure 43). The skills gap can be divided into two groups; one is a management digital leadership gap and the other is a basic digital skills gap.

Around a third of UK SMEs struggle to hire employees with basic data input and processing skills (33%) as well as database management skills (33%), showing that SMEs have difficulties in hiring employees with basic digital skills. The *Digital Skills Report 2018* finds that 21% of the adult UK population were missing basic digital skills⁽⁸⁵⁾.

(85) See Ipsos Mori (2018).

FIGURE 43 THE DIGITAL SKILLS MISSING IN UK SMEs



Note: Share of SMEs which see a particular lack of the respective skill, among all SMEs which see insufficient digital skills as an obstacle to digitalisation.

SMEs are addressing skills gaps in different ways

With digital skills in short supply, businesses are planning to take a more proactive approach in upskilling current employees or externally obtaining the required know-how.

The survey shows that half of SMEs try to fill their skills gap through training and upskilling current employees via in-house (52%) or external training (49%).

Alternatively, SMEs are acquiring the necessary skills to advance the firm's digitalisation externally. Half (50%) of SMEs say they are trying to accelerate the digitalisation in their company by recruiting new staff.

UK businesses are less inclined to outsource their tasks to external contractors (38%) or employ agency workers (37%).

The *Open University Business Barometer 2019* reported that the skills gap costs businesses GBP 4.4 billion a year in recruitment costs, temporary staffing bills and higher salaries⁽⁸⁶⁾.

Whilst the survey did not focus on the demographic and geographic differences in digital skills specifically, CBI research has suggested that there are regional imbalances in the availability of skills⁽⁸⁷⁾.

(86) See Open University (2019).

(87) See CBI (2019).

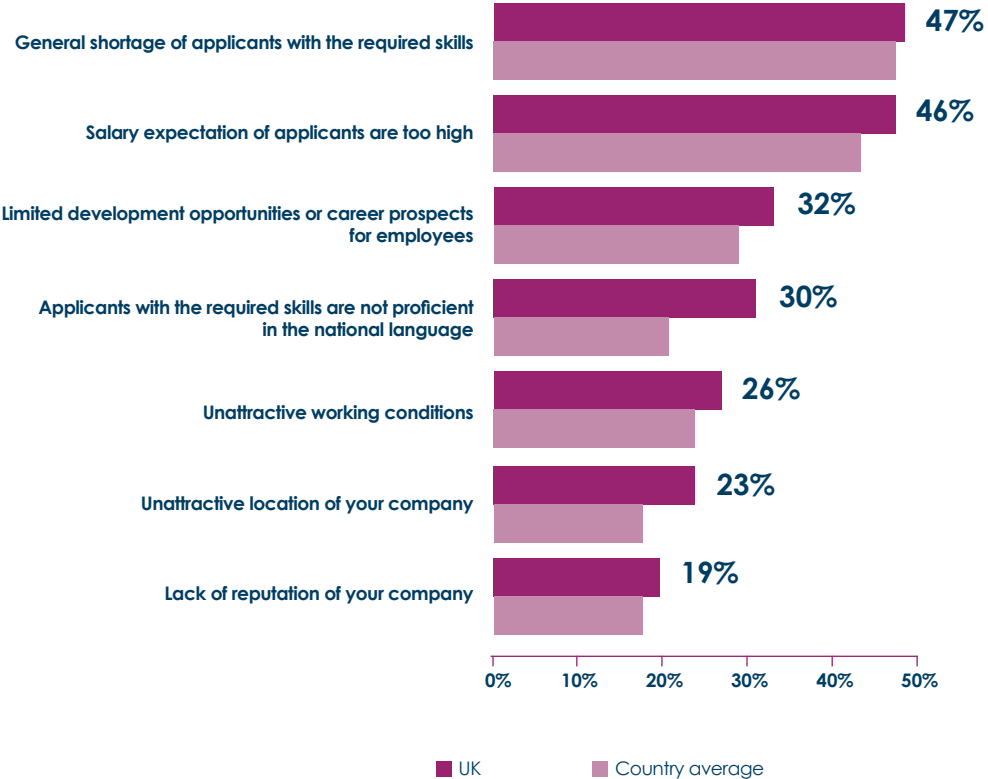
The demand for digitally skilled labour surpasses supply for UK businesses

The specific challenges UK businesses face with recruiting new employees are varied (Figure 44), with almost half saying that they see a general shortage of applicants with the required skills (47%).

High demand for new employees with the required digital skills drives the salary expectations of applicants up. Almost half of UK businesses (46%) find that salary expectations create a barrier in hiring the right staff.

Around one quarter of SMEs in the UK believe that unattractive working conditions (26%) or the location of the company (23%) make it hard to recruit new employees with digital skills.

FIGURE 44 DIFFICULTIES OF UK SMEs IN RECRUITING DIGITAL TALENT



Note: Share of SMEs which experience the responding difficulty in recruiting employees with advanced digital skills, among all firms which currently recruit or plan to recruit new staff.

UK businesses are optimistic regarding digitalisation

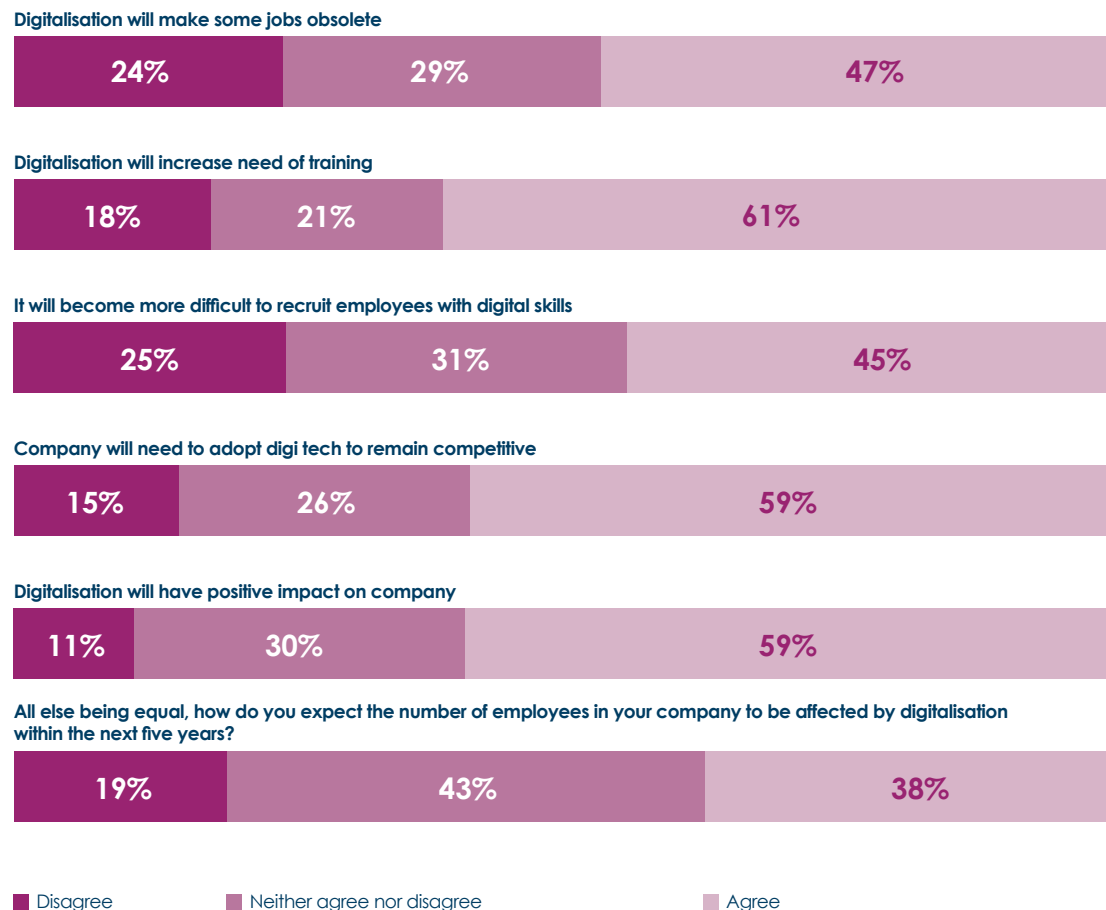
Despite the challenges discussed above, three fifths of UK SMEs (61%) believe that digitalisation will increase the need to train employees in their own company within the next five years and almost half (45%) expect that recruiting employees with advanced digital skills will get more difficult in the future (Figure 45).

However, overall SMEs have a positive view on digitalisation and consider it as an important part of making their products and services competitive. Three fifths (59%) agreed with the statement that in order to remain competitive in the next five years, they need to adopt new digital technology. This chimes with 61% of UK SMEs who believe that all in all, digitalisation will have a positive impact on their company's business.

Asking businesses whether digitalisation could render tasks and jobs obsolete in their firm in the next five years, the survey finds that almost half of UK SME agree (47%) in comparison to the European average which was eight percentage points lower.

Still, almost two fifths (38%) of UK SMEs expect that the overall number of employees in their company will increase in the next five years due to digitalisation.

FIGURE 45 UK SMEs ATTITUDE TOWARDS THE IMPACT OF DIGITALISATION



Note: Share of UK SMEs which agree on the respective statements within the next five years.

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Glossary

Agency workers

Workers under the supervision of a hiring organisation but employed by an external agency. The agency may be a temporary work agency, a recruitment agency or a staffing company.

Digitalised SMEs

SMEs engaged in at least three digital activities among the following: e-commerce, electronic invoicing, use of social media to recruit employees, use of software to monitor the production or other activities of your company (e.g. ERP, CRM), use of software to facilitate collaborative work (e.g. Microsoft Teams, WhatsApp, Slack, Yammer), use of cloud computing, use of big data and use of artificial intelligence.

Innovative SMEs

SMEs which intend to introduce any product or process innovations in the next two years.

Internationalised SMEs

SMEs which earned revenue from overseas markets in the last financial year. This refers to direct exports, indirect exports via an intermediary and the revenues generated by sales offices overseas.

Outsourcing

Business practice in which a company hires another company or an individual to perform tasks or provide services that are either usually executed or had previously been done by the company's own employees.

Robust revenue growth

Total revenue growth of at least 5% in the last financial year.

Small and medium-sized enterprises (SMEs)

Throughout the report, unless otherwise noted, SMEs are defined as non-financial enterprises with 20 to 249 employees, see Methodology. This definition differs from the European Commission's definition approved in the Commission Recommendation of May 6th 2003. In that case, SMEs are defined as enterprises having less than 250 persons employed as well as also having an annual turnover of up to EUR 50 million, or a balance sheet of no more than EUR 43 million.

Top priority

When SMEs attach top priority to digitalisation this means they attach high or very high priority to it (as opposed to medium, low or no priority at all).

Methodology

For this report, BGK, Bpifrance, the British Business Bank, ICO and KfW have conducted a joint survey of SMEs in France, Germany, Poland, Spain and the United Kingdom – the European SME Survey.

Population and sample

In each of the five countries, a sample of about 500 enterprises was generated from the population of non-financial enterprises with 20–249 employees. To obtain a balanced sample, quotas were applied with regard to size and sector. At least 30% and at most 70% of the surveyed enterprises fall into the size class with 20–99 employees. Similarly, at least 30% and at most 70% of the interviewed enterprises operate in the manufacturing or construction sectors.

Survey method and field phase

The survey was conducted by forsa marplan, Frankfurt am Main, Germany, on the basis of online access panels. This is a pool of companies that have agreed to regularly participate in online surveys.

The questionnaire was translated into the respective main national language in order to increase acceptance and response rate. The companies were invited by e-mail with a link to the questionnaire and answered online. The persons surveyed in the companies were either managing directors or senior executives, with sufficient knowledge about the international competitiveness and digitalisation of their business. Answering the questionnaire took about five to ten minutes, depending on the answers to different filter questions. The field phase took place from 23 April to 19 May 2019.

Content of the survey

SMEs were asked to assess different aspects of their international competitiveness, including both firm and location specific factors. In addition, they were asked about their intentions regarding investment, innovation, international presence and employment in the next two years. The focus of the survey, however, was on digitalisation. What priority does digitalisation have for SMEs? What are the digital technologies they currently use? What are the obstacles to digitalisation they face? What digital skills are most needed and what do SMEs do to acquire them? Will digitalisation make jobs obsolete in SMEs? These are the key questions the survey addresses.

Weighting of the results

At country level, the survey results are weighted by sector and size class in order to make the statements as representative as possible for the population of enterprises (Table 1). The extrapolation factors are calculated as the quotient of the actual number of companies in a country for each sector and size class and the respective number of companies in the realised sample.

Country averages are calculated as simple averages over the values of the individual countries. This means that each individual country enters with the same weight, regardless of the actual number of companies or the size of the sample in that country. The results are very close to those obtained with a weighted country average.

Definition of size classes and sectors

Data on the population are taken from the Eurostat Structural Business Statistics and aggregated into two size classes (20–49 and 50–249 employees) and eight sectors (manufacturing, construction, wholesale and retail trade, transportation and storage, accommodation and food service activities, information and communication, professional, scientific and technical activities and other). The classification of the companies in the sample is based on their answer to the question of how many employees they had in the last financial year and to the question in which sector they are mainly active, with the sectors to choose from corresponding to those used in the Eurostat Structural Business Statistics.

Data preparation and final sample

Survey answers were checked for plausibility and consistency both during the interview and after completion. Speeders and straightliners were removed from the sample, as were enterprises with missing information on several key variables. The final sample used for the analysis comprised 2,586 enterprises.

TABLE 1 STRUCTURE OF THE WEIGHTED FINAL SAMPLE BY COUNTRY

Sector	Size class (number of persons employed)	France	Germany	Poland	Spain	UK	Country average
Manufacturing	20 - 49	14%	10%	19%	18%	11%	14%
	50 - 249	8%	9%	16%	8%	7%	10%
Construction	20 - 49	10%	6%	8%	7%	6%	7%
	50 - 249	2%	2%	3%	2%	2%	2%
Wholesale and retail trade	20 - 49	16%	17%	18%	18%	14%	16%
	50 - 249	6%	7%	8%	5%	6%	6%
Transportation and storage	20 - 49	6%	5%	4%	6%	3%	5%
	50 - 249	3%	3%	2%	2%	2%	2%
Accommodation and food service activities	20 - 49	6%	11%	2%	11%	13%	9%
	50 - 249	1%	3%	1%	2%	4%	2%
Information and communication	20 - 49	4%	3%	2%	2%	4%	3%
	50 - 249	2%	2%	1%	1%	2%	2%
Professional, scientific and technical activities	20 - 49	7%	7%	3%	5%	9%	6%
	50 - 249	3%	2%	1%	2%	4%	2%
Other	20 - 49	8%	8%	6%	8%	9%	8%
	50 - 249	4%	5%	6%	4%	6%	5%

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