Annual **Manufacturing** Report 2018

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Annual **Manufacturing** Report 2018

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Foreword

Welcome to the 2018 edition of the Annual Manufacturing Report, researched and delivered by *The Manufacturer*

I think you will agree that there has never been a more exciting – and disconcerting – time to be involved in this great sector. UK manufacturers are riding high on a global economy that is beginning to shrug off a decade's worth of post-recession blues. People in the UK are waking up to the fact that we do have a vibrant manufacturing sector, after decades of ignoring it. We have a government that is prepared to get behind business in general and manufacturing in particular.

At the same time, we live in the shadow of Brexit, unsure of what it will do to our exports and our supply chains. We also live in a time of endemic slow growth, the UK economy predicted to expand by 1.5% this year compared with 2.2% in the EU generally and 3.5% globally. There are many theories about why that should be, from the levels of UK taxation, to weak investment, and to a bloated public sector that squeezes out enterprise. There appear to be no quick fixes for any of them, except perhaps for changes to the tax system to further encourage enterprise and R&D.

Inevitably, all of this, good and bad, gets measured with amazing frequency in PMI reports, EEF studies, ONS data and others. Therefore, rather than bring out yet another report that takes a statistical snapshot of what is going on in manufacturing, we decided instead to test the mood of manufacturers: how positive/negative are they about the year ahead, across a range of issues from technology to exports and training? We have focused on six categories, and as well as providing a narrative around the results, we have also interviewed respondents so you can get a sense of some of the optimism and pessimism behind their answers.

As always, we are extremely grateful to our sponsors Columbus, Dell Technologies and PwC. Without their very generous support none of this would be possible. And we would also like to thank the hundreds of committed and energetic manufacturers, big and small, who took time out to engage with our survey. As the UK, hopefully, begins to learn what is really going on in manufacturing in this country, we believe they will be astonished by the commitment to innovate and succeed that is the hallmark of our sector. We will continue to play our part in making that happen.

NICK PETERS, EDITORIAL DIRECTOR
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Introduction

To the Annual Manufacturing Report 2018

In every Annual Manufacturing Report survey we have conducted to date, we have always opted for a multiple choice format. For this report we have chosen a different methodology. Our goal has been to test the mood of manufacturers in the UK, by offering them the chance to choose between diametrically opposing points of view and then drawing our conclusions from where they landed on a sliding scale.

Therefore, when you look at the graphs in this report you will see for each issue two questions, left and right, with the percentages each attracted. The question on the left is always the one expressing optimism and the one on the right, pessimism.

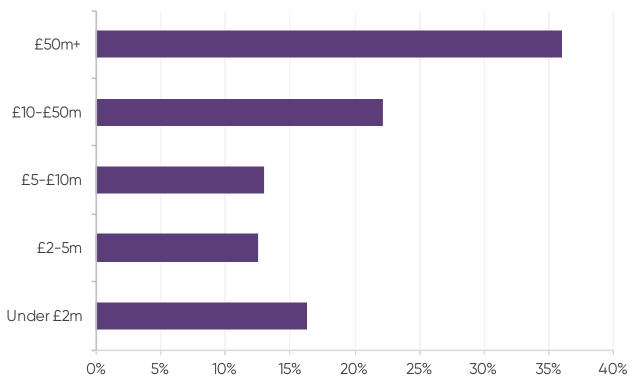
Also you will see we have interviewed some of the respondents to put some rhetorical flesh on the statistical bones of their responses. We decided to offer them the chance to be quoted anonymously, because otherwise we would only have been able to run quotes from people senior enough in their own companies to speak their minds on the record. Others would have had to have their remarks cleared by central PR departments who would no doubt have diluted them.

It will come as no surprise that the Skills & Training category generated the most comment. This truly is seen as an existential issue by manufacturers caught on the one hand by a decline in skilled immigrants, and on the other by an insufficiently substantial flow of skilled young people coming out of our schools and colleges.

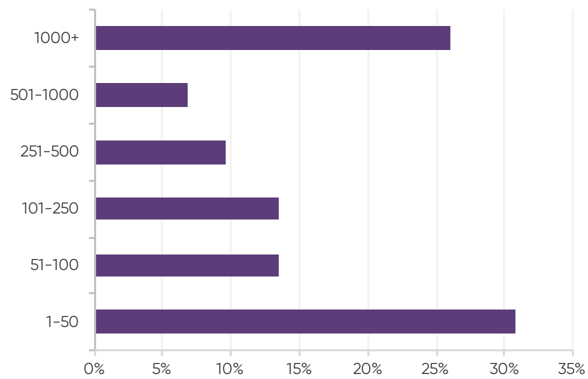
Critically, the issue of Brexit causes great concern, in terms of the uncertainty it is causing, and the degree to which it gets in the way of other government policy important to our sector, notably the industrial strategy. Uncertainty makes investment decisions harder and, given that the investment most urgently needed is in productivity-enhancing new digital technologies, this has a detrimental knock-on impact on our national competitiveness.

That is not to say manufacturers do not understand the need to adopt these new technologies. In the Smart Factory and Industrial Digitalisation sections, it is very clear that the argument for investing in these technologies has largely been won. It is simply that there are a number of serious issues getting in the way of that happening to the degree that our sector needs.

Whose views are represented here?



Respondents by company turnover



Respondents by company size

SMART FACTORY

The digital journey to successful manufacturing

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MARY HUNTER
Managing Director
Columbus

Kodak. Woolworths. Blockbuster. Comet. The UK business landscape is a wasteland of organisations that didn't evolve fast enough for their end consumer. How did these businesses end up missing the mark? By being too focused on business as usual, they entirely missed the shift in demand caused by changing technology and the importance of addressing the future customer. Learn from their mistakes. Smart factories aren't a futuristic ideal. They are one of the key differentiators that will help future-proof your business in the here and now. For this reason, it is encouraging to see such a positive response to embracing the potential of smart factories reflected in this AMR survey.

Smarter factories mean smarter processes and smarter ways of doing business to keep manufacturing relevant, successful, and competitive. But technology alone won't drive efficiency and competitiveness. Digital transformation is a journey that organisations must take organically and it involves more than just the adoption of shiny new technologies.

The most successful manufacturing organisations take a wholesome approach to digitalisation. Digital maturity requires the involvement of all the stakeholders in a manufacturing business including governance and leadership, people, operations, customers, data and analytics.

Columbus prides itself on working as a partner on a manufacturing organisation's digital journey, helping identify a specific maturity model that informs the roadmap and setting a course of action to accomplish this vision. As a software and services provider, we make sure to align our offering with the new processes, models and technology needed to enable Industry 4.0 and the smart factory. We often find that while our manufacturing customers see the value and need to embrace new digital technologies, as reflected in these survey results, the difficulty lies in understanding where to start and how to implement effectively.

Developing a 4IR program is not a linear path and can span several stages of the digital journey. Columbus uses its deep industry knowledge and innovation to take a manufacturing organisation's digital priorities and make them a reality. We have done the legwork to test and develop Industry 4.0 technologies to ensure they are applicable and implementable based on industry environments and standards. Columbus helps manufacturing organisations realise the benefits digitalisation brings to the industry today, for a future-proof tomorrow. We are proud to sponsor the 2018 AMR report; helping to support businesses with the right information to start their journey and ensuring they don't run the risk of becoming laggards in the market.

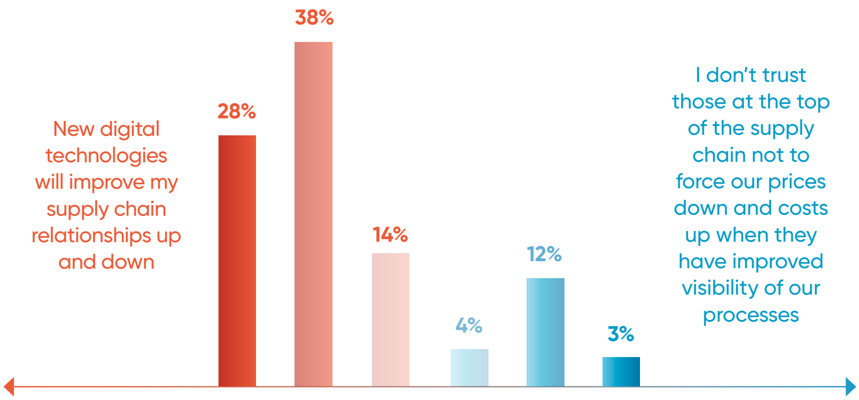
www.columbusglobal.com

> *2017 was challenging for business but the manufacturing capacity and information systems we continued to invest in during the year are delivering results in the early stages of 2018, and we see every opportunity for the coming year to be productive.*
>
> *Despite the many uncertainties in the marketplace and economy, we have identified real opportunities in the UK and globally to grow our business. This in turn allows us to invest further in plant and systems to facilitate that growth, as we drive the business forward after 150 years of experience and trade.*
>
> – **ADAM HOOPER,**
> OPERATIONS DIRECTOR AT MARTINS RUBBER CO LTD.

As mentioned in the introduction, this survey demonstrates conclusively that the argument for new digital technologies has been won: manufacturers accept that the future of (successful) manufacturing lies in the adoption of advanced technologies we classify as Industry 4.0, or 4IR. The wider strategic issues are dealt with in the Industrial Digitalisation section of this report. In this section, we look at what benefit these technologies will bring to those who invest in them.

For quite a while now, the message has been going out from OEMs and other companies of significant size that their suppliers must “get with the 4IR programme” if they want to remain in the supply chain. That at least is what we have heard when interviewing CEOs of prominent companies about it. The message may be one of commercial reality, but there is often a hint of take-it-or-leave-it in the way it is delivered, that once again large companies were dictating the terms and smaller companies just had to suck it up. We wanted to see if this was a reality, which is why we characterised the first choice in the way we did, to probe what is often alleged by smaller manufacturers to be overly-controlling behaviours by their large customers.

MY SUPPLY CHAIN



STRENGTH OF FEELING

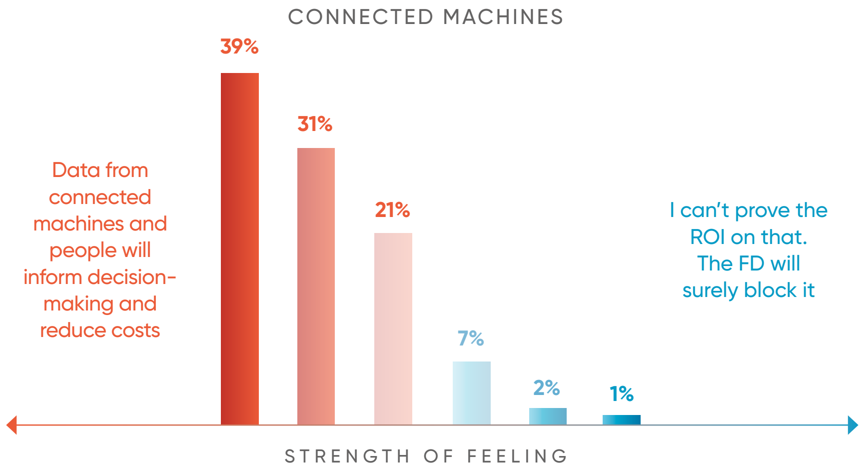
Refreshingly, 80% see the impact of digital technologies on the supply chain as beneficial; in other words that the claim of supply chain “bullying” is exaggerated. Admittedly, large companies do make up 30% of the demographic of our respondents, so one would expect the positive view to be weighted accordingly, yet the overwhelmingly positive response is encouraging.

80% Of manufacturers believe Smart Factory technologies will improve their supply chain relationships

The core benefit of 4IR technologies is the ability they offer manufacturers to monitor, and act upon, data flowing from connected machines. IoT (Internet of Things) sensors pour data into locally- and cloud-based computers where the data is crunched almost instantly to provide a moving, real-time picture of manufacturing processes.

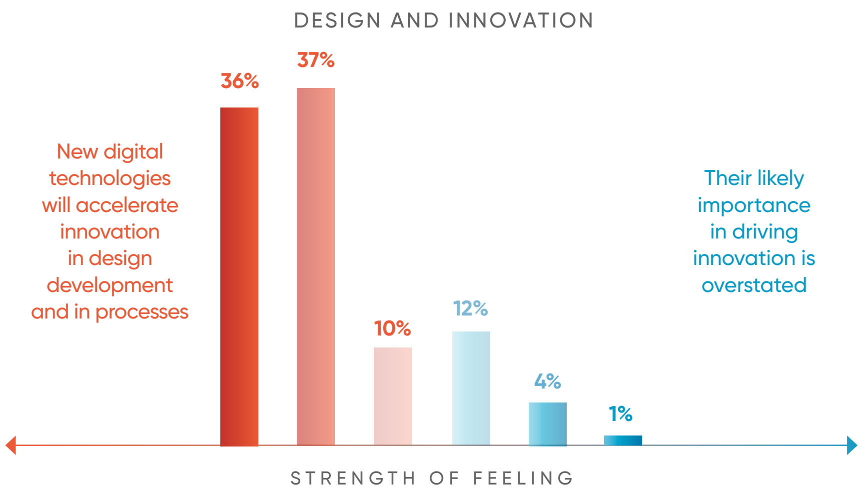
> *Data is crunched almost instantly to provide a moving, real-time picture of manufacturing processes*

> *This is an overwhelming endorsement of the increased business efficiency that flows from the adoption of digital technologies*



This allows decision-makers, either humans or machines, to see weaknesses in the system before they become problems, or tweak systems to achieve greater efficiency. A clear 91% of respondents get this, and encouragingly, the negative we posed, namely that boardroom resistance to investment would get in the way, was pretty much dismissed.

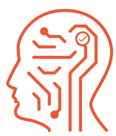
It is not just the information flow created by machine connectivity that is so important, it is the power that these technologies give us to design and innovate great new products that is so significant.



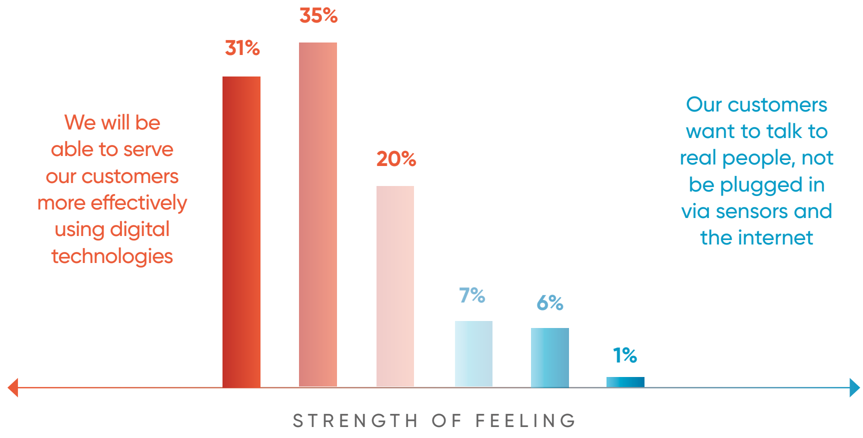
Given the UK's track record in design and innovation, it is fair to say that such a wholesale embrace by our respondents of these technologies means that we are ready to exploit the edge that our national industrial creativity offers.

Equally heartening was the response to our question on customer service, which was designed to discover if UK manufacturers saw digital technologies as a production and supply chain tool, and not a means of improving relationships with customers through enhanced information and service.

89% Of manufacturers believe Smart Factory technologies will enable staff to work smarter

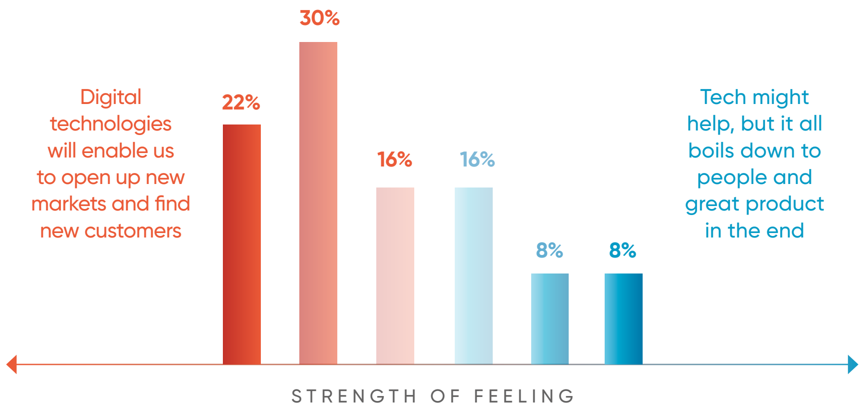


CUSTOMER SERVICE



Yet again, this is an overwhelming endorsement of the increased business efficiency that flows from the adoption of digital technologies. Where there is less confidence is in the ability of smart manufacturing technology to assist in the development of new markets.

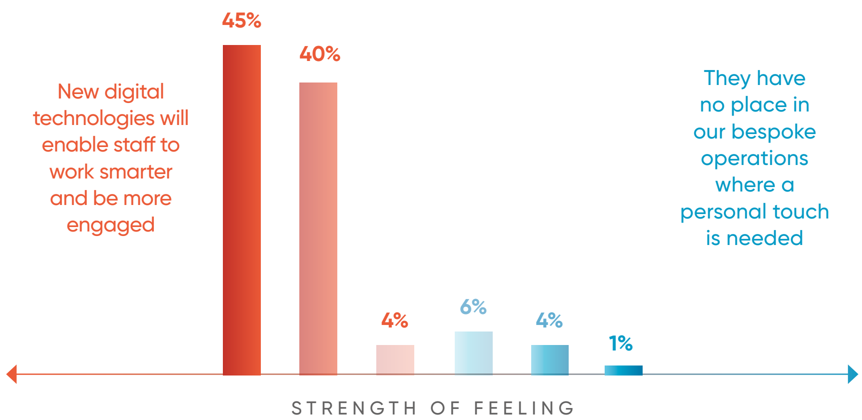
NEW MARKETS



Yes, the majority feeling positive is 68%, but this is significantly smaller than the majorities who say they know how to use smart technology to improve their manufacturing processes. This suggests a need to evolve new types of marketing that convey to potential new customers the positive benefits that flow from 4IR adoption, in terms of the product being supplied or the service development around it.

We are back in the realm of super-majority, 89%, when we asked if respondents believe 4IR technologies will enable staff to work smarter and be more engaged.

MAKING SMARTER

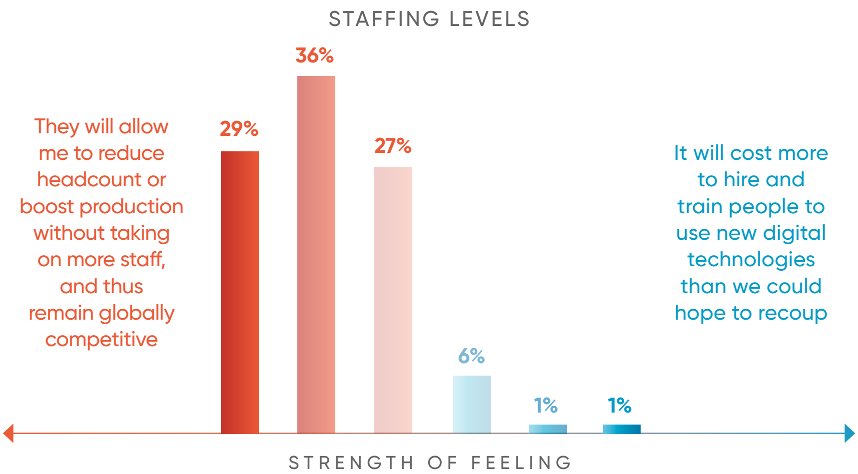


> *This is an emphatic acceptance by manufacturers that the work of several years by vendors to persuade companies that 4IR is a blessing in the workplace has paid off*

This is an emphatic acceptance by manufacturers that the work of several years by vendors to persuade companies that 4IR is a blessing in the workplace has paid off. The fact that a small rump of 11% say their bespoke operations demand a personal touch that cannot be replicated by technology should be respected, but by the same token, no one has ever suggested that 4IR technologies and the personal touch are incompatible. Our question does just that, of course, but that is because we wanted to probe resistance, and discovered that while it exists, it is pretty much negligible. One note of caution: those involved in skills and training suggest that it is one thing to accept the proposition that staff will be more engaged and work smarter, it is another to make it happen. Training and reskilling are vital.

92% Of manufacturers believe Smart Factory technologies will enable them to increase productivity levels per headcount

The national debate over whether 4IR technologies will lead to widespread job losses has not been settled. The Industrial Digitalisation Review that fed into the government's green paper consultations on industrial strategy suggested job displacement would occur but that training people for the jobs of the future would even out the losses. The problem is that the report blurred the question of whether the people who lose their jobs today will be the ones who will be trained for the new ones tomorrow, something of a political hot potato that was left quietly, and not surprisingly, unaddressed.



That there will be 'job displacement' as the report characterised it is in no doubt. A very large majority – 92% - said that the technologies will either allow them to reduce headcount or improve productivity without taking on more people. There is a theory that UK productivity has been lagging because employers have failed to invest in new technologies because wages are low and therefore the ROI could not be justified. The response to this question suggests that theory is no longer valid. It is also encouraging to note that respondents saw this debate through the prism of global competitiveness, bucking the suspicion that UK companies are more interested in short-term profit taking than longer-term sustainability.

> *It is one thing to accept the proposition that staff will be more engaged and work smarter, it is another to make it happen. Training and reskilling are vital*

FINANCE & INVESTMENT

Shelter from the storm, or plan and plough on?

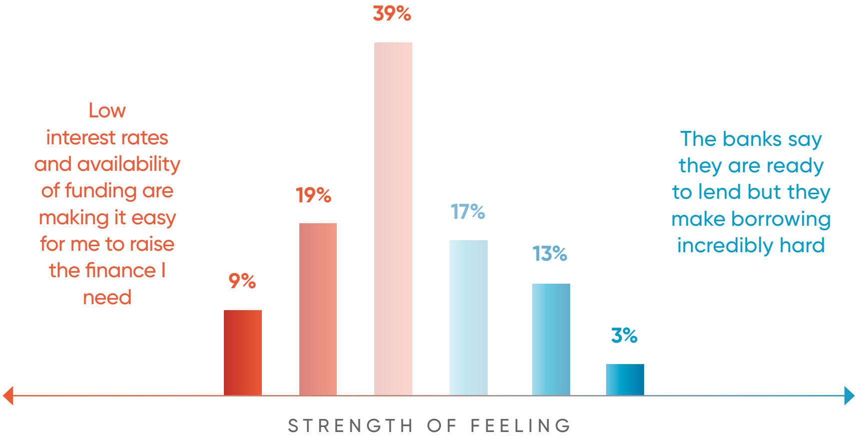
The seismic shock to the UK economic system caused by the Great Recession of 2008 continues to be felt in unanticipated ways. Record low interest rates and new cash gushing into the system through quantitative easing should have unleashed a veritable torrent of new investment in UK manufacturing. And yet, as we know, this simply didn't happen. Why it didn't happen is inevitably a question that produces multiple answers, many of them not within the ambit of this report. But the questions that are germane relate to the availability of bank financing, cash reserves on balance sheets and, ultimately, the measure of confidence within the sector to invest in capex or digital technologies. That confidence in turn is affected by issues such as Brexit, which inevitably is causing uncertainty. Although we and others like to make the bullish argument that ambitious companies shouldn't allow themselves to be knocked off course by events but should simply adapt to cope with them, we are not the ones who have to make the big money decisions. It is clear, without a shadow of doubt, that nervous hesitancy stalks the manufacturing boardrooms where such decisions are made.

Another argument made for why boards have postponed investment is the supply of low-cost labour. Commentators are quick to suggest it has given companies the excuse not to invest in long-term profitability through investment, because they prefer the short-term profits they can make. But as the Smart Factory section showed, many manufacturers really do want to crack on, because they can see the ROI that flows from upgraded plant and new digital technologies. They are held back by not knowing what the future holds.

Tax regimes play an important part in business planning and sentiment, and our respondents are broadly uncritical of the tax system as it pertains to the manufacturing sector. Investment allowances and R&D tax credits are generally favoured even though there is a question mark over how many companies actually claim all the credits they are due. And when it comes to financing technology investment, we would encourage manufacturers to listen to what the vendors have to say over issues such as SaaS-style subscription models, to help spread the financial load, and over confidentiality and security issues that some companies worry about. They fear that climbing aboard the connected supply chain will open them up to full view of potential competitors, when this is simply not the case. Of all the reasons why manufacturers feel nervous about investing in 2018, this should not be one of them.

When the history of the last decade is written, close interest will be paid to why the money that was injected into the financial system by the government did not percolate down into business lending to the extent it was supposed to. There was a suspicion that bank funding was being tied up in companies that should have died, but were allowed to live to protect bank balance sheets from losses.

FINDING FINANCE



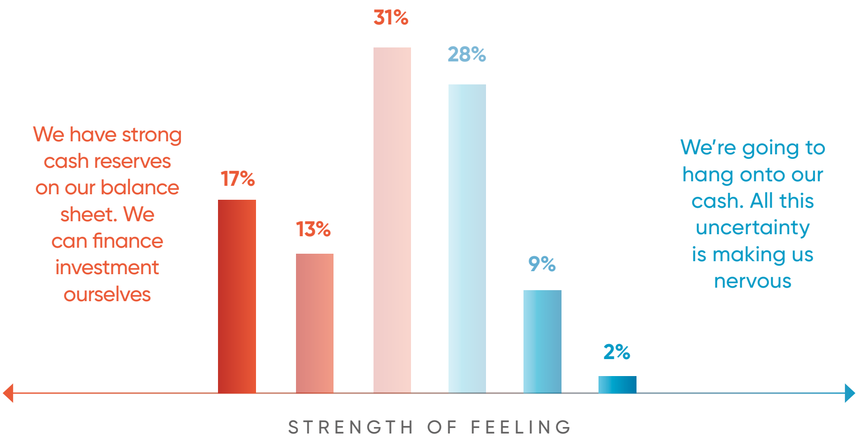
We can see this reflected in our first graph. Although, notionally, our respondents split 67%-33% in favour of the notion that they can lay their hands on finance with some ease, it is a very weak majority, and could quite easily have broken the other way. Just look at the figure on the left - fewer than 10% say they find it easy. How this can be so in a time of allegedly available money is mystifying, unless, of course, banks' apparent readiness to lend is circumscribed by the onerous conditions attached to lending. Everyone will know of directors of solid companies who are being asked for personal guarantees, in a way that was once only reserved for companies with really weak balance sheets.

> *Sentiment in business is everything, and the prevailing sentiment here is very clearly one of uncertainty*

Or is it possible that banks are being used as the scapegoats in this, and that companies are actually shying away from investing? Our second graph offers a clue.

67% Of manufacturers said low interest rates and funding availability make it easy to access cash

CASH RESERVES



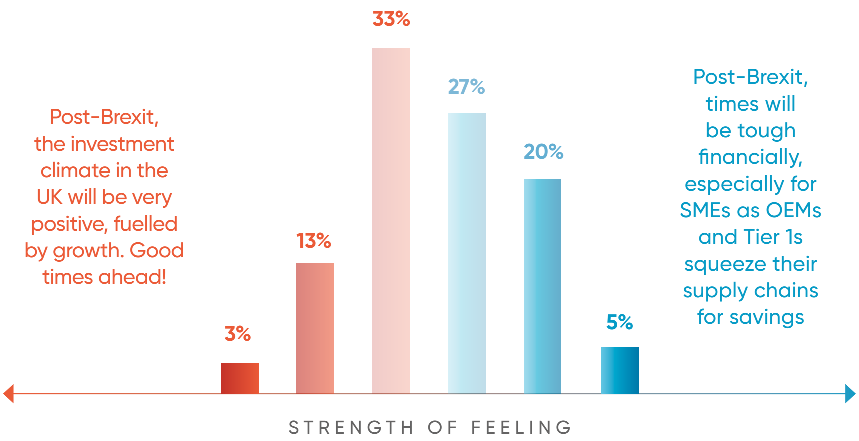
> *For international companies such as our own where component flows around Europe are essential the uncertainty is unnerving.*
>
> *We understand and accept the Brexit vote but to plan for the future trade tariffs and delays, or specifically the uncertainty, is unhelpful to say the least.*
>
> *Brexit is also unnerving purchasing, both domestic (the recent downturn in car sales, for example) and industrial.*
>
> *The exchange rate has made imported goods expensive. Although reduction in UK costs such as labour offsets some of this, the uncertainty leads to extreme caution when investments are considered.*
>
> – **DIRECTOR,** GLOBAL MANUFACTURER

61% Of manufacturers said they can self-finance investment

Once again, there is a worrying indecisiveness in the responses. Fully 61% of the respondents are found in the mushy middle of the graph, betraying a distinct lack of confidence in the future and suggesting that even if they do have the cash for investment stashed away in reserve accounts, they remain reluctant to spend it on technologies and plant that will improve their profitability and productivity. Sentiment in business is everything, and the prevailing sentiment here is very clearly one of uncertainty.

And that brings us to Brexit, the uninvited guest who muscles in on every discussion about business these days.

POST-BREXIT INVESTMENT

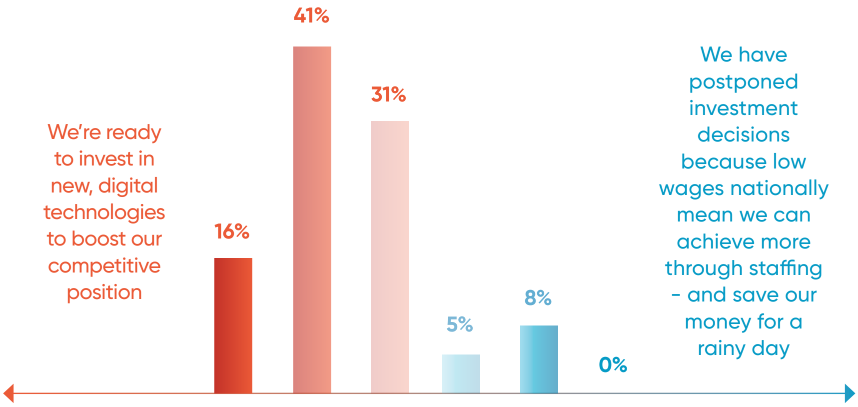


The similarity of this graph to the previous two is striking, reinforcing the sense of indecision in boardrooms and placing the blame very squarely on the B-word. Unfortunately, events do not wait for the indecisive to catch up. The companies capable of weathering the Brexit storms, storms that include the possibility of the shortening or rationalisation of supply chains, will be the ones who recognise that uncertainty will always be with us, to a greater or lesser extent, and the best defence against it is attack. The fact that over 50% of our respondents believe that the post-Brexit landscape will be a tough one for SMEs, and that the opposing argument that the investment climate will be very positive attracted only soft support, should give policymakers pause. No amount of stirring words from politicians will alter perceptions of what Brexit has in store. Policy that demonstrates government has a plan is needed.

The next graph would seem to undermine some of the above, but we believe the picture it paints is not inconsistent with the rather glum investment mood described so far.

> *The companies capable of weathering the Brexit storms...will be the ones who recognise that uncertainty will always be with us, and the best defence against it is attack*

READY TO INVEST?



STRENGTH OF FEELING

> *A simple quick win for government, and for manufacturers, would be to encourage businesses and their accountants to be more proactive in claiming all the credits they are owed....*

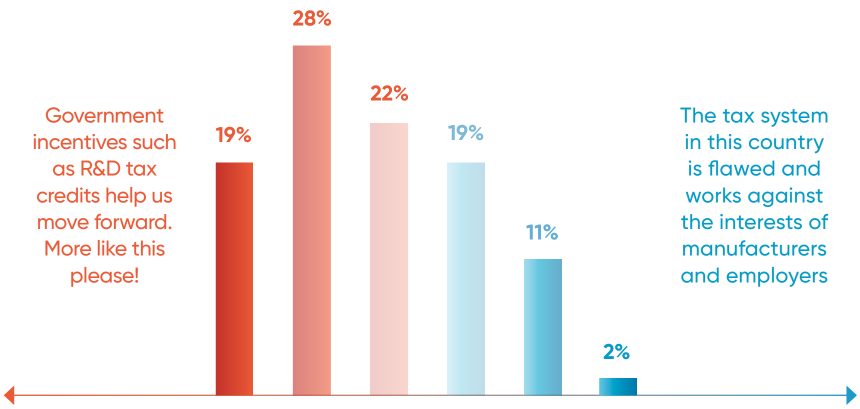
These questions were designed to tease out an issue that many have said is responsible for the UK's low productivity, namely that manufacturers (and others) have postponed investment because labour is cheap. It is a perfectly rational economic argument to make, but our statistics suggest that, as far as manufacturers are concerned, it is not accurate. The overwhelming conclusion is that manufacturers really do want to invest in new plant and technology, but for reasons already spelled out, are nervous about doing so.

87% Of manufacturers said they are ready to invest in new digital technologies to boost productivity

For those who have been beating the drum for manufacturers, particularly at the SME level, to invest in their own future, this is frustrating. The need for investment is obvious, the ROI it produces is unarguable, and yet decision-makers are holding back.

While we have called for policymakers to consider whether they need to respond to this, particularly in the way they formulate the new industrial strategy, they will be encouraged to see that manufacturers, by and large, support the way the tax system works for them, in terms of R&D and investment credits.

TAX AND TAX CREDITS



STRENGTH OF FEELING

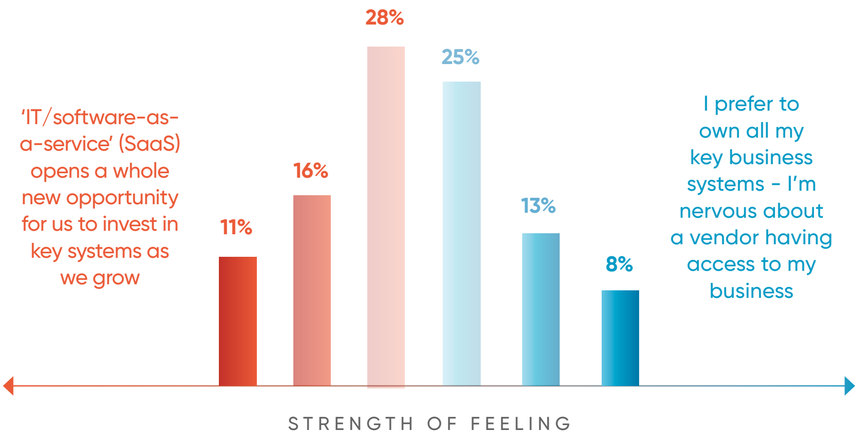
> *We have invested significantly in the infrastructure and systems required to deliver the benefits of Industry 4.0 initiatives in the past year, which for a long established SME manufacturing business with traditional manufacturing processes has been a game changer. We are finally able to proactively monitor productivity and profitability by job, in real time, and therefore direct our efforts to improving our overall effectiveness as a business. This is allowing us to improve our profitability regardless of growth, and informing us of what markets and products we really should be focusing on.*
>
> – **ADAM HOOPER,** OPERATIONS DIRECTOR AT MARTINS RUBBER CO LTD.

69% Of manufacturers said they benefit from tax incentives such as R&D tax credits

Admittedly, we viewed this with some scepticism, given how often the tax system in the UK is criticised. It may deserve much of that, but international studies demonstrate that the UK is still one of the best places to do business, and tax is a substantial part of that picture. A simple quick win for government, and for manufacturers, would be to encourage businesses and their accountants to be more proactive in claiming the credits they are owed. There is an assumption that R&D is something that can only be claimed if there are people in white coats conducting scientific research. This is not the case: R&D can cover a multitude of activities, and businesses would be well-advised to analyse what they do to asses where credits might be claimed. It would not hurt if government not only helped simplify the explanation but also the process.

Our final graph examines one of the key alternatives businesses can turn to if they are reluctant to spend capital sums on new digital technology.

VENDOR-CENTRED FUNDING



Technology vendors are very helpful and creative when it comes to helping companies get the systems they need to improve productivity, and the subscription model is definitely one that could, or should, be attractive to businesses. We positioned support for this model against the negative we often hear expressed by companies when it comes to more connectivity, more data flow, more analysis, namely that they are afraid of losing control over their IP and other proprietary knowledge.

You can see from the graph that this is another cause for uncertainty, and it is completely understandable. The gut reaction of any business owner is to say no when asked if they want to plug their business operations into the Brave New World of manufacturing in the 21st century.

While they are right to be cautious, they do not need to fear. The number of cut-outs and permission layers built into the software that connects supply chains and the cloud mean that it is entirely possible to adopt these technologies and remain completely safe.

As has been evidenced elsewhere in this report, more information - and more reassurance - from vendors and consultants would be welcome.

SKILLS & TRAINING

Manufacturing skills in the UK: rising to the challenges of regulation and regionalisation in an increasingly digital world

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CARA HAFFEY
Industrial Manufacturing & Automotive Leader
PwC

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Currently, manufacturing industry in the UK is experiencing a radical transformation triggered by the onset of the fourth industrial revolution. At PwC, we call it Industry 4.0: a new model for manufacturing, characterised by the increasing digitisation and interconnection of products, value chains and business models, supported and enabled by technologies including the Industrial Internet of Things, artificial intelligence (AI), robotics, and billions of connected devices and sensors.

Inevitably, a change on this scale brings major implications for the skills that companies will need. PwC's 21st Global CEO Survey, launched in January 2018, found that 69% of CEOs believe that emerging technologies, such as AI, blockchain and robotics will disrupt their current business models in the next five years and they need to acquire both digital and other specialist skills to turn them into competitive advantage.

The importance of science, technology, engineering and maths (STEM) skills was also reflected in the Government's new Industrial Strategy launched in November 2017, which pledged a £406 million funding boost for these skills. PwC's Workforce of the Future research also confirmed that this funding is much-needed, finding that just 33% of UK workers believe they possess the required STEM skills, against a global average of 53%.

And our CEO Survey found that 38% of UK CEOs find it difficult to attract the right kind of digital talent, and that 63% are either using or planning to use apprenticeships and internships to grow their workforce while developing the skills they need.

Manufacturers themselves are also responding to tackle this skills gap. In light of automation and the changing relationship with customers, we expect to see a shift of focus from product to services and, as a result, manufacturers will need to ensure they balance critical technology skills with innovation, creativity, empathy and leadership capabilities. Those with relevant industry and sector experience will be as important as engineers and technologists.

Against this background, *The Manufacturer's* research provides other thought provoking insights. For example, apprenticeships are increasingly seen as a positive alternative to university and manufacturers themselves see the potential apprenticeships offer in helping them address emerging skills gaps as well as providing an effective channel through which they can shape their workforce of tomorrow.

The Manufacturer's research findings suggest the need for a regionally-orientated action agenda, with a focus extending beyond skills to manufacturing industry's wider needs. Such a programme should shape visions, identities and economic development strategies to achieve inclusive, place-based growth, supported by local industrial strategies spanning not just skills but also infrastructure, innovation and business growth. In my view, this is the context against which the following research findings should be read.

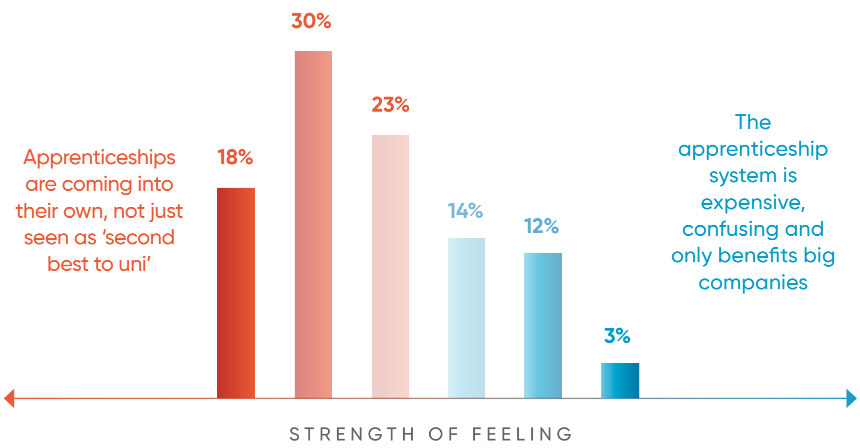
> *I am finding recruitment incredibly difficult and see it as the most challenging element for me as we head into 2018 and beyond. I have over 20 vacancies for permanent skilled roles for which I am paying above minimum wage. These vacancies have been available and unfilled for months. I believe this is because the minimum wage has eroded the differential between skilled/unskilled roles.*
>
> *This is happening just at a time when pressure on our prices, whether from the minimum wage or other factors such as Brexit, means I am having to push staff towards more stringent targets, increasing their workload for less perceived financial benefit. I am losing well-educated staff from EU countries, and am having difficulty replacing them with skilled, literate and numerate recruits either from the EU or locally. Young British workers seem to have lost the work ethic of their parents. Their will to work and succeed is simply not there.*
>
> *Finally, apprenticeships are a joke. We tried to get a scheme off the ground, attracting interest from 15 applicants. Only two came to our open factory day, of which one one started - and then left after 2 weeks because 'work was getting in the way of my commitments'!*
>
> – **DIRECTOR,**
> FOOD AND BEVERAGE SECTOR

When two or more manufacturers are gathered together, it is a better-than-evens bet that within 30 minutes the conversation will turn to the lack of skilled recruits. For many companies, this is becoming an existential issue. We can revel in the opportunities that advanced digital technologies offer us, but if the education system is not producing young people who can staff this digital future, while simultaneously there are pressures from the government on the inflow of talented migrants, it is little wonder why this is such a pressing issue.

This is why we focused our questions on the sharp end of the skills debate, namely the education system and apprenticeships. We also asked about the extent to which public ignorance of manufacturing is damaging the recruitment process, in that parents and grandparents are more than likely to have an outdated, inappropriate view of what manufacturing can offer young people in terms of work and career.

Having started this section quite gloomily, it is encouraging to report that by a margin of 3-1 our respondents believe that apprenticeships are finally gaining respect as an alternative to university.

APPRENTICESHIPS ADVANCE



In the decades before de-industrialisation, the Further Education (FE) system channelled many young people into successful careers in skilled occupations. When former PM Tony Blair in 1997 set a target of 50% of young people going to university, the Higher Education (HE) sector began to flourish at the expense of FE. Apprenticeships, already sparse, came close to dying out. Their resurgence goes some way to reversing the trend of the last 30 years, but the overwhelmingly positive view our respondents have of them is countered by the fact many companies, particularly smaller ones, are finding it extremely difficult to make the system work for them.

> *The majority lean towards the view that the government is sending mixed messages about (the skills gap)*

Which brings us to how manufacturers regard the government's contribution to this vital issue. The next three questions really focus on this, and the responses are all trending negative. The first of this trifecta deals with a broad judgement on the government's attitude to the skills gap.

71% Of manufacturers believe apprenticeships are developing into a proper alternative to higher education for school leavers

"*These are the mistakes I believe the government is making:*

Continuing with an education and training philosophy that is flawed and unfit for purpose, such as the Apprentice Levy which has produced a 27% reduction in apprenticeships, despite government representatives being told about its fundamental flaws during consultation – I know I was there!

Continuing with Technical Certificates despite being told that they are continuing with the same mistakes made with the Apprenticeship Levy.

Expecting business to support the costs of education where government education policy has failed, and continues to do so.

Expecting businesses to improve productivity whilst expecting them to spend time and effort covering education failings, thereby reducing productivity.

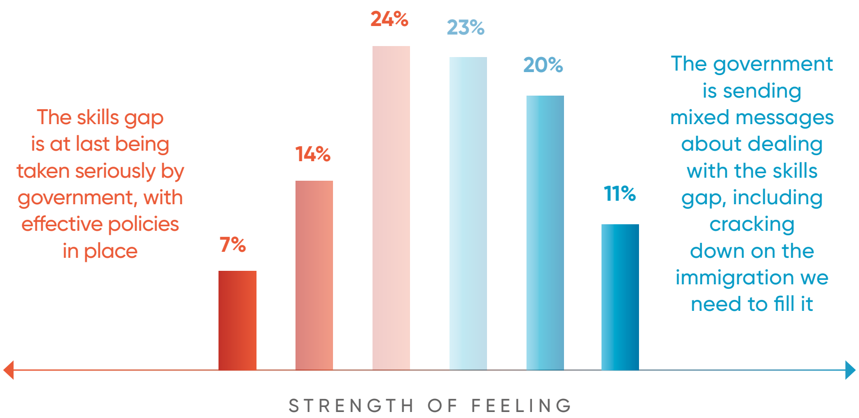
Taking too much note of large business requirements and ways of working whilst ignoring SMEs, where the vast majority of industrial activity is carried out.

Not recognising the effectiveness of those successful University Technical Colleges and how this can be built upon to meet the shortage of technical education.

– **DENIS PARSONS,**
MB AEROSPACE

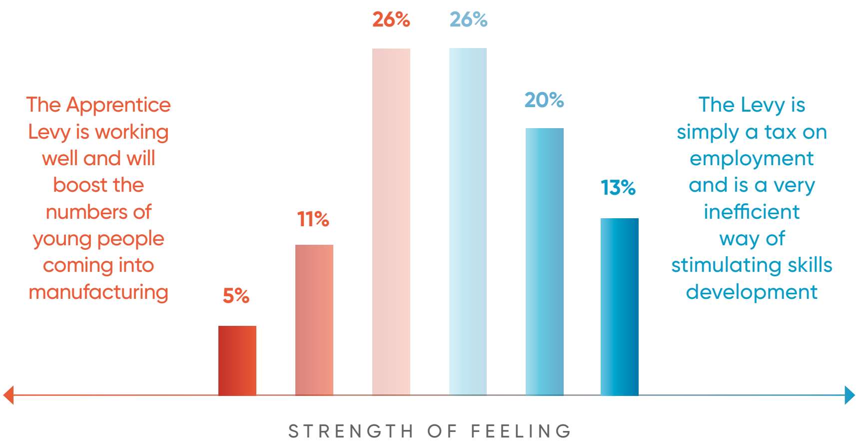
59% Of manufacturers believe the Apprentice Levy is a tax on employment

SKILLS GAP



The majority (55%) leans towards the view that the government is sending mixed messages about this issue. As the comments suggest, manufacturers believe government policy is producing confusion, nowhere more so than the Apprenticeship Levy, the system by which employers with an annual wage and salary bill in excess of £3m pay 0.5% of it to the government, which then reimburses the cash to companies who use approved trainers to run an apprenticeship scheme. Since its introduction in April 2017, the take-up of apprenticeships has dropped by 27% (Y-on-Y to November 2017), with employers blaming confused processes, red tape and poor, or inappropriate, training provision from approved providers.

APPRENTICE LEVY



Thus, only 5% have total confidence in the Levy achieving its stated goals, with some offering lukewarm support, and a majority downright criticism.

If it were just the government's handling of apprenticeships that was regarded with scepticism, the picture might not look so worrying, but manufacturers in fact believe government should overhaul the entire education system because they feel it is not working for business.

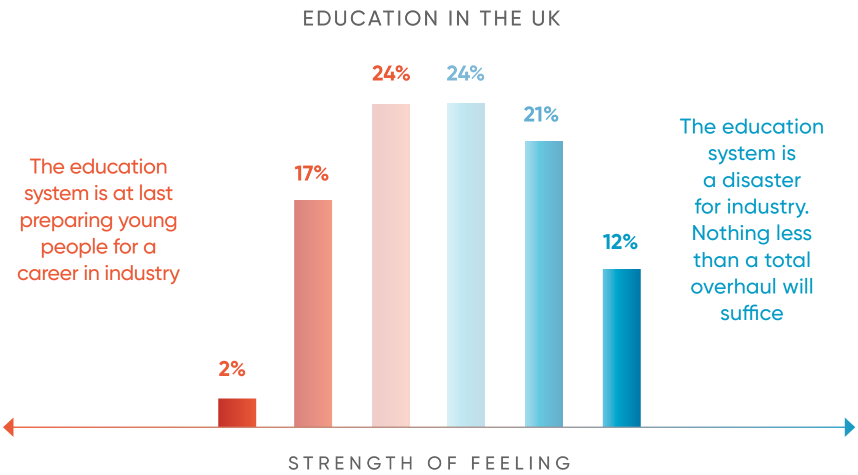
"

I generally believe that the recent renewed focus on apprenticeship schemes including degree apprenticeships is extremely positive and provides additional opportunities for both student and employers with regards the training and development of a skilled, qualified and competent workforce to support the needs of manufacturers now and in the future.

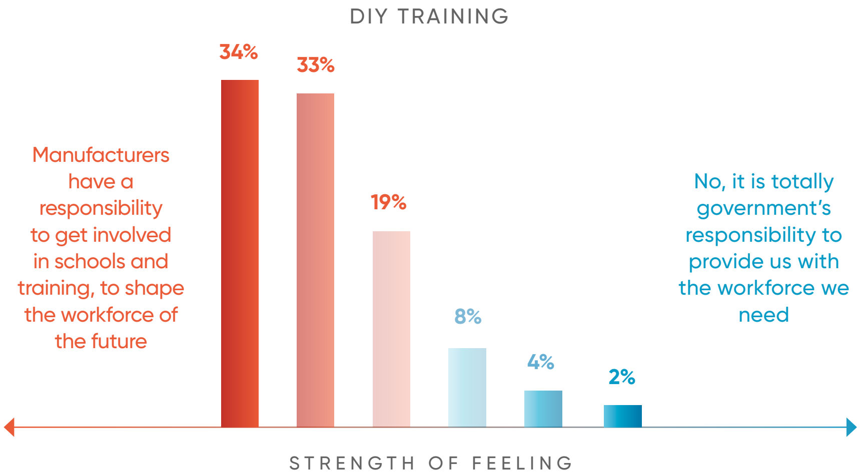
Whilst this goes some way to closing the skills gap, there still needs to be some focus on making manufacturing an attractive proposition from a career point of view. I believe the Apprentice Levy is helping, however it needs to be more widely communicated and publicised to make its use more widespread and support the uptake of apprenticeship schemes in more manufacturers.

I am concerned with the government's pledge to reduce immigration as I believe immigration in general makes a positive contribution, and provides diversity in skills and background which is needed to support the evolution of technology and industry within the UK, and so many companies rely on it. I also believe that in the short term we will definitely need to rely on skills and resource from outside the UK as we put the infrastructure in place to support industry skills development in the UK.

(CONTINUED ON NEXT PAGE)



Only 2% believe wholeheartedly the system is producing young people for careers in industry, with 57% in favour of a total rethink. Companies have been encouraged to set up their own in-house training units, which means they can then claw back their Levy to pay themselves for training provision that is 100% tailored to their needs, but getting them Ofsted-approved is slow. This is one element of a growing trend towards companies establishing their own training centres that make up for deficiencies in the existing education system. This can either take the form of tackling a lack of literacy or numeracy in young people leaving formal education, or establishing a university degree programme and on-site campus, as Dyson has done in association with Warwick University, to tailor-make their future workforce. Given this was made possible by the Higher Education and Research Act 2017, credit is due the government for bending to business needs. The Technical and Further Education Bill 2017 also allowed, through an amendment promoted by Lord Baker, founder of the University Technical Colleges system, FE colleges and businesses to go into schools to speak directly to pupils about careers in technical skills.



57% Of manufacturers said the education system is a disaster for industry; it needs a total overhaul

> *I believe it is the government's role to provide an education system that nurtures and develops our children, giving all of them a chance to succeed and make a positive contribution in the future economic and industrial arena, this requires ensuring education is focused on delivering a high standard of interesting and educational content in core areas such as maths, English, science, computer programming as well as emerging areas such as 3D printing, AI, Data Analytics, IOT etc. I believe this grounding at an educational level is the foundation upon which manufacturers can build with their own industry specific training and skills development.*
>
> – **DIRECTOR,**
> FMCG

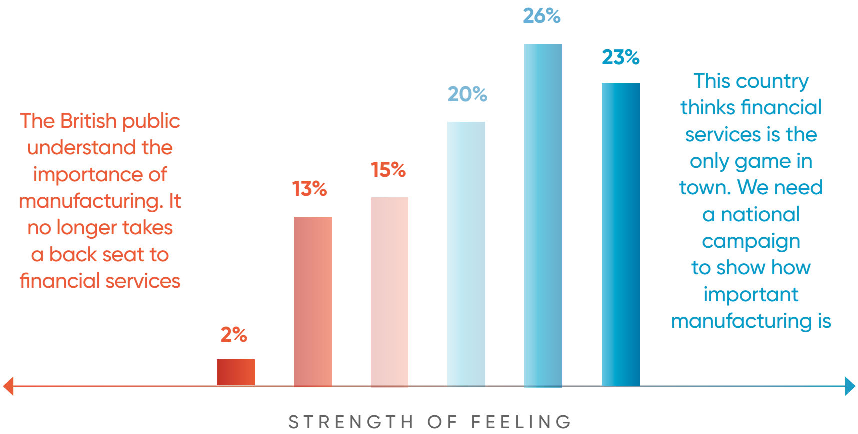
> *For many years we have struggled to recruit the required number of engineers. In the North West of England demand far outweighs supply, which pushes salary expectations to unsustainable levels. We will have to recruit and train a considerable number of engineers in the near future. Traditionally this has been done through apprenticeships. The new Apprentice Levy has been introduced amid great confusion (particularly for those companies that straddle England and Wales where the rules are different). We are seeing many smaller companies reduce the number of apprenticeships they're offering, which increases the attrition rate on our apprentice scheme. More needs to be done to encourage engineering disciplines in schools. Equally, there is an onus on manufacturing companies to make themselves more attractive.*
>
> – **DIRECTOR,**
> STEEL SECTOR

Our respondents take a pragmatic view of the issue, basically saying they have no choice but to get involved. Hence the overwhelming 86% in favour. But as the question regarding the education system requiring an overhaul demonstrates, they are not prepared to let the government off the hook on this issue. They support creating a parallel education system because they need to, not because they want to.

Finally, to the issue of public perception of manufacturing. It may appear at first blush to be an inappropriate subject for discussion in an examination of issues dealing with skills and training, but our view is that many of the problems associated with skills and training are as much cultural as political. If parents are not actively promoting careers in manufacturing to their children, because they still associate the sector with the failures of post-war industry and the deindustrialisation of the 70s and 80s, then government will feel less than confident about leading a charge for change that voters appear to neither support nor understand.

69% Of manufacturers said the British people do not understand the importance of manufacturing to the economy. We need a national campaign of education

CAMPAIGN TO PROMOTE #UKMFG



This is why we very deliberately asked if manufacturers believe the British public understand manufacturing, or whether there should be a national campaign to demonstrate the sector's importance - and by extension improve attitudes to technical skills and training. We were not surprised when the latter contention was supported by 69%. With 2018 being named Year of the Engineer, and a number of large companies lending their support the promotion of engineering as a career, this is perhaps the campaign our respondents want to support.

INDUSTRIAL DIGITALISATION

The opportunity presented by Industrial Digitialisation is without doubt. It could be now or never for the UK manufacturing sector

Sponsored by:

Dell Technologies

DAYNE TURBITT
Senior Vice President
Dell EMC Enterprise UK and Ireland

The start of 2018 is turning out to be notable for those of us passionate about British manufacturing. Two reports recently published couldn't be more different. One highlights how Industrial Digitalisation Technologies (IDTs) could add £455bn to the economy over the next decade; increase manufacturing growth between 1.5 and 3 percent per annum; create more than 175,000 new jobs and improve productivity by 25% by 2025. (*Made Smarter Review*, produced in response to the 2017 Industrial Strategy Green Paper).

However, the *Annual Manufacturing Report* (AMR) from *The Manufacturer,* supported by Dell Technologies, is cause for concern, with the UK Manufacturing sector lacking the necessary sense of urgency to make it happen. Fewer than 17% of companies said 'Yes' to "We need to get digital technologies so we can prosper. We are on it!" Another 37% conveyed that whilst they 'got it', they hesitate in pulling the trigger to invest in IDTs.

Professor Juergen Maier, the CEO of Siemens UK, issued a clarion call in the *Made Smarter* report, saying this is a "once-in-a-generation opportunity to boost productivity, create new and exciting businesses, generate new higher-paid, higher-skilled jobs, address regional economic disparities, and increase exports." This may not be easy, but necessity for action has never been greater.

The three game changers have been identified as: *Adoption* (we must promote and support IDTs on a national scale); *Innovation* (let's leverage UK's world class research and entrepreneurism) and *Leadership* (be bolder with projecting the UK globally as technological leaders).

The AMR surveyed UK manufacturers in 2017. Most companies show willingness to explore the digital landscape, but only 10% say they are completely confident that they have found the right solutions.

This tells us the crux of the problem has to be leadership, culture and determination in the face of the potential laid clear in the *Made Smarter Review*. We need more people in the boardrooms of British manufacturers who are focused on driving digital. They need an organizational culture diverse enough – that is diversity of age, gender and experience - to view the world as it can be, and one that will attract the talent needed to transform their businesses.

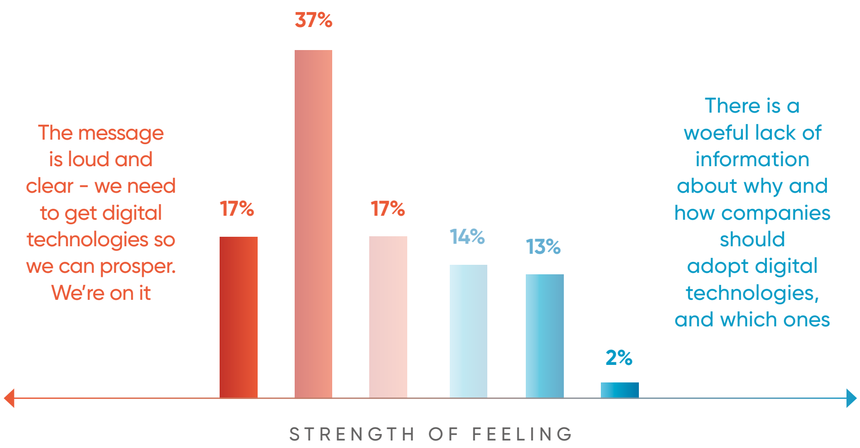
UK manufacturing's legacy is one of world-leading capability and in this Fourth Industrial Revolution we find ourselves in today, it needs to become its future too. At Dell Technologies we are looking forward to playing our role and are ready to help any company needing advice, ideas and partnership to make it happen.

> *At the end of last year, I visited the huge EMO European machine tool fair in Hanover, where the whole show was dominated by Industry 4.0. A couple of weeks later I visited PPMA/Interplas/TCT at the NEC and there was hardly a mention of Industry 4.0 at any of these. The impression I get is that Industry 4.0 is seen as being for the high end of industry – automotive and aerospace. This means that UK industry is missing the point. Yes, some of the benefits such as condition monitoring, CADCAM simulation, have been enjoyed by these industries for years but what was only cost-effective for them is now available to all because the IoT has radically cut costs while expanding the capability exponentially. But other industry sectors are cautious and slow to adopt.*
>
> – **DIRECTOR**, GLOBAL ENGINEERING COMPANY

It is tempting to view the survey results on this issue as encouraging, and in line with all the messages that have been broadcast over the last few years about the need for manufacturers to embrace industrial digitalisation. With increasingly loud warnings from industrialists like Juergen Maier that failure to adopt will condemn UK manufacturing to life in a perpetual slow lane, it would not be too far-fetched to suggest that there should be virtually nothing in the right side of any of these graphs where the question relates to adopting Industry 4.0 technologies, with all the positivity stacked to the left. And yet, there is clearly a degree of reserve in the answers.

It was, for instance, quite startling to see that the core message in Q1, that "we need to get digital technologies so we can prosper. We're on it!" had over twice as many respondents in the second column than in the first. This is not a totally ringing endorsement. Perhaps it is saying that while the case for adoption is known, there is still a lag in actually pulling the trigger on investing in them.

THE ADOPTION MESSAGE



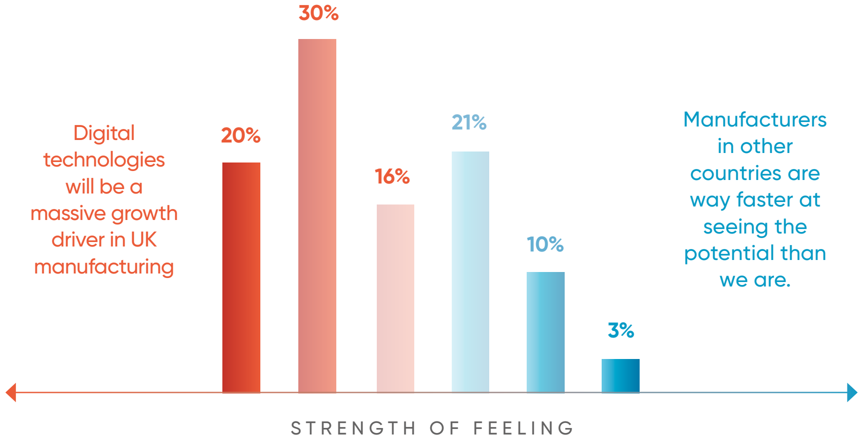
This relative caution is also evident in the next graph, which also betrays some doubt among manufacturers that the UK will forge ahead of the competition, basically because they believe other countries are quicker on the uptake when it comes to new technologies. For sure, the balance is still 2-1 in favour of the proposition that digital technologies hold the key to future UK manufacturing success, but exponents of the need for manufacturers to adopt new technologies as a matter or national urgency will be concerned to detect a level of lingering self-doubt among them. Note that the most positive response to the notion that digital technologies will be a massive growth driver in UK manufacturing attracted just close to 20% while the next response, indicating slightly less confidence, attracted over 30%.

66% Of manufacturers said digital technologies will be a massive growth driver in UK manufacturing

> *Manufacturers are now understanding how technology can unlock some of the long-term value embedded in their products through service offerings, performance monitoring and upgrades*

> *There's no question that industrial digitalisation has captured everyone's imagination, and we've all heard of exciting case studies, but examples of transformational benefits are scarce, and the spectrum of adoption varies dramatically. We seem to be a long way from actualising digitalisation's potential.*
>
> – **DIRECTOR,** MULTINATIONAL MANUFACTURING COMPANY

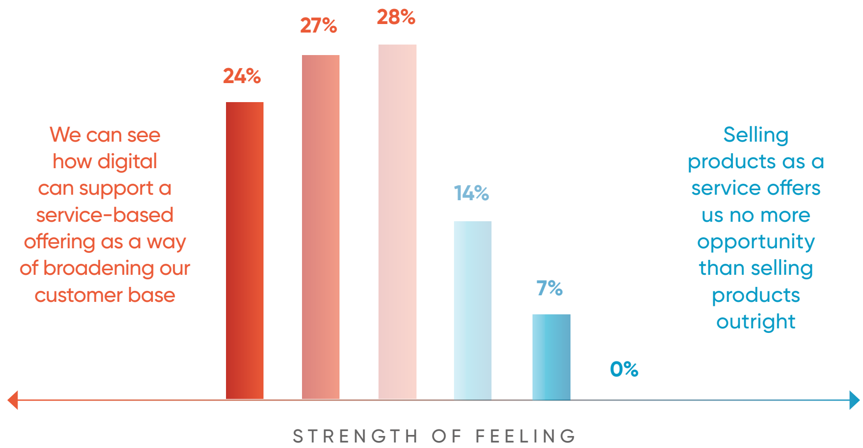
DIGITAL GROWTH DRIVERS



> *It is obvious that a very large majority of UK manufacturers are buying into the message*

There is arguably more to cheer in the view that digitalisation opens the door to new business opportunities under the heading of servitization. Just as software companies saw the opportunities presented by software as a service (SaaS) some time ago, manufacturers are now understanding how technology can unlock some of the long-term value embedded in their products through service offerings, performance monitoring and upgrades. Although looking at the way the respondents split, it is clear there is still some hedging out there.

SERVITISATION ENABLER



When it comes to what is actually happening now, (next graph overleaf) it is obvious that a very large majority of UK manufacturers are buying into the message, at 85-15. Having given respondents the opportunity to calibrate their positivity, however, the fact that again the reaction is less than 100% positive exposes some softness in the contention.

79% Of manufacturers said digital technologies will help broaden their customer base via service-based offering (servitization)

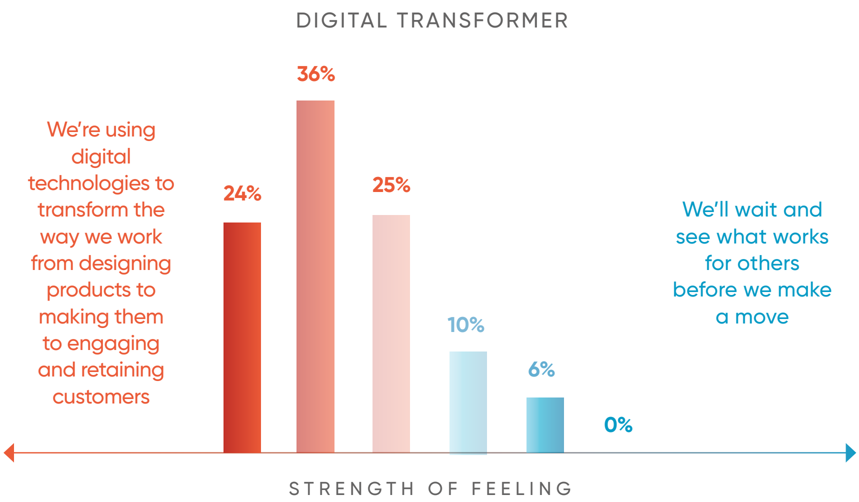
“

Investment of this nature is about economy of scale; we are an SME and we always analyse capital expenditure and work on the basis of payback rationale/prioritisation of business needs. I believe we are not quite at that level of investment just yet, as we have other capex projects that are spread around other functions within the business. (the cake can only be sliced and shared so many times!)

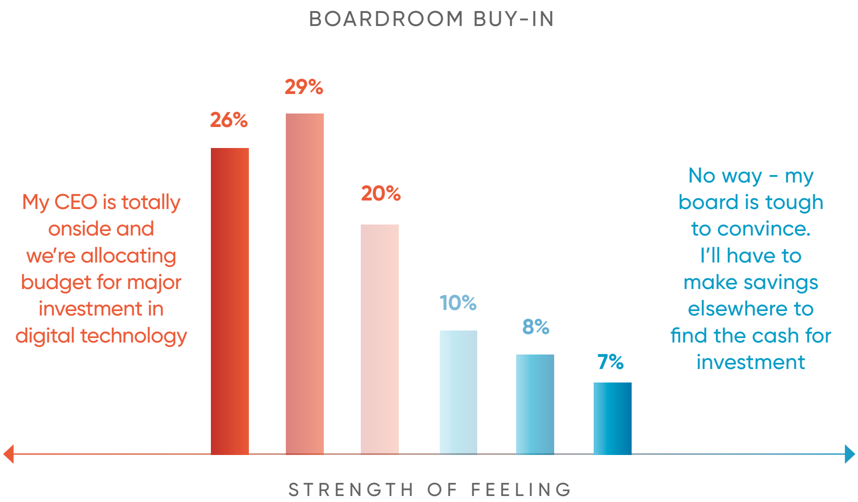
We employ people here who deliver a good level of performance using basic tools and methods, and I feel this is a good grounding from both a learning and understanding point of view before they are confident to move into a digital and technological next phase. So call me old fashioned, but ‘step by step’, in line with our business growth and development, creates a structured approach to continuous improvement.

I am sure the new technologies will improve our business going forward and we are about to start on that journey, but there are so many companies out there selling their wares, I must receive several cold emails a day from companies telling me their systems are the best!

– **DIRECTOR**,
SME MANUFACTURER

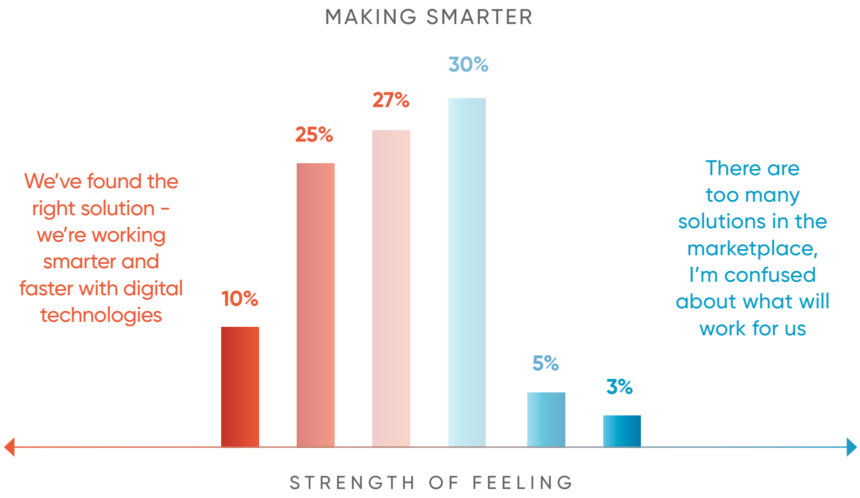


A similarly-shaped graph defines the boardroom buy-in question, with a soft majority breaking 75-25. The support of the board in larger companies or company owner/CEO in smaller ones is vital to investment, and any weakness in that indicates doubt about the nature of the ROI, whether it be absolute - as in doubt that new tech will actually live up to its promise - or conditional - as in the length of time it will take to see that return.



The most effective way to demonstrate positive ROI is through case studies and wider campaigns of information, as is clearly demonstrated in the next question where we gave respondents the opportunity to relate their positivity about digitalisation to their overall understanding of what is available in the marketplace, and here the previously soft-positive picture becomes altogether more troubling, with only 10% expressing complete confidence that they had found the right solution and a very heavy spread of uncertainty in the middle of the graph.

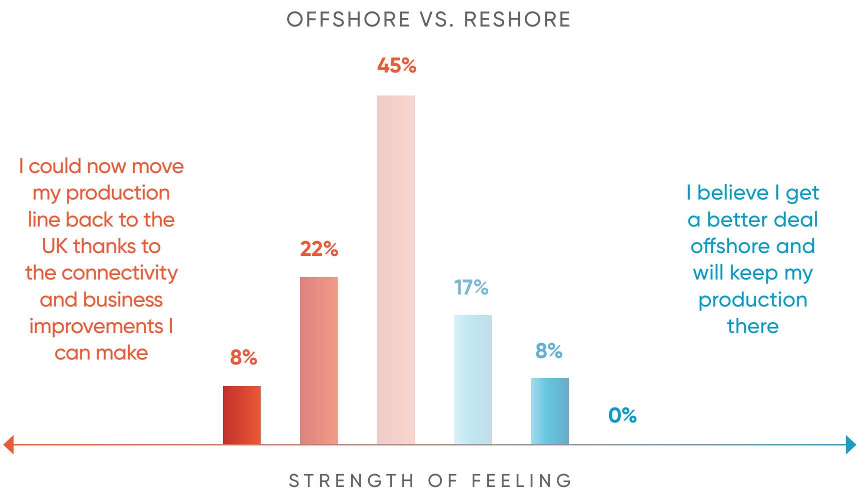
85% Of manufacturers said they are using digital technologies to transform their business, from design to customer engagement/retention



Does this reflect doubt about product choices or self-doubt about having made the right decision when there are so many solutions out there? In other words, is it perhaps down to the tyranny of choice?

38% Of manufacturers said they remain confused by the proliferation of solutions in the market

The final question in this section addressed the longer-term, strategic impacts of Industry 4.0 technologies, and placing it within the section dealing with industrial digitalisation/digital transformation is arguably too restrictive.



The core premise is that greater efficiency across sectors will tighten supply chains and make reshoring of production more possible. This becomes something of an imperative when it comes to the uncertainty about Brexit and what tariff structures might be in place in future. Clearly the response here is pure ambivalence - if there was a 'Don't know' option, we suspect that is what would have been chosen.

GOVERNMENT POLICY & INDUSTRIAL STRATEGY

The quest for an industrial strategy and the distraction that is Brexit

The Conservative government of Theresa May that came into being in the wake of the EU referendum in the summer of 2016 has been dominated by the results of that vote. Clearly, any examination of our sector's relationship with government must probe the way manufacturers view our post-EU future, and the way in which we get there.

There is a profoundly pragmatic streak in UK manufacturers, who tend to believe politics is best left to politicians, while leaving them to take care of their job. But Brexit, by any objective measure, will have a direct impact on the UK economy, and manufacturing in particular, through its effects on trade and exchange rates. Despite the importance of that, our survey suggests sentiment is broadly split on whether Brexit will have a positive or negative impact. Where sentiment does shift is in our respondents' faith in the process that gets us to the exit, and in the Leave promise that taking back control will result in a more positive business outlook. Scepticism abounds.

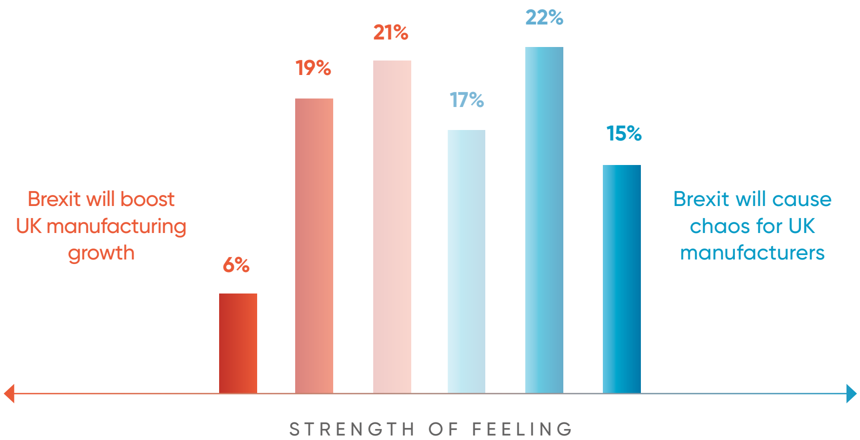
The Brexit vote took place just as manufacturers were coming to the realisation that new technologies were going to change the way they did business, which would require a new kind of compact with government that takes into account our responsibility as a nation to compete, and succeed, in the global digital marketplace. Government has so far stepped up to the mark. Its Green Paper of February 2016 and its response to the Industrial Digitalisation Review that developed from that, has shown a broadly supportive attitude to industry that has only rarely been seen in recent years. Respondents welcome that, but it is equally clear, as evidenced elsewhere in this report, that government needs to do more to streamline communications and accessibility to its support programmes.

Whatever happens, it does seem as if the nation's manufacturers have faith in themselves, and each other, to carry on regardless of whether Brexit is a total disaster or government support dries up. This positive attitude may run up against some harsh realities in the years to come, but manufacturers undeniably have a can-do attitude to the future which, if properly channelled, could mitigate whatever ill winds come our way. We particularly noted the attitude to collaboration, which is increasingly seen as a fundamental necessity in a world where increasing specialisation demands companies work together to pool their efforts for the greater good of the customer – and themselves.

> *I was one of the guys that went to meet The Department for International Trade before Christmas to say to them that they were doing an absolutely appalling job of protecting consumer confidence. The government have undoubtedly got a difficult job on their hands – and I don't envy them – but the thing I'm really critical of, and told ministers so, was that consumer confidence is being allowed to wane in a very significant way. The news headlines are nearly always unsettling. Although I think consumer confidence is being surprisingly robust, I think we are challenging people significantly by allowing the degree of uncertainty that is prevailing. I think that's very, very bad for the economy.*
>
> – **ROBERT PERKINS**
> HOTTER SHOES

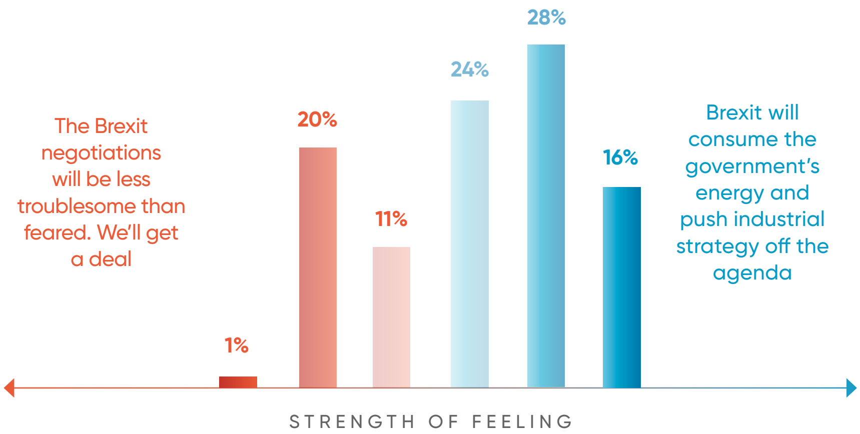
There is a tendency in the fevered heat of politics to assume that anyone at risk of being affected by a political development of the size of Brexit will be automatically doom-laden about surviving it. In fact, anecdotally, in conversations with manufacturers over the last 18 months, we have found them to be generally sanguine about it. Of course, they dislike anything that creates uncertainty, and in the past there has been little short of war to create uncertainty of the like we are experiencing now, yet almost all have said that 'Brexit is happening, let's get on with it and deal with whatever comes our way'. And that is reflected in our survey.

BREXIT OUTLOOK



We were as even-handed as possible, asking if respondents believed Brexit would boost UK manufacturing or cause chaos. As the graph demonstrates, they split 46-54, a surprisingly balanced response that is not hugely dissimilar from the Brexit vote itself. Of course, it is one thing to be sanguine about the end state, quite another to be so calm about the way in which we get there. There are really two issues in the next question: how capable is the government of negotiating a deal that works in our best interests, and to what extent will the bandwidth this takes impede their other work that is of direct interest to our sector, namely the new industrial strategy?

THE ROAD TO BREXIT



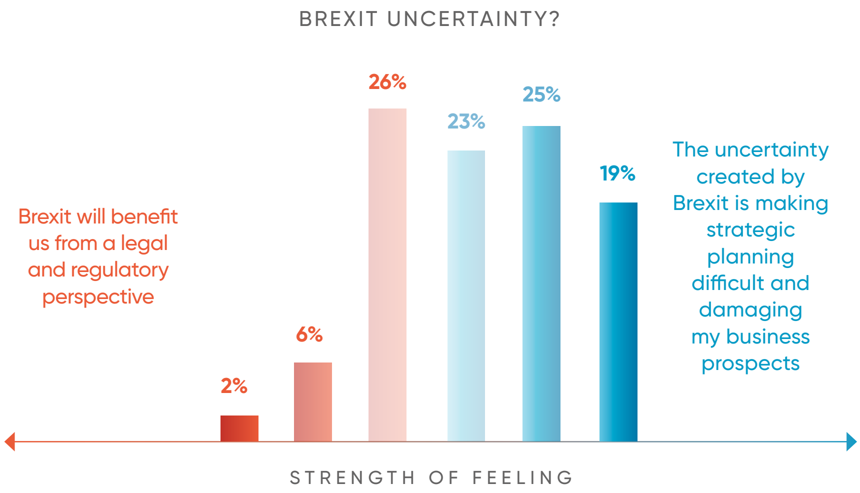
54% Of manufacturers said Brexit will cause chaos for manufacturers

> *Inevitably, some companies will press on regardless when it comes to investing in growth, because booming world markets offer opportunities, Brexit or no*

The response is quite clear: they believe the road to Brexit will be politically difficult and will likely push the industrial strategy, which potentially has a great deal of good in store for manufacturers, either down the agenda or off it completely, perhaps in the event of the government falling. A scant 1% thought the negotiations will go swimmingly and in all, only 32% thought the process will be less troublesome than feared.

The next question was along a similar vein, that the outcome of Brexit will be largely beneficial to manufacturers when it comes to regulation – part of the Leave offering was, after all, 'freedom from Brussels red tape', or will it add uncertainty upon existing uncertainty. Again, by 2-1, the more pessimistic view prevailed.

67% Of manufacturers said Brexit is making planning difficult and damaging business prospects



It is fair to suggest that this result is somewhat skewed by the fact that we cannot know yet what kind of control we will have over our own planning and regulation post-Brexit, while the uncertainties caused right now by not knowing are very real. Inevitably, some companies will press on regardless when it comes to investing in growth, because booming world markets offer opportunities, Brexit or no. Others will use the uncertainty to postpone decisions. It is impossible to tell if the same numbers would apply, even if Brexit wasn't on the table, because there will always be the adventurous and cautious alike.

That said, when we tried to plumb that particular issue with our next question, overleaf, we got the result anyone frankly could have predicted.

> *Our industry has continuously asked the UK government to provide a level playing field in terms of business rates and energy prices to allow us to compete on equal terms with our European competitors. Much has been promised but very little delivered.*
>
> *Regarding Brexit, as a company that is heavily reliant on UK construction, we are increasingly seeing the effects of the continuing uncertainty of the post-Brexit world. The impact of this has been the cancellation or postponement of some building projects until this uncertainty is removed or at least the fog has cleared a bit. This leads us towards a more pessimistic outlook for 2018/19, exacerbated by rising costs which cannot be offset by the exchange rate benefits of our sales into Europe.*
>
> – **DIRECTOR,** STEEL INDUSTRY

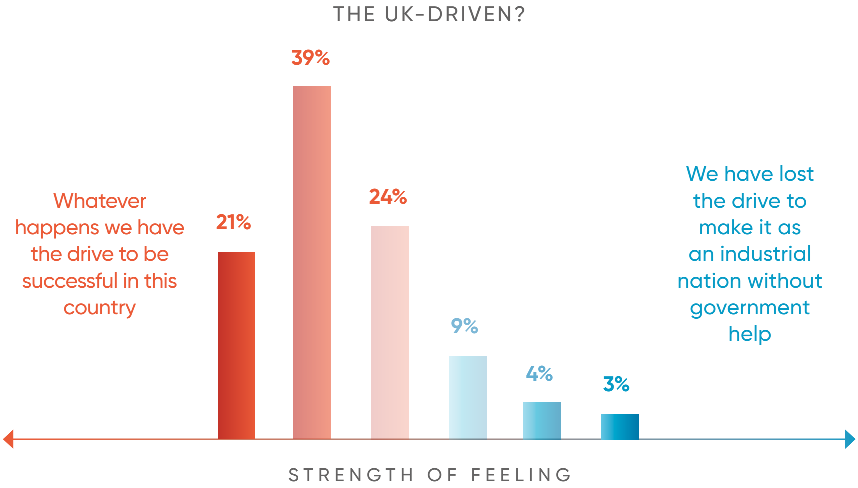
"

The EU has been very supportive of businesses but it has also had the negative effect of narrowing the field for manufacturers because it shares the workload across all regions. Take car production: engine parts manufactured in France, body panels in Germany, windows in Sweden/Finland, and all put together in UK. Shipbuilding at Govan on the new HM Queen Elizabeth 2 – only 30% of the steel in the vessel is made in the UK, the remainder imported from Sweden and Finland, as Tata Steel cannot compete with the cheaper mass produced steel from Europe and the Far East and so over the last 15-20 years it has had to modify production and look for niche or specialized markets.

Overall the headline production forecasts for the UK over the past ten to fifteen years have looked healthy, but once you dig a little deeper into the Tier 2 or Tier 3/4 companies you can see a slow and steady decline in actual manufacturing and supply chain capabilities, but it is not irreversible. There is enough positivity and room for expansion within the domestic market to take up the slack.

The UK has one of the most experienced and flexible manufacturing sectors in the world. We have a wealth of experience and desire to succeed which just needs confidence from our business leaders to promote ourselves globally once again. From reading the press, it would seem some businesses are more afraid losing a shrinking European market with potential mergers down the line, rather than look to expand into new markets with the associated risks. Yes we could mitigate the risk by staying in very close union with the EU, but this has the drawback of having to abide by all the EU directives, which may conflict with the national interest.

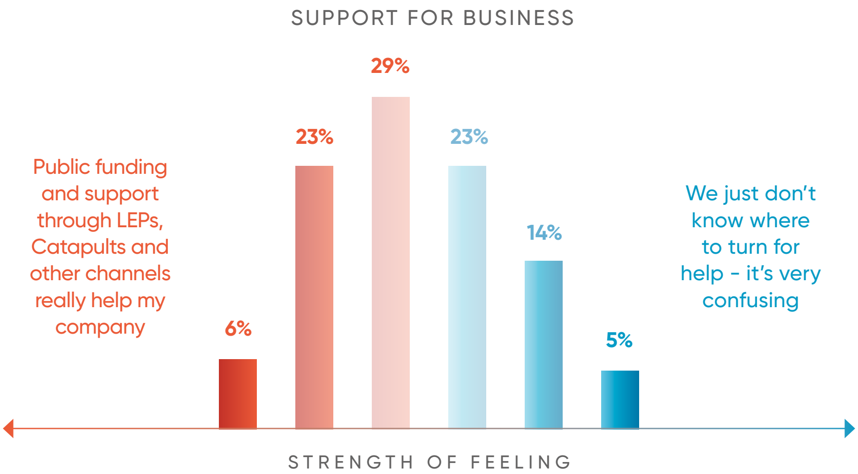
– **DIRECTOR,**
MANUFACTURING SERVICES COMPANY



It was something of a vote for the Dunkirk spirit and no one should be surprised that fewer than 20% of the respondents thought UK manufacturing is not up to the challenge of whatever the future holds without a large dollop of government help.

Which brings us to the issue of government support for industry. It has been a vexed question over the years, muddled by issues such as strict interpretations of the (EU) limits on state aid and by successive governments who seem to believe our future stands or falls on the success of the nation's financial services. No one doubts the importance of financial services, but manufacturers have a tendency, anecdotally at least, to believe manufacturing is regarded as being of secondary importance, 'something that happens in the Midlands and North West'. Whether that view is generally held or not, our respondents were quite generous towards the government support systems in place.

42% Of manufacturers find government support services for industry confusing



"I'm pleased the Government sees the necessity of an Industrial Strategy. They articulate the importance of manufacturing as a key sector of the economy, they recognise skills shortages and they recognise that we are not developing the talents needed.

However, there is no mention of aerospace as a key contributor to the manufacturing industry. Plenty of platitudes and promises but no firm commitment to doing anything of real substance within a defined timescale.

Brexit is taking up far too much government time, leaving very many important issues ignored – so why would the Industrial Strategy be any different?

There is just no proper recognition of how the conflict between Brexit issues and IS promises will be dealt with.

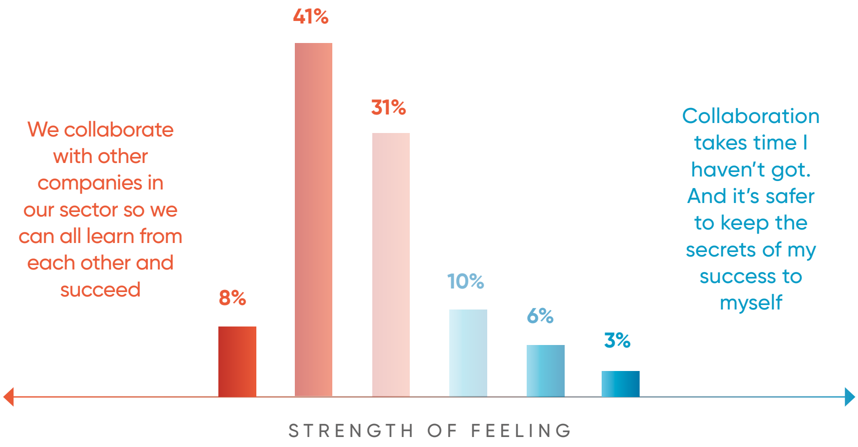
– **DENIS PARSONS**
MB AEROSPACE

84% Of manufacturers said that, whatever happens, we have the drive to succeed as an industrial nation

There are two issues at play when considering the responses here. Firstly, the HVM Catapult, set up as one of the Catapult Centres by the coalition government in 2011, has been a notable success story, its constituent parts offering a valuable interface between high-level academic research and nuts and bolts business. Beyond the HVM Catapult, however, the support scene is less clear. The Local Economic Partnerships (LEPs), established by the coalition to replace the regional development agencies, are patchy. Some are regarded as excellent by manufacturers, others are regarded as ineffectual. And the coalition killed off the well-regarded Manufacturing Advisory Service. There is also a tendency in the UK, as identified in the *Made Smarter* report from the Industrial Digitalisation Review, to mistake the amount of support on offer for effectiveness. There is a multiplicity of associations, organisations and quangos competing for government cash in this, as in other fields, and their effect is consequently diluted. *Made Smarter* calls for a rationalisation of resources and much greater focus, so that manufacturers know where to go for help, and our respondents agree. Many of them believe there is just too much information out there, which means they don't know where to turn for straightforward, reliable advice.

For the final question, we turned to an issue that is assuming increasing importance as manufacturing becomes more specialised, and as 4IR technologies open up the potential for far greater, and faster, communications. It is that of collaboration, of companies working together in consortia of convenience to achieve scale and efficiency in the service of their customers. We were very gratified to see a significant majority favouring this over the 'I'm All Right (on my own), Jack' attitude that used to be a hallmark of so much of UK manufacturing.

WORKING WITH OTHERS



The fact is that smaller companies can achieve a great deal more, in terms of landing bigger contracts, if they work together as partners rather than competitors. Through secure permission management protocols, Industry 4.0 technologies allow unprecedented opportunities to share data and information with collaborators, without jeopardising closely held proprietary information. This can only enhance this growing move towards co-working among manufacturers as a way of winning bigger and better deals - and securing the sector against whatever the post-Brexit world may throw at us.

GROWTH & EXPORTS

UK manufacturing on the global stage...opportunity, and risks, beckon

Manufacturers who want to succeed in the coming years, years made all the more uncertain by Brexit and its consequences, need to have growth strategies that involve getting more efficiency out of their processes and finding more customers to sell to, thereby increasing their output. By all accounts this is easier said than done, because if it was easy, the UK would not be lagging so badly when it comes to growth. In 2017, the global economy demonstrated it had shrugged off the torpor of the Great Recession and grew. Economies - and companies - who were geared to respond made hay. But in general, the UK was poorly placed to take advantage. We had simply failed to grow out of the recession with the same verve as other economies.

This section focuses on growth, profitability and exports. We asked our survey respondents about the latter because a strong export plan is not only an important guide to a manufacturer's ambition, it is also a vital part of our nation's future. Let us not forget that the manufacturing sector, credited with contributing just 10% to the nation's GDP, happens to contribute 44% of the UK's exports. We are already good at this.

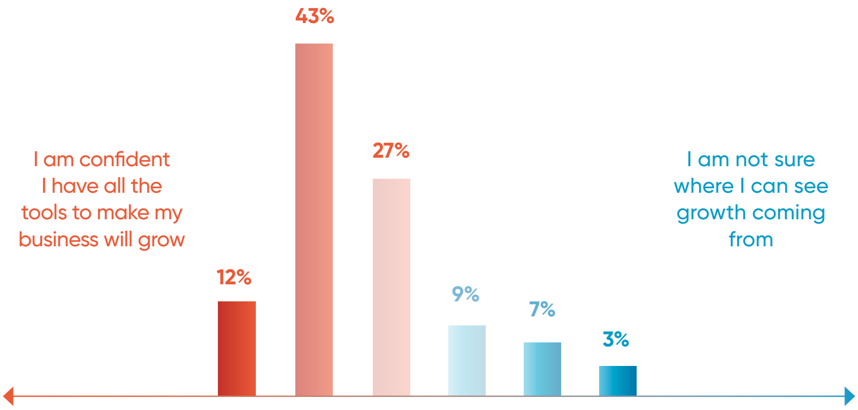
In this section, you will see that manufacturers feel confident about their ability to grow, in many cases through exports, but there are nagging issues around profitability. Growth can produce greater profits, but companies need to be making consistent profits to be able to invest in growth. It is a chicken/egg situation that many in business will be familiar with. It is no coincidence that many of the companies who will succeed in growing profits and exports will be the same ones who invest in the digital technologies that spur productivity and innovation, as outlined elsewhere in this report.

The spotlight has been on exports since 2016 because of the post-EU referendum drop in the value of sterling against the dollar and euro. If that provided the spur for more companies to look for markets overseas, that is good news. Now that the pound has reverted to somewhere close to pre-referendum levels, for now at least, we trust that manufacturers will nonetheless continue to strive for new customers overseas. The government does have a comprehensive export advice service, and while respondents had some reservations about its effectiveness, it is vital that manufacturers engage with it, and any other source of advice on offer, to make the most of the opportunity to export, to grow and to become more profitable.

> *There is more uncertainty in markets and the global economy than at any time in recent memory, and as a manufacturing business that has been around for 150 years and in current ownership for over 80 years, there is some perspective here. However, I would say that for ourselves, investing in modern infrastructure and information systems, engineering apprentices and well-directed sales and marketing, the future is bright. This is something I also see around the country in customers and suppliers – there are a lot of forward thinking, dynamic and progressive manufacturing companies around, and I have full confidence that UK manufacturing has a bright future.*
>
> – **ADAM HOOPER,** OPERATIONS DIRECTOR AT MARTINS RUBBER CO LTD.

We began this part of the survey by testing manufacturers' confidence about the future, particularly in overseas markets. The first graph suggests a sense of self-confidence. We asked if manufacturers felt they have what it takes to grow, and by a large margin they said they did.

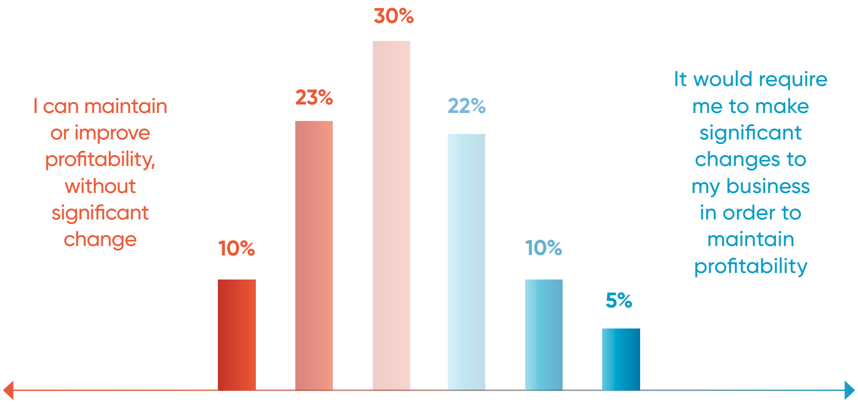
GROWTH PROSPECTS



Fewer than 20% said they had no idea where growth is coming from. One couldn't expect that figure realistically to be much lower; not every company has a tiger in its tank. But even so, it is concerning that a small minority do feel this way about the future.

The next question was also designed to tease out how satisfied manufacturers are with their lot. This graph is about profitability, and the degree to which change needs to be made to pursue more of it.

STEADY AS SHE GOES...?



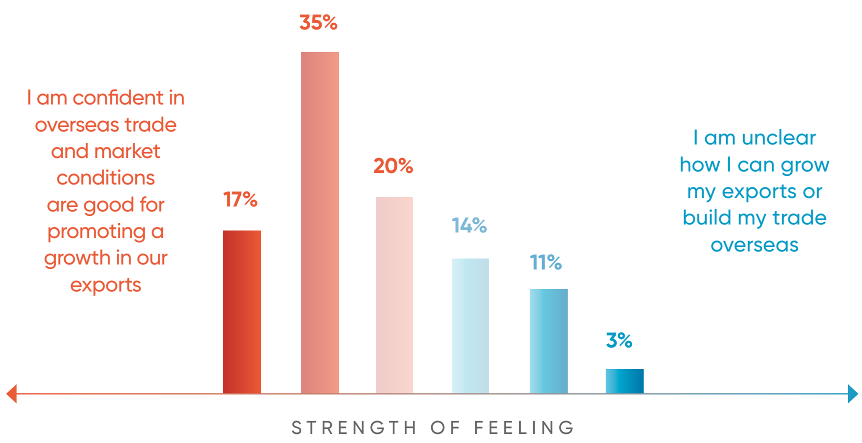
72% Of manufacturers have confidence in overseas trade, and conditions are good for growth

> *We make about 50% of all shoes manufactured in the UK, here in Skelmersdale. There aren't any shoe businesses in the UK left comparable to us in size. Exports account for about 15%, but we're hoping that will hit 20% shortly.*
>
> *We're worried about the rising cost of imported raw materials, outweighing the benefits that we got from the increased value of our exports. It's been a tremendous pressure on us since the Brexit vote, obviously sterling devalued by about 15%. That has meant in the short term the cost of raw materials such leathers and polyurethane from around the world has very suddenly jumped up, whereas the export opportunity that the lower sterling rate afforded us is a much longer-term opportunity.*
>
> *You can't easily build international business overnight, although I'm confident we'll exploit that opportunity well, but there is a big gap between the cost of rising imported materials hitting you today, and the prospect of higher international sales tomorrow.*
>
> – **ROBERT PERKINS**
> HOTTER SHOES

While the trend is still confident, it is less so than it was around growth. Over 60% say they are on course to maintain or improve profitability without significant change, but this time close to 40% are beginning to wonder where profits will come from. That is a disconcerting figure and goes some way to explaining some of the sluggishness in growth the UK is experiencing. If nearly 40% of UK manufacturers are wondering where future profits are going to come form, then where is the cash for future investment and training going to come from?

Clearly, a significant number of companies believe growth and profits will come from exports.

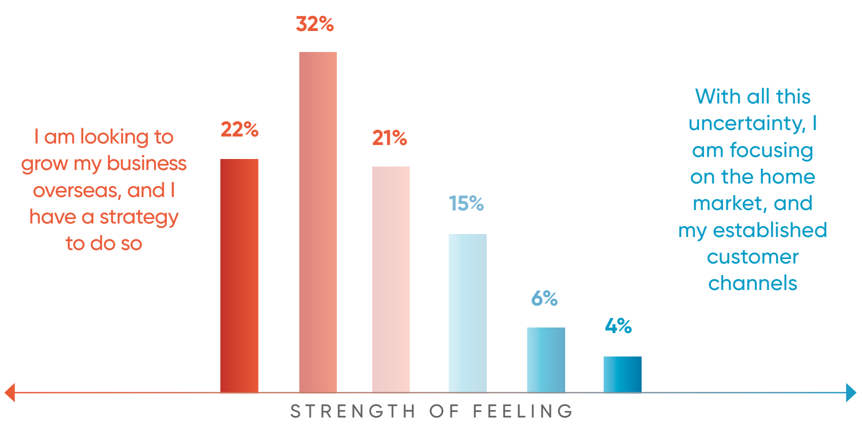
EXPORT GROWTH



Over 70% believe that conditions are right for improving exporting, which is hardly surprising given the rise in global economic activity in 2017. But again, the fact that close to 30% of manufacturers appear to have no idea how to get involved in exporting or building their trade outside the UK gives cause for concern.

The question, though, is this: should every manufacturer be expected to export? Exporting is held as the Holy Grail saviour of the UK economy, and no one is doubting its importance, so are those manufacturers who don't really know how to export really saying that it is not actually that important to them? The next graph suggests, with startling similarity to the previous one, that this is the case.

WIDER HORIZONS



There is indeed a very strong correlation between the two. Close to 30% say that rather than seek new markets overseas, they prefer to focus on their home market and established customer channels.

"

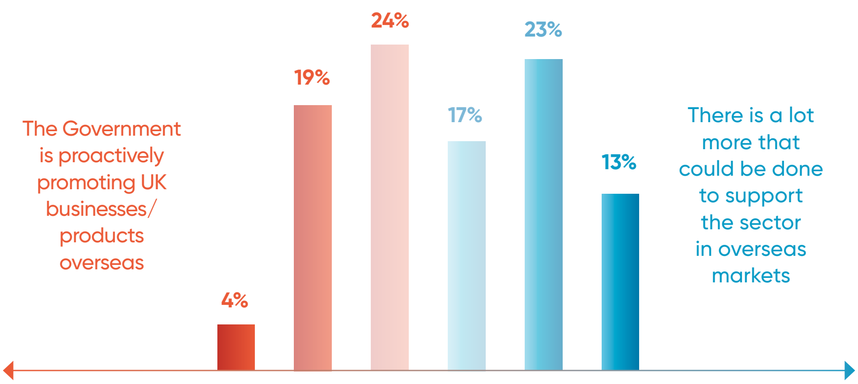
Business leaders need to stop looking at the pavement and look at the horizon instead. We should be looking at the huge market potential that exists outside the EU, utilise the Chambers of Commerce, the DIT, the LEP's and catapults. These are a great way of finding new opportunities and a way of getting a glimpse of where the UK Government is suggesting there is a weakness in the International market which we (the U.K) can leverage. The UK Space Catapult is a great example of huge investment money pouring in but unless you have an interest in Space Research you would not be aware of it.

– **DIRECTOR**
GLOBAL MANUFACTURING SERVICES COMPANY

75% Of manufacturers say they have an export-based growth strategy

Of course, in an ideal world, every manufacturer would find growth in export markets as well as at home and we would encourage all to explore how to achieve both; sound planning demands nothing less. So where does a manufacturer go to get advice on how to export? Some banks, particularly those with a large overseas presence, operate their own support divisions for customers who want to explore exporting, but otherwise the main resource to turn to is operated by the government in the form of the Department for International Trade (formerly UKTI). With representatives in embassies and consulates all over the world, to what extent are they an effective vanguard for UK exporters? Their web site www.great.gov.uk offers a very comprehensive array of services, from research to compliance to how to get paid. How is the service rated by manufacturers?

GOVERNMENT SUPPORT FOR EXPORTS



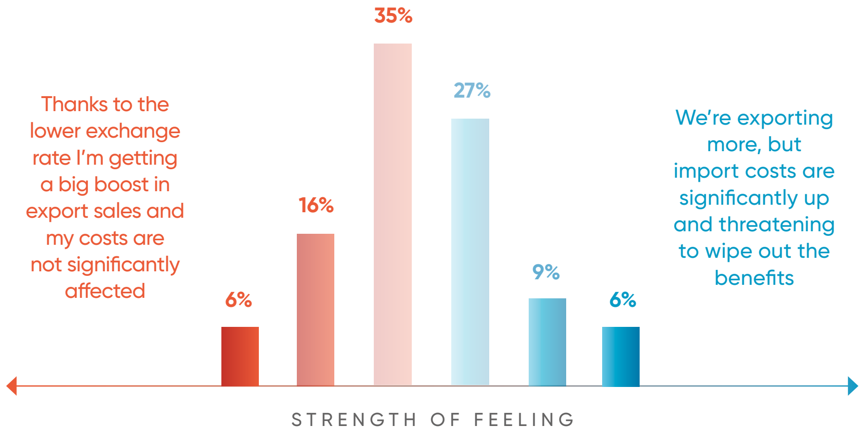
On the face of it, it is not hugely well-regarded, but we should caution that our survey did not discriminate between large companies who will take care of their own exporting arrangements and smaller companies who may have tried and failed, and decided to blame the government for it. Or indeed, given there is a temptation for businesses to blame the government for anything that goes wrong, maybe the DTI simply can't buy a break. For the record, though, there was a general sense that more could be done to support manufacturers wishing to export, with slightly fewer than 50% of our respondents giving a positive response. That only 3.54% gave total support might encourage the DIT to do more to reach out to manufacturers, particularly small first timers.

Of course, the plunge in the value of the pound after Brexit brought exporting into sharp focus and, as expected, volumes began to pick up. So how did manufacturers respond?

"

The weaker pound was very much a double-edged sword. Yes, exports were boosted, but also yes, import costs of raw materials rose too, and as one of our commenters states, increased import costs are felt a lot sooner than the benefits of extra sales

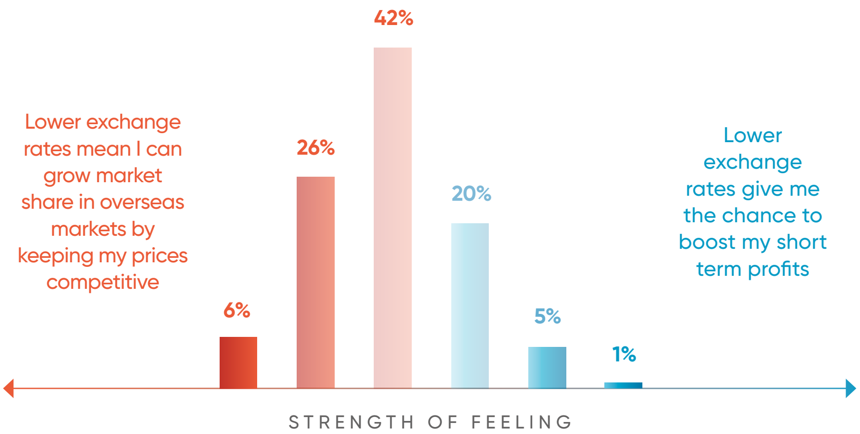
WEAKER STERLING



We should say that at the time of inviting responses to this survey, the pound was in the low $1.30s, whereas at the time of writing this in January 2018 it had rebounded above $1.40, so the low-pound export dividend was still being felt (as was the import cost penalty). The shape of this graph demonstrates the weaker pound was very much a double-edged sword. Yes, exports were boosted, but also yes, import costs of raw materials rose too, and as one of our commenters states, the increased import costs are felt a lot sooner than the benefits of extra sales.

The final graph was designed to discover the motivations in exporters minds. The UK has always been a trading nation that seems to prefer to make quick trades and move on, rather than build long-term customer loyalty. It is the market-trader philosophy writ large. (This is a somewhat cynical generalisation.) We therefore wondered if those exporters who took the boost from the low pound were banking swift profits, or using the opportunities to build market share.

MARGIN OR GROWTH?



While some 26% did admit they were cashing in on the low pound for short term profits, a clear majority said they were used the low pound to grow market share by keeping prices competitive. That said, it was a less then committed majority. With the global economy seemingly on a roll, perhaps a more determined effort would be paying greater dividends now that the pound has (for now) rebounded. The fact that there is such volatility in exchange rates offers little comfort, and just adds to the uncertainty that has been a key theme of this report.

89% Said they have used lower exchange rates to boost overseas market share rather than go for short term profits

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