

SPECIAL REPORT:

THE STATE OF MANUFACTURING 2023



THE ENGINEER

E ESSENTRA
COMPONENTS



INTRODUCTION - A MOMENT IN TIME

Scott Fawcett – Chief Executive Officer, Essentra PLC

Manufacturing continues to be a sector of keen focus within Government and the media, who see our performance as a wider barometer of economic wellbeing. The same is true across Germany and the Netherlands. So how are we faring? What impact have recent challenges had on the performance of UK and European manufacturing sites? What impact has it had on our industry's people, their careers, their businesses and the global environment?

It is to answer these questions and more that we commissioned this State of Manufacturing survey to better understand the current field of play. It is a signal of our commitment to our own people, and our peers, and as a leader, to dig beneath the surface and find out what is really going on behind the numbers, to help inform future decision making.

The data you will read in this report is, at times, surprising. But it is also reassuring to see so many positives within a sector that despite the challenges of COVID-19, appears to be bouncing back with production volumes and financial revenues recovering to pre-pandemic levels. It is encouraging to read of the investment many are making in technology and innovation, and in addressing the challenges of a disrupted supply chain. It is similarly pleasing to see the focus on staff, and that mental as well as physical health is fast making its way to the top of the boardroom agenda.

Despite all the challenges of the last 12 months, businesses across Europe are also continuing to focus on sustainability, making our industry and our planet fit for future generations. It's something we can be proud of, both professionally and personally. None of us, however, can afford to be complacent. Neither can we ignore the challenges ahead, but neither should we ever doubt the resilience of the manufacturing industry, and its ability to surprise.

There are undoubtedly more challenges ahead to be managed, but there are even greater opportunities for those with the agility and appetite to move with the times.



Scott Fawcett
Chief Executive Officer
Essentra PLC

INDUSTRY MATTERS

Essentra Components' 2023 The State of Manufacturing survey - carried out by The Engineer magazine – explores how a rapidly changing, increasingly uncertain world is impacting the concerns, policies and investment decisions of organisations from across the engineering and manufacturing spectrum.

At a time of rapid technological change and geopolitical uncertainty, manufacturing and engineering organisations are faced with a host of challenging obstacles, and opportunities.

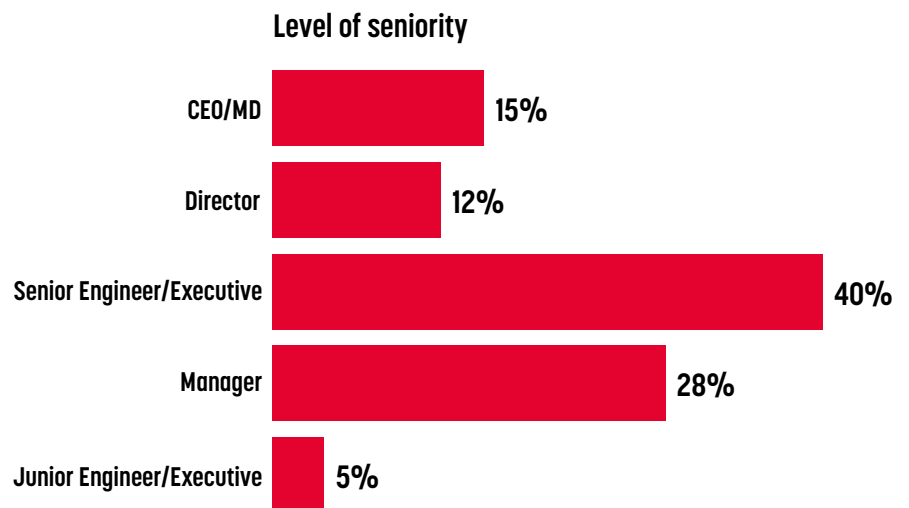
Essentra Components, the leading global manufacturer and distributor of industrial components, joined forces with The Engineer magazine to ask what are the biggest concerns the industry faces.

The report reveals engineers' views on among other things: the aftermath of COVID-19, striving for net-zero, the ongoing skills shortage and a market which is increasingly competitive.

DEMOGRAPHICS

In 2022 from July through September, 446 individuals from the UK, 100 from the Netherlands and 100 from Germany across various industry sectors were surveyed. The UK findings were analysed separately and are presented here. European views are presented later in the report (***A view from Europe, Pages 20 – 24***).

Engineers from companies of varying sizes took part in the survey. Almost half the companies involved employ fewer than 500 people. Organisations employing between 10 and 499 people formed the single largest cohort at 37 per cent overall, but this proportion varied from sector to sector. For example, 75 per cent of companies in manufacturing were of this size. The remaining half of the engineers surveyed worked for companies employing between 500 and 10,000 people or more.



Overall the survey provided a good representation of business by size and sector.

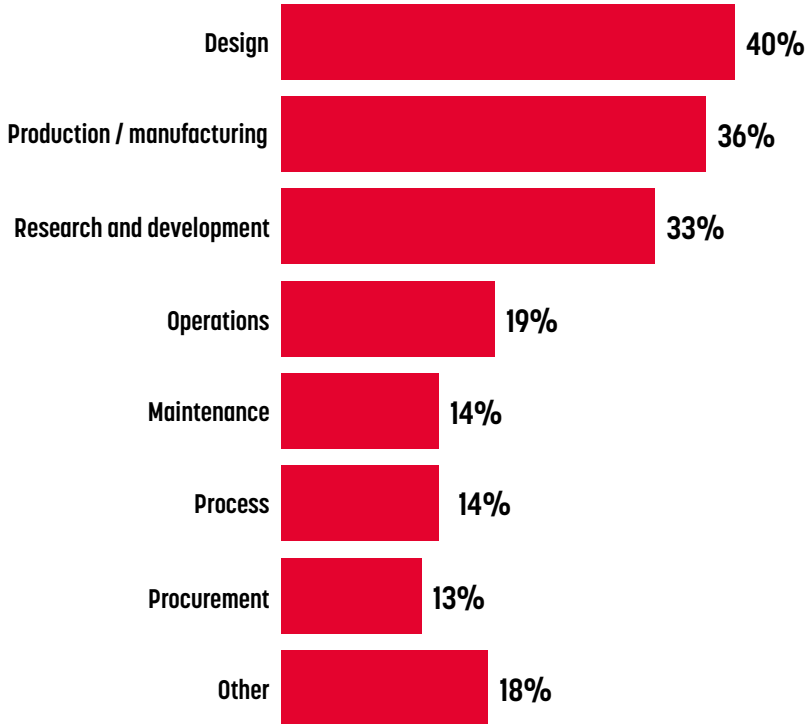
Many respondents selected multiple disciplines when describing their roles, reflecting the degree to which the lines between once distinct disciplines are becoming increasingly blurred. Whilst design, production and R&D account for the highest share of the overall response, engineers working in other areas (such as operations and maintenance) are also well represented. In general, this spread of disciplines is echoed across the individual sectors with some predictable variations. For instance, manufacturing boasts a high proportion of respondents working within production (54 per cent) whilst the electronics sector respondents included a higher proportion of design professionals (52 per cent).

Over the following pages we explore the responses of this diverse group of industry professionals to a series of questions relating to the challenges their businesses are facing, the steps they are taking to address these challenges and also their own personal thoughts on their careers and industry in general.

The key findings shine a compelling light on the preoccupations, concerns and hopes of engineers across industry and how the companies they work for are addressing the defining trends and challenges of the 2020s.



Discipline



Attitudes to industry

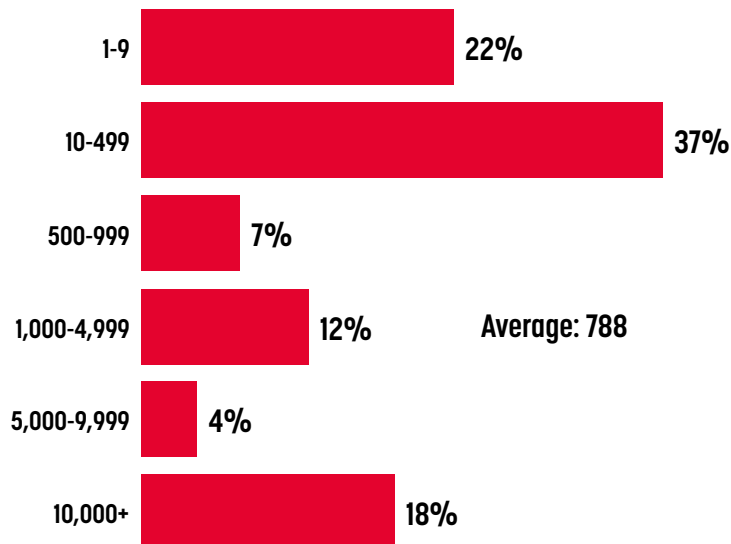
As a scene setter, respondents were asked about their general attitude towards the future of the manufacturing sector. Are they feeling optimistic or even very optimistic? Are they concerned or worried about the future? Or are they uncertain?

It's perhaps no surprise, given the generally bullish nature of manufacturing and engineering businesses, that optimism wins out.

53 per cent of respondents report feeling positive or very optimistic about the future, whilst just 15 per cent are actively concerned. Notably however, 32 per cent of respondents report feelings of uncertainty about the future.

Unsurprisingly, given the urgency around the move away from fossil fuels, engineers working in oil & gas appear to be most concerned about the future, with 34 per cent of respondents feeling concerned or pessimistic.

Size of respondent organisation



53%

of engineers feeling positive about the future of manufacturing

INDUSTRY MATTERS

OPINION

ESSENTRA COMPONENTS

There is a general sense of optimism in recent Purchasing Manager Indices, and reflected in this report. That's not to say that there aren't undoubtedly some short-term challenges regarding the macro-economic situation and the ongoing cost-of-living crisis. But with inflation hopefully starting to turn, a greater sense of optimism and bullishness will return.

The fundamentals are very good: we have strong engineering capabilities and good education systems, and there is a polarisation of the world to some extent, which means supply chains are becoming shorter, and there is an evident re-shoring of manufacturing from East to West. These are reasons to be bullish, notwithstanding the short-term challenges that we face.

On the point of sustainability, there is a necessity for business leaders to play their part in addressing climate change. It is our duty as a generation to ensure we are improving the situation from the one we inherited. We certainly take our ESG agenda very seriously; we are accelerating our use of recycled content and have signed up to the Science Based Targets Initiative. This is not about greenwashing. It's about recognising that sustainability does not have to be at the expense of profitability. Indeed, the opposite is true. Sustainability is much more of an opportunity than a threat.

We operate in a very fragmented market and are a comparatively large company within that market. Our ability, therefore, to understand our carbon footprint and share that with customers so they can understand their own carbon footprint is a serious competitive advantage as we are helping them achieve their own sustainability goals. Sustainability makes sound business and financial sense.

The challenges with regard to energy price increases, talent shortages, and supply chain issues are well known and being addressed. The biggest issue remains the geo-political uncertainty: the UK/EU trading relationship is still unclear; China/US relations are a challenge; and the Ukraine/Russia crisis shows no sign of being resolved any time soon. To each of these situations, all we can do is react, and ensure we have the best balance of global supply chain and continuity planning to bring manufacturing and distribution as close to the customer as we can. The very benign days of the last 10 years are behind us.

Essentra has recently published its plans to double revenues and triple profits over the mid term. It's a realistic plan within our gift to deliver, given the breadth of markets we serve and products we manufacture. It means we are excited about the future despite the short-term pains highlighted in this report.



Scott Fawcett
Chief Executive Officer
Essentra PLC



THE IMPACT OF THE PANDEMIC

Respondents reflected on how their businesses were affected by the pandemic and how they have recovered from the challenges it presented.

The darkest days of the COVID-19 pandemic seem like a distant memory for many, and most of the extreme difficulties encountered by businesses during the successive lockdowns of 2020 and 2021 are - for now at least - in the rear-view mirror.

Nevertheless, the impact of the virus exerted a heavy toll across the manufacturing and engineering sectors. Some businesses have been permanently damaged by the events of the past two years, with UK Government data showing manufacturing insolvencies in 2021 increased 28 per cent. However, many are still in recovery mode; and a fundamentally altered 'working world', in which hybrid and remote working arrangements are now an expectation, is creating challenges for employers.

To more fully understand the impact of these factors we asked respondents a number of questions relating to how the pandemic had affected their businesses and their own careers.

REVENUES AND PRODUCTION

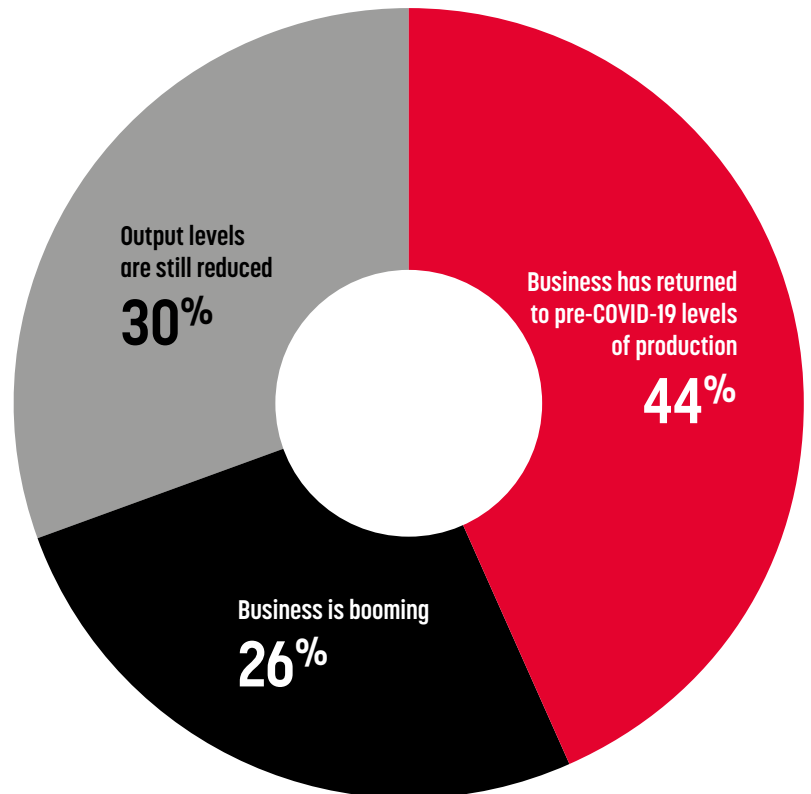
Asked to consider the initial impact of the pandemic on their businesses, unsurprisingly 45 per cent of the response group say that revenue dropped during the pandemic.

Whilst for some this decline was relatively modest (for instance, unsurprisingly 5 per cent saw a decrease of 1 - 5 per cent) for others it was more striking. Indeed, 22 per cent of the total sample group saw revenue declines of between 21 and 60 per cent.

Meanwhile, for 35 per cent of respondents the pandemic appeared to have little - or even a beneficial - impact. A quarter of the response group saw revenues remain stable, whilst 11 per cent actually saw an increase.

There are, of course, variations from sector to sector. The steepest declines were seen by respondents working in the manufacturing, aerospace and automotive sectors. In all three sectors, a large proportion of the response group points to a revenue decline of more than 21 per cent. Indeed, in the worst affected sector, aerospace, 24 per cent of the response group say that revenues declined by between 41 and 60 per cent.

Has production returned to pre-pandemic levels?



MEASURING THE RECOVERY

Asked how they have recovered from these challenges, the respondents are reasonably upbeat, 44 per cent tell us that production has returned to pre-COVID-19 levels, whilst 26 per cent say that business is booming.

However, for 30 per cent, output levels are still reduced. Across the entire sample group, just under half (46 per cent) believe that their sector is still to return to pre-COVID-19 levels of business.

Again, the scale of this rebound varies across different slices of the response group.

45% saw revenue drop during the pandemic
45% have seen a decline in employee numbers
70% are back to or above pre-COVID-19 levels of production

For instance, whilst respondents from the manufacturing, aerospace, electronics and energy sectors all point to a substantial recovery (with 72, 59, and 71 per cent respectively flagging a return to pre-COVID-19 levels of production), other sectors have seen a more muted recovery, and some continue to see a marked reduction in output levels. The worst performing sector in this regard appears to be automotive, where 60 per cent of respondents say output is still reduced. It is worth noting that respondents from those working in automotive were not segmented by Electric Vehicle (EV) or Internal Combustion Engine (ICE) manufacturing.

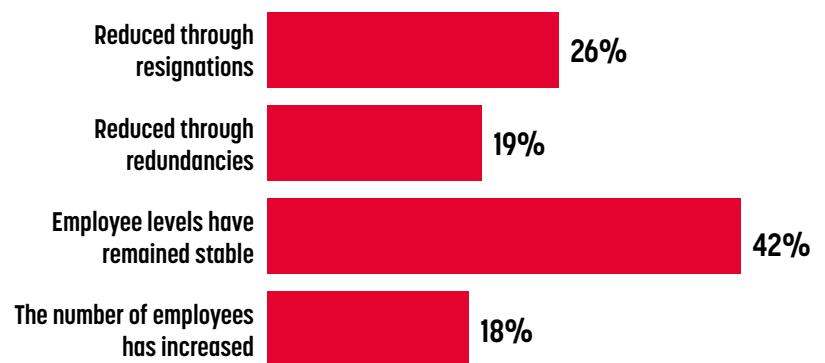
Alongside revenues and production levels, more than half of respondents (54 per cent) say that they are facing additional pandemic-related challenges.

Respondents also freely described a range of challenges they faced, but by far the most commonly cited problems are **access to skills** and **supply chain challenges**, with a number of respondents reporting particular difficulty sourcing products from China. A relatively large number of respondents also identify a move to **hybrid/remote working** as a particular problem for their organisation.

Finally, the pandemic also appears to have had a marked impact across the board on **employee numbers**.

Whilst just 18 per cent of respondents tell us that employee levels have increased in recent months, 45 per cent have seen their businesses reduce in size since the pandemic began, in comparison to before March 2020. The highest levels of attrition are found in the aerospace and oil & gas sectors, where 82 per cent of respondents from both sectors point to a reduction in employee numbers. The greatest levels of stability in this regard appear to be found in the manufacturing sector where more than half of respondents say that employee levels have remained stable.

How have employee numbers changed since COVID-19?



Multiple answer question

COVID-19 and careers

In common with other sectors of the economy, the pandemic also had an alarming effect on career progression for many engineers, with 30 percent of respondents believing that their career progression was affected. Of this group, more than half (57 per cent) claim that the situation is continuing to affect their careers. Once again, the worst performer in this regard is the aerospace sector where 56 per cent of respondents feel their career was adversely impacted. Notably, a large chunk of this sample (68 per cent) believe that their career progression is still being hampered by the fall-out of the pandemic. However, with the exception of academia – which also sees high levels of COVID-19-induced career stagnation (53 per cent of respondents) – most other sectors perform considerably better. In automotive, for instance, 76 per cent of respondents dispute the notion that their careers were adversely affected by the virus. Similarly, 77 per cent of those from the largest sector sample group – manufacturing – don't believe that their prospects were dented.



SKILLS AND CAREERS

Survey participants commented on some of the key challenges of the current engineering recruitment climate.

With competition for engineering skills widely considered one of the biggest challenges facing all sectors of industry, we asked respondents actively involved in recruiting (40 per cent of the total group) to comment on the current recruitment climate and expand on some of the challenges they face.

Reflecting concerns that are widely voiced across UK industry, 77 per cent of the response group report problems recruiting and filling vacancies.

Whilst few sectors are finding it easy to recruit the engineers they require, there does appear to be some variation across the verticals. For instance, whilst more than 90 per cent of respondents from automotive, oil & gas and aerospace sectors say they are struggling to recruit, this figure falls to 58 per cent for the energy sector, and 38 per cent for consumer goods. This apparent contradiction to the claim of resilience in manufacturing is explained by the finding that over 84 per cent of companies employing 10 to 499 people (where most manufacturing organisations sit) have problems filling vacancies.

The findings also suggest that recruitment difficulties vary according to company size. Unsurprisingly, given that larger businesses will naturally have a higher number of vacancies to fill due to the company size, 97 per cent of respondents from the largest companies (employing 5,000 plus) report challenges filling vacancies, whilst just over half of respondents from the smallest companies represented (1-9 employees) report similar problems.

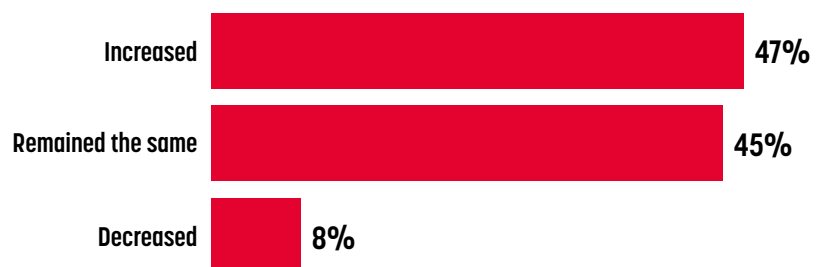
THE NATURE OF THE SKILLS CHALLENGE

Even more worryingly, a similar proportion of the overall response group (74 per cent) say that the applicants they are receiving frequently lack the necessary skills and qualifications. This appears to be a problem across industry with more than 60 per cent of respondents across all vertical sectors and companies of all sizes citing this as a major area of concern. Notably, in manufacturing, the most statistically robust slice of the recruiter dataset, 74 per cent of respondents flag this as an issue.

As others have noted, engineering's skills challenge is heightened by the fact that many more experienced and older engineers are retiring or leaving industry altogether, and 32 per cent of respondents to this survey tell us they have indeed noticed a growth in resignations at a senior level. Interestingly, this phenomenon appears to resonate most with respondents at Senior Engineer level, 45 per cent of whom have noted a growth in senior resignations.

Respondents higher up the chain of command appear to regard it as less of an issue with, for instance, just 17 per cent of those at Director or MD level noting a growth in the number of senior resignations. There are a number of potential reasons for this discrepancy but given that senior resignations appear to be a problem across all sectors and company sizes, one explanation could be that C-suite level engineers have been prioritising service recovery and business continuity, whilst People Directors and Human Resources teams have prioritised employee numbers and wellbeing.

Have salaries changed since the pandemic began?



77% have problems filling vacancies
74% say applicants lack necessary skills
63% have a hybrid working programme in place

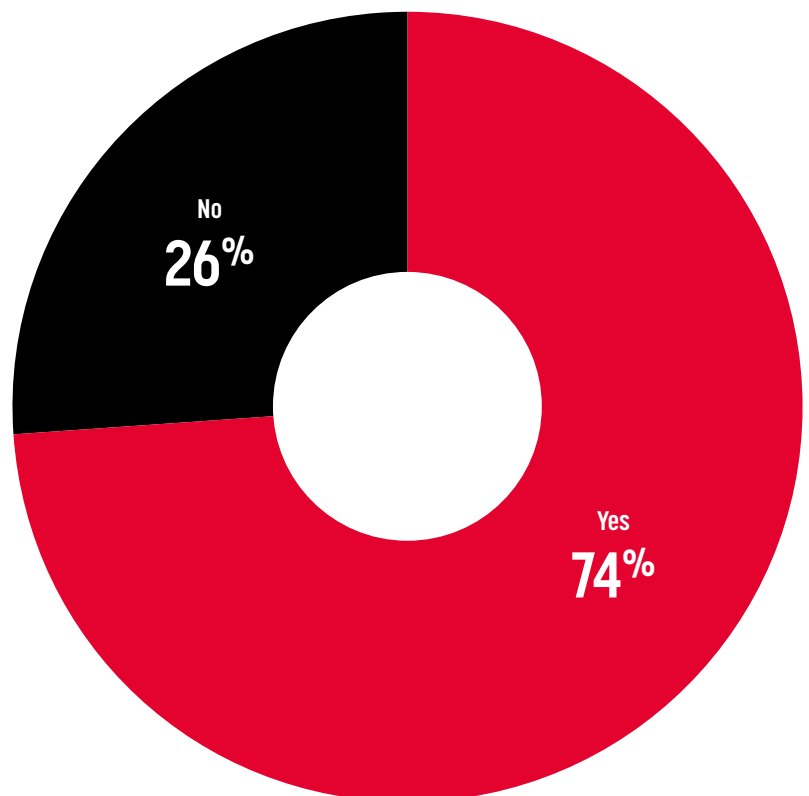
ACTION ON THE SKILLS GAP

Clearly, one way to stem the tide of resignations and attract new talent is to offer competitive salaries and roughly half of the respondents in the 'recruiter' subset (47 per cent) say that salaries have increased since the start of the pandemic. Once more, most of the individual sector samples at this granular level are too small to be statistically valid, however there are some notable company-size based variations with pay increases appearing most common in the 10-499 bracket (where 57 per cent of respondents report salary increases).

Employees are also drawn to a flexible working environment. Despite the concerns highlighted earlier in the report, hybrid working is becoming increasingly common in manufacturing. That trend will enable recruitment professionals to attract more people to the industry, particularly individuals with home commitments who would not previously have considered a manufacturing career. Whilst the results do not indicate how many of these organisations allowed hybrid working before the pandemic, 63 per cent of respondents report that their company now has a hybrid working programme in place.

Finally, whilst much has been made of the role engineers have played addressing some of the challenges of the pandemic (whether through the development of ventilators and breathing equipment, or their role in the scale up of vaccine production) respondents are generally unconvinced that industry's COVID-19 response has helped boost the profile of a manufacturing career, with just 24 per cent of respondents believing this to be the case.

Are you seeing a lack of qualified applicants for roles?





SKILLS AND CAREERS

OPINION

ESSENTRA COMPONENTS

“The big take out from this survey in relation to skills and careers is that we need to do more to change the narrative regarding manufacturing, which is still seen – unfairly and incorrectly – as unskilled labour. There are many, very high-skilled jobs and careers in manufacturing, but these are often lost in the stereotypical portrayal of the sector, and this is harmful to the inflow of new talent. This is evidenced by the belief of nearly a quarter of those questioned (24 per cent) who believe that manufacturing suffers from an image problem.

It is not a surprise that the vast majority of firms are finding it hard to attract and retain new talent. Neither is it a surprise that those they do attract lack the necessary training and qualifications needed. Partly this is cultural and a generational shift. The next generation of workers don't want to work in manufacturing, largely based on perception, and possibly the impact of the 'gig' economy and the change to ways of working, but it is also partly about education. Our education systems are not yet in tune with the skills that we need going forward. Businesses themselves can only do so much.

Some businesses have shown that they can recruit and retain talent, and there are lessons to be learned from them in terms of future attraction models. But the skills 'gap' doesn't only include engineers on the manufacturing floor. It also includes future leaders.

Even before COVID-19, there was a generation of leaders who had the competence to lead, but not necessarily the resilience to stay. For many in middle management, the pandemic was a test too far, and many have left the industry. COVID-19 has also given way to a new generation of leaders, individuals who have positively thrived through the crisis, and have proven they have the resilience and fortitude their employers so desperately need. Many of them have high levels of EQ, as well as IQ, and this is a significant shift in culture. Whereas once the ability to empathise with an employee was a 'nice to have', today it is essential, and these 'softer' skills have taken on a new importance.

That's not to say there aren't other challenges. Age discrimination, for example, is still a problem within manufacturing and, as the survey shows, the pandemic has led to the resignation of a large number of senior engineers, many of whom will be difficult to replace.



Oshin Cassidy
Chief People & Culture Officer
Essentra PLC

ATTITUDES TO TECHNOLOGY

Survey respondents shone a light on some of industry’s key priorities by telling us about their organisations’ attitudes to technology investment.

In a rapidly evolving technology landscape, where a host of new and emerging tools, processes and approaches are increasingly key to boosting productivity and maintaining a competitive edge, investment in technology has arguably never been more important for manufacturers.

In this section of the survey, we asked respondents to tell us about their organisation’s attitude to technology: is it investing in technology? Does it have an active investment plan? In addition we asked which areas of technology are having – or expected to have – the most significant impact on their businesses.

APPETITE FOR INVESTMENT

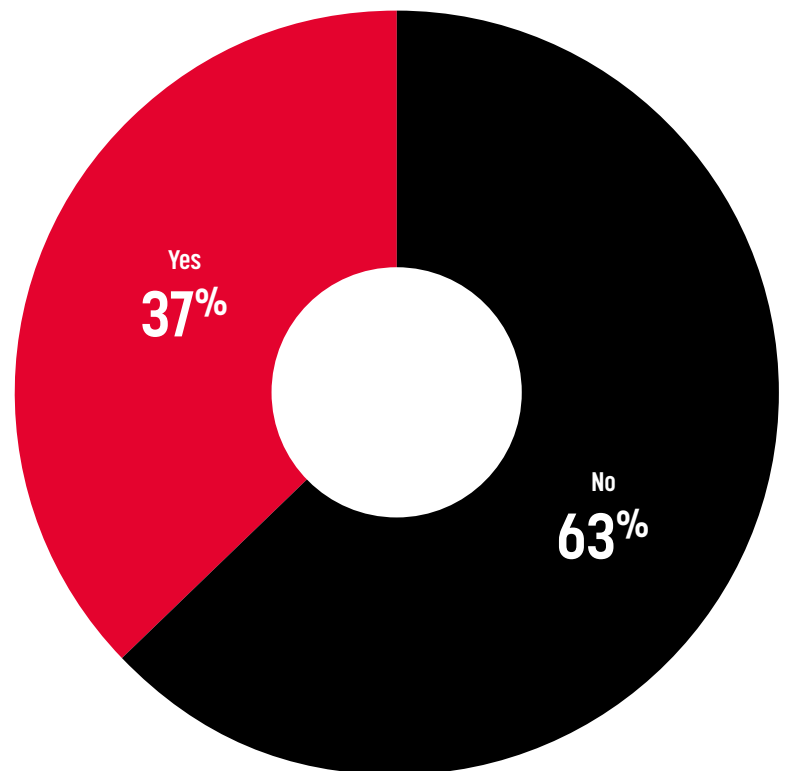
Unsurprisingly, investment in technology is seen as a priority by the majority of the overall sample, with 66 per cent of respondents telling us that their organisations have an active investment plan for new technologies. An even greater proportion of the overall response group (72 per cent) regard the rapid advance of technology as a positive trend, whilst only 3 per cent view it negatively.

The survey results illustrate positive attitudes to technology across all sectors. Indeed, 34 per cent of the response group say their business has an active plan to invest in new technology. In terms of sectors, the highest levels are seen in automotive and consumer goods (92 and 81 per cent respectively) and in terms of company size, unsurprisingly it’s the largest companies who are most likely to actively invest in technology. Indeed, 89 per cent of respondents from firms employing more than 5,000 people say this is the case, compared to 45 per cent for those employing fewer than 10 people.

Over 90 per cent of respondents assign some budget to technology investment, half invest up to 20 percent of their budget in technology and 4 per cent invest 50 per cent or more. Among respondents that averages to around 19 per cent of budgets being invested in new technology.

Across the different sectors the pattern is unpredictable, and it’s difficult to draw any conclusions about which sectors are winning the technology investment game.

Is Industry 4.0 / digitalisation a priority for your business?

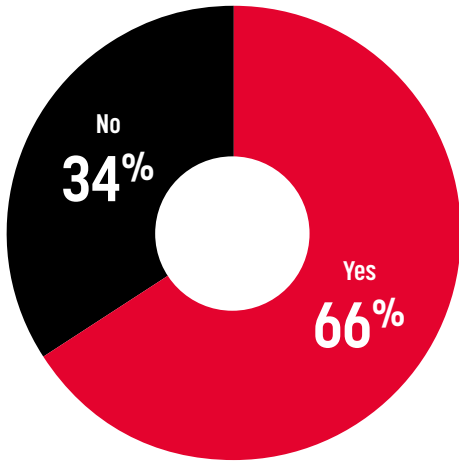


In the automotive response group, for example, whilst a healthy 9 per cent say that technology spend accounts for more than half of the budget, 17 per cent say their organisations have no budget at all.

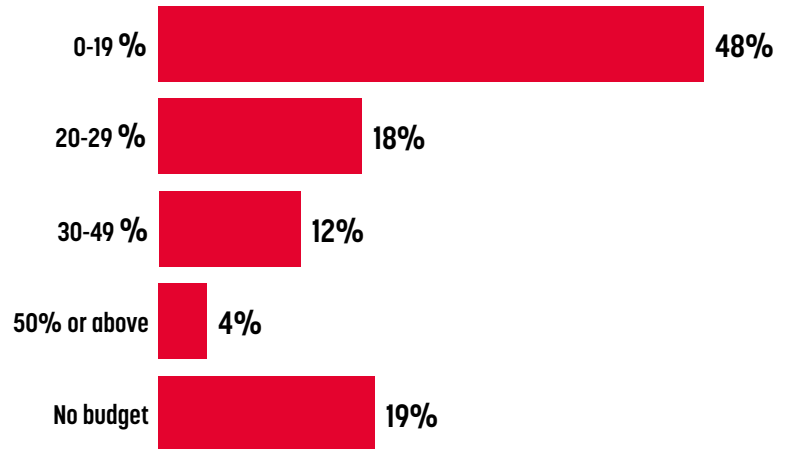
In terms of company size, there are few major variations across the sample in terms of technology spend. Perhaps most notably, the highest proportion of respondents flagging investments of 50 per cent and above are from companies employing fewer than 10 people, an indication – perhaps – that smaller firms are often prepared to take bigger risks than their larger and more established industry peers.



Does your business have an active investment plan for new technologies?



What percentage of your budget is assigned to technology investment?



Figures rounded to nearest whole number and may affect numeric total.

DIGITALISATION AND OTHER TECHNOLOGIES

Given the clear importance placed on technology investment, it's somewhat surprising to find that the overall response group doesn't seem to regard digitalisation - one of the defining industrial technology trends of the age - as a key priority.

Indeed, despite the industry wide talk around the topic and an apparently growing awareness of the benefits of so-called Industry 4.0 technologies, 63 percent of all respondents say that digitalisation is not a priority area for their business. Interestingly, even amongst respondents from the manufacturing sector - the area with arguably the most to gain from digitalisation - the response is underwhelming, with over two thirds of businesses not seeing it as a business priority.

Despite this, just under half of respondents also report that digital technology has changed their businesses, with more than half telling us that digital technology has improved efficiency and improved collaboration across the value chain. Given the importance of data in addressing some of the issues around net zero, it's interesting to note that just 24 per cent tell us that digital technology has improved sustainability.

Asked to identify other technologies or innovations likely to impact their businesses in the future, respondents identified a range of different areas. However, the most frequently mentioned areas of promise are the use of AI to analyse data in real time, the use of automation and robotics (especially cobots) to help drive productivity, the growing deployment of additive and 3D printing technologies within both design and production and - last but not least - an increased reliance on low carbon technologies such as electric vehicles, and on-site renewable energy generation systems.

72% regard rapid advance of technology as a positive trend

63% say digitalisation is not a priority area

82% of businesses investing in new technology

ATTITUDES TO TECHNOLOGY

OPINION

ESSENTRA COMPONENTS

It is interesting that so many firms express the need for technology, yet the levels of investment are relatively low. With the increasing demand for data collection and reporting of ESG Scope 1, 2, and 3 emissions, we might expect both the number and the level of investment to be higher.

That might be a reflection of the survey base, and that middle managers do not have the same visibility as the C-suite about how much is being invested. It may also reflect business uncertainty about what digital data is required and how to justify the level of investment that is needed to get it.

There is understandable nervousness among some CIOs because it is often difficult to quantify the potential return on investment (ROI) that any new technology may deliver in terms of increased productivity or commercial sales. Technology vendors may argue a six-fold ROI, but how that applies across different industries is not always easy to discern.

In part, there is difficulty in attracting the right kind of digital management skills to the 'traditional' manufacturing sector when the technology sector seems more exciting. Digital innovation can therefore be seen as a leap of faith by board members. So it is important that these topics continue to be discussed both in the industry and in the boardroom.

Despite the pressing need for digital transformation, the manufacturing sector tends to be entrenched in traditional views, even when it comes to something as simple as replacing a printed with an online catalogue. Many are yet to embrace Artificial Intelligence (AI), for example, in delivering real-time production data that would enable better and more timely decision making, rather than relying on data that is 24- or even 48-hours behind what's actually happening on the production floor.

Other new technologies, such as 3D printing with the potential for prototyping or creating complex products better than traditional injection moulding techniques, are rarely used, and it will be some time before 3D printing will move into mass production.

If the manufacturing industry is to embrace technology more fully, it will need further incentives. Only 24 per cent of those surveyed know digital technology can, for instance, improve sustainability. If more firms understood how innovation can help them reduce their environmental impact and meet their ESG regulatory obligations, they would act. The tech industry itself also has to get smarter. It needs to learn how to put the case for technology more clearly, simplify the benefits to the industry in the context of the individual businesses, and help CIOs sell the idea of transformation to the board.



Sam Edwards
Chief Digital Information Officer
Essentra PLC



SUSTAINABILITY

The push for net zero is affecting businesses across all sectors, and most seem enthusiastic about the opportunities it presents.

No area of industry is untouched by the push for net zero greenhouse gas emissions by 2050, and whilst the drive for increased sustainability can bring pressures to a business, respondents prefer to focus on the positives with 61 per cent viewing it as an opportunity, 49 per cent viewing it as an ethical obligation and only 17 per cent regarding it as a hindrance or cost.

Unsurprisingly, enthusiasm is highest amongst respondents from sectors already well on the path to decarbonisation with those in the auto, renewables and energy sectors being the most likely to view sustainability as an opportunity.

On the flip side, sustainability appears most problematic for the oil & gas sector, with 30 per cent of respondents from these sectors viewing it as hindrance and 43 per cent as an opportunity. Even here, however, a large proportion (61 per cent) see it as an ethical obligation.

This broadly positive attitude is likely reinforced by a generally favourable reaction from respondents' customers in committing to sustainability focused activities. Just over half say their customers have reacted positively to their activities in this area and only 1 per cent report a negative reception.

Furthermore, three quarters of respondents say that their organisations are actively engaged in sustainability, and these initiatives appear to touch most areas of their organisation's operations.

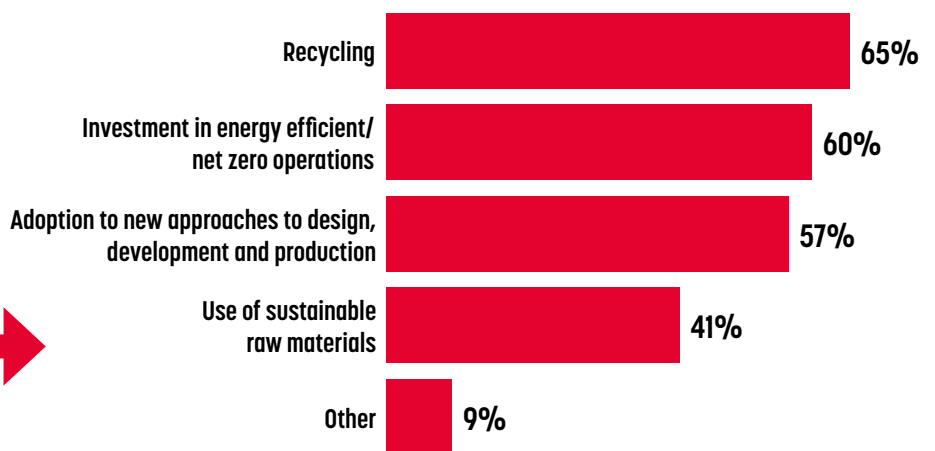
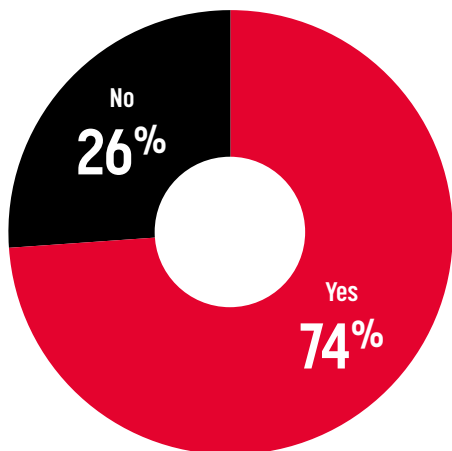
65 per cent identify recycling as a key area of activity, followed by investment in energy efficiency (60 per cent), and then the adoption of new product development and production processes. Meanwhile, 41 per cent report an emphasis on the use of sustainable raw materials.

Asked to identify other measures that they are taking, respondents identified a range of activities, the most popular being the use of renewable energy and the adoption of so-called circular economy concepts.

It's also positive to note that as well as taking action to decarbonise their own operations, more than three quarters of respondents are actively looking at how their entire supply chains can be more sustainable. This appears to hold true across all vertical sectors (with no stand-out winners or losers) and across all sizes of company although - as one would expect - the very largest companies are most active in this regard, with 93 per cent of respondents from organisations employing more than 5,000 people.

74% of organisations are actively involved in sustainability initiatives

Does your firm have a sustainability plan, and what initiatives is it involved in?



SUSTAINABILITY

OPINION

ESSENTRA COMPONENTS

On face value, some of the statistics presented in this report are surprising. The fact that only 75 per cent of firms are actively engaged in sustainability initiatives seems small, given that one would expect that figure to be 100 per cent. This may be a reflection of the survey base and canvassing the opinions of a higher number of junior and middle management staff who may not have the same degree of visibility of initiatives that are more immediately apparent within the C-suite.

This, in itself, is an important point, as it shows the need for much better communication internally of projects and programmes that are a key part of good business practice. We have experienced for ourselves how business can be won and lost when a customer's procurement and sustainability teams are not properly aligned, and this is very much a factor of communication and awareness.

It is perhaps less surprising that engineers working in the oil & gas sector see sustainability as a hindrance, rather than as a support. What is surprising, however, is that they do not see it as an opportunity, and that is evidenced in practice. Many firms like ours are actively seeking to change the materials they use and increase the use of recycled content in their manufacturing. This should, on face value, be an opportunity for some of the big oil firms to innovate, to offer their own low carbon alternatives, but we see few if any coming forward with viable alternatives. Perhaps there is sufficient business for them elsewhere in other countries and markets that are still wedded to fossil fuels, and likely to remain so for some time, to make it an unnecessary investment.

At the time of the report, almost two thirds of those questioned cited drives to be more energy efficient as critical, and I expect that figure to rise sharply in the coming months. Every good business is now focused on how it can become more energy efficient, and rising energy prices are accelerating the return on investment in renewables; put simply, payback is now much faster, making investment more attractive.

Expanding this point, investment in sustainability is a 'win-win' for everyone concerned. It has long-since evolved from being a tick-box exercise to satisfy corporate governance into something meaningful and important that appeals to all stakeholders. Customers are engaged, as it helps support their own sustainability agendas and targets; investors are engaged, as they increasingly wish to build portfolios that are more ESG focused; Government agencies are more likely to grant investment to businesses that combine innovation with sustainability; and employees are engaged since demonstrating a commitment to truly sustainable business practices are critical in attracting and retaining quality talent.



Richard Sederman
Strategy and M&A Director
Essentra PLC



SUPPLY CHAIN CHALLENGES

Global events continue to have a profound impact on logistics and supply chain operations. How are companies adapting to this age of uncertainty?

Events of the past few years - with the global pandemic, and more recently the war in Ukraine - have placed, and continue to place, immense pressures on supply and logistics operations and it's no surprise to see that more than 90 per cent of respondents' businesses have been negatively impacted in this regard.

Indeed 50 per cent say they have been significantly impacted.

Whilst the sample sizes at individual sector level are too small to draw any meaningful conclusions on how this attitude varies from vertical to vertical, it is notable that 53 per cent of respondents from the most populous sector sample group - manufacturing - report a significant impact on their business.

Unsurprisingly, it appears to be the biggest organisations that are most affected by ongoing supply challenges, with 56 respondents from firms of 5,000+ reporting problems. Conversely, 19 per cent of respondents from the smallest companies surveyed (those employing fewer than 10 people) say they have been unaffected by supply chain issues.

Most expect these challenges to remain for some time to come, with 62 per cent of the sample group expecting them to last for up to 5 years. Whilst 15 per cent believe they could go on indefinitely, just 2 per cent of business surveyed expect current challenges to go away within the next 6 months. The highest levels of optimism are found in the energy and renewables sectors (excluding oil & gas), where just under half of the

90% of organisations are facing supply chain challenges

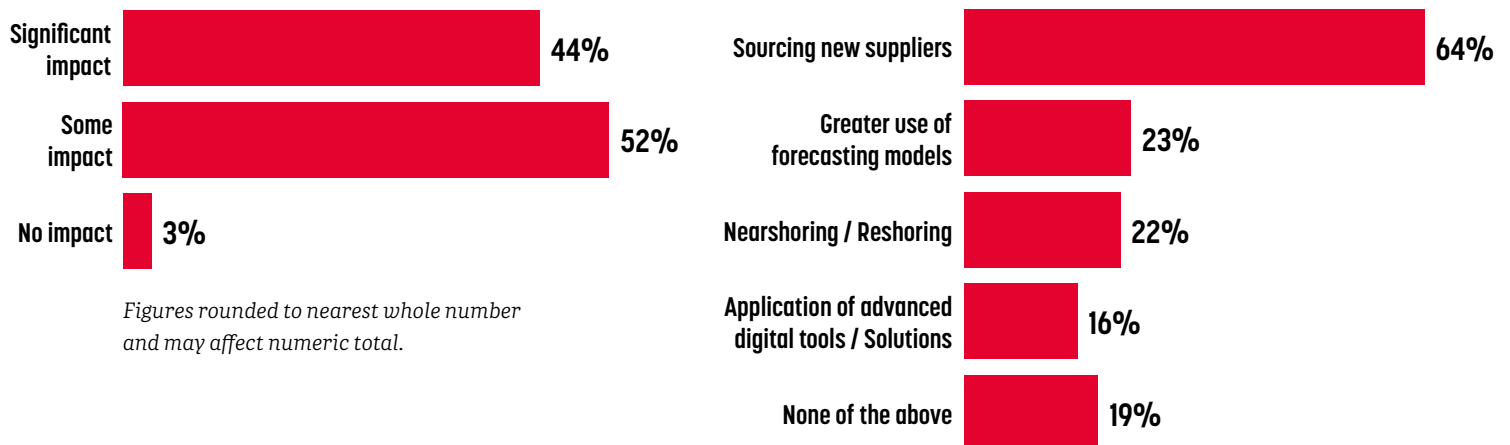
sample group expect the challenges they are facing to resolve within the next 12 months.

As you would expect, organisations are taking a variety of actions to mitigate the effects of these challenges from sourcing new suppliers (64 per cent of respondents) to increasing prices (43 per cent) and exploring ways of reducing overheads (just under 30 per cent). Around a quarter of respondents also report using supply chain forecasting models, and even reshoring aspects of production, to anticipate and address supply chain delays. Interestingly, there appears to be little variation at the sector level, with all vertical sectors making sourcing of new suppliers the number one priority.

Most respondents also report being affected negatively by general global price increases, with 44 per cent reporting a significant impact and 52 per cent some impact. Only 3 per cent of respondents admit to being unaffected.

Asked to identify other barriers to growth, respondents give a wide variety of answers, the most commonly recurring of which are: the lack of meaningful government support for manufacturing, Brexit, and the war in Ukraine.

What impact have global price increases had on your business, and what actions are you taking to address this?



Figures rounded to nearest whole number and may affect numeric total.

SUPPLY CHAIN CHALLENGES

OPINION

ESSENTRA COMPONENTS

The findings of this report further support the idea that global supply chains continue to 'polarise'. This polarisation effect marks a shift away from low-cost global supply chains towards regional and cluster-focused supply chains driven by the need for greater reliability: companies are near shoring, bringing manufacturing closer to the point of demand and localising supply. Global uncertainty is driving the supply chain focus away from 'lowest-cost' and rapidly towards service and dependability at optimal cost.

As manufacturers adapt their supply chains, the competition for resources and raw materials intensifies. The consequential change in global demand patterns can result in resource scarcity and higher procurement prices in the mid-term, and this means that planning and being 'ahead of the game' are even greater critical success factors than they have ever been before.

Finding new 'local' sources of supply is not easy though. In some industries – ours included – it is not a simple case of swapping out one material or product for another. There are specifications and regulations to meet, as well as a significant investment in re-tooling and the re-engineering of processes that result.

Global uncertainty has also brought about cost inflation. In the short term, this impact can only be mitigated through 'quick win' productivity improvements or price increases. In the longer term, customers and consumers may have to accept that higher supply chain costs are a necessity to achieve greater reliability; and this will likely translate into higher prices. Consequently, investment in automation will become more prominent in manufacturing and supply chain strategy delivery.

In the UK, growth will depend on the long-term impact of Brexit and future trade agreements, as well as having the right incentives in place. Lead times have slowed between the UK and mainland Europe since Brexit, making the UK a less attractive place to locate manufacturing. Government intervention could help significantly by making the import and export processes easier and quicker.

Some 60 per cent of people interviewed expect supply chain issues to last for at least another five years. There have always been supply chain challenges – this is the nature of supply chains. However, since the second world war, the UK and Europe have experienced an unprecedented period of stability. Today, however, we are returning to more uncertain times both politically and environmentally. Agile planning capabilities and effective processes to manage and respond to unforeseen supply chain challenges will need to become the 'norm', not the exception, and will become a driver of competitive advantage.



Rob Baker
Chief Operating Officer
Essentra PLC



HEALTH AND SAFETY / MENTAL HEALTH & WELLBEING

Organisations' health, safety and wellbeing practices are evolving rapidly to support the multitude of challenges facing today's engineering workforce.

The practical challenges presented by the emergence of a highly contagious and life-threatening virus, and the anxiety and isolation this caused across the economy, brought businesses' health, safety and wellbeing practices firmly into the spotlight, and according to our sample group, the manufacturing and engineering industries have generally risen to the challenge.

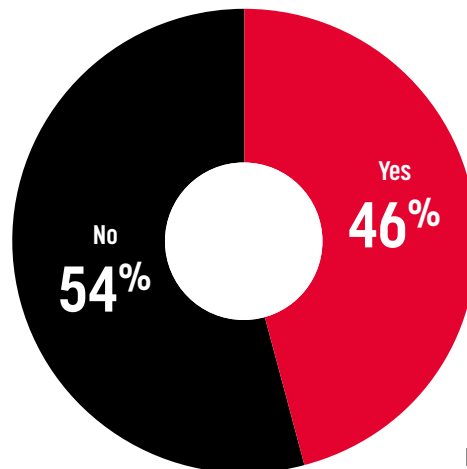
39 per cent of respondents say their businesses' approach to health and safety has changed since the pandemic.

Asked to specify exactly how it has changed, respondents offer a range of examples. The most commonly mentioned change is an ongoing focus on pandemic mitigation measures (such as regular cleaning, an enhanced emphasis on sanitation and ventilation and – for some – the continued use of face coverings and PPE).

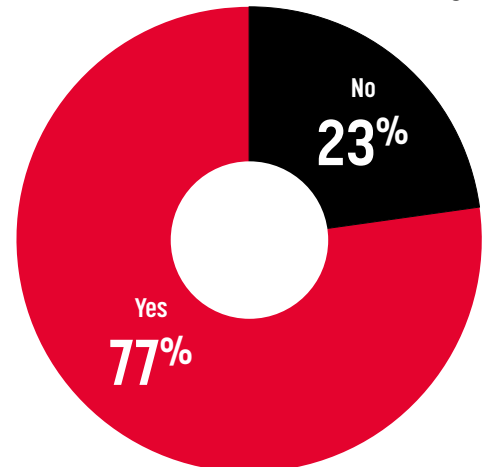
A number of respondents also report a greater focus on mental health and wellbeing. Indeed, just under half of the total response group says that the pandemic has caused their business to reevaluate its mental health policies.

Whilst 76 per cent say mental health is an important topic, the majority of respondents also appear to feel that the issue is being taken reasonably seriously, with 77 per cent telling us that they feel their mental and physical wellbeing is supported by their business.

Has the pandemic prompted a re-evaluation of mental health policies?



Do you feel supported regarding your personal mental and physical wellbeing?



76% feel mental health is an important issue for industry

39% have seen a change in health and safety policies

77% feel supported in their mental and physical wellbeing

HEALTH AND SAFETY / MENTAL HEALTH & WELLBEING

OPINION

ESSENTRA COMPONENTS

Manufacturing has always been committed to 'safety', but increasingly – as this research shows – the focus is shifting to 'health', and especially mental health and wellbeing.

Throughout the pandemic, the broader mental health and overall wellbeing of employees became a significant concern, and this led to a large number of businesses re-evaluating their wellbeing policies. Many global firms had to take a sensitive approach as mental health still remains taboo in many countries. The reality, however, is that this remains a global problem and what is essential now is that the mental health and wellbeing focus is maintained. As the economy and therefore manufacturers head into difficult waters, and the impact of the cost-of-living crisis begins to bite, businesses need to be focusing on people more than ever. Their mental wellbeing is a very real issue.

To that end, it is encouraging that three quarters of those questioned believed their firms were taking mental health and wellbeing seriously and that a similar number said they felt supported. This support must continue across both white- and blue-collar workers and consider the oval employee as an individual (recognising the needs of a nightshift worker suffering from depression is as important as a white-collar colleague stressing over a financial report).

The other stand-out finding was the introduction of pandemic mitigation measures (cleaning, improved sanitation, PPE etc.) as a response to the new threat that COVID-19 presented. What will be interesting is whether businesses will continue with such measures going forward, or whether they will steadily slip back into their old ways. This is likely to depend on the sector and geography, but I expect those who had less-developed health infrastructure before the pandemic will maintain these new protocols for longer than those with strong pre-existing health systems in place. The more vulnerable workers will hopefully be better protected against the next health shock.



Oshin Cassidy
Chief People & Culture Officer
Essentra PLC



A VIEW FROM EUROPE

In a follow-on research project, engineers working in the Netherlands and Germany responded to the same set of questions.

Whilst the initial phase of the research (covered elsewhere in this report) was targeted primarily at engineers working across UK industry, a further phase - carried out during September 2022 - targeted those currently working in Germany (Europe's largest manufacturing nation) and the Netherlands (home to Europe's largest industrial port, the Port of Rotterdam).

DEMOGRAPHICS

This engaged with 200 engineers in total, 100 each from Germany and the Netherlands and - as with the UK phase of the research - attracted respondents from a wide range of sectors, disciplines, companies and seniority levels.

The demographics of the response group were similar to the UK response in terms of sector and company size with the single largest subset of the response group (42 per cent) working for organisations employing between 10 and 499 people. Whilst manufacturing is the most heavily represented vertical sector, accounting for 39 per cent of the overall response groups, the automotive industry (11 per cent), electronics (11 per cent) and chemicals & pharma sectors (8 per cent) are the next most heavily represented sectors in this response group.

The response is broadly similar across the German and Netherlands sample groups.

The key area of difference with the UK phase of the project is the seniority of the response group. Whilst 95 per cent of UK respondents describe themselves as senior engineers or above, the European phase attracted responses from a more junior group, with just over half of respondents identifying as junior engineers or below. Again, this spread is broadly similar across the German and Netherlands response groups.

In common with the UK sample group, these respondents are feeling reasonably positive about the future of manufacturing, with 62 per cent telling us that they are feeling positive or very optimistic about the future. However, feelings of uncertainty are also relatively common, with 27 per cent saying they are uncertain about what the future holds.

PANDEMIC IMPACT AND RECOVERY

As well as feeling more optimistic in general, these key European markets appear to have enjoyed a more pronounced recovery from the pandemic, with 87 per cent of respondents telling us that business is back to at least pre-COVID-19 levels

of production (compared to 69 per cent of the UK sample) and 14 per cent that output levels are still reduced.

This bounce-back is most pronounced amongst the Netherlands response group, where 55 per cent say that business is booming.

According to our results, German and Dutch businesses also appear to have experienced a milder economic impact than their UK cousins, with 44 per cent of the response group (compared to 35 per cent from the UK) saying that the revenues were either unaffected, or actually increased during the pandemic. Once again, this trend appears most pronounced in the Netherlands, where a quarter of respondents report an increase in revenues. The individual sector samples are too small to draw any meaningful conclusions on how this varies across the different verticals.

COVID-19 AND CAREERS

Interestingly, given the broadly more positive post-COVID-19 response, the European sample is feeling less cheerful than its UK peers about the impact of the pandemic on careers in industry.

More than half of the respondents from this group (52 per cent) say that their businesses have reduced in size since the pandemic (compared to 45 per cent for the UK) and just 12 per cent have taken on extra employees (compared to 18 per cent for the UK).

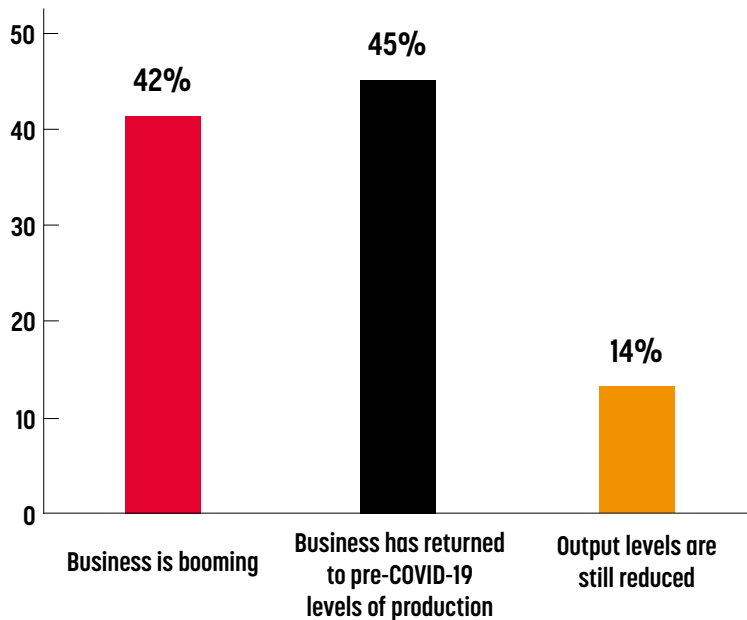
Attrition rates appear to be much higher in the Netherlands with 64 per cent of this sample group telling us they have lost staff. Amongst German respondents, this figure is 39 per cent.

This sample group also reports a greater slowing of career progression than is seen in the UK sample, with 46 per cent of the response group believing that their career progression was negatively impacted (compared to 30 per cent amongst the UK group) and 71 per cent believing that their opportunities for progression are still being hampered.

Once again, respondents from the Netherlands - 60 per cent of whom report this as an issue - appear to have been disproportionately impacted.

It should be noted, that these findings are almost certainly influenced by the relatively junior nature of the European sample group, which by definition is more likely to be exploring options for promotion and progression. In contrast, it can probably be assumed that the senior engineers responding to the UK wave of the research are generally less likely to actively search for opportunities for career progression.

Has your business returned to pre-COVID-19 levels of production?



87% say business is back to pre-pandemic levels
57% are struggling to fill vacancies
62% are feeling positive about the future

Figures rounded to nearest whole number and may affect numeric total.

SALARIES AND SKILLS

As with the UK phase of the report, we asked respondents actively involved in recruiting (45 per cent of the sample) to comment on current skills and recruitment challenges.

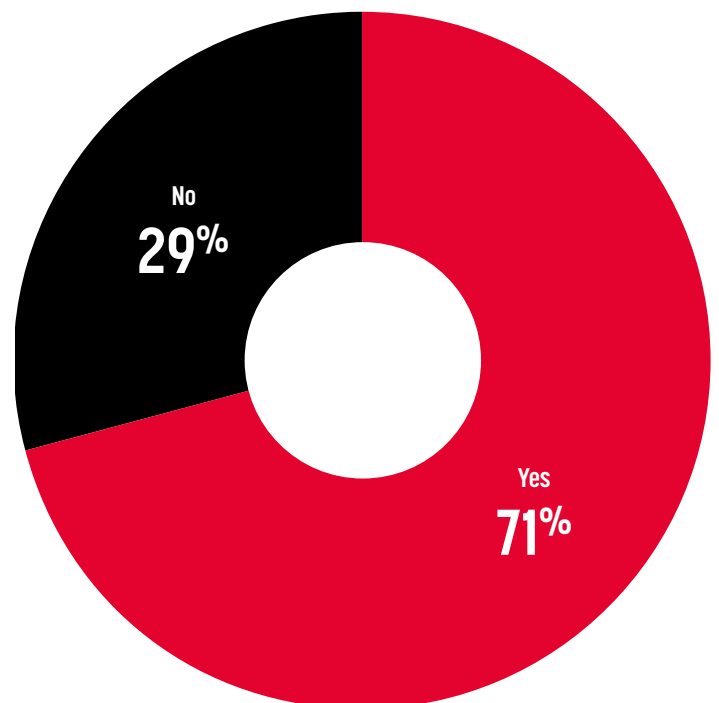
Just over half (57 per cent) say they are struggling to fill vacancies, an improvement on the UK picture.

However, in line with the UK findings, almost three quarters (71 per cent) say that the applicants they are getting frequently lack the necessary skills and qualifications, whilst 41 per cent of respondents also note a growth in resignations at a senior level.

Given the skills gap appears to be less of an issue amongst the European response group, it's not surprising to find that actions aimed at attracting and retaining talent – such as salary increases and flexible working practices – appear to be less common amongst this response group. Just 39 per cent of respondents report that salaries have increased (compared to 47 per cent for the UK) and 35 per cent tell us that their employer has a hybrid working programme in place (compared to 63 per cent for the UK).

Finally, based on these results, engineers in Europe appear more likely than their UK counterparts to believe that the pandemic has been positive for the profile of manufacturing, with 47 per cent agreeing that this is the case.

Have you noticed a lack of qualified applicants applying for outstanding vacancies?





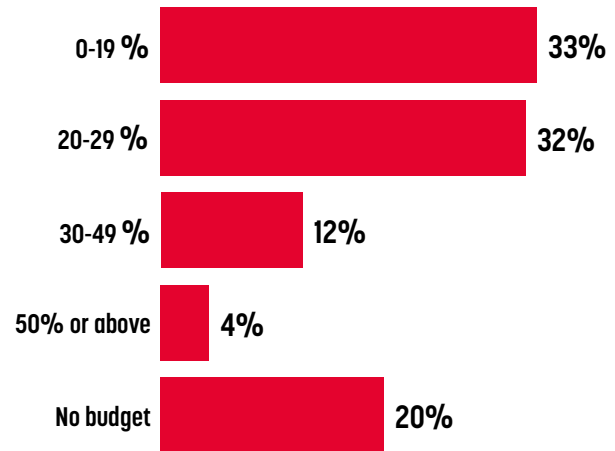
ATTITUDES TO TECHNOLOGY

When it comes to technology, the European sample group is broadly much more positive, with 80 per cent of respondents telling us that their business has an active investment plan for new technologies (compared to 66 per cent for the UK) and 81 per cent viewing the advance of technology as a positive trend (compared to 72 per cent for the UK). Attitudes here are broadly the same across the Netherlands and Germany groups.

All but 7 per cent of the overall response group have some budget assigned to technology investment, and those that are investing appear to be putting a much greater share of their budget into new technology than UK respondents. Indeed, 62 per cent of the overall sample tell us that their organisation is investing 20 per cent plus of its budget into new technology. Again, this differs significantly from the UK sample, where just 41 per cent are investing a similar proportion of spend.

European respondents also appear to be far more serious about digitalisation and Industry 4.0, with 66 per cent flagging this as a priority area for investment (compared to just 37 per cent of the UK response group).

Roughly what percentage of your budget is assigned to technology investment?



Figures rounded to nearest whole number and may affect numeric total.

SUSTAINABILITY

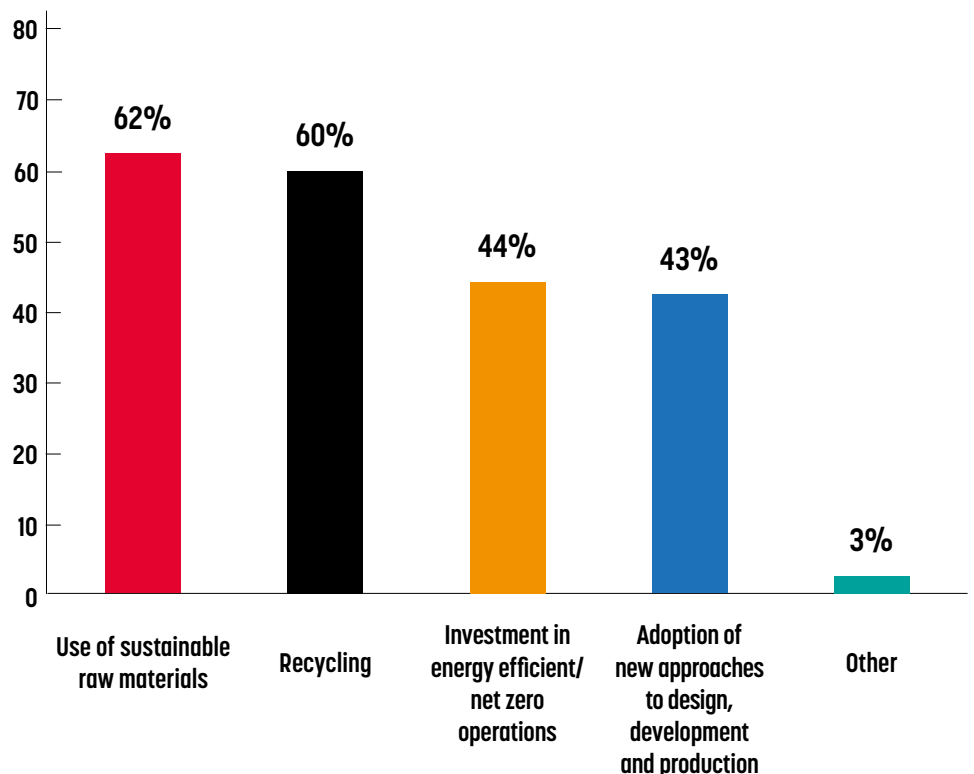
In terms of action on sustainability and decarbonisation the UK fares rather better by comparison.

Indeed, amongst the European sample, a greater proportion of respondents view the push for net zero as a hindrance (32 per cent compared to just 17 per cent for the UK) and a smaller proportion view it as an opportunity (52 per cent compared to 61 per cent for the UK). Meanwhile, just 31 per cent view the push for greater sustainability as an ethical obligation, compared to 49 per cent for the UK. These attitudes are broadly similar amongst the German and Netherlands response groups.

Nevertheless, in common with the UK, and despite the relatively low enthusiasm level, almost three quarters of respondents tell us that their business is actively engaged in sustainability initiatives, flagging the use of sustainable raw materials (62 per cent), recycling (60 per cent) and investment in energy efficiency (44 per cent) as the key areas of focus. Encouragingly, 63 per cent of respondents are also looking at how they can help make their supply chains more sustainable.

80% have an investment plan for new technologies

Which of the following sustainability activities is your organisation involved in?



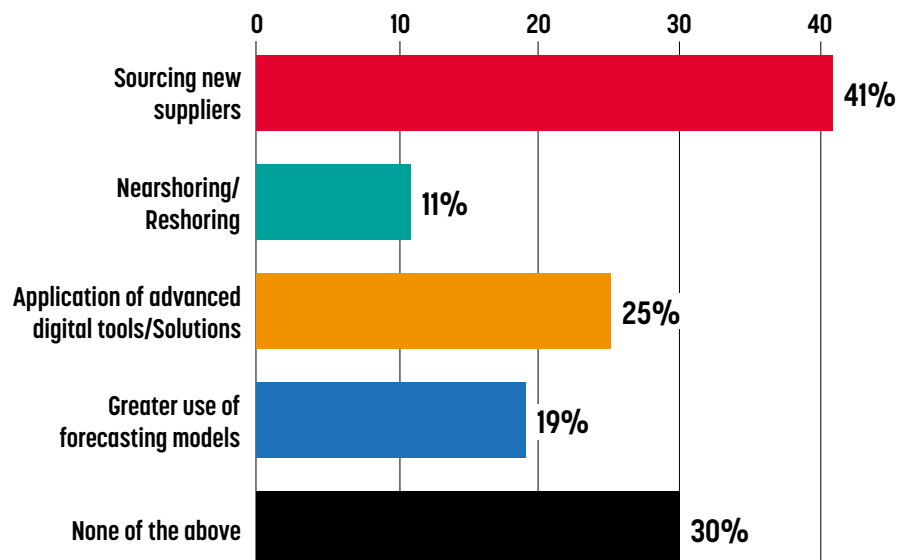
SUPPLY CHAIN CHALLENGES

As with the UK sample, a significant proportion of respondents (79 per cent) report experiencing supply and logistics challenges with both Germany and the Netherlands seeing a broadly similar impact. Similarly, the majority of the sample group (94 per cent) report being impacted by global price increases. Just 7 per cent say they are unaffected.

Respondents do appear marginally more positive than their UK counterparts about how long these challenges are likely to last for, with 39 per cent (compared to 62 per cent for the UK) expecting challenges to continue for at least 5 years. However, a significant chunk of the sample (22 per cent) believe that current problems could last indefinitely.

As in the UK, organisations are taking a variety of actions to mitigate the effects of these challenges, the most popular of which are reducing overheads (45 per cent), increasing prices (45 per cent) and sourcing new suppliers (43 per cent). Whilst there is little significant variation across the two countries surveyed, German firms appear more likely to prioritise reducing overheads, with 58 per cent saying that their organisations have made this a priority.

How - if at all - has your business reacted to supply chain delays?



HEALTH, SAFETY AND WELLBEING

The pandemic has had a profound effect on health and safety policies across Europe and the UK. Two thirds of respondents from the European group say their businesses' approach to health and safety has changed following the pandemic (69 per cent in the Netherlands and 63 per cent in Germany compared to 39 per cent of the UK sample).

Perhaps this is unsurprising given the stricter lockdown measures imposed in Germany and the Netherlands.

Meanwhile, in a reflection of the UK figures, the majority of respondents (79 per cent) say that they feel mental health is taken seriously by the manufacturing sector whilst 65 per cent say they feel their mental and physical wellbeing is supported by their business.

32% view net zero as a hindrance
79% are experiencing supply and logistic challenges
65% feel their mental and physical wellbeing is supported by their business



A VIEW FROM EUROPE

OPINION

ESSENTRA COMPONENTS

That Europe is enjoying a more pronounced recovery from the pandemic than their UK counterparts is perhaps not a surprise, at least based on our own experience. Within any economic challenge, there are winners and losers, and the smarter businesses seek to 'win with the winners.' In manufacturing and engineering terms, that means focusing on those companies that are engaged in the 'newer' industries involving electrification, for example, as evidenced by the recent award of a £1.3m contract to Essentra for a business building solar farms around the world. It appears that European firms have been better than those in the UK in adapting to the changing environment and in building momentum and scale.

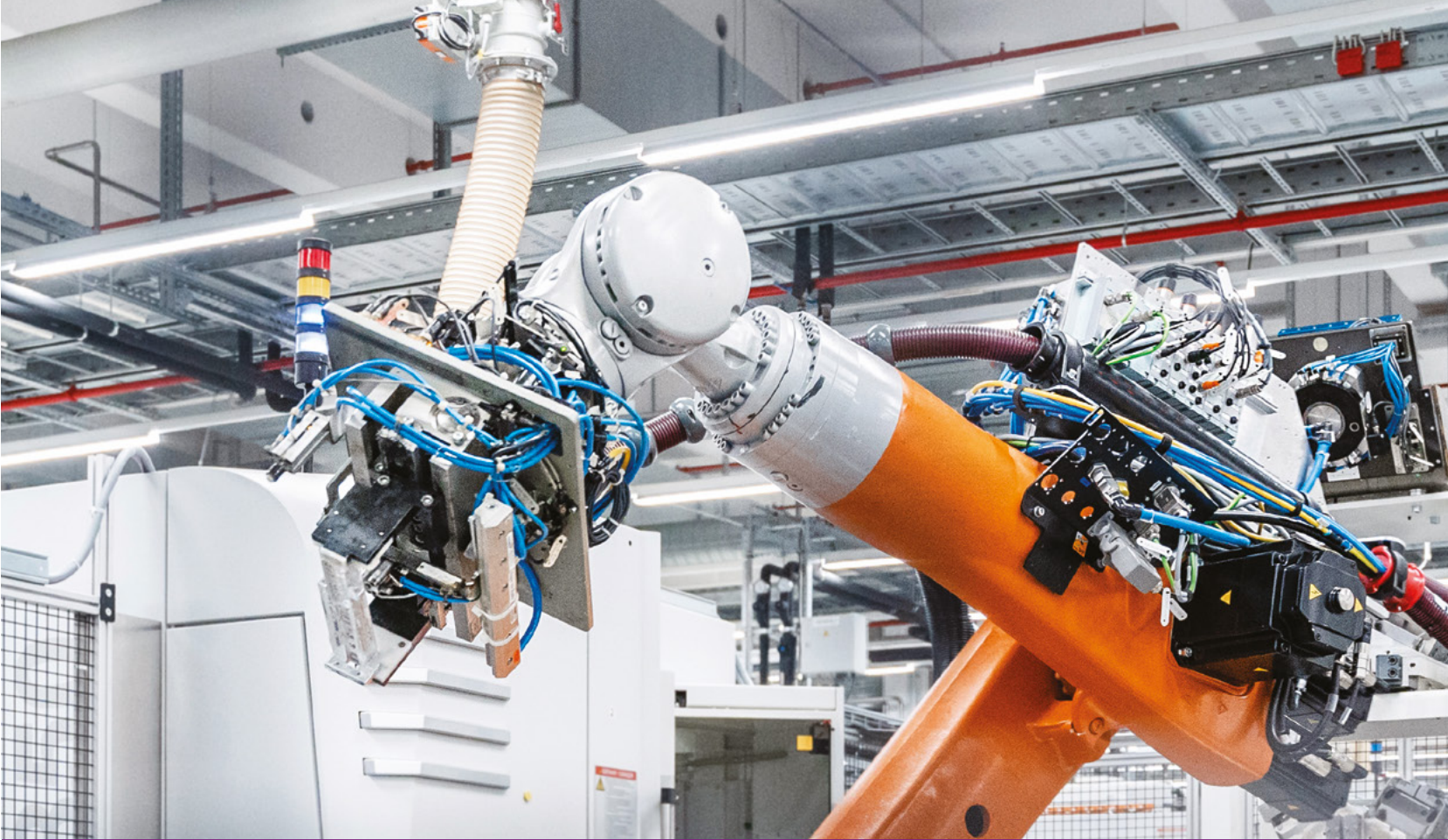
Despite the number of firms encouraged by the speed of recovery, there is still a clear note of caution. The current six- to nine-month lag that occurs before any new order is materialised, and a slow Q4 pipeline, means that many are warning of a difficult H1 but are more bullish about the second half of the year. That's not to say there aren't issues that will impact us all in the year ahead. Talent – especially the more expert engineers and those in the digital and ESG space – is still difficult to come by, and the slowing down of immigration from Eastern Europe, North Africa and India is also placing considerable strain on resources. The picture, however, is not universal: in Spain and Portugal, for example, labour shortages are not such an issue and there is less pressure on salaries. In Poland and Turkey too, it is easier to recruit, so it is important for firms to know where to focus their investment.

Sustainability is an interesting subject, but again it is perhaps not a surprise that many European manufacturers see the drive to net zero as a hindrance, rather than an opportunity. Some are being driven by short-term pragmatism; the need to mitigate against both inflation and energy availability means the focus is on the end of the month, as opposed to the end of the world. On a wider point, the good work being done in countries like Denmark and Spain is counteracted by the backward steps being taken under short term pressure and the climate change denial being voiced in certain Eastern European countries. This inevitably leads to the EU having to compromise on key decisions which hampers progress.

The crisis in Ukraine, however, and the impact this is having in the supply of energy via Russia will lead to change. While it may take a decade or more to wean Europe away from its dependence on fossil fuels from Russia and transition to alternative energy sources (e.g. green hydrogen, wind and solar, and nuclear), this very transition will mean that greater sustainability will be achieved through osmosis. As we discovered ourselves in embracing the greater use of recycled plastic content in our manufacturing processes, the net result is an equally good product that is also significantly more sustainable while remaining price competitive.



Hugues Delcourt
Chief Sales Officer & Director, EMEA
Essentra PLC



THE ENGINEER

WWW.THEENGINEER.CO.UK

**ESSENTRA
COMPONENTS**

WWW.ESSENTRACOMPONENTS.COM

