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MAKE uk
The Manufacturers' Organisation

DIGITAL SKILLS FOR A DIGITAL MANUFACTURING FUTURE

MakeUK.org

EXECUTIVE SUMMARY

UK manufacturing will look back with pride on the role it played during the Covid-19 pandemic. Our industry rose to the challenge, ensuring the production of so many essential products continued. Together we overcame human and economic barriers to keep working, and to keep supply chains functioning.

Much of what was possible is due to a transformation in recent decades, with a more agile, digital sector, increasingly deploying smart solutions to the challenges of the day.

The urgency of the situation became a catalyst for change that was already underway.

Within two weeks of lockdown, nearly half of manufacturers had already shifted to digital working practices, with 94% having staff working from home. This is in industries often associated with manual tasks and a high proportion of production-based work.

91% say that they have benefitted from the adoption of new technology, and eight in ten now plan to continue using technologies they have adopted. Most were indeed well prepared, having invested in digital skills over the past 12 months.

The wider picture is of change accelerating and expanding, the use of big data, predictive analytics, robotics, multi-purpose production, artificial intelligence and automation.

Within British manufacturing we have multiple success stories. But none of this should be a cause for complacency. With the pandemic ongoing and the end of the UK's transition period out of the European Union looming, many manufacturers find themselves facing a perilous position.

A third of manufacturers have not undertaken digital skills training this past year. Two-thirds recently reported a lack of confidence that vocational training is keeping pace with the digital skills they need.

Skills and training have always been near the top of the agenda for any policy discussion with manufacturers. Today, the case for enabling a tidal surge of digital skills is overriding.

Digitally upskilling employees is not just essential for future business growth but for our survival.

In this report Make UK sets out an agenda for the acceleration of digital skills, calling on Government to work with Industry to deliver:

- A National Skills Taskforce to take immediate action on delivering digital skills, and to develop "skills forecasting" to ensure we are fit for the future
- Industry working with recruitment agencies to deliver digital skills training to candidates
- A digital skills account to provide employees with access to life-long learning
- The introduction of a digital skills "gate post" for a pre-16 curriculum that delivers digital skills, intertwined with the learning of all subjects
- Industry promoting the take up of digital provision amongst young people, inspiring them to pursue careers where digital skills are in demand

It is thanks to the fourth industrial revolution, and those that have seized upon it, that manufacturing is unrecognisable to the industry of 30 years ago. In another few decades, the contrast will be even greater, with innovations than we can yet imagine.

Digitisation can be a great leveller, as more and more businesses are able to realise the potential of new technologies.

That starts with developing our people and ensuring no one is left behind.

#FutureMakers #MakeItSmart

1. OPERATING AND WORKING DIGITALLY DURING COVID-19

Throughout the Covid-19 pandemic manufacturers have continued to operate.

Manufacturers have worked to produce the food and drink for our supermarket shelves, to ensure power for our homes, and to produce much of the vital medical equipment for our NHS and PPE for other critical sectors and the public, all through the pandemic.

Acknowledging this vital role, Government did not request the closure of the manufacturing industry and as a result the vast majority have continued trading. That said, manufacturers have not operated at their full capacity and even now, as lockdown eases, Make UK's 6th Manufacturing Monitor found that less than one in five (18%) companies are operating at full capacity with the majority operating at around 51-75%. Manufacturers have experienced decreases to sales and orders meaning that production lines have not been running at their typical levels, leaving the future of some many of these businesses, far from assured.[1]

Running at lower operating levels hasn't been the only thing that has changed. How employers have managed their workforces during the pandemic has changed significantly. Much of UK manufacturing has been undergoing a digital, smart revolution over the past decade and companies' ability to adopt digital technologies at speed is undoubtedly a key factor as to why so many manufacturers have kept their businesses open.

It is by adopting new ways of working that manufacturers have been able to keep their doors open and critical supplies in production.

Offering remote working for office staff

During lockdown 94% of manufacturers successfully had staff working from home during lockdown and 71% were able to remotely access their IT systems – an important factor for office based staff. 9 in 10 companies were also successful in setting up virtual meetings with many indicating that this will now become the / a norm owing to lower costs in both time and money.

Stannah

Stannah – Adopting remote working for non-production staff

At the height of the pandemic, approximately 900 employees from Stannah's UK workforce of 1,650 were furloughed from April 1st 2020. As a result, its factory continued to operate albeit at a reduced capacity, as did their Branch Network for maintenance and repairs. To support those employees still working through the pandemic, the leadership team adapted its communications strategy to ensure it reached both working and furloughed employees.

Moving from a traditional method of cascading process of communications to instead a more digital support, has created some challenges, but also some significant opportunities. The majority of their non-manufacturing teams were setup to work remotely in a short two-week framework. This allowed all those working in their call centre, Branch Network support teams, and most managers to work remotely. The business sought feedback from staff, and the experience for the majority was mixed. From '*this is fantastic*' through to '*I feel isolated*' the response was certainly varied. The business saw no marked deterioration in productivity with employees working from home and the business how now started to normalise our operations again.

The success of the remote working has meant they have allowed individuals to continue to work from home where appropriate to do so - helping with both individual motivation and a reduction in environmental impact by reducing travel. They have setup a rota system so that everyone can be in the office at least once per week for the social interaction element to ensure employees get a balance.

Mike Newman - Group Learning and Development Manager, Stannah

[1]Make UK, Manufacturing Monitor #6 (September 2020)
[2]Make UK/Sage, Digital Skills Survey (2020)

Exploring off-site production using technology

Manufacturing is often seen as a sector whereby production staff are unable to work remotely. However, during lockdown, we saw examples of them working remotely. Manufacturers took advantage of virtual commissioning - the practice of using virtual simulation technology to commission (design, install or test) control software with a virtual machine model before connecting it to the real system as well as using 3D avatars which for example can be used to manufacturer made to measure garments for on-demand production.

Senseye – Using software to support customers during the Covid-19 pandemic

When the Covid-19 pandemic struck Senseye adopted different technologies and new software to allow them to continue operating without worrying about unexpected machine breakdowns.

By adopting cloud-based Predictive Maintenance software, it has allowed their maintenance staff to continue to monitor their machinery/equipment remotely, from home. The software flags any abnormalities in the data, and where it believes there will be an upcoming failure. The businesses algorithms are underpinned by artificial intelligence, learning what's 'normal' and then differentiating against this it to alert the user.

The business have also built out a 'failure fingerprint' which highlights if it looks like one of their machines is starting to follow a simple pattern, allowing their maintenance teams to be on-site only when required to fix the problem. Greater use of technology has enabled the business to take a 'low touch' approach to maintenance, e.g. the maintainers are not unnecessarily touching or taking apart machines, they are only carrying out any remedial work as and when it's needed.

Jonathan Wootten – Global Marketing Manager, Senseye

Implementing new on-site working models

Most manufacturers moved quickly to more dynamic ways of working during the lockdown, splitting shifts into teams that operated independently and adapting operating models to further reduce contact to an absolute minimum. Within a short space of time, business acted to achieve two things: continuing their operations while successfully lowering the chances of Covid-19 transmission.

Manufacturers' ability to respond and adapt has been evident throughout the pandemic, with many companies repurposing production lines to manufacture new goods and offer new services, many to support the national effort.

This ability to respond quickly has also been the case when adopting the new way in which manufacturers work. In many cases, the urgency of the situation, became a catalyst for change already underway across our industries. Almost half (46%) of companies said it took less than a week to adapt to digital working practices with 43% saying it took between one and two weeks.

MRT Casting – Changing on-site working models

MRT Castings not only changed working practices for those working remotely, but also for those who continued to work on site. To transition, the business switched all meetings to virtual ones, even for those staff who remained onsite – which not only ensured inclusivity but also reduced the need for gatherings.

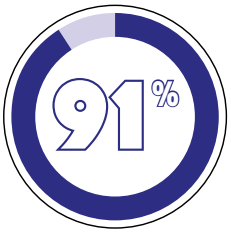
However, through the process the business found that some employees were not particularly confident in their IT skills. Whilst training for digital skills was not a priority before the pandemic, based on this experience, this company is now looking to further develop its digital skills training for all employees, particularly around cyber security, and digital communication such as web conferencing and email.

The business expects that this way of working will now become the norm. As a result, the business anticipates growing advanced digital skills requirements over the coming years. As the businesses use of automation, machine monitoring, and interfacing various pieces of production equipment together increases, these skills, previously held only by a few key technical staff, will need to become the prevalent skillset amongst our production team as we embrace digital manufacturing.

Phil Rawnson - Managing Director, MRT Castings

Overwhelmingly, manufacturers benefited from adapting the way in which they worked

Making these changes and fast has been beneficial to businesses.



OF MANUFACTURERS SAID THEY BENEFITED FROM ADOPTING NEW DIGITAL TECHNOLOGIES DURING THE CRISIS.

And of those benefitting, adhering to social distancing measures was the most common advantage (cited by 92% of companies) ensuring employees felt safe whilst remaining operational through the pandemic.

There were also productivity and production related gains to be had with over a quarter (27%) of companies saying adopting digital technologies boosted productivity – busting the myth that working remotely risks reducing productivity. And 12% said it increased the rate of production. This is hugely important given operation levels are still way below that experienced before the pandemic hit.

TWO-FIFTHS

OF COMPANIES REPORTED IMPROVEMENTS TO COMMUNICATIONS.

Day-to-day office management, once thought only to be possible through face to face contact, continued almost seamlessly thanks to quick learning programmes in the use of Zoom. Communication between staff was made "normal" through the use of meeting chat rooms, which could recreate the sensation of an employee walking through a business and visiting different departments in turn.

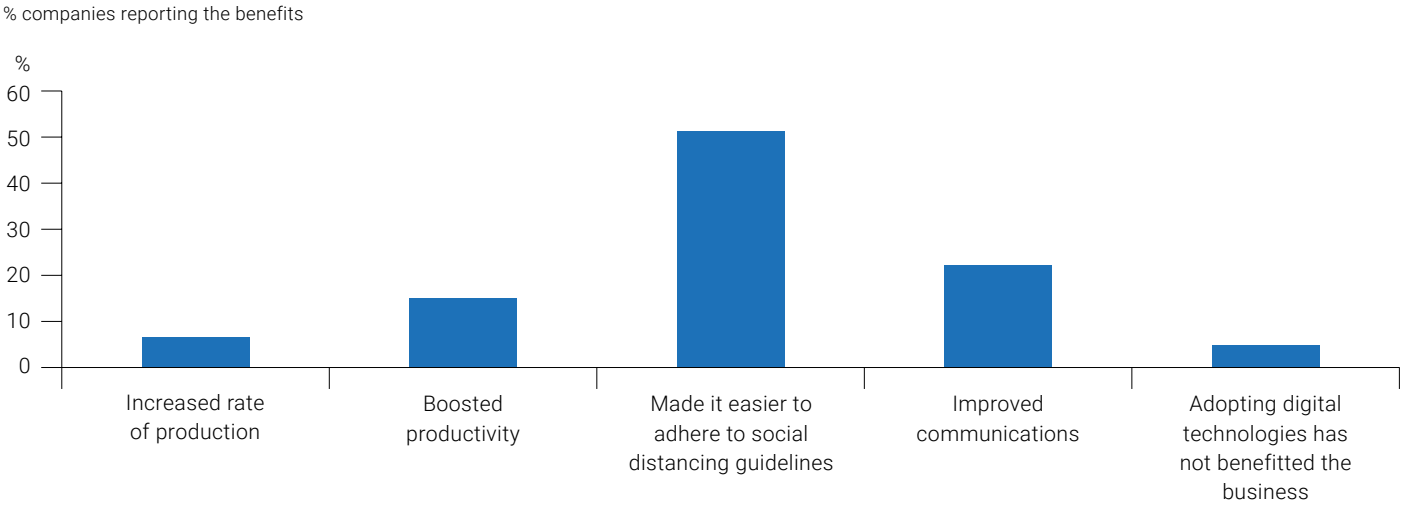
There is also a public benefit to employers changing the way they work. Creating environments where social distancing rules can be adhered to, reducing multiple interactions between employees through operating as "teams" and operating plant, machinery and production lines from afar, all mean that manufacturers are playing their part in mitigating the risk of a second wave as well as keeping as many people as possible employed within the sector.

8/10

MANUFACTURERS WILL CONTINUE TO ADOPT NEW WORKING PRACTICES

There are then clear benefits to industry applying new ways of working for their staff and the use of digital tech during lockdown. The pandemic has changed this considerably - eight in ten manufacturers plan to continue to utilise smart and digital ways of working, as lockdown continues to ease. Arguably remote working was gaining traction prior to the pandemic, but for industries such as manufacturing we are now seeing a realisation of its full potential.

Chart 1: The business benefits of new ways of working and adopting digital tech during lockdown



Source: Make UK Digital Skills Survey (2020)

tpgroup

TP Group – Maintaining and improving internal communications during lockdown

TP Group has a large number of employees in the UK, many of who are based at its manufacturing centres. As the Covid-19 lockdown occurred it had to consider its response on a number of levels:

- Effect on personnel
- Business impacts
- Manage a huge transformation in operations overnight

The company's senior leadership teams held daily reviews immediately where actions were put in place enabling the business to move forward in a safe and considerate way, ensuring their people remained safe and their customers fully supported.

The leadership team managed key business activities such as, Human Resources, Operations (Safety and Delivery), Customer Support, Finance Management and Legal Compliance remotely. An acceleration plan was established and implemented to ensure full compliance to Central Government advice in all its locations spanning mainland Europe as well as the UK, accommodating our 450+ employees. Cascading from the central leadership team were local leadership support teams who replicated a daily review ensuring consistency across tpgroup.

One of the true successes of the reaction at TPGroup was the transition to working remotely which rapidly progressed to 75% of our employees working remotely at home. This mobility exercise was completed within only a few days into lockdown through the distribution of equipment, software and training.

With many people working from home the company had to quickly look to new methods to keep up communication, both from a business, but also from a wellbeing perspective. The company has maintained and in some aspects improved its internal and external communication resulting in a more engaged workforce. It encouraged two-way communication throughout obtaining employee feedback through pulse surveys with the vast majority of employees being happy with the support TP Group offered during the lockdown, and currently during our phased returns to the workplace

TP Group is now more agile, resilient and in some areas more productive than before lockdown. It is seeing an improvement in employee engagement, communications are two way and considerate, meaning it can never better positioned to grow with an ability to scale our operations more quickly than before.

Jon Constable - Group Technology & Engineering Director, TP Group

LEONARDO

Leonardo – Investment in digital infrastructure enabled the company to continue during the crisis

Leonardo is one of the UK's leading aerospace companies and one of biggest suppliers of defence and security equipment to the UK MoD, making a £2bn contribution to the UK economy around 50% of which are in export.

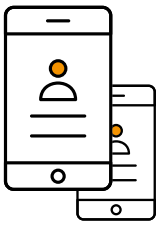
The company employs more than 7,500 highly-skilled people across 7 major UK sites from its end to end helicopter facilities in Yeovil to its dedicated radar centre of excellence in Edinburgh, its cyber team in Bristol, and its highly specialised technologies in Luton, Lincoln, Basildon and Southampton Committed to the UK's future prosperity, Leonardo has some 500 young people at any one time developing in-demand skills through their placements, apprenticeships and graduate schemes. Leonardo's workers are 80% more productive than the average UK worker. Leonardo's workers contributed £103,000 a year to GDP in 2018 on average, compared to a UK average of £57,000 that year.

During lockdown some 70% of Leonardo's employees worked remotely at some stage. The company produced guidance on working from home, substantially increased its IT provision and reconfigured the information architecture to enable remote working. Leonardo operated new off-site production working models. This included remote working between engineers using new modelling and secure sharing tools, adopting new techniques to supporting engineering developments with the supply chain and adapting research programmes.

The company was able to reconfigure production facilities to enable the continued delivery of programmes defined as "essential work" by the UK Government at the start of lockdown. The reconfigured facilities were manned by smaller teams than usual, split into shifts to continue production. Shift timings were staggered between different elements of each site's production teams in order to minimise the number entering or leaving at one given time.

The company was able to achieve this because of the production facility reconfigurations, and because of the investment in recent years of new advanced manufacturing and digital infrastructure. They were able to demonstrate what Industry 4.0 looked like in practice – which allowed them to continue to operate throughout the crisis.

Philip Pratley – Director, Trade and External Relations UK, Leonardo



2. UNDERTAKING DIGITAL SKILLS TRAINING GAVE MANY MANUFACTURERS AN ADVANTAGE

Manufacturers were for the main at an advantage. Almost two-thirds (64%) of manufacturers had undertaken training to improve digital skills in the last 12 months. Digital skills have been of paramount importance in effectively responding to the crisis in the short-term, and will be as important, if not more so in transforming manufacturers to respond to the aftermath of the crisis in the longer-term.

Interestingly it was the very smallest and largest companies that were more likely to have undertaken such training with 83% of companies with up to 9 employees having done so and 94% of those with over 1000 employees.

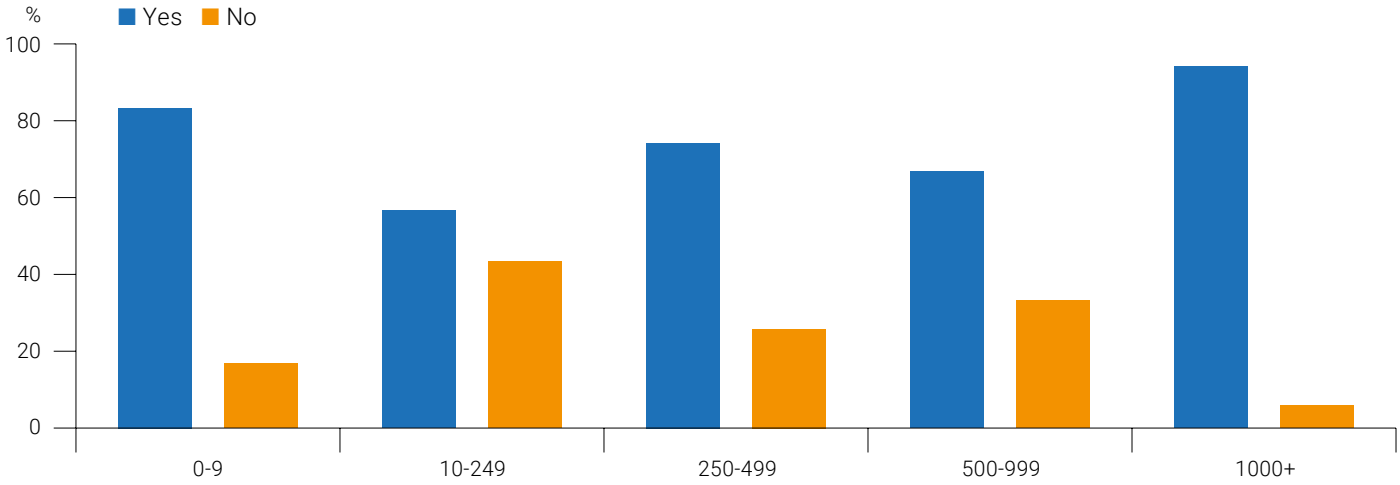
Smaller companies are often more successful at following agile principles, making bold moves, quickly. Moreover, smaller firms will often have a clearer view of their skill deficiencies, so they're better at prioritising the gaps they need to address and at selecting the right candidates for reskilling. On the other hand, they are often placed at a disadvantage in our sector – unable to compete with the big "brands" or offer as competitive pay and benefits or flexibilities.

Of those companies that did undertake some form of digital skills training in the past year, 87% said this had put them at an advantage when the pandemic struck and they were forced to adopt new ways of working at speed.

Attending virtual trade exhibitions or even hosting virtual meetings to the same effectiveness as face to face calls still require a basic level of digital skills. For those that were using 3D avatars for sustainable sampling and undertaking virtual commissioning a more advanced set of digital skill sets were required, skills which would have only been acquired through training – whether internally or externally.

Chart 2: Manufacturers see the importance of digital skills training

% of companies that have undertaken digital skills training in the past 12 months by size.



Source: Make UK Digital Skills Survey (2020)

Enginuity

Training for the digital future through the Enginuity Engage Platform

Engage is the first learning hub to specifically target engineering and manufacturing sectors, offering a range of online courses from easy first industrial digitalisation steps to more sophisticated technologies including data analytics to artificial intelligence and machine learning, to internet of the things (IoTs). The platform provides engineers and manufacturers an easy to use and interactive platform to upskill or retrain in digital engineering, which can have huge benefits in its application for productivity improvement and business efficiencies.

Whilst the platform provides a rapid response to support engineers through the Covid-19, it can also support employees looking to upskill and retrain in a range of areas as more companies move towards greater digitalisation. Helping engineers, technicians and wider manufacturing employees to learn and explore digital techniques and processes will also help support a much needed post-Covid-19 productivity boost. In addition, returning employees will be up-skilled and more agile as a workforce, and better able to adapt and respond to the pace of global technological innovation to help their companies recover at speed.

www.enginuity.org/innovation-lab/engage/

Source: Engage, Enginuity, 2020

Acquiring digital skills isn't just a short-term benefit. Make UK research found that a lack of digital skills remains the biggest barrier to adoption of Industrial Digital Technologies (IDTs).

If this challenge could be addressed, manufacturers could reap more of the benefits of digitalising their workplaces. Make UK research has found that digital technology is creating opportunities to increase productivity, reduce costs and accelerate innovation plans. Some of these skills relate to change management – with leaders not always able to articulate and implement the need to adopt new digital technologies.

However, it is the lack of digital skills within the workforce and wider labour market that companies continue to highlight.

Without addressing this issue, many companies and in particular SMEs will not be able to fully capitalise on the benefits presented by digitalisation.

Barriers to adoption of IDTs (2018 v 2020) League Table

2018	Position	2020
Digital skills	1	Digital skills
Data compatibility	2	Data compatibility
Technical knowledge	3	Finance
Change management culture	4	Technical knowledge
Finance	5	Change management culture
Cyber security	6	Cyber security

Source: Make UK, Innovation Monitor: Bouncing Back Smarter (2020)

LEONARDO

Leonardo – the need for both basic and advanced digital skills across the business

In a high value environment such as Leonardo, employees in every role need a basic set of digital skills. All employees for example have a company email account and access to IT systems. All company admin is online, supported by Microsoft Office tools.

In production, the skills required are those to set, run and configure advanced manufacturing. Throughout its operations, Leonardo employees use its SAP ERM system – the acquirement of data skills is needed to run this effectively. These may not be deemed as "basic" digital skills elsewhere, and for others considered "advanced" however this is the level of skill a high productivity, advanced engineering company increasingly need.

Leonardo's engineering teams work in an advanced data environment and need to know how to work in the current tools, with many being deeply involved in the development of next generation capabilities, which means the company needs to develop its own capabilities. The research teams need even more advanced digital skills to develop and implement its individual programmes, many of which are in partnership with UK universities and are at the cutting edge of the science involved in development of new technologies.

Leonardo's production teams develop its operations in the data environment of a bespoke SAP ERM system in which the company has invested need for advanced digital skills in order to run the business effectively and efficiently.

Its production teams work with advanced manufacturing equipment throughout the business with those in supervisory and quality assurance roles requiring advanced skills. Many of the company's production facilities have exacting environmental standards, so the production and laboratory technicians who calibrate and maintain the equipment also require advanced digital skills.

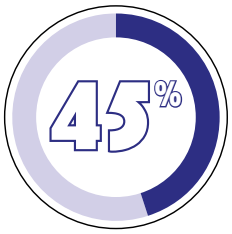
Digital training runs through everything Leonardo does, from apprenticeship schemes and graduate entry programmes, through to the tailored training programmes and a career re-skilling initiative and career development scheme. The company has undertaken all of these in the last 12 months. Despite lockdown and related measures, the company did not suspend any of its apprenticeship programmes and in fact welcomed an increased number of apprentices into the company in recent months. Similarly, it maintained its graduate stream, and have maintained all of the graduate offers for 2020 with the newest intake arriving imminently.

Philip Pratley – Director, Trade and External Relations UK, Leonardo

3. COVID—19 HAS FORCED MANUFACTURERS TO RETHINK THEIR TRAINING STRATEGIES

Digital skills were clearly paramount to this success of the UK manufacturing sector's response to the crisis. Nevertheless upskilling and retraining more widely, are of critical importance to manufacturers across the board and as we begin to think about the "new normal".

Covid-19 has also presented challenges in how we ensure the provision of training for a whole range of skills whether in-person, or remotely, changes and evolves in the years ahead. Getting ahead now can support manufacturers looking to take advantage of the productivity and efficiency gains that can be had through greater digitalisation.



OF COMPANIES SAID THEY HAD ALREADY CHANGED THEIR SKILLS AND TRAINING STRATEGIES IN LIGHT OF COVID-19

The most commonly cited change was changing provision of training. With much of the training in our sector done on-site and then topped up with off-site learning such as a local college or training provider, the way in which training has been undertaken has also adapted. In some cases this has been successful. However, we also know that training has taken a hit during the Covid-19 pandemic. A combination of cost pressures, the need to socially distance and in some cases training providers (e.g. colleges) having to close, means that two-thirds of companies have put some or all of their training on hold. The slight outlier is apprenticeships with under a third saying they have paused some or all of their apprenticeship training.

A changing training landscape can be advantageous. With provision now far more accessible on a virtual basis, employers can financially benefit from economies of scale by virtual training en masse, or tailor training to specific employees – who can then undertake it in their own time. However, it is important to remember that digital skills are best accompanied by wider soft, emotional and social skills. Work by McKinsey highlighted the need for social-sharing tools and live video sessions that create a deepened sense of cohesion in cohorts and help build skills, such as empathy, that usually depend on in-person learning.

The second most commonly cited change was up-skilling workers to increase the ability to redeploy the workforce. We know from Make UK's Covid-19 Manufacturing Monitor that the vast majority of companies have put some of their employees on furlough during the pandemic. This has left companies with even less resource and major gaps in skills, knowledge and experience. Employers have opted to re-skill and indeed multi-skill their employees to become more flexible workers, able to work across sites, factories and production lines. Employers must not stop here. They must continue to up-skill the critical parts of the workforce that will drive a disproportionate amount of value to their new ways of work and new business model.

For those employees on furlough, they have not been left behind. Employers told us that they have continued to train furloughed staff and will do so as they return back into the workplace either on a flexible furlough or permanent basis. As companies up their use of digital technologies and demand for digital skills among all employees increases as a result, there is a case for all employers who use the newly newly announced Job Support Scheme (JSS), to commit to upskilling their returning employees with at least some digital training upon their return.

McLaren - Investing in digital skills for nearly 30 years

McLaren has been investing in digital skills, such as simulation, for nearly 30 years. First in Formula 1 where the development process is nearly entirely virtual until the car is tested on the track, then within our supercar business where prototype hardware is avoided until after the concept of a vehicle is signed-off virtually.

We created the world's first hybrid hyper car, the P1TM, virtually, which significantly cut the development times from an industry average of around six down to two years. We have also supported other car makers on digital engineering, for example working with Ford on their Vivid Project to transfer knowledge, tools and techniques on the virtual product design process that will support its new generation of vehicles.

The wider sector is starting to adopt these digital techniques as we face the challenge of more complex products, and the competitive aspect of needing to be providing cost efficient results, faster. A challenge we also face is that car manufacturers and the supply chain are recognising this digital requirement at the same time. In the past we have been able to pull the supply chain with us, which has supported training but now due to the lack of digital capacity across the automotive sector, that process is slower.

There is also a challenge around the lack of understanding about what digital engineering needs, and a workforce whose experience is focused around traditional methods. This needs to be understood - and very rapidly - to ensure future training is correctly supporting our needs, and will help provide the UK with a competitive edge which will encourage more investment into the UK. Without that, other leading countries such as the USA, China and Germany, risk rapidly stealing a march on us which it will be very difficult for us to ever catch-up with.

Today's graduates have the capabilities our digital processes require but are without specialist industry knowledge. Conversely our workforce has the specialist industry knowledge but not the breadth of digital skills required. We, therefore, need an approach that acknowledges the new skills alongside the traditional approach, and to do this we need to find capacity within the training system to upskill our current workforce so that they can support the training needs of the incoming graduates.

McLaren

Training now to get ahead

It is concerning that a third of manufacturers haven't undertaken skills training in the past 12 months and those companies that didn't were likely to have felt the effects of this during lockdown.

Proficiency in digital skills is in increasing demand. Make UK's skills survey continue to point towards a rise in demand for such competences – they are becoming a necessity in the manufacturing workplace. Manufacturers need to be able to articulate what skills and competences they need from current and prospective employees. This message also needs to extend to the training market. A long-standing frustration from employers is that the training market does not deliver what industry needs. Two-thirds of manufacturers responding to our survey said the training system wasn't keeping pace. Earlier this year, we found dissatisfaction among employers that apprenticeships did not have sufficient digital content and that training providers and colleges were not always willing or able to deliver what employers need. This is not unique to digital provision but once again shines the spotlight on the need to create a responsive training market – both employers and providers have a role to play here.

How digital technology and business process innovation is helping manufacturers to build resilient supply chains

The need for digital skills and data-driven decision making has been most pronounced in manufacturing supply chains. The covid-19 pandemic has resulted in manufacturers looking to build resilience by combining localisation with global supply chains. But to do this effectively, they are beginning to explore how web and cloud-based solutions can build digitally connected supply networks. Almost half (48%) of companies responding to our survey said they plan to add products they produce in order to build supply chain resilience. As a result, almost three-quarters (73%) of companies plan to skill their existing staff in order to start to produce new production lines. More generally, as companies make this move, the skills which are needed and where they are sought will change. For the most part, companies will want to source their talent locally, however, constant research and government reviews tells us that in the manufacturing industry we are some way off accessing the volume and quality of skills required to keep up with demand.

Moreover, there is a major lag between the adoption of new digital technologies and the desire for the UK to be a world leader in such adoption and wider innovation, and the ability of our education and training system to deliver what is needed.

WARREN SERVICES

Warren Services – A culture of learning and adapting

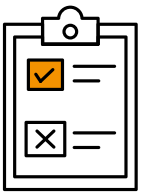
For 30 years Warren Services have been training the next generation, ensuring that their business actively embodies a culture of continuous improvement and learning. The development of its people, especially young people, is core to this. This year, despite the challenging climate as result of the Covid-19 pandemic, the company has recruited three apprentices and plans on recruiting more next year.

The recruitment of apprentices into their business is not only about securing talent for the future, which is vital, but central to how the company can continue to adopt and implement new technology into their business. Contrary to many manufacturers, they don't see the recruitment or acquisition of digital skills as a barrier. Rather, by embracing a culture of continuous learning and improvement, the leadership and management team see bringing in new talent, who tend to be digitally fluent, as an opportunity to be able to implementing new technology into their business and boost the digital skills capability in their business.

Despite the challenging environment, the business recognises that the pace of digital advancement means you have to adapt and embrace change much quicker. A new way of thinking, challenging the status quo, to overcome the challenges that manufacturers face in the next five years can be fostered when different people, from different backgrounds, of different ages are brought together. The adoption of new, digital skills is not just about sourcing these specific skills, but embracing a cultural change within UK manufacturing to continuously adapt to change.

"If we don't disrupt, we will be disrupted"

William Bridgeman, Chairman, Warren Services



4. WHAT CAN GOVERNMENT AND INDUSTRY DO TO EQUIP PEOPLE WITH DIGITAL SKILLS NEEDED TO FUTUREPROOF OUR RECOVERY AND FUTURE?

Two-thirds of manufacturers do not think the vocational training and skills landscape is keeping pace in order to deliver the digital skills provision manufacturers need.

Manufacturers are clear that the priority for Government should be offering specific support for those employers who want to upskill their workforces with new digital skills (cited by 45% of companies). While they also want to see greater financial support and investment in the longer term e.g. incentives for younger people taking digital apprenticeships, their focus for now is the immediate term.

However, to futureproof both our recovery and future, Government and industry need to address not just the immediate term needs, but also the mid-term and longer-term.

Immediate term: Protecting jobs and securing a post-covid-19 recovery

Establish a National Skills Taskforce:
Make UK continues to call on Government to establish a National Skills Taskforce with the following overall aims:

- To ensure that skilled workers who find themselves without an employer are matched with those who still have demand for their skills.
- To support workers to identify opportunities where workers' skills are in demand, whether this be the manufacturing sector or any other.
- To develop a flagship upskilling programme to support employers in the development of new digital skills that will be needed for a new future proofed economy that supports workers from groups vulnerable to exclusion (eg. Older workers) and that their skills and expertise are not lost

The Taskforce should then evolve and in the longer-term undertake skills forecasting including core and advanced digital skills requirements by sectors and regions. (This should be undertaken to ensure that we are prepared for the future and as part of contingency planning for future crises such as this). Industry will have a clear role to play, alongside organisations such as LEPs. Employers must undertake a skills audit in their own business and ensure the skills demanded are articulated and fed into this national strategy.

Mid-term: Upskilling and retraining workers to be digitally fluent

Industry working with recruitment agencies on digital skills training:
Manufacturers are increasingly looking for digital competence when recruiting. The level of which is job dependent. Manufacturers should work with recruitment agencies on a digital skills training programme which recruiters could then offer to candidates in a bid to get their digital competence up to speed before entering the workplace.

Digital skills account for lifelong learning:
Employees will need to skill and reskill through their careers and employers will need to support and in some cases undertake such training. Government should set up a digital skills account for employees that can be accessed to undertaken either company specific of more general digital skills training.

Longer-term: Harnessing the power of young people to embrace digitalisation throughout UK manufacturing

Introduce a digital skills "gate post" into all pre-16 subjects:
Government should explore adding in a digital skills pass-point in all subjects pre-16. This would mean that learners would need to meet a minimum digital competence standard before passing that subject. This would ensure that digital skills are intertwined in all subjects.

Industry must promote and encourage the uptake of digital provision among young people and inspire them to pursue careers where their digital talents are in high demand:
Industry and wider stakeholders all have a role to play in encouraging the take up of digital qualifications, skills and competences.

VIEWPOINT

With the UK recovering from the Covid-19 pandemic and its departure from the European Union just round the corner, it is vital British manufacturers have everything they need to thrive in a future that is undoubtedly uncertain. Yet, still full of possibilities thanks to a 'fourth industrial revolution', also known as Industry 4.0.

Embracing new technology is vital to ensure the strong future of British manufacturing. The pace of change is speeding up, thanks to the increasing use of big data and predictive analytics, robotics, multi-purpose production, artificial intelligence and automation.

Manufacturing in 2050 will look very different to manufacturing today, and indeed it is completely unrecognisable today in comparison to 30 years ago. Today, the most successful companies will be the ones capable of adapting their infrastructure to exploit changes in technology.

Covid-19 is sharply poking into action any manufacturer reluctant to take advantage of cloud technologies. Those businesses adaptable enough to use different ways of working will likely suffer the least. Many UK manufacturers have shown the foresight to invest in smart digital technologies, which is why they were able to remain open even if they weren't working at full capacity.

As we advance, digitisation will be the great leveller, offering any business regardless of their size the opportunity to compete with bigger rivals and the markets they may have dominated. Sage research showed there has been a profound shift over the last six months with 73% of small and medium businesses investing in technology and 67% saying they would like to be in a position to go further. Technology supports efficiency, effectiveness and productivity, allowing them to connect with customers and partners around the world and use data to increase collaboration and solve business problems.

Given the current uncertainty, unfortunately most businesses do not feel they have the bandwidth to go further. Most small businesses have been left, following six months of disruption, without the financial capacity to adopt technology to the level they would like. One in two say they do not have the funds currently and 9 out of 10 report that a government incentive to support adoption would benefit their recovery from the impact of the Covid-19 pandemic.

The Skills Challenge

The British manufacturing workforce must be comfortable with these new technologies. Instead of fearing artificial intelligence and 'robots' taking their jobs, professionals need to understand that in the short and long term, technologies and new business models can boost productivity and allow them to focus on less repetitive, more business intensive activities.

The successful manufacturers will be those that can take advantage of a broader base of skills, nurturing highly qualified leaders and managers who have both commercial and technological knowledge, with a grounding in science, technology, engineering or mathematics.

The quality and skill of the manufacturing workforce is a critical factor in UK firms capturing competitive advantages. Thankfully, the UK government is making moves to support businesses in establishing a continuous supply of skilled workers, much needed in a world where manufacturers require multidisciplinary tools to create complex products and innovative business models.

Make UK recommends a National Skills Taskforce will protect jobs and ensure a post-Covid-19 recovery. Still, it is up to British manufacturers to use all available support to promote and market the opportunities in manufacturing at all levels of education, in the short, medium and long term.

There is no easy short cut to success. But we need action now to build our recovery, ensure UK manufacturing is competitive with the rest of the world, and celebrate uncertainty as something we can look forward to and see the opportunity in.

Robert Sinfield,
Vice President Product,
Sage

Make UK is backing manufacturing - helping our sector to engineer a digital, global, and green future. From the first industrial revolution to the emergence of the fourth, the manufacturing sector has been the UK's economic engine and the world's workshop. The 20,000 manufacturers we represent have created the new technologies of today and are designing the innovations of tomorrow. By investing in their people, they continue to compete on a global stage, providing the solutions to the world's biggest challenges. Together, manufacturing is changing, adapting and transforming to meet the future needs of the UK economy. A forward thinking, bold and versatile sector, manufacturers are engineering their own future.

MakeUK.org

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