policy connect

All-Party Parliamentary manufacturing Group

SUPPORTING UK MANUFACTURING SKILLS IN A POST COVID-19 WORLD

ERA FOUNDATION

MANUFACTURING FUTURE STATE

Covid-19 has fundamentally changed the world's perception of manufacturing. Previously associated with heavy industry, in a time of global crisis the sector has shown its flexibility and utility in daily life: from PPE, to vaccines and ventilators, it has never been more apparent that a strong economy needs a strong manufacturing sector. Trade body MAKE UK found that 95% of their members continued to operate in some way throughout lockdown[1], no mean feat and a tribute to all involved. As the BEIS Secretary of State Alok Sharma MP said in his December 2020 letter to the manufacturing sector "you are contributing to the resilience of our nation"[2].

However, the past year has been financially challenging for UK manufacturers with the Purchasing Manager's Index (PMI) dropping to its lowest in 30 years in May 2020[3]. Many employers have had to make staff redundant, while struggling to meet demand due to skills shortages, and to work double time to ensure workplaces are safe and Covid-19 compliant.

As the economy begins to recover, manufacturing will be a critical component of a future net zero and digitalised society. We will need more manufacturing than pre-Covid-19, and this means both private and public investment and support. Attitudes to work have changed and this presents challenges in manufacturing which relies on productivity and resilience. Net zero requires digitalisation and a more inclusive organisational culture.

Deloitte's UK Human Capital practice found that 40% of executives were focusing on building workforce capability through upskilling, reskilling, and mobility[4]. It is clear that this priority forms a core part of businesses' strategic deployment - especially for manufacturers, who are now more so than ever looking to build a new organisational culture and implement new technologies.

The skills needed will evolve the sector develops, but at the core there are 2 main types of skillsets required, as outlined by MAKE UK in their digital skills report[5].

1. Basic digital skills such a Microsoft Word, Excel, ERP systems
2. Specific digital skills such as software programming, advanced logistics management, data analysis, cloud based solutions management, new machining and manufacturing methods

By 2030 it is likely a whole host of new capabilities will be discovered requiring new training and resources. In a changing environment, education providers[6] will need increased guidance from industry to ensure curriculum and training aligns with wider business needs, across all organisational scales. For its part the sector will need to become more confident in articulating its business needs.

Furthermore, there is no clear distinction between provider and customer. The term 'education provider' includes apprenticeships, industrial placements, graduate programmes, returner's programmes, reskilling, and internal training. Therefore, all different provider types must be invested in a sector-wide journey and their efforts must be jointly supported by government.

Looking ahead at opportunities and threats, there are a number of key questions. Where does a skills retention plan demand investment? If levelling up individual regions is our aim, how and where can we harness more flexible working to access this? What else do we need to factor in so that future manufacturing is an equitable, net zero sector that values and exploits emerging digital technologies, and is built upon an inclusive skills system with diverse provider partnerships?

Our education system needs to be adaptable, to ensure that our skills system is in line with the changing needs of industry and is swift in its delivery. It must also be adaptable in different ways in different places, so manufacturing can contribute to levelling up, involving players from the supply and demand side, and national and local government.

The re-integration of furloughed workers provides a great opportunity to kick off retraining[7], in a way that is conducive to part-time and mature learners, and to individuals from diverse backgrounds. Technical skills will be key: Policy Connect will consider technical skills issues in its forthcoming Skills Commission inquiry. If we are to seriously commit to growing from the pandemic in a sustainable manner and tackling the barriers to achieving net zero by 2050, we must be prepared to retrain individuals at multiple points across their lives in flexible ways. Importantly, this must be done in an inclusive manner, where all individuals from diverse backgrounds are adequately included and represented, and can contribute to this critical change.

[1] https://www.makeuk.org/news-and-events/news/future-proofing-your-business

[2] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/878651/Letter_from_Secretary_of_State_Alok_Sharma_MP_to_those_working_in_Manufacturing.pdf

[3] https://tradingeconomics.com/united-kingdom/manufacturing-pmi

[4] https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/human-capital/deloitte-uk-2021-global-human-capital-trends-european-special-report.pdf

[5] https://www.makeuk.org/insights/reports/digital-skills-for-a-digital-manufacturing-future

[7] 28% of furloughed workers state that they are likely to retrain if made redundant at the end of the furlough scheme; this rises to 50% in 18-24 year olds, according to https://yougov.co.uk/topics/economy/articles-reports/2021/04/14/most-young-furloughed-workers-fear-impact-career-

Recommendation 1: Empowering employer education partnerships in place to drive skills for enterprise, net zero and innovation

To deliver its priorities of enterprise, net zero, and innovation, the Business Department must empower regional and local bodies (LEPs, Chambers of Commerce) to drive the delivery of skills for these critical government priorities. This will ensure that skills are being 'replenished' at a local level, in accordance with local needs.

Rationale:

As the APMG and Policy Connect said in our report ***Level Up Industry***[8], supply and demand in job opportunities and skills provision is currently mismatched. The skills system produces people who would like to find work, but are not 'work ready'. With manufacturing facing profound changes and the need to level-up, it is imperative that the UK's skills system meets the changing needs of industry.

For the skills pipeline to meet industry needs there must be more, better quality, and consistent partnerships between employers and education providers. There are numerous examples of good employer-provider relationships that deliver the skilled people businesses need such as Blueprint 1000 and Cheshire and Warrington Local Enterprise Partnership (LEP). These kind of employer-education partnerships should be replicated in all other regions. In addition, to be able to attract learners into the reskilling system, funding needs to be provided for guidance services signposting training so that people can learn, train, and progress in their chosen sector areas.

Good employer-provider partnerships means both employers and individuals benefit, and therefore the economy does too.

Blueprint 1000 is the Design and Technology Association's mechanism connecting business and industry with education and creating an enhanced curriculum. Employers have ongoing involvement and engagement both with the education programme and its delivery, creating a more effective pipeline from students to employees, and addressing a skills mismatch.

Cheshire and Warrington LEP. 23% of the area's economy was based around manufacturing and it produced 25% of North West England's manufacturing outputs pre-COVID[1]. The LEP has formed a board of employers who advise the local enterprise partnership on data, the labour market, skills, and education[1]. Employers and education providers have jointly pledged to put career strategies and delivery plans in place for both employers and individuals. This has helped address the previously mismatched needs of local businesses with the talent at hand, and also helped more young people understand what the local labour market has to offer. It has allowed the sector to adapt to changing needs, such as for digital and STEM related skills to help drive productivity across Cheshire and Warrington.

Recommendation 2: Funding the future workforce

Government and the manufacturing sector must jointly fund a regional led approach to skills improvement policy. Government should provide more autonomy to local authorities on funding allocation, to ensure that training is targeted to the skills demand in each UK region, supporting all manufacturers across the supply chain.

Rationale:

The centralised Plan for Jobs programme, providing £160 billion to "protect people's jobs, incomes and businesses"[9] does not directly address the skills shortage that is becoming more apparent as we recover from the effects of the Covid-19 pandemic. In 2019, the Industrial Strategy Council forecast that over 5 million workers could become acutely under-skilled in basic digital skills by 2030[10] and the pandemic has reinforced the importance of digital skills.

The skills required by industry must be addressed at the local level. They are difficult to quantify and predict; however, the National perspective provides a strategic push forward. For example, skills needs will depend on industrial clusters and the manufacturing businesses located in a local area. The departure from cities in Covid-19 and the demands of net zero mean that manufacturers will have to recruit front line staff from their local area. The local skills infrastructure needs to be able to match that demand. Life-long learning and reskilling needs a combination of employer and government investment into modular just-in-time training, to address both short term long term needs.

Businesses will need a variety of new or re-purposed technical skills to meet the net zero commitments set by the government including:

- 5 GW of hydrogen production by 2030[11]
- Digital transformation of manufacturing and the adoption of advanced /digitalised manufacturing methods
- Digital supply chains
- New methods to reduce industrial carbon consumption by 2035[12]

[8] Level Up Industry: Strengthening Regional Manufacturing; Policy Connect report of March 2020, see recommendation 6 https://www.policyconnect.org.uk/research/level-industry

[9] Build back Better: Plan for Growth, HM Treasury, 2021 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/968403/PfG_Final_Web_Accessible_Version.pdf

[10] Industrial Strategy Council (2019), 'UK Skills Mismatch in 2030' https://industrialstrategycouncil.org/sites/default/files/UK%20Skills%20Mismatch%202030%20-%20Research%20Paper.pdf

[11] https://www.gov.uk/government/publications/uk-hydrogen-strategy

[12] Industrial Decarbonisation Strategy https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/970229/Industrial_Decarbonisation_Strategy_March_2021.pdf

The APMG found good examples of how employers and education providers can deliver the right skills for the region. For example, the West Midlands Combined Authority (WMCA) set up a scheme in 2018 to supercharge apprenticeships. The apprenticeship levy transfer fund pledged £21 million ensuring over 1840 apprentices and 613 SMES in the West Midlands benefitted over 2 years[12]. These types of schemes, to provide flexibility and autonomy, are needed across the UK, requiring significant investment by both industry and government. The Manufacturing Commission report ***'Level Up Industry: Strengthening regional manufacturing'*** called for greater autonomy across regions to address their local industry skills needs ensuring that inequalities across the UK would be reduced[13].

Recommendation 3: Creating a more diverse sector that actively draws on all talents

Government needs to drive forward the equality objectives published in July 2021, including through published reporting and follow-on strategies on how it can best support industry to deliver these targets.

Rationale:

Any successful sector needs to combine inclusivity and diversity, in order to actively draw on the strengths and talents of the whole population. While some progress has been made there is a long way to go before these principles are widely adopted within the sector. A diverse workforce requires active inclusivity not just at the recruitment stage, but across all its operations, to ensure retention and advancement. Employers must commit to increased diversity within their organisations, creating an accessible culture of inclusion, and retention efforts that reflect the former two practices. One critical way to ensure this could be to include those with protected characteristics in the discussions about their role in the manufacturing sector, as they would be best placed to advise on improving diversity, inclusion, and retention efforts.

Currently the Engineering sector alone has approximately 14.5% women and 9.9% of ethnic minorities, with even poorer data for disabilities and other crucial protected characteristics[14,15]. Black Engineers have a 35% chance of progression in the industry compared to 57% of white counterparts. These are realities that can and do drive individuals out of the sector[16].

Employers should embrace examples of best practice that create an inclusive and accessible environment within the sector, such as:

- *Change the Race Ratio, an initiative which involves making four critical commitments, including increasing racial and ethnic diversity at Board level, ensuring diversity in senior leadership, being transparent on targets and what actions have been taken to achieve them, and creating an inclusive culture within which diverse talent can thrive .*
- *The Royal Society of Chemistry have set a up Mentoring Scheme recruiting mentors and mentees with experience of disability of any kind to tackle the barriers faced by disabled chemists through contact and support from those with similar experiences.*

We welcome BEIS' equality objectives which were published in July 2021[17], and the objectives for the manufacturing sector such as working more closely with trade and professional bodies. Government and the industry needs to keep the focus on implementation, through published progress reports, as well as through developing follow-on strategies in the light of this reporting. To help, the Manufacturing Commission and Policy Connect will carry out further work in this area, and explore how skills, equality, diversity, and inclusion can be addressed within the sector.

[12] West Midlands Combined Authority, https://www.wmca.org.uk/news/wmca-hits-21m-in-scheme-to-fund-apprenticeship-training-for-small-and-medium-sized-businesses/

[13] Level Up Industry, Policy Connect https://www.policyconnect.org.uk/research/level-industry

[14] https://www.wisecampaign.org.uk/statistics/women-in-stem-workforce-2017/

[15] https://www.engineeringuk.com/news-views/new-data-suggests-increase-in-number-of-women-working-in-engineering/

[16] ACCELERATING CHANGE: Improving Representation of Black People in UK Motorsport , The Hamilton Commission, July 2021 https://www.hamiltoncommission.org/the-report

[17] BEIS equality objectives 2021/22 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1000707/beis-equality-objectives.pdf

METHODOLOGY

This report was produced by Policy Connect for the All-Party Parliamentary Manufacturing Group (APMG) in partnership with the ERA Foundation. The aim of this series was to better understand the immediate challenges around workforce resourcing for manufacturing as we emerge from the pandemic and begin conversations around policy interventions that will support the sector. The APMG hosted four evidence gathering sessions in February, March, June and July 2021, bringing together leading figures in the manufacturing, education and skills sectors as well as academics, parliamentarians and civil servants. The views and opinions presented in this report do not necessarily represent those of the speakers or the supporters of the APMG.

About APMG

The APMG is at the forefront of policy debate, parliamentary engagement and research related to manufacturing and industry. By holding regular events and seminars in Parliament, the APMG seeks to bring parliamentarians together with industry and the commercial sector to better understand sector challenges. The APMG publish a monthly newsletter to Parliament and its members, with summaries of manufacturing policy stories, industry news, and other political developments, along with research-based briefing papers on topical legislation. The Manufacturing Commission produces research reports with evidence-based recommendations for government informed by our members.

Special thanks to our speakers who contributed to the roundtables: Daniel Zeichner MP, Mark Pawsey MP, Lord Bilimoria, Pat Jackson, Tony Ryan, Sally Wade, Dave Wright, Peter Mayhew Smith, Giorgio Buttironi, Scott Wilkins, Dr Hayaatun Sillem, David Nash, Dr Martin Hollins, Dr Nike Folayan, Dr Hilary Leevers.

About Policy Connect

Policy Connect is a cross-party think tank with five main policy pillars which are: Education & Skills; Industry, Technology & Innovation; Sustainability; Health; and Assistive Technology. We specialise in supporting parliamentary groups, forums and commissions for which Policy Connect provides the secretariat and delivers impactful policy research and event programmes. Our collaboration with parliamentarians through these groups allows us to influence public policy in Westminster and Whitehall. We are a social enterprise and are funded by a combination of regular annual membership subscriptions and time-limited sponsorships. We are proud to be a Disability Confident and London Living Wage employer, and a member of Social Enterprise UK.

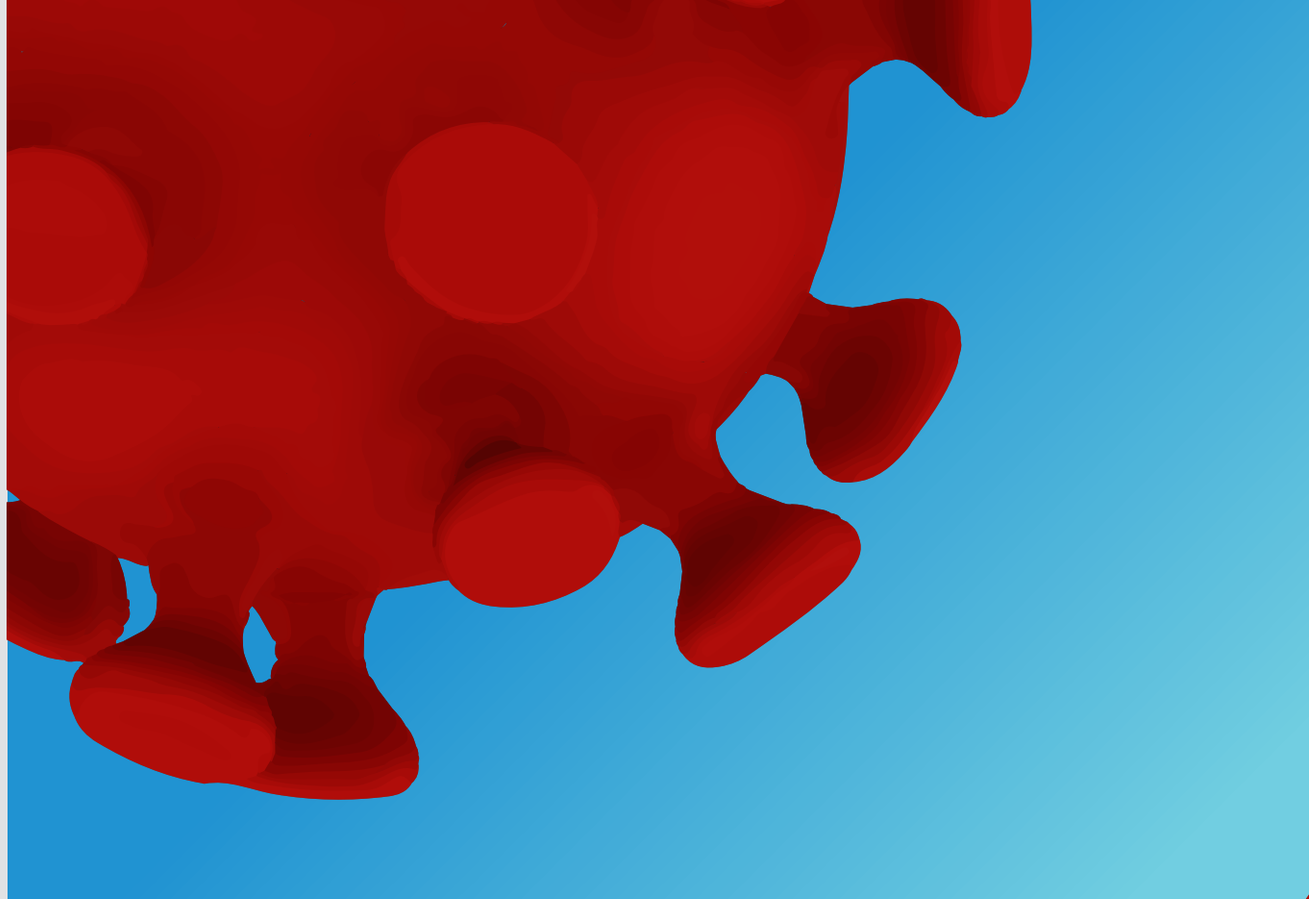
This project was undertaken by the Industry, Technology & Innovation team at Policy Connect. Special thanks to Floriane Fidegnon, Head of Industry, Technology and Innovation and Shiza Naveed, Project Coordinator, who co-authored this report.

About ERA Foundation

The ERA Foundation is a non-profit organisation. We support electech manufacturing across the UK by supporting engineering, innovation and skills development programmes. The ERA Foundation has been supporting UK engineering and innovation skills development in electech manufacturing since 1920. Our aim is to ensure the important role that the electech manufacturing sector plays in the UK economy is recognised; to support the next generation of UK engineers, and to encourage entrepreneurship, innovation and technical excellence in individuals and organisations.

We work with organisations which share our principles, and ensure all of our partners have a significant stake in what we do and how we do it. Our work with partners can involve generating new policy ideas; developing, funding or delivering skills programmes; supporting engineering engagement activity; or coordinating the sharing of skills and knowledge between partners.

Partnerships are at the heart of the Foundation's work to achieve its aims. Our partners range from prestigious national institutions, STEM skills delivery organisations and large corporate institutions to local community groups. We also work with government departments, policy think tanks, and the financial sector. The relationships we have built with our partners have allowed us to develop a wide range of successful initiatives and to achieve a much greater impact from the outcomes of our work in the sector.



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