



Welsh Government
Consultation Document

A manufacturing future for Wales: a framework for action

How we should work with industry, trade unions and
academia to future proof manufacturing in Wales

Date of issue: 21 September

Action required: Responses by 19 October 2020

Mae'r ddogfen yma hefyd ar gael yn Gymraeg.
This document is also available in Welsh.

Overview	This consultation seeks views on the proposed manufacturing plan and the actions needed by government, industry, trade unions and academia.
How to respond	Responses to this consultation should be e-mailed/posted to the address below by 19 October 2020.
Further information and related documents	Large print, Braille and alternative language versions of this document are available on request.
Contact details	For further information: Industrial Transformation Division, Welsh Government, Cathays Park Cardiff CF10 3NQ email: IndustrialTransformation@gov.wales

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The Welsh Government will be data controller for any personal data you provide as part of your response to the consultation. Welsh Ministers have statutory powers they will rely on to process this personal data which will enable them to make informed decisions about how they exercise their public functions. Any response you send us will be seen in full by Welsh Government staff dealing with the issues which this consultation is about or planning future consultations. Where the Welsh Government undertakes further analysis of consultation responses then this work may be commissioned to be carried out by an accredited third party (e.g. a research organisation or a consultancy company). Any such work will only be undertaken under contract. Welsh Government's standard terms and conditions for such contracts set out strict requirements for the processing and safekeeping of personal data.

In order to show that the consultation was carried out properly, the Welsh Government intends to publish a summary of the responses to this document. We may also publish responses in full. Normally, the name and address (or part of the address) of the person or organisation who sent the response are published with the response. If you do not want your name or address published, please tell us this in writing when you send your response. We will then redact them before publishing.

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Cathays Park
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The contact details for the Information Commissioner's Office are:

Wycliffe House
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Ministerial Foreword

Manufacturing, with its long history in Wales, is part of our national story. The largest contributor in terms of Gross Value Added (GVA) to the Welsh economy, it provides good quality employment to thousands of individuals and scores of communities the length and breadth of Wales. Manufacturing is more important to Wales than to any other part of the UK and that is without taking into account the employment footprint i.e. the longer term operation, maintenance and service related activities, which take place as a consequence.

However, manufacturing is in the midst of profound change. From the COVID-19 pandemic to Brexit to climate change; from the explosion of new technologies, affecting customer choices and preferences, to the ever-increasing pace of globalisation – manufacturing is going through one of the most intense periods of change in its history. Recently, the sector faced an unexpected challenge in the form of COVID-19 and responded by helping to secure the safety and security of the citizens of Wales. The Welsh Government, with its proud history of working closely with industry and with trade unions, wants to support our manufacturing through this period of change, helping it prepare for the future.

As we made clear in the Economic Action Plan (EAP), helping Welsh industry to decarbonise and become more resource efficient; encouraging greater innovation and headquarter location in Wales; growing our export potential; driving up the incidence of high quality employment and skills in all parts of Wales and expanding the research and development base here in Wales, are all vital to future-proofing Welsh industry for the challenges to come. Of course, we now face an immediate challenge in terms of recovering from the pandemic and the government is clear that this should be based on 4 pillars:

- a place based recovery which unlocks the opportunity to drive coordinated activity with the relevant partners built on a shared understanding of an area's strengths and needs;
- a people based recovery which needs to refashion and re-prioritise apprenticeship, further education and university offerings;
- a green and just recovery which steers Wales away from this unprecedented crisis to build a more resilient economy based on the industries we need now and for the future; and
- a digital recovery which establishes Wales as a place of digital innovation.

We have discussed with stakeholders the importance of the manufacturing community to Wales, its place in the Economic Action Plan and its importance in delivering the objectives of the Well-being of future generations act. It is also clear that we need to see urgent action at a UK level too. We need to see manufacturing evolve in order to face the grand challenges outlined in the UK government's own [Industrial Strategy](#) including:

- Artificial Intelligence, the data economy and cyber security needs;
- clean growth - decarbonising and responding to the climate change emergency;
- the future of mobility - moving to shared mobility and zero carbon vehicles; and
- our ageing society and how new technologies can help.

This period of change will be challenging for Welsh manufacturing, but it also represents an opportunity too. By embracing trends, such as the use of alternative lower embedded carbon materials and increasing automation and digitalisation, we can build a new future for Welsh manufacturing. This will mean a change of culture, ensuring that as a nation we innovate more, improve productivity, become more competitive, develop our skills and focus on how we tackle the impact of climate change.

In short, we have to transition our manufacturing community - including its supply chains - to one which is increasingly involved in 'added value' activities. We need a manufacturing community, which consists of companies who have a strong financial performance, who put fair work at the heart of everything they do, who undertake strategically important activities and who make a positive social, economic, environmental and cultural impact on their local communities, their regions and the supply chain in Wales. As laid out in our draft circular economy strategy, 'Beyond recycling', we need the manufacturing community to fully embrace the opportunities provided by moving towards a more circular economy. Our aim is to become a country where we avoid waste, keep resources in use as long as possible and use our fair share of the earth's resources. Such a community is easily recognisable and best describes the future of High Value Manufacturing (HVM).

To make this happen, we cannot rely on business as usual; instead, government, industry, trade unions, academia and other stakeholders must explore new ways of collaborating to develop a community, which:

- protects and promotes growth in existing high value manufacturing capabilities, especially through its Small to Medium Size Enterprises (SMEs), by sharing best practice and collaboration;
- exploits Wales' assets and advantages to establish competitive advantage;
- positions itself to maintain and improve its contribution to the economy, communities, environment and culture of Wales by creating new facilities for research, development and innovation; and
- provides leadership to key manufacturing supply chains and help to transition into new opportunities and areas.

We have already shown – through investments at Aston Martin, Thales, CAF, Airbus and elsewhere - how an active approach to industrial policy can help support new growth opportunities. The recently established Advanced Manufacturing Research Centre (AMRC Cymru) at Broughton is an example of the type of future proofing needed and this approach will be further developed through the delivery of an additional facility in Deeside.

The proposed manufacturing plan based on the principles in the EAP, is a statement of intent and sets out the policies, commitments and actions we all need to take to future proof manufacturing in Wales. It will include an action / delivery plan and time horizon to establish short, medium and long-term activities.

I welcome your views and suggestions on the proposals in this consultation document.

Ken Skates MS, Minister for Economy, Transport and North Wales

What are the main issues?

The definition of manufacturing

Manufacturing can be defined as a sector itself but is, in fact, a composition of sub-sectors including food & drink, information & communications technology, chemicals, electronics, life sciences, construction, metals, security, energy, chemicals, aerospace, defence and transport including automotive and rail.

This is a very broad description of many of the activities that contribute to the well-being of the economy of Wales and linked to this are the consequent operation of maintenance and service activities, which contribute to our foundational economy. A key activity in manufacturing is adding value in the processing of raw materials or parts into finished goods.

In more general terms, we are looking to our manufacturing community to ensure their activities have a positive social, economic, environmental and cultural impact on the well-being of Wales, delivering on the objectives of the Well-being of future generations act.

The well-being of future generations act

The proposed manufacturing plan will use the five ways of working prescribed in the Well-being of future generations act, ensuring the actions we take will:

- Future-proof the long term future of manufacturing in Wales, growing an innovative low carbon community;
- Prevent decline in manufacturing and focus on sustainable growth through diversification of supply chain activity;
- Ensure integration with other actions being taken by other public sector bodies such as the Corporate Joint Committees; City / Growth deals and Skills bodies;
- Facilitate collaboration within and between government, industry, academia and trade unions, where appropriate; and utilising the social partnership model developed in Wales; and
- Involve the people of Wales, reflecting the society in which manufacturing operates and ensuring equality of opportunity.

The actions we take will be felt across the whole of Wales, building on bespoke regional strengths and helping to spread prosperity.

Future proofing

To ensure that our manufacturing community, including its supply chain, is fit for the future, there are important issues we have to address. These include:

- Climate change, the need to protect our environment and to decarbonise our commercial and social activities, taking a holistic approach to the circular economy;
- Technological change as envisaged in [Wales 4.0 Delivering Economic Transformation for a Better Future of Work](#) including artificial intelligence, automation, digitalisation and the connected environment;

- The need to refine skill sets to ensure we have the people with the right skills we require in Wales to work in manufacturing;
- The provision of modern infrastructure to support changes to the way we work and how we access work opportunities including modern employment sites and premises, transport infrastructure, energy infrastructure, circular economy infrastructure, communication systems and the merger of personal and public mobility;
- Fair work commitments to ensure that people working in manufacturing are treated fairly in accordance with the Welsh Government’s economic contract and ethical employment in supply chains code of practice;
- Strengthening collaboration between government, industry, trade unions and academia to increase innovation by the application of research to improve competitiveness;
- Developing communities and clusters within manufacturing sub-sectors to develop a culture of continuous improvement of best practice and collaboration;
- Strengthening leadership and management in manufacturing by identifying key skills such as strategy and execution and risk management to sustain and grow their businesses;
- Supply chain resilience and supporting the foundational economy by the re-shoring and localisation of priority items within the supply chain for the well-being of Wales initially using the procurement of public sector and key anchor institutions / companies; and
- Improving anchorage of businesses in Wales by encouraging and facilitating decision-making functions such as headquarters, research and development, sales and marketing and procurement in Wales.



Where are we now?

MAKE UK, which represents the UK manufacturing community, reported on the current state of the sector in June 2020. It stated that manufacturing has continually reinvented itself in order to adapt to the many factors and forces which drive change.

Manufacturers have proven themselves to be the ones creating new technologies of today and designing innovations of tomorrow. They have continued to invest in their people, allowing them to capitalise and compete on a global stage, and in many cases have provided the solutions to the world's biggest challenges. For example, the response to the Incubator Challenge by Airbus exemplified the adaptability and skill set of its Deeside workforce.

As we seek to recover from the COVID-19 pandemic, the UK economy will need manufacturers to continue to step up to ensure resilience, prosperity, global responsibility and boost productivity, to power economic growth and deliver shared opportunity in every region of the UK. A digital, global and green future post COVID-19 is possible, but it will require a bold, brave and new vision for our economy – one that puts manufacturing at its heart.

As the COVID-19 pandemic struck early in 2020, manufacturing, like many sectors, was hit hard. Sales and orders fell, domestic and global supply chains came to a halt in many cases and staff were furloughed, with redundancies announced in many of our leading companies. The UK manufacturing Purchasing Managers' Index (PMI) dipped to 32.6 in April 2020, the lowest value since records began. Manufacturing output fell to an all-time low, with some firms reducing production while others repurposed their operations towards producing equipment for the health service.

Office for National Statistics (ONS) data for UK April 2020, the first full month of the UK lockdown, highlighted the impact of COVID-19 on the UK economy; GDP fell by 20.4%, the largest fall since monthly records began in 1997, equivalent to a fall of approximately £30 billion in GVA. Many businesses reported zero turnover. Of the 13 manufacturing sub-sectors, 11 recorded the largest falls since records began in 1968, with transport equipment hardest hit, its growth recorded at -50.2%.

The impact on aerospace manufacturing saw output reductions of 30-40% on single aisle and 50% wide body aircraft and this is expected to remain until 2023/24. In the automotive sector, the new car market reported output down 34.9% and half-year manufacturing figures were also reported down 38.2% in June.

In Wales, The Learning & Work Institute (Cymru) reported that at the outset of the crisis, around one fifth of the workforce in Wales worked in 'shutdown sectors' which have been hardest hit by coronavirus.

Key manufacturing sectors within Wales have been highly exposed and severely disrupted, notably automotive, aerospace and steel production, and this has been evident with the five largest aerospace employers in Wales all having announced major restructuring plans during the summer of 2020. When added to the uncertainty of leaving the EU, together with the transition to lower carbon footprints, ever increasing global competition, and the challenges of new technologies such as AI, cyber and

digitalisation, it is understandable why the reference to a perfect storm scenario has been evoked.

Despite these extraordinarily tough trading conditions, some sectors have seen stable or even increased demand and these include food and drink (outside hospitality), pharmaceuticals and chemicals. The majority of UK manufacturers (94%) remained operational. We hope this is a sign of the green shoots of recovery, led by many manufacturing operations, who repurposed their factories and supply chains to produce vital equipment and supplies for the health sector, including ventilators and Personal Protective Equipment (PPE) during the peak of the pandemic that is still with us.

Manufacturers have also led the way in implementing and demonstrating best practice for our return to work. The sector faces considerable challenges as it continues to battle with COVID-19.

Transitioning to High Value Manufacturing (HVM)

Manufacturing in Wales is very broad range of activities such as aerospace and semi-conductors to food production and small engineering. Our aim is to ensure that all our activities are “high value” in that they contribute to the social, economic, environmental and cultural well-being of Wales. Therefore, the actions we agree to take in partnership must be adjusted according to region, industrial sector and organisation size to ensure all parts of Wales benefit. We recognise that different parts of Wales have different strengths and we must ensure the actions we take reflect these regional differences.

The proposals in the manufacturing plan cannot stand in isolation and the actions we will take with our social partners through our Economic Action Plan will need to be complemented where appropriate through the UK Industrial Strategy including the areas listed in the grand Challenges including “Driving the Electric Revolution”, “Future Flight”, “Prospering from the Energy Revolution” and “Transforming Construction”.

We will continue to establish stretching economic contracts across the regions of Wales with companies in Wales, especially those in receipt of Government support, so that there is a reciprocal relationship, whereby:

- Welsh government will provide public investment to enable businesses to transition to high value activities as well as using public procurement spend to demonstrate how demand can drive the agenda; and
- Manufacturing companies will provide economic growth through innovation and exploring export potential for products manufactured in Wales alongside providing fair work, a healthy working environment and becoming more resilient to Climate Change.

Economic contracts are important indicators of how the manufacturing community is engaging and aligning with government and will be a key measure in determining the success of the proposed manufacturing plan. In the manufacturing sector, these agreements could be used to strengthen our commitments to fair work, a local supply chain and a local decision making process in terms of research, development and innovation. This will be an important focus if we are to anchor and attract manufacturing companies to Wales.

Evidence for change

A comprehensive survey - *'Manufacturing in Wales – Mapping and Capacity Survey'* was commissioned by Welsh Government and Industry Wales and undertaken by Wavehill Consulting in 2017. It received responses from 713 companies, collectively employing approximately 26,000 employees. This data gathering exercise was designed to establish and report on the capabilities, aspirations and supply chain opportunities of the manufacturing and manufacturing services sectors in Wales. The survey targeted companies in the previously defined sectors such as advanced materials & manufacturing, food & drink, creative services, information & communications technology, construction, energy & environment, marine and life sciences.

It highlighted a number of issues including:

- the entrepreneurial spirit in the sector;
- the relatively high sourcing of goods & services from outside of Wales;
- the barrier to growth of not having appropriate contacts;
- the low level of automation / robotics;
- the low take up of lean management or improvement processes;
- the relatively low investment in research & development and innovation;
- the relatively low level of links with academia;
- the relatively low GVA per employee particularly in smaller companies;
- the relatively low value of overseas sales;
- the importance of inward investment; and
- the difficulties in recruiting appropriately skilled staff.

One of the key findings revealed that it may not be the lack of capability to address these issues but rather an awareness of what is existing and how to make contact with such parties.

It is important to note that this survey was undertaken before the UK had left the EU and COVID-19 outbreak so there may be changes in the priorities of companies. As part of the process of developing this consultation document, we undertook initial discussions with a variety of stakeholders including industry and these discussions suggested that a further review of capacity and capability was necessary in light of the recent developments. It was suggested that new evidence be taken on relating to the development of circular economy / low carbon approaches, research, development and innovation support, implementing automation, digitisation, artificial intelligence and industry-led good practice schemes on safe working.

Public Sector Procurement

Welsh Government funded public sector bodies spend £6.3 billion per annum on external goods and services. The statistical analysis we undertake suggests that 52% of that spend is with companies based in Wales. However, the analysis does not detail how much of the spend is on products manufactured in Wales nor does it factor in the spend through arms-length bodies such as Transport for Wales, utilities companies such as Welsh Water or third sector organisations such as registered social landlords who receive significant amounts of public funding. Additionally, there are numerous UK

government agencies operating in Wales such as the Home Office, Driver and Vehicle Licensing Authority (DVLA), Her Majesty's Revenue and Customs (HMRC) and the Department for Work and Pensions (DWP), whose spend in Wales is not easy to access. This suggests that there is a need for a more in depth analysis of how much product procured by the public sector in Wales is made in Wales.

We also publish the Wales infrastructure investment plan, which describes a range of planned infrastructure works such as road, rail, school and hospital projects, which potentially could be an opportunity for Welsh manufacturers. This plan is being updated currently.

Through the Wales procurement policy statement, we have clear objectives for the public sector in terms of maximising the social, economic, environmental and cultural benefits of the money spent. Allied to this, is our "ethical employment in supply chains code of practice", which commits organisations to sign up to a set of principles to ensure that sourcing is undertaken ethically. We were also the first signatory to the UK government's "Steel Charter", committing to supporting the sector by avoiding the dumping of cheap steel.

The Deputy Minister for Economy and Transport has set out a number of comprehensive actions to support the foundational economy in Wales, including a new £4.5 million experimental fund to test new ideas; steps to grow the 'missing middle' sized firms in the Welsh economy as well as scale best practice across the country. There are important lessons to draw from this work as we seek to improve the impact of the sector on communities and regional economies of Wales.

Public sector procurement represents a significant spend on manufactured products and has significant commitments on ethical and local sourcing. The current COVID-19 crisis, whilst not yet over, could lead to a significant shift in the way procurement and supply chains operate. A more co-ordinated approach to the procurement of publicly funded projects could result in better opportunities for Welsh manufacturers as we respond to this and wider changes in technology and trade.

Business and innovation support

Welsh government provides a wide range of business support through Business Wales, which acts as a gateway into the various programmes available. The service also employs expert advisors and is dependent on European funding. A mid-term evaluation of the service in December 2018 looked at:

- Business Wales Core and Growth service
- Accelerated Growth Programme
- Youth Entrepreneurship
- Regional Entrepreneurship Acceleration Programme
- Superfast Broadband Exploitation Programme

The research included an examination of the implementation of the programmes to date, assessed the progress made in meeting Welsh Government and European Regional Development Fund (ERDF) Programme targets including cross cutting

themes. It also explored the emerging impact of the programmes on businesses and individuals. The main conclusions were:

- The Business Wales service was conceived as a 'one stop shop' for businesses and start-ups to access support and this is on the way to being achieved.
- The service model is operating well and the programmes are delivered to a high standard.
- There is general agreement among business support providers that Business Wales complements other business support offered and fills a large gap in what is available for entrepreneurs and businesses.
- Businesses and entrepreneurs interviewed reported that they had made improvements to their business activities as result of the advice and support they received. Most could point to positive effects on their efficiency or turnover.
- The programmes have created business growth. At the time analysis of monitoring information was undertaken for the evaluation, supported businesses had increased exports by £66m (£183,000 per business supported) and created 8,223 jobs.
- Progress against ERDF output targets has been mixed.

The innovation programmes SMART Innovation, SMART Cymru and SMART Expertise are part of the Business Wales service and *cover* business support to invest in research and development, introduce new techniques and technologies in design and manufacturing, protect assets through intellectual property rights and access facilities and expertise in universities and colleges.

The [mid-term evaluations](#) for the SMART programmes have been completed and recommend that the SMART programmes should continue to react to the needs of industry particularly in the area on manufacturing and design support. The programmes should continue to develop and evolve in this area.

With European funding ending in 2020, the future role of Business Wales is being considered and support to the manufacturing sector will be an important element of this.

Our £500 million Economic Resilience Fund (ERF) has been seen by businesses as instrumental in supporting businesses during the height of the pandemic. The ERF was introduced to provide targeted support to Welsh firms of all sizes (including social enterprises) which had not already benefited from the UK scheme. The ERF is comprised of two main elements:

1. £100 million Development Bank of Wales fund for companies experiencing cash flow problems as a result of the pandemic with loans at favourable interest rates.
2. £400 million allocated for grants to micro-businesses, SMEs and larger Welsh companies which are of critical social or economic importance to Wales.

The ERF has made available significant funding to the automotive sector in Wales.

Stakeholder engagement - government, the manufacturing community, trade unions and academia

Initial discussions with stakeholders and the lessons learned from the COVID-19 pandemic have helped us identify ten themes, which are considered essential to future proofing manufacturing in Wales. Welsh government, industry, trade unions and academia are already taking actions in all the ten areas but there is a broad consensus that much more value can be gained from co-ordinating our approach in these areas to support our manufacturing community.

A key recommendation coming out of the Brown Digital review referenced later in this paper was:

“This vision should be informed by commencing a national conversation with citizens on the future of work and the economy in Wales aimed at encouraging discussion of the challenges and opportunities presented by digital innovation (including the growing influence of AI).”

We propose to use the consultation process to commence a national conversation on the future of the manufacturing sector

Proposals / themes for the manufacturing plan

General

A) Capacity and Capability of the Welsh Manufacturing Community

A more detailed knowledge of the capacity and capability of the Welsh manufacturing community is essential for government, industry, trade unions and academia to make decisions on the actions to take. A Welsh manufacturing capability and mapping survey was published in 2017 and provided valuable insight into the ability of the Welsh manufacturing community to meet future challenges. With the rapid advances in technology, the declared climate change crisis, the consequences of leaving the EU and the impact of the COVID-19 pandemic, it would seem opportune to revisit this survey to help inform further action. In particular, it would need to include questions to help address the climate change emergency such as the circular economy / low carbon economy and lessons from the pandemic such as supply chain resilience, research, development and innovation support as well as considering implementing automation, digitisation, AI, and Industry led good practice schemes on safe working.

We therefore propose to refresh the Welsh manufacturing capability and mapping survey to inform a PESTEL and SWOT analysis of the sector.

B) Public sector procurement

Each year the Welsh public sector (including NHS, Local Government, Education and Welsh Government itself) procures products and services worth £6.3 billion. When we enter into these contracts, we are not just buying the things that public services need; we are investing in the economy and supporting people in Wales. Large amounts of public money are also spent by arm's length bodies such as Transport for Wales, utilities companies and registered social landlords, which potentially offer up opportunities for Welsh manufacturing.

We have a well-established community benefits policy, which sets our expectations about the sustainable and ethical sourcing and we propose to continue to utilise the power of public procurement to support Welsh manufacturing. The public sector approach to procurement is set out in the [Wales procurement policy statement](#).

In addition to the spend of organisations funded directly by Welsh Government, there are a large number of UK Government bodies operating in Wales. This includes DVLA, HMRC, DWP, ONS, Crown Commercial Services and the Home Office; these bodies procure a significant amount of goods and services and there are opportunities for Welsh manufacturing.

Public procurement policy strongly supports the objectives of the Well-being of future generations act and there a number of initiatives currently underway which would provide the opportunity for the manufacturing sector.

By understanding the depth of the public sector supply chain it may be possible to initiate the development of the manufacturing base and grow these businesses, using the aggregated demand of the public sector to help attract and anchor companies in

Wales. Part of this approach could be to bring together prime or tier one contractors who may engage with Welsh manufacturers in their supply chain.

We are also using public sector spend to stimulate new manufacturing approaches. The £20 million GovTech Catalyst was established with a UK-wide remit. Run by Cabinet Office, HM Treasury and BEIS, with support from the devolved administrations, it is an emerging technology fund focussing on solving public sector challenges and is available across the public sector, devolved administrations, local authorities and arm's length bodies. Wales is acknowledged as a UK leading practitioner.

Successful active digital-themed GovTech challenges in progress include:

- Monmouthshire county council: Combatting loneliness with solutions that enable communities to help each other in digitally and transport deprived rural areas.
- Blaenau Gwent county borough council and Durham county council: Transforming local council service delivery by analysing intelligently captured data.
- Mid and West Wales fire service: Improve firefighters' operations and safety with digital technology, tracking firefighters in hostile and hazardous conditions; improving operational awareness and safety.
- Torfaen council: Using data and digital technology to improve the quality and maximise efficiency in adult social care service delivery.
- Wales Audit Office is collaborating with the NAO and Audit Scotland to develop a data enabled public sector audit approach which uses analytics techniques and machine learning for financial audit analytics and value for money analytics.

We have also supported sixteen Small Business Research Initiative (SBRI) pre-commercial procurement challenges, with a significant proportion in the health and care sectors aimed at delivering direct, measurable benefits for Welsh people. An SBRI centre of excellence has been established in Betsi Cadwaladr University Health Board. The pan-Wales centre is seeking to drive challenge-led innovation in health and social care. It builds on earlier challenges which include: supporting people with dementia to live with greater independence, developing digital solutions to allow nurses to spend more time delivering care at the bedside and information systems to improve efficiencies in our health care system.

Health-related SBRI projects we are supporting include:

- digital solutions to reduce the administrative burden on nursing staff;
- digital solutions to clinical coding for a digital health service;
- enhancing independent living for those with acquired brain injuries; and
- maximising health data to improve the health and wellbeing of our population.

27% of all available UK GovTech funding has been competitively won by Welsh public bodies to deliver their challenges.

In terms of International Engagement, Wales joined the Vanguard Initiative (VI) in 2016 and since then has been developing its role as an active member of the network. Academics from Bangor and Swansea universities are active in the network's core collaboration and demonstration activities (pilot projects) on bio economy and sustainable manufacturing. Our membership of VI provides a platform for Wales to

continue to collaborate with EU partners beyond the EU transition period, demonstrating that we are a credible and serious collaborative partner.

We are proposing to continue work on public sector procurement but to extend it to cover arm's length bodies, utilities companies and UK government departments.

We further propose to build on the work undertaken on using public sector procurement as a catalyst for innovation and extend our international collaboration to support our manufacturing sector.

C) Infrastructure Investment Plan

Welsh Government publishes the [Wales infrastructure investment plan](#) and activity under the plan is overseen by the Infrastructure Commission. A large part of this investment involves manufacturing products and it is important that visibility of this plan continues. The plan is currently being updated and will provide good information on the opportunities for Welsh manufacturing

As an example of opportunities identified in the infrastructure plan, we have published a strategy for the housing sector, "[Re-imagining social house building in Wales: A modern methods of construction strategy for social housing.](#)"

This strategy is aimed at social and affordable housing providers in Wales. It sets out expectations relating to the production of homes built using Modern Methods of Construction (MMC). We are prepared to encourage the market, so that Welsh SMEs can develop MMC solutions, supply chains, factories and skills development centres that meet the needs of the next generation of social housing in Wales. It is expected that materials and components used in this next generation of MMC homes will, whenever possible, allow materials and labour to be sourced with the maximum social and ethical value to the people of Wales.

We are proposing to highlight further the opportunities for Welsh manufacturing under the infrastructure plan by drilling down into the detail of projects and working with partners to ensure the community benefits policy is applied.

1. Climate change, the need to protect our environment and to decarbonise our commercial and social activities, taking a holistic approach to the circular economy in order to support decarbonisation and to provide resilience, efficiency and shorter supply chains for raw materials and components for manufacturing in Wales

On 29 April 2019, Welsh Government declared a climate change emergency. The announcement drew attention to the magnitude and significance of the latest evidence from the Intergovernmental Panel on Climate Change, and reflects the depth of feeling expressed in climate protests across the UK.

In the transition to a low carbon future, ensuring a sustainable, competitive industry and business environment is paramount. There is a need to steer the growth of a resilient economy where we can continue to exploit our capabilities in new low-carbon technologies and markets, underpinned by a competitive industrial base. We need to work together to reduce emissions from our manufacturing business and make use of new technologies and energy sources to do this. We also need to work with our manufacturing industries to exploit opportunities from the global effort to reduce carbon emissions. Developing a true circular economy within Wales will be key.

Prosperity for All: [A Low Carbon Wales](#) recognises decarbonisation offers significant opportunities to create a vibrant and socially just economy. The plan sets out our approach to setting the foundations for Wales to transition to a low carbon economy in a way that maximises the wider benefits for Wales.

In terms of Wales' own emissions at 14.0 MtCO₂e the industry sector accounted for 29% of [Welsh emissions in 2016](#). Industrial emissions in Wales are dominated by iron and steel production (11% of Welsh emissions in 2016), and petroleum refining (4.9%). Wider industry including manufacturing and construction (2.8%), cement, gas production and distribution, operation of machinery, minerals and mining, chemical production, paper and pulp and the manufacture and processing of food and drink also account for a significant proportion of emissions.

A significant majority of industrial emissions arise from a cluster of operations in the South Wales corridor, dominated by the production of steel and oil refining. In North East Wales, principal carbon emitting industrial plant are predominantly concentrated in the Flintshire and Wrexham Local Authority areas and include the manufacture of cement, steel and paper and pulp. South Wales hosts a network of industries (South Wales Industry Cluster, SWIC) along the South Wales corridor along the M4 from the Pembrokeshire Coast to the Severn Bridge. This includes iron and steel production, power generation, refining of oil, cement, chemicals, paper and pulp, nickel refining, food and drink and general manufacturing operations. In North Wales action is taking place through the North Wales Growth Deal and through engagement with the Merseyside industrial decarbonisation cluster.

We are working with companies to understand the best approaches to achieve decarbonisation in the short, medium and long term. This includes consideration of technologies such as hydrogen and carbon capture utilisation and storage.

Decarbonisation including clean growth is one of the key pillars of our economic contract and action in this area is a requirement for receiving funding. We will continue to use our discussions with companies on the economic contract to understand what measures they are taking to reduce their carbon footprint and signpost them to further support.

It is essential that manufacturing companies fully engage with the opportunities available from the UK Government to invest in and explore new technologies to decarbonise. We will work with our manufacturing companies to maximise funding from the UK government's programmes including the Industrial Energy Transformation Fund (IETF) which Welsh Ministers have agreed will cover Wales. The UK Government launched the £315m IETF in June 2020 and is proposed to operate until 2024. The IETF will provide funding for capital investment in energy efficiency and deep decarbonisation projects including industrial carbon capture.

We have set out in '[Beyond Recycling](#)' our aim for Wales to become a country where we avoid waste, keep resources in use as long as possible and use our fair share of the earth's resources.

Short supply chains and greater local sourcing are a feature of a circular economy which can therefore help to address the issues stemming from the vulnerability of longer supply chains highlighted by COVID-19.

We have world class materials recycling collection service that can provide both a competitive advantage and greater economic added value, and we need to move away from the situation where recyclable material is minimally processed and exported with the value lost. There are considerable opportunities for the manufacturing sector in Wales to use our world class recycling and the materials it collects, and re-manufacture and manufacture more from recycled content in order to both:

- support transition and become more resilient and more competitive in a decarbonising global economy; and
- use this as an opportunity not just to stimulate a recovery that's greener, but also more resilient, which gets a greater added value and improves current and future competitiveness for the manufacturing sector.

Our sustainable development and environmental legislation is already recognised as world leading and now we must use that legislation to set a new pace of change. We have committed to achieving a carbon neutral public sector by 2030 and to coordinating action to help other areas of the economy to make a decisive shift away from fossil fuels, involving academia, industry and the third sector. Prosperity for All: A Low Carbon Wales sets out 100 policies and proposals to meet the 2020 carbon emissions targets.

The plan for 2021-26 is being prepared and will go further and faster. Welsh government is also currently reviewing farming support post EU transition, linked to sustainable land management and making a positive contribution to environmental goals like flood reduction. The [nature recovery action plan](#) is being updated to drive urgent action to increase the resilience of our ecosystems in order to reverse the decline in habitats and species

We propose, therefore, to ensure our commitments to combatting climate change and protecting our environment are central to our work on the future of manufacturing.

2. Technological change including artificial intelligence, automation, digitalisation and the connected environment

In September 2019, we published “[Wales 4.0 Delivering Economic Transformation for a Better Future of Work](#)” undertaken by a group chaired by Professor Phillip Brown.

A strong theme of the Brown Review is to equip businesses in Wales to take advantage of the opportunities associated with technological change, as well as helping businesses to be dynamic, develop new business models and build resilience. Supporting businesses on job redesign and helping businesses grow and adapt are key recommendations from the report. Working collectively with industry, trade unions and academia to facilitate the transition into the fourth industrial revolution will be a central plank of the manufacturing plan.

The Brown review identified the role of industrial clusters aligned to key technology capabilities and the need for multi-stakeholder engagement in drawing together industrial transformation plans aimed at growing capacity and developing resilience in different parts of the Welsh economy. These recommendations will be considered in light of the digital pillar within our forthcoming Economic Reconstruction Strategy.

Research, development and innovation were also identified as key drivers in responding to the challenges of increased digitalisation and automation, particularly with respect to supporting the acceleration of SMEs and their supply chains. A consortium of Welsh universities and industry partners are already progressing substantial proposals for new strategic investments to be made in the core areas of artificial intelligence, data and cybersecurity (an all-Wales data nation accelerator and a cybersecurity innovation hub). This aligns with the focus on the UK government’s research and development roadmap and will require the support and backing from UK funding bodies and research councils if they are to proceed and be successful.

Our innovation support mechanisms (SMART) help technology businesses to digitally transform priority sectors and public services, supporting emerging technologies in artificial intelligence, automation, smart living and data. We are supporting initiatives with the potential to enhance our reputation as a digital, artificial intelligence and automated hotspot, including the UK’s first National Software Academy and a new National Cyber Security Academy.

We have:

- Introduced via SMART Productivity, a 3+5 days consultancy support for manufacturing businesses to assist in determining the suitability of new digital/automation processes including specifying and planning their implementation;
- Introduced a £100,000 SMART Cymru grant to support companies in implementing automation and digital technologies applying to the Economic Futures Fund under the R&D, automation and digitalisation Call to Action; and
- SMART Cymru has supported, during this round of structural funds 2014-2020, 156 digital related projects having a total value of £15.6 million supported by £6.7 million of grant.

We need to incentivise Welsh companies to employ techniques and technologies which will help them be more resilient in times of crisis as well as improve their productivity and longer term sustainable growth. We have a diagnostic tool capable of covering automation and digital processes and through the Economy Futures Fund we have supported 77 projects with a value of over £7m via the call to support research and development, automation and digitalisation.

SMART Cymru has supported, during this round of structural funds 2014-2020, 122 digital related projects having a total value of £13.2 million supported by £5.6 million of grant. We have introduced a £10,000 SMART Cymru grant to support companies in implementing automation and digital technologies.

Supporting companies to embrace digital and automation technologies, employing an Industry 4.0 approach will create a more resilient manufacturing base, and so a more resilient Wales. By adopting innovative manufacturing technologies our businesses will be better equipped to be flexible in order to deal with high and low volumes and multiple product variants.

It is important to recognise the existing support structures and parties already engaged by mapping the current, coalescing by co-operation, building capacity and identifying any key gap for further investment requirements. This includes both private, public and academic initiatives. Such an approach will not only be more efficient but also make the engagement with the industry a more focus solution providing process.

We, therefore, propose to map out current support and collaboration this area and Incorporate the findings and recommendations of the Brown Review into actions arising from the manufacturing plan.

3. The need to refine skill sets to ensure we have the people with the right skills we require in Wales to work in manufacturing

The Brown review highlighted the need to adapt skills to the changes envisaged in Industry 4.0. Our skills policy is aiming to blend delivery between higher and further education and work-based learning i.e. “post compulsory education” and is therefore addressing the changing nature of industry and jobs and peoples’ longer working lives.

On that basis, careers advice should also be targeted at adults as well as school children and young people. Many parts of the manufacturing sector are characterised by an ageing workforce who will need to adapt and retrain into new job roles as industry transitions. In this respect, there may be a place for quality placements to expose individuals to the opportunities of the sector, help to give them practical skills and be a valuable recruitment tool for employers.

The regional skills partnerships remit is to take the Wales Infrastructure Investment Plan into consideration and plot out the resulting skills requirements. We therefore propose to work with the regional skills partnerships to undertake, where appropriate, skills gap analyses in order that educational resources can better support manufacturing.

4. The provision of modern infrastructure to support changes to the way we work and how we access work opportunities including modern employment sites and premises, transport, energy and circular economy infrastructure, communication systems and the merger of personal and public mobility

A modern infrastructure is essential to helping the manufacturing sector future proof its activities. By infrastructure, we mean:

- employment sites and premises i.e. factories, offices etc. that can accommodate modern ways of working;
- transport infrastructure that is able to respond to differing working patterns;
- energy infrastructure, which enables employment sites to function and is increasingly decarbonised;
- circular economy infrastructure, which enables the reuse of resources; and
- communication systems that allow us to work in a connected way.

Increasingly we are seeing the prospect of automated vehicles blurring the lines between personal and public mobility and an increasing emphasis on remote working. We are investing heavily in public transport including in our Metro systems for North and for South Wales. Although this has been heavily impacted by the COVID-19 pandemic we will continue with our plans for further investment including in road infrastructure and the manufacturing plan must consider this.

Communication is still challenging in parts of Wales and in this connected world this can have a negative effect on manufacturing activity. All plans should reflect the importance of modern systems. These changes will have a profound impact on the way work opportunities are accessed in manufacturing.

We therefore propose that the needs of the manufacturing sector figure significantly in the work being undertaken on infrastructure to advance the competitiveness and productivity of the Welsh economy.

5. Fair work commitments to ensure that people working in manufacturing are treated fairly in accordance with the Welsh government's economic contract and ethical employment in supply chains code of practice

Treating people fairly in employment as a vital part of our approach to supporting business. Through the [Fair Work Commission](#) and the Fair Work Wales report, work has commenced on long term thinking on the changing nature of work, the impacts of increasing population, increasing life longevity, globalisation and the need to embrace different working patterns to accommodate this.

It is important that the manufacturing plan enables a collaborative approach to make sure that the future of work is equitable. Whilst it can be recognised historically that the co-operation of industry and the employee representative bodies have provided a good base for fairness of work, there remain significant areas for improvement.

In 2017, we launched the [code of practice on ethical employment in supply chains](#). We encouraged organisations to sign up to the twelve commitments, which will help to eradicate unlawful and unethical employment practices and ensure all workers at every stage of the supply chain are treated fairly. Over 200 organisations have signed up to the code. Our commitment to fair work and inclusive economic growth means we cannot support jobs at any price - we want decent employment that reflects our commitment to fair work.

We are, therefore, proposing to implement our commitment to fair work in the manufacturing sector through partnerships between government, industry, trade unions and academia.

6. Strengthening collaboration between government, industry, trade unions and academia to increase innovation by the application of research to improve competitiveness

We have an excellent record of working in partnership with industry, trade unions and academia through our social partnership approach and it is evident that this joined up approach can have a very positive impact if focussed on the manufacturing sector by helping to increase capacity and capability.

Although there is much good practice in this area, the systematic use of co-operation by industry with other stakeholders can be improved. These improvements should consider the “how” and “why” of collaboration as well as focusing on the future requirements of the economy.

Interventions may be considered such as training in ISO 44001 (the international standard for collaboration), breakfast events, networking opportunities and building the business community. There may also be opportunities for digital platforms to facilitate collaboration.

We also provide research and development investment in businesses via SMART Cymru as well as ensuring that the level of research and development funding from outside of Wales increases. This includes Horizon 2020, Innovate UK funding and Industrial Strategy Challenge funds.

Removing barriers to collaboration is also required if we are to identify good practice and build confidence and capacity. It is important that we demonstrate leadership on this and help to bring together parties working to a cohesive plan. This should include the development of innovative solutions in public sector bodies by the application of collaborative projects.

We also want to work with partners in industry, trade unions and academia to take advantage of opportunities at a UK level for growth and investment. In March 2020, the UK government committed the largest ever expansion of support for basic research and innovation, increasing public research and development investment to £22 billion per year by 2024 to 2025. In July 2020, the [UK government published its research and development roadmap](#) setting out its ambition to contribute to the place agenda, the need for both talent and diversity in the UK research and innovation arena, a desire to improve the research culture and the creation of an Advanced Research Projects Agency (ARPA) body.

We welcome the commitment to a significant increase in research and development investment over the next three years but it's essential this is used to make real the UK government's commitment to 'levelling up' and to a stronger focus on place. Genuine 'Levelling up' cannot mean a sprinkling of new projects decided in Whitehall, it has to be part of a strategic approach to promoting growth in all parts of the UK. It cannot also just be about equality of access to UKRI funding: it must be about narrowing the gap in terms of public – and overall – investment in research and development as a proportion of GDP between the Golden Triangle and the rest of the UK. This requires a degree of positive discrimination to counter the inbuilt advantages of critical mass which is

enjoyed by Oxford, Cambridge and London. Something which meaningfully involves devolved governments in its design and governance.

The way we work together with social partners and others over the next few years will also be important. We will utilise the shadow social partnership council as well as new corporate joint committees being established at a regional level to support growth in all parts of Wales. Our approach will be to dovetail support for manufacturing with other opportunities across government including through new regional investment structures post-Brexit.

We therefore propose a review on current partnership working between government, industry, unions and academia to establish a more coherent and cohesive approach with a view to increasing the research and development undertaken in Wales.

7. Developing communities and clusters within manufacturing sub-sectors to develop a culture of continuous improvement of best practice and collaboration

The Brown Review recommends the creation of six Industrial Innovation clusters:

- data analytics;
- clean energy/circular economy;
- creative;
- professional services;
- medical/bio tech; and
- advanced manufacturing.

These are viewed as strategic assets in enabling Wales to compete further up domestic and global value chains.

There are already a number of clusters or communities in areas such as aerospace, automotive, food, hydrogen, marine energy, nuclear, technology and semi-conductors which have been established for some time. We believe that building on this success and taking on board the recommendations of the Brown Review will bring benefits to the manufacturing sector as a whole. The initial mapping work proposed would test this clusters approach as identified in the Brown Review, pinpointing the strengths and opportunities in Wales.

Although not all of them are supported with funding, we would like to support these communities, if they are willing to work with us, with strategies and suggestions for direction to ensure that we bring a cohesive continuous approach to the many business communities that are spread across Wales. The main focus will be to provide their membership with association with a credible, influential organisation to:

- gather and discuss market intelligence
- use networking to collaborate on supply chain synergies
- develop rapid innovation through sharing knowledge
- gain commercial benefit for its members

Through these business communities we can also promote the need for strategy and leadership along with the potential for succession planning.

We therefore propose to take into account the recommendations of the Brown Review on clusters and use the data from the mapping exercise to identify Wales' strengths. Once identified, we will move to make contact and offer support.

8. Strengthening leadership and management in manufacturing by identifying key skills such as strategy and execution and risk management to sustain and grow businesses

A key objective is to secure the long term future of the sector in Wales and to do that we need to build on the enormous amount of experience and expertise we currently have and harness that to spread best practice.

We are continually seeking out best practice from across the world with bodies such as the Massachusetts Institute of Technology (MIT) so we can access new thinking. Additionally, our universities have many collaborative projects underway with institutions in other countries, which bring ideas into Wales. Wales is also the home for a large number of global companies who are leaders in their fields, and we need to harness this expertise, experience and new ideas so we can build a community aimed at improving leadership and management.

There already exist a number of organisations/ fora that tackle elements of this such as the Leaders Group, run by the Well-being of Future Generations Commissioner, and consideration will be given to build networks around these existing networks.

Benchmarking our performance against other regions such as the German Mittelstand will help us improve. An important component of Germany's economic success, the role of SMEs is distinct in that they base their competitiveness around delivering superior value, and not lower costs. They are characterised by high levels of innovation, being strongly export focused and private ownership / family owned.

We propose to focus our attention on the two drivers of company performance; strategy and execution - the strategic choices which are made, and the subsequent organisational structure and mobilised resources to deliver the strategy. Building high quality products, providing excellence in customer service, developing and deploying talent are objectives every company will aspire to as part of their effective operations once strategic choices have been made and a business position has been chosen.

Choices of products and markets are fundamental decisions to differentiate from competitors and each choice implies a different level of risk involving uncertain customer demand, unpredictable competitors and changing technology. Execution of the strategy has less risk, as it takes place within the organisation, yet still involves uncertainty within its sociotechnical systems. The term 'flawless execution' is what every business wants, but a challenge for leaders is the decision making necessary to select those specific dimensions which will focus attention and deliver success.

We propose to build communities of best practice with leaders across the manufacturing sector who are prepared to share with others and to learn from bodies such as MIT. We also propose to benchmark other regions, including the German Mittelstand.

9. Supply chain resilience and supporting the foundational economy including the potential reshoring of items critical to the well-being of Wales

Many of our manufacturing operations have supply chains, which can be long and linear and extend across the globe. The COVID-19 pandemic has proved that these supply chains can be fragile, lengthy, complex and therefore vulnerable. It critically exposes how much society depends on the smooth functioning of a supply chain.

During the COVID crisis many companies have experienced disruption to their global supply chains as their just enough and just in time supply chain failed. We have worked with industry on the supply of PPE and other items critical to the well-being of Wales in a concerted effort to combat shortages and protect front line workers. The success of this effort has highlighted three issues:

- If we had another pandemic or other global disaster, not only would our PPE/medical items supply chains be in jeopardy but also other items such as food and raw materials or components which are used by manufacturers in Wales.
- Whilst reshoring of many items may be desirable, in some cases it is just not possible, so we have to ensure supply chain resilience for the future. This may include holding safety levels of stock in the supply chain or working with supply chains closer to the UK.
- COVID-19 has delivered a powerful lesson on the risks of long, linear supply chains. The redesign of business models will consider how businesses improve their supply chain resilience, while also contributing to a green recovery through circular supply chains.

Work has commenced on looking at public sector supply chains for PPE and food. This is clearly a big issue for our manufacturers and also possibly an opportunity to grow our manufacturing sector in certain areas. Sectors such as health, energy, construction, rail and defence are dependent upon public sector policy and budgets and therefore the public sector has more influence over the supply chains in these areas than in other sectors such as automotive and aerospace.

However, while efforts to shorten supply chains in many sectors will typically bring tier one and tier two suppliers closer together, the raw material extraction elements of the supply chain are often extremely difficult to change. Shortening the supply chain does not totally solve the issue of decarbonisation. A fundamental shift towards circular business models will retain the value of resources and products. This will include a range of actions which are part of the circular economy model, such as repair, recondition, repurpose, remanufacture and recycle.

We also need to consider the likelihood that future arrangements with the EU will mean EU derived components cannot be cumulated with UK ones to meet rules of origin targets for exports to the rest of the world. That means that businesses in the UK may see an advantage in sourcing suppliers within the UK. Conversely, SMEs within the manufacturing sector may well find markets within the EU drying up as a result of EU customers preferring to source suppliers within the EU27. There will also be new regulatory barriers to trade which may be difficult for businesses which in the past have

only 'exported' to the EU. We will need to step up support for these businesses to put systems in place and increase support for exporting to compensate for the difficulties.

We also need to consider the potential free trade agreements with non-EU markets and work with UK government to ensure that Welsh manufacturing interests are promoted.

We therefore propose that the manufacturing plan considers which products, raw materials and components are vital to the well-being of Wales and look at how we can secure supplies in the event of a global emergency such as the current pandemic.

We further propose to address the challenges and opportunities that arise from leaving the EU single market.

10. Improving anchorage of businesses in Wales by encouraging and facilitating decision-making functions such as headquarters, research and development sales, marketing and procurement in Wales

The decision to anchor a business within a specific country or region comes from a range of reasons, including the themes already identified such as skills, supply chain, innovation support and route to market (procurement). Too often, however, the middle size companies in Wales are the excellent manufacturing operation of a larger company whose decision making functions relate to several European or global ventures.

A balanced approach of both organic growth and critical focused/targeted inward investment that encourages companies to move vital decision making functions to their Welsh facilities is therefore essential.

Clustering by areas of strength and developing centres of excellence also play a significant role in this. The role of the existing and new centres should be reviewed to consider this building of place based excellence and help make the decision to locate obvious to the decision makers.

Over the last 10 years, investment has been made in such facilities including the compound semi-conductor catapult, AMRC Cymru, M-Sparc amongst many others. AMRC Cymru brings together industry and academia and all elements of post compulsory education to support research and development in Wales and is a member of the High Value Manufacturing Catapult, a consortium of leading manufacturing and process research centres backed by Innovate UK. Our plans for further investment include the creation of an Advanced Technical Research Centre (ATRC) at MOD Sealand, Deeside. The aspiration is to create a joint venture with the MOD to develop and support avionic software. This is the first time the MOD has collaborated with a devolved administration in the defence related sector.

These type of facilities together with the advantages Wales can bring in terms of skills, infrastructure and all the other themes identified in this consultation document, we believe, will make companies, whether they are foreign or indigenous, want to stay in Wales and make strategic decisions about their business in Wales.

Our innovation support, we believe, will be key in attracting and retaining businesses in Wales. Innovation support is currently aimed at delivering on the digital, productivity, Industry 4.0 agendas, along with the newer priority of building Welsh resilience. Throughout the COVID-19 crisis we have used tried and tested mechanisms to deliver rapid turnaround. We have approved 32 projects with a total grant offer of over £3.6 million. This has helped to safeguard around 300 jobs with a further 250 avoiding furlough. More than £1.1 million has been invested in PPE provision projects which will help deliver longer term medical resilience and security for Wales. We are also supporting research organisations to deliver medical devices such as finger pulse oximeters.

£500,000 has been invested in infection control projects using testing and screening methodologies and we have now extended our [COVID-19 innovation response to support new safe working practices](#).

We are now acknowledged by Innovate UK as a leading practitioner in implementing public sector SBRI and GovTech competitions which stimulate new manufacturing solutions to grand challenges.

We are very active in foreign engagement and Wales is the current Vanguard Initiative Chair of 35 EU member regions, fully engaged in two Interreg manufacturing programmes – Manumix & Cohes3ion, and regularly engage in joint Industry 4.0 projects with key international regions such as Baden Wurttemberg and the Basque Country.

We believe that having access to innovation support is an important element of the Wales “offer” and we would envisage further investment in innovative projects, which will ultimately improve the well-being of Wales.

We therefore propose to bring together research, development and innovation support and utilise our investments in facilities like AMRC and ATRC to help future proof our manufacturing community.

Final remarks

Manufacturing is vital to the future well-being of Wales and we need to mobilise support and facilitate collaboration between government, industry, trade unions and academia to future proof the sector. The COVID-19 crisis has demonstrated how much we rely on the sector and that we must learn the lessons from the experience.

We recognise that the proposed plan will have to be amended and adjusted in line with regional requirements and strengths. Embedding manufacturing within our communities from a material (initial or recycled), developing a localised supply chain to producing saleable finished goods for both Wales and for export, developed and made by people in Wales will bring prosperity for all.

The contents of this consultation document point towards a more coherent collaborative approach by government, industry, trade unions and academia. We, therefore, propose to establish a ministerial led panel to oversee delivery of the commitments in this plan and allocate resources to support the activity described.

**Consultation
Response Form**

Your name:

Organisation (if applicable):

E-mail / telephone number:

Your address:

Q1: Do you agree with the definition of high value manufacturing as described and its importance in future proofing the sector?

Q2: Do you agree with the themes identified, which have to be addressed to help future proof the sector?

Q3: Do you agree with the actions proposed and do you have any additional suggestions on how the commitments in the plan can be delivered?

Question A: We would like to know your views on the effects that the manufacturing plan would have on the Welsh language, specifically on opportunities for people to use Welsh and on treating the Welsh language no less favourably than English.

Question B: We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:

Responses to consultations are likely to be made public, on the internet or in a report. If you would prefer your response to remain anonymous, please tick here: