# Make UK response: Invest 2035: The UK's modern Industrial Strategy

**About Make UK**

Make UK, The Manufacturers' Organisation, is the representative voice of UK manufacturing, with offices in London, every English region and Wales.

Collectively we represent 20,000 companies of all sizes, from start-ups to multinationals, across engineering, manufacturing, technology and the wider industrial sector. Everything we do – from providing essential business support and training to championing manufacturing industry in the UK and internationally – is designed to help British manufacturers compete, innovate and grow.

From HR and employment law, health and safety to environmental and productivity improvement, our advice, expertise and influence enables businesses to remain safe, compliant and future-focused.

UK manufacturers are making the difference on the issues that matter. From pioneering renewable energy solutions that will secure the UK's future as a clean energy superpower, to creating the next generation of medicines and medical equipment to make the NHS fit for the future, our sector is essential to innovation, progress, and prosperity for all.

Manufacturing is not just the catalyst of economic change, helping the UK achieve the highest sustained growth in the G7. It's an engine for social advancement, providing high-skill, high-paid, jobs in every region and nation of the UK. Our members are committed to breaking down barriers to opportunity by investing in skills and ensuring a diverse and inclusive workplace.

While government is helping to lay the foundations for growth though a modern industrial strategy, it is businesses that must bring the ideas and investment to make success a reality. Make UK and our members are working with policymakers at every level, from Whitehall to town halls, to increase productivity, accelerate adoption of new technologies, and empower local communities to realise their full potential.

Yet there is more we can do, together. By increasing the manufacturing sector from 10% of UK GDP to 15% of a growing economy, we can add an extra £142bn to UK GDP, increasing exchequer contributions to fund public services, while also driving a substantial uplift in long term domestic and foreign direct investment.

**Manufacturers have long awaited an Industrial Strategy**

1. It has never been harder for individual economies to succeed in our complex geopolitical landscape. There is a strong case for every nation to have a shared purpose that serves as a guiding principle for steering its economy toward sustained growth and enhanced productivity. The UK is no exception to this rule. From our extensive research and consultation with manufacturers, we have concluded that a robust and forward-looking vision, coupled with ambitious goals, forms the bedrock of an effective industrial strategy.

2. Such a strategy not only influences decision-making but also ignites a culture of innovation and bolsters long-term economic progress. The UK has grappled with the absence of a clear and unifying direction across its industries, leading to challenges in achieving industrial success.

***87% of companies say an industrial strategy would give their business a long-term vision***

3. Manufacturers see these key areas as fundamental to creating a strong vision for the UK's industrial strategy:
   - Clear direction and focus
   - Clarity on investment and funding
   - Explicitly on innovation and strengths
   - A strong focus and strategy on talent and skills
   - A shared sense of purpose across regions, industry and the public.

4. While we are pleased to see all of the above areas covered in the Industrial Strategy Green Paper, there remains a number of areas where the Green Paper still needs focus.

5. For starters, **the most critical pillar for manufacturing, and undoubtedly all sectors is skills**. Whilst the Green Paper says that skills will form a fundamental part of future growth and acknowledges that the UK suffers from a lack of technical skills, it doesn't give anywhere near a full diagnosis of the skills problems in the defined growth sectors.

6. Future skills, or green jobs, are only mentioned briefly. It's clear that addressing future skills must be a key part of the strategy. The manufacturing sector needs clear guidance on how the government will support upskilling and retraining, especially as automation and AI are rolled out on a much wider scale

7. It is also unclear whether we will see the Government's strategy for skills in the Industrial Strategy, which will be published in the spring, or wait until Skills England has been properly set up, which will be later in 2025. Given the pressing need, it is imperative we see from Government a clear skills strategy to underpin the Industrial Strategy. Make UK will be playing its part, having recently launched an Industrial Strategy Skills Commission tasked with answering the question as to how the Skills and Growth Levy can deliver the skills manufacturers need to deliver on the UK's Industrial Strategy now and in future.

8. **Another area of concern is around policy stability**. While we welcome the announcement of the Industrial Strategy Council Chair and the Council being placed on a statutory footing, we have concerns that the Strategy's key message to businesses and investors — that there will now be stability and an end to constant churn and changes, as well as a pro-business environment — may ring hollow if we do not ensure that the communication to business is one of longevity and certainty.

9. The recent increase in employers NICs, alongside the significant change to the NICs threshold, for example, have caught the sector by surprise and has resulted vast numbers of businesses putting on hold investment plans, recruitment, and training. This will likely have consequences on their ability to deliver the Industrial Strategy in short to medium term, unless the Government offsets the impact with other initiatives and incentives to enable and encourage investment.

10. **Further attention needs to be paid to R&D and commercialisation.** The Green Paper references the UK's excellent Higher Education institutions as one of its strengths and believes that the UK has emerging strengths in new technologies, systems, and processes, but glosses over that the UK falls behind in converting scientific knowledge into commercial success. The UK's spending on R&D is higher than the average of the OECD countries, but it is still below that of leading nations. The UK lags behind countries such as Korea, the US, Japan and Germany.[1] If compared to the US, the UK lags behind in both development and scale-up metrics.[2] If we truly want the UK to be a leader in developing net zero solutions and products, as well as automation and AI, there will need to be serious consideration about how we can capitalise on the research of our world class institutions, so that UK businesses profit from their research.

[1] UK INNOVATION REPORT 2024, Institute for Manufacturing, University of Cambridge
[2] UK INNOVATION REPORT 2024, Institute for Manufacturing, University of Cambridge

11. **There is limited detail on the mechanics of devolution and the regions**. While we support the Government's language around regional growth but will need more detail about how growth can be prioritised in regions where there isn't a development devolution model.

12. **The definition of Advanced Manufacturing has yet to be defined**. The term Advanced Manufacturing is not yet defined – there will undoubtedly be calls for Government to work the sector to clarify what they mean. Is Advanced Manufacturing intended to refer to process or product? And, if so, which ones? It is our preference to be as broad and wide ranging as possible and for as many manufacturing sub-sectors to fall under the umbrella of Advanced Manufacturing.

13. **There is a strong need for vision and tangible success metrics:** It's all very well setting the vision, but there is little point producing a strategy if the Government and industry have no way of knowing progress is being made. Not only is it helpful to be transparent about what success looks like, it's also paramount information that will allow the Industrial Strategy Council to effectively do their job and steer and critique each milestone.

14. Make UK proposes an overall target of increasing the manufacturing sector from 10% of UK GDP to 15% of a growing economy. This, we calculate, would add an extra £142bn to UK GDP, increasing exchequer contributions to fund public services, while also driving a substantial uplift in long term domestic and foreign direct investment. Everything in the Industrial Strategy should be geared towards this ultimate objective.

15. To do this, the industrial strategy needs clear metrics and indicators, such as job creation rates, levels of investment, productivity improvements, and innovation outputs, which will help the Government gauge whether its industrial strategy is achieving its objectives. Concrete examples could include ensuring that the manufacturing sector is among the world's top ten 10 manufacturing nations for output; improving the ranking of the UK manufacturing sector's robotics density for digitalisation from its current 35th place globally to the top 10, or cutting in half by 2035 the number of Hard-To-Fill Vacancies (Occupational shortages defined as an position in a company that takes that company longer than 6 months to find a suitably qualified and experienced candidate). Other broader metrics might include a target of a 20% reduction in average UK household and business energy costs by 2035 through the production of more domestic green energy. Regularly assessing these indicators not only highlights successes but also reveals areas that may require additional focus or adjustment

16. Despite these gaps, we cannot deny that the manufacturing sector has been waiting for a modern long-term Industrial Strategy for over a decade and at Make UK we want nothing more than for it to succeed. Against this backdrop we have offered responses to all the questions within the consultation document and would be happy to discuss these in more detail.

**1) How should the UK government identify the most important subsectors for delivering our objectives?**

17. The Industrial Strategy Green Paper is an important first step in defining a long-term robust industrial strategy for the United Kingdom. The Green paper focuses on key growth sectors: advanced manufacturing, life sciences, defence, clean energy, digital technologies, and more. It remains our view that industrial strategy must be much more than simply picking winners; it should embrace a far more holistic vision for economic growth. Whilst previous iterations of Interstitial Strategy have focused on identifying and promoting specific subsectors or companies, Make UK's experience is that a comprehensive industrial strategy has the potential to prioritise a vision, set goals and tackle complex challenges.

18. We are all aware of the challenges that face us as a country: we need to decarbonise and lower our emissions whilst supporting our industry through the process, we need access to raw materials so that

our supply chains are resilient, we need a robust pipeline of talent coming from our schools into industry, we need to convert our world class universities' innovation into commercial success for UK business. It should be through this lens that the Government views support and funding.

**The case for prioritising manufacturing process over products**

19. One of our criticisms over recent decades is that successive governments have focused on specific subsectors. While this makes it easier to explain intentions to the public, it doesn't work for most of the manufacturing industry. **Many manufacturers do not fit neatly into defined sectors. Supply chains are now more complex than ever before meaning it is better to conceive of manufacturing as operating supply networks instead. Taking the Office for National Statistics categorisations of subsectors as 'Divisions', the average UK Original Equipment Manufacturer (OEM) supplies components to between 5 and 10 other industrial 'Divisions' or subsectors. In that sense a single SME typically comprises part of the supply chain for between 5 and 10 subsectors**. Consequently, a subsector focused approach to Industrial Strategy won't accurately reflect how the UK manufacturing industry operates. A focus on the process or making things, rather than on the product that is made, is therefore more likely to have successful impact.

An industrial strategy that focuses on process rather than product can offer several advantages:

**A. Long-term sustainability:**

Adaptability: A process-focused strategy allows industries to adapt more readily to changing market demands and technological advancements.

Resilience: By focusing on improving efficiency, quality, and innovation processes, industries can become more resilient to economic downturns and global disruptions.

**B. Productivity:**

Enhanced competitiveness: Investing in process improvement can lead to significant productivity gains, reducing costs, and increasing competitiveness.

Quality improvement: A focus on process quality can lead to higher-quality products and services, boosting brand reputation and customer loyalty.

**C. Innovation and commercialisation:**

Continuous improvement (Kaizen): A process-oriented approach encourages a culture of continuous improvement and innovation, leading to the development of new ideas and technologies that can be sold on the market.

Skill development: By focusing on process, industries can invest in the skills and training of their workforce, leading to a more skilled and adaptable workforce.

Transferable Knowledge: Effective processes can be applied across various industries, enabling manufacturers to quickly pivot and seize emerging opportunities. This agility is crucial in a rapidly changing economic environment.

**D. Talent Attraction and Collaboration:**

Reputation for Excellence: A reputation for process excellence can attract top talent, fostering a culture of continuous improvement.

Industry Partnerships: Process-based collaboration can strengthen partnerships between manufacturers in different sectors, driving innovation and shared learning.

**E. Adaptability and Resilience:**

Flexibility: Processes are inherently more adaptable than specific sectors. This enables manufacturers to rapidly to evolving market demands and unforeseen geopolitical or environmental disruptions such as was experienced during the COVID-19 pandemic or the war in Ukraine.

Accelerated Adoption: By focusing on processes, manufacturers are more efficiently primed to adopt new technologies like AI and robotics, improving competitiveness and reducing costs. Process-based optimisation, powered by data-driven decision-making, can pinpoint bottlenecks and inefficiencies, streamlining operations and facilitating digital transformation.

**F. Reduced environmental impact:**

Investment: A process-focused approach can stimulate investment in research and development, leading to groundbreaking innovations and new products.

Sustainability: Process optimisation can contribute to a circular economy by reducing waste, conserving resources, and enhancing efficiency and helping the UK to reach our Net Zero targets.

Circular economy: By focusing on efficient processes, industries can move towards a more circular economy, reducing reliance on virgin resources.

**G. Inclusive Growth:**

Job creation: A strong, process-oriented industrial sector can create high-skill, high-pay, jobs and contribute to regional economic development.

Local Growth: A process-focused approach mitigates the risk of government 'picking winners' which can lead to misallocation of resources and a distorted market. By focusing on improving underlying processes, governments can create a more level playing field that benefits a wider range of industries, businesses, and communities.

While product innovation is essential, a process-focused strategy can provide a solid foundation for long-term success. By prioritising process improvement, such as through automation and digitalisation, the manufacturing industry can become more efficient, competitive, and sustainable. This approach is more likely to stimulate inclusive growth, as it can help smaller businesses and those in less traditional sectors to thrive. By improving efficiency, quality, and innovation across the board, it can lead to a more balanced and diversified economy, reducing regional disparities and creating opportunities for all.

20. The identified eight 'growth sectors' are sufficiently broad to provide a suitable foundation for a process-oriented approach. The UK boasts a strong manufacturing sector that is a genuine global leader in several key industries and technologies:

    - **Defence:** Aircraft Engine Manufacturing: Rolls-Royce is a global leader in the design, manufacture, and servicing of aircraft engines, powering a significant portion of the world's commercial and military aircraft.
    - **Aerospace:** Aerospace Engineering: The UK has a strong tradition of aerospace engineering and is home to world-class aerospace companies like Airbus and BAE Systems.
    - **Pharmaceuticals:** Drug Discovery and Development: The UK has a world-renowned pharmaceutical industry, with companies like AstraZeneca and GlaxoSmithKline leading the way in drug discovery and development.

- Biotechnology Research: The UK is a global leader in biotechnology research, with strong academic institutions and a thriving biotech sector.
- **Automotive:** High-Performance Engineering: The UK has a strong tradition of high-performance engineering, with companies like McLaren and Aston Martin producing world-class sports cars.
- Formula 1: The UK is home to several Formula 1 teams, including McLaren and Williams, and has a strong track record of success in the sport.
- **Advanced Materials:** Materials Science Research: The UK has a strong tradition of materials science research, with world-class universities and research institutions.
- Advanced Materials Manufacturing: The UK is home to a number of companies that specialise in the production of advanced materials, such as graphene and carbon nanotubes.
- **Green Technologies:** Offshore Wind: The UK has a significant advantage in offshore wind energy, with vast coastal areas suitable for wind farms. This has led to significant investments and technological advancements in the sector. Low-Carbon Energy: The UK is a pioneer in low-carbon energy technologies, including carbon capture and storage (CCS), hydrogen fuel cells, and advanced nuclear power.

21. Several of these, notably Pharmaceuticals and Green Technologies, align with HM Government's key 'Missions' to 'Make Britain a clean energy superpower' and 'Build an NHS fit for the future' and should therefore be prioritised. However, to ensure effective implementation, the metrics and delivery targets must be refined to enable clear, granular, and evidence-based decision-making. The Government should identify the UK's comparable advantage and the differentiated position of key sectors against competitor economies. This should include current market position, but it should also consider priority areas identified by our international competitors. As the recent example of solar panel production in Germany demonstrates, there is no point in the UK attempting to target growth in an area where China or elsewhere can allocate vastly greater resources to ensure their own success. The UK must instead pick battles we can win. We propose selecting subsectors based on the following criteria:

    a) **Market Potential**: Subsectors should demonstrate strong potential for growth in the global market over the medium to long term to, say, 2050. While the Industrial Strategy maintains a medium-term focus, the Government should attempt to identify subsectors primed for growth not only in the next decade but capable of securing the UK's competitive position for the longer term.
    b) **Attracting Private Sector Investment**: The UK's ability to attract a greater share of private and foreign direct investment, positioning the UK as a market offering strong returns and high-growth potential. Government agencies such as UK Research and Innovation (UKRI), the British Business Bank (BBB), UK Government Investments (UKGI), the National Health Service (NHS), the Advanced Research and Invention Agency (ARIA), and the UK Infrastructure Bank play specific roles in implementing the business investments policies set by the British government of the day. These agencies often house other sub-agencies, such as Innovate UK, or British Patient Capital (BPC). However, the sheer number of individual bodies can make cross government coordination incredibly difficult, as well as making navigating the system complex and challenging, especially for SMEs. The National Wealth Fund, though not a sovereign wealth fund in the conventional sense, is an important a reorientation and expansion of the British Business Bank and UK Infrastructure Bank. Merging the two together means the renamed body will have a budget of £27.8 billion in total, when we include UK Investment Bank's existing pot and will work with industry, and local bodies including mayors, to develop blended finance solutions in public-private partnership to enable government departments to take calculated investment risks the private sector alone is unwilling or unable to currently undertake especially in the five areas in which the National Wealth Fund intends to invest in but through other ways. Those five areas (upgrading ports and supply chains, building new gigafactories, greening the steel industry, accelerating carbon capture, and supporting green hydrogen manufacturing) will also benefit through reform of pension regulations to allow funds to invest more in domestic UK projects and businesses where in the past the rules have incentivised British funds to invest in foreign projects and overseas assets instead. The National Wealth Fund has a target to attract £3 of private investment for every £1 of public investment which, if successful, will mark an important step in attracting more private sector investment to support the UK's Industrial Strategy.

c) **Leveraging Interconnected Resources**: The UK's ability to meet manufacturing demands for key inputs including skills, finance, housing, transport and logistics, energy, and raw materials will determine our ability to grow an identified subsector or technology. A full and comprehensive supply chain assessment, including examining potential market distortions will therefore be important. This will ensure that investments are targeted effectively and avoid unintended consequences. For instance, focusing on a single subsector, such as green energy technologies production, could inadvertently drain skills from other sectors, such as aerospace by creating increased competition for a limited supply of talent, thus driving up wages and other input costs. To maintain a competitive manufacturing sector, a holistic approach is necessary to grow the overall skills supply, ensuring that businesses have sufficient access to the various inputs they need to thrive without pulling the rug out from under each other in a way that ultimately undermines the whole supply chain and UK economy.

d) **National Security and Sovereign Capacity**: Investing in sovereign capacity is essential for national security, economic growth, and global influence. The UK must maintain critical capabilities like Combat Air (GCAP) and Nuclear (AUKUS) to ensure its independence and alliance commitments.

22. By focusing on these areas, the Government can ensure that the UK's industrial strategy delivers maximum value for money and benefits to the country.

**2) How should the UK government account for emerging sectors and technologies for which conventional data sources are less appropriate?**

23. A number of emerging sectors and technologies will go on to underpin the UK industrial base in years to come. When looking at incomplete data from conventional sources it is worth considering the impact that an absence of such sectors and technologies would have not just on individual sectors or sub-sectors, in regard to skills and growth, but also the impact on UK businesses that will come to rely on such industries and connected services either as suppliers or as investor. Looking at the impact of past technological and energy changes have had on industry could demonstrate potential deficits in growth and investment were such sectors and technologies not to gain traction in the UK.

24. Taking a strategic approach that enables investment in industry underpinned by high-level aspirations (such as increased focus on skills or the growth available in decarbonisation) as opposed to a tactical led approach would maximise growth opportunities and reduce the risks of missed opportunities and remove the threat of being seen to prop-up sub-sectors that become non-viable.

> For example, if you would apply this principle to clean energy and observe that a level playing field in industrial decarbonised energy costs would facilitate the most efficient energy options available for any given industrial process or location – in most cases that would likely be electrification but for others it might be hydrogen or CCUS. A strategy that facilitates efficient and affordable fuel switching would help develop UK supply chains for critical materials in the energy transition, enabling for economic growth, a skills opportunity for the next generation, and policies that would enable domestic home fuel switching in the years to come.

25. Looking at historic data as to the effect of new technologies entering the workplace, and/or historic data following the introduction of new processes to achieve better consistency in industrial outcomes might be useful to understand basic potentials around emerging sectors and technologies without the need to look at minutiae evidence and risk become over-ladened with data.

**3) How should the UK government incorporate foundational sectors and value chains into this analysis**

26. While a sector-based approach simplifies government communication by making the Industrial Strategy easier for the public to understand, it fails to accurately represent the complex reality of the modern manufacturing industry. Most manufacturers do not align neatly with defined sectors. Supply chains have become increasingly intricate. The average UK Original Equipment Manufacturer (OEM) supplies

components to between 5 and 10 different industrial divisions, meaning they contribute to the supply chains of multiple subsectors. A more effective approach is to view manufacturing as a network of interconnected supply chains rather than stand-alone subsectors.

27. Prioritising the process of manufacturing, rather than specific products, is more likely to yield positive outcomes. This approach recognises the importance of core manufacturing capabilities, such as forming, forging, and additive manufacturing, which underpin a diverse range of products and industries. By focusing on the process, the UK can enhance its manufacturing competitiveness and resilience in a rapidly changing global economy.

**The vital role of the Steel Industry**

We fully endorse UK Steel's position on the importance of the Steel Industry and wish to highlight it in Make UK's wider submission.

While the Government has already recognised the importance of the steel industry by creating a separate, dedicated strategy for the sector, it is worth emphasising the importance of the steel industry to the overall aims of the Industrial Strategy:

Steel is a foundational industry, serving as a critical input across numerous downstream sectors. It plays a vital role in construction, transport, infrastructure, defence, energy, and manufacturing, amongst others .

While the Industrial Strategy has identified advanced manufacturing as a key sector within the Industrial Strategy, it has left out foundation industries, such as steel, glass, chemicals, ceramics, and mineral products, which all support and are essential to advanced manufacturing. Particularly as the world becomes increasingly fragmented, it is more than ever vitally important to have strong domestic foundation industries and access to critical materials. From rare earths and semiconductors to battery gigafactories and energy, there is an increasing realisation that supply chains are exposed and have become overly dependent on few sources. While some of these newer industries have more hype around them today, they still depend on and are highly interlinked to the more traditional foundation industries such as steel. Traditional does not mean outdated – steel and broader manufacturing drive considerable technological advances and innovation, supporting skills and economic growth.

Strengthening the UK's steel industry bolsters economic resilience and national security. Disruptions caused by the pandemic and the war in Ukraine demonstrated the importance of robust domestic supply chains. A strong domestic steel industry would shield critical sectors from global events and contribute to a more resilient economy. Without a homegrown steel industry, the UK's construction, automotive, engineering and defence industries would be at the whim of global events.

The link between economic growth and manufacturing output is well established, and steel sits at the foundation of a large proportion of manufacturing activity. Nearly every economy in the G20 boasts a robust steel sector, which is a testament to the critical role it plays as the bedrock of a strong economy. Governments worldwide recognise the strategic importance of their steel industries in driving economic growth, productivity and resilience and take the necessary actions to support their domestic sectors when needed.

The UK's steel industry contributes significantly to the economy and supports high-paying jobs, particularly in regions outside London and the South East. The £1.8bn direct and £2.4bn indirect contribution to GVA and, finally, £3.4bn contribution to the balance of trade demonstrate its economic importance. Prioritising steel aligns with the government's objective of improving regional economic equality.

Steel is also crucial for achieving the UK's net-zero targets. It is a key material in renewable energy technologies and infrastructure and, therefore, plays a central role in decarbonising other sectors. The UK steel industry is committed to reducing its own emissions and achieving net-zero production, while the sector has committed to 80% carbon reduction by 2035.

The UK has unique strengths in steel scrap, renewable energy, and innovation, which positions it to become a leader in green steelmaking. The UK generates significant amounts of steel scrap, a vital resource for low-carbon production methods, and has an abundance of renewable energy, which combined enhances the potential for green steelmaking.

The Government has already recognised the importance of the steel industry through its plans for a Steel Strategy, so it must also ensure this is aligned with the Industrial Strategy. It should also assess the importance of other foundation industries, as there is a risk of merely relying on advanced manufacturing without recognising the interconnectedness with chemicals, steel, ceramics, glass, cement, and other foundation industries. It would be a mistake not to include industry within an industrial strategy.

**Growth sectors**

**4) What are the most important subsectors and technologies that the UK government should focus on and why**

28. The identified eight 'growth sectors' provide a suitable foundation for a process-oriented approach that would benefit the whole manufacturing industry and UK economy. Nevertheless, the need to identify the most important subsectors and technologies that the UK government should focus is understood. Based on Make UK's understanding of the integrated and overlapping benefits of key sectors, we would suggest that the UK boasts a strong manufacturing sector with global leadership in key industries and technologies, including:

    - Defence: military vehicle production.
    - Aerospace: Aircraft engine and wing manufacturing and aerospace engineering.
    - Pharmaceuticals: Medicinal research, discovery, and development.
    - MedTech: Medical device and biotechnology and bioinformatics research, development and production.
    - Automotive: Though no longer a leading mass market manufacturer, we remain a world leader in high value added high-performance engineering and Formula 1.
    - Advanced Materials: Materials science research and advanced materials manufacturing, notably nanotubes.
    - Green Technologies: Offshore wind and low-carbon energy solutions.

29. Several of these sectors, notably Pharmaceuticals and Green Technologies, align directly with the Government's key 'Missions' to 'Make Britain a clean energy superpower' and 'Build an NHS fit for the future'. These sectors should therefore be prioritised for investment and policy support.

**5) What are the UK's strengths and capabilities in these subsectors**

30. The UK boasts a strong manufacturing sector with global leadership in several key industries and technologies. This is underpinned by a highly skilled workforce, world-class research institutions, and significant investment in research and development. Key strengths and capabilities include:

    - **Highly Skilled Workforce**: A highly skilled workforce, particularly in life sciences, supports an important manufacturing industry which punches well above its weight. However, there are also considerable challenges. Crucially, as a result of faults with the Apprenticeship Levy system, the number of apprenticeships starts in engineering and manufacturing has fallen by 42% since 2016/17 at a time when demand for skilled workers across a range of occupations – both lower and higher level – is increasing.[3]

[3] Make UK analysis of Department for Education apprenticeship statistics

- **World-leading Research and Development**: World-class universities and research institutions drive innovation. Significant investment in research and development ensures the UK remains at the forefront of green technology innovation and at the cutting edge of precision engineering and manufacturing innovation, notably in automotive, aerospace, defence, and materials science. However, again the sector faces immediate financial challenges. A recent report by the Office for Students found that almost three quarters of universities in England will face financial problems next year - despite tuition fees increasing[4].

- **Internationally Respected Regulatory Expertise**: The UK's regulatory framework and expertise in clinical trials facilitate the development and commercialisation of new technologies such as medical devices and bioinformatics.

**6) What are the key enablers and barriers to growth in these subsectors and how could the UK government address them?**

- **Skilled Workforce**: A highly skilled workforce is crucial for maintaining the UK's competitive edge in manufacturing. Investing in education and training, particularly in STEM subjects, can help to develop the talent pipeline. However, a persistent skills gap, particularly in engineering and technical roles, is hindering growth. The single biggest step to boosting economic growth would arise from filling a significant proportion of the 64,000 unfilled vacancies in the manufacturing sector. Make UK estimates the inability to fill these vacancies is costing the manufacturing sector £6.4bn in lost output every year. Too often, past reforms have been well-intentioned, but do not work for learners or businesses across the country, leading to the system being, once again, reinvented. Despite positive intentions, skills reforms over the last decade have not so far enabled manufacturers to recruit and train the people they need. In England, the number of engineering and manufacturing apprentices has fallen by more than a third since the introduction of the Apprenticeship Levy in 2017, with over £3 billion of unspent levy funds returned to HM Treasury in that time. The taxpayer has contributed £1.6bn towards the new T Levels since that system was introduced in 2020, yet just 1% of the available cohort has so far enrolled while the alternative qualifications (BTECs) are being run down. No wonder more than half of manufacturers say they cannot access the talent they need locally, and fewer than one in five believe that the current government support for skills training is adequate. We must create a future fit talent pipeline to power manufacturing and engineering into the future Manufacturers require assistance in training and upskilling their existing workforce to adapt to evolving technologies and industry demands. Implementing targeted skills initiatives to address specific skills gaps, such as apprenticeship levy reform will help address this barrier to growth. In Q1 2025, the Make UK Industrial Strategy Skills Commission will provide a series of in-depth manufacturing sector specific recommendations to support the government's Industrial Strategy.

- **Research & Development**: Through our world-leading universities and top-class industry-led research & development (R&D), science and innovation play a central role in encouraging prosperity and economic growth in the UK. Our expertise in innovation and creativity stands out, but when it comes to bringing these innovations to market, we find ourselves falling behind. The manufacturing sector is in the midst of transformative change, with technologies powered by the Fourth Industrial Revolution reinventing its products and production processes. Through automation and new digital technologies, UK manufacturers are reshaping our economy for the better. While some businesses are already reaping the rewards, many manufacturers are yet to embark on their digital journey. The benefits of such investments are staggering, driving up productivity and slashing operational costs, though the most significant productivity gains from digital adoption lie within SMEs. Strong R&D capabilities are essential for driving innovation and developing new products and processes. Government funding for research, tax incentives for R&D

[4] https://www.bbc.co.uk/news/articles/c14lv7e61d3o

investment, and collaboration between academia and industry can foster innovation. The Government has a fundamental role to play in driving adoption by aligning industrial strategy with the digital future of manufacturing. By tackling the common barriers to growth — access to skills, finance, and expertise — we can pave the way for technological advancements that will underpin economic growth and the drive to Net Zero. To do this the government must take forward the commitment to expanding the Made Smarter Adoption program – which is helping SME manufacturers access technology and digital skills - to all nine English regions; Re-establish an updated modern Manufacturing Advisory Service to help disseminate best practices and the latest insights to boost firm-level productivity from a wider perspective than solely digital adoption; Incentivise automation to improve workplace productivity and competitiveness across the sector; and Create further opportunities for universities, innovation agencies, and catapults to work with industry to map the total end-to-end roadmap of research to market product development, aiding the commercialisation of innovation.

- **Infrastructure and Energy**: Infrastructure, including reliable low-cost energy supplies, efficient lost-cost freight and public transportation networks, and high-quality digital connectivity, is essential for modern manufacturing businesses. Investing in infrastructure can improve productivity and reduce costs. Well-developed infrastructure attracts investment and people and enriches communities. High energy costs erode the competitiveness of energy-intensive industries. At present, the UK has some of the highest industrial energy costs in the G7. Investing in energy efficiency measures, supporting the development of renewable energy sources, and providing incentives for businesses to adopt low-carbon technologies will all help reduce industrial energy costs while simultaneously helping the UK reach our Net Zero targets. The National Grid has been highlighted by Make UK members as in need of an urgent overhaul if we are to meet our net zero ambitions without compromising the manufacturing sector's ability to deliver. Business rates reform to remove capital stock from the business rates calculation would go a long way to enabling and incentivising on-site green energy production, thus cutting costs, reducing reliance on an already overburdened National Grid, and helping the UK reach Net Zero. Great British Energy (GB Energy or GBE) the publicly owned energy generation company will hopefully make a significant contribution to increasing the UK's energy independence and our transition to a low-carbon economy. It has a challenging but important task on its hands to increase investment in renewable energy, boost the UK's energy independence by increasing domestic energy production, and ultimately enabling and underpinning increased adoption of the automation and digitalisation technologies that are essential to boosting UK productivity, competitiveness and economic growth. Freight and transport capacity also need significant improvement – particularly outside of London and the South East – if we are to re-balance our economy and enable industrial growth. But infrastructure is not just physical. Infrastructure has extended into digital satellites and computer systems that transmit data across the globe. We need twenty-first century digital infrastructure that can sustain economic growth and provide the cyber security that the modern manufacturing sector requires. Moreover, while businesses need sufficient infrastructure to succeed, their employees do too. The current cost of living crisis and record levels of house prices have highlighted how no industrial strategy or place-based government policy can achieve its aims if firms aren't able to find the workers they need. However, workers won't join a firm if they can't find a home nearby to live in. Thus, sufficient industrial infrastructure must be coupled with sufficient Housing.

- **Supply Chain Resilience**: In recent years, we have witnessed how supply chain disruption has created unprecedented challenges for businesses across the globe, a pattern of volatility which is fast becoming the new normal. The Covid-19 pandemic, followed by Russia's invasion of Ukraine, not to mention other geopolitical events in the Gulf, Suez and Panama canals and South Pacific, all highlighted the interdependent nature of modern supply chains. These events further exposed how vulnerable global supply chains can be to national and international disruption, significant trade restrictions and disruptions in the supply of materials and resources, especially energy. The previous government published its critical import and supply chain strategy and set up a Critical

Imports Council, which aimed to help UK businesses build secure and reliable supply chains. Make UK welcomed this focus on greater resilience as the first step in ensuring that the UK can adapt to long-term trends and become a centre for excellence for supply chain analysis. This work should be continued be the new government. In addition, HM Government can help to promote domestic supply chain resilience by supporting domestic suppliers through national procurement plans for domestic infrastructure and supply, opining up government procurement to SMEs and companies with high scale up potential.

- **Government Support**: Government policies that support manufacturing, such as tax breaks, export finance, and regulatory reform, can create a favourable business environment. HM Government must also promote international trade by negotiating trade deals and supporting export promotion activities to expand market access for UK manufacturers.

**Creating a pro-growth environment**

**7) What are the most significant barriers to investment? Do they vary across the growth-driving sectors? What evidence can you share to illustrate this?**

26. Investment can be motivated by a multitude of factors, both external and internal to business conditions. Regarding plant & machinery investment, the need to replace or maintain equipment is one of the primary motivating factors to invest in capital. This is generally the case for just under half of manufacturers (43%). despite the diverse range of deterrents on investment, there are several factors that are often highlighted by manufacturers that can act as a barrier. For example, confidence, cost and skills.

- **Confidence:** The need to replace equipment is superseded by confidence in the domestic market (59%), which is a motivator for investment when economic conditions are strong but a barrier to investment in recessionary environments. Though confidence may appear as an external, uncontrollable factor the Government can influence investment confidence through clear communication and message on policy objectives and sticking to schedules for long-terms strategies, like the industrial strategy[5].
- **Cost:** More specifically, manufacturers rely on positive returns on investment (ROI) to justify investments, access finance and recruit staff. Cost itself is not a barrier when a manufacturer is able to demonstrate ROI, as this enables easier access to finance. 70% of manufacturers highlighted that the ROI was an important factor in the investment decision making process, only second to the need to improve productivity (74%). However, 40% of manufacturers have stated that the absolute cost of an investment does play an important role in the decision-making process[6].
- **Labour and Skills:** Skills remains a barrier in any type of investment, particularly for the adoption of automation and digital technologies. For example, the biggest barrier to investment for data analytics was the lack of digital skills available[7]. This presents a wider challenge that most forms of investment, whether it is in robotics, new facilities or even energy efficiency usually comes with the requirement that people with skill will be needed to benefit from these investments. If that is not possible, it can limit the ROI of investment and render projects unfeasible.
- **Energy costs:** The cost of electricity, relative not only to the cost of gas but also to international competitor markets inhibits investment in the most efficient method of fuel switching. The relative cost to gas is a long-term inhibitor to financial officers being able to make internal business cases for fuel switching from gas to electricity. The relative cost to international competitor markets acts as an inhibitor for multi-national companies undertaking their decarbonisation strategy and arranging their investment queue internationally. The further down those international investment queues the UK finds itself, the longer it will take to enact fuel switching and the more supply chain related businesses will be offshored, undermining the potential of a just transition.

[5] Make UK/RSM, Investment Monitor (2024)
[6] Make UK, Start up to Scale Up (2021)
[7] Make UK/RSM, Investment Monitor (2024)

- **Grid connections**: This is also a barrier, not just for demand-side technologies but also for flexibility technologies and onsite production. As we understand it, local district network operators are in some cases resistant to connecting to industrial sites with onsite generation due, in part to regulatory requirements around potential impacts on grid should the connected onsite generation fail.

Other barriers include insufficient market size, high operational costs, increasing tax burdens and interest payments, uncertain payment conditions.

**8) Where you identified barriers in response to Question 7 which relate to people and skills (including issues such as delivery of employment support, careers, and skills provision), what UK government policy solutions could best address these?**

**9) What more could be done to achieve a step change in employer investment in training in the growth-driving sectors?**

**Apprenticeships**

27. Despite significant growth in the number of manufacturers in scope of the apprenticeship levy and the money they pay into the system, **the number of engineering and manufacturing apprenticeship starts has declined by 42% since 2016/17**. There is a large and widening gap between the revenue raised by the apprenticeship levy and the budget for the apprenticeship programme in England. Total employer contributions via the levy are forecast to exceed £4 billion according to the Office for Budget Responsibility, yet the apprenticeship budget remains less than £3 billion. Even accounting for the allocations made via grants to the devolved nations and their respective apprenticeship programmes, there is a difference of roughly £800 million between what is raised from employers and what is spent on apprenticeship training across the UK.

28. One of the consequences of withholding this revenue from the apprenticeship programme is that important engineering and manufacturing training provision is being scaled back or withdrawn. For many apprenticeship standards on the engineering and manufacturing route, funding bands have remained static over a number of years, not even accounting for the impact of high levels of inflation during this period. As a result, the rates at which providers are funded for apprenticeship training in key areas no longer reflects the actual cost of delivery, and this is exacerbated by the rigid funding rules around ineligible costs which stifle both provider and employer investment in industry-standard capital equipment and machinery on which apprentices can learn. Finally, providers – like employers – have struggled to recruit and retain skilled staff which has reduced their capacity to deliver off-the-job training.

29. This has had a particular impact on engineering standards at levels 2 and 3, where manufacturers are typically experiencing the most acute labour shortages and where there are a range of occupations, from welding to machining, which will be critical to delivering the skilled workforce needed to achieve the goals of the industrial strategy. Indeed, it is the sharp decline in training at these levels which accounts for much of the drop in apprenticeship starts since the levy was introduced.

30. The Government's recent announcement of investment in 'foundation apprenticeships' at levels 2 and 3, backed by £40 million from the existing apprenticeship budget and accompanied by regulatory changes for these new courses – notably the relaxation of rules on minimum duration – is a positive step forward in enabling additional employer investment in skills training at these levels. However, we are concerned at the potential scale of changes to level 7 standards eligible for levy funding. Given the amount currently collected from employers via the levy that is not allocated to the apprenticeship programme, it should not be necessary to impose further restrictions on how employers can use the levy in order to fund additional provision elsewhere.

31. The starting point for reversing the decline in engineering and manufacturing apprenticeship starts should be to ensure that levy contributions are used effectively, by **revising funding bands for relevant**

**standards to reflect actual delivery costs and avoiding restrictions on access to key higher-level engineering apprenticeships.**

32. The previous government also introduced some welcome flexibility in funding rules through the apprenticeship growth sector pilot, enabling training providers delivering 14 key standards in growth sectors to use additional funding for investment in equipment and machinery. The Government should use this pilot to consider how to continue to target this kind of additional support at engineering and manufacturing apprenticeship training which incurs relatively high capital costs for both providers and employers.

**Wider skills training**

33. It is positive that the Government has committed Skills England to working closely with the Industrial Strategy Council, as well as with other relevant bodies such as the Migration Advisory Committee (MAC). Manufacturers have felt that recent interventions in skills and labour market policy have suffered from a lack of overarching strategy and direction – cross-government co-ordination of policy in these areas, in the context of an industrial strategy, will give manufacturers greater confidence in determining their priorities for investment in skills training.

34. As the MAC conducts its review of professional engineering occupations and employers' 'over-reliance' on overseas recruitment, it is important to consider how challenges in accessing the right skills training for the domestic workforce plays into high demand for non-UK workers.

35. In co-ordinating the work of Skills England and the MAC, **the Government should take the opportunity to consider the scope for providing targeted financial support for training connected to shortage occupations.** This would draw on the example of Australia's points-based immigration system, where employers and learners receive incentive payments for taking up apprenticeship training linked to occupations identified as in shortage. The Government, through Skills England, could consider a similar approach to job roles in high demand according to the priorities set by the Industrial Strategy Council and shortages identified by the MAC.

36. For vocational and technical education for young people outside of the apprenticeship route, **the Government should extend its pause on the defunding of applied general qualifications at level 3 while the rollout of T Levels continues.** Make UK has worked closely with other engineering sector bodies to support the development of engineering and manufacturing T Levels, and these will form an important part of the pathway into skilled work in the sector for young people, whether through further workplace training on an apprenticeship or via university. However, with the programme still at an early stage, it is important that valuable alternative routes for young learners to enter engineering occupations are not restricted. The Government should also consider how to provide more support to employers to offer T Level industry placements, including through greater flexibility around simulated placements and making financial support easier to access.

**Careers and employment support**

37. It is welcome that the Government is committed to delivering improved employment support services through its Back to Work Plan and the forthcoming 'Get Britain Working' white paper, particularly focusing on a more effective combination of local health and skills support for working aged people who have become economically inactive. This touches on two important areas in which manufacturers are pursuing their own investment:

    a) **Upskilling and retraining existing employees.** The rapid pace of change in manufacturing workplaces as a result of digitalisation and the drive towards net zero means that many people currently in employment will experience significant changes to their jobs, and the skills required to do them, during their working lives. Manufacturers are already increasingly prioritising upskilling and retraining existing employees, and this trend should be expected to continue. It is encouraging that

the Government has re-committed to introducing the Lifelong Learning Entitlement from 2027, but there is still more to be done to develop short, modular training at level 3 and above for people already in work.

b) **Occupation health and wellbeing**. Against a post-pandemic backdrop of high rates of inactivity due to ill health, increasing retirement and high levels of sickness absence, investment in health and wellbeing is a major priority for manufacturers looking to improve productivity and staff retention. This could be better supported by expanding employers' tax relief on occupational health and wellbeing services.

38. It is important that publicly funded employment support services are able not only to signpost individuals to the relevant health or training support to enable them to access job opportunities, but that they are enabling employers to fill vacancies through effective and efficient, tailored matching which recognises the needs of individual businesses and the sectors in which they operate.

39. Make UK has worked with the Department for Work and Pensions to ensure that brokers of work and training opportunities, like work coaches, in Jobcentre Plus are able to match employers and job candidates more effectively by providing more up-to-date information on job roles and working conditions in manufacturing, and

40. As recommended by the Institute for Employment Studies' Commission on the Future of Employment Support, the Government should consider strengthening employer engagement with employment support through a dedicated employer service which provides more tailored advice and practical support on issues such as recruitment practices and workplace adaptations.

**10) What more could be done to achieve a step change in employer investment in training in the growth-driving sectors?**

41. In addition to the specific barriers and potential policy solutions identified above, manufacturers are frustrated by the lack of clear incentives for investment in skills training and workforce development. The sector has benefitted from effective and well-targeted support through the tax system for investment in physical capital, e.g. R&D tax credits and full expensing of capital allowances but lacks equivalent support for investment in human capital. **The Government should consider where improving current tax relief on workplace training could help to stimulate further investment from employers**

**11) Where you identified barriers in response to Question 7 which relate to RDI and technology adoption and diffusion, what UK government policy solutions could best address these?**

42. With so many advantages to digitalisation, it's fair to ask why more manufacturers aren't jumping at the opportunity. The reality is that many face significant barriers that can be grouped into four main categories: Skills, Funding, Knowledge and Expertise, and Culture and Leadership.

- **Skills: Bridging the Digital Talent Gap:** A lack of digital skills is a major hurdle for manufacturers looking to embrace new technologies. To fully leverage digital tools, companies must rethink their talent strategies, ensuring that employees continuously develop digital skills throughout their careers. This ranges from basic digital literacy for everyday operations to advanced technical abilities needed for implementing automation and new production technologies. In fact, over 70% of manufacturers are prioritizing digital skills development, especially in areas like IT management, cybersecurity, and data analytics, with demand expected to rise sharply by 2030. However, it's not just about technical know-how. The market for digital solutions is vast and can be overwhelming. Many businesses struggle to identify which tools will work best for them, with 30% of survey respondents saying they need more support to decide where to start. Before making an investment, nearly half of manufacturers want to understand the potential return on investment (ROI), underlining the need for clear, practical guidance.

- **Funding: Overcoming Financial Barriers:** Securing the necessary funding is a common challenge, especially given current economic pressures. Even with a strong business case for digitalisation, the upfront costs can be daunting. A striking 70% of manufacturers cite access to finance as a key obstacle. Companies need to build robust business cases that highlight measurable ROI and explore all available funding options. This might include bank loans, government programs like Made Smarter grants, or leveraging tax reliefs such as the annual investment allowance or R&D tax credits.
- **Knowledge and Expertise:** Many manufacturers would fast-track digital adoption if they had access to unbiased, expert advice. Nearly half say they need more information on how to implement digital technologies, and over 40% want peer-to-peer learning programs to share best practices. Small to Medium Enterprises (SMEs) face particular challenges here—they often lack the extra capacity or specialized skills needed for a digital overhaul, even when it's a strategic priority. SMEs can also be overwhelmed by the sheer range of available technologies and services. A focused effort is needed, with 'digital ambassadors' providing impartial advice and tailored guidance. Strengthening regional SME advisory services with expertise in digital technologies and change management would make a big difference.
- **Culture and Leadership:** Getting buy-in from employees is critical, but it starts with leadership. Resistance from leaders or a business culture that is slow to embrace change can be a significant barrier. Digital transformation requires a fundamental shift in mindset, and this needs to be driven from the top down. Embedding a culture of innovation and agility is key to overcoming this hurdle, as explored in the next section of the report.
- **Cyber security:** Moreover, concerns about cybersecurity can deter manufacturers from adopting digital tools. A Make UK survey showed that nearly half of manufacturers experienced a cyber-attack in the last year, with 63% of these costing up to £5,000. While the fear of cyber threats is understandable, sticking with outdated, vulnerable systems poses its own risks, including costly unplanned downtime.

43. When we looked into barriers to invest in technologies to automate (Make UK, Automation, 2023), apart of the access to finance and skills we saw manufacturers struggles to system integration. The largest share of manufacturers (46%) say a lack of technical skills creates challenges to adopting current and cutting edge technologies. IT systems used by manufacturers are essential for enabling modern technologies to succeed. However, outdated or incompatible software can hinder a business's ability to adopt new innovations. In such cases, companies might even need to overhaul their systems, adding to the overall cost of integrating new technologies.

44. The true value of these technologies such as AI lies in their ability to gather and use data to enhance operations. Without the right tools and skilled personnel to collect, analyse, and act on this data, manufacturers may struggle to maximise their technology investments. Adopting digital tools like dashboards and analytics software can help bridge this gap, but ensuring seamless integration between different technologies remains a challenge.

45. In order overcome the barriers around access to skills, Government should work with industry to **create and expand government-backed training programs focused on data analytics, AI, and automation technologies** to ensure the workforce has the skills needed to implement and manage new systems. Similarly, modern apprenticeship programs should be developed in collaboration with industry leaders, under the apprenticeship standards model focusing on digital technology and automation skills.

46. To raise awareness and promote the benefits of current and future technologies, t**he Government should launch a national awareness campaign** highlighting the benefits for technologies such as AI and Machine Learning, robotics and Cloud, featuring case studies of successful implementations in UK manufacturing. This should be accompanied by the **establishment of a network of "Tech Champions"** within industry clusters to share best practices, provide mentorship, and guide smaller businesses through the adoption process. This should of course be underpinned by the **continued national roll out of Made Smarter** with funding available to ensure manufacturers can access expert advice, best

practices, and real-world insights on technology adoption across all English regions and the devolved administrations.

47. The UK's Catapult Centre system is truly world leading, providing invaluable support for innovation in manufacturing. Yet, despite its offering an unparalleled asset to industry, many smaller firms fail to engage with Catapult Centres and the consequential benefits from the potential of collaboration, expertise and fantastic facilities. The landscape of Catapults need to be reconsidered to be more effective in order to have a greater reach within their regions, particularly in terms of where the Catapults were geographically based. Better distribution would enhance engagement with relevant businesses.

48. Finally, **Government needs to establish clear, sector-wide standards for software interoperability** to reduce the challenges of integrating diverse technologies. This can be led by a consortium of industry experts, technology providers, and regulatory bodies.

**12) What are the barriers to R&D commercialisation that the UK government should be considering?**

49. There are several key barriers that impede the commercialisation of R&D, which can be broadly categorised into funding constraints, skills gaps, regulatory hurdles, infrastructure limitations, cultural resistance, and market access issues. The journey from R&D to commercial success is full of promise, but many UK innovations stall before reaching the market. The challenges are multifaceted, rooted in funding issues, skills shortages, regulatory complexities, infrastructure gaps, cultural resistance, and inconsistent policy support.

50. A major barrier is the funding gap, particularly beyond the initial R&D phase. Despite the potential of high-tech projects, investors often shy away from the significant capital needed for scaling up, especially when the returns are not immediate. This hesitation creates what is known as the 'valley of death,' where promising innovations fail due to a lack of patient capital. Existing financial incentives like R&D tax credits are largely aimed at research activities rather than the crucial commercialization phase. To bridge this gap, the UK needs funding mechanisms that are specifically designed to take innovations from prototype to market-ready products.

51. Another critical issue is the shortage of commercial expertise within R&D teams. While the UK has strong research capabilities, many projects are led by scientists and researchers who may lack the business acumen needed to turn ideas into viable products. This skills gap extends beyond commercialization knowledge to include specialized technical skills in areas like AI, quantum computing, and advanced materials. As the pace of technological advancement accelerates, the demand for these skills continues to outstrip supply, creating a bottleneck that hinders commercialization efforts. **Stronger collaboration between universities and industry is needed to create a pipeline of talent that understands both cutting-edge research and the commercial needs of businesses.**

52. Regulatory hurdles also slow down progress. The approval processes for new technologies, especially in regulated sectors like healthcare, life sciences, and energy, are often lengthy and complex. This not only delays market entry but also increases costs, making it harder for businesses to bring their innovations to market. The lack of clear regulatory standards for emerging technologies adds another layer of uncertainty, making it difficult for companies to plan and execute their commercialisation strategies. Clearer guidance and more proactive regulatory frameworks are needed to streamline this process. **Moreover, Government should create regulatory sandboxes where businesses can test new technologies without the usual compliance constraints, allowing them to innovate and iterate more rapidly.**

53. Infrastructure and ecosystem limitations further compound the problem. Access to advanced testing and prototyping facilities is crucial for developing and refining new products, yet these resources are often scarce and costly, especially for SMEs and startups. The UK's innovation hubs also lack the density of resources, networks, and support services found in leading global tech ecosystems. **Strengthening local**

**innovation clusters and providing shared facilities could significantly enhance the commercialization landscape.**

54. Cultural factors play a role as well. The UK business environment tends to be risk-averse, with many companies still not adopting new technologies or invest in early-stage innovations. This cautious approach stifles experimentation and delays the uptake of groundbreaking products. Additionally, there is a shortage of 'commercial champions' within organisations—individuals who can drive innovation and advocate for new technologies. **Creating a culture that rewards risk-taking and innovation is essential to overcoming this barrier.**

55. Lastly, market access and inconsistent policy support create additional challenges. Scaling up production for new products, especially in deep tech and advanced manufacturing, is often hindered by high costs and limited access to international markets. While the UK offers various funding programs and support initiatives, they are fragmented and lack strategic alignment, making it difficult for businesses to navigate the landscape effectively. Moreover, frequent changes in government policy and funding priorities create uncertainty, discouraging investment in commercialization efforts. **A consistent, long-term policy framework that aligns with national industrial strategy is needed to foster confidence and drive sustained investment.**

**13) How can the UK government best use data to support the delivery of the Industrial Strategy?**

56. The UK government can effectively use data to support the delivery of the Industrial Strategy in several important ways:

- **Data-Driven Decision Making**: Utilise economic and industry-specific data to inform policy decisions. By monitoring and analysing trends in productivity, employment, and innovation, the Industrial Strategy Council can help identify technologies, companies, and subsectors with the highest growth potential and pinpoint those with the greatest potential for job creation. Data can also be used to monitor subsectors which are not performing as well as expected or strategically important technologies which are not being adopted or developed at sufficient pace and potentially identify blockages or reforms which may be necessary to implement. It will, of course, be important to implement systems to regularly update and evolve the types of data used, allowing policymakers to respond to and technological, industrial, and economic shifts, as well as emerging global challenges. Data-driven problem-solving can help address broader challenges, such as climate change and inequality, while evaluating the effectiveness of policies enables necessary adjustments but only if the quality of data is sufficiently robust. Tell us an example the recent government consultation on UK Standard Industry Classification (SIC) codes, it is clear that industry has evolved in a way which historical data metrics do not fully account for. It is therefore essential that any data-driven analysis of industrial strategy is built upon updated under appropriate modern metrics which incorporates an accurate understanding of the increasing servitization and serviceification of UK manufacturing. Policy decisions will only prove effective if they are based on accurate data. Developing better data sets and continuing to update that information to take account of evolving business trends and practises must therefore be the first step in seeking to use data to inform the industrial strategy.

- **Enhancing Skills and Training:** Conduct skills gap analyses to identify shortages and tailor education and training programmes accordingly. Predicting future skills demand is challenging but the new Growth and Skills Levy must involve some level of forward planning and guidance with regard to sector skills needs. Government can lead the way, for example, by coordinating the work of Skills England with that of the National Wealth Fund (the renames UK Infrastructure Bank) to anticipate future engineering numbers that will be required to deliver new local, regional and national infrastructure projects and increase provision of training in the requisite subject areas in advance. This will help ensure efficient deliver publicly funded infrastructure projects are built on time and to

budget while also reducing the negative impact that such projects can have on the skills supply to the private sector. At present competition for scarce skills means that when major projects are announced private sector manufacturers can suffer from significant demands for pay increases or staff losses as workers, quite understandably, move to take advantage of opportunities to work on the major infrastructure projects. Quite apart from the costs this imposes on industry the effect can also be of significant detriment to the UK economy and national security if, for example, it results in a shortage of engineers available to fill roles in strategically important sectors such as energy generation and storage. We would instead suggest HM government seek to learn from the influence of the Delft School of Public Works approach to National Infrastructure projects in the Netherlands and the Bundesanstalt für Straßenwesen (BASt), the German government agency responsible for research and development in the field of infrastructure and engineering. BASt conducts research into new technologies and methods for infrastructure planning, construction, and maintenance. Crucially, it also offers relevant training programs and courses for engineers and other professionals working in the manufacturing and infrastructure sector. By supporting and promoting research and innovation, BASt helps to cut the cost, in both time and money terms, of infrastructure delivery. By contributing to a constant pipeline of engineers and other experts capable of delivering complex infrastructure projects it helps the state to retain institutional knowledge (such as in contract drafting for the public sector, an area where the UK has suffered unfortunate failures historically) and so increases efficiencies and in-house expertise. By contrast the UK has fallow periods between projects which means we lose institutional knowledge, don't keep up to date with the latest innovations, and have increased financial costs and project delivery delays, for example by needing to recruit and train engineers from scratch each time a new infrastructure project is announced.

- **Promoting Exports**: Use market intelligence to identify export opportunities for UK businesses and analyse trade barriers to work towards their removal. Use that data to identify and quantify tariffs, quotas, technical standards, and other trade barriers faced by UK exporters and facilitate better cross-border trade facilitation by identifying and addressing challenges related to cross-border trade, such as customs procedures and logistics. The data can also be used to identify sectors and regions with the greatest export potential and tailor support programs accordingly, track the performance of export promotion initiatives using data-driven metrics to measure their effectiveness, and identify best practices in export promotion through data analysis and share them with UK businesses for example to support UK businesses in expanding their digital presence.

- **Investment Prioritisation**: HMG can employ data analytics to assess regional strengths and weaknesses, enabling informed decisions about where to allocate resources. This approach could help target support to areas that will benefit most and fosters balanced regional development and prosperity for all. Additionally, measuring the impact of investments will facilitate the reallocation of resources to maximise returns.

- **Supporting Innovation**: Data is essential to monitor and evaluate the performance of R&D initiatives and innovation hubs. By analysing patent data and research outputs, the government can identify emerging technologies and successful projects that require further support. Fostering collaboration between industry, academia, and government can accelerate innovation. Graphene, a groundbreaking material with exceptional properties, was initially discovered and developed in the University of Manchester. However, despite its British origins, a disproportionate number of patents for graphene-based technologies have been secured by other countries, particularly South Korea. This suggests that there are significant blockages in the UK's research and development system that hinder the commercialisation of discoveries, inventions, and innovations. The UK's underperformance in translating academic research into commercial success may be attributed to a number of factors including a lack of sufficiently strong industry-university partnerships, insufficient funding for commercialisation efforts, bureaucratic hurdles, and a risk-averse culture and set of incentives within both UK businesses and universities which inhibits collaboration between academia and industry. Make UK members report that the UK Research Excellence Framework (REF) can inadvertently discourage universities from sharing IP with industry. While it aims to promote high-

quality research, the REFs focus on research outputs and impact can sometimes prioritise academic publication over commercialisation. This can lead to a tension between the desire to publish groundbreaking research in paywalled academically prestigious reviewed journals and the desire to share IP with industry for commercial exploitation. The REF's emphasis on 'impact' can also encourage universities to pursue short-term, high-impact projects that are more easily quantifiable, potentially neglecting longer-term, higher-risk research with significant commercial potential. This can limit the opportunities for universities to collaborate with industry and transfer knowledge and technology. A driven assessment of the UK's successes and failures when it comes to bringing research discoveries and knew innovations to market is essential do understanding what we do right and wrong and where we can improve. That information would be of huge benefit policymakers and should be used to underpin policy decisions with regard to industrial strategy. It could also prove highly valuable if deployed via a bit oriented UK equivalent of the Estonian government's Bürokratt (KrattAI) system ghost in the answer to question 13.

- **Improving Productivity**: Analyse productivity data to identify areas for improvement. Implementing policies that support productivity growth — such as investment in skills and infrastructure — will help drive economic performance. Sharing these findings via the Catapult Centre network and other business support bodies will help improve business performance, cut carbon emissions, boost productivity and economic growth.

57. By leveraging data effectively across these areas, the UK government can enhance the impact of its Industrial Strategy and ensure it delivers targeted, effective outcomes for the country, ultimately driving sustainable economic growth.

**14) What challenges or barriers to sharing or accessing data could the UK government remove to help improve business operations and decision making**

58. The Estonian government's Bürokratt (KrattAI) system is an online digital platform designed to streamline and automate administrative processes within the Estonian state. It aims to improve efficiency, reduce paperwork, and enhance transparency in public services through a centralised database, the provision of online services, electronic document management, workflow automation, data analytics, transparency and accountability. The system is part of a broader e-government initiative aimed at modernising government services and improving the quality of life for citizens. Bürokratt is not just an IT project but a concept of how digital services and the state could operate in the age of artificial intelligence. Bürokratt is an example of a sustainable artificial intelligence solution that is scalable and ensures privacy when processing human data.

59. For example, data-based decisions cannot be left out either, as AI is being used to give better recommendations for jobseekers and to detect tax fraud. With Bürokratt, the goal has been to offer the best possible digital state experience in order to make communication with the state radically easier for both entrepreneurs and citizens by enabling automated access to all kinds of public services, from state pensions, to social welfare support payments, to tax rebates and passport applications. Bürokratt enables the Estonian government to automatically inform citizens about the opportunities and benefits offered by the state and answer questions and concerns around the clock. One areas where the British state struggles most in its correspondence with businesses concerns access to government support schemes, grants, tax rebates, and information dissemination. T

60. The majority of British businesses, especially manufacturers, are SMEs. They are often family run or administered by a small team who are time poor and resource constrained. The effect is that these businesses have little opportunity or capacity to engage with government initiatives or to undertake the arduous research responsibilities required to keep abreast of opportunities for support and business improvement. If such government supports and initiatives are to prove more successful in future they need to be delivered in a way that is efficient, easily digestible, and therefore more effective. HMRC, the ONS, and other state and semi state actors possess a plethora of useful data and information on these

businesses which is not currently used as efficiently or effectively as it could be. A British Bürokratt type system oriented towards businesses could overcome many of these difficulties in a cost-effective way and have an exponential impact on boosting best practise, productivity, energy efficiency, exports, and economic growth. Using HMRC revenue reports and ONS headcount statistics, for example, could be used to automatically identify companies in rapid periods of growth or those that have remained stagnant over time, and to then target interventions accordingly. A start-up that goes from being a micro firm employing fewer than 10 people two in a short space of time employing just short of 250 people, and therefore reaching the threshold to be defined as a large employer, could automatically trigger an alert sent from relevant government bodies about programmes for government assistance concerning export supports and trade missions, or advise the firm about potential opportunities for collaboration with research institutions such as universities, catapult centres, UKRI, or other relevant initiatives. The benefit of doing so is that it is both automated but also highly targeted and delivered in a timely manner at the point when the business is most likely to be interested in such information. This would help to improve business awareness and therefore likely help improve business performance in a timely, efficient, and cost-effective way the benefits of which could be considerable.

**15) Where you identified barriers in response to Question 7 which relate to planning, infrastructure, and transport, what UK government policy solutions could best address these in addition to existing reforms? How can this best support regional growth? How can investment into infrastructure support the Industrial Strategy?**

61. Transport infrastructure plays a critical role in enabling businesses to access customers, suppliers and skilled workers. The quality of infrastructure, as well as commitment to expand and improve existing networks impacts all the barriers highlights as a determinant of investment in Question 7.

62. Infrastructure impacts current market confidence but also future market confidence. If there are inadequate investment plans to improve infrastructure, whether that is transport, energy or digital, it will impact future confidence, and therefore investment decisions today. 74% of manufacturers say road networks are important for supply-chains and rely overwhelmingly on the Strategic Road Network (SRN) to move goods and services domestically, and to ports for exporting. However, nearly half (48%) of manufacturers reported that the quality of road networks is bad. 34% said the same for national rail networks[8].

63. However, it is recognised that infrastructure investment is costly to the taxpayer and therefore benefits should be considered carefully before engaging with new projects. Manufacturers believe that the Government should prioritise in improving the quality of A roads (72%) and Motorways (50%) with a focus on repairing (76%) and increasing accessibility between public transport and roads. Similarly for rail networks 40% believe there should be increased investment for East-West connectivity and 38% want more metro lines for inner-city travel.

64. Manufacturers highlight that the direct benefits of investment in transport infrastructure includes reduced cost of logistics (68%), improved labour mobility (62%) and improved UK attractiveness for FDI (52%). In addition to spillover effects that contribute higher productivity (71%), better quality of life for local people (63%), and increases business opportunities (60%).

65. Investment into infrastructure should work alongside the industrial strategy to promote investment. Prospective investors will consider both aspects when looking at the UK as a destination for investment. Indeed, 70% of manufacturers believe that a robust, long-term industrial strategy will accelerate the reshoring of manufacturing back to the UK.

[8] Make UK, Infrastructure – Enabling Growth by connecting People and Place (2024)

**16) What can the UK government do to better support this and facilitate co-investment? How does this differ across infrastructure classes?**

66. A solution that should be considered, when business rates are reformed, is to mandate local authorities to re-invest the proceeds of property taxes into local investment projects. Previously the Fair Funding Review made recommendations to allow local authorities to retain a greater share of business rate receipts, as currently manufacturers are disproportionately affected by this tax, which act as a disincentive for investment. It would be difficult to promote co-investment between public and private sector given manufacturers area already overburdened with such taxes, which from their perspective brings very little benefit to their local communities. A funding model which incorporates business taxes to be re-invested will allow manufacturers to see the benefits of these taxes.

67. An alternative solution to consider could be replicating Bond referendums as they do in the United States which allows local governments to propose investment projects and is voted upon by constituents whereby they may face a one-off additional tax to pay for a project. This may help promote co-investment as well as overcome challenges such as NIMBY-ism.

**17) What are the barriers to competitive industrial activity and increased electrification, beyond those set out in response to the UK government's recent Call for Evidence on industrial electrification?**

68. A reliable, affordable, and sustainable energy supply is essential for economic prosperity and technological advancement. As the UK embarks on its journey towards a digital and automated future, ensuring access to clean, affordable industrial energy is paramount. Expanding the National Grid's capacity, accelerating the transition to renewable energy, and lowering the cost of energy for businesses, are all essential to powering the manufacturing industry, fostering innovation, and securing long-term economic growth for all.

69. **Initial capital expenditure**, particularly for small to medium sized industrial businesses. Multinational industrial businesses are already planning their investment profiles and the impact of SME industry not being able engage has a direct impact on this international level, as domestic supply chains are not present due to the lack of market thereby increasing risk and time lags around existing supply chains. Finance mechanisms that derisk the purchase of new equipment would enable increased uptake in electrification.

70. **Business rates uprating** also has an impact on business investment in general, however, the impact when taken in conjunction with grid connection costs and the increased cost of fuel when using electricity impedes electrification uptake and therefore acts as an inhibitor to business skills development and investment and development of critical domestic supply chains to underpin electrification of industry. This is particularly pertinent to those businesses seeking to use onsite generation and storage solutions.

71. **Training costs and provision**: Another barrier is in low margin industries; the ability for such businesses to provide not only the funding required for retraining of staff to transition to an electrification knowledgebase but also address the loss of internal work-hours to retraining needs to be addressed.

72. Materially, these impediments put at risk the ability for smaller and medium sized businesses, and low margin industries to electrify their processes. This is liable to have a wider impact on UK industry as such businesses often serve as supply chain partners to larger industrial businesses that may not be affected in the same ways

**18) What examples of international best practice to support businesses on energy, for example Purchase Power Agreements, would you recommend to increase investment and growth?**

73. A lack of clarity around the future cost of industrial energy is having a negative impact on the development of PPAs in the UK. This contrasts with European markets where there is a transparency around future electricity policies and costs. This comparative lack of visibility is holding investments that could otherwise be followed achieved in the near-term.

74. When it comes to industrial power, much of the initial investment is likely to be international and therefore highly aware of competitor market policies and approaches. It is within this context that high energy prices in the UK inhibits international business group investment in renewables; the knock-on effect of this is a lack of visibility from a National Grid perspective of the demand that has not yet entered the connection queue as it has not yet exited the international investment queue.

75. In addition to utilising proven tools such as Contracts for Difference or the Capacity Market to speed up the expansion of renewable energy and rolling out Business Energy Advisory Services (e.g. the West Midlands BEAS pilot test) for energy efficiency, Corporate Power Purchase Agreements (CPPAs) play a crucial role in local initiatives, such as partnerships between regional industry and energy companies. Government-backed and/or Pay-as-Produced (rather than fixed-volume) CPPAs allowing a guaranteed payment to the generator over the duration of the contract would shield them from penalties in the event of temporary reductions in generation during economic downturns. Even smaller companies are able to enter in 'multi-buyer' PPAs, combining their energy demand and collectively purchasing through a shared contract.

76. International examples show how corporate PPAs set up through strategic partnerships can drive the expansion of existing technologies, stimulate diversification into new technologies, support other industries and communities which in turn improve resilience and sustainability. In these cases, not only do these strategic partnership PPAs contribute to scope 2 emissions, but they also help tackling their scope 3 emissions.

Since end 2023, Philips has a 10-year virtual PPA with Neoen who supplies the power from a 126 MW wind farm in Finland. This not only powers its operations but enables Philips to support strategic innovative projects with partners like Heineken and Signify. With Google as another multinational customer, Neoen is thus expanding its European Corporate PPA market.

In November 2023, Philips' launched an agrovoltaic operation in partnership with Cero Generation in Pontinia, Italy which combines solar power with agriculture, benefiting both sustainability efforts and local communities (by supplying electricity to 47000 homes and reducing 40,000 tonnes of $CO_2$).
Other projects using pioneering renewable energy technology have seen Eco Wave Power's PPA with Israel's National Electric Company (IEC) sending wave-generated electricity to the Israeli national electrical grid since January 2024.

Norwegian Statkraft will supply, in a 7-year PPA contract, renewable energy to Sweden-based H2 Green Steel startup for its 800MW electrolyser to generate green hydrogen. The hydrogen will be used to produce green steel with 95% less emissions than traditional methods.

**19) Where you identified barriers in response to Question 7 which relate to competition, what evidence can you share to illustrate their impact and what solutions could best address them?**

77. The competitive landscape for UK manufacturers is increasingly shaped by structural barriers that constrain their ability to scale, innovate, and grow. While competition was not explicitly addressed in response to Question 7, the interlinked challenges of access to finance and disparities in the broader economic environment are tantamount to competitive differences between UK manufacturers and manufacturers from other major manufacturing nations. Although this consultation question may be seeking views on internal UK market competition, many of the concerns raised are applicable to the domestic market with regard to the disparity between the SME sector population in relation to large corporates.

**Barriers**

78. A prominent barrier lies in the uneven access to affordable finance, which continues to place UK manufacturers at a disadvantage. Unlike their counterparts in Germany, where institutions such as KfW Bankengruppe, the German state-owned investment and development Bank, provide low-interest loans tailored to industrial growth, UK manufacturers often contend with higher borrowing costs and stricter lending conditions. Although the British Business Bank could be seen as the UK's spiritual counterpart, finance products are less tailored to industrial growth, if at all. For SMEs in particular, this disparity inhibits their ability to invest in transformative technologies, expand production capacities, or undertake the research and development required to remain at the competitive forefront in global markets.

79. The challenge is exacerbated by international competitive pressures. Manufacturing in nations in the East, nominally China as an example, benefit from exceptionally low labour costs, which allow businesses to produce goods at prices that UK firms struggle to match. Similarly, countries in Eastern Europe, including Poland and Hungary, offer attractive investment environments through lower operational costs and tax incentives, drawing foreign direct investment and establishing themselves as key players in sectors such as automotive. A major UK based automotive manufacturer has found recent success in building a new plant and product line in Slovakia, as an example of manufacturing-flight from the UK. In Germany, a coordinated industrial strategy, bolstered by strong public-private partnerships and an emphasis on digitalisation, further highlights the disparity between the UK and its European peers. Three out of four UK manufacturers see Germany as a more advantageous business environment for manufacturing than they do at home.[9]

**Impacts**

80. These international competitor advantages have consequences for the domestic market too. UK manufacturers frequently report difficulties in competing with lower-cost imports or penetrating export markets where foreign competitors, backed by favourable policy and financial ecosystems, dominate. This situation not only threatens the long-term sustainability of UK manufacturing but also risks exacerbating the UK's trade deficit and limiting the sector's contribution to broader economic growth.

81. The effects of these barriers are clear when we consider the manufacturing sector's long-supressed investment levels. Despite the recognised importance of digital transformation and sustainability, many UK manufacturers are unable to undertake the necessary capital expenditure. A recent Make UK survey showed that 70% of manufacturers require a clear return on investment before committing to significant spending, yet high borrowing costs and economic uncertainty often undermine the ability to meet these criteria.

82. The challenge extends to innovation, where the UK lags behind global competitors in the commercialisation of research and development. While the UK boasts world-class academic institutions and a vibrant start-up ecosystem, the pathway from innovation to industrial-scale production remains behind international competitors (E.g. Germany's Fraunhofer institute)

**Solutions**

83. The UK must adopt a more ambitious and coordinated approach, in which this consultation forms an important part of these first steps towards a long-term and impactful industrial strategy for the UK. Tackling the financial capital constraints faced by manufacturers is essential. A government-backed scheme offering low-interest loans, similar to the German model, would provide much-needed support for investment in advanced manufacturing technologies, energy efficiency, and workforce development. Enhancing the industrial development focus of the British Business Bank's remit would help to address this. Simplifying access to existing funding mechanisms, such as Innovate UK grants, would further enable manufacturers to pursue growth opportunities without the administrative burdens that can discourage participation.

[9] https://www.makeuk.org/insights/reports/industrial-strategy-a-manufacturing-ambition

84. Long-term commitments to R&D funding, targeted tax incentives for high-value manufacturing, and investment in infrastructure to reduce operational costs are all important tenets of a future UK industrial strategy that would improve the sector's competitiveness both domestically and on the world stage. Addressing international disparities will require a proactive stance in trade and by securing trade agreements that reduce non-tariff barriers and enhance market access for UK goods, the government can level the playing field for the UK sector. Monitoring and responding swiftly to unfair trade practices, such as product 'dumping', would ensure that UK firms are not unduly disadvantaged.

**20) How can regulatory and competition institutions best drive market dynamism to boost economic activity and growth?**

85. Successive Governments have promised to tackle business regulation in order to cut the red tape and whilst we welcome the Prime Minister's commitment to removing regulation where it is blocking growth, it is important to note that regulation is absolutely vital for UK industry to operate.

86. Simply removing regulations, whether partially or entirely, is not the answer. The UK was once a global leader in regulatory expertise and standards before leaving the EU, and with the right steps, it could regain a prominent role on the world stage. Regulations play a crucial role in guiding businesses, and in a world where the UK's closest trading partner is advancing an ambitious regulatory agenda — particularly in areas like AI, energy, and industrial decarbonisation — the UK must be ready to consider how best to respond.

87. The manufacturing sector has been at the coal face of many new regulations, which have impacted the sector (both positively and, sometimes, negatively). We think there is needs to be a refresh in how regulations are devised, implemented and then reviewed. We think there should be a principles approach for both existing and new regulation. Please see question 20, which covers both what we think how the institutions and general regulations should be adapted to achieve economic growth.

**21) Do you have suggestions on where regulation can be reformed or introduced to encourage growth and innovation, including addressing any barriers you identified in Question 7?**

88. The Government should approach **a 'principles first' approach.** We believe these principles should include:
    - **Clarity and simplicity:** Regulations should be clear and easy to understand to help businesses comply without confusion. Timeliness of decision-making has been an issue for manufacturers, with many regulatory decisions delayed – the UKCA mark being a prime example, as well as the delay on deciding what to do with the UK's approach to introducing a CBAM.
    - **Proportionality:** The regulatory burden should be proportionate to the risks involved, ensuring that regulations do not impose excessive costs on businesses relative to the benefits they provide.
    - **Evidence-based**: Regulatory decisions should be grounded in robust evidence and data to effectively address real issues On EU alignment, the general consensus from the sector is that there should be an impact assessment to determine whether it's better for the UK to align with an EU regulation or to diverge. Currently, no such analysis is being carried out, so we are passively diverging on key regulations.
    - **Institutions: stakeholder engagement, formal consultation, and impact assessments**: Engaging with affected stakeholders, like businesses, provides real life examples that are often not experienced by Ministers and civil servants.
    - Conducting thorough impact assessments before implementing regulations will help identify potential economic, social, and environmental effects.

89. It is important to note that since the UK left the EU, industry and Government no longer engage in the same level of discussions in terms of frequency and depth compared to when we were part of the EU, where there was a large programme focused on designing and testing future regulations. Currently, new regulations are often discussed with industry too late in the process, which means that there is a huge amount of technical detail missed out in the early stages of the process, which cannot be factored in by

the point the formal consultation is issued. This means that regulations like REACH do not work as well as they should for the different manufacturing subsectors.

90. To combat this, the Government and relevant institutions needs to improve its horizon scanning and provide a clearer direction for future regulatory frameworks.

- **Flexibility and adaptation:** Regulations should promote innovation and adaptability, so that businesses can respond to changing circumstances and technologies. Regular reviews of regulations should be planned in from the start to assess their effectiveness and relevance, allowing for adjustments based on economic conditions, global shocks and feedback.
- **Support for compliance:** Support should be provided to businesses to understand and comply with regulations, so that they can factor in changes as part of their business planning and investment cycles. Enforcement is often at the route of badly performing regulations. Enforcement is underfunded, and often the response seems to be to create more regulations rather than improving market surveillance. Guidance is crucial and should ideally be co-written with industry, or at the very least, reviewed by industry experts

**22) What are the main barriers faced by companies who are seeking finance to scale up in the UK or by investors who are seeking to deploy capital, and do those barriers vary for the growth-driving sectors? How can addressing these barriers enable more global players in the UK?**

91. Most SMEs (67%) grow through the reinvestment of past profits, which suggests a weak appetite to access external finance to support growth from smaller businesses[10]. Some Make UK members have reported extreme difficulty dealing with banks. Some banks seem reluctant to lend to SME manufacturers. Some Make UK members have even been debanked, in one case the bank unilaterally and unexpectedly ending over a century of relations with a Make UK member company. In 2024, the Treasury Select Committee found that more than 140,000 businesses were debanked by major lenders over past year with about 5.3 million accounts forcibly closed by banks, based on figures given by large high street lenders themselves[11]. Some of these may have been debanked for legitimate reasons, but it appears bank capitalisation rules and the decline of local community banking are also reducing banks willingness to support stable and sustainable manufacturing business. The return on investment for a loan to a manufacturer typically takes much longer than a loan to a services company given the nature of business investment involved. Many high street banks consequently appear to lack the 'risk appetite' to lend to an essential cohort of British industry when easy gains can be made elsewhere instead. Whatever the cause, it is a barrier to growth which ought to be explored as it is an undoubted barrier to business and economic growth.

92. However, manufacturers have confirmed that they do access debt finance to invest in capital equipment, working capital and innovation and generally prefer to rely on traditional forms of credit (e.g. asset finance, bank loans, Government subsidies)[12].

93. The most common barriers limited access to finance highlighted by manufacturers include[13] –
    - Economic uncertainty
    - Cost (high interest rates, fees)
    - Weak earnings performance
    - Complex application processes
    - Strict lending criteria's
    - Insufficient collateral

[10] Make UK, Start up to Scale Up (2021)
[11] https://www.independent.co.uk/business/more-than-140-000-businesses-debanked-by-major-lenders-over-past-year-mps-say-b2503569.html
[12] Make UK/NatWest, Finance: Opening Doors to Investment in Manufacturing (2024)
[13] Make UK/NatWest, Finance: Opening Doors to Investment in Manufacturing (2024), Make UK/RSM, Investment Monitor (2024)

- Difficulties convincing investors to inject cash
- Lack of awareness
- Lack of good credit history

94. Insufficient data exists to identify whether growth driving sectors face materially different hurdles to the typical manufacturer. However, finance plays a critically important role enabling the growth of manufacturers. For example, 70% of manufacturers highlighted that in the absence of access to finance, they would have invested or not at all in the last 12 months.

95. The major barrier that is consistently confirmed across multiple surveys is the lack of awareness of public support. For example, 67% of manufacturers are not aware of Horizon Europe, whilst approximately 50-60% of manufacturers have never heard of Help to Grow Management, British Business Bank, UK Catapults, KTPs or even Made Smarter.

96. Therefore, the challenge isn't just on the physical barriers faced when seeking (such as complex application processes) but many manufacturers do not have sufficient information on where to look for finance. Address the awareness issue will help create more vibrant investment conditions that can in turn encourage greater participation from global players.

**23) The UK government currently seeks to support growth through a range of financial instruments including grants, loans, guarantees and equity. Are there additional instruments of which you have experience in other jurisdictions, which could encourage strategic investment?**

97. Most manufacturers prefer to blend finance for investment. This would include combining personal finance, with debt-based products and access grants where possible. This also includes making use of investment incentives like capital allowances and R&D tax credits to reduce risk, as well as enable easier access to finance. In some cases, access to private finance may be conditional upon successful applications for grant schemes, such as Made Smarter or Innovate UK funding and demonstrating sound cashflow positions. It is important to recognise that whilst businesses may use finance in combination, there can be ordinal structure to their use, for example,

The steps to acquiring complete finance for an investment project:

1. **Personal contribution**: First ensure sufficient liquid cash is available in the business to support an investment
2. **Public sector contribution:** Second apply for existing grants (if any exist)
3. **Private sector contribution:** Then access debt or seek our private investment (which may hinge on adequate personal and public sector contributions)

98. An offering with a diverse range of financial instruments will enable businesses to pursue the optimal path for investment. It is important that we recognise public financial support need not necessarily work as a competitive service to the private sector and can work more complementarily.

**24) How can international partnerships (government-to-government or government-to business) support the Industrial Strategy?**

99. Through a new Industrial Strategy, it is vital that the UK must embrace international cooperation and collaboration in technology-driven industries to ensure competitiveness and global relevance, while also considering the drawbacks of isolationist policies. The UK's long and internationally renowned approach to open markets and global cooperation has historically been its strength, and the UK Government should continue to prioritise on these principles.

100. Global markets, international R&D collaboration and global industry-led standards are crucial for innovation and efficiency in technology-intensive industries. Various sectors, including automotive, pharmaceuticals, aerospace, and defence, heavily rely on global partnerships to stay competitive and advance technologically.

101. International cooperation in economic affairs and specifically in taking advantage of the UK's unique industrial potential as exemplified by the UK's participation in global value chains of advanced technologies and the UK's support and contribution to industry-led approach to global industry standards, is critical for leveraging industry expertise, sharing technological advancements, and collectively addressing challenges in strategic sectors, thereby enhancing the UK's economic resilience and manufacturing capabilities.

102. The international part of a new Industrial Strategy will boost clean and technological advanced industrialisation in the UK and globally. Through stronger diplomacy and strategic partnerships, the UK will be able to demonstrate the link between its ambitions on NetZero and related industrial growth and competitiveness, therefore ensuring its international partnerships support both.

103. The UK government can use its Whitehall network engagement with key third countries ( particularly in the Global South) and investors in areas such as Energy partnerships and Critical Raw Materials alliances. Such partnerships now and in the future will need to be integrated covering issues such clean-tech supply chain, to maximise international industrial, investor and governmental diplomacy efforts. A framework for delivering on international partnerships could offer a more comprehensive and impactful position for future industrial collaboration with third countries on clean tech and energy, critical raw materials and investments.

**25) Which international markets do you see as the greatest opportunity for the growth driving sectors and how does it differ by sector?**

104. The UK Government has opted since the UKs departure from the European Union (EU) to undertake a strong commitment to trade policy with key international partners, aligned with domestic objectives but without the framework of an Industrial policy.The focus has been to assumulate a portfolio of preferential trade agreements with non-EU countries and economic blocs. The majority of the agreements are continuations from the arrangements secured whilst an EU member.

105. New agreements have been concluded tilting the UK towards the Indo-Pacific region. Notable are deals with Australia and New Zealand, a digital agreement with Singapore as well as the UK’s membership of Asia-Pacific’s CPTPP. Negotiations with India will resume in 2025 and talks continue with the Republic of Korea on an updated arrangement. Also confirmed are a resumption of talks with Switzerland and GCC in the 2024 autumn.

106. The geopolitical tilt to the Middle East and the wider Indo-Pacific Region shows an understanding of the wider geo- political opportunities of closer association including on opening up new trade and investment opportunities. At this stage, even if the immediate trade impacts are low through the utilisation of these agreements and will take some time to accumulate demonstratable positive impacts on UK trade, the diversification of import supply chains will help UK business particularly in sectors dependent upon bi-lateral investments in Net Zero focused energy generation and supply, Critical Raw Materials, digital and clean tech.

107. A significant trading partner to the UK is the United States. The United States clearly signalled a preferential trade agreement with the UK wasn't an option since 2020. Its economic policy is now focused on actioning strong domestic industrial policies. Prospects of an agreement between the United States and the United Kingdom for Critical Raw Materials retreated with elections pending. The recent United

States Presidential Election will again bring trade policy to the fore, with the prospect of interventions that could be immediately impactful on global trade patterns.

108. The increasingly global trend of friend-shoring, de-risking, or even the decoupling of supply chains from sources deemed of a national security risk, makes future trade options between UK and United States possible, such as on Critical Raw Materials, or a broader preferential agreement. It would be an important opportunity to engage early with the new United States administration on preferential trade options that might be possible and to seek solutions that promote global free trade.

109. Options should again be taken to view on strategic trade and investment alliances with Canada. The pause on broadening a preferential trade agreement should not prevent more strategic alliances that offer 'friend-shoring' options on critical supply chain options to the UK. In Critical Raw Materials supply and in green energy and tech (i.e nuclear), Canada offers significant options for future collaboration. Despite the prospect of Federal Elections within the next twelve months, the UK government should continue to explore options on strategic trade alliances covering such products/sectors.

110. Discussions with the United States and Canada should be explored but with a conscious need that the UK does so knowing it's clear on its future economic dependencies in areas of activity that will deliver growth and the need to maintain industrial competitiveness. This is particularly relevant as the UKs closest and most dependent trading partners, the EU has adopted more proactive and significant industrial policies, along with the United States.

111. The EU (and United States) with respective goals of improving economic security and resilience has added to a concern that they are competitors rather than partners in the evolution of key industrial sectors of the future. This in turn has implications for the future economic position of the UK. Critical is what are the renewed efforts it needs to undertake to provide for its own economic security and competitiveness.

112. The UK-EU Trade Cooperation Agreement has created barriers to trade mostly in non-tariff barriers. These include extensive paperwork and checks, have complicated and inflated the cost of trade. As Make UK continues to report, the administration burden on UK manufacturing to export to the EU. This continues to be high and future trade relations will be affected by regulation divergence which leads to additional reporting and compliance measures to export into the EU. These are fixed costs that significantly and disproportionately impact SMEs.

113. A renewed focus on improving the UK-EU trade relations as part of a wider improvement on UK-EU relations is a demand from UK manufacturers. We would seek that the new government formulate a new trade strategy, particularly in relation to the EU that addresses the demands for ongoing reduction in the current frictions to trade as a basis for increasing the competitiveness of the UK. This can allow the UK to preserve autonomy or align over product and services regulation. This supports a strengthened trade relationship with the EU and securing investments to develop a strong industrial base.

114. Given the UK's ongoing compliance with "legacy" EU rules and now, new domestic legislative measures that will allow the UK to align or not on specific EU regulations, this is a strong and welcome signal that it would be logical for the UK to continue following EU business regulations to maintain the level playing field.

115. It is important for the UK government to work closely with manufacturing business and industries to identify areas where continued alignment with EU regulations and standards is advantageous. Vital too, is that the UK government curates a central database on changes in UK and EU regulatory footprint so business is visible and can plan for changes affecting both jurisdictions.

116. With the UK having relative strengths in key manufacturing, alignment with EU industrial regulations, could help unlock new investment. This alignment could even be done unilaterally as envisaged in new UK product regulation legislation that's under current debate. It would reduce costs, as GB businesses

wouldn't have to comply with two different regulatory regimes, even though they would still need to demonstrate market regulation compliance at the EU border.

117. Make UK would encourage the UK government to seek how access to the Single Market can be enhanced through a separate legal agreement. Part of that would include a renewed effort to seek a mutual recognition agreement on conformity assessment which would streamline processes at the EU border. Despite a growing trend of protectionism at the EU level aimed at crafting an industrial strategy for Europe's future competitiveness, simplifications at the Border and a recognition that the UK and EU can cooperate more strongly on aligned Industrial Policy as it's mutually beneficial to do so, would support the UK's continued participation in European supply chains.

118. Make UK would also seek the UK government's commitment that there are other avenues that also need to be explored with the EU. On the matter of border carbon taxes and rules of origin, both the EU and the UK are set to introduce their own carbon border adjustment mechanisms in 2026 and 2027, respectively, but have similar net zero targets. Aligning the UK's regime with the EU's would make it more manageable to meet these targets and the associated carbon budgets efficiently. The EU-UK Trade and Cooperation Agreement commits both parties to consider linking their carbon pricing schemes. Therefore, the UK government should look to formally link the UK ETS with the EU ETS.

119. On rules of origin, it would be important for the UK government to explore membership in the Pan-Euro-Mediterranean Convention on rules of origin. This customs union agreement includes the EU, other European countries, and almost all the countries around the Mediterranean. Accession would be advantageous for certain sectors in UK manufacturing who are particularly active in supply chains with these other countries and would help exports qualify more easily for tariff exemptions under the EU-UK Trade and Cooperation Agreement.

120. Make UK would also seek the UK government's support for seeking solutions with the EU on improving business mobility options. In the provision of exported manufactured goods, Services are now an integral part of meeting operational and service technical support, often provided by technical expertise. In addition, in the normal course of business contact the ability to travel, visit and engage with EU counterparts. Improvement on the provisions on business mobility are earmarked as an area of possible improvements in the 2026 TCA technical review. It would be of significant mutual interest that easements at the respective Borders to reduce frictions. This would include as an example, the use of EU e-gates by UK Passport Holders. In other areas of business mobility, an ambition to secure a mutual recognition agreement for professional qualifications " to help open up markets for UK service exporters". A long-term, sustainable approach to MRPQ arrangements would be beneficial to UK professionals and businesses operating in the EU.

**Growing high potential clusters**

**26) Do you agree with this characterisation of clusters? Are there any additional characteristics of dimensions of cluster definition and strength we should consider, such as the difference between services clusters and manufacturing clusters?**

**27) What public and private sector interventions are needed to make strategic industrial sites 'investment-ready'? How should we determine which sites across the UK are most critical for unlocking this investment?**

121. In regard to the investments that are available in industrial decarbonisation and therefore substantial additional investment available for grid upgrading, enabling electrification through a level playing field in industrial energy is the single greatest opportunity. Addressing the marginal price of electricity, the grid connection costs to industry, and outdated policy costs would create investment ready sites across the United Kingdom, particularly those not attached to energy clusters. Blended finance options for capital expenditure outlays would increase uptake of fuel switching and provide a substantive demand that private capital would answer with supply chain investment within the UK.

**28) How should the Industrial Strategy accelerate growth in city regions and clusters of growth sectors across the UK through Local Growth Plans and other policy mechanisms?**

122. The UK remains one of the most administratively and politically centralised countries in Europe, with consistently underperforming large cities outside of London and the South East. We believe devolution and a regional focus can be a lever to address regional economic imbalances whilst boosting political trust.

123. Whilst we are seeing some early green shoots when it comes to economic growth in more developed devolved regions (Greater Manchester and West Midlands), far more needs to be done to support regional growth in England.

124. The Government should look at how they can develop regions and cities where there isn't yet a developed devolution model. For many areas, there aren't existing governance structures that allow for a robust work on local growth plans. The Government should conduct analysis of all regions and cities in England to assess where they are on their devolution journey. This will influence how each region is supported over the next ten years.

125. The Industrial Strategy should leverage local growth plans to resource dedicated teams, both regionally and centrally, with the sole focus of driving economic growth. There are successful examples of this approach within government. For instance, the Department for Education's Local Authority Intervention Programme has effectively used dedicated teams to oversee improvements in Children's Services. As a result, the proportion of 'inadequate' judgments has dropped from 24% in 2017 to just 8% in 2024. This intervention not only led to better outcomes for children but also generated significant cost savings for both local and central government.[14]

126. In terms of skills, manufacturers overall believe that devolution can contribute to tackling the shortage of apprenticeships in the manufacturing industry by using local skills improvement plans (LSIPs) and local skills improvement funds (LSIFs).[15] One way LSIPs can help is by facilitating partnerships between local FE colleges and major manufacturing businesses. This would allow staff to be released to colleges to teach apprenticeships, helping to resolve the problem of staff retention in FE colleges due to higher-paying job opportunities elsewhere. A local partnership between industry and skills can be an effective solution for long-term skills and labour market shortages across the country.

127. To achieve successful devolution, devolved authorities will also need to collaborate with local businesses in various other ways. They could partner with local businesses to design industry-specific skills bootcamps, co-create apprenticeship standards with businesses, or collaborate with Sector Skills Councils that represent specific industries. Devolved authorities can also leverage local labour market data to understand current and projected industry growth, work with local schools and colleges to ensure their curriculum aligns with the skills required by growing industries and ensure that resources are allocated fairly to avoid widening the gap between already thriving and struggling regions.

**29) How should the Industrial Strategy align with devolved government economic strategies and support the sectoral strengths of Scotland, Wales, and Northern Ireland?**

128. The UK Government, in partnership with the Devolved Administrations, should conduct analysis on strengths and weaknesses in in each of the DA economies. This will then allow the UK Government to pinpoint where there should be coordinated investment and funding, with a particular focus on skills and

[14] Children's social care data in England 2017: main findings - GOV.UK

[15] For or Against? The Case for Further Devolution | Make UK

innovation, whilst respecting the DAs individual growth strategies (for example, the Welsh Government's manufacturing plan).

**Partnerships and institutions**

**30) How can the Industrial Strategy Council best support the UK government to deliver and monitor the Industrial Strategy?**

129. The Industrial Strategy Council (ISC)'s remit as an independent oversight body should be to ensure rigorous evaluation and to monitor and determine the efficacy of policy delivery. The ISC can be enabled to collate timely information on, and provide a feedback mechanism for, the industry to enable it to provide insights and institutional knowledge into better policymaking practice for the delivery and implementation of industrial strategy targets across all levels of government within the UK. The Industrial Strategy Council should be provided with a mandate to monitor and evaluate policy implementation and inform and advise the Cabinet Office on ways to improve delivery across all stakeholder bodies and levels of government. The ISC must move the UK away from its recent history of a top-down policymaking approach that is highly susceptible to political pressures; and an institutional structure that leaves policymakers remote from policy delivery vehicles and recipients of support. This stands in sharp contrast with international and indeed domestic policy best practice, whereby rigorous oversight and evaluation by independent and arms-length bodies, such as the Office for Budget Responsibility (OBR), are vital in determining the efficacy of policy delivery and gaining insights into better policymaking practice for the future. In UK fiscal policy, for example, the indirect influence of independent fiscal institutions such as the Office for Budget Responsibility (OBR) on the policymaking process — via pre-emptive effects on budget preparations, informing public debate, and fuelling political will for action highlights their capacity to shape the policy debate in an important, informed, apolitical, and evidence-based manner. Importantly, a body of this kind can also provide a coordination function across ministries and other public bodies, even though reporting to a single ministry. The objective of the ISC should be to replicate the success of the OBR through its influence on economic policy.

**31) How should the Industrial Strategy Council interact with key non-government institutions and organisations?**

130. The Industrial Strategy Council should interact with key non-government institutions and organisations in several ways to ensure a comprehensive and informed approach to industrial strategy:

- Firstly, the ISC should be comprised of relevant industry stakeholders who can share their expertise, experience and insights with government directly. It will be important to ensure a diverse range of non-government organisations are represented, including those focused on environmental, social, and economic issues, to capture a broad spectrum of insights.
- Secondly, regular consultation with industry bodies such as Business Representative Organisations (BROs), trade unions, and academic institutions is crucial. This can be achieved through formal consultations, conferences, workshops, and roundtable discussions. Such interactions would provide valuable and timely insights and information about the challenges and opportunities facing different sectors of the economy. Implementing structured feedback mechanisms where organisations can voice their concerns and suggestions, will ensure relevant perspectives and insights can be integrated into policy decisions.
- Thirdly, the ISC could establish partnerships with key stakeholders such as think tanks, industry associations, and non-profits that align with the ISC's goals. This could involve co-developing research projects or public policy proposals. This could involve joint research projects with leading universities, pilot programs with industry, and knowledge exchange initiatives through the likes of the Catapult network, City Mayors or local government.
- Fourthly, leveraging the expertise of Business Representative Organisations and relevant research institutes can help inform the development of evidence-based policies. These organisations can

provide independent analysis, insights, expertise, and recommendations on a range of issues, such as productivity, innovation, and skills, and policy implementation.

- Finally, the Industrial Strategy Council should actively seek input from, national, regional and local authorities. This will ensure that the industrial strategy takes into account the specific impacts, successes and failures, needs and priorities of different regions and nations across the UK. This can be done via the new Council of the Nations and Regions founded in October 2024. The Council of the Nations and Regions' members are the holders of the offices of prime minister of the United Kingdom, first minister of Scotland, first minister of Wales, first and deputy first minister of Northern Ireland, mayor of London, and the 11 English combined authority mayoralties and it therefore comprises leaders from all the necessary levels of government across the UK.

131. By engaging with a diverse range of stakeholders, the Industrial Strategy Council can develop a more effective and inclusive industrial strategy that benefits the entire nation. As many industry stakeholders as possible would provide a valuable feedback loop to inform future policy decisions. Understanding the practical challenges faced by businesses will help the ISC tailor its recommendations effectively, helping to improve policy delivery and Industrial Strategy outcomes.

**31) How can the UK government improve the interface between the Industrial Strategy Council and government, business, local leaders and trade unions?**

132. To improve the interface between the Industrial Strategy Council and government, business, local leaders and trade unions, the Westminster government must adopt a multifaceted approach.

133. First, it is crucial to ensure that the ISC is composed of a diverse range of industry stakeholders, including representatives from Business Representative Organisations, trade unions, research institutes, and national and local governments. This diverse range of information and expertise will enhance the ISC's ability to capture varied insights and experiences, making it more effective in addressing the needs of different sectors and government objectives. Regular consultations with BROs, trade unions, and academic institutions should be implemented through scheduled roundtable discussions, workshops, and conferences, facilitating ongoing dialogue and ensuring timely insights into sector-specific challenges and opportunities. Additionally, developing structured feedback channels will allow stakeholders to voice their concerns and suggestions, fostering a sense of ownership and collaboration.

134. Strategic partnerships with Business Representative Organisations, universities, and non-profit organisations can further bolster the ISC's objectives. Co-developing research projects and public policy recommendations with these stakeholders would enhance the depth and breadth of evidence used to inform the government's Industrial Strategy, while engaging local leaders and institutions can provide insights specific to regional needs and priorities as well as help to coordinate the national with local industrial strategies. Close collaboration with Business Representative Organisations and relevant research institutes will be vital for monitoring progress and informing policy development, as these groups can offer independent analysis and timely insights on critical issues such as policy delivery and impact.

135. Moreover, actively involving the Council of the Nations and Regions in discussions surrounding the industrial strategy will ensure that policies reflect the specific needs and successes of various regions. Hosting regional listening events can also enhance grassroots engagement, allowing local leaders and businesses to share their experiences and priorities directly with ISC members. Equally, establishing frameworks for evaluating the impact of Industrial Strategy initiatives would allow for adjustments to both present and future policies based on stakeholder feedback and changing circumstances, thus helping to foster a culture of continuous improvement.

136. The Industrial Strategy Council should also produce an annual report on each sector plan, as well as an annual report for the Industrial Strategy as a whole, which should be published in advance of the Budget each Autumn. These reports should track progress against the overall Industrial Strategy, individual sector

plans, and delivery roadmaps and could be used to identify problems and adopt interventions where necessary. Where the Industrial Strategy is not on track to succeed, the ISC should make recommendations on action the Government can take and that information can then be used by relevant stakeholder bodies such as the forthcoming Skills England, the National Grid, or Catapult Centres etc. help address the identified problems.

137. To further enhance the interface between the Industrial Strategy Council and its stakeholders, Whitehall could take inspiration from Estonia's Bürokratt (KrattAI) system, an innovative digital platform designed to streamline administrative processes and improve public service efficiency. By adopting a similar but business oriented AI interface, the Westminster government could develop a comprehensive online platform that automates access to government support schemes, grants, tax rebates, and essential information for businesses. Given that many British SMEs are often managed by small teams or individuals with limited time or resources to engage with government and state bodies effectively, such a digital system would alleviate the burden of navigating complex government processes while also enabling better communication from government and other relevant semi-state or non-governmental bodies in a timely and effective manner. By leveraging existing data from HMRC, the Office for National Statistics, and other state bodies, this British equivalent of Bürokratt could proactively identify businesses that are growing or stagnant, delivering timely, targeted interventions when companies are most receptive. Rapidly expanding firms could be identified to receive automated notifications about export support programmes or collaboration opportunities with research institutions, ensuring that businesses are well-informed and able to take advantage of available resources while government is also able to provide effective, targeted support to firms with the most potential to deliver return on investment to government. This approach would not only simplify communication with the state but also help foster an environment conducive to improving productivity, energy efficiency, and overall economic growth, ultimately enhancing the effectiveness of the Industrial Strategy as a whole.

138. By implementing these strategies, the UK government can enhance the interface between the ISC and its key stakeholders, ultimately leading to a more comprehensive and inclusive industrial strategy that benefits the entire nation.

**33) How would you monitor and evaluate the Industrial Strategy, including metrics**

139. It's all very well setting the vision, but there is little point producing a strategy if the Government and industry have no way of knowing progress is being made. Not only is it helpful to be transparent about what success looks like, it's also paramount information that will allow the Industrial Strategy Council to effectively do their job and steer and critique each milestone.

140. Make UK proposes an overall target of increasing the manufacturing sector from 10% of UK GDP to 15% of a growing economy. This, we calculate, would add an extra £142bn to UK GDP, increasing exchequer contributions to fund public services, while also driving a substantial uplift in long term domestic and foreign direct investment. Everything in the Industrial Strategy should be geared towards this ultimate objective.

141. To do this, the industrial strategy needs clear metrics and indicators, such as job creation rates, levels of investment, productivity improvements, and innovation outputs, which will help the Government gauge whether its industrial strategy is achieving its objectives. Concrete examples could include ensuring that the manufacturing sector is among the world's top ten 10 manufacturing nations for output; improving the ranking of the UK manufacturing sector's robotics density for digitalisation from its current 35$^{th}$ place globally to the top 10, or cutting in half by 2035 the number of Hard-To-Fill Vacancies (Occupational shortages defined as an position in a company that takes that company longer than 6 months to find a suitably qualified and experienced candidate). Other broader metrics might include a target of a 20% reduction in average UK household and business energy costs by 2035 through the production of more domestic green energy. Regularly assessing these indicators not only highlights successes but also reveals areas that may require additional focus or adjustment.

142. We know that the UK's industrial policy will need to be adaptable, given the landscape is constantly evolving. Defence requirements, technological advancements, market shifts, and global trends are likely to shift the dial when it comes to priorities. Conducting regular evaluations will help the Government remain agile.

143. Below is a list of potential success measures that could be used to track and measure the effectiveness of the UK industrial strategy.

- Increase GDP growth, create jobs, and improve living standards.
- Enhance productivity across all sectors.
- Promote balanced regional development, reducing disparities.
- Position the UK as a global leader in key technologies.
- Create a favorable business environment to attract investment.
- Support UK businesses in increasing exports and global competitiveness.
- Contribute to achieving net-zero greenhouse gas emissions by 2050.
- Invest in education and training for a highly skilled workforce.
- Attract and retain top talent.
- Invest in modern infrastructure and improve regional connectivity.
- Promote the adoption of digital technologies across all sectors.

The Industrial Strategy Council (ISC)'s remit as an independent oversight body should be to ensure rigorous evaluation and to monitor and determine the efficacy of policy delivery. The ISC can be enabled to collate timely information on, and provide a feedback mechanism for, the industry to enable it to provide insights and institutional knowledge into better policymaking practice for the delivery and implementation of industrial strategy targets across all levels of government within the UK. When the Government produces the individual sector plans for the eight growth sectors, the Government and the ISC should work with relevant stakeholders to develop, agree and commit to ambitious targets focused on outcomes which will drive economic growth and resilience and then establish a credible delivery roadmap with appropriate targets and timeframes. The Industrial Strategy Council should also produce an annual report on each sector plan, as well as an annual report for the Industrial Strategy as a whole, which should be published in advance of the Budget each Autumn. These reports should track progress against the overall Industrial Strategy, individual sector plans, and delivery roadmaps and could be used to identify problems and adopt interventions where necessary. Where the Industrial Strategy is not on track to succeed, the ISC should make recommendations on action the Government can take and that information can then be used by relevant stakeholder bodies such as the forthcoming Skills England, the National Grid, or Catapult Centres etc. help address the identified problems.

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