

Manufacturing 5

Advanced Manufacturing: Powering the UK Economy



FOREWORD

Advanced manufacturing in the UK is at the heart of both our nation’s economic history and its future ambitions for growth. Manufacturing 5 (M5) sectors, operating in life sciences, chemicals, food and drink, automotive, aerospace, security, defence and space, employ almost a million people in jobs that are 46% more productive than the UK average. These sectors also account for more than £2 in every £5 invested in R&D by businesses in the UK.

Our sectors are at the cutting edge of the net-zero transition and bring high-value, high-quality goods and services to UK consumers and businesses across healthcare, food and drink, transport and security.

However, despite these well-recognised strengths, UK manufacturing is at a crossroads. M5 sectors are continuing to grapple with the consequences of recent disruptions – most notably the COVID-19 pandemic and the war in Ukraine – as well as adapting to new trading conditions arising from Brexit.

The UK is facing a new era of even more intense global competition fuelled by targeted national industrial strategies. To respond, the government must be more positive in intervening to facilitate economic growth and provide UK manufacturing with the necessary conditions to flourish and innovate so that our sectors can generate new job opportunities, support homegrown talent, and encourage investment across all nations and regions of the UK.

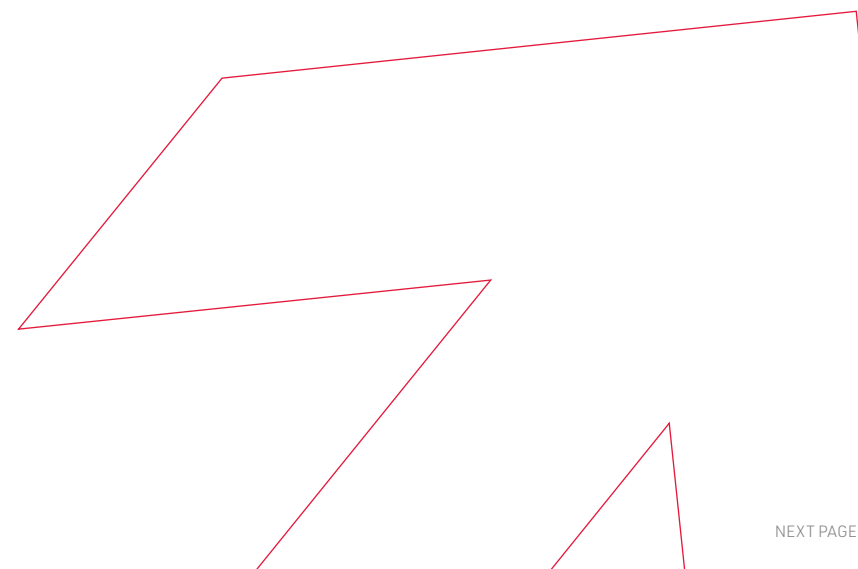
With a general election on the horizon, now is the time for all political parties to align to a long-term vision for UK manufacturing – a vision that delivers stability and certainty for businesses and global supply chains, delivers on shared goals like an effective and equitable transition to net zero and fully leverages the UK’s unique strengths to best effect.

This report outlines five pillars on which we believe a long-term and sustained strategy for manufacturing growth can be built. These are:

- ● **building the workforce of tomorrow**
- ● **regulation for growth**
- ● **delivering an innovation nation**
- ● **harnessing the UK's place in the world**
- ● **delivering a sustainable future**

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What do M5 sectors contribute to the UK economy?¹



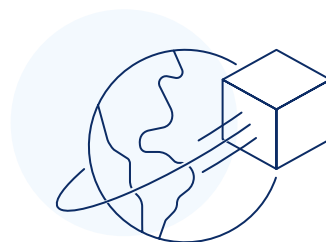
£309bn

combined turnover - **55%** of total UK manufacturing turnover



£101bn

in value added to the UK economy - **45%** of all manufacturing gross value added (GVA)



Exports worth
£108bn

in 2022 - **60%** of all UK manufacturing exports



940,000

employees - **38%** of all UK manufacturing employees

¹ Please see Annex for source and methodology



Average earnings

25%

higher than UK average



More than

£2 in every £5

invested by businesses in UK R&D



Output per worker

46%

above UK average and **18%** higher than manufacturing average

WHO WE ARE

The M5 group is an informal network of the UK's leading advanced manufacturing trade associations, which comprises of:

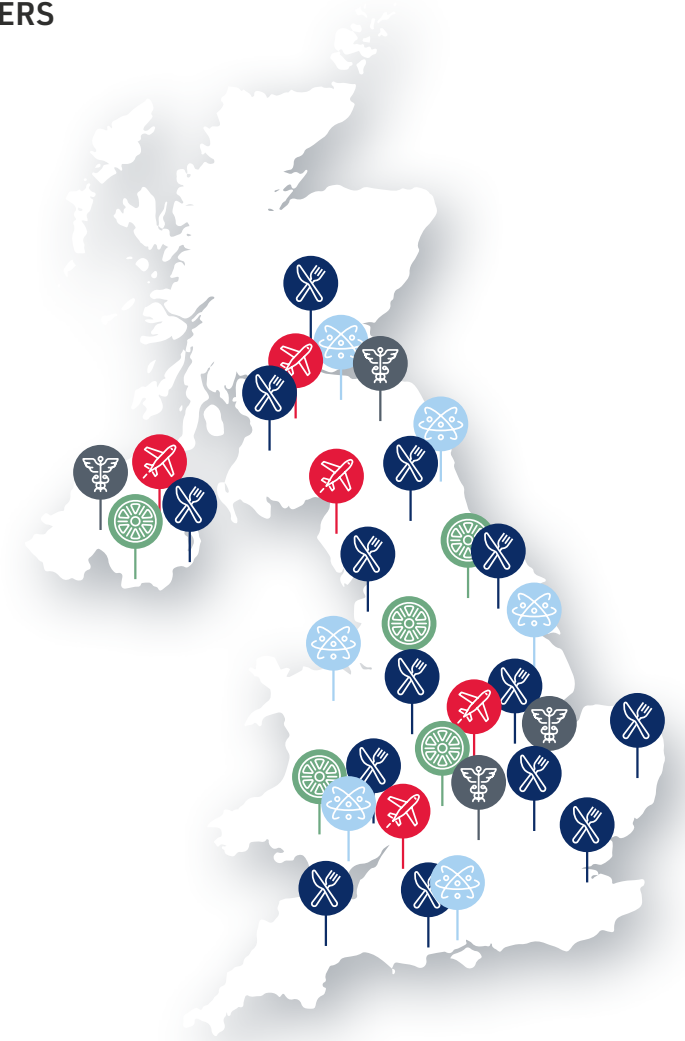
- ADS Group (aerospace, defence, security and space)
- the Association of the British Pharmaceutical Industry (ABPI)
- the Chemical Industries Association (CIA)
- the Food and Drink Federation (FDF)
- the Society of Motor Manufacturers and Traders (SMMT)

The sectors that we represent contribute more than £100bn GVA annually and directly employ 940,000 people in the UK, with millions more jobs supported through our supply chains.

Find out more about the M5 group and who we represent on page 20.

UK MANUFACTURING CLUSTERS

Advanced manufacturing reaches across the whole of the UK, with significant clusters concentrated in all regions and nations. Our sectors serve as major employers and anchor institutions, which provide thousands of high-wage, high-skill jobs, generate major inward investment, and unlock growth and productivity benefits for local communities and the broader economy.²



² Clusters are non-exhaustive and have been determined by M5 trade associations based on qualitative analysis of major clusters

SUMMARY OF RECOMMENDATIONS



Building the workforce of tomorrow:

- Deliver a cross-departmental, long-term workforce strategy
- Evolve the Apprenticeship Levy into a more flexible apprenticeship and skills levy
- Improve the apprenticeship system to widen participation, including investing in more training provision across the country
- Deliver a globally competitive immigration system that enables UK employers to attract international talent where key roles cannot be easily filled through domestic skills
- Work with industry to generate the workforce data and forecast skills needed in the manufacturing sector to better match skills supply with demand



Regulation for growth:

- Deliver a cross-economy regulatory agenda that embodies the following principles:
 - international compatibility, cooperation and leadership in regulatory policy
 - innovation enabling regulatory approaches
 - efficiency and agility in policy design and processing
- Support and enable our regulators to deliver a world-class service by:
 - ensuring regulators are sufficiently resourced and have access to the right talent and expertise
 - establishing a Centre of Excellence for Regulatory Science and Innovation (UK CERSI)



Delivering an Innovation nation:

- Set a goal for the UK to have the highest level of R&D investment as a proportion of GDP in the G7
- Deliver long-term certainty for existing and prospective investors on the business taxation and incentives environment
- Ensure public investment is effectively deployed to put in place the building blocks for innovation-led growth by:
 - strengthening the UK's physical and digital infrastructure (including energy and grid infrastructure)
 - strengthening innovation ecosystems such as Catapult Networks and centres of excellence
 - setting out clear, ambitious and long-term public R&D investment plans
 - supporting the adoption of automation and digitisation
- Embed research and innovation in public services and public procurement practices



Harnessing the UK's place in the world:

- Ensure effective negotiation, implementation, modernisation and good governance of all UK free-trade agreements
- Enhance the UK's relationship with Europe to optimise and deliver the maximum benefits under the UK-EU Trade and Cooperation Agreement (TCA)
- Deliver a fully resourced trade and export strategy, co-created with industry
- Conduct a comprehensive review of the UK Global Tariff

Summary of recommendations continues on page 6

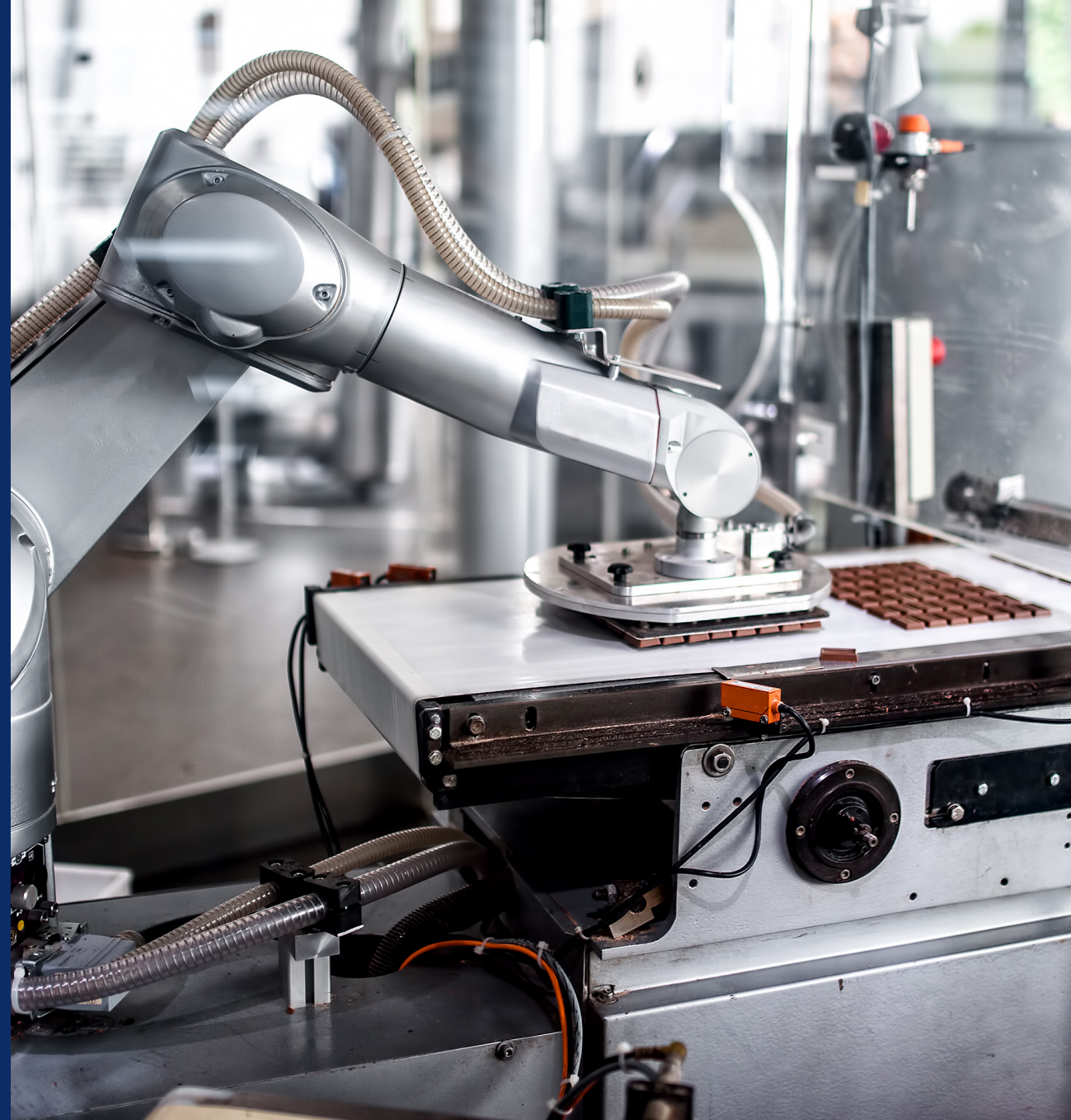


- Develop a new cross-departmental investment strategy with the full backing of No.10, which strengthens the role of the Office for Investment and establishes a genuine single front door for new and existing investors
- Utilise UK trade policy to promote gold-standard UK intellectual property standards
- Develop and deliver a world-leading border and customs regime



Delivering a sustainable future:

- Commit to growing programmes that support businesses to deliver on sustainability goals
- Push forward with all industrial cluster projects
- Develop policies for industrial decarbonisation that address general barriers such as investment constraints
- Incentivise net-zero investment projects by prioritising and accelerating UK permitting and planning processes
- Encourage alignment between the nations and regions of the UK towards coordinated solutions on climate and sustainability policy
- Create favourable policy conditions for all circular recycling technologies.
- Deliver a long-term and stable carbon market policy
- Streamline Environmental Social Governance (ESG) reporting processes to enable businesses to focus on active progress towards clean-growth goals



BUILDING THE WORKFORCE OF TOMORROW

Sectors represented by the M5 employ over 940,000 people in the UK, with millions more jobs supported through our extensive and diverse supply chains. Our advanced manufacturing industries are located across the UK, providing high-quality, well-paid jobs and career progression opportunities that directly or indirectly benefit everyone in society. Our employers are dedicated to upskilling and reskilling their workforce, opening doors for apprentices and graduates, and delivering workplace inclusion and diversity.

“ The median average annual earning across the M5 sectors was £35,000 in 2022, which is 25% higher than the UK average and 10% higher than the wider manufacturing average³ ”

Across our sectors, an extensive range of roles are on offer, from engineers, scientists and data analysts to supply chain managers, production operatives and marketeers. However, even with this variety of roles, the changing world of work and increasing utilisation of automated and digitalised manufacturing processes mean that many businesses are competing for the same in-demand skill sets. Ensuring a steady flow of talented individuals able to occupy these roles will be key to the future success of UK manufacturing, and will require an education and skills system that is responsive to these needs.

To respond to these changing workforce needs and remain at the cutting edge, M5 sectors are investing in our people throughout their career, ensuring employees are equipped with the skill needs of tomorrow. However, significant and sustained skills and labour shortages remain, and these are holding back UK manufacturing competitiveness and growth potential. For example, in the last year alone, **unfilled vacancies in the food and drink sector have cost the industry an estimated £1.4bn due to lost output.**⁴

³ Analysis available in Annex

⁴ Danila, L. and Milosevic, U., 'State of Industry Report Q2 2023', Food and Drink Federation, (August 2023), available at <https://www.fdf.org.uk/dfd/resources/publications/state-of-industry-reports/state-of-industry-report-q2-2023>

To ensure the UK can attract world-leading talent and secure the skills it needs to drive future productivity and economic growth, a cross-departmental workforce strategy should be developed and delivered in partnership with industry and devolved administrations. Such a strategy must be underpinned by robust data to identify skills and labour gaps, and be fully supported by a cross-departmental approach to education, skills, employment and immigration policy.

“ 90% of aerospace jobs are located outside London and the South East⁵ ”

The M5 and our sectors are committed to working in partnership with government to:

- create a more agile and flexible labour market and education and skills system that strengthens our domestic skills base and attracts international talent
- foster greater collaboration between schools, colleges, universities and employers to respond effectively to labour market needs
- deliver more opportunities for young people through vocational routes such as apprenticeships, as well as academic routes
- deliver careers outreach, advice, and support programmes to increase awareness of career opportunities in our sectors across all demographics
- support our workforces to adapt to new technologies and the changing world of work through training and reskilling programmes

⁵ ADS Group; Industry Facts and Figures, available at www.adsgroup.org.uk/knowledge/facts-figures



Our recommendations:

- **Deliver a cross-departmental, long-term workforce strategy**
- **Evolve the Apprenticeship Levy into a more flexible apprenticeship and skills levy**, enabling employers to invest their levy funds to support upskilling and reskilling through specific, shorter training interventions
- **Improve the apprenticeship system to increase and widen participation by:**
 - removing the functional English and maths skills requirement which would be better supported by relevant training outside of apprenticeships
 - investing more in training provision to raise the standard and consistency of delivery in all parts of the country
 - improving support for SMEs to help them identify appropriate standards, and access available funds and high-quality, specialist training providers
- **Deliver a globally competitive immigration system** that enables UK employers to attract international talent where key roles cannot be filled easily through domestic skills by:
 - reducing the administrative burden and costs of Skilled Worker visas, ensuring the UK is internationally competitive in both cost and processing time
 - reforming the operation of the Shortage Occupation List to ensure the immigration system can better respond to industry needs
- **Work with industry to generate workforce data and forecast skills needs** in the manufacturing sector to better match skills supply with demand





McLaren Automotive

REGULATION FOR GROWTH

A supportive regulatory environment is key to unlocking investment and growth. Regulation underpins almost all business operations across M5 sectors, determining the input materials manufacturers can use, shaping how companies research and develop new products, and ensuring robust testing and safety standards are applied before manufactured goods reach consumers and businesses.

Our sectors are some of the most highly regulated in the economy and we are proud of the high safety and security standards consumers, customers and patients encounter daily in the food they eat, the vehicles they travel in and the medicines they take. Ensuring the UK's regulatory system operates in a joined-up way that supports high standards for consumers and customers, while enabling industry to bring effective and high-quality products to market, is key to UK competitiveness. In all areas of regulation, a careful balance must be struck between proportionate and timely processes for businesses and a system that inspires consumer trust in products.

M5 member companies operate in a highly globalised business environment, importing from and exporting to trading partners around the world. Ensuring the UK regulatory environment is both internationally compatible and globally competitive is vital if we want to attract inward investment, create jobs and boost exports. Multinational companies across sectors are increasingly agile between global markets and consider regulatory regimes as a key factor when deciding where to locate R&D activity or launch a product or capability. Creating a supportive regulatory environment for growth is therefore not about undue divergence or the slashing of red tape; instead, it is about finding efficiencies, reducing excessive burden or duplication and supporting agility within globally recognised regulatory frameworks.

Regulatory leadership can be achieved through multiple routes, whether supporting the UK as a priority launch market by offering internationally competitive assessment and approval timelines, or by utilising the UK's access to world-leading scientific advice to shape the way new and emerging technologies are regulated. Taking this approach will ensure the UK is not just an early adopter of the most effective and cutting-edge technologies and products, but also the location of choice to develop, trial and manufacture them.

The UK has a proud history of regulatory leadership (as demonstrated during the COVID-19 vaccine approval process). However, too often the positive impacts of

innovative regulatory approaches are held back by disparate initiatives, a lack of cohesion between organisations within the broader regulatory system, and capacity challenges. To ensure the UK can fully leverage its regulatory system for growth, it must develop and deliver policies that are consistent and compatible across sectors and that provide a truly end-to-end offer from product development to consumer access, benefiting innovators, suppliers and ultimately customers and consumers.

Our recommendations:

Deliver a cross-economy regulatory agenda that embodies the following principles:

- 1. International compatibility:** Ensure compatibility with other leading international regulatory regimes where models of best practice exist and seek to reduce any unnecessary or exceptional duplication – including, where possible, establishing mutual recognition frameworks for equivalent high-standard regulators. Divergence should be pursued only where a necessary or clear advantage can be identified in partnership with industry. Consistent regulatory approaches across the four nations of the UK are equally critical.
- 2. Innovation enabling:** Alongside a core focus on public safety, future regulatory policies should be assessed for their potential impacts on innovation, attractiveness to industry and their potential to incentivise investment. This will help to ensure that inward investment, R&D activity and product launch prioritisation are not stifled by unintended barriers, while also enabling the UK to pursue opportunities for strategic regulatory leadership in growth technologies.
- 3. Efficient and agile:** The UK should ensure timelines for regulatory assessment and approval are benchmarked against international competitors to support inward investment and ensure the UK is globally attractive as a first-tier launch market. This should be achieved through innovative regulatory processes rather than compromising on quality or standards. Added to this, regulators must possess sufficient capacity and be able to call upon a high-quality skills base to deliver approvals in a timely manner. Not only does this necessitate sustainable staffing within agencies, but also building in flexibility to ensure regulation keeps pace with innovation.

Support and enable our regulators to deliver a world-class service by:

- **ensuring regulators are sufficiently resourced and have access to the right talent and expertise.** Recognising the role regulators can play as enablers of growth, we must ensure that our regulators are fully resourced and can access the talent, skills and technology needed to deliver a high-quality and internationally competitive service, as well as effectively implement the recommendations of significant regulatory reviews.
- **establishing a Centre of Excellence for Regulatory Science and Innovation (UK CERSI).** Establish a network of regulatory and scientific experts to maximise the UK's opportunity to stand out in an increasingly competitive and global landscape, helping to pave the way for effective assessment and strategic leadership in the regulation of emerging technologies.

CASE STUDY: The Innovative Licensing and Access Pathway

The Innovative Licensing and Access Pathway (ILAP)⁶ was launched 2021 to provide accelerated time to market for – and subsequently, patient access to – innovative medicines, helping to ensure that medicines are developed to be both regulatory and access-ready. This is achieved by closer collaboration between strategic partners such as the Medicines and Healthcare products Regulatory Agency (MHRA), the National Institute for Health and Care Excellence (NICE) and relevant devolved agencies. The pathway's eligibility criteria prioritise cutting-edge products, with the greatest potential benefit for serious conditions. New treatments for major disease areas like Alzheimer's and breast cancer have already entered this pathway. With the right support and resourcing, initiatives like the ILAP have the potential to provide a globally unique model for early, effective and proportionate regulation of innovative medicines, benefiting patients, health systems and industry alike.

⁶ MHRA; Innovative Licensing and Access Pathway, March 2021, <https://www.gov.uk/guidance/innovative-licensing-and-access-pathway>



DELIVERING AN INNOVATION NATION

There is longstanding cross-party support for increasing the UK's research and innovation intensity and harnessing R&D for public good. To create a pathway towards greater prosperity, the government must effectively use its levers for growth to:

- foster a welcoming and stable investment environment
- provide the conditions for growth through enabling infrastructure
- energise the UK's science base by cultivating innovation ecosystems
- support small businesses to innovate, automate and digitise
- ensure that the regulatory and innovation frameworks are in place for businesses to benefit from the artificial intelligence (AI) revolution safely and effectively.

Providing a stable and favourable investment framework is central to the long-term success of UK manufacturing. This calls for a unified, cross-government approach to shaping the business environment, which ultimately offers easier access to suitable funding and support for businesses and investors in the UK. This should be underpinned by a competitive and multi-layered system of support, taxation and grant incentives.

“ Industry clinical trials generated revenue and cost savings worth £355m and £28.6m respectively for NHS England in 2018/19 ”

Recognising the capital-intensive nature of manufacturing (for example, on laboratories, factories and buildings), the government should optimise existing fiscal incentives like R&D tax credits and Capital Allowances, and deliver long-term certainty and stability for prospective investors, while noting the long lead-in time involved in many advanced manufacturing and R&D investments. This will require a complementary fiscal environment that supports SMEs to scale, innovate and grow, and

7 National Institute for Health and Care Research. Impact and Value of the NIHR Clinical Research Network 2019 (infographic summarising key findings) [Internet]. 2019. Available from: <https://www.nihr.ac.uk/documents/impact-and-value-of-the-nihr-clinical-research-network-2019-infographic-summarising-key-findings/22486> [Accessed October 2023]

provides a conducive environment for large and internationally mobile businesses to locate investment in the UK. Alongside this, the Government should look to unlock the full potential of patient capital to support business investment and growth, including via pension funds and the British Business Bank.

Beyond addressing the financial conditions for incentivising investment, the UK's physical and digital infrastructure must be upgraded to provide the conditions for manufacturing-driven innovation and growth. This will require a concerted effort by both the public and private sectors to strengthen physical and digital infrastructure and connectivity across the country. Key components of this national effort will include speeding up grid connections through a more structured service model, improving the UK's competitiveness through investment in our energy networks to reduce long-term input costs while meeting our net-zero commitments, and accelerating the delivery of public chargers for electric vehicles.

The foundation of a strong UK manufacturing sector also lies in a robust science base. Supporting and incentivising collaboration between academia, business and government will be central to capitalising on the UK's scientific strengths in advanced manufacturing. Clusters can act as natural anchors for investment and create smoother pathways from concept to commercialisation.

Innovative manufacturing supply chains spread across all UK nations and regions are also central to the country's growth ambitions. More support is required to ensure that manufacturing supply chains can meet the challenges and exploit the opportunities of new technologies, including AI, automation and digitisation. A replacement scheme for the scrapped Help to Grow: Digital programme⁸ should be brought forward to support SME adoption of new digital technologies and a network of demonstrator sites could be created to help de-risk investment decisions on investing in automation and digital technologies. Initiatives such as the Made Smarter programme should also be enhanced and expanded nationwide to aid this transition.⁹

⁸ BEIS; Help to Grow Digital, July 2021, <https://www.gov.uk/guidance/help-to-grow-digital-apply-to-become-a-vendor>

⁹ Made Smarter UK; www.madesmarter.uk/

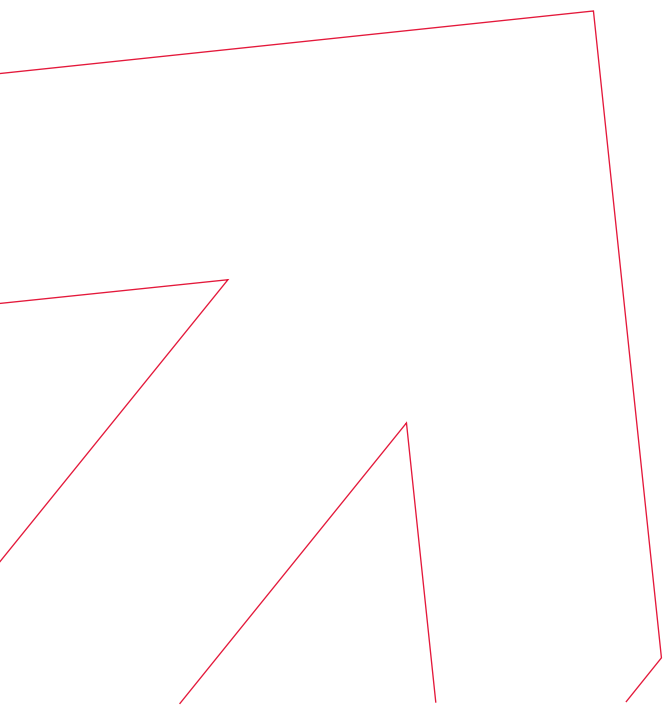
Our recommendations:

- **Set a goal for the UK to have the highest level of R&D investment as a proportion of GDP in the G7**
- Deliver long-term certainty for existing and prospective investors on the business taxation and incentives environment by:
 - **making the full expensing capital allowances scheme permanent**
 - **making capital expenditure (CapEx) eligible under R&D tax credit claims** and ensuring any future R&D tax credit scheme is introduced in a measured way, with enhanced support for SMEs
 - **guaranteeing long-term support for the Patent Box** as a vital incentive for innovative businesses
- **Provide a proactive, stable and coordinated cross-government approach to decision-making on the investment environment**, learning from outputs such as Lord Harrington's independent review of foreign direct investment¹⁰
- **Ensure public investment is effectively deployed to put in place the building blocks for innovation-led growth by:**
 - **strengthening the UK's physical and digital infrastructure**, including speeding up grid connections and reducing the UK's energy costs through long-term investment
 - **strengthening innovation ecosystems such as Catapult Networks and centres of excellence**
 - **setting out clear, ambitious and long-term public R&D investment plans** to pump prime private spend
 - **supporting the adoption of automation and digitisation through targeted fiscal incentives, particularly for SMEs, and a network of demonstrator sites using catapults and other centres of excellence**
- **Embed research and innovation in public services and public procurement practices** to fully harness technology for public good, and to provide 'pull incentives' for innovative businesses

¹⁰ HMT; Terms of reference for the review of Foreign Direct Investment, March 2023, gov.uk/government/publications/terms-of-reference-for-the-review-of-foreign-direct-investment

CASE STUDY: Reaction Engines

Reaction Engines, an innovative UK aerospace technology manufacturer based in Oxfordshire, is developing next generation technologies in the form of reusable hypersonic air systems. With government support, Reaction Engines has made significant progress in the early development of hypersonic propulsion technologies with major dual-use capabilities. Long-term and sustained support and collaboration between industry and government is a vital component in maintaining the UK's technological edge in this area of high growth potential.¹¹



11 Reaction Engines; reactionengines.co.uk



Rolls-Royce Civil Aerospace



THE UK'S PLACE IN THE WORLD

The UK's advanced manufacturing capabilities represent a significant source of economic value, with M5 sectors contributing over £101bn in GVA and £108bn worth of exports each year each year. Our sectors are fundamental to the UK reaching its £1trn export target by 2030.

Diverse and well-established global supply chains underpin the ability of our sectors to deliver high-quality goods and services to both UK consumers and the rest of the world. A rise in geopolitical tensions, protectionist trade measures and evolving international subsidy regimes will require the UK Government to champion free and fair trade more than ever before, ensuring our collective strengths are multiplied by placing advanced manufacturing at the heart of the UK's trade and exports strategy.

“ Record-breaking food and drink exports reached £25bn last year, selling into more than 220 countries¹² ”

Free-trade agreements (FTAs) will continue to be the foundation for tariff-free trade and must be crafted to support key export sectors through workable Rules of Origin, dedicated technical chapters and working groups. They must be future-proofed to reflect rapidly changing technologies – be that AI or high-tech innovation, such as in the net-zero era and growing circular economy.

FTAs also play a critical role in improving our competitive access to strategically important imports, in turn supporting the case for investment and boosting export competitiveness. Our relationship with Europe – the UK's single largest trading partner – is critical, and continual optimisation and improvement of the UK-EU Trade and Cooperation Agreement are needed to deliver its maximum potential.

In parallel, it is essential to place advanced manufacturing sectors at the forefront of a refreshed, long-term export strategy, co-created with industry, to take advantage of global opportunities and new markets. This strategy must be well-resourced and backed at the highest levels of government to fly the flag for British manufacturing in a competitive global marketplace.

¹² Food and Drink Federation, 'Trade Snapshot: Full Year 2022', available at fdf.org.uk/fdf/resources/publications/trade-reports/trade-snapshot-2022/

The government should realise opportunities to boost trade by removing barriers to key export markets outside of FTAs, and working with UK businesses on the ground to identify and eliminate challenges. The movement of goods and people requires a modern, efficient border and customs regime that reduces trade friction, cost and delay and, increasingly, utilises digitalisation to improve interoperability – particularly with key trading partners – and makes the UK border best in class. The government also has an important role to play in delivering priority export campaigns in partnership with industry, supporting companies (especially SMEs) to participate in trade missions, and accessing tradeshows.

The UK is recognised for its gold-standard intellectual property regime and remains a leader in developing global regulation through international fora, such as the World Trade Organization (WTO) or World Intellectual Property Organization (WIPO). The UK should play an active role in the debate over WTO reform, remaining a staunch defender of this framework for free trade and leveraging its regulatory expertise to continue shaping the future of advanced manufacturing sectors.

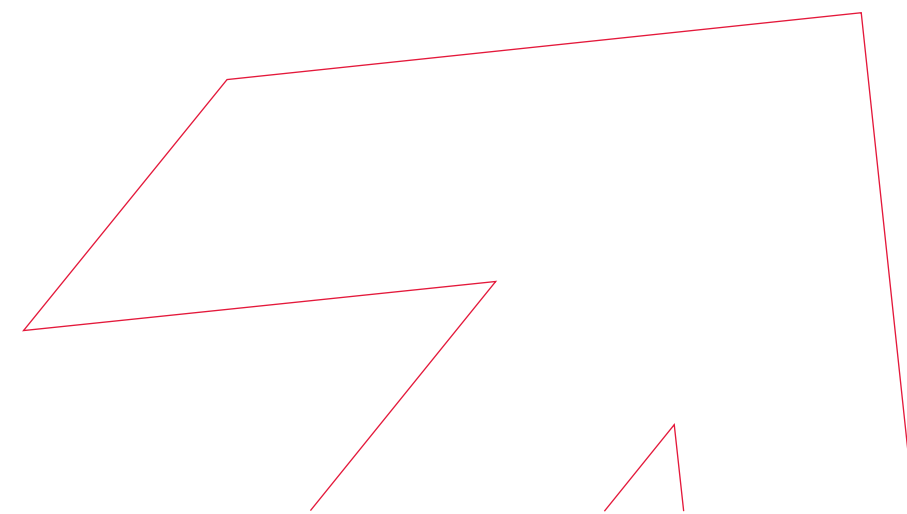
Finally, the government must think about how it engages the business community to identify opportunities for trade, support negotiations, increase the attractiveness of the UK as a destination for globally competitive investment and, ultimately, deliver export-led growth.

Our recommendations:

- Ensure effective **negotiation, implementation, modernisation and good governance of all UK free trade agreements**, which prioritise UK strengths, support supply chain capabilities and deliver value-add for advanced manufacturing sectors
- Enhance our relationship with Europe to **optimise and deliver the maximum benefits under the UK-EU Trade and Cooperation Agreement**, exploring opportunities to reduce trade barriers outside of the TCA further
- **Deliver a fully resourced trade and export strategy**, co-created with industry, that enables effective export campaigns, trade missions and access to tradeshows, particularly for SMEs. Additionally, investment promotion and performance should have distinct cabinet-level responsibility
- **Conduct a comprehensive review of the UK Global Tariff** to ensure it meets the specific needs of UK manufacturers, learning from best practice in other markets, while also streamlining the UK's tariff suspension mechanism
- **Develop a new cross-departmental investment strategy with the full backing of No.10**, which:
 - strengthens the role of the Office for Investment
 - establishes a genuine single front door for new and existing investors
 - builds relationships with boardroom-level decision makers
 - improves understanding within government of the investment decision-making process and its cyclical nature
- Continue to play a leading role in international regulatory fora and **utilise UK trade policy to promote gold-standard UK intellectual property standards**
- **Develop and deliver a world-leading border and customs regime** and promote interoperability with critical trading partners
- **Deliver the UK's Single Trade Window** on time and make use of international best practice (for example, Singapore allows businesses to benefit from its introduction)

CASE STUDY: McLaren¹³

McLaren is globally renowned as one of the world's most illustrious high-technology brands, designing and hand-assembling high-performance supercars and hypercars in the UK which feature ground-breaking technology developed in motor racing. McLaren supports several thousand jobs in the UK, exports to 100 retailers in more than 40 countries, and relies on an effective international trading environment to do so. Many markets do not take into consideration the unique nature of Small Volume Manufacturers (SVMs) like McLaren which operate in a complex and highly regulated sector, therefore companies like McLaren require a close working relationship with government to identify, minimise and remove market barriers for UK companies which are exporting to the world.



¹³ McLaren Automotive; <https://cars.mclaren.com/gb-en>

DELIVERING A SUSTAINABLE FUTURE

Our businesses are not only navigating tough economic times but also working hard to deliver economic, environmental and societal progress through long-standing sustainability commitments. To ensure our sectors can meet shared environmental goals and establish advantage in the face of increasing global competition, a partnership approach between government and industry will be critical.

“Automotive manufacturing and supply chain sites generated 46GWh of renewable energy in 2022 – enough to produce up to 767,000 EV batteries a year¹⁴”

Our sectors are the foundation of a net-zero economy, delivering carbon savings today while ensuring our products enable society to meet environmental goals through advancements in transport and healthcare, and through 'cleaner and greener' input materials such as chemicals. We provide the advanced materials used to make: batteries, wind turbine blades and solar panels; novel fuels like hydrogen, ammonia and synthetic fuels; lightweight materials for transport; and insulation to keep our homes warm.

Continued access to a diverse and innovative manufacturing sector at home will help the UK to compete in new low-carbon industries, ensuring that the electric vehicles we drive or the electric planes we will soon fly are made here, because their batteries are made here. Without skilled, equipped and competitive UK assets, we risk nascent low-carbon industries taking root elsewhere.

We are committed to a truly circular economy, one that delivers for businesses, consumers and the planet. For this, we need a world-leading Extended Producer Responsibility scheme that will support companies to remove plastics and packaging from the residual waste system – driving up recycling rates and driving down costs – while balancing unavoidable packaging regulatory requirements for some sectors. To substantially increase circular packaging solutions, the UK must create domestic supplies of recycled materials by unlocking the chemical recycling market, allowing for these innovations to be commercially viable and available at scale.

¹⁴ SMMT, 'Automotive Sustainability Report – 24th Edition (2023)', available at www.smmt.co.uk/wp-content/uploads/sites/2/SMMT-Sustainability-Report-2023.pdf

The four nations of the UK all have a role to play in the net-zero transition, with the setting and implementation of some climate policy representing a devolved competency. This must be coordinated so that businesses have the necessary confidence and certainty to meet shared sustainability and climate goals. Divergence in processes and requirements will add unnecessary compliance burden, complication and cost to businesses operating UK-wide and risk undermining the considerable opportunity to capitalise on the competitive advantage of the green transition.

Our industries have a long record of developing and commercialising new processes, and we constantly seek innovation in process design and manufacturing. The adoption of new technologies will provide a step change in capital cost, materials management and throughput, while new process technologies such as 3D printing offer the opportunity to create new business models such as personalised products and localised manufacturing.

Government support in the form of scoping studies, R&D funding and assets for digital design software will deliver sustainable innovation for UK advanced manufacturing. Big data is already used within the pharmaceutical industry for molecular design, and its application is an important underpin to accelerating innovation in other sectors where complex design is required. Innovations leading to greater efficiency, productivity and waste reduction or those that support the transition to alternative and greener materials are all central to delivering on our carbon reduction goals, and are potential areas for UK strategic leadership.

Manufacturing businesses are by their nature energy intensive and while businesses are taking steps to innovate, increase efficiencies and invest in supportive technologies, many need clarity on which decarbonisation routes will be open to them, and certainty on where supporting infrastructure will be available and by when. This includes reforms to improve electricity and gas grids to meet industrial demands.

Our recommendations:

- **Commit to growing programmes that support businesses to deliver on sustainability goals**, such as the Industrial Energy Transformation Fund, which would benefit from enhancement and simplification
- **Push forward with all industrial cluster projects¹⁵** as and when they are ready to implement, along with a plan to support dispersed sites, so no part of the UK is left behind
- **Develop policies for industrial decarbonisation** that address general barriers such as investment constraints
- **Incentivise net-zero investment projects through the prioritisation and acceleration of UK permitting and planning processes**
- **Ensure all parts of the government and public sector organisations are** actively engaging with the private sector and civil society **in the development and implementation of sustainability requirements**
- **Encourage alignment between the nations and regions of the UK** to coordinated solutions on climate, and reducing duplication and compliance burden for business
- **Create favourable policy conditions for all circular recycling technologies**, including a clear approach to account for recovered and recycled critical materials
- **Deliver a long-term and stable carbon market policy**, coupled with effective carbon leakage mitigation measures, to allow UK manufacturing to compete during the transition to net zero
- **Streamline Environmental Social Governance (ESG) reporting processes** to remove the administrative burden on companies, enabling them to focus on active progress towards clean-growth goals

¹⁵ BEIS, 'Grand Challenge – what is the Industrial Clusters mission?', available at <https://assets.publishing.service.gov.uk/media/5ce3c654ed915d247e03364c/industrial-clusters-mission-infographic-2019.pdf>

CASE STUDY: apetito¹⁶

apetito – an award-winning food producer – is at the forefront of delivering reduced-carbon food menus to the NHS and will continue innovating to help address the climate crisis. As part of its net-zero commitment, apetito launched a ground-breaking initiative that allows healthcare customers to significantly reduce the kilograms of carbon dioxide equivalents (kgCO₂e) associated with mealtimes. Working collaboratively with on-site facilities provider Mitie¹⁷, apetito first introduced the new menus to St George's University Hospitals NHS Foundation Trust.¹⁸ The key learning was how small changes can make a significant difference. Reducing the number of red meat options from 22 to 20 and balancing that with other meat, fish, vegetarian and vegan dishes produced a carbon saving of 11%. In addition, the menu met all the British Dietetic Association standards, produced cost savings of around 1% (the intention was to remain cost-neutral) and also saw increases in patient satisfaction scores. The new menus help save an estimated 23 tonnes of kgCO₂e every year – the equivalent carbon saving of more than 34 return flights from London to New York – and show what can be done in the NHS and beyond.

CASE STUDY: Tata Chemicals Europe¹⁹

Tata Chemicals Europe is capturing 40,000 tonnes of carbon dioxide each year – the equivalent to taking over 20,000 cars off the roads. In a world-first, carbon dioxide is captured from energy generation emissions is being purified and used as a critical raw material in the manufacture of food and pharmaceutical grade sodium bicarbonate. The Northwich based plant is also looking to create a solar energy park building and playing a key part in decarbonising the UK more generally.

¹⁶ apetito, 'Net Zero', available at <https://www.apetito.co.uk/about-us/net-zero>

¹⁷ Mitie, www.mitie.com

¹⁸ St George's University Hospitals NHS Foundation Trust, St Georges NHS, www.stgeorges.nhs.uk

¹⁹ Tata Chemicals Europe, 'Tata Chemicals Europe open UK's targets CCU', available at tatachemicalseurope.com/2022/06/24/tata-chemicals-europe-open-uks-largest-ccu/



ANNEX: UNDERPINNING DATA

2022 data unless stated otherwise:

	M5	M5 as a % of Manufacturing	M5 as a % of Total	Past 5 year growth	Past 10 year growth
Turnover	£309bn	55%	**	9%	26%
Exports	£108bn	60%	**	2%	37%
GVA (CP)	£101bn	45%	4%	12%	37%
R&D (2020)	£11bn	68%	41%	10%	32%
Employment (000's)	940,000	38%	3%	2%	11%
Productivity	£108 per worker	18% higher than manufacturing	46% higher than the UK average	9%	24%
Median avg. earnings	£35,000 a year	10% higher than manufacturing	25% higher than the UK average	-	-

** not available as there is not a total turnover or export figure across all UK businesses in this data set

Methodology and sources:

Methodology:

This data was compiled in August 2023 for a November 2023 publication date using official data that was downloaded in June 2023. Each organisation represented provided the SIC codes to be included and the relevant weighted percentages attributable to their sectors. Owing to the natural overlap in manufacturing some sectors are active in the same SIC codes and where this is an apportionment figure the percentage contributions have been combined. There are 23 individual SIC codes used but seven main SIC codes used throughout the data where 100% of the SIC code is used; these SIC codes are 10, 11, 20, 21, 29, 30.3 and 33.16. The remainder is a proportion of a code being used, and the apportionment of the turnover value has been used across the other data points for consistency. Further details can be provided on request.

Sources include:

Monthly Business Turnover Survey Data for turnover and exports data:

<https://www.ons.gov.uk/economy/economicoutputandproductivity/output/datasets/monthlybusinesssurveyymbsturnoverinproductionindustries>

Gross Value Add Data:

<https://www.ons.gov.uk/economy/economicoutputandproductivity/output/datasets/monthlybusinesssurveyymbsturnoverinproductionindustries>

Research and Development Data:

<https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/datasets/businessenterpriseanddevelopmenttimeseriesspreadsheet>

Employment Data:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/employeejobsbyindustryjobs03>

Mean Average Annual Earnings:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/industry4digitsic2007asetable16>

Productivity:

Productivity is a calculated figure of GVA / Employment.

WHO WE REPRESENT



The Association of the British Pharmaceutical Industry (ABPI)

The ABPI exists to make the UK the best place in the world to research, develop and use new medicines and vaccines. We represent companies of all sizes which invest in discovering the medicines of the future. Our members supply cutting-edge treatments that improve and save the lives of millions of people. We work in partnership with government and the NHS so patients can get new treatments faster and the NHS can plan how much it spends on medicines.



ADS Group - Aerospace, Defence, Security & Space

ADS is the UK trade association advancing leadership in aerospace, defence, security and space to enable prosperity and clean, secure growth for our nation. Whether representing industry, connecting our members with business opportunities or driving forward innovation and growth, ADS is at the forefront of various activities, events and programmes that benefit our members.

CIA

CHEMICAL
INDUSTRIES
ASSOCIATION

Chemical Industries Association (CIA)

The CIA is the organisation representing and advising chemical and pharmaceutical manufacturing companies across the UK. Our advocacy work involves engagement with legislators, policymakers and broader stakeholders to make the UK the location of choice for business growth, alongside practical support and advice to secure companies' licences to operate and strengthen their competitiveness.



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Food and Drink Federation (FDF)

The FDF is a powerful voice for the UK's vibrant, resilient and diverse food and drink manufacturing industry. For more than 100 years we have successfully contributed to policy-making and legislative development, championing our members' views – large and small – on the critical issues of the day. With more than 1,000 members – from the most recognisable global brands to the most innovative start-ups – we represent the largest manufacturing sector in the country.



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Society of Motor Manufacturers and Traders (SMMT)

SMMT is one of the largest and most influential trade associations in the UK. Its resources, reputation and unrivalled automotive data place it at the heart of the UK automotive industry. SMMT is the voice of the UK motor industry, supporting and promoting its members' interests at home and abroad to government, stakeholders and the media.



**THE ASSOCIATION OF THE BRITISH
PHARMACEUTICAL INDUSTRY**

7th floor, Southside,
105 Victoria Street,
London, SW1E 6QT

T: +44 (0) 20 7930 3477

 @ABPI_UK

 ABPI

www.abpi.org.uk

**ADS GROUP - AEROSPACE,
DEFENCE, SECURITY & SPACE**

Salamanca Square,
9 Albert Embankment,
London, SE1 7SP

T: +44 (0)20 7091 4500

 @ADSgroupUK

 ads-group-ltd

www.adsgroup.org.uk

CHEMICAL INDUSTRIES ASSOCIATION

Kings Buildings,
Smith Square,
London, SW1P 3JJ

T: +44 (0)20 7834 3399

E: enquiries@cia.org.uk

 @See_Chem_Bus

 chemical-industries-association

www.cia.org.uk


FOOD & DRINK FEDERATION

6th Floor, 10 Bloomsbury Way,
London, WC1A 2SL

T: +44 (0)20 7836 2460

E: press.office@fdf.org.uk

 @FoodanddrinkFed

 food-and-drink-federation

www.fdf.org.uk

**THE SOCIETY OF MOTOR MANUFACTURERS
AND TRADERS LIMITED**

71 Great Peter Street, London, SW1P 2BN

T: +44 (0)20 7235 7000

E: communications@smmt.co.uk

 @SMMT

 SMMT

www.smmt.co.uk