

UK manufacturing – a short policy paper

This paper argues three points about manufacturing:

- 1** that it is vital to UK prosperity, freedom and sovereignty;
- 2** its significance is insufficiently recognised within UK government and broader society, resulting in complacency, in sharp contrast to its status in comparable economies;
- 3** policy actions are needed, urgently, to strengthen UK manufacturing.

We offer suggestions as to what government should do.

Manufacturing – dividing opinion

There is a chasm between those who understand the value of UK manufacturing and those who do not. Government policy statements and speeches have weighed for manufacturing:

- 1** *“We must... reverse the historic decline in manufacturing in the UK.”*
This policy imperative, which had not been expressed before, appears in the Levelling Up White Paper (February 2022).
- 2** *“Manufacturing does, will and must play an integral role in transforming the UK’s economy in the 21st century.”*
Industry minister Lee Rowley, speech to Make UK annual dinner, May 2022.
- 3** *“Your sovereignty, your freedom, depends on your ability to manufacture.”*
James Heappey, armed forces minister, speech to annual dinner of the Manufacturing Technologies Association, February 2023.

Policy has failed to match these bold statements. Too little was being done before the Levelling Up White Paper and initiatives that would give meaning to the imperative to reverse historic decline have not been forth-coming. The Manufacturing Investment Prospectus promised by minister Rowley¹ by the end of 2022 has yet to appear and was in any case expected to be little more than a re-packaging of a patchwork of existing schemes. Energy costs to industry remain

¹ Minister for Industry addresses the Make UK National Manufacturing conference - GOV.UK (www.gov.uk)

high in comparison with European competitors, let alone those in the United States, China and elsewhere.

This lack of action may be because, as a country, we are equivocal about the sector.

Manufacturing has many sceptics, inside government and elsewhere. Since the mid-1980s, we have heard of how the UK is a post-industrial economy.

In 2016, before the referendum, a leading Brexit advocate, economist Professor Patrick Minford felt able to write in The Sun newspaper: *“It seems likely that we would mostly eliminate manufacturing, leaving mainly industries such as design, marketing and high-tech. But this shouldn’t scare us.”*²

In 2022, the Resolution Foundation published a report emphasising that we should focus on services. A piece by chief executive Torsten Bell in The Observer carried the headline and standfirst: *“Why be a poor version of Germany instead of doing what we do best? Manufacturing is not our forte. But we are world leaders in services. Success will be elusive until we recognise that.”*³

So, we see two conflicting currents in policy, which has resulted in a long-standing complacency and absence of decisive action for the manufacturing sector.

The true impact of UK manufacturing

The economic significance of manufacturing is set out in two jargon-free reports: *The True Impact of UK Manufacturing* (Oxford Economics for the Manufacturing Technologies Association, an EAMA member, 2018)⁴, is a seminal report and shows that while manufacturing contributes 9% of GDP directly, it generates 15% when indirect impacts are included and 23% when wider, induced impacts are included. *Inside the Black Box of Manufacturing* (Institute for Manufacturing at University of Cambridge for the Department for Business, Energy and Industrial Strategy, 2019)⁵ followed and showed the inter-relation between manufacturing and other sectors.

More succinctly, the late Edward Stobart, the “road haulage legend” to whose common sense the chancellor, Jeremy Hunt referred in his 2023 Budget speech, once said: *“My job as a road haulier is to keep down the costs for manufacturers, because manufacturing is important.”* (Comment made to the author of this report, late 1980s.)

Other countries have – like Stobart - a keen appreciation of the importance of manufacturing to their economies. And not just countries such as the United States, Germany and China.

Switzerland, best known as a financial centre, has 19% of its GDP from manufacturing. The US International Trade Administration, in its overview of the country, describes Swiss manufacturing as “highly automated and efficient”⁶. Would that the same could be said of UK manufacturing overall, rather than of just some British manufacturers.

² Widely reported, including here: [Economists for Brexit dismiss trade fears | Financial Times \(ft.com\)](#)

³ [Why be a poor version of Germany instead of doing what we do best? | Torsten Bell | The Guardian](#)

⁴ [The true impact of UK manufacturing - Oxford Economics](#)

⁵ [Inside_the_Black_Box_of_Manufacturing_report_FINAL_120619.pdf \(cam.ac.uk\)](#)

⁶ [Switzerland - Market Overview \(trade.gov\)](#)

Singapore, another financial centre, has stated an aim to expand manufacturing, one of four “key pillars” of the economy, by 50% by 2030⁷. It says it will do so, working with trade associations. Israel – a country from which the Levelling Up White Paper says we should learn – has a government-backed loan scheme to support SME manufacturing investment over periods of up to 12 years⁸.

We should learn from these examples. We have the potential, not to replicate Germany but to forge a distinctive UK path, strengthening UK manufacturing rapidly and for the long-term. The government-funded High Value Manufacturing Catapult developed a vision of doubling the sector’s contribution to GDP to 20% by 2030⁹ – a big challenge, certainly, but also an indication of the scale of opportunity.

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The importance of international competitiveness

Most UK manufacturing competes in international markets, in contrast with many other sectors of the economy. If a pub or a restaurant closes down, or an accountancy or law firm ceases trading, or a haulage company is wound up, another UK company will, normally, take over the work to meet demand. It is usually not practical for a foreign firm to do the work.

If a UK manufacturer closes, demand may well be met from outside the UK. The well-paid jobs, intellectual property and tax revenue that are also lost are generally more difficult to replace. If the work moves abroad there may be a knock-on effect on the complex UK supply chain within which the company worked, undermining more jobs, IP and tax revenue.

UK manufacturing accounts for less than 10% of GDP. But it accounts for around 45% of UK exports by value¹⁰.

Bridging the gap between R&D and manufacturing

The UK can be proud of its research and development record over many decades. But there has been a fault line between r&d and manufacturing that means we have failed to create anything like the long-term retained wealth that we should have through UK manufacturing.

The danger is that, in the words of Ben Houchen, Conservative mayor of Tees Valley, “we’ll end up buying our own technology back”. Houchen stresses the importance not only of large (“anchor”) companies but also their supply chain, mostly made up of SMEs.¹¹

There is also a danger for UK r&d. Manufacturing benefits from r&d; but r&d also benefits from manufacturing know-how, as the IfM’s *Inside the Black Box* report for government showed.

⁷ [Singapore Economy 2030 \(mti.gov.sg\)](https://mti.gov.sg)

⁸ [Main Achievements \(industry.org.il\)](https://industry.org.il)

⁹ [automation-and-robotics-research-paper-a4-pages.pdf \(the-mtc.org\)](https://the-mtc.org), p5

¹⁰ [Manufacturing matters for the UK economy — more than people commonly think | LSE Business Review](#)

¹¹ Comments from platform at UK Onward Thinktank event, London, April 17th 2023

Defining the manufacturing sector

We welcome the positivity from the chancellor in Budget 2023, when he identified “advanced manufacturing” as one of five sectors that will be central to growth. (The others were life sciences, green industries, digital technology and creative industries.) But it is not clear what the government means by advanced manufacturing.

HM Treasury (HMT) and the Department for Levelling Up, Housing and Communities (DLUHC) stated in Budget 2023 papers¹² that advanced manufacturing is worth £93 billion a year to the UK economy – but that excludes more than half the UK manufacturing industry, which is worth around £200 bn.

Definitions matter – but it appears that there is no agreed definition within government, no common view held by HMT and the new Department of Business and Trade and other interested departments, such as DLUHC, DEFRA, DSIT, DESNZ and DfE.

The £93 bn definition – however it is arrived at – is too limited. We argue that advanced manufacturing is not a sector. The sector is manufacturing. The aspiration should be to make it advanced. Policy interventions should help to achieve that aspiration.

Advanced manufacturing should be about the processes, not the products.

Advanced manufacturing should be about the processes, not the products. These are characteristics we expect to find in advanced manufacturing firms:

- 1 A company looking for and adopting new technology and process improvements that will improve its business, both from suppliers and from within its business.
- 2 Continually investing in skills that help to create a fertile environment for new innovation.
- 3 Manufacturing only to customer demand – cost-effectively making products only when needed. This will become an ever-stronger theme in successful manufacturing.
- 4 Able to meet the needs of progressive design for low overall carbon use. Manufacturing innovation allows and helps drive design innovation – and vice versa.
- 5 Providing well-paid and productive employment and careers in excellent working conditions.
- 6 Supporting the creation and maintenance of many of the skills a thriving, progressive economy depends upon.
- 7 Generating increased tax revenue and UK intellectual property.
- 8 Producing components and products to a quality and at a price that are competitive in what is an international market, improving the UK balance of payments, often enhancing UK influence and often improving resilience.

¹² [Investment_Zone_Policy_Prospectus.pdf \(publishing.service.gov.uk\)](#)

Manufacturing technology has been transformative, demanding new knowledge and skills related to design, engineering, materials and processes. That will continue, with innovations focused more than ever on reducing waste and environmental sustainability over the long-term.

These changes create opportunities at every level of the sector for people to have careers that pay well, provide good working conditions and provide the mundane and strategic things society needs – the means to travel, to help people in poor health, to bolster defence, to provide places to live, with clean water and good, affordable food.

Policy suggestions

We could make many policy proposals for supporting growth in manufacturing and the economy; we set out five below.

Advocacy

Ministers should help to lay the ghosts of manufacturing past and commit to help the expansion of a modern, positive manufacturing sector.

The influence of Charles Dickens, LS Lowry and Fred Dibnah lingers, even now, affecting the extent to which we think manufacturing is desirable and even whether Britain makes much at all these days. Parents are less likely to think it a good sector for their children, teachers for their pupils. Policy-makers for the country.

We need to reverse that and get people talking about the sector as an attractive, socially valuable and growing part of the economy. The smoke, noise and conditions of the past bear no resemblance to modern manufacturing conditions. The more advanced the manufacturer, the more attractive it is.

Understanding of UK supply chain

Tackling shortages during the pandemic illustrated how little government knows about the UK supply chain, its capabilities, its gaps and its potential. Greater awareness is needed to make good policy.

The Ministry of Defence nationalised Sheffield Forgemasters in 2021¹³, to protect important defence manufacturing capability. We do not advocate nationalisations but there should be greater, constructive intervention by government to ensure greater availability and use of high-quality UK suppliers.

Manufacturing, and the advanced engineering and technical services that support it, make up an eco-system of skills and companies. Companies often work across several or many sectors, as well as within a sector; people have transferrable skills. Government tends to be focused on sub-sector silos: offshore wind, aerospace, space, automotive, life sciences etc. These are important, but so, too, is cross-sector vision.

The same is true of regional policy and clusters. There is strength in regional clusters but there

¹³ [Article: Sheffield Forgemasters - change of ownership](#)

must also be a strong national view. Trade associations such as those in EAMA can contribute greatly, as they are national clusters of capability.

Innovation and adoption

The UK has world class advanced engineering and manufacturing companies but the government must do more to help to accelerate progress in the application of digital technologies, automation and robotics in the industry as a whole. Opportunity exists for transformation.

We urgently need a coherent, national, funded, long-term programme to help firms to improve skills, processes and adoption of technology.

We urgently need a coherent, national, funded, long-term programme to help firms to improve skills, processes and adoption of technology. The Westminster government is highly unusual among peer nations in not having such a plan. The programme should be achieved by:

- building on the lessons learned from the scattering of regional Made Smarter Adoption projects of recent years and similar programmes; and
- making better use of the outstanding assets we have in the HVMC, universities and other organisations that have potential to provide much stronger support to SMEs than they do at present.

Energy

The imperative to reverse the historic decline of manufacturing in the UK will be handicapped so long as the government lacks a strategic policy to reduce the relative cost of energy to manufacturing industry. It is vital that industry itself invests and that should be encouraged. But even global leaders in decarbonisation often have significant energy costs and take that into account when deciding where to invest.

Energy policy should include upgrading the National Grid to encourage use of solar power.

Skills and STEM

There is much to be done to improve skills. We pick out one relatively minor change that we believe would be easy to implement and which would have substantial impact: amend Ofsted inspections to encourage schools to promote more extra-curricular STEM activity (science, technology, engineering and mathematics).

Companies look to schools to do more to encourage and to prepare young people. At present, Ofsted inspections give no credit for extra-curricular activities related to STEM, nor are schools encouraged through funding. Both these issues should be addressed, so that schools are encouraged and enabled to promote STEM more effectively. Were this to be done, firms in the machinery sector would respond with additional efforts to engage with schools.

The change and the greater involvement of companies would also help to create a better gender

balance in the engineering sector, where, currently, five out of six people are male.

About EAMA

The Engineering and Machinery Alliance is made up of trade associations serving the UK machinery and component supply chain. Firms represented are involved in: machine tools and tooling; additive manufacturing/3Dprinting; metrology; robots; automation and control; plastics; turned parts sub-contracting; compressed air systems; fluid power systems; printing technology; agricultural equipment; laboratory equipment; and solids handling and processing systems.

Member associations: Agricultural Engineers Association; British Compressed Air Society; British Fluid Power Association; British Turned Parts Manufacturers Association; Gambica; Gauge and Toll Makers Association; Manufacturing Technologies Associations, Printing Industries Confederation; Solids Handling and Processing Association. Link: www.eama.info

Jack Semple

Alliance secretary

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