



Department for  
Business & Trade



# Call for Evidence

on access to finance for advanced  
manufacturing scale-ups

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## Ministerial Foreword



The UK is a global hub for innovative businesses that contribute to delivering growth across the country with fresh thinking and new ideas. The advanced manufacturing sector is one such area, where the excellence of our scientific and engineering communities meets the ingenuity and vision of our entrepreneurs. From composite materials to industrial batteries, the UK stands out for the quality of its research & development into the technologies that will allow us to meet the challenges of the 21st Century.

However, advanced manufacturing start-ups often struggle to find the investment that they need along the journey from technological development to commercial success, particularly at the scale-up stage. Stakeholders from both the financial and manufacturing sectors have repeatedly highlighted the existence of barriers in providing and accessing sufficient long-term growth capital. As we rise to meet the challenges of the climate crisis and build our national resilience to future shocks, it is imperative that the Government works together with our investors and founders to ensure that capital flows into the UK's strategic priorities.

This is why we are launching a call for evidence to explore this specific challenge in depth, in addition to the Green Paper published by the Business and Trade Secretary and the Chancellor of the Exchequer on 14 October, setting out our vision for a modern Industrial Strategy. Invest 2035 is a credible, 10-year plan to drive sustainable, inclusive and resilient growth and deliver the certainty and stability businesses need to invest across the UK.

The Industrial Strategy will focus on eight sectors which offer the highest growth opportunities, including Advanced Manufacturing. In doing so, the Industrial Strategy will help ensure a pro-business environment and drive regional growth by supporting high-potential clusters. In the next stage of the Industrial Strategy's development, the Government will prioritise subsectors within these broad growth-driving sectors that meet our objectives and where there is evidence that policy can address barriers to growth. Ambitious and targeted Sector Plans for the growth-driving sectors will be designed in partnership with business, devolved Governments, regions, experts, and other stakeholders over the coming months.

This call for evidence on access to finance for advanced manufacturing scale-ups will add to responses to our Green Paper and wider engagement informing our Industrial Strategy's

development. It is an important element of our partnership with businesses to ensure that the jobs of the future are in Britain. We are determined to hear from the widest range of voices to gain a deeper understanding of the investment landscape in the advanced manufacturing sector, as we explore ideas and solutions that will input into our wider plans for an Industrial Strategy.

Whether you have data, ideas, challenges, opportunities, or priorities to share with us, this is an opportunity for you to contribute.

I look forward to hearing from you.

**Sarah Jones MP**

**Minister for Industry at the Department for Business and Trade and the Department for Energy Security and Net Zero**

## Purpose

This Call for Evidence seeks views and evidence on the current state of debt and equity investment into scaling advanced manufacturing sector firms. This exercise will ensure that the Government has evidence and perspectives from industry, academia and civil society.

We are not asking stakeholders to submit evidence that has already been provided in recently published or active UK inquiries and reports.

This Call for Evidence will be particularly relevant to:

- Advanced manufacturing firms with experience raising finance to scale up.
- The debt and equity investment community.
- Organisations that represent innovators, entrepreneurs, and manufacturers.
- Academics with an interest in the manufacturing of new technologies including those stemming from university spinouts.

Responses will be added to evidence gathered in response to questions on mobilising capital in the Green Paper on the Government's new modern Industrial Strategy "Invest 2035"<sup>1</sup>, and form part of the Government's wider evidence base to develop the Strategy and drive growth.

## Call for evidence structure

### *Section 1:*

The first section highlights the importance of the advanced manufacturing sector to the UK economy and the many benefits of supporting its firms. It describes the potential difficulties that scaling manufacturers may experience within the current financing landscape when looking for growth capital.

### *Section 2:*

The second section explores the main reasons reported by businesses for low investment in the UK advanced manufacturing sector and the potential market failures at the source of these issues.

### *Section 3:*

The third section explains the link between this call for evidence and Invest 2035, the UK Government's new modern Industrial Strategy.

### *Section 4:*

The final section lists the questions in the call for evidence.

## Call for evidence details

Issued: 22 October 2024

Respond by: 26 November 2024

## How to respond

Responses should be provided to the Qualtrics platform:

[https://ditresearch.eu.qualtrics.com/jfe/form/SV\\_3lSe99ayZl5YyTY](https://ditresearch.eu.qualtrics.com/jfe/form/SV_3lSe99ayZl5YyTY)

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<sup>1</sup> UK Government, Invest 2035: the UK's Modern Industrial Strategy, 2024. <https://www.gov.uk/government/consultations/invest-2035-the-uks-modern-industrial-strategy>

**Confidentiality and data protection**

All responses will be treated as confidential and will be stored in the Department for Business and Trade (DBT) IT infrastructure. The data will only be accessible by a limited number of Government officials working on the Call for Evidence.

Any personal data included in responses will be collected in accordance with Article 13 of the UK General Data Protection Regulation (UK GDPR). The data controller for your personal data is the DBT.

You can contact the DBT Data Protection Officer at: DBT Data Protection Officer Department for Business and Trade Old Admiralty Building, Admiralty Place, Whitehall, London, SW1A 2DY. You can also email: [data.protection@trade.gov.uk](mailto:data.protection@trade.gov.uk).

Information provided in response to this Call for Evidence, including personal information, may be subject to publication or release to other parties or to disclosure in accordance with the access to information regimes.

## Section 1: The Advanced Manufacturing Sector and the Scale-Up Financing Landscape

### Introduction

The United Kingdom has a proud history of manufacturing, with British inventions that revolutionised the world including the steam engine and the television. Today, the UK is a powerhouse of scientific innovation, ranking within the top three most innovative countries,<sup>2</sup> and is a globally important manufacturing hub, with world-leading academic institutions and a successful track record of creating technology-led manufacturing start-ups. The UK is home to three of the top 10 global universities for mechanical engineering<sup>3</sup> and has the second largest number of spin-out companies in the world.<sup>4</sup>

The manufacturing sector is a key contributor to the UK economy that, when compared to other sectors, has an outsized impact on GDP growth. Manufacturing directly contributes over £200 billion every year to the economy<sup>5</sup> and, in 2023, created over 40% of our exports at a value of £350 billion<sup>6</sup> while representing 9.3% of total Gross Value Added (GVA).<sup>7</sup> In 2023, the sector employed 2.6m people<sup>8</sup> and, between October and December 2023, accounted for 8.1% of employment.<sup>9</sup> When considering the additional impact of the sector's supply chain on the wider economy, estimates suggest that manufacturing indirectly contributes to over 20% of UK GDP.<sup>10</sup>

Advanced manufacturing encompasses high value-added products and processes. The global push to adopt productivity-enhancing and decarbonising technologies as part of the paradigm shift of the fourth and fifth industrial revolutions relies on advanced manufacturing. As such, advanced manufacturing is critical to supporting many of the UK's policy priorities:

**Strengthening supply chain resilience and economic security** – UK-based advanced manufacturing makes a significant contribution to our economic security by ensuring there is a strong supply of vital and high-tech manufactured goods in the face of geopolitical tensions, trade protectionism, and shipping disruptions caused by climate change. Expanding advanced manufacturing capabilities reduces reliance on imports of critical technologies, many of which have vulnerable supply chains. While the UK cannot feasibly replace all critical good imports with domestic production, building manufacturing capacity in relevant sectors can enable greater diversification and enhance supply chain resilience.<sup>11</sup>

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<sup>2</sup> World Intellectual Property Organisation, Global innovation index, 2023. <https://www.wipo.int/en/web/global-innovation-index>

<sup>3</sup> Top Universities, QS World university rankings by subject 2023; Mechanical, aeronautical & manufacturing engineering, 2023. <https://www.topuniversities.com/university-subject-rankings/mechanical-aeronautical-manufacturing-engineering>

<sup>4</sup> Department for Science, Innovation and Technology, Independent review of university spin-out companies, 2023. <https://www.gov.uk/government/publications/independent-review-of-university-spin-out-companies>

<sup>5</sup> Office for National Statistics, GDP output approach – low-level aggregates, 2024.

<sup>6</sup> <https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/ukgdpolowlevelaggregates>

<sup>7</sup> Office for National Statistics, Trade in goods: CPA (08) exports and imports, 2024.

<sup>8</sup> <https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/datasets/publicationtablesuktradecpa08>

<sup>9</sup> House of Commons Library, Manufacturing: Key Economic Indicators, Sep. 2024. <https://commonslibrary.parliament.uk/research-briefings/sn05206/>

<sup>10</sup> Make UK, UK Manufacturing – The Facts: 2023, 2023. <https://www.makeuk.org/insights/publications/uk-manufacturing-the-facts-2023/#/>

<sup>11</sup> UK Parliament, Manufacturing: Key economic indicators, 2024. <https://commonslibrary.parliament.uk/research-briefings/sn05206/>

<sup>10</sup> Make UK, Beyond ambition: Advanced manufacturing, 2024. <https://www.makeuk.org/insights/reports/beyond-ambition-advanced-manufacturing>

<sup>11</sup> UK Government, Critical imports and supply chains strategy, 2024.

<https://assets.publishing.service.gov.uk/media/65a6a1c1867cd800135ae971/critical-imports-and-supply-chains-strategy.pdf>

**Achieving net zero targets** – Research and innovation can significantly reduce the cost of the net zero transition by introducing new ways to harness and employ renewable energy. According to the International Energy Agency, a significant proportion of technologies we will need for 2050 are currently at the demonstration or prototype phase,<sup>12</sup> making advanced manufacturing a central element of efforts to decarbonise the economy and do so in an increasingly affordable way. Additionally, 35% of greenhouse emissions reductions required in Europe are likely to come from new technologies by 2050.<sup>13</sup> Analysis from McKinsey suggests that supplying the goods and services to enable the global transition to net zero could be worth more than £1 trillion in revenues to UK businesses by 2030 based on current trends.<sup>14</sup> Boosting manufacturing would allow the UK to profit from an even larger share of the £40-50 trillion of the world's projected capital expenditure into the net zero transition, the largest proportion of which comes from the manufacturing sector (28%).<sup>15</sup> The UK can lead the world in the development and commercialisation of the new technologies, business models, and systems that will allow us to meet our emissions targets.

**Promoting regional growth and diversifying the economy** – Investments in advanced manufacturing can spread prosperity and deliver growth by creating highly productive, well-paid jobs in the UK's traditional manufacturing hubs. According to the Office for National Statistics, manufacturing median wages are approximately 5% higher than the UK average. Moreover, 84% of manufacturing jobs are based outside of London and the South East, compared to 69% for the economy as a whole.<sup>16</sup> According to the Institute for Public Policy Research, around half of the UK's productivity slowdown in recent years can be attributed to shifts in the structure of the economy away from high-productivity sectors, including manufacturing, towards those characterised by low productivity.<sup>17</sup> Investment in advanced manufacturing can support economic diversification, productivity increases and the transformation of communities all over the country.

**Capturing market share in growth sectors** – Demand for the critical technologies that advanced manufacturers produce is rapidly rising across the world, as is competition for internationally mobile investment. For example, lithium-ion battery demand is expected to grow by around 27% annually to 2030,<sup>18</sup> and demand for air passenger journeys that could be completed on low-emission planes could exceed 10 billion a year by 2050.<sup>19</sup> Further, McKinsey estimates that UK manufacturing businesses could generate sales of over £200 billion between 2021-30 due to their role in producing zero-carbon-compatible equipment.<sup>20</sup> The UK is well placed to capture a significant share of this new

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<sup>12</sup> International Energy Agency, Net Zero by 2050: A roadmap for the global energy sector, 2021. <https://www.iea.org/reports/net-zero-by-2050>

<sup>13</sup> Barclays, Scaling growth-stage climate tech companies, 2024. <https://home.barclays/content/dam/home-barclays/documents/citizenship/Sustainability/2024-Climate-Tech-Report-FINAL.pdf>

<sup>14</sup> McKinsey & Company, Opportunities for UK businesses in the net zero transition, 2021. <https://www.mckinsey.com/capabilities/sustainability/our-insights/opportunities-for-uk-businesses-in-the-net-zero-transition>

<sup>15</sup> McKinsey & Company, Opportunities for UK businesses in the net zero transition, 2021. <https://www.mckinsey.com/capabilities/sustainability/our-insights/opportunities-for-uk-businesses-in-the-net-zero-transition>

<sup>16</sup> Office for National Statistics, Workforce jobs by industry and region (annualised quarterly data based on average of the four quarters of 2022), Sep. 2023. <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/workforcejobsbyregionandindustryjobs05>

<sup>17</sup> IPPR, Boosting Britain's low-wage sectors: A strategy for productivity, innovation and growth, 2016.

<https://www.ippr.org/articles/boosting-britains-low-wage-sectors-a-strategy-for-productivity-innovation-and-growth>

<sup>18</sup> McKinsey & Company, Battery 2030: Resilient, sustainable, and circular, 2023. <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/battery-2030-resilient-sustainable-and-circular>

<sup>19</sup> IATA, Our commitment to fly Net Zero by 20250, no date available. <https://www.iata.org/en/programs/environment/flynetzero/>

<sup>20</sup> McKinsey & Company, Opportunities for UK businesses in the net zero transition, 2021. <https://www.mckinsey.com/capabilities/sustainability/our-insights/opportunities-for-uk-businesses-in-the-net-zero-transition>



wave of investment into first-of-a-kind, advanced manufacturing solutions and gain global market share of the high-value added products of the future.

**Boosting the innovation ecosystem** – The UK ranks first globally for research quality based on the field-weighted citation impact (FWCI).<sup>21</sup> The advanced manufacturing sector is the outlet through which research and innovation in the lab transforms into a full-scale commercial enterprise. Support for advanced manufacturers can have a positive and self-reinforcing impact on the UK's innovation ecosystem by incentivising those in our world-leading academic institutions to start and grow a business, increasing confidence in the ability to commercialise the products of research & development in the UK and promoting further investment. An increase in the number of successful businesses can also attract international talent in high demand across specialised areas, further contributing towards creating a flourishing environment for UK science and technology.

In this Call for Evidence, we consider 'advanced manufacturing' to encompass high value-added products and processes that integrate specialised scientific knowledge and technology into manufacturing, making use of skilled labour. These products and processes use R&D and innovation to meet our current and future technological demands. We have not included the creation of digital services and software in this definition, although we recognise the important role they play in manufacturing. We do, however, include re-manufacturing and upcycling as these entail the physical manipulation of manufactured products.

There is a variety of definitions used to determine when a start-up becomes a rapidly growing business or a scale-up. For example, the OECD considers scale-up companies to be those that have increased their annual growth (measured by sales and employment) by more than 10% per year over a three-year period. These companies must have had at least ten employees at the start of the period.<sup>22</sup> Other definitions are based on revenue increases of over 20% year on year for three consecutive years. In this call for evidence, we take a broad definition of what constitutes a scale-up and refer to firms that are seeking growth capital to finance Series B+ funding rounds.

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<sup>21</sup> Cambridge Industrial Innovation Policy, UK innovation report, 2024. <https://www.ciip.group.cam.ac.uk/innovation/the-uk-innovation-report-2024/>

<sup>22</sup> OECD iLibrary, Rethinking SME scale up and growth policies, 2022. [https://www.oecd-ilibrary.org/industry-and-services/financing-growth-and-turning-data-into-business\\_253655e5-en](https://www.oecd-ilibrary.org/industry-and-services/financing-growth-and-turning-data-into-business_253655e5-en)

## Scope of this Call for Evidence

For the purposes of this exercise, we have narrowly defined advanced manufacturing as activities that:

- Manufacture a physical object;
- Manufacture a novel product or use a novel process to manufacture;
- Involve significant R&D investment;
- Introduce a pre-commercial or under-commercialised version of a technology.

This includes upcycling and remanufacturing.

Subsectors in scope of this definition include, but are not limited to:

- Additive manufacturing
- Advanced materials
- Aerospace
- Analytics machinery and equipment
- Autonomous vehicles
- Electric vehicles
- Equipment for advanced manufacturing
- In-space manufacturing
- Industrial batteries
- Photonics
- Renewable energy generation devices
- Robotics
- Sensors
- Semiconductors

For the Industrial Strategy, the Government will prioritise subsectors within advanced manufacturing that meet the Strategy's objectives and where there is evidence that policy can address barriers to growth. Therefore, this initial list should not be taken as the list of subsectors that will be included in the Industrial Strategy, but we welcome responses related to these to build our evidence base.

## Call for Evidence Questions: Introduction<sup>i</sup>

- What data exists to evidence the number of advanced manufacturing scale-ups which are currently operating in the UK?
- What data exists to evidence the number of advanced manufacturing scale-ups which are actively seeking scale-up capital beyond Series A?

### **The challenge of scaling advanced manufacturing start-ups**

The UK has a successful track record of creating science and technology-led manufacturing start-ups, many of which are developing the next generation of cutting-edge innovations. The UK is ranked

as the second-best country globally for start-ups,<sup>23</sup> thanks in part to our world class academic institutions, relatively large domestic market, and existing manufacturing base.

As advanced manufacturing start-ups become scale-ups and transition from developing a prototype or proof of concept to entering a commercial market, their need for capital investment to fund expansive facilities and sophisticated machinery can increase dramatically. Unlike most scale-ups in other sectors, such as consumer goods or digital products, advanced manufacturing firms are highly capital intensive and generally require various fundraising rounds past Series A of around £10-30 million each. Direct feedback gathered through extensive stakeholder engagement with academia, manufacturing catapults, and experienced firm managers has revealed that investors are seldom interested in advanced manufacturing scale-ups given their large capital requirements and demand uncertainties while still at a pre-revenue stage.<sup>24</sup>

Early-stage equity investors, such as angel investors, high net worth individuals, and VCs, usually employ strategies focused on diversifying risk across a portfolio of innovative technologies by investing in multiple start-ups at once. They tend to have appetite for Seed and Series A funding rounds worth less than £5m each. Therefore, advanced manufacturing firms face challenges securing larger sums than these equity investors typically make available. This is unusual, as healthy ecosystems should provide sequentially increasing investment amounts as companies move through the TRLs (technology readiness levels).<sup>25</sup> Additionally, at this capital-intensive growth stage, advanced manufacturing scale-ups are often still not able to demonstrate sufficient EBITDA (earnings before interest, taxes, depreciation, and amortisation) and returns to attract growth investment as their facilities are not large enough to produce at scale. In contrast, later-stage investors, including lenders, can provide the needed larger investments and have a longer-term outlook. However, these investors are reluctant to accept the higher levels of technology risk present at the scaling stage.<sup>26</sup>

This disparity between the risk appetites of early-stage and later-stage equity investors and the funding requirements of innovative technology companies results in a funding gap often referred to as the “Valley of Death”. This is a global phenomenon, and both Government and private sector-led analyses have confirmed that many promising British firms struggle to scale up and commercialise their technologies because of a gap in the investment market.<sup>27</sup> This includes private equity investors as well as public finance institutions (PuFIs) – which we will refer to as “investors.”

This call for evidence explores the possible scale-up financing gap facing UK advanced manufacturers, although it is likely that many of the challenges that firms face may be common across various innovation sectors.

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<sup>23</sup> StartupBlink, The Startup Ecosystem of the United Kingdom, 2024. <https://www.startupblink.com/startup-ecosystem/united-kingdom>

<sup>24</sup> Cleantech for UK, Building the next generation of cleantech champions, 2023. [https://cdn.prod.website-files.com/63e633a0ccb11011f378c626/6527c76dc14a039c9c876101\\_Building%20the%20next%20generation%20of%20cleantech%20champions.pdf](https://cdn.prod.website-files.com/63e633a0ccb11011f378c626/6527c76dc14a039c9c876101_Building%20the%20next%20generation%20of%20cleantech%20champions.pdf)

<sup>25</sup> Cleantech for UK, Building the next generation of cleantech champions, 2023. [https://cdn.prod.website-files.com/63e633a0ccb11011f378c626/6527c76dc14a039c9c876101\\_Building%20the%20next%20generation%20of%20cleantech%20champions.pdf](https://cdn.prod.website-files.com/63e633a0ccb11011f378c626/6527c76dc14a039c9c876101_Building%20the%20next%20generation%20of%20cleantech%20champions.pdf)

<sup>26</sup> Barclays, Scaling growth-stage climate tech companies, 2024. <https://home.barclays/content/dam/home-barclays/documents/citizenship/Sustainability/2024-Climate-Tech-Report-FINAL.pdf>

<sup>27</sup> Anita Quas et al., The scale-up finance gap in the EU: Causes, consequences and policy solutions. 2022 European Management Journal 40. Pp. 645-652; HM Treasury, Financing growth in innovative firms: Consultation response, 2017. [https://assets.publishing.service.gov.uk/media/5a75cac740f0b6204fa0a002/Patient\\_Capital\\_Review\\_Consultation\\_response\\_web.pdf](https://assets.publishing.service.gov.uk/media/5a75cac740f0b6204fa0a002/Patient_Capital_Review_Consultation_response_web.pdf)

### Call for Evidence Questions: The challenge of scaling advanced manufacturing start-ups

- What do UK advanced manufacturing scale ups most commonly require growth capital for?
  - Capital investment
  - R&D spend
  - Employee growth
  - Other (please specify)
- Which financial instruments are best suited to advanced manufacturers looking for scale-up financing?
- To what extent are advanced manufacturing scale-ups able to access suitable growth capital in the UK?
- To what extent, if at all, is accessing suitable growth capital in the UK a challenge for scale-ups across the subsectors of advanced manufacturing?
- When considering financing rounds B+, how large are the investment rounds that UK advanced manufacturing scale-ups most frequently look to raise finance for?
  - Less than £2m
  - £2-5m
  - £6-10m
  - £11-20m
  - £21-30m
  - £31-40m
  - £41-50m
  - £51m+
- When considering financing rounds B+, how large are the investment rounds that UK advanced manufacturing scale-ups are most frequently able to raise?
  - Less than £2m
  - £2-5m
  - £6-10m
  - £11-20m
  - £21-30m
  - £31-40m
  - £41-50m
  - £51m+

Stakeholders have also raised concerns about access to working capital at the scale-up stage, partly explained by the capital-intensive nature of advanced manufacturing and its long lead times.<sup>28</sup> This may also be a recurring issue for more established or larger firms.

#### Call for Evidence Questions: Working capital in the advanced manufacturing sector

- What do UK advanced manufacturing businesses most commonly require working capital for?
- Which financial instruments are best suited to advanced manufacturers looking for working capital?
- To what extent are advanced manufacturing businesses able to access suitable working capital in the UK?
- To what extent, if at all, is accessing suitable working capital in the UK a challenge for businesses across the subsectors of advanced manufacturing?
- What amount of working capital do UK advanced manufacturing businesses most frequently look to raise as part of their funding rounds?
  - Less than £250k
  - £250-499k
  - £500k-1m
  - £1-2m
  - £3-5m
  - £6-10m
  - £11m+
- What amount of working capital are UK advanced manufacturing businesses most frequently able to raise as part of their funding rounds?
  - Less than £250k
  - £250-499k
  - £500k-1m
  - £1-2m
  - £3-5m
  - £6-10m
  - £11m+

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<sup>28</sup>Cleantech for UK, Building the next generation of cleantech champions, 2023. [https://cdn.prod.website-files.com/63e633a0ccb11011f378c626/6527c76dc14a039c9c876101\\_Building%20the%20next%20generation%20of%20cleantech%20champions.pdf](https://cdn.prod.website-files.com/63e633a0ccb11011f378c626/6527c76dc14a039c9c876101_Building%20the%20next%20generation%20of%20cleantech%20champions.pdf)

## **Existing Government support for advanced manufacturing businesses**

There is a wide range of financial support for advanced manufacturers in the UK, from early-stage grants and loans from several Government-led programmes through to larger ticket size financing offered by the UK's Public Finance Institutions.

### *UK Research and Innovation and Innovate UK*

UK Research and Innovation (UKRI) and Innovate UK (IUK) focus on offering start-up support to businesses, including advanced manufacturers. These institutions support several organisations including the Engineering and Physics Science Research Council (EPSRC) and the High Value Manufacturing (HVM) Catapult. The EPSRC invests in high-quality research to support the future of the UK-wide manufacturing sector and the HVM Catapult supports and accelerates innovators in the manufacturing sector. The HVM Catapult's centres allow companies to deliver proof of concept and scalability of their innovations in a capital and time efficient way, reducing capital requirements and shortening technology development cycles.

Additionally, UKRI offers financing schemes which advanced manufacturers are eligible for, including the Innovation Loans programme for projects costing between £100,000 and £2 million.

### *British Business Bank*

The British Business Bank (BBB), established in 2014, is the UK Government's economic development bank. BBB has the mission to drive sustainable growth and prosperity across the UK, and to enable the transition to a net zero economy by improving access to finance for smaller businesses. BBB works with and through the market, for the most part working through over 200 delivery partners (including banks, leasing companies, VC funds, and marketplace lenders).

BBB delivers both sector-agnostic and sector-focused programmes targeted at scaling, innovating companies via delivery partners. For example, the 'Life Sciences Investment Programme', run by 'British Patient Capital' (BPC, commercial subsidiary of BBB), is designed to address the growth equity finance gap faced by high-potential UK life sciences companies.<sup>29</sup> BBB also invests directly in R&D-intensive companies raising above £20 million per round through its 'Future Fund: Breakthrough programme', also run by BPC. As of August 2023, Future Fund: Breakthrough had invested and committed £111.4 million of equity funding into 16 companies, alongside £724 million of third-party capital investment.<sup>30</sup>

On 14 October 2024, the Government confirmed that it will strengthen the BBB's ability to invest into the UK's fastest growing and most innovative companies. This includes the establishment of the British Growth Partnership, subject to regulatory approval. This will see the BBB launch a new fund to crowd-in pension and institutional investment into venture capital and innovative businesses. These long-term investments will be supported by a cornerstone Government investment and made on a fully commercial basis, leveraging the BBB's market expertise. The Government will also implement a set of reforms to the BBB's financial framework that will increase its impact and enable it to respond flexibly to the market. These reforms will include a permanent capital base for the BBB's

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<sup>29</sup> British Patient Capital, Life Sciences Investment Programme, no date available. <https://www.britishpatientcapital.co.uk/what-we-do/life-sciences-investment-programme>

<sup>30</sup> British Business Bank, Future Fund: Breakthrough Process Evaluation and Early Impact Assessment, 2024. <https://www.british-business-bank.co.uk/about/research-and-publications/future-fund-breakthrough-process-evaluation-and-early-impact-assessment>

commercial programmes of £7.9bn consistent with the Government's intention to be a patient, long-term investor alongside the private sector.

#### *UK Infrastructure Bank/National Wealth Fund*

The UK Infrastructure Bank (UKIB), launched in 2021, was established as a government-owned policy bank with the mandate to partner with the private sector and local government to increase infrastructure investment across the UK. The Bank was set up with an initial £22bn of financial capacity to deploy across five priority sectors and their supply chains: clean energy, transport, digital, waste, and water. UKIB has already deployed over £4bn of finance in support of these sectors.

On 14 October 2024, the UK Infrastructure Bank became the National Wealth Fund (NWF). As the UK's impact investor, the NWF has a broader mandate than UKIB, extending beyond infrastructure to support delivery of the wider Industrial Strategy in areas where an undersupply in private finance exists, working alongside the BBB's finance for smaller companies.

The NWF will have a total capitalisation of £27.8bn to catalyse investment that would not have otherwise taken place. It has inherited UKIB's existing capitalisation and will have an additional £5.8bn, which will be committed over this Parliament. The NWF will have a targeted mobilisation ratio of 1:3 and could mobilise at least £70bn of private investment. At least £5.8bn of the NWF's capital will focus on the five sectors announced in the manifesto: green hydrogen, carbon capture, ports, gigafactories and green steel.

#### *UK Export Finance*

UK Export Finance (UKEF) is the UK's export credit agency and a ministerial Government department reporting to the Secretary of State for Business and Trade. Its mission is to advance prosperity by ensuring no viable UK export fails for lack of finance or insurance, doing so sustainably and at no net cost to the taxpayer.

UKEF works through private sector partners - including major high street banks, challenger banks and other financial institutions - to arrange and administer finance through the provision of guarantees and loans. UKEF also provides trade credit insurance to protect UK exporters from non-payment. UKEF exists to complement the private sector and can support public and private sector transactions, where financing is constrained by risk appetite or capacity.

UKEF's support programmes for SMEs include the General Export Facility product (GEF), which supports working capital facilities up to £25 million. Eligibility for UKEF support is based on meeting an 'exporter test' (i.e., a percentage of annual turnover must be attributable to exports) or clearly demonstrating how UKEF's support would enable future exports. Subject to the applicant's financial standing and bank appetite, UKEF can support higher value loans through its Export Development Guarantee product. This product can also support overseas applicants that can demonstrate how UKEF support would be conducive to exports.

#### *The Department for Business and Trade*

The Department for Business and Trade (DBT) offers a range of funding for advanced manufacturing firms including through the Advanced Propulsion Centre programme (APC), the Automotive Transformation Fund (ATF), and the Aerospace Technology Institute (ATI).

The APC provides grant funding for collaborative R&D projects, which are an important part of the Government's support for the UK automotive sector's transition to zero emission vehicles. Since its inception in 2013, Government and industry have jointly committed approximately £1.5 billion via the APC to accelerate the development and commercialisation of strategically important emerging vehicle technologies. The ATF provides grant funding for the scale-up of transformational automotive

technologies that have already demonstrated proof of concept and are ready for large-scale manufacturing. The ATI research programme is a £3.9 billion fund that invests in mid-stage (TRL 3-6) R&D activity. The fund supports activities for larger companies (the main strategic programme) and for SMEs (the small business programme). The fund prioritises the development of ultra-efficient aircraft technology, zero-carbon aircraft technology, and cross-cutting enabling technologies and infrastructure.

#### Call for Evidence Questions: Existing Government support for advanced manufacturing businesses

- Are you aware of the financial, governmental support offers for advanced manufacturing scale-ups from the following institutions?
  - UK Research and Innovation – Yes/No
  - British Business Bank and British Patient Capital – Yes/No
  - Department for Business and Trade (including the Advanced Propulsion Centre and/or Aerospace Technology Institute and/or the Automotive Transformation Fund) – Yes/No
  - Other (please specify)
- How effective is the existing Government support offering in meeting the needs of advanced manufacturing scale-ups based in the UK?

## Section 2: Investment Levels in the UK's Advanced Manufacturing Sector

### Potential reasons for low investment into advanced manufacturing scale-ups

Analysis of the existing literature as well as stakeholder engagement have revealed six potential reasons that may explain the relatively low levels of investment into scale-ups in the advanced manufacturing sector in the UK:

#### a) *Capital intensity of scale-ups*

Advanced manufacturing scale-ups tend to require large growth capital injections over several funding rounds to expand their production capabilities and ready first-of-a-kind technologies for commercialisation.<sup>31</sup> For example, additional rounds of funding beyond Series A are used to finance investments with high upfront costs<sup>32</sup> such as building demonstration and low-volume production lines, which are important steps towards proving the viability of pre-commercial technologies. This makes advanced manufacturing investments less attractive to investors relative to software-based areas of innovation, which generally require smaller investment sums over fewer rounds to scale.<sup>33</sup>

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<sup>31</sup> Startup Coalition, ClimateTech index, 2024. <https://startupcoalition.io/news/our-climatetech-index-2024/>

<sup>32</sup> Barclays, Scaling growth-stage climate tech companies, 2024. <https://home.barclays/content/dam/home-barclays/documents/citizenship/Sustainability/2024-Climate-Tech-Report-FINAL.pdf>

<sup>33</sup> Aerospace Technology Institute, Funding growth in aerospace, 2022. <https://www.ati.org.uk/wp-content/uploads/2022/11/ati-pwc-funding-growth-in-aerospace.pdf>



Stakeholders indicate it is often the case that investors are only willing to commit small sums to large round sizes, resulting in scale-ups spending a disproportionate amount of time fundraising.<sup>34</sup>

#### *b) Extended pre-revenue phase of scale-ups*

Advanced manufacturing scale-ups have longer timeframes to profitability compared to firms that specialise in less capital-intensive innovations, particularly where first-of-a-kind products and processes present new engineering and even regulatory challenges.<sup>35</sup> Scale-ups generally see a long pre-revenue phase upwards of seven years prior to investor exit.<sup>36</sup> In addition, stakeholders have noted that delays between commencing construction of new manufacturing facilities and them becoming operational further extend a firm's pre-revenue phase and exacerbate cash flow issues.

Most VC funds operate under a business model that seeks to maximise the return on investment in the short term by investing relatively small sums in multiple companies at the same time.<sup>37</sup> The general investment horizon of VCs of five to seven years to exit means they may find it challenging to invest in advanced manufacturing scale-ups.

#### *c) Technology and demand risks of innovations*

The performance and integration potential of first-of-a-kind innovations in the advanced manufacturing sector are often untested and present investors with a higher level of technology risk.<sup>38</sup> Financial returns are less likely to be predictable given uncertainties around market size, take-up rates, and the long-term success of new products and processes.<sup>39</sup>

Combined with the large capital requirements and longer path to profitability of advanced manufacturing firms, the relatively higher risks of innovative technologies create a risk/return profile that may be more challenging for traditional investors to engage with.<sup>40</sup>

#### *d) Investor risk aversion*

Businesses often report that UK investors are fairly risk averse towards SMEs,<sup>41</sup> and currently more risk averse than their counterparts in the US and Asia.<sup>42</sup> According to the BBB, investment into R&D intensive companies in the US was significantly higher in the 2021-23 period, with the US deploying 1.4x more VC investment than the UK on a GDP-weighted basis in R&D intensive sectors.<sup>43</sup>

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<sup>34</sup> House of Commons Treasury Committee, Venture capital nineteenth report for session 2022-23, 2023. <https://committees.parliament.uk/committee/158/treasury-committee/news/196644/venture-capital-needs-to-venture-further-says-treasury-committee/>

<sup>35</sup> BCG, An investor's guide to deep-tech, 2023. <https://www.bcg.com/publications/2023/deep-tech-investing>

<sup>36</sup> McKinsey A different high-growth story: The unique challenges of climate tech. 2024. <https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/a-different-high-growth-story-the-unique-challenges-of-climate-tech>

<sup>37</sup> Barclays, Scaling growth-stage climate tech companies, 2024. <https://home.barclays/content/dam/home-barclays/documents/citizenship/Sustainability/2024-Climate-Tech-Report-FINAL.pdf>

<sup>38</sup> European Commission, An analysis of drivers, barriers and readiness factors of EU companies for adopting advanced manufacturing products and technologies, 2016. [https://www.isi.fraunhofer.de/content/dam/isi/dokumente/ccp/2016/Kroll\\_et\\_al\\_2016\\_Concluding\\_Final\\_Report\\_with\\_Key\\_Findings.pdf](https://www.isi.fraunhofer.de/content/dam/isi/dokumente/ccp/2016/Kroll_et_al_2016_Concluding_Final_Report_with_Key_Findings.pdf)

<sup>39</sup> European Investment Bank, The scale-up gap: Financial market constraints holding back innovative firms in the European Union. 2024. [https://www.eib.org/attachments/lucalli/20240130\\_the\\_scale\\_up\\_gap\\_en.pdf](https://www.eib.org/attachments/lucalli/20240130_the_scale_up_gap_en.pdf)

<sup>40</sup> Barclays, Scaling growth-stage climate tech companies, 2024. <https://home.barclays/content/dam/home-barclays/documents/citizenship/Sustainability/2024-Climate-Tech-Report-FINAL.pdf>

<sup>41</sup> Barclays, Scale-up UK: Growing businesses, growing our economy, 2019. [https://www.scaleupinstitute.org.uk/wp-content/uploads/2019/11/Scale-up-UK\\_Growing-Businesses\\_Growing-our-Economy.pdf](https://www.scaleupinstitute.org.uk/wp-content/uploads/2019/11/Scale-up-UK_Growing-Businesses_Growing-our-Economy.pdf)

<sup>42</sup> Sherry Coutu, The scale-up report on economic growth, 2014. [https://www.scaleupinstitute.org.uk/wp-content/uploads/2019/12/scaleup-report\\_2014.pdf](https://www.scaleupinstitute.org.uk/wp-content/uploads/2019/12/scaleup-report_2014.pdf)

<sup>43</sup> British Business Bank, Small Business Equity Tracker, 2024. <https://www.british-business-bank.co.uk/about/research-and-publications/small-business-equity-tracker-2024>

*e) Geographical disparities in access to finance*

The UK is home to highly productive innovation clusters that support the creation of advanced manufacturing start-ups. However, investors may have limited awareness of opportunities in the advanced manufacturing sector, as they are largely concentrated in London and relevant firms tend to be located outside of London. The BBB reported that London dominates the equity finance market, with 49% of deals and 63% of total investment in 2023.<sup>44</sup> Geographical disparities may risk undercutting the potential for economic growth across the UK regions and nations.<sup>45</sup>

*f) Lack of investor familiarity with the sector*

The complex nature of advanced manufacturing technologies may present difficulties when firms attempt to raise scale-up capital, as a technical background is often required to understand not just the products themselves but also the revenue drivers and scale potential.<sup>46</sup> It is reported that financial institutions rarely employ fund managers with a background in manufacturing.<sup>47</sup> According to a survey by the ScaleUp Institute, 45% of manufacturing and engineering scale-ups felt investors often lacked understanding of the sector.<sup>48</sup> Without the necessary experience in the advanced manufacturing sector, fund managers are less inclined to invest in advanced manufacturing projects. In turn, this may lead to a cycle of low demand for specialists and discouraged innovators.<sup>49</sup>

While there is little data to ascertain the fate of scale-ups that struggle to raise growth capital as a potential result of these market failures, stakeholders have conveyed that the six reasons outlined above may be contributing towards UK firms choosing to establish their manufacturing facilities outside of the UK or selling their intellectual property to companies mostly based in the US, Continental Europe, and Asia.<sup>50</sup>

## **Potential reasons for low demand for investment from advanced manufacturing scale-ups**

In addition to the above reasons that may explain relatively low levels of supply of financing, stakeholder engagement suggests there is also a number of factors contributing to low demand for investment.

*a) Timescales over which financing is offered*

The mismatch between the long periods of time over which manufacturers require patient capital and the shorter funding cycles of investors may contribute to perceptions that financing is not

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<sup>44</sup> British Business Bank, Small Business Equity Tracker, 2024. <https://www.british-business-bank.co.uk/sites/g/files/sovrnj166/files/2024-07/sbet-2024-report.pdf?attachment>

<sup>45</sup> House of Commons Treasury Committee, Venture capital nineteenth report for session 2022-23, 2023. <https://committees.parliament.uk/committee/158/treasury-committee/news/196644/venture-capital-needs-to-venture-further-says-treasury-committee/>

<sup>46</sup> Barclays, Scaling growth-stage climate tech companies, 2024. <https://home.barclays/content/dam/home-barclays/documents/citizenship/Sustainability/2024-Climate-Tech-Report-FINAL.pdf>

<sup>47</sup> European Management Journal, The scale-up finance gap in the EU: Causes, consequences and policy solutions, 2022. <https://www.sciencedirect.com/science/article/pii/S0263237322000950>

<sup>48</sup> ScaleUp Institute, Advanced manufacturing data, 2024. Unpublished.

<sup>49</sup> WPI Economics, Scale up to level up – reforming SME finance, 2021. <https://wpieconomics.com/publications/scale-up-to-level-up-reforming-sme-finance/>

<sup>50</sup> Sherry Coutu, The scale-up report on economic growth, 2014. [https://www.scaleupinstitute.org.uk/wp-content/uploads/2019/12/scaleup-report\\_2014.pdf](https://www.scaleupinstitute.org.uk/wp-content/uploads/2019/12/scaleup-report_2014.pdf)

available.<sup>51</sup> It is reported that 35% of manufacturing and engineering scale-ups have been put off from investment by the short-term focus of many investors in this space.<sup>52</sup>

#### *b) Cost of financing*

Stakeholders have suggested that advanced manufacturing firms may be reluctant to access finance because of its high perceived costs relative to the sums offered, with founders unwilling to dilute their shares. In a recent survey by the Bank of England, 58% of businesses that self-reported as investing too little cited this was because credit was too expensive.<sup>53</sup> In addition, Make UK reported that 36% of manufacturers thought that high interest rates were deterring access to finance.<sup>54</sup>

#### *c) Size of collateral required for some forms of financing*

Debt financing providers commonly require firms to offer collateral as a guarantee of repayment. However, advanced manufacturing scale-ups may not have suitable level of collateral as they may not yet own high value equipment, machinery, or production facilities. A 2023 survey by the ScaleUp Institute found that 26% of manufacturing and engineering scale-ups had no security or collateral to offer to a finance provider.<sup>55</sup>

#### *d) Complexity of accessing finance*

Difficulties understanding a fragmented financial landscape may also pose a barrier to investment. Make UK reports that around 65% of manufacturers do not understand the type of financing options available, and that 50% think that public sector bodies do not provide sufficient information on access to finance.<sup>56</sup> Similarly, many businesses describe the process of applying for financing as too complex and burdensome to navigate, with 14% citing the complexity of application processes as one of the factors that deters them from accessing finance.<sup>57</sup>

### **Potential market failures in the financial ecosystem**

The six potential reasons for low investment in the advanced manufacturing sector presented above have been traced back to two possible market failures.

#### *Market Failure 1: Information Asymmetry*

Advanced manufacturing firms often concentrate on highly specialised areas of engineering. The lack of sectoral experts at financial institutions results in a marked asymmetry of information between firm managers and investors. While new technologies do present higher risks, lenders and fund managers may attach a disproportionately high level of risk to projects because of a potential gap in their understanding of the development cycle of advanced manufacturing firms, as well as the science that underpins their products and processes. Furthermore, the geographical discrepancy between manufacturing hubs and financial centres introduces barriers to the exchange of information and the development of tacit knowledge that exacerbate this market failure.

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<sup>51</sup> Make UK, Finance: Opening doors to investment in manufacturing, 2024. <https://www.makeuk.org/-/media/eef/files/reports/industry-reports/finance-investment-in-manufacturing-report.pdf>

<sup>52</sup> ScaleUp Institute, Advanced manufacturing data, 2024. Unpublished.

<sup>53</sup> Bank of England, Identifying barriers to productive investment and external finance: A survey of UK SMEs, 2024. <https://www.bankofengland.co.uk/quarterly-bulletin/2024/2024/identifying-barriers-to-productive-investment-and-external-finance-a-survey-of-uk-smes>

<sup>54</sup> Make UK, Finance: Opening doors to investment in manufacturing, 2024. <https://www.makeuk.org/-/media/eef/files/reports/industry-reports/finance-investment-in-manufacturing-report.pdf>

<sup>55</sup> ScaleUp Institute, Advanced manufacturing data, 2024. Unpublished.

<sup>56</sup> Make UK, Finance: Opening doors to investment in manufacturing, 2024. <https://www.makeuk.org/-/media/eef/files/reports/industry-reports/finance-investment-in-manufacturing-report.pdf>

<sup>57</sup> Make UK, Industrial strategy report, 2023. <https://www.makeuk.org/insights/reports/industrial-strategy-a-manufacturing-ambition>

### *Market Failure 2: Positive Externalities*

The development, commercialisation, and manufacturing of technological innovations delivers benefits to society and the broader economy beyond the private returns it generates for firms and investors, including:

- Strengthening supply chain resilience and economic security
- Achieving net zero targets
- Promoting regional growth and diversifying the economy
- Capturing market share in growth sectors
- Boosting the innovation ecosystem

However, these social and economic benefits (positive externalities) are not fully reflected in investors' private returns, and therefore are not a key consideration when private individuals make investment decisions. This results in lower levels of investment in the advanced manufacturing sector than would be optimal for the wider economy, given its benefits.

#### **Call for Evidence Questions: Potential reasons for low investment into advanced manufacturing scale-ups**

- To what extent, if at all, do the following act as barriers to investment in advanced manufacturing scale-ups in the UK?
  - Extended pre revenue phase of scale-ups
  - Capital intensity of scale-ups
  - Technology and demand risks of innovations
  - Investor risk aversion
  - Geographical disparities in access to finance
  - Lack of investor familiarity with the sector
  - Other (please specify)
- To what extent, if at all, do the following act as barriers to advanced manufacturing firms accessing *scale-up* capital in the UK?
  - Timescales over which financing is offered
  - Cost of financing
  - Size of collateral required for some forms of financing
  - Complexity of accessing finance
  - Other (please specify)
- What barriers, if any, exist to advanced manufacturing scale-ups accessing working capital in the UK?
- Excluding challenges to accessing capital, what other barriers to investment, if any, do UK advanced manufacturing scale-ups face?
- To what extent, if at all, are any barriers to securing access to finance different between the UK and other countries?
- What incentives, if any, exist for advanced manufacturing firms in the UK to scale up outside of the UK?

- When considering advanced manufacturing scale-ups internationally, how does the average number of investors per investment round compare to the UK?
- To what extent, if at all, have UK advanced manufacturing scale-ups accessed Government-supported finance outside of the UK?
- To what extent, if at all, do UK advanced manufacturing scale-ups sell their intellectual property to firms outside of the UK because of difficulties raising scale-up capital domestically?

### **Section 3: Advanced Manufacturing in Invest 2035: The UK's Modern Industrial Strategy**

Advanced manufacturing is one of the key growth-driving sectors that will be targeted by the Industrial Strategy. The Industrial Strategy will focus on eight sectors in which the UK excels today and will excel tomorrow, and that present the greatest opportunity for output and productivity growth over the long term. In the next stage of the Industrial Strategy's development, the Government will prioritise subsectors within these broad sectors that meet our objectives and where there is evidence that policy can address barriers to growth.

The Industrial Strategy, alongside Sector Plans for the growth-driving sectors, will be published in Spring 2025, aligned with the multi-year Spending Review. The Sector Plans will set out the specific sub-sectors of focus, identify key barriers to growth, and describe how Government and industry intend to achieve long-term growth for the sector. They will be designed in partnership with business, devolved Governments, regions, and other stakeholders, through bespoke arrangements tailored to each sector.

The Industrial Strategy will consider how the Government can address issues that are critical for driving investment. It is engaging on a range of policy areas important for the growth-driving sectors and the pro-business environment, including mobilising capital to ensure businesses have sufficient access to finance.

You can access the Green Paper on the Government's new modern Industrial Strategy "Invest 2035" here: <https://www.gov.uk/government/consultations/invest-2035-the-uks-modern-industrial-strategy>

We welcome views from business and stakeholders including on the challenges faced by businesses mobilising capital. Of particular relevance for access to finance in advanced manufacturing, the Green Paper includes the following questions:

1. What are the main factors that influence businesses' investment decisions? Do these differ for the growth-driving sectors and based on the nature of the investment (e.g. buildings, machinery & equipment, vehicles, software, RDI, workforce skills) and types of firms (large, small, domestic, international, across different regions)?
2. 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?

3. 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?

## Section 4: Call for Evidence Questions

1. What data exists to evidence the number of advanced manufacturing scale-ups which are currently operating in the UK?
2. What data exists to evidence the number of advanced manufacturing scale-ups which are actively seeking scale-up capital beyond Series A?
3. What do UK advanced manufacturing scale-ups most commonly require growth capital for?
  - Capital investment
  - R&D spend
  - Employee growth
  - Other (please specify)
4. Which financial instruments are best suited to advanced manufacturers looking for scale-up financing?
5. A) To what extent are advanced manufacturing scale-ups able to access suitable growth capital in the UK?  
  
B) To what extent, if at all, is accessing suitable growth capital in the UK a challenge for scale-ups across the subsectors of advanced manufacturing?
6. When considering financing rounds B+, how large are the investment rounds that UK advanced manufacturing scale-ups most frequently look to raise finance for?
  - Less than £2m
  - £2-5m
  - £6-10m
  - £11-20m
  - £21-30m
  - £31m or more
7. When considering financing rounds B+, how large are the investment rounds that UK advanced manufacturing scale-ups are most frequently able to raise?
  - Less than £2m
  - £2-5m
  - £6-10m
  - £11-20m
  - £21-30m
  - £31m or more
8. A) Are you aware of the financial, governmental support offers for advanced manufacturing scale-ups from the following institutions?
  - UK Research and Innovation – Yes/No
  - British Business Bank and British Patient Capital – Yes/No
  - Department for Business and Trade (including the Advanced Propulsion Centre and/or Aerospace Technology Institute and/or the Automotive Transformation Fund) – Yes/No
  - Other (please specify)

B) How effective is the existing Government support offering in meeting the needs of advanced manufacturing scale-ups based in the UK?

9. To what extent, if at all, do the following act as barriers to investment in advanced manufacturing scale-ups in the UK?
  - Extended pre revenue phase of scale-ups
  - Capital intensity of scale-ups
  - Technology and demand risks of innovations
  - Investor risk aversion
  - Geographical disparities in access to finance
  - Lack of investor familiarity with the sector
  - Other (please specify)
10. To what extent, if at all, do the following act as barriers to advanced manufacturing firms accessing *scale-up* capital in the UK?
  - Timescales over which financing is offered
  - Cost of financing
  - Size of collateral required for some forms of financing
  - Complexity of accessing finance
  - Other (please specify)
11. What barriers, if any, exist to advanced manufacturing scale-ups accessing working capital in the UK?
12. Excluding challenges to accessing capital, what other barriers to investment, if any, do UK advanced manufacturing scale-ups face?
13. To what extent, if at all, are any barriers to securing access to finance different between the UK and other countries?
14. What incentives, if any, exist for advanced manufacturing firms in the UK to scale up outside of the UK?
15. When considering advanced manufacturing scale-ups internationally, how does the average number of investors per investment round compare to the UK?
16. To what extent, if at all, have UK advanced manufacturing scale-ups accessed Government-supported finance outside of the UK?
17. To what extent, if at all, do UK advanced manufacturing scale-ups sell their intellectual property to firms outside of the UK because of difficulties raising scale-up capital domestically?
18. What do UK advanced manufacturing businesses most commonly require working capital for?
19. Which financial instruments are best suited to advanced manufacturers looking for working capital?



20. A) To what extent are advanced manufacturing businesses able to access suitable working capital in the UK?

B) To what extent, if at all, is accessing suitable working capital in the UK a challenge for businesses across the subsectors of advanced manufacturing?

21. What amount of working capital do UK advanced manufacturing businesses most frequently look to raise as part of their funding rounds?

- Less than £250k
- £250-499k
- 500k-999k
- £1-2m
- £3-5m
- £6-10m
- £11m+

22. What amount of working capital are UK advanced manufacturing businesses most frequently able to raise as part of their funding rounds?

- Less than £250k
- £250-499k
- 500k-999k
- £1-2m
- £3-5m
- £6-10m
- £11m+

## Glossary

<b>Growth capital</b>	Financing which is used to help firms grow their business. It may be used for purposes such as investing in new machinery or technology, expanding or building new factories and facilities, developing new products or services, and growing or upskilling teams.
<b>Scale-up</b>	In this call for evidence, we take a broad definition of what constitutes a scale-up and refer to firms that are seeking growth capital to finance Series B+ funding rounds.
<b>Scale-up capital</b>	Used interchangeably with growth capital.
<b>Scaling firm</b>	Used interchangeably with scale-up.
<b>Series A</b>	Series A financing is usually used by start-ups that have developed a prototype and have developed a long-term plan to generate profit. Series A investment is generally funded by venture capital firms, angel investors, and institutional investors.
<b>Series B</b>	Series B funding helps companies to meet the new level of demand generated for their products from Series A funding. It is usually used to expand a firms' operations. Series B funding is often supplied by venture capital firms or private equity firms.
<b>Series C</b>	Firms looking to raise Series C funding have high potential to accelerate their growth. They often have proven revenue and an established customer base. They may use funding to develop new products, expand to new markets or acquire other companies. However, advanced manufacturing firms may need to raise Series C funding before they are fully developed. Series C funding is often provided by large financial institutions.
<b>Series D</b>	Series D funding is often the final funding round before companies 'go public' through an initial public offering (IPO) process but may also be required if a firm failed to raise the expected amount of capital at Series C. Series D funding is often provided by large financial institutions.
<b>Working capital</b>	Working capital is used to fund a business' day-to-day operations over the next 12 months. Working capital is required to meet financial commitments including employee wages and supplier costs. It is calculated as the difference between current assets (available to be converted to cash within 12-months) and current liabilities (obligations due within the following 12-months).

Sources: British Business Bank, A guide to equity funding stages for your business, no date available. <https://www.british-business-bank.co.uk/business-guidance/guidance-articles/finance/a-guide-to-equity-funding-stages-for-your-business/>; EU-Startups, The Startup Funding Journey: A Guide to Pre-Seed, Seed, Series A, B, C, D, and E Funding, 2023. <https://www.eu-startups.com/2023/02/the-startup-funding-journey-a-guide-to-pre-seed-seed-series-a-b-c-d-and-e-funding/>



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**Department for Business and Trade**

The UK's department for business and trade is an economic growth department. We ensure fair, competitive markets at home, secure access to new markets abroad and support businesses to invest, export and grow. Our priorities are the industrial strategy, make work pay, trade and the plan for small business.

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<sup>i</sup> Please note the survey questions will follow the order set out in Section 4.