

THE UK'S MODERN INDUSTRIAL STRATEGY

Technical Annex

CP 1451





Government of the United Kingdom
Department for Business and Trade

Industrial Strategy Technical Annex

Presented to Parliament
by the Secretary of State for Business and Trade
by Command of His Majesty

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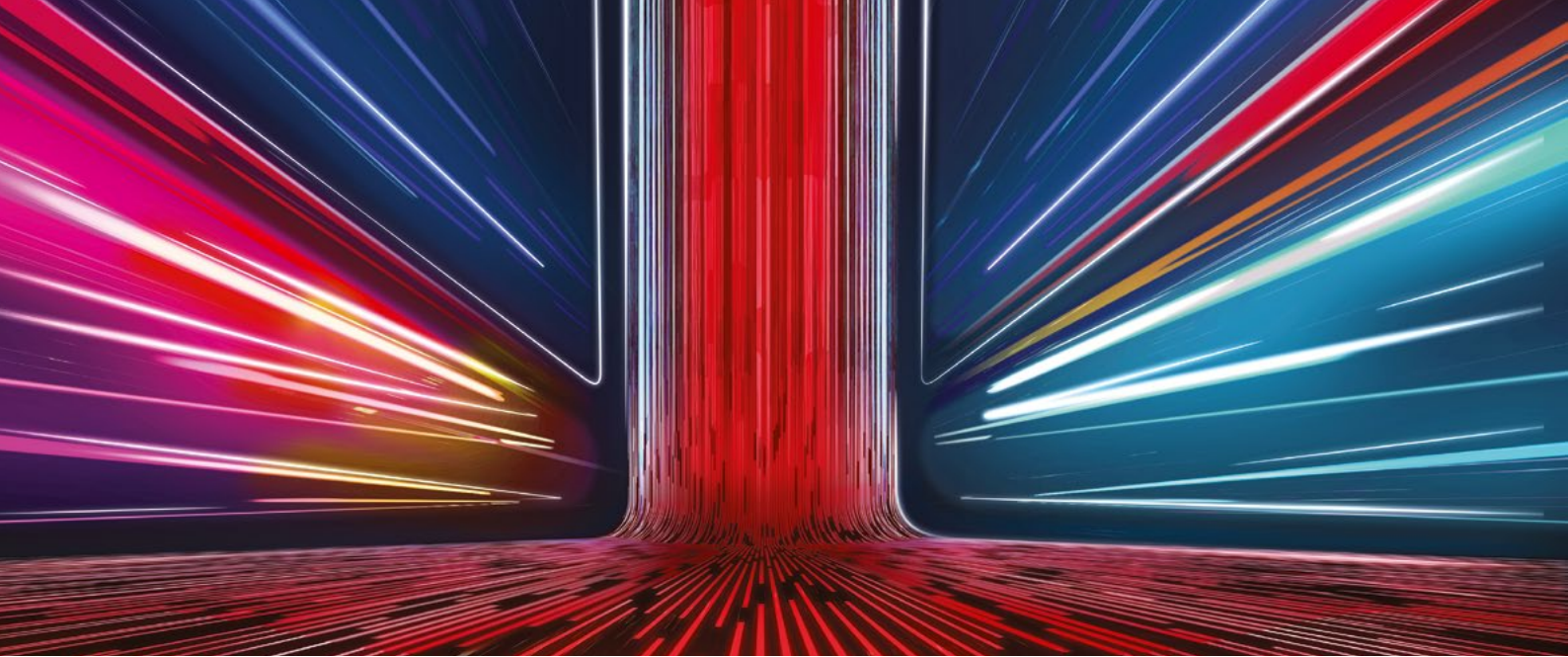
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Executive Summary

The Industrial Strategy is underpinned by an extensive analytical programme. Given the complexity of the decisions involved, no single methodology or information source can encompass all the relevant issues; instead, we analysed quantitative and qualitative evidence from a range of sources using a variety of methodologies and tools. We will continue our programme following the publication of the Industrial Strategy, expanding our analysis as the evidence and the economy itself evolve over the next decade.

The analytical programme was based on literature reviews, data analysis, and engagement. We used engagement to gather feedback on the Industrial Strategy, including on sectors, places, growth barriers and opportunities, and policies; to incorporate evidence

and analysis from a range of experts and stakeholders; and to independently validate our analytical programme. Activities included:

- Consultation with the Industrial Strategy Advisory Council ('the Council').
- Targeted engagement on the development of eight Sector Plans through government and industry-led taskforces and other bespoke arrangements.
- Engagement with a range of businesses and other organisations, from global corporates to start-ups, scale-ups, small and medium enterprises (SMEs), trade unions, Mayoral Strategic Authorities (MSAs), and devolved governments (DGs).
- An Industrial Strategy Forum set up to bring together business representative organisations and other membership bodies.
- Extensive engagement with internal and external experts, including government departmental directors of analysis, academics, thought leaders, and think tanks, on the analytical data sources, methodologies, outputs, and findings.

The *Invest 2035* Consultation

As part of *Invest 2035* we issued a public consultation asking for feedback on 36 questions to inform the Industrial Strategy.¹ The consultation

ran for six weeks over October and November 2024. Responses were submitted online or by email and reviewed by the Department for Business and Trade (DBT) and the research agency Ipsos. Responses supported the analysis identifying frontier industries and places, identifying key economy-wide growth barriers and opportunities, and selecting policy interventions.

The consultation received over 27,000 online answers to individual questions from a wide range of businesses, individuals, academics, think tanks, and trade unions, as well as more than 250 business associations representing hundreds of thousands of businesses across the UK.

Sector methodology

***Invest 2035* identified eight high-level sectors (the ‘IS-8’):** Advanced Manufacturing, Clean Energy Industries, Creative Industries, Defence, Digital and Technologies, Financial Services, Life Sciences, and Professional and Business Services.

We assessed a longlist of all frontier industries (formerly ‘subsectors’ in *Invest 2035*) within the IS-8. We identified those parts of each sector that best met the Industrial Strategy’s goal of long-term, sustainable, regionally balanced, and resilient growth.

To do this, we developed new definitions for some sectors and their frontier industries. These can be found in the accompanying [sector definitions list](#). We will continue to refine these definitions and the data underpinning them.

This process focused the Industrial Strategy on a subset of frontier industries. We also identified critical inputs from a set of foundational industries, due to their importance to the IS-8 sectors' supply chain linkages and/or the supply of critical inputs.

Place methodology

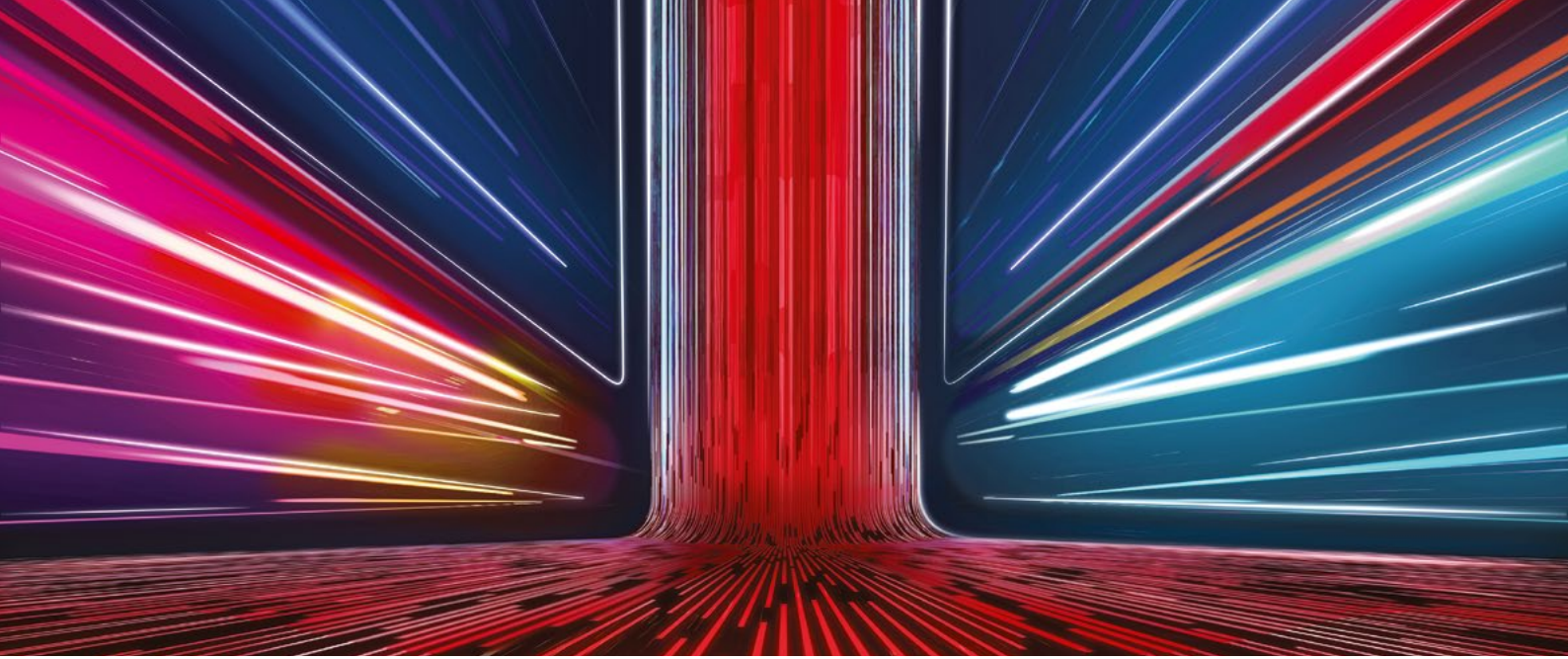
Although the Industrial Strategy is focused on sectors, it must also consider the role of place – all economic activity occurs somewhere. Focusing on specific sectors implicitly means focusing on places, and vice versa.

We focused on identifying and prioritising those city regions and clusters most important to the delivery of the Industrial Strategy. This process identified a set of unique city regions and clusters across the IS-8. To drive effective policy and maximise their growth potential, we also considered the interconnections between them.

Monitoring and evaluation (M&E)

We are taking a public M&E approach for the Industrial Strategy, overseen by the Industrial Strategy Advisory Council. The Council will independently evaluate the progress and impact of the Industrial Strategy, working with government and public bodies. It will disseminate its findings via an annual report and engagement with government.

Robust M&E will allow the Industrial Strategy to evolve and ‘course correct’ in response to evidence on the effectiveness of its policies and/or economic developments. Progress will be tracked by the metrics and targets in the Industrial Strategy and Sector Plans. These are grounded in an impact pathway set out in this annex, which will be further developed by the Council, alongside the wider M&E programme.



The Industrial Strategy Consultation

Context

In this section, we summarise the online survey responses to the *Invest 2035* consultation, which ran for six weeks over October and November 2024. Responses were submitted through an online survey or by email. Questions were included on:

- Sectors and frontier industries
- People and skills
- Innovation

- Energy
- Infrastructure
- Regulatory environment
- Investment
- Trade and international partnerships
- Place
- Partnerships and institutions
- Monitoring and evaluation

The online survey received more than 27,000 answers to 36 individual questions, from a wide range of organisations and individuals including businesses, academics, think tanks, unions, individual contributors, and more than 250 business associations representing hundreds of thousands of businesses across the UK. It was not mandatory to answer any question, so the number of responses received for each question varied.

Methodology

The key themes from the online survey are summarised below. All responses were reviewed by DBT or Ipsos (a research agency appointed to assist with the analysis). The consultation used open-ended, qualitative questions intended to provide insights into

respondents' experiences and perspectives, which complement wider quantitative and qualitative analysis. Findings should be considered as illustrative rather than representative of the general population or respondents' sectors. Anonymised quotes have been included for illustrative purposes.

Findings

Sectors and frontier industries

Consultation respondents agreed that a selection of high-growth and high-productivity frontier industries should be identified as part of the Industrial Strategy, including emerging or future-oriented sectors, using data-driven, multi-criteria assessments. Where conventional data sources are less appropriate for understanding emerging sectors and technologies, they recommended solutions such as developing early identification methods, leveraging expertise and engagement, and exploring alternative data sources.

Respondents highlighted that key inputs from foundational industries should be identified as part of this process. They also proposed that value chain interdependencies be analysed, and their strategic importance be recognised. An academic

commented that *“using detailed value chain analysis can show where strategic interventions – like improving infrastructure or boosting skills – could unlock further growth. By understanding how foundational industries underpin broader economic development, the government can ensure that investments flow smoothly throughout the economy and bolster the sectors that fuel innovation and stability”*.

Clean and renewable energy and advanced manufacturing were commonly mentioned as specific frontier industries and technologies on which to focus, as well as digital and data, and Artificial Intelligence (AI). One respondent commented that there should be a *“focus on subsectors [frontier industries] and technologies with high growth potential and strategic importance, such as renewable energy, advanced manufacturing, AI, biotechnology, and cybersecurity. These areas are essential not only for meeting climate and sustainability goals but also for underpinning security, improving productivity, and driving economic growth”*.

Respondents highlighted several key enablers of and barriers to growth in the frontier industries, with some specific areas being considered both an enabler and a barrier by different respondents. Enablers to growth mentioned included government support, technology and innovation, and access to finance, funding, and investment. Respondents also

highlighted greater collaboration and partnerships, including between public and private organisations, across sectors and businesses, and between industry and academia. Barriers to growth mentioned included regulatory uncertainty and skills shortages.

People and skills

Respondents identified a skilled and diverse workforce as an area of strength for the UK's frontier industries. However, they also highlighted the need to address barriers to workforce development in the UK, such as skills shortages, and the need to support skills development. One way in which they suggested that this could be done was through apprenticeships.

On increasing employer investment in training in the IS-8, respondents proposed increased flexibility to meet the specific demands of different sectors and support to expand and enhance apprenticeship programmes. A suggested method was to increase funding for and to reform the Apprenticeship Levy. A business said *“the government should continue to invest in and support specific skills interventions – ranging from STEM [Science, Technology, Engineering & Mathematics] outreach and engagement, to apprenticeship programmes and vocational training*

initiatives. Innovations such as pooled apprenticeships and enabling more flexible delivery could also be beneficial”.

Innovation

World-class Research, Development, and Innovation (RDI), and expertise in emerging technologies were among the areas of strength identified within frontier industries. To overcome barriers to investment in RDI, respondents highlighted a variety of policy ideas, including improving innovation funding and financial support, such as grants and tax incentives. They also commented on the importance of cross-sector collaboration, with one business saying that *“encouraging collaborative innovation through public-private partnerships and fostering greater cooperation between businesses, universities, and research institutions would help accelerate RDI activities.”*

Respondents identified barriers specific to R&D (Research & Development) commercialisation, the process of translating R&D into commercial goods and services. Again, funding was mentioned, as well as the need to work collaboratively and through partnerships. As one business put it, *“barriers to R&D commercialisation in the UK include insufficient funding for scaling innovations, limited venture capital access, and regulatory complexities that delay market entry.*

[...] The government should address these barriers by enhancing funding, streamlining regulations, fostering partnerships, and improving IP [Intellectual Property] support.”

Respondents also suggested that government could play a key role in increasing data access and sharing, to help businesses to improve operations and decision-making. One wrote that *“government-backed platforms providing anonymised, aggregated industry data could help businesses make informed decisions. Removing barriers to data sharing, such as high costs or complex licensing, will enhance collaboration and innovation”*. Similar ideas were echoed by respondents when considering how the government can best use data to support the delivery of policies within the Industrial Strategy.

Energy

Energy costs arose as a concern when discussing barriers to competitive industrial activity and increased electrification, with one business suggesting that *“when UK electricity prices are significantly higher than those of our global counterparts, it puts UK industries at a disadvantage and can deter multinational companies from investing here, as they may prefer locations with lower energy costs to maximise their profitability”*.

On supporting businesses with energy costs, respondents agreed that Purchase Power Agreements (PPAs) are a helpful tool. A local authority noted that *“PPAs are essential for offering price stability, financial security, and mitigating risk, thereby increasing investment and growth”*. Other suggestions on how to address high energy costs included looking at international examples.

Other barriers identified included limited grid capacity and connection delays, which complicate efforts to electrify industrial processes and the transition to clean energy.

Infrastructure

Respondents felt that delays and complexity associated with infrastructure planning processes were key barriers to investment, and emphasised the need to simplify and speed them up. A local authority commented that *“in the current planning system, effective strategic planning is restricted by plans being prepared at an individual local planning authority level, which has stifled the ability to plan with appropriate strategic overview [and] with [the] ‘duty to cooperate’ generally proving ineffective”*. One business felt that *“uncertainty over planning timelines is the chief barrier preventing investment to any development”*.

Respondents sought greater private investment and government co-investment to accelerate infrastructure investment. Some suggested improving transport infrastructure, particularly rail, to improve connectivity and reduce disparities between regions. Regional approaches to infrastructure, emphasising the empowerment of local authorities and regionally tailored projects, were also considered important. A trade union commented that *“to improve transport infrastructure and support regional growth, the UK government should focus on targeted investments in high-quality road, rail, and public transport networks in underserved regions.”*

Regulatory environment

When discussing how regulation can drive market dynamism to boost economic activity and growth, respondents considered how regulatory and competition institutions could simplify and streamline regulations that were perceived as being overly burdensome, complex, and time-consuming. The regulatory landscape was viewed to be lacking in flexibility and adaptability, making it difficult for businesses to innovate and respond to market changes efficiently. Respondents felt that this could represent a barrier to growth, particularly for SMEs, and highlighted the need to more effectively enforce competition laws to prevent anti-competitive practices.

Some respondents emphasised the importance of creating innovation-friendly environments, providing clarity and flexibility especially for emerging technologies. There was a particular call to ease regulatory burdens in the energy sector to lower costs and support the transition to renewable energy.

On competition, respondents highlighted the need for a ‘level playing field’ to address barriers to investment. Some felt that UK businesses can struggle to remain competitive against international organisations. Others highlighted the market dominance of large firms, which they perceived as hindering market entry and innovation for SMEs. A professional membership organisation said that *“we would urge the government to ensure that prioritisation of growth sectors, while very welcome in targeting investment and facilitating higher rates of growth, should not slow down dynamism or protect incumbents from challenge and competition.”*

Investment

Risk was perceived by respondents as a key barrier to investment. Respondents also discussed a range of economic, regulatory, and sector-specific factors that influenced investment decisions. These included the availability of a skilled workforce, policy stability, regulation, tax, costs, profitability, market factors, and economic conditions. As one business

association commented, *“the most significant barriers to growth [for our members] are skills shortages, a lack of certainty over the market, including the economic climate; the lack of a clear, long-term, coordinated, cross-departmental government Industrial Strategy; delays in the planning system; and inconsistent regulatory enforcement for non-compliant imports”*.

Access to finance was seen as an influence on investment decisions. Respondents agreed that it presented a barrier to some businesses seeking finance to scale up in the UK, including SMEs, and to businesses seeking venture capital funding. As one business put it, this can mean that *“UK companies struggle to grow at scale as quickly, seize timely opportunities, and/or they struggle to finance and fail slowly”*.

Respondents emphasised the role of government in stimulating private sector investment. Policy ideas observed in other jurisdictions included greater access to government-backed finance. One business said that *“introducing more flexible financial instruments like revenue-based financing, government-backed equity stakes, and outcome-based loans could encourage strategic investments, particularly in early-stage ventures”*.

Trade and international partnerships

Respondents discussed the importance of international collaboration, especially between governments. They emphasised the importance of partnerships in RDI and suggested that international partnerships can help with sharing best practice, knowledge, and expertise. One business said that *“international partnerships can boost the UK’s Industrial Strategy by facilitating technology transfer, enhancing trade opportunities, and attracting foreign investment.”*

Respondents discussed existing trade opportunities for the IS-8. This included the EU market for Advanced Manufacturing, Clean Energy Industries, and Life Sciences, and the US market for sectors such as Advanced Manufacturing, Defence, Digital and Technologies, and Financial Services.

Respondents further identified newer trade opportunities for the IS-8. These included India as a market with considerable potential for some IS-8 sectors, and opportunities in Japan, particularly for Advanced Manufacturing and Clean Energy. China was also identified as a growth market, especially for the Advanced Manufacturing, Clean Energy Industries, Digital and Technologies, and Life Sciences sectors. The Middle East was seen as a region with significant potential particularly for Advanced Manufacturing, Clean Energy Industries, Defence, and Financial Services.

Place

Respondents emphasised the need in the Industrial Strategy for a nuanced cluster definition that considers the local context. They highlighted the importance of making strategic investment sites ‘investment ready’ through upfront public investment in infrastructure, improved transport links and logistics infrastructure, and expedited planning processes. An academic suggested that *“strategic industrial sites need to have housing, space, and infrastructure; centres for incubation will be important close to or inside major hubs [and] need to be ready and encouraged by investment.”*

To accelerate growth in city regions and clusters, respondents suggested that Local Growth Plans and other policies could be used to support key clusters and sectors, encourage collaboration and partnerships, and empower local authorities and DGs. They also discussed the need to tailor growth plans to the distinct characteristics and strengths of individual regions. A local authority commented that *“by combining targeted investment, regional collaboration, and tailored support for both urban and rural clusters, the Industrial Strategy can unlock growth potential across the UK, driving clean, inclusive, and regionally balanced economic development.”* Respondents also highlighted

the importance of aligning the Industrial Strategy with DGs and their economic priorities as well as leveraging regional strengths.

Partnerships and institutions

Respondents reflected on the role of the Industrial Strategy Advisory Council in supporting the UK government, highlighting the importance of stakeholder engagement and strong industry representation.

They suggested that the Council should focus on the delivery and implementation of the Industrial Strategy, including by taking sector-specific approaches, and being transparent and adaptable. One business said that *“regular reporting to the government and public on outcomes will ensure transparency. [The] Council can advise on long-term planning, helping the government stay responsive to technological advancements and global economic shifts, ensuring sustained, inclusive growth.”*

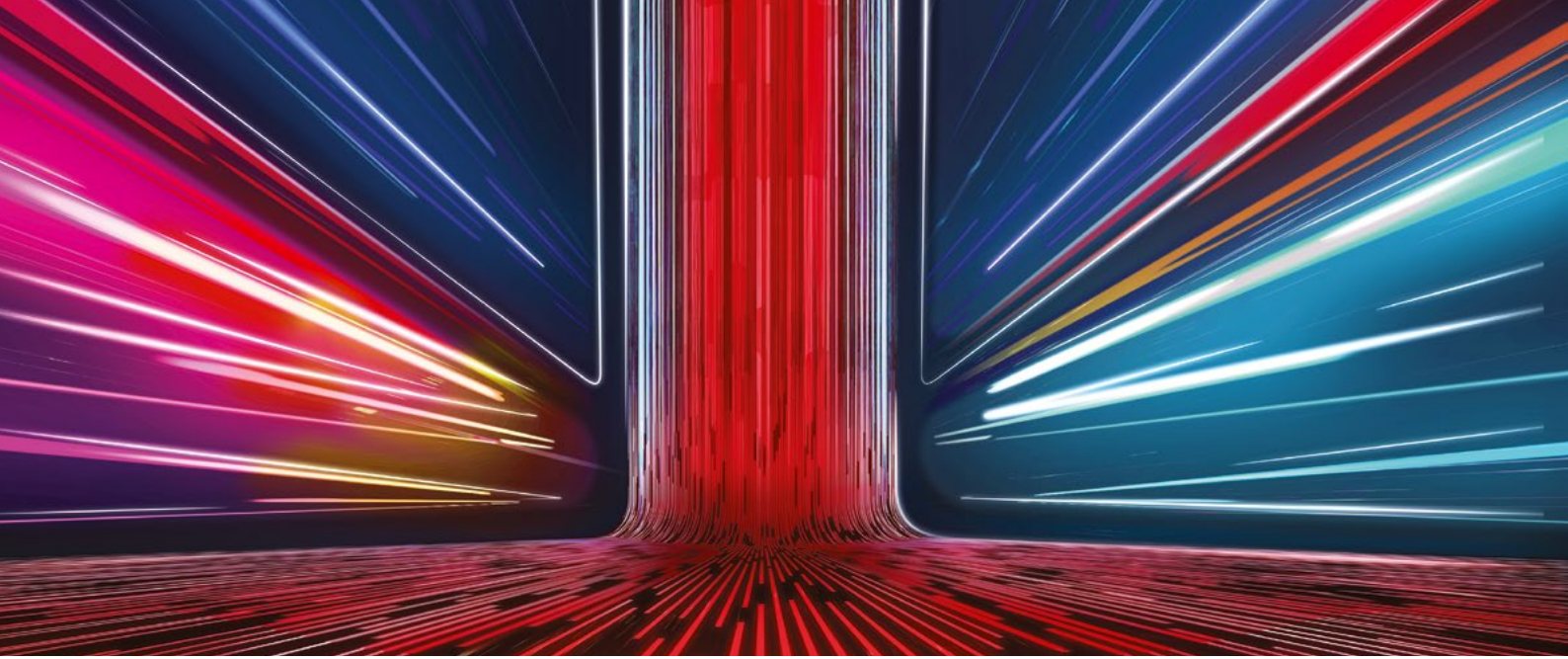
On the relationship between the Council and government, businesses, local leaders, and trade unions, respondents suggested that the Council should play a role in ensuring open and proactive engagement, collaboration, and communication. A business commented that *“by engaging business leaders, experts, and local stakeholders through public reports*

and policy briefings, the Industrial Strategy Advisory Council can foster a two-way flow of insights between policymakers and industries.”

Monitoring and evaluation

Respondents suggested that the analytical framework underpinning the Industrial Strategy could be strengthened by looking at measurability, using detailed sector-specific analytical frameworks, and having a regional focus. They highlighted the need to examine causal pathways between policy interventions and growth outcomes, engage stakeholders, and align with the government’s missions. Respondents identified unexpected shocks, economic downturns, policy changes, supply chain disruptions, and global competition as risks to include in the impact pathway, and discussed the need to review assumptions such as on how the IS-8 will drive long-term growth.

Suggestions for how to monitor and evaluate the Industrial Strategy focused on defining clear metrics. Some of the metrics suggested were investment levels, employment quality, and productivity. Respondents discussed the need to implement effective monitoring and evaluation practices, such as regularly reviewing progress in delivering policies, and using continuous feedback and adaptive management to effectively respond to evolving conditions.



Sector Methodology

Context

The Industrial Strategy will stimulate investment and activity in sectors with the highest growth potential. As set out in *Invest 2035*, the IS-8 sectors are: Advanced Manufacturing, Clean Energy Industries, Creative Industries, Defence, Digital and Technologies, Financial Services, Life Sciences, and Professional and Business Services. As noted in the Industrial Strategy, focusing on certain frontier industries does not exclude other sectors from benefiting from broader policy within the Industrial Strategy and the wider Growth Mission, particularly as all sectors stand to benefit from the overall Industrial Strategy policy package.

We identified the IS-8 sectors by aggregating initial assessments of strengths across UK frontier industries. As summarised in *Invest 2035*, a multi-indicator assessment was used to initially identify current and emerging UK frontier industries' strengths. The main indicators assessed were:

- Output growth
- Productivity growth
- International position

Where appropriate, alternative indicators were used for some emerging industries and technologies.

Since the publication of *Invest 2035*, we have undertaken a full assessment of frontier industries' strengths within the IS-8 sectors, as well as an early assessment of their supporting inputs from foundational industries. This section sets out the approach taken to identify these frontier industries and is summarised in *Figure 2*.

Methodology for identifying frontier industries

The IS-8 sectors include a diverse range of frontier industries, and we undertook an analytical assessment to identify which best align with the Industrial Strategy's

objectives of sustainable, regionally balanced, and resilient growth. We also identified the frontier industries where government intervention could have the greatest impact.

There is no one-size-fits-all method for identifying which frontier industries have the most growth potential. Industry and expert engagement (including responses to the formal *Invest 2035* consultation) pointed to approaches ranging from data-led analysis to mission-driven or place-based thinking. We also used a mixture of quantitative data (for example, growth trends) and qualitative analysis (for example, from industry and experts), triangulating multiple data sources, methodologies, and insights. Economic uncertainty, complexity, and lack of data, particularly in emerging industries based on nascent technologies, meant that judgement was also necessarily applied to develop the approach and assess frontier industries.

Frontier industry choices were guided by a five-point assessment, under two key pillars:

- Economic potential
- Policy opportunity

Pillar 1: Economic potential

This first pillar of the methodology comprised three economic assessments of the potential for the frontier industries to either deliver or support high growth that also aligned with the government's wider strategic goals. In particular:

- **Growth:** Does the frontier industry show high growth potential?
- **Strategic alignment:** Is the frontier industry aligned to regional growth, net zero and environmental sustainability, and/or economic security and resilience goals?
- **Sector interconnectedness:** Does the frontier industry play a strong growth-enabling or -enhancing role across other IS-8 sectors?

The economic assessments were scored based on a 1-5 'Likert scale'.² This approach allowed consistent comparison across frontier industries, helping to balance qualitative and quantitative evidence, account for varying sector definitions, and mitigate data bias favouring more established industries. The relative strength and quality of evidence available for each industry was also taken into account. A brief summary of each assessment is given below.

Growth: Growth is the primary objective of the Industrial Strategy, so frontier industries needed to demonstrate strong growth potential. We used a range of indicators when assigning a growth score. These included: output growth trends, output per hour, average wages, employment, future market size, export intensity, and comparative advantage. Due to data limitations, particularly for emerging sectors, not every indicator was used for each frontier industry. Instead, the most appropriate indicators informed the score.

Strategic alignment: Frontier industries were scored against net zero, regional growth, and economic security and resilience, to reflect the Industrial Strategy goals of sustainable, regional, and resilient growth. Assessments were informed by subject specialists from across government. Frontier industries did not need to score highly across all three themes; instead, the aim was to have a broad set of frontier industries that in aggregate supported opportunities across the three themes.

- **To ensure sustainable growth**, we assessed the frontier industries' potential contribution to the net zero transition and to achieving Environment Act targets.
- **To ensure regionally balanced growth**, we used place-based analysis to determine the frontier industries' alignment with regional growth goals

- **To ensure resilient growth**, we assessed UK strengths, economic and national security risks, and potential vulnerabilities, such as supply chain dependencies.

Sector interconnectedness: To understand how the IS-8 sectors fit into the wider ‘industrial ecosystem’, we assessed the interdependencies and spillovers between them. This considered the number of links to other IS-8 sectors, alongside the strength and future trajectory of these links, as well as how critical the frontier industries were in driving the growth of both IS-8 sectors and the wider economy. For example, AI is expected to become increasingly critical not only to the IS-8 sectors, but all sectors of the economy, and so this scored highly.

A broad range of analysis fed into the sector interconnectedness assessment, such as input-output analysis to identify sectoral interdependencies, value chain mapping to identify critical inputs and potential vulnerabilities, and critical technology analysis to identify the technologies that play a key growth-enabling role. This analysis was complemented with evidence from business engagement, the *Invest 2035* consultation, industry reports, and academic literature.

Pillar 2: Policy opportunity

The second pillar of this methodology comprised two policy assessments of the ability for government policy to have a meaningful impact on the growth of that frontier industry in a cost-effective way. In particular:

- **Barriers to growth:** Is there a clear rationale for government intervention?
- **Policy levers:** Are there suitable policy solutions that represent high public value for money, accounting for affordability and risk?

The policy assessments for each frontier industry were summarised using a red, amber, green (RAG) rating, with those facing substantial barriers to growth assigned a 'red' rating, and those with suitable policy solutions assigned a 'green' rating – and the combination of which would imply significant scope for effective government action.

Each assessment used a range of evidence, in particular business and sector engagement, and analysis of the responses to the *Invest 2035* consultation. A brief summary of each assessment is given below.

Barriers to growth: To understand the role for government, we assessed the market or government failures holding back growth in each frontier industry. For example, skills shortages were

repeatedly cited within responses to the *Invest 2035* consultation and our engagement programme for Professional and Business Services frontier industries.

Policy levers: Having identified potential market or government failures in each frontier industry, we assessed whether they could be effectively addressed by policy. This is because there are some barriers that government does not have good policy levers to address, for value for money / affordability or practical delivery reasons.

Figure 1: Policy assessment process

Barriers to growth	Policy levers
Red, amber, green (RAG) rated, based on: Red, amber, green (RAG) rated, based on:	Red, amber, green (RAG) rated, based on:
Red: barriers that substantially hold back growth, where removal would enable significant growth opportunities.	<ul style="list-style-type: none"> • Whether government has levers to unlock these barriers • Affordability • Value for money • Delivery risk assessment (durability)
Amber: barriers that moderately limit growth, where removal would enable some growth opportunities.	
Green: barriers that have only a minor impact on growth, where removal would enable limited growth opportunities.	

Finally, we stress-tested the results of the frontier industry assessments and policy package against the rapidly evolving international trade environment. While the frontier industries have been chosen in part due to their current and potential export strengths, these will potentially be affected by global economic uncertainty, supply chain disruption, and slower growth. The Industrial Strategy will need to be agile in responding to global trade and industrial policies, and consider the long-term implications of pursuing regulatory alignment and securing supply chains.

In any scenario, we concluded that there is likely to be greater demand for government action – especially in R&D financing, technology transfer, and for resilience to supply chain disruption – as well as to help businesses navigate a more complex global export market. The UK’s ability to offer a stable and attractive environment for firms will be key to success. Overall, our assessment is that the Industrial Strategy frontier industry choices are broadly resilient to trade volatility, although the international situation will require ongoing monitoring to inform any necessary policy adjustments.

Figure 2: High level outline of approach to identifying frontier industries

Pillar 1: Economic potential

Pillar 2: Policy opportunity

<p>Growth potential</p> <p>Does the frontier industry show high growth potential?</p>	<p>Barriers to growth</p> <p>Is there a clear rationale for government intervention?</p>
<p>The assessment considered indicators such as:</p> <ul style="list-style-type: none"> • Output growth • Output per hour • Average wages • Employment • Future market size • Export intensity • Comparative advantage 	<p>The assessment identified the market and government failures that are holding back growth, for example, skills gaps or regulation.</p>
<p>Strategic alignment</p> <p>Is the frontier industry aligned to regional growth, net zero and economic sustainability, and/or economic security and resilience goals?</p>	<p>Policy levers</p> <p>Are there suitable policy solutions which represent high public value for money, accounting for affordability and risk?</p>
<p>The assessment drew on relevant analysis (for example, place-based analysis for regional growth) and was informed by subject specialists.</p>	<p>The assessment considered the potential policy levers available to address the identified barriers to growth.</p> <p>Each assessment was summarised using a red, amber, green (RAG) rating.</p>

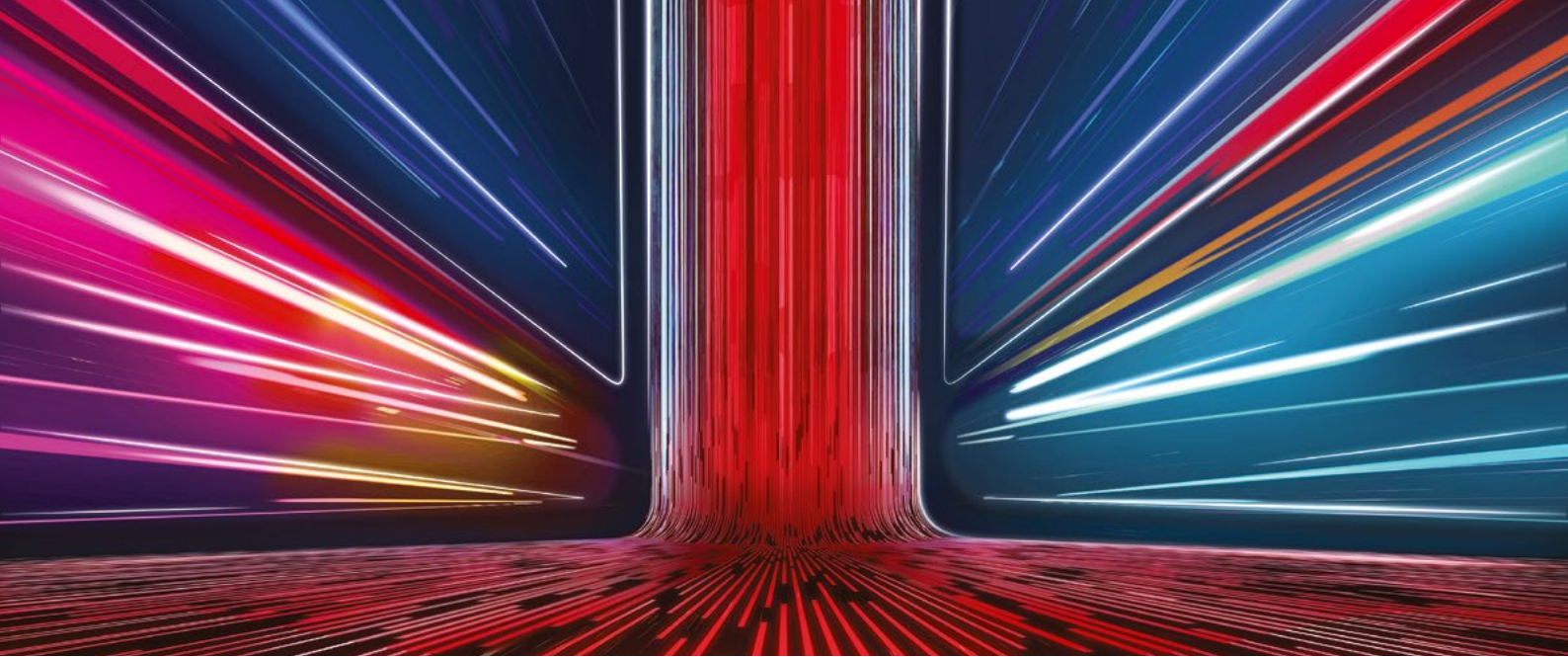
Sector interconnectedness

Does the frontier industry play a strong growth-enabling or -enhancing role in other industrial Strategy sectors?

The assessment drew on a broad range of analysis, for example:

- Analysis of input-output tables
- Value chain mapping
- Critical technology analysis

Each assessment was scored based on a 1 to 5 Likert scale.



Foundational industries and inputs

We have also undertaken an initial analysis of foundational industries and the strategic inputs they provide to the IS-8. This drew on qualitative and quantitative evidence (including the *Invest 2035* consultation responses).

An initial list of key inputs to the IS-8 is set out below. A new Supply Chain Centre will test and iterate this with industry and experts in the future.

- **Chemicals, such as polymers or resins and coatings**, are key inputs to Advanced Manufacturing, Clean Energy Industries, and Life Sciences.
- **Composites, such as carbon and glass fibre**, are key inputs to Advanced Manufacturing and Clean Energy Industries.

- **Critical minerals, such as rare earth elements and nickel**, are key inputs to Advanced Manufacturing, Clean Energy Industries, Defence, and Digital and Technologies.
- **Electricity networks, including cables, converter stations, and transformers** are key inputs to Advanced Manufacturing, Clean Energy Industries, and Digital and Technology.
- **Materials such as cement, ceramics, and glass** are key inputs to Advanced Manufacturing and Clean Energy Industries.
- **Steel, including galvanised steel and electrical steel**, is a key input to Advanced Manufacturing, Clean Energy Industries, Defence, Digital and Technology, and Life Sciences.
- **Port infrastructure** is key to the growth of Clean Energy Industries.
- **A range of construction services** are key to the growth of Advanced Manufacturing, Clean Energy Industries, Defence, Digital and Technology, and Life Sciences.

Figure 3: Outcome of frontier industry identification process

This process identified over 30 subsectors within the IS-8 sectors (see the sector definitions list for the technical definitions of Industrial Strategy sectors and the frontier industries).

<p>Advanced Manufacturing</p> <ul style="list-style-type: none"> • Advanced materials • Aerospace • Agricultural technology (Agri-tech) • Automotive • Batteries • Space 	<p>Clean Energy Industries</p> <ul style="list-style-type: none"> • Carbon capture, usage, and storage (CCUS) • Heat pumps • Hydrogen • Nuclear fission • Fusion energy • Wind (onshore, offshore, and floating offshore)
<p>Creative Industries</p> <ul style="list-style-type: none"> • Advertising and marketing • Film and TV • Music, performing, and visual arts • Video games 	<p>Defence</p> <ul style="list-style-type: none"> • Combat Air • Complex Weapons • Directed Energy Weapons • Drones and Autonomous Systems • Next Generation Land and Maritime Capabilities

	<p>Also included in Digital and Technologies or Advanced Manufacturing:</p> <ul style="list-style-type: none"> • Advanced connectivity technologies • Artificial intelligence • Cyber • Engineering biology • Quantum technologies • Semiconductors • Space
<p>Digital and Technologies</p> <ul style="list-style-type: none"> • Advanced connectivity technologies • Artificial intelligence (AI) • Cyber security • Engineering biology • Quantum technologies • Semiconductors 	<p>Financial Services</p> <ul style="list-style-type: none"> • Asset management and wholesale services • Capital markets (including retail investment) • FinTech • Insurance and reinsurance markets • Sustainable finance
<p>Life Sciences</p> <ul style="list-style-type: none"> • Pharmaceuticals • Medical technologies (MedTech) 	<p>Professional & Business Services</p> <ul style="list-style-type: none"> • Accountancy and tax • Legal services • Management consultancy

Sector definitions and data

Understanding what each sector includes is essential – both for designing effective policy (for example, determining who it applies to) and for analysing the available data (for example, understanding firm characteristics and sector performance).

Moving beyond existing official sector classifications for the Industrial Strategy

Sectors can be defined in different ways, depending on the purpose. They can be classified by the activity performed (for example, manufacturing products, providing business services), or the product (for example, ‘activities designing, building, and serving nuclear power plants’). Sectors do not need to be mutually exclusive, and businesses may belong to more than one sector. Many of the IS-8 sectors overlap (*Figure 4*).

The Standard Industrial Classification (SIC) is the official UK economic activity classification system. There are 732 individual low-level SIC codes, with a hierarchy of higher-level groupings. The SIC aligns with the UN International Standard Industrial Classification (ISIC) and the EU NACE industry classification.³

It is appropriate to define many Industrial Strategy sectors and frontier industries using SIC groups; however, in other areas, the SIC system is insufficient. SIC codes are often not detailed enough (for example, there has never been a separate SIC code for Nuclear Fission). Since SIC codes were last revised in 2007, many new sectors have also emerged (for example, Quantum) or grown considerably in importance (for example, Wind Power).

Applying a mixed approach combining official and non-official sector classifications

We created new sector definitions where needed, combining the SIC with the data sources most appropriate to the task. The accompanying [sector definitions list](#) includes all Industrial Strategy sectors and frontier industries.

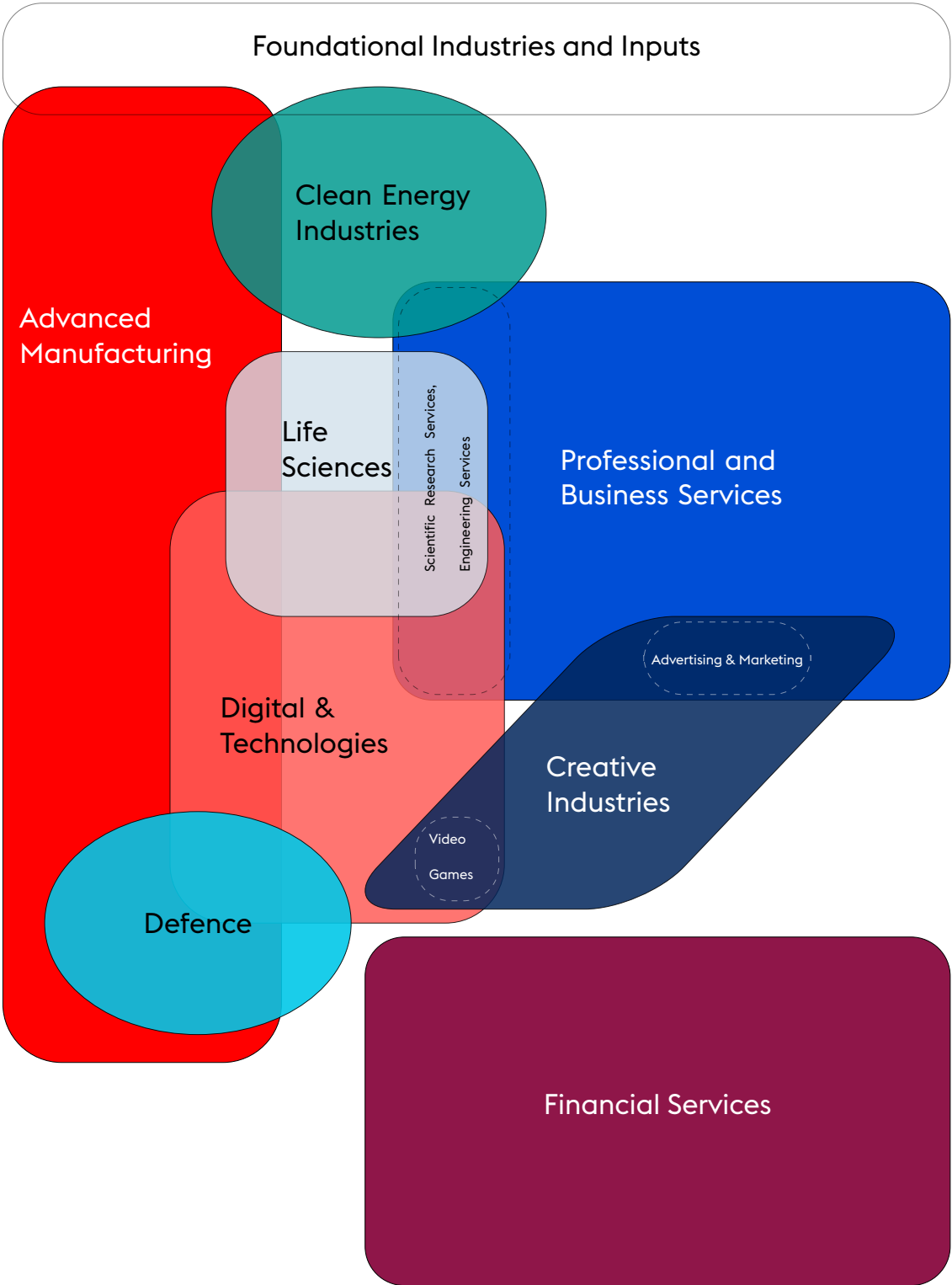
Much of the analysis for the Industrial Strategy benefitted from SIC-based data sources, such as making comparisons over time and across countries, which do not necessarily need a very granular level of detail.

In addition, where appropriate (for example, for emerging sectors), SIC-based data sources were supplemented by non-SIC based sources. These sources typically use other information to classify businesses into sectors to overcome the problems with SIC codes, including qualitative research, data from sources such as industry associations, and new data science techniques applied to big data datasets of company information.

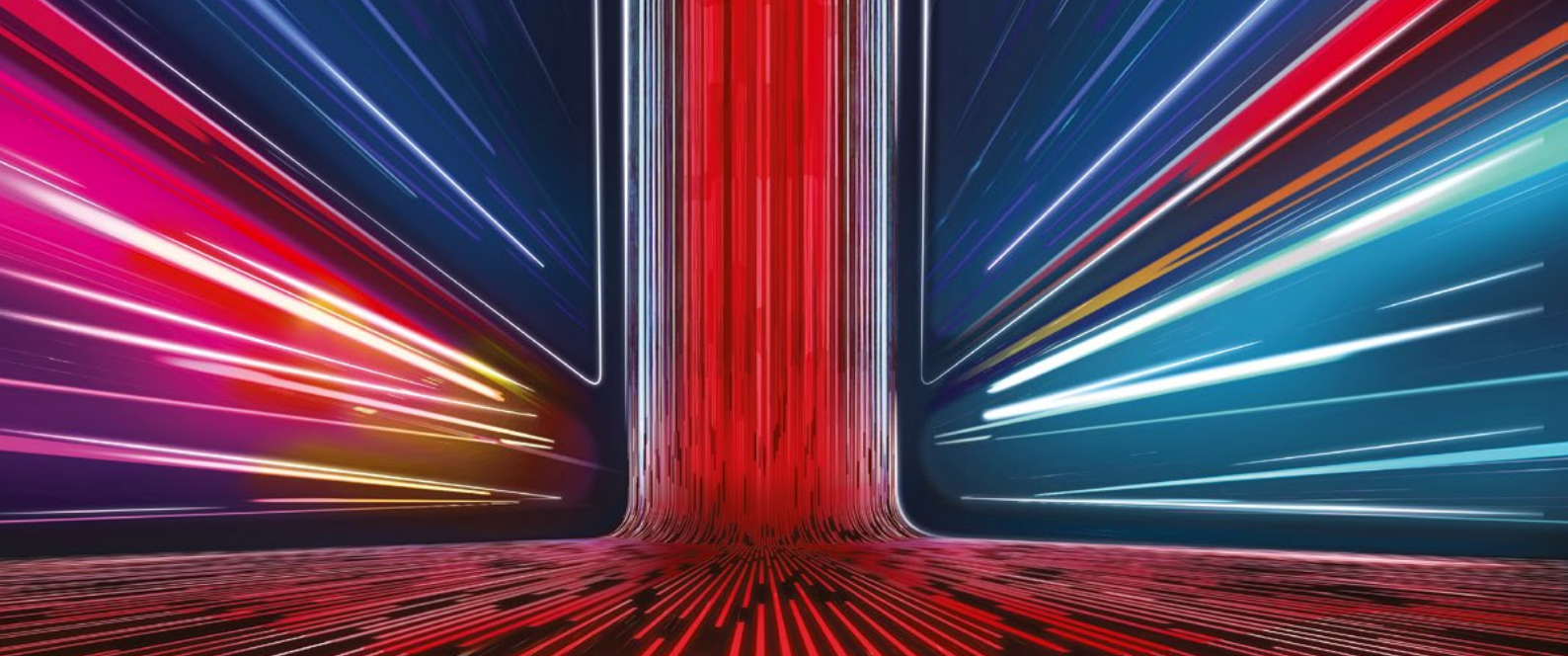
Following the publication of the Industrial Strategy, the government will continue to review and improve the data and definitions for the IS-8 sectors and their supply chains, working with the Industrial Strategy Advisory Council. This will look at different data sources and methods, including international best practice.

Figure 4: Overlaps between frontier industry definitions in the IS-8 sectors

This diagram shows how different sectors within the Industrial Strategy can overlap in terms of their frontier industries' definitions and SIC codes.



Source: DBT Analysis. The diagram is schematic, and the size of the boxes does not represent the relative size of a sector. Some of the IS-8 sectors overlap; examples shown here of frontier industries that are included in multiple IS-8 sectors are Advertising and Marketing, Video Games, and parts of Scientific Research Services and Engineering Services. In quoted estimates for the overall size of the IS-8 sectors, the overlaps are accounted for in order that there is no double-counting.



Place Methodology

Context

The Industrial Strategy will concentrate efforts on those places with the greatest growth potential for the IS-8 sectors, namely city regions and clusters.

This section outlines how places were prioritised for the Industrial Strategy, which itself is based on the choice of the frontier industries set out in the previous section. As with sectors, prioritising certain places in the Industrial Strategy does not preclude other places from benefiting from the Industrial Strategy and the wider Growth Mission, particularly as all places stand to benefit from the overall Industrial Strategy policy package. It also does not preclude our supporting the IS-8 sectors to grow in other places across the UK.

Rationale for prioritisation

Regional growth is a strategic objective of the Industrial Strategy and a pillar of the Growth Mission. Part of the national productivity problem is spatial, with our city regions having unmet potential based on their size. As set out in *Invest 2035*, for the eight largest cities outside London combined, closing the gap between current and potential productivity could be worth £47 billion.⁴

The IS-8 sectors are not spread evenly across the country, but are clustered in certain places. Agglomeration – the geographic concentration and pooling of people and businesses – is strongest in city regions and clusters.⁵ Therefore, prioritising city regions and clusters brings the greatest potential for the IS-8 sectors, while also addressing spatial underperformance (Prioritisation is also important in a constrained fiscal environment). Our cities are deeply embedded within their surrounding regions, meaning that stronger cities can also enable growth in their neighbouring towns, and spread the benefits of agglomeration.⁶

Although the Industrial Strategy is focused on the IS-8 sectors, this cannot be divorced from considerations around place. This is because all economic activity occurs somewhere. As the Centre for Cities sets out in its *Cities Outlook 2025* “...the modern

economy organises itself as much by place as it does by sector. The success of the [Industrial] Strategy will be determined by how it brings these two perspectives together".⁷ The barriers to growth in a sector also differ between places – for example, a Life Sciences business in Liverpool may face more challenges in accessing finance than one in Cambridge, which instead has a greater challenge in accessing land.

We therefore need to consider the specific relationships between sectors and between places.

To drive effective policy, we need to identify where the greatest strengths are within a given IS-8 sector (for example, in clusters), where multiple sectoral clusters come together (for example, in city regions), and the connections between them (for example, transport).

Methodology for identifying and prioritising city regions and clusters

As with the frontier industries prioritisation, there is no one-size-fits-all approach to identifying or prioritising city regions and clusters. This is reflected by the broad range of approaches suggested by responses to the *Invest 2035* consultation, external literature, and our expert and industry engagement. Our methodology is set out below and summarised

in *Figure 5*. This analysis provided an evidence base to support (rather than exclusively determine) a final judgement on which places to prioritise.

We first identified city regions and clusters across the UK with strengths in each of the IS-8 sectors.

To do this we analysed quantitative and qualitative evidence on specific sectors in particular locations, drawn from government sector and area teams, external experts, MSAs, DGs, and the Innovation Clusters Map published by the Department for Science, Innovation, and Technology.⁸

We then prioritised within this longlist those city regions and clusters which had the highest growth potential for each of the IS-8 sectors, which are set out on a sector-by-sector basis in the Sector Plans. This prioritisation also informed the overall Industrial Strategy policy package in order to maximise its benefits across the UK.

Defining city regions and clusters

Clusters are geographically concentrated networks of businesses, research capabilities, skilled talent, and support structures in related industries.

Businesses within these ecosystems can thrive on the benefits of proximity, such as deeper labour markets, knowledge sharing, innovation spillovers, and collaboration opportunities. Clusters may be spread

over multiple local authorities and focus on a particular area of sector expertise. Their specificity makes them well-suited to benefit from targeted support (for example, targeted funding for video games businesses around Dundee).⁹

City regions bring together multiple IS-8 sectors, are larger than clusters, and may have specific local governance arrangements. As city regions contain multiple overlapping strengths, some of their place-specific barriers cannot be addressed via interventions that are designed with only a single sector in mind. To best inform the design of policy for each city region, we considered the barriers to growth for all the IS-8 sectors within it.

Identifying city regions and clusters

We identified potential clusters based on their strengths in our frontier industries. The Industrial Strategy is a sectors-first strategy, so clusters were identified based on a bottom-up quantitative assessment of sectoral concentration (the relative employment concentrations of each frontier industry in different places).

We then undertook a qualitative review with area and sector teams in government, as well as external experts, to add any further known cluster strengths. This is particularly important for emerging

or service-based sectors, where an employment-based approach may not effectively capture opportunities. For example, for Financial Services, an employment-based approach may overweight retail activities. Conversely, an employment-based approach may underweight an emerging sector such as MedTech.

Prioritising city regions and clusters

We then prioritised these city regions and clusters against a series of characteristics:

Economic assessment: City regions and clusters were assessed based on their potential for growth. Indicators included existing performance, measures of potential, and underlying economic foundations.

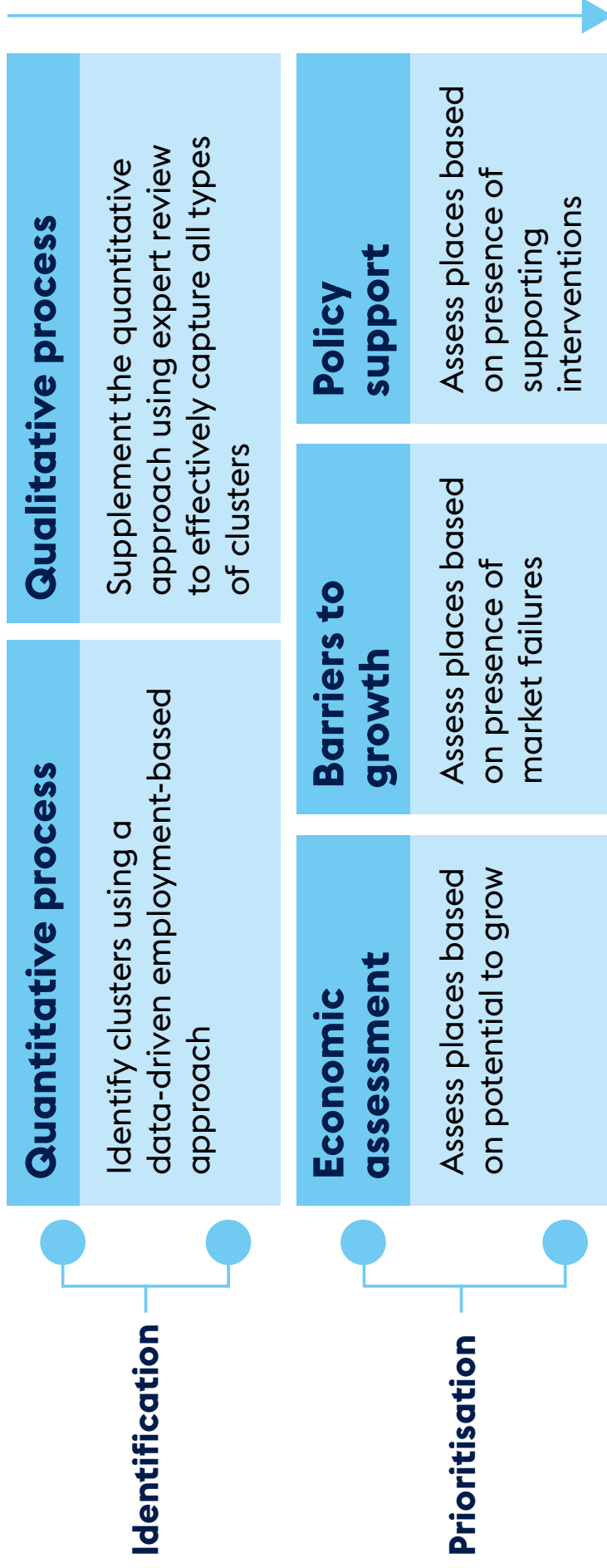
Barriers to growth: City regions and clusters were assessed based on the presence of market failures. This used quantitative evidence of growth constraints in places and qualitative evidence gathered from sector and area teams in government, and from MSAs and DGs.

Policy support: City regions and clusters were assessed based on the presence of supporting policy interventions. Indicators included evidence of local institutional capacity as well as interventions from MSAs, DGs, and the UK government.

Our analysis has also taken into account the fact that city regions and clusters often have multiple strengths both within and across sectors. These strengths can reinforce each other; for example, Sheffield has strengths in Aerospace within the Advanced Manufacturing sector, which links strongly to the Defence and Clean Energy Industries sectors.

Across the eight Sector Plans, 37 unique city regions and clusters were prioritised (Figure 6). Each Sector Plan outlines the most important places for their sector, which informs their policies. Similarly, the overall Industrial Strategy policy package is directed towards the ‘multi-sector’ city regions across the UK, where its benefits will be felt most.

Figure 5: Summary of city region and cluster identification and prioritisation process



Strengthening connections between city regions and clusters

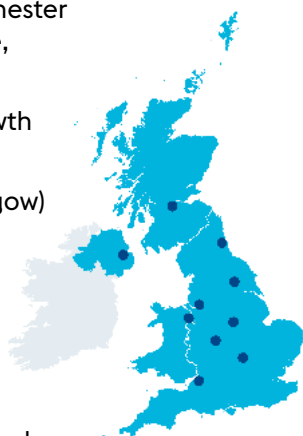
Connecting closely situated city regions and overlapping clusters offers economic benefits by enabling more efficient movement of workers, consumers, goods, and ideas, and by facilitating greater competition, collaboration, and sharing of best practice across businesses and places. A respondent to the formal *Invest 2035* consultation felt that clusters “*benefit from a collaborative, interconnected model, and more resources should be allocated to inter-cluster connections*”.

The UK’s economic geography contains many neighbouring city regions and clusters with unrealised economic potential from greater interconnection.¹⁰ The Industrial Strategy will complement the 10-Year Infrastructure Strategy with interventions that will further drive growth in places important for the IS-8 sectors, and will increase the returns to transport investments. This includes the corridor across our Northern city regions, the Oxford to Cambridge Growth Corridor, the Edinburgh-Glasgow Central Belt, places along the High Speed Two (HS2) rail line, as well as nearby city regions and clusters across England and Wales, including rail connectivity between Wrexham to Liverpool, and South Wales to Bristol.

Figure 6: Outcomes of the city region and cluster prioritisation process

Advanced Manufacturing

- East Midlands (East Midlands CCA, Leicestershire, Lincolnshire)
- North East (North East CA)
- Northern Ireland (Belfast)
- North West (Greater Manchester CA, Liverpool CA, Cheshire, Lancashire)
- Oxford to Cambridge Growth Corridor
- Scotland (Edinburgh, Glasgow)
- South West (West of England CA, Somerset, Gloucestershire)
- Wales (Wrexham and Flintshire)
- West Midlands (West Midlands CA, Warwickshire)
- Yorkshire and the Humber (South Yorkshire CA, York and North Yorkshire CA)



Clean Energy Industries

- East Midlands (East Midlands CCA)
- East of England (Freeport East, Cambridgeshire and Peterborough CA)
- Greater London (City of London, Thames Freeport)
- North East (North East CA, Tees Valley CA)
- Northern Ireland (Belfast)
- North West (Greater Manchester CA, Liverpool CA, Cheshire, Lancashire)
- Scotland (North Sea, Aberdeen, Central Belt, Highlands & Islands)
- South East (Oxford, Solent)
- South West (West of England CA, Plymouth, Cornwall, Somerset)
- Wales (Anglesey, Celtic Sea (including Port Talbot & Milford Haven))
- West Midlands (West Midlands CA, Black Country)
- Yorkshire & the Humber (South Yorkshire CA, York & North Yorkshire CA, Humber)



Creative Industries

- Belfast City Region, Derry/Londonderry
- Cardiff
- Dundee
- Edinburgh
- Glasgow
- Greater London Authority
- Greater Manchester CA
- Liverpool CA
- North East CA
- West of England CA
- West Midlands CA
- West Yorkshire CA



Digital and Technologies

- Belfast
- Dundee, Edinburgh, Glasgow
- Greater London Authority
- Greater Manchester CA
- Liverpool CA
- Oxford to Cambridge Growth Corridor
- Wales (Cardiff, Swansea, Newport)
- West of England CA
- West Midlands CA



Note: Examples included in brackets for Advanced Manufacturing and Clean Energy Industries.

Note: Combined County Authority (CCA).

Note: Combined Authority (CA).

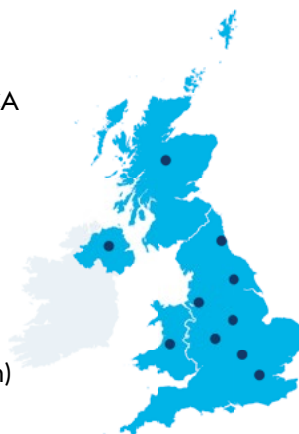
Financial Services

- Belfast
- Cardiff
- Cheshire
- Edinburgh
- Glasgow
- Greater London Authority
- Greater Manchester CA
- Norwich and East Norfolk
- South of England
- West Midlands CA
- West Yorkshire CA



Life Sciences

- Belfast City Region, Derry/Londonderry, Coleraine
- East Midlands CCA
- Greater London Authority
- North East CA, Tees Valley CA
- North West (Greater Manchester CA, Liverpool CA, Cheshire)
- Oxford to Cambridge Growth Corridor
- Scotland (Edinburgh, Glasgow, Dundee, Aberdeen)
- Wales (Cardiff, Swansea, Wrexham)
- West Midlands CA
- Yorkshire and the Humber (South Yorkshire CA, West Yorkshire CA)



Professional Business Services

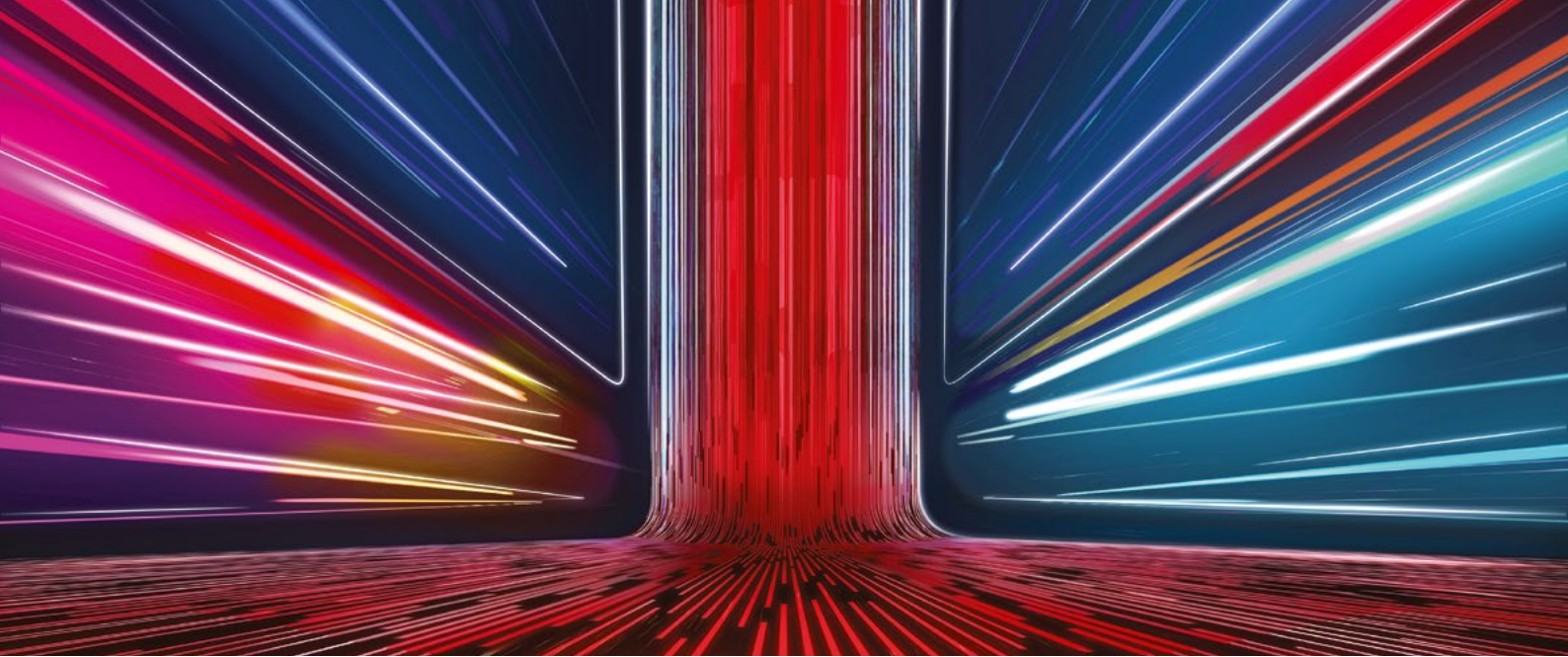
- Edinburgh
- Glasgow
- Greater London Authority
- Greater Manchester CA
- Liverpool CA
- West Midlands CA
- West Yorkshire CA



Defence

- Belfast
- The Central Belt (Faslane, Glasgow, Edinburgh, Rosyth)
- East and West Midlands Belt
- Greater London
- The North East
- The North West
- Oxford to Cambridge Growth Corridor
- Plymouth
- Portsmouth and the Solent
- South Wales
- South Yorkshire
- West of England, Cheltenham, Gloucester





Monitoring and Evaluation

Context

Robust monitoring and evaluation (M&E) is an essential component of any successful policy – but particularly for a wide-ranging, inter-connected, and long-term programme such as the Industrial Strategy. M&E should provide timely evidence for the government to identify and adapt the Industrial Strategy in response to policies which are ‘off track’ in terms of their delivery, and/or relevant changes in economic conditions; this is necessary to ensure its ongoing success.

Delivery of the M&E approach involves three main components:

- A clear plan for implementation, including who is responsible for M&E of individual policies, Sector Plans, and the overall Industrial Strategy, as well as how M&E findings will be fed back into policy and analysis.
- An analytical framework underpinned by a well-defined ‘impact pathway’, which sets out the logic behind the design of the Industrial Strategy, from policy interventions through to real-world outcomes though to its overarching goals.
- A set of metrics, which tracks performance and delivery of Industrial Strategy policies across different stages of the pathway.

Implementation

The government is committed to a robust M&E approach for the Industrial Strategy, which will be overseen by the Industrial Strategy Advisory Council. The Council will assess and evaluate the progress and impact of the overall Industrial Strategy using operational data and economic indicator metrics at the economy-wide, sector, and place level as well as

set out their views on how the Industrial Strategy should evolve in light of policy delivery and relevant economic developments.

Government departments and public bodies (such as regulators) will carry out M&E for their individual policies and Sector Plans. Sector Plans have set out their own M&E plans, including policy commitments and some sector-specific metrics by which to track progress. The Council will also monitor the progress of the IS-8 sectors.

The Council will work closely with government departments and public bodies to implement the overall M&E approach. It will formally report through a published annual report, but will also informally engage with government and public bodies to disseminate and address its findings on M&E. These findings will help form the basis for the Council's data and research programmes (and vice versa), and other outputs, such as its topic-specific publications.

Impact pathway

The impact pathway (Figure 7) is a high-level overview of the logic underpinning the Industrial Strategy. This demonstrates how government policies can achieve the desired outcomes of higher productivity

and investment to drive towards the Industrial Strategy's strategic goal of long-term, sustainable, regional, and secure economic growth.

The pathway is a key tool for the Council in its advisory role. It was first set out in *Invest 2035*,¹¹ and has been refined through engagement with expert stakeholders inside and outside government, including the Council. The Council will assess and evaluate the progress and impact of the overall Industrial Strategy.

It is structured using a theory of change framework. Moving from the bottom to top, the impact pathway shows how policy interventions should unlock opportunities and reduce barriers to growth (the 'outputs') and, as a result, lead to real-world 'outcomes' (for example, higher investment) and ultimately the desired impact of the Industrial Strategy's strategic goal.

To make the impact pathway a more useful tool for policymakers, we have divided it into five key strands of economic activity required to achieve success: Businesses, Places, Markets, People, and Institutions. This is drawn from an internal growth model which emphasises the importance of raising investment in productive capital, and improving how it is deployed through and across different businesses, places, markets, and people. In addition, a critical mechanism through which the Industrial Strategy will achieve success is through institutions, where policy stability and clarity, effective policymaking, clear delivery

structures, and expertise, in tandem with robust and agile governance, should improve the efficacy of policy and increase business confidence.

The pathway is not exhaustive but focuses on the key causal linkages that help achieve these desired outcomes and impact. It will form the basis of the Council's data and research programmes, by working through these linkages to understand the most impactful policies and address the most significant evidence gaps.

We note that the impact pathway outcomes will be affected by the other Growth Mission pillars, such as Economic and Fiscal Stability, Infrastructure, Trade, People, Place, and Innovation, and will continue to explore the evidence and policy on these links. These are captured as 'enablers' on the pathway.

Box 1: Example of how the Industrial Strategy impact pathway works

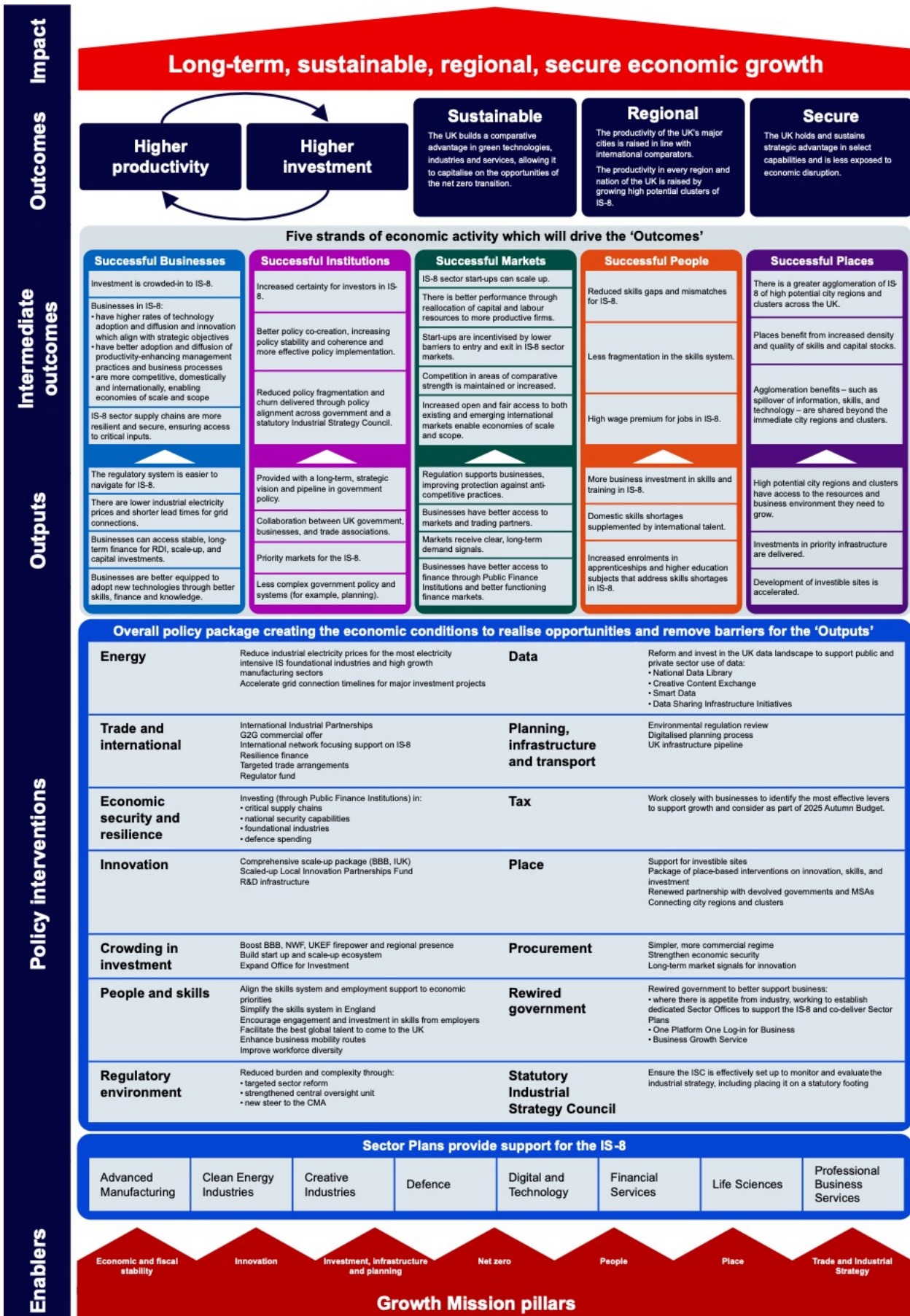
The 'Successful Markets' strand of the impact pathway identifies inter-firm effects that we wish to take place across the IS-8 sectors, in order to ultimately increase growth. For example, evidence suggests that stronger and more open competition should lead to higher productivity at the firm level and unlock economic growth.¹²

Industrial Strategy policies aimed at the ‘Successful Markets’ strand should systematically target these effects, for example, by ensuring lower barriers to entry and exit in IS-8 sector markets that encourages start-ups. Policies to achieve this include targeted sector regulatory reform.

In terms of the impact pathway, the definitions in this scenario would be:

- **Policy interventions:** Targeted sector regulatory reform, such as streamlining the route to market for medical products which have already been approved internationally.
- **Output:** Businesses are supported through simplified regulation, which increases protection against anti-competitive practices
- **Intermediate Outcome:** There are lower barriers to entry and exit in IS-8 sector markets.
- **Outcome:** Higher productivity, delivered through healthy competition
- **Impacts:** Long-term, sustainable, regional, and secure economic growth.

Figure 7: Impact pathway model



Box 2: Glossary of acronyms in the impact pathway (Figure 7):

G2G Government-to-Government

BBB British Business Bank

IUK Innovate UK

MSA Mayoral Strategic Authority

NWF National Wealth Fund

UKEF UK Export Finance

CMA Competition and Markets Authority

RDI Research, Development and Innovation

IS-8 Industrial Strategy growth-driving sectors

Metrics

A successful M&E approach is underpinned by data. The Council will collect two types of data to construct the ‘metrics’ for monitoring the Industrial Strategy.

Operational data

The Council will gather operational data from departments and public bodies to monitor the delivery of individual policies (for example, numbers of businesses supported, amount in grants delivered), which correspond to the policy interventions in the

impact pathway. This is the core of the M&E approach; the Council will aggregate this data to develop an overview of where the Industrial Strategy is on or off track at the sector, place, and overall level. The Council will also explore how this data can support its broader data and research programmes, for example, analysing patterns of business support across government.

Economic indicators

Tracking economic indicators will help the Council understand relevant economic developments and trends at the economy-wide, sector, and place level. These will not be used directly for M&E as we cannot clearly attribute changes to specific policies. Rather, they can signal where wider developments may necessitate a shift in the Industrial Strategy and/or where sectors are not moving in the right direction, and thus policy action may be required.

We have used the impact pathway to select six economic indicator metrics which broadly reflect a range of desirable economic trends for the IS-8 sectors and the economy as a whole (Figure 8). The Council will evolve these metrics as data and evidence quality and availability improves over time, including its own research on the causal links in the impact pathway:

Figure 8: Economic indicator metrics for the Industrial Strategy

<p>Business investment</p> <p>This is estimated by Gross Fixed Capital Formation (GFCF) by businesses in the UK, excluding that on dwellings and non-produced assets. This metric captures our ‘higher investment’ outcome and intermediate outcomes in the Successful Businesses and Successful Institutions strand of the impact pathway.</p>	<p>Gross Value Added (GVA)</p> <p>One of the measures of UK GDP, GVA quantifies the value added in the production of goods and services. This metric captures the overall impact and intermediate outcomes in the Successful Businesses and Successful Places strands of the impact pathway.</p>
<p>Productivity growth</p> <p>This measures growth in the effectiveness by which labour, capital, and other inputs are used in production of goods and services. It is measured through a combination of GVA per productive worker and ‘multi-factor’ productivity (that is, how well inputs are combined).¹³ This metric directly captures the ‘higher productivity’ outcome and intermediate outcomes in the Successful People, Successful Business, and Successful Regions strands of the impact pathway.</p>	<p>Trade exports</p> <p>This is primarily measured by real terms (inflation-adjusted) value of exports. This metric captures elements of the intermediate outcomes in the Successful Markets strand of the impact pathway.</p>

Labour markets	Number of large 'home-grown' firms
<p>This covers a range of labour market statistics, including employment and employee average real weekly earnings. These capture intermediate outcomes in the Successful People and Successful Regions strands of the impact pathway.</p>	<p>This relates to growing innovative and globally competitive companies in the IS-8, primarily monitored by tracking new UK companies reaching valuation benchmarks of £10 billion. This metric captures intermediate outcomes in the Successful Business, Successful Institutions, and Successful Markets strands of the impact pathway.</p>

All economic indicators have data and methodological challenges and will need to be further developed in line with our sector definitions. This includes, for example, defining and calculating the number of large home-grown businesses and accurately assigning their business and supply chain activity to a sector. The Council will work with government, public bodies, and external experts to improve their quality, and timeliness for the IS-8.

Targets

Targets can be a useful tool for publicly signalling the direction and magnitude of government's ambition and to galvanise policy action. The impact

pathway has informed where the Industrial Strategy should set targets to ensure that they are rooted in its strategic goals.

Sector Plans include targets (Figure 9), which vary to account for the different objectives and characteristics of their sector and existing government ambitions (for example, net zero). These will be tracked by the lead department for each Sector Plan as part of their M&E programme, to then feed into the overall M&E overseen by the Council.

Many of these Sector Plan targets focus on boosting investment. This choice of an investment target is supported empirically. Low levels of investment are commonly identified as the single largest factor behind the UK's poor productivity and growth performance.^{14,15}

Advanced Manufacturing, Clean Energy Industries, Creative Industries, and Professional and Business Services derive their targets from the same methodology. The starting point is the estimated level of business investment need to achieve the G7 average total investment as a proportion of GDP for each economy. The calculations were based on G7 figures, as at 2024 (the latest reported year from the IMF World Economic Forum dataset).¹⁶ This average percentage

was then applied to the UK, using real (2023 prices) GDP forecasts for 2035 based on Office for Budget Responsibility long-run estimates.¹⁷

Sector-level contributions were then estimated by applying the current share of overall business investment across each of the IS-8 sectors using the latest Office for National Statistics GFCF data (2023). This methodology assumes these proportions remain the same in 2035. We compared these targets against current trajectories, to sense-check their feasibility while ensuring that they were stretching and ambitious.

There are some methodological challenges in relation to business investment as a target. Lags between business investment and economic growth impacts may occur due to the time for the benefits to materialise. Measuring investment is difficult, particularly in relation to ‘intangibles’ (for example, innovation, training) and for sectors that rely heavily on public sector investment (for example, Defence). Due to data limitations for Clean Energy Industries, we have applied the overarching investment multiplier to the Bloomberg New Energy Finance investment dataset. Addressing these challenges should form part of the data and research programmes of the Council, working with government.

Figure 9: Non-exhaustive list of high-level sector targets

Sector	Target
Advanced Manufacturing	Double annual business investment in the sector from £21 billion to £39 billion in 2035.
Clean Energy Industries	At least a doubling of current investment levels across our frontier Clean Energy Industries to over £30 billion per year by 2035.
Creative Industries	Increase annual business investment by the Creative Industries from £17 billion to £31 billion by 2035.
Defence	By 2035, the UK will be Europe’s leading Defence exporter, will have closed the gap for venture capital investment into Defence with the US by half, and will have radically reduced the time to contract across all segments of defence procurements.
Digital and Technologies	<p>By 2035, our vision is for the UK to be one of the top three places in the world to create, invest in, and scale-up a fast-growing technology business.</p> <p>We will aim to secure the UK’s first trillion-dollar technology business.</p> <p>In line with the broader Industrial Strategy, we will target business investment as a key measure of success and aim to have more investment in commercial R&D in the sector than any other country globally (excluding USA and China) by 2035.</p>

Sector	Target
Financial Services	<p>Outcomes and metrics for Financial Services will be set out in the Financial Services Growth and Competitiveness Strategy which will be published on 15 July. These will focus on building on the UK's position as an international financial services hub by 2035, particularly through increasing the contribution of financial services exports to UK Gross Value Added by 2035.</p>
Life Sciences	<p>The UK will have more investment in commercial R&D than any other European economy by 2030, and more than any other country globally (excluding the US and China) by 2035.</p> <p>More scale-up finance will be raised by Life Sciences businesses in the UK than anywhere else in Europe by 2030, and more than any other country globally (excluding the US and China) by 2035.</p> <p>By 2030 the UK will be one of the top three fastest places in Europe for patient access to medicines and MedTech.</p> <p>The UK will secure more Life Sciences Foreign Direct Investment than any other European economy by 2030, and more than any other country globally (excluding the US and China) by 2035.</p>
Professional and Business Services	<p>Double annual business investment in the sector from £35 billion to £65 billion in 2035.</p>

These headline sector targets are not exhaustive and do not reflect the full policy mix as currently set out in the Industrial Strategy and Sector Plans; rather they demonstrate a long-term and ambitious commitment from the government to deliver an Industrial Strategy which ‘shifts the dial’ on growth for the IS-8 sectors. These targets will be monitored alongside the wider metrics by the Industrial Strategy Advisory Council. Progress towards the targets will be assessed in their annual report.

Longer-term, the Council will explore the broader use of metrics and targets for the Industrial Strategy, rooted in the impact pathway and tracked as part of the overall M&E programme.

Endnotes

- 1 Department for Business and Trade (2024) [Invest 2035: the UK's modern Industrial Strategy](#).
- 2 Likert scales are a form of rating scale where respondents assess a question on an ordered scale e.g. (5) Strongly agree, (4) Agree, (3) Neither agree nor disagree, (2) Disagree, (1) Strongly disagree. Specific wording was tailored to be relevant for each individual criterion. Scores were moderated by multiple assessors.
- 3 “NACE” is from the French, “*Nomenclature statistique des Activités économiques dans la Communauté Européenne*”.
- 4 Centre for Cities (2021) [So you want to level up?](#)
- 5 Centre for Cities (2021) [What does agglomeration mean in British cities?](#)
- 6 Centre for Cities (2021) [Why strong cities are crucial for levelling up towns.](#)
- 7 Centre for Cities (2025) [Cities Outlook 2025](#).
- 8 Department for Science, Innovation and Technology (2024) [The Innovation Clusters Map](#).
- 9 Centre for Cities (2023) [Does Dundee really have a gaming cluster?](#)

- 10 Frontier Economics (2017) [Exploring the economic benefits of strategic roads: Report for the Department for Transport.](#)
- 11 Department for Business and Trade (2024) [Invest 2035: the UK's modern Industrial Strategy.](#)
- 12 Empirical evidence shows that at the individual business and market level, competition increases efficiency and productivity as well as the number and size of productive businesses in a market compared to less productive businesses. For example, see Backus (2020) [Why is productivity correlated with competition?](#); Bloom and Van Reenen (2010) [Why do management practices differ across firms and countries?](#); Nickell, Nicolitsas and Dryden (1997) [What makes firms perform well?](#); and Griffith (2001) [Product market competition, efficiency and agency costs.](#)
- 13 Office for National Statistics (2018) [A simple guide to multi-factor productivity.](#)
- 14 Programme on Innovation Diffusion (2024) [Cracking the productivity code: an international comparison of UK productivity.](#)
- 15 Resolution Foundation (2023) [Beyond boosterism.](#)
- 16 International Monetary Fund (2025) [World economic outlook database.](#)
- 17 Office for Budget Responsibility (2024) [Long-term economic determinants.](#)



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