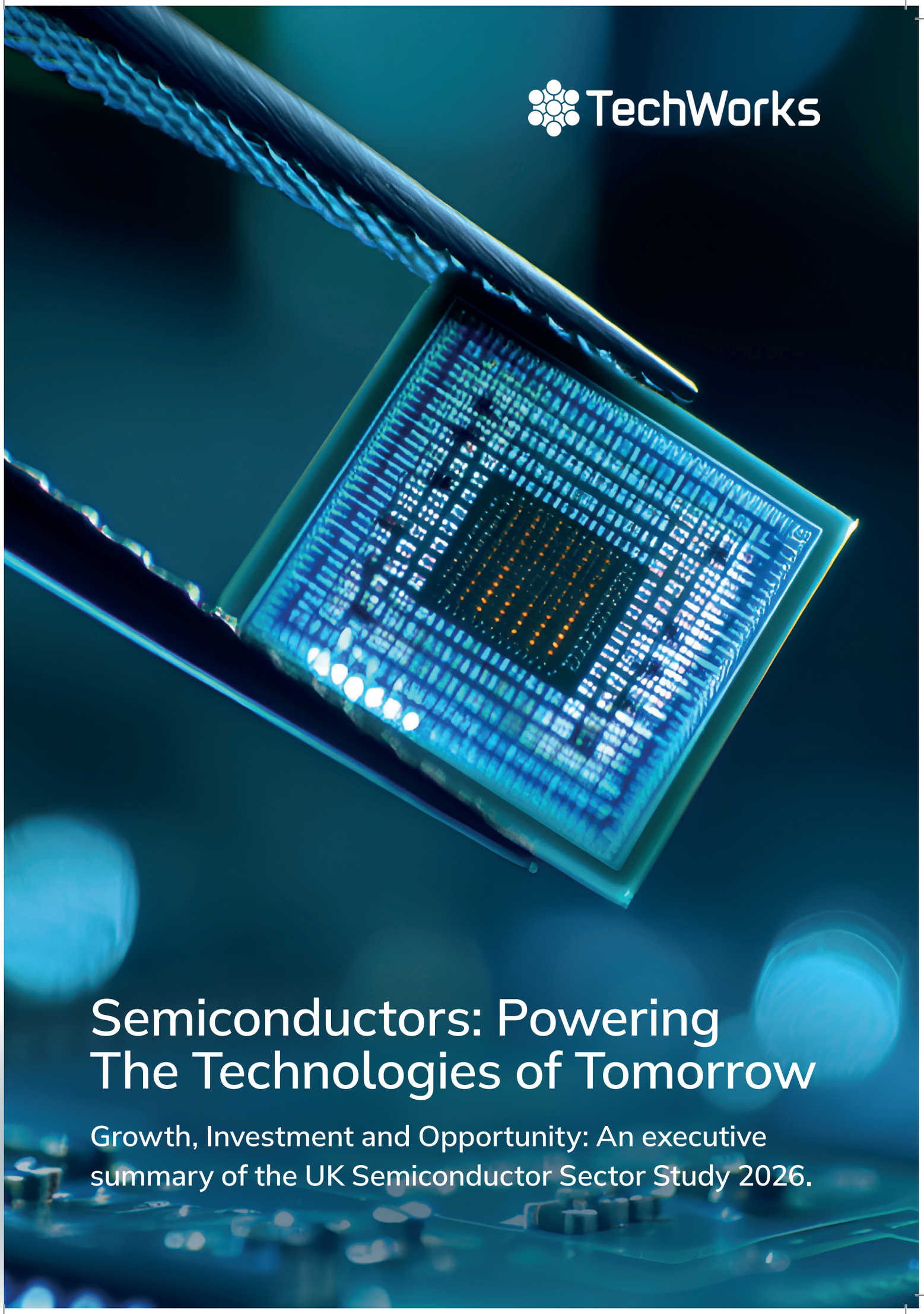
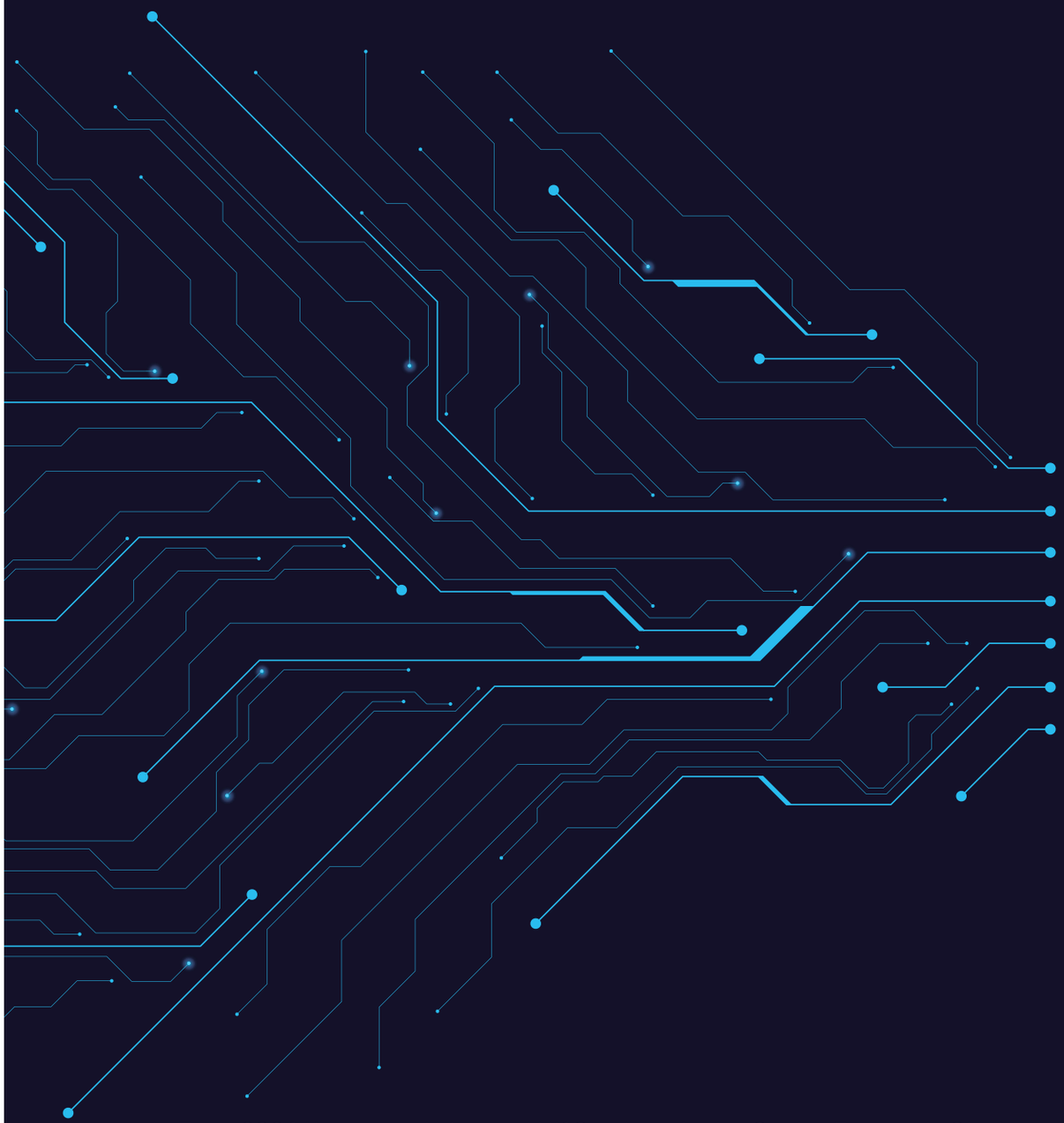


TechWorks

Semiconductors: Powering The Technologies of Tomorrow

Growth, Investment and Opportunity: An executive summary of the UK Semiconductor Sector Study 2026.

The UK Semiconductor industry could generate more than £17bn in annual revenue by 2030 (CAGR of 8%). Even this may be conservative, as many companies surveyed expect to grow by more than 20% each year.



In June 2026 the second biannual UK Semiconductor Sector Economic Study was published by the HMG Department for Science, Innovation and Technology. TechWorks worked with several partners to produce the report which provides a detailed summary of the UK semiconductor sector, it's economic contribution and key indicators and recommendations for growth. This summary highlights some of the key insights set out in the main report.

Semiconductors are a fundamental enabling technology.

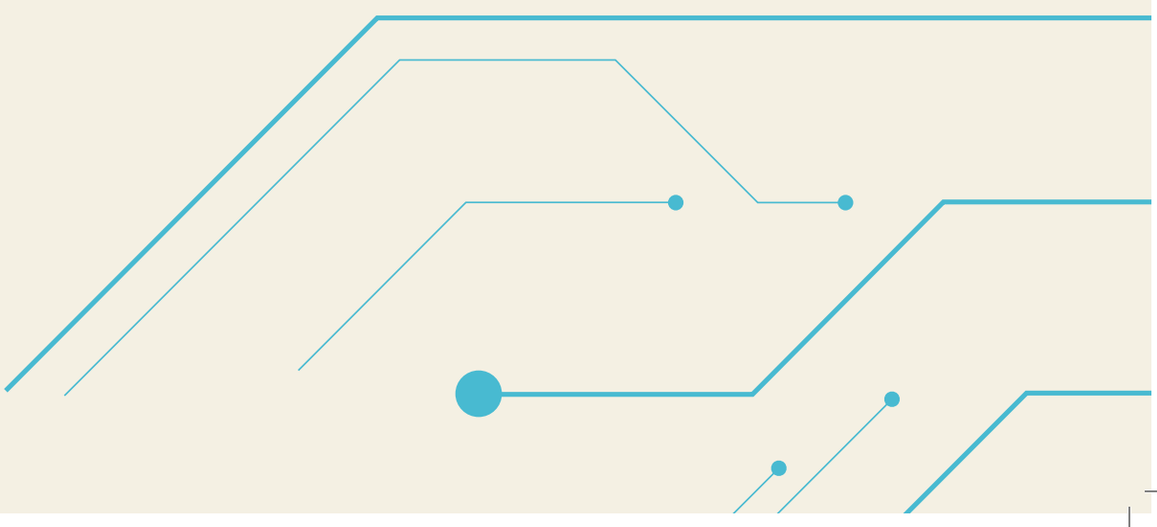
Semiconductor technology underpins virtually every modern industry, acting as a foundational, enabling capability which drives economic growth, productivity and innovation in that industry. From computing infrastructure and telecommunications to automotive, healthcare, defence and energy systems; semiconductors provide the processing, sensing, power management and connectivity functions that define how products and services operate. As digitalisation, automation and ubiquitous connectivity accelerate, the demand for semiconductor technologies is increasing rapidly, reflecting their central role in enabling real-world systems. Recently published global estimates for markets to which semiconductors are integral total more than $10trn, including aerospace, industrial automation, defence, consumer electronics, compute, renewable energy, automotive and telecommunications. Global semiconductor sales have grown by 39% since 2022 to $796bn in 2025, driven primarily by AI compute, electrification and autonomy.

Their foundational role is becoming better understood

There is increasing recognition across government of just how vital it is to get semiconductor policy and investment right. Since the previous sector study was published in 2024, semiconductors have been designated as one of six ‘frontier technologies’ in the UK Government’s Modern Industrial Strategy of June 2025. In fact, semiconductors are also foundational to the other frontier technologies, including advanced connectivity, artificial intelligence, cybersecurity and quantum technology.

In the present geopolitical environment national resilience is critical.

This recognition is timely, given that semiconductor supply chains have become increasingly fragile due to geopolitical risks, uncertainties regarding the impact of trade tariffs, US export controls on advanced compute hardware, and international conflicts.



The UK has a vibrant and growing semiconductor industry base...

There are **almost 300 semiconductor companies** operating in the UK whose business is the provision of semiconductor devices and products. They generate **£10.6bn in revenue**, contribute **£7.5bn in GVA**, and employ approximately **16,350 people** in high value roles throughout the UK.

In addition, there are a **further 400 UK companies** whose main business is outside the sector, but who are also **engaged in semiconductor-related activity**. The sector, as a whole, is estimated to support a total of **32,550 jobs** across the wider economy.

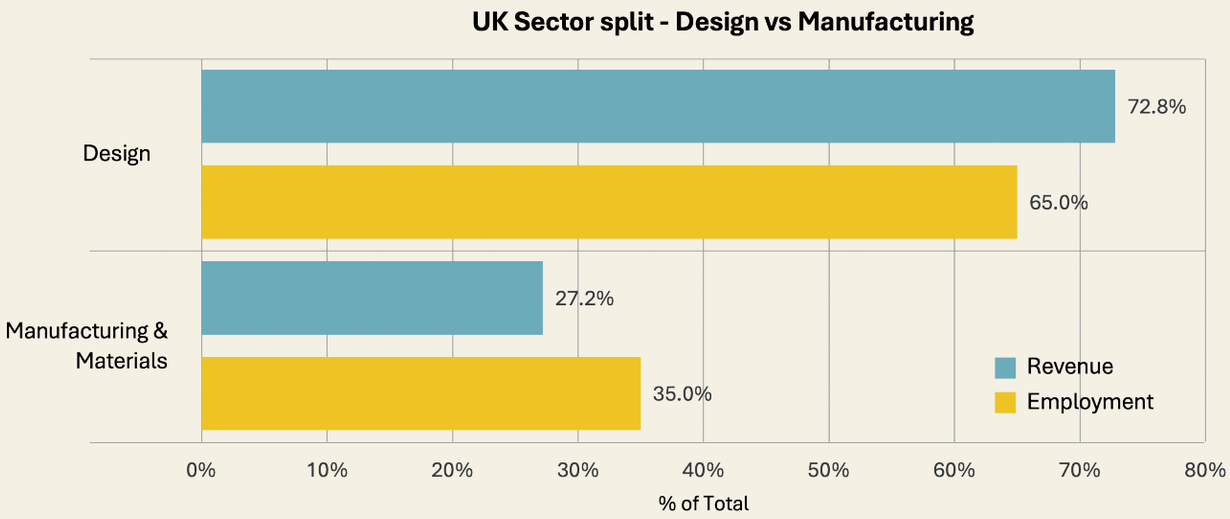
Since the baseline report was published in 2024,

Semiconductor revenues have grown by **7%**.

GVA has grown by **9%** and employment has grown by **9%**.

Significant growth has been **driven by AI compute, memory and licensing**, with relevant companies performing strongly due to **AI driving hyperscaler demand for GPUs and memory**, and increased demand for **semiconductor equipment**.

Growth was also seen among companies involved in **defence, aerospace and space, premium consumer electronics**, and **power / industrial end-markets**.



...enabled by increasing and varied levels and types of investment

Private investment activity has remained strong, with grants and fundraising **increasing by 16%** since the baseline study, to a total of £1.73bn.

Ten companies account for **75% of new grant and fundraising activity** – seven are design companies, two are materials companies and one is a manufacturing company.

In addition, the UK has also seen recent **investments into UK fabrication and compound semiconductor capacity**, by both UK and internationally headquartered companies. For example, Nexperia has increased its silicon wafer production line by ~7%, PragmatIC opened its FlexLogic-003 cleanroom in Durham, Plessey upgraded its 200mm line in Plymouth and Octric is rebuilding GaN capability.

Between 2003 and the end of 2025 there have been a **total of 142 inward investment projects** into the UK – 13 additional projects since the baseline study totalling an estimated **$600m (~£446m) in capital investment (+21%)**. This includes substantive investments by Vishay, KLA, Ion Beam Services and Cadence Design Systems. Over 80% of the estimated inward capital investment is from the US, and 90% has been from manufacturing companies.

Semiconductor business leaders have an optimistic outlook…

Industry sentiment remains overwhelmingly positive, with 83% of surveyed firms expecting growth over the next three years, within which 47% expect rapid growth of >20% per annum. Yet persistent barriers risk constraining delivery, including the availability of talent, access to scale-up capital, and UK operating costs, particularly energy.

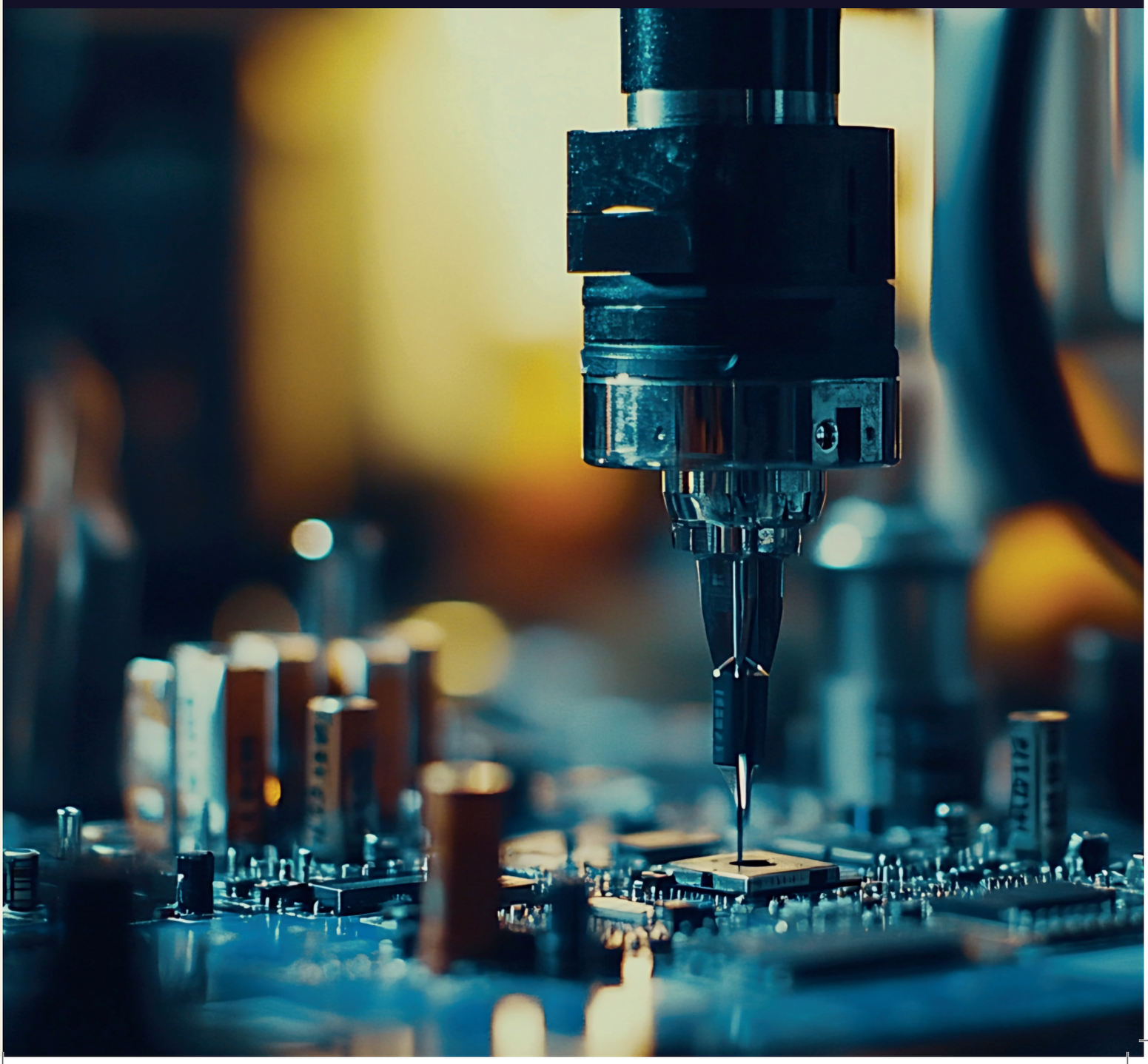
…and the UK semiconductor start-up ecosystem shows great promise

Of 10 new semiconductor company incorporations in 2024 and 2025, nine are UK headquartered, and are already estimated to employ more than 100 people, including:

COMPANY	FOCUS
FRACTILE	**Fractile is building chips, systems and software to radically improve the speed and cost of running frontier AI inference via a new approach to fusing computation with memory.**
OLIX	**OLIX Computing is developing a new paradigm for AI compute infrastructure through its optical digital processor with a novel memory and interconnect architecture.**
Novomorphic	**Novomorphic designs secure edge AI electronic systems from architecture to silicon where design parameters are constrained by power, thermal limits, RF coexistence, latency or security.**
KELVIN QUANTUM	**Kelvin Quantum develops semiconductor-based cryogenic-capable electronics (ASICs, integrated circuits, electronic systems) for quantum applications.**
chipletti	**Chipletti is a fabless semiconductor design company focused on advancing AI inference performance through innovative 3D memory solutions.**
convergent labs	**Convergent Labs is building next-generation compound semiconductors for photon-counting imaging applications, including manufacture of CdTe detectors using proprietary crystal growth processes.**

Equipment manufacturing is a less well recognised national semiconductor strength

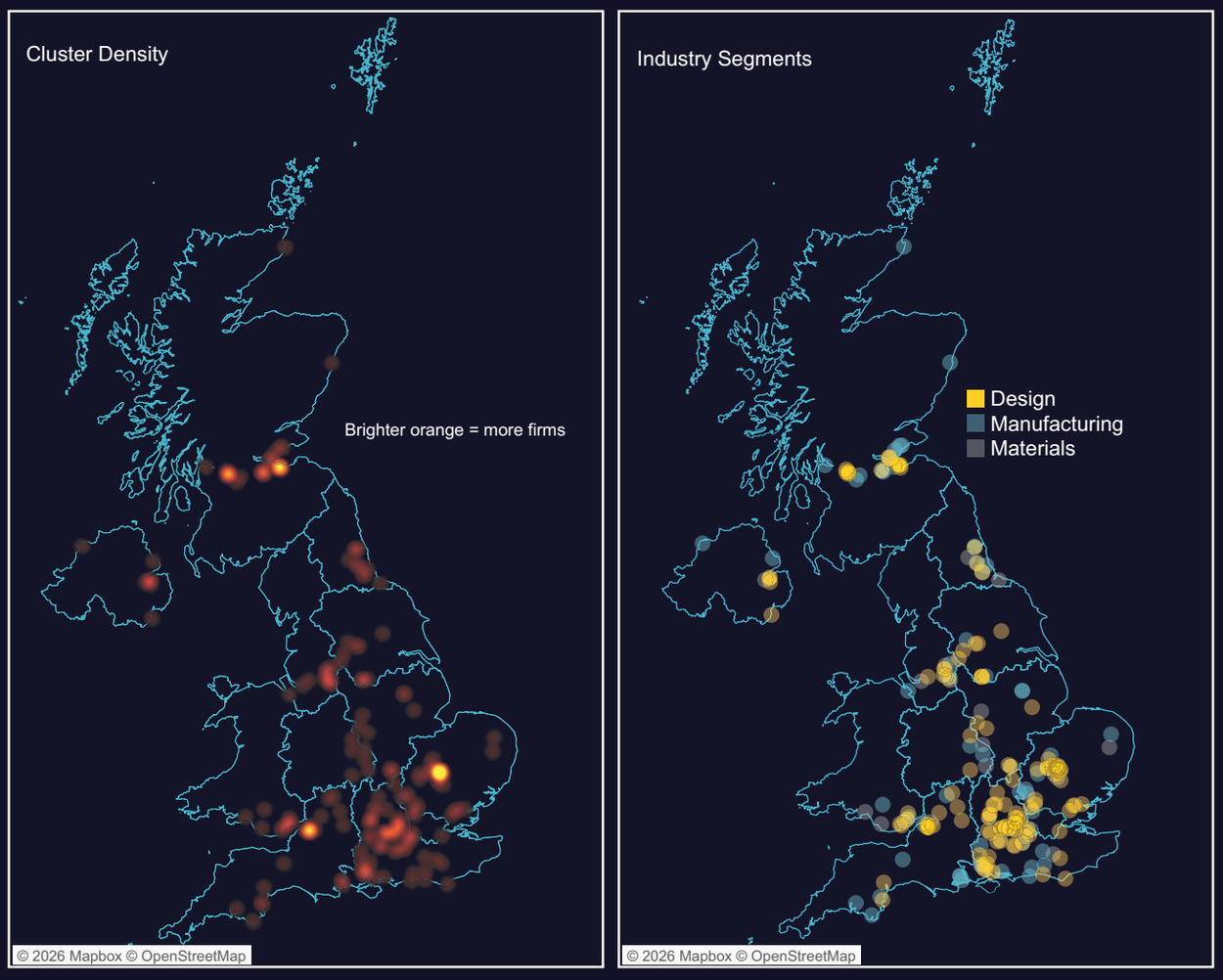
The UK has a substantive cohort of companies involved in the manufacture of equipment and tools used by the semiconductor sector in the UK, and internationally. Analysis of SME company counts reinforces the significance of this segment in the UK. While design and IP makes up a relative majority of total SME activity (including IP, design services, EDA and Fabless Chip Vendors), equipment and tools manufacturing is the second largest SME supply chain component, followed by the the provision of materials and consumables to front or back-end manufacturing.



Semiconductors are a truly national industry

Analysis of UK location data shows known clusters of semiconductor companies in Bristol, Cambridge, the North East of England, Northern Ireland, Scotland and South Wales. It also shows clusters in the North West, the Midlands and along the south coast of England.
Main manufacturing clusters are in Scotland, Wales and the North East. There are design clusters in and around London, particularly in Cambridge, and along arterial routes between London and Bristol, Oxford and Southampton.

FIGURE: UK SEMICONDUCTOR CLUSTERS (DEDICATED COMPANIES)



SOURCE: COMPANIES HOUSE, PERSPECTIVE ECONOMICS

Offering high-value employment opportunities across communities

Public data was used to estimate the number of dedicated semiconductor employees across regions. Results of the analysis suggest that the East of England, Scotland and the South East account for the highest proportions of dedicated semiconductor employees, and that the East of England, Wales and Scotland have among the highest concentrations of semiconductor employees relative to the concentration nationally. Concentration of regional employment is illustrated by location quotients (LQ), where a LQ of 1.0 is equivalent to the national average.

TABLE: ESTIMATED EMPLOYMENT ACROSS REGIONS

REGION	PERCENTAGE	LQ
EAST (ENGLAND)	20.6%	2.29
EAST MIDLANDS (ENGLAND)	3.6%	0.52
LONDON	12.6%	0.72
NORTH EAST (ENGLAND)	2.2%	0.65
NORTH WEST (ENGLAND)	8.5%	0.78
NORTHERN IRELAND	1.9%	0.74
SCOTLAND	15.0%	1.94
SOUTH EAST (ENGLAND)	11.9%	0.88
SOUTH WEST (ENGLAND)	10.3%	1.22
WALES	8.6%	2.16
WEST MIDLANDS (ENGLAND)	1.9%	0.24
YORKSHIRE AND THE HUMBER	2.7%	0.35

The UK semiconductor sector supports high-skilled, high-value jobs across every UK region, through companies led by seasoned business leaders with deep technical and sectoral knowledge.

Every region brings distinct capabilities, from materials science and device physics through fabless design, IP, foundry, manufacturing, advanced packaging and process equipment.

Regions connect through academic and industrial networks to create a national semiconductor capability that makes the UK an attractive global location for semiconductor research and development (across design and materials) and attracts substantive levels of foreign direct investment in manufacturing.

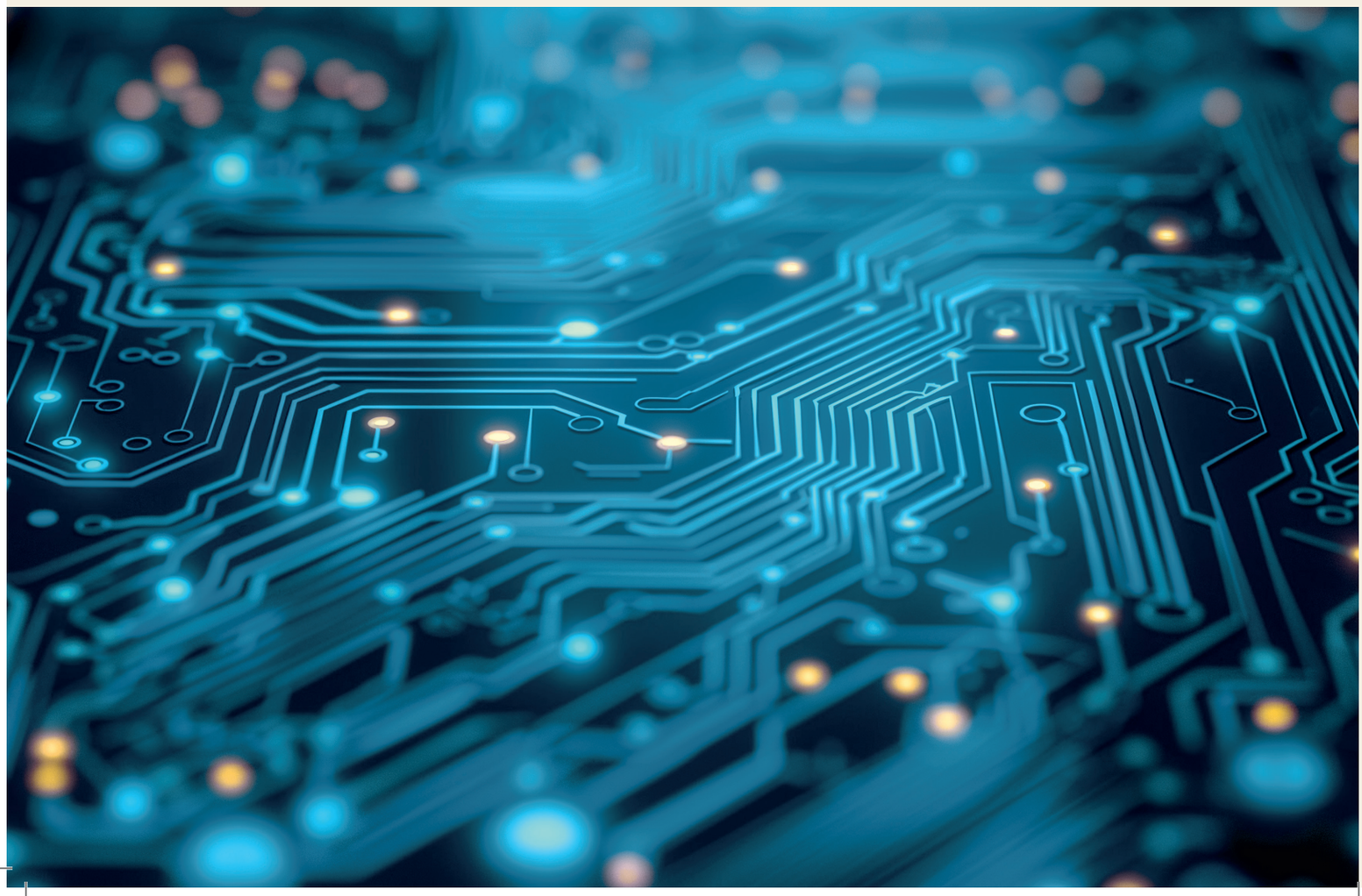
UK semiconductor activity is becoming increasingly connected

Public funding for the UK Semiconductor Centre, and university-led semiconductor initiatives has been allocated in an effort to further advance and leverage UK strengths via a central focal point (UKSC) and four targeted innovation and knowledge centres (IKCs).

The 2024 study estimated that between 2006 (beginning of structured UKRI funding records) and 2023, semiconductor related research and innovation had received **£1.4bn in public investment**.

By the end of 2025 research and innovation funding for semiconductor activity is estimated to be **£1.8bn**. (7%).

Between 2024 and 2025 five high-level semiconductor topics have secured just under **60% of new funding allocations**, including compound materials (14%), compound semiconductor manufacturing (13%), 3D packaging and integration (12%), photonic integrated circuit design and fabrication (11%) and memory.



Yet some gaps & potential growth barriers still need to be addressed

Extensive consultation with cross-sector stakeholders identified five recurring themes in discussions about current gaps and growth barriers.

Access to finance and / or markets for early stage business at Series A and scale up at Series B

Regarding support for manufacturing activity, consultees perceived that UK companies are in a less competitive position due to comparatively high levels of subsidies being provided by governments in other countries, and challenges accessing finance in the UK (market pull, or investment) to support high capital expenditure more generally.

Access to finance to support manufacturing expansion capex vs market distorting subsidies being offered overseas

Consultees suggested that equivalent levels of subsidy and improved access to finance for large scale capital expenditure could strengthen the UK's domestic manufacturing base.

Skills gaps (particularly mid-career and technician roles)

A range of skills gaps were cited across consultations including, at the base of the skills pyramid, a simple lack of awareness of job opportunities in the semiconductor industry, to future workforce gaps caused by retirement of the current workforce, and specific gaps including a lack of technicians and insufficient numbers of equipment engineers.

Commercially competitive employee incentive packages

Several consultees emphasised the international nature of the semiconductor workforce, and the fact that UK businesses are required to compete for talent with companies in other jurisdictions where incentives are available to assist (or de-risk) the cost of employment. Ireland was cited as a comparator with consultees suggesting that grants can help reduce the cost of expanding a semiconductor team by up to 25%.

Nationwide coordination and clarity of strategy

Consultees reiterated the call for greater coordination and strategic clarity across the sector. In particular, consultees considered that more granularity regarding objectives, targets and actions over a 3 to 5-year timeframe would be beneficial, and that continued effort is required to reduce perceived fragmentation across the industry.

Stakeholder views : UK Strengths, Challenges and Opportunities

UK Strengths

1 WORLD-CLASS SEMICONDUCTOR DESIGN AND IP

Strengths in chip architecture, processor IP, fabless design, RF, sensing, embedded system design and verification and advanced design tools.

2 EXCELLENT UNIVERSITY AND RESEARCH BASE

World-leading university research in materials science, device physics, photonics, compute, compound semiconductors, quantum and industrial innovation.

3 SPECIALIST TECHNOLOGY NICHES

Unique strengths in higher-value niches including compound semiconductors, photonics, RF and communications, power electronics, sensing, advanced materials, chip architecture and secure systems.

4 STRONG TALENT AND INNOVATION CULTURE

Pockets of deep technical expertise exist in specific regions, with a proven ability to generate university and corporate spin-outs.

5 DIVERSE – BUT FRAGMENTED – ECOSYSTEM

The UK is home to design companies, universities, RTOs, specialist fabs, equipment and materials suppliers, but these assets are not fully joined up into a coherent national capability.

Challenges

1 SCALE-UP FINANCE GAP

The UK is good at research and start-up creation, but weaker at funding semiconductor businesses through expensive scale-up phases, large tape-outs, productisation, customer support and international expansion. Too many promising companies fail or are lost to overseas acquisition.

2 LIMITED SEMICONDUCTOR INVESTMENT EXPERTISE AND THESES

Many investors do not understand semiconductor timelines, capital needs or risk profiles. This makes it harder for UK firms to raise the right kind of patient capital.

3 FRAGMENTATION AND LACK OF COORDINATION

Stakeholders see too many disconnected programmes, agencies, clusters and initiatives. This weakens national messaging, slows execution and makes it harder for companies to navigate support.

4 LIMITED MANUFACTURING, PACKAGING AND SUPPLY CHAIN DEPTH

The UK has specialist fabs and facilities, but lacks the manufacturing scale, advanced packaging depth and integrated supply-chain density seen in the US, Taiwan, South Korea, Japan and parts of Europe.

5 SKILLS SHORTAGES

There are gaps in experienced semiconductor engineers, technician skills, packaging expertise, process engineers, commercial scale-up talent and industry-ready graduates.

6 WEAK DOMESTIC DEMAND PULL

The UK lacks enough early domestic customers in strategic markets. Without first customers, companies struggle to validate products, generate revenue and attract investment.

7 FUNDING MECHANISMS NOT WELL MATCHED TO HARDWARE

Existing innovation funding is often seen as too small, short-term, fragmented or administratively burdensome for semi-conductor development cycles.

Opportunities

1 DESIGN-LED SEMICONDUCTOR GROWTH

Build on the UK's strengths in processor architecture, application specific mixed signal, IP, EDA, embedded systems and hardware software co-design.

2 COMPOUND SEMICONDUCTORS AND POWER ELECTRONICS

Focus on GaN, SiC, GaAs, power devices, electrification, transport, aerospace, industrial, energy and data-centre applications.

3 PHOTONICS, SENSING AND OPTICAL TECHNOLOGIES

Strengthen UK leadership in silicon & compound photonics, sensing, optoelectronics and emerging areas such as co-packaged optics.

4 ADVANCED PACKAGING AND HETEROGENEOUS INTEGRATION

Develop national capability in chiplets, interposers, 2.5D/3D integration, system-in-package, packaging for photonics, power modules and advanced test.

5 AI, EDGE COMPUTING AND ADVANCED SYSTEMS

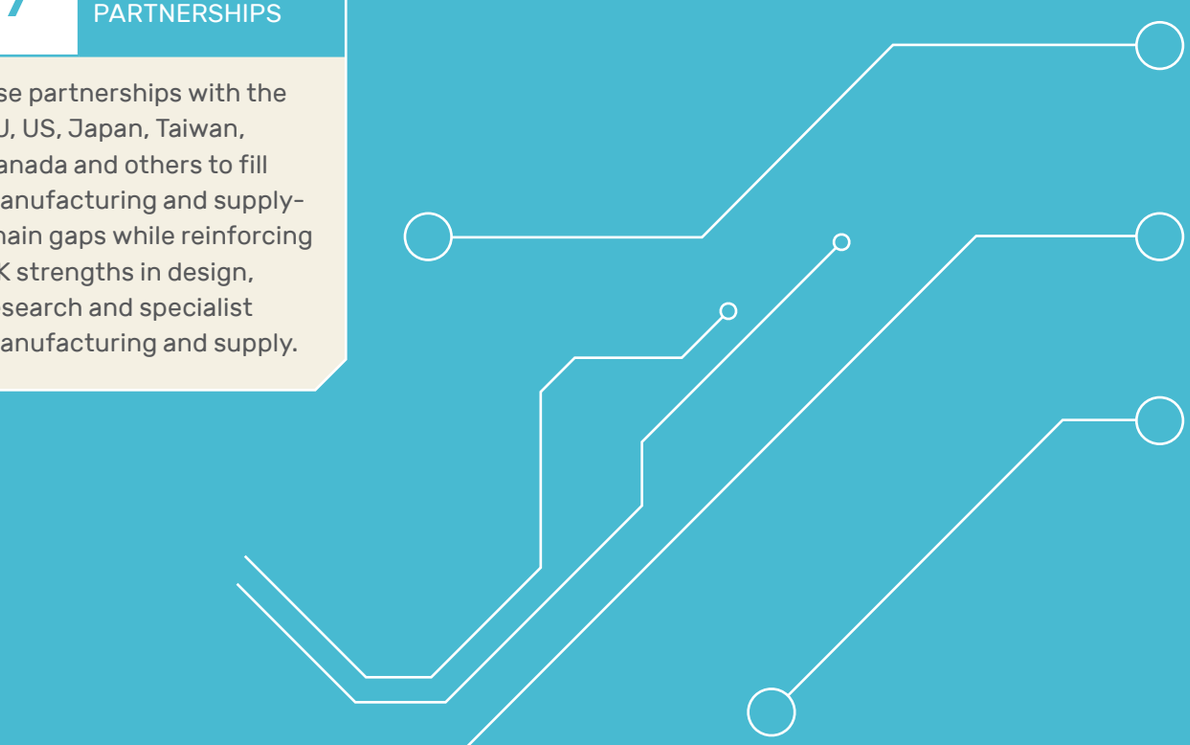
Use UK strengths in AI research, low power chip architecture and systems engineering to target physical AI, intelligent sensing, secure compute and next-generation computing.

6 DEFENCE, SECURITY AND CRITICAL NATIONAL INFRASTRUCTURE

Position UK technologies around trusted supply chains, secure systems, sovereign capability, resilience and dual-use applications. Use public procurement as an early demand signal.

7 INTERNATIONAL PARTNERSHIPS

Use partnerships with the EU, US, Japan, Taiwan, Canada and others to fill manufacturing and supply-chain gaps while reinforcing UK strengths in design, research and specialist manufacturing and supply.



How can Government help

1 DELIVER A CLEAR LONG-TERM NATIONAL STRATEGY THROUGH THE UK SEMICONDUCTOR CENTRE

Where should the UK compete and how does that align with industrial, research, defence, security and trade policy, international partners and shared roadmaps.

2 CREATE A SEMICONDUCTOR SPECIFIC SCALE UP FINANCE PLAN

Stakeholders need patient capital, larger funding rounds, specialist semiconductor investors, co-investment mechanisms and support that reflects long hardware development cycles.

3 USE PUBLIC PROCUREMENT AS A MARKET-MAKING TOOL

Acting as first customer through defence, security, space, energy, infrastructure and public technology programmes, government will help UK companies gain credibility and early revenue to bridge the scale-up gap.

4 INVEST IN SHARED PROTOTYPING, PACKAGING, TEST AND PILOT MANUFACTURING

Bridge the gap between research and production, especially for SMEs.

5 STRENGTHEN SKILLS AND GROW THE WORKFORCE

Semiconductor degrees, apprenticeships, technician routes, industry placements, immigration routes for specialist engineers and academic – industry mobility.

Summary

The UK has a strong and internationally recognised semiconductor base, especially in **design, IP, research, compound semiconductors, photonics, RF, power electronics and specialist systems.** We can turn those strengths into larger industrial and positive economic outcomes, but to unlock the necessary scale-up force the government should not simply provide more grants, but instead focus on a clear set of **strategic priorities, coordinate the ecosystem, unlock patient capital, create demand through procurement, invest in shared infrastructure, and build the mixed workforce needed for long-term growth.**

The full UK Semiconductor Sector Study is available at:

The report was commissioned by UK Government and delivered by TechWorks and Perspective Economics (PE), with a consortium of advisors including, IfM Engage (IfM), the UK Electronic Skills Foundation (UKESF) and independent technologists.

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techworks.org.uk

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