CORNERSTONE

Silicon Photonics: The window of opportunity is open

2026 market research, commissioned by CORNERSTONE, reveals the silicon photonics sector is poised for landmark growth if hurdles can be overcome

Our Funders:

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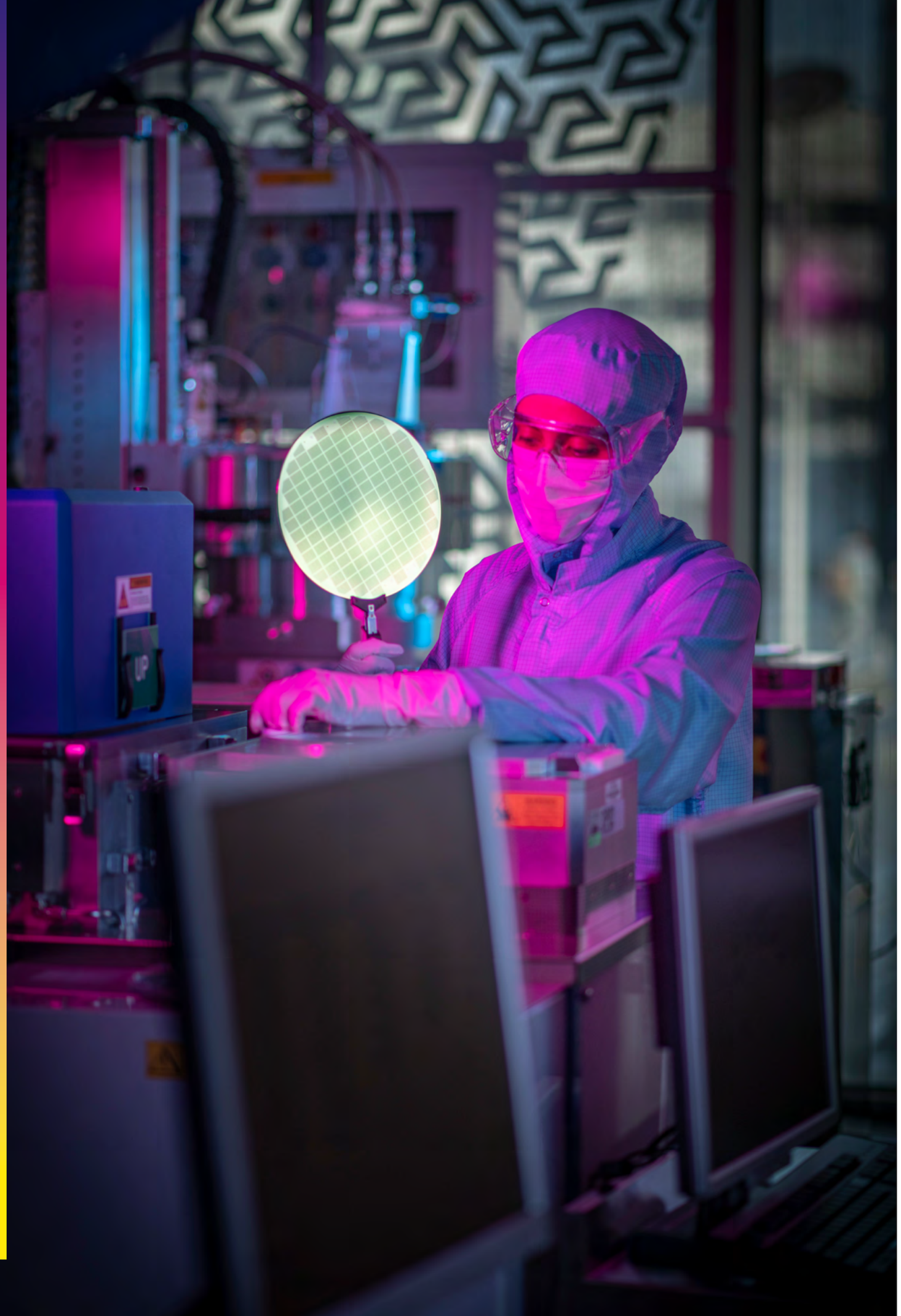

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Foreword from

Professor Graham Reed

Director, CORNERSTONE

“2026 may be remembered as the year of silicon photonics (SiPh).

Already, we’ve seen the scale of ambition from the US, with major federal and private commitments, including NVIDIA’s $6.5bn investments into SiPh. In Europe, ambitions to create a flourishing SiPh industry are underway, with a €400 million photonic integrated circuit pilot line. SiPh is already a foundational technology for industries like telecoms, and as its applications continue to grow, the next wave of commercialisation is scale-up and mass integration.

But as momentum for the sector ramps up, there are clear challenges that must be addressed to ensure governments, industries and academia alike can capitalise on the silicon photonics opportunity.

Every nascent industry must overcome scaling challenges. Silicon photonics is built on over thirty years of research and development, giving us the foundation to grow. We now must face the next hurdle: establishing the infrastructure, talent pipeline, and prototyping capabilities to support the global silicon photonics industry to evolve and reach projected revenues of at least $46.5B by 2035.[1]

In the UK, this is something we at CORNERSTONE are working hard to address.

Founded in 2014, we are the country’s leading silicon photonics hub, hosted by the University of Southampton, the University of Glasgow, and the UK’s Science and Technology Facilities Council. Our aim is to tackle these scaling challenges and advance the industry overall.

We are an open source, license-free silicon photonics rapid prototyping foundry, founded with the belief that groundbreaking technology should be accessible and collaborative. We have over 130 customers across 26 countries. Our open-source model lowers the barriers to innovation in photonic integrated circuits (PICs), giving researchers and innovators the freedom to design, fabricate, and test new ideas.

However, as the UK’s silicon photonics industry matures, building the infrastructure needed to bridge the gap between laboratory innovation and scalable manufacturing will be key to the sector’s success.

As part of our commitment to supporting the silicon photonics ecosystem, CORNERSTONE commissioned this market research and report to uncover the attitudes of decision makers operating, or planning to operate in silicon photonics, including where they feel the biggest opportunities lie, and which barriers need to be cleared to help us take advantage of them. Our findings not only spotlight where focus is needed to support the sector, but also highlight the enormous potential for economic growth, job creation, and technological innovation, once these barriers are removed.

We hope this market research serves as both evidence and inspiration for coordinated collaboration to seize the silicon photonics opportunity.”

1 Future Markets, The Global Silicon Photonics Market 2025-2035, 2024, pg. 156. URL: https://www.futuremarketsinc.com/the-global-silicon-photonics-market-2025-2035/

Introduction

The increase in global data consumption is driving demand for faster, more efficient processing technologies. Traditional electronic systems rely on copper wiring to transmit electrons, a method limited by physical speed constraints and high energy consumption.

Photonics can carry data at significantly higher bandwidth, while reducing energy consumption across communication networks. Photonics is already all around us - from the fibre optic cables powering the internet to LED lights and the lasers used in medical procedures.

Silicon photonics, more broadly referred to as photonic integrated circuits (PICs), or co-packaged optics (CPO) when densely packaged together with electronics, integrates these light-based components into silicon chips and is one of the most strategically significant opportunities for industrial growth of this generation. Already crucial to data centre communications, silicon photonics uses light to transmit massive volumes of data via optical transceivers and fibre networks, enabling the high-speed, low-energy connectivity required for modern data centres, and has growing applications in AI hardware, 5G infrastructure, environmental and biomedical sensing, and more.

The applications for the technology are expansive and after 35 years of development, SiPh is poised to enter a new era – one that, much like electronics before it, promises to define technologies for years to come. Just a few of the emerging applications include the use of SiPh to:

- **Enable new frontiers in AI hardware:** including highly energy efficient optical AI accelerators and optical neuromorphic computing.
- **Drive scientific discovery in healthcare:** including measuring critical concentrations of drugs, chemicals, or identifying markers of disease through rapid, low-cost on-chip sensing.
- **Facilitate the scaling and practical application of quantum systems:** silicon photonics will help translation work to useful demonstrations of quantum advantage, quantum communications and sensors.
- **Improve autonomous vehicle safety:** by integrating all LiDAR system components, including lasers, detectors, and beam-steering elements, onto a single silicon chip.
- **Support sustainability initiatives:** via environmental gas measurement capabilities and pollution monitoring.
- **Create new sensing and detection capabilities:** to support national security initiatives, for example, in airports.
- **Providing sovereign capability:** particularly for numerous defence applications.

This market research identifies the infrastructure investment needed to secure the UK's position in the global silicon photonics supply chain, from world-class research to commercial deployment, while examining the broader global opportunity. The research, conducted via OnePoll, involved the survey of 500 decision makers currently developing/deploying silicon photonics chips, or in the planning stages of doing so, from the UK, US, Germany, Spain, and the Netherlands.

The findings map the path to landmark growth and the infrastructure hurdles the sector must overcome to unlock the full potential of silicon photonics. The key area requiring attention to achieve this is clear: access to prototyping and scale-up infrastructure.

Callum Littlejohns

Deputy Director of CORNERSTONE

Commented:

"Silicon photonics is facing an exciting window of opportunity, fueled by the expansion of AI infrastructure, data centres, and quantum technologies. What we need now is a dedicated UK photonics strategy and targeted investment that can translate the UK's world-leading research pipeline into commercial reality.

The market research commissioned by CORNERSTONE demonstrates that the global outlook is positive. In the UK, if we can successfully establish the necessary infrastructure for SiPh to flourish and for companies to scale their chips beyond initial prototypes, we will reap the rewards of more jobs, long-term technological sovereignty and accelerated innovation."

Chapter 1:

Access to scale-up infrastructure

Despite clear hurdles, the overall picture indicated by the study was one of optimism for national strategies supporting the path to commercialisation of silicon photonics and semiconductors in general.

In each region, respondents expressed confidence in their company's ability to scale silicon photonics. This figure was the highest in the US at 88%, followed by Spain at 87% and the UK at 82%. Germany and the Netherlands followed suit, with 70% and 69% agreeing respectively.

However, the findings revealed that challenges at the prototyping stage are hindering the sector's advancement.

PROTOTYPING BARRIERS

As the silicon photonics sector continues to grow, the findings uncovered critical challenges along the path from research to commercialisation. The market research outlined how prohibitive foundry costs, lengthy timelines, and restrictive agreements can all present barriers to prototyping. Globally, for example, 19% of respondents said they'd encountered restrictive foundry NDAs and license agreements, while 27% experienced lengthy turnaround times when producing prototypes.

Geopolitical tensions and trade barriers are also impacting how quickly and efficiently companies can prototype SiPh chips. Almost a third of respondents (32%) cite high tariff costs as the biggest barrier to prototype development.

Interestingly, the UK figure reflects this global average (32%) despite the country facing challenges associated with its exit from the European Union. In the Netherlands, 36% reported high tariff costs as a barrier, while in Germany, this figure falls to 21%.

National data shows other obstacles:

- In the US, 31% cite immature PDKs, and 25% cite difficulty connecting supply chain partners in a complex ecosystem.
- Another concern is the lack of testing capabilities. Nearly three-quarters (70%) of respondents in Spain and the US agree that the cost and challenges of testing circuits are hindering growth.

TIME IS MONEY

Due to these barriers, companies are forced to cancel or delay their prototyping plans. 31% of respondents globally report delayed product roadmaps, causing notable financial losses of $2.7M over the past five years.[2]

The data shows a clear pattern: demand for silicon photonics is outpacing the industry's current physical capacity to deliver. The data points show how much is at stake. Closing structural bottlenecks, reducing costs, and expanding testing capabilities would unlock concrete value that currently sits just out of reach. The UK has the foundations to close that gap faster than most; with world-class research institutions, a diverse talent pool, and a strong commercial footing with many companies already operating in silicon photonics-adjacent industries.

Addressing these barriers requires deliberate infrastructure investment and coordinated policy.

2 UK and EU averages converted into US Dollars ($) using April 2026 exchange rate estimates (GBP [£] to USD [$]: 1.3448, EUR [€] to USD [$]: 1.1713) to reach the ~$2.7M Global Average.

Chapter 2:
Commercial scale-up

UNLOCKING COMMERCIAL VALUE

The commercial stakes of accelerated prototyping are substantial.

While wide-scale industry data shows that time lost to fragmented access, high foundry costs, and infrastructure gaps translates directly into delayed revenue, CORNERSTONE actively mitigates these barriers.

Through accessible multi-project-wafer (MPW) services and bespoke fabrication options, CORNERSTONE provides developers with clear paths to reduce both development timelines and cost overheads.

Globally, almost half (48%) of survey respondents state that they could begin generating commercial revenue 7–12 months earlier if prototyping cycles were accelerated by 25%, making the financial return on fabrication efficiency clear.

The target market opportunity per additional design is valued globally at approximately $28.7M[3].

SCALING-UP BOTTLENECKS

In addition to current barriers with prototyping experienced by many respondents, lack of access to scale-up infrastructure was also identified as a major challenge to commercialisation.

Two-thirds of respondents globally (66%) report that manufacturing access is the primary roadblock to commercialisation.

59% agree their country lacks the infrastructure needed to progress from research to commercialisation.

Although the global figures show that overall, countries lack the coordinated scale-up infrastructure to develop and deploy silicon photonics chips, there are some regional disparities. In the US, 76% believe the country lacks the infrastructure needed for silicon photonics companies to scale, while the Netherlands shows the most confidence in its national infrastructure at 53%.

At a time when governments such as the UK are evaluating plans for scale-up infrastructure, the Netherlands provides an example of how a connected ecosystem and national photonics strategy helps companies to scale-up.

The Netherlands has a dense and coordinated ecosystem, consisting of large anchor companies such as ASML that provide gravitas and attract investment. It also benefits from strong applied research organisations and open-access fabrication infrastructure coordinated via the PhotonDelta network.

As other nations ramp up investment in infrastructure, we are now at a critical juncture for the UK, which risks lagging behind if it doesn't keep pace. The government is aware of the urgency. In June 2026, UK Technology Secretary Liz Kendall announced the AI Hardware Plan to secure Britain's future capability in chips and the semiconductor technologies that underpin AI[4]. Backed by £1.1bn in funding, the plan recognises the pivotal role of silicon photonics to the future of AI hardware.

"Commercial scaling in silicon photonics depends on access to a strong, connected ecosystem across the full value chain. CORNERSTONE provides a critical capability in wafer fabrication, enabling organisations to bridge the gap between early-stage research and commercial deployment.

Combined with Compound Semiconductor Applications (CSA) Catapult's expertise in co-design, integration, and system-level validation, this creates a clear acceleration pathway for companies to progress from concept through demonstrator to pilot and early production.

By coordinating investment in integrated photonics infrastructure, capability, and talent, the UK can strengthen its sovereign position in key technologies, including AI infrastructure, quantum systems, and advanced sensing, ensuring that innovation developed here is scaled and manufactured here.,"

Joe Gannicliffe

Head of Photonics and Radio Frequency, Semiconductor Catapult (previously CSA Catapult).

3 UK and EU median converted into US Dollars ($) using April 2026 exchange rate estimates (GBP [£] to USD [$]: 1.3448, EUR [€] to USD [$]: 1.1713) to reach the ~$28.7M Global Average. The Global Average was calculated by finding the total median market value (for all regions).

4 GOV.UK, "UK AI Hardware Plan", 2026, URL: https://www.gov.uk/government/publications/uk-ai-hardware-plan/uk-ai-hardware-plan

WHAT A PILOT LINE IS, AND WHY IT MATTERS

A pilot line - a scale-up facility that bridges the gap between laboratory innovation and mass manufacturing - was something overwhelmingly supported by respondents in all markets. Of the markets surveyed, the UK's scale-up infrastructure is the least mature, with 68% agreeing that they lack the support they need to scale, and shows strong advocacy for a PIC pilot line:

87% of UK respondents agree that dedicated PIC pilot line facilities would help overcome current prototyping challenges. Meanwhile, two-thirds (74%) agree that it will accelerate innovation. The market research further validates recommendations from the UK Council for Science and Technology, which wrote to the Prime Minister in March 2026[5] to make the case for establishing a "National Photonic Integrated Circuit (PIC) Foundry for prototyping and low-volume production"

As a prototyping foundry, CORNERSTONE aims to remove barriers to innovation, offering an open-source model to make silicon photonics accessible and cost-effective with a rapid, flexible, and seamless route to silicon photonics prototyping. However, a pilot line occupies a critical middle ground that does not currently exist in the UK. Research facilities offer flexibility but lack the process control and repeatability needed for commercial-grade fabrication and validation that prototypes are manufacturable at scale. Commercial overseas foundries offer high volume manufacturing, but typically do not make their processes accessible at low volume, offer very limited flexibility in the fabrication process steps, and growing geopolitical risk and tariff pressures make reliance on them a strategic liability.

A national silicon photonics pilot line would provide semi-industrial fabrication workflows at a level of process maturity that bridges these two worlds. It is not a traditional research facility. It is the infrastructure that turns UK innovation into commercial potential, offering stable, documented, reproducible processes for companies moving from prototype to pre-production for the first time.

Critically, the approach should combine batch-level PIC wafer scale manufacturing, heterogeneous integration, and advanced packaging all under one roof. With 80% of UK respondents agreeing improved linkage between supply chains would help overcome silicon photonics prototyping challenges, a holistic approach would create a first-of-its-kind capability in the UK. By connecting a fragmented supply chain whose components are currently spread across the globe, end-users increase their competitive advantage with an accelerated route to market.

UK respondents are clear about what they expect a national pilot line to deliver:

Improved fabrication quality (50%)

Better design performance and yield (42%)

Faster routes to market (42%).

5 GOV.UK, "CST advice on growth and global leadership in photonics", 2026, URL: https://www.gov.uk/government/publications/photonics-capturing-the-opportunities-for-growth-and-global-leadership/cst-advice-on-growth-and-global-leadership-in-photonics#:~:text=The%20UK's%20overall%20aim%20should,5%5D%20%5Bfootnote%206%5D

"A domestic pilot line is the missing link in the UK's photonics story. The UK has world-class research, global companies, and genuine commercial momentum - but without the infrastructure to move from prototype to production, we risk gifting the next generation of photonics innovations to our competitors. This data makes the case compellingly, and techUK stands ready to work with CORNERSTONE, wider industry and government to turn it into action"

Rory Daniels

Head of Emerging Tech & Innovation, techUK.

THE ECONOMIC CASE

Previous analysis by CORNERSTONE[6], developed in partnership with Moor Economics, shows that government investment in a UK pilot line could deliver a conservative return on investment of more than 8x the recommended £305M capital investment. The facility would enable UK companies to scale domestically, generating approximately $4.7 billion in cumulative revenues by 2035, with a potential domestic userbase of more than 100 companies from day one.

40% of respondents in the UK also reported that a domestic pilot line would increase the likelihood of scaling their company domestically. A national facility creates the conditions for companies, talent, and investors to cluster around a shared capability, rather than dispersing to wherever the infrastructure happens to exist.

6 CORNERSTONE, "The case for a UK Silicon Photonics Pilot Line", 2025, URL: https://cornerstone.sotonfab.co.uk/wp-content/uploads/2026/04/UK-Silicon-Photonics-Pilot-Line.pdf

The UK already has leading research capability, a deep talent base, and a growing pipeline of companies working across silicon photonics applications, from AI hardware and quantum systems to defence and healthcare, all the ingredients required that together with a national pilot line, will position the UK at the forefront of the technology.

SOVEREIGN CAPABILITY

A massive **79%** of UK respondents agreed a national SiPh pilot line would significantly enhance the UK's sovereign technology capabilities.

This figure carries particular weight against a backdrop of growing geopolitical uncertainty and global supply chain fragmentation.

When looking at the industries set to benefit most from silicon photonics and potentially deliver on these sovereign capabilities, our market research paints an interesting picture.

We asked respondents which industries their companies are currently developing SiPh chips for. For the UK, the results looked like this:

Winner: Quantum Technologies

64% said their company is currently developing silicon photonics chips

Runners up: AI Hardware & Telecoms

56% said they are developing silicon photonics chips for AI Hardware, and **52%** for Telecoms

Rising stars: Healthcare & Environmental Sensing

43% said they plan to start developing silicon photonics chips for Healthcare or Environmental Sensing in the next 24 months

This is perhaps unsurprising, given the government's £2bn commitment to quantum technologies[7], and the clear architectural advantages for PICs for quantum computing, which are being used by companies like PsiQuantum, ORCA Computing and more.

Additionally, since the publication of the UK's AI Hardware Plan and significant funding injection into AI infrastructure, the percentage of companies developing silicon photonics chips for AI Hardware & Telecoms will no doubt increase, further boosting both the demand and the economic potential.

"Silicon photonics is quickly becoming a crucial part of AI infrastructure. Recent developments from Nvidia have underpinned the shift towards photonics becoming the backbone of datacenter technology. The UK has an incredible opportunity to become a world leader in next generation systems by exploiting our world- class expertise in the field.

Bold choices made now will return huge rewards if we can create an ecosystem supply chain to support and back our photonics businesses - and will in turn provide AI sovereignty in the future. CORNERSTONE is crucial to that success to allow companies to prototype and manufacture in the UK,"

Nick New

Optalysys, CEO

7 GOV.UK, "UK's "Quantum leap" to help beat disease, deliver high-paid jobs, and strengthen national security, as first country in the world to roll out Quantum computers at scale", 2026, URL: https://www.gov.uk/government/news/uks-quantum-leap-tohelp-beat-diseasedeliver-high-paid-jobs-and-strengthen-national-security-as-first-country-in-the-world-to-roll-out-quantum

Global investment in silicon photonics is accelerating:

The EU has committed €380M to a pilot line via PIXEurope.[8]

Imec has invested €615M in a facility in Spain.[9]

NVIDIA has committed upwards of $6.5 billion into photonics.[10]

A CALL TO ACT

The countries building the right infrastructure now will capture the value being created. Those who do not will continue to fund it for others.

A national silicon photonics pilot line is the intervention that converts that position into commercial output, anchors high-value fabrication capability in the UK, and ensures the next wave of silicon photonics growth creates jobs, revenues, and sovereign capability here.

The analysis has mapped the return. The industry has expressed the demand. Investment in a pilot line now is what determines whether the UK becomes a leader in this market.

8 PIXEurope, URL: https://pixeurope.eu/

9 La Moncloa, "The Government of Spain promotes Imec's flagship project in Malaga with the Junta's permission to build on the land", 2025, URL: https://www.lamoncloa.gob.es/lang/en/gobierno/news/paginas/2025/20250117-imec-project.aspx

10 CNBC, Kai Nicol-Schwarz, "Nvidia is investing billions into this emerging technology that could change the AI industry", 2026, URL: https://www.cnbc.com/2026/05/29/nvidia-photonics-investment-ai.html

Chapter 3:
Talent

TACKLING THE TALENT CRISIS

In addition to the challenges with prototyping and infrastructure, the market research uncovered that a growing talent gap is emerging, shaped by R&D funding pressures and the pull of better-resourced overseas ecosystems, which risks undermining the pipeline of engineers and researchers that the silicon photonics sector depends on.

A quarter (24%) of UK respondents reported losing staff overseas in the last 24 months.

55% of UK respondents have already moved or have plans to move abroad themselves at some point in the future in order to access greater professional opportunities. This is slightly higher than the global average (49%) and significantly higher than the number who plan to leave the Netherlands (30%). This is a structural problem that, if unaddressed, will erode the research base and industrial capability the UK has spent decades building.

"Without the infrastructure to support scale-up, the UK risks repeating a familiar pattern: a UK-developed technology commercialised overseas, with the associated loss of talent, economic value, and long-term capability.

The data in this research makes that cost concrete, measured in delayed revenues, lost jobs, and a skills base that takes years to rebuild,"

Andy Sellars

CORNERSTONE Head of Strategy, and member of the Semiconductor Advisory Panel for the UK Government.

Where there is a coordinated ecosystem with shared infrastructure, strong applied research organisations, and clear career pathways, talent stays.

A UK pilot line would help create these conditions. CORNERSTONE's previous analysis indicates a pilot line could create 2,850 new jobs.[11]

Alongside talent retention, skills shortages are a universal challenge across the global silicon photonics sector.

Skills shortages are impacting 42% of businesses in the UK and 52% in the US and Germany, demonstrating that the pipeline of engineers with the specialist knowledge required to design, fabricate, integrate, and package silicon photonics is insufficient to meet projected demand.

THE VALUE OF ACTING NOW

86% of UK respondents say they would hire at least 3-5 additional staff members immediately if they could design more chips.

The UK is in a position to be a serious competitor. CORNERSTONE already provides training, notably via its PIC Bootcamp programme, and knowledge-sharing as part of its open-access foundry model, and CORNERSTONE's mission includes building the skills and community needed for a sustainable UK silicon photonics industry.

"Silicon photonics - and photonics overall - underpins some of the most transformative technologies of our generation. Therefore, its role in supporting innovation and ultimately boosting the economy is absolutely key. Our quantum hardware is built on ultra-cold, laser-cooled matter, making photonics expertise central to what we do. Having started as an academic research group at the University of Southampton and benefited from the support of Future Worlds, the university's startup incubator, we have experienced first-hand that cultivating the skills and training in photonics is what turns the science into commercial reality."

Alexander Jantzen

COO and Co-founder of Aquark Technologies.

11 CORNERSTONE, "The case for a UK Silicon Photonics Pilot Line", 2025, URL: https://cornerstone.sotonfab.co.uk/wp-content/uploads/2026/04/UK-Silicon-Photonics-Pilot-Line.pdf

Anke Lohmann

Founder & Chair, Anchored In Ltd.

commented:

“Demand for PIC experts is growing, and the industry is feeling the skills gap. Speaking with companies across the value chain, I heard a consistent message: the engineers and physicists they recruit are often strong in one area but underprepared in others. PIC development is inherently interdisciplinary, spanning photonics, semiconductors, fabrication, electronics, thermal management, and packaging. To be industry-ready, people need hands-on familiarity with simulation and layout tools, industrial fabrication techniques, electronics design, and packaging constraints. Without that breadth, even technically strong individuals struggle to contribute effectively to commercial PIC development. This insight led me to initiate PIC Bootcamp, a training programme covering all those areas, co-developed with the University of Bristol, CORNERSTONE, and three UK companies: Wave Photonics, Bay Photonics, and Light Trace Photonics, and now led and expanded by CORNERSTONE. The structure and timings have been designed to attract a diverse workforce, minimise time away from the workplace and home, and split training into shorter modules that participants can select when they have time.”

Conclusion

The global silicon photonics market is expanding rapidly, establishing a clear commercial opportunity that international competitors are already acting on. While industry demand is absolute, the primary challenge for the UK is infrastructure development. Current structural gaps, specifically fragmented fabrication access and prototyping delays, force domestic innovation and engineering talent to move overseas, transferring economic value and intellectual property to foreign ecosystems.

The UK does not need to compete on high volume fabrication. Instead, the path forward relies on leveraging the nation’s existing leadership in design expertise, specialist process development, research depth and start-up culture. Capitalising on this leadership requires a dedicated national pilot line to bridge the gap between initial design and commercial deployment. This facility will provide a stable environment to refine and validate silicon photonics designs at a pre-production or low volume manufacturing scale, securing intellectual property and commercial revenues within the UK, with trusted partnerships with international high volume manufacturing facilities providing the validated and seamless route-to-market.

International precedents demonstrate the long-term viability of this strategy. Coordinated national strategies and connected ecosystems, prove that shared infrastructure and clear technical pathways successfully anchor commercial activity and retain specialist talent locally. With major capital commitments expanding across the EU and private infrastructure globally, targeted investment is the decisive factor that will determine whether the UK leads this emergent market or cedes its technological sovereignty.

By establishing this missing link in the supply chain, the UK can translate its research foundations into jobs, domestic revenues, and long-term technological capability.

The choice is clear: build the national infrastructure required to secure the value of UK innovation or continue to watch that value accrue elsewhere.

Methodology & Data Quality Overview

This survey was commissioned by CORNERSTONE via OnePoll, a full-service market research agency established in 2003, specialising in high-quality online sample provision and insightful data storytelling. OnePoll is committed to the highest industry standards, operating as MRS Company Partners with a team of researchers who are all MRS Members. Furthermore, OnePoll has signed the Global Data Quality (GDQ) Data Quality Excellence Pledge, establishing clear quality signals through adherence to shared basic standards.

1. Proprietary sample & recruitment

- Respondents were recruited via a 100% proprietary and exclusive B2B panel.
- This panel was recruited via multiple channels, including social media, partner websites, online communities, news stories, and a robust referral process.
- Panel members are profiled across 136 data points, including detailed demographics, occupation, household composition, technology adoption, and lifestyle habits.

2. Thoughtful questionnaire design

- Every questionnaire is designed to be inclusive and accessible for all audiences. OnePoll utilised customised show/hide logic and defined key terms to reduce respondent confusion and improve data validity.
- The survey was configured for desktop, mobile, and app use to ensure maximum accessibility and a positive respondent experience.
-

3. Rigorous quality control & validation

OnePoll employed a multi-layered approach to mitigate the risk of poor-quality data:

- Double-verification was used for logins, IP geo-mapping (ensuring UK origin for relevant samples), and external sources to identify known fraudsters.
- The survey incorporated trap questions and effective screening. Participants who failed quality traps or exhibited contradictory demographic information are investigated and removed.

Low-quality engagement was flagged during fieldwork, including:

- Completing surveys significantly faster than average.
- Identifying “straight-lining” or repetitive answer patterns.
- Manually sense-checking verbatim responses for relevance and authenticity.
- Respondents were also screened for duplicate or suspicious IP addresses, bot-like activity (identical timestamps), and formulaic email addresses.

4. Continuous panel health

The panel used in this survey is monitored by both research and panel management teams. While researchers flag project-level issues, the management team runs ongoing checks for mismatched locations and mismatched profile data.

OnePoll conducts live quality checks for fraudulent responses while the survey is in the field. Individuals identified as fraudulent are blacklisted from future research.

FAQs

Q. What was the time taken to complete the survey?

7-11 minutes, which is within the normal range for a 20-question survey.

Q. What was the screen-out rate (i.e., how many people attempted the survey but were disqualified)?

The screen-out rate was between 56% and 78%. This is higher than average, since the respondents sourced work in a very niche sector, and needed to qualify as a decision-maker level in their organisation.

Q. How were respondents’ geographical categorisations conducted?

Respondents’ geographical categorisation was based on which country they were in at the time of survey completion. This information is captured by geographical mapping of respondent IP addresses. This data is not shared with anyone.

Q. Does each of the 100 respondents represent a unique organisation?

Given that the total number of companies working in silicon photonics in 2026 is relatively small, some respondents worked for the same organisation at the time the survey was conducted. The total number of respondents in this category was 65 out of a total of 500.

Q. How was respondents’ expertise in silicon photonics verified?

Respondents were required to self-select as “currently manufacturing or planning to manufacture silicon photonics chips.”

All respondents were selected via a proprietary and exclusive B2B panel. All panel members go through a robust referral process and are profiled across 136 data points, including detailed demographics, occupation, and technology adoption, to ensure the panel has the relevant expertise to select the most appropriate respondents for this survey.

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[Ref. 9]

PIXEurope, URL: https://pixeurope.eu/
[Ref. 8]

To access full survey and raw results - Survey Dashboard

CORNERSTONE

The CORNERSTONE Photonics Innovation Centre is the UK's leading technology hub for silicon photonics.

Our mission is to realise a continuous pipeline of silicon photonics-enabled technologies and companies that can serve a wide range of global industries by 2030. We offer:

- Training opportunities
- UK SME foundry support programme
- Innovation funding for university-industry collaborations
- Start-up support
- Public policy engagement

Contact us:
cornerstone@soton.ac.uk

Our Funders:

UKRI Engineering and Physical Sciences Research Council

UKRI Innovate UK