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Enabling Growth and Resilience:
The UK Tech Sector in an Uncertain World

January 2025

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Executive Summary

The UK tech sector is a vibrant and rapidly growing part of the economy. It outpaces overall UK economic growth and powers the country's world-leading service exports. However, the global landscape is challenging the sector's continued growth and resilience.

Interconnected crises and concerning long-term trends are impacting the global economy. Climate change is already impacting trade flows and supply chains. Changing demand is putting pressure on certain goods, such as AI GPUs. Geopolitical instability, driven by the return of great power competition, is sending shockwaves through the tech sector. Meanwhile, potential US tariffs and divergent approaches to technology regulation add to global trade and technology uncertainty.

In response to this shifting global landscape, **governments are changing their priorities.** Countries are moving away from free trade and globalising policies towards a greater emphasis on resilience, sustainability, and national security. A key element of this shift is the resurgence of industrial policies as countries utilise trade-distorting interventions to achieve their aims. A big part of this shift is the greater focus on economic security in response to the perceived threat from China, with many states taking steps to reduce their reliance on China for critical technology inputs.

These changes pose unique challenges to the UK as a trade-dependent, mid-sized economy. The UK and the tech sector are particularly vulnerable to disruptions in global supply chains, especially those involving China. The UK economy is also highly exposed to the US and the EU, further raising the stakes given the potential for trade escalation that might leave the UK caught in the middle.

Despite these challenges, the UK has substantial strengths. **The UK's thriving tech sector can be a powerful engine for growth and resilience, especially with the right policy decisions by the government.** Since coming to power, the new government has taken some encouraging steps, including a renewed focus on industrial strategy and investments in key areas.

It is now essential to follow up these early moves with substantial action to **ensure the tech sector is resilient to global challenges and well-equipped to continue to power UK growth.**

This report makes policy recommendations on how the UK government can ensure that the tech sector thrives. These fall into four pillars:

Building Policy Coherence and Longevity

- The government must ensure it has the capacity and expertise to understand the rapidly evolving tech sector, that its various policies are coordinated, and that they avoid contradictions that undermine their intent.

Enabling Security and Resilience

- The government should coordinate economic security and industrial policies with its allies to avoid a harmful subsidy race and maintain a level playing field. Additionally, the government should utilise its procurement power and consider strategic investments in key firms to protect critical technologies. The report further calls for a pragmatic and streamlined approach to investment screening and for the government to account for the impact on businesses when imposing export controls and sanctions.

Accelerating Growth Through Trade

- The UK should step up as a leader in support of multilateralism and free and fair trade. This should include improving the negotiation and implementation of Free Trade Agreements, as well as working to re-establish a better trading relationship with the EU. Additionally, the UK should continue its fight against digital protectionism, particularly through the WTO, and negotiate more digital trade agreements with high-value and like-minded international partners. The UK should further build on its regulatory strengths and influence in international standards-setting bodies and push for including AI and quantum technologies in trade agreements.

Strengthening International Development and Cooperation

- The UK should recognise the value of digital technologies to its international development agenda and enhance its leadership in international technology policy. It should also strengthen its research cooperation with partners globally and look to negotiate technology cooperation agreements with key allies.

By acting on these recommendations, the UK government can help ensure the UK tech sector remains a key driver of the UK's future growth and prosperity.

Introduction

Growth is central to the UK government's agenda and the UK's social and economic prosperity. The government has made explicit its ambition for the UK to have the highest sustained growth among the G7 economies - something the UK has never achieved for two years in a row.[1]

Achieving these levels of growth will require an economy working at peak performance—and the UK's tech sector is essential to that. Tech is one of the UK's most vibrant and fast-growing sectors, a major exporter, and, crucially, the connective tissue for all other parts of the UK economy.

The UK's Tech Sector | Key Facts

1. **The tech sector outpaces the rest of the economy** - UK Government data shows that in 2023, the digital sector's Gross Value Added (GVA) grew 1.1% in real terms year on year, and the telecommunications sector's GVA grew by 5.7%. In comparison, the UK economy's GVA as a whole was up only 0.3%.[2] Key subsectors are growing even faster, with the cybersecurity sector seeing a 4% increase in GVA in 2024 over the year before.[3]

1.1%
Digital Sector GVA

2. **This growth isn't new** - While the UK's GVA as a whole grew 21.5% in real terms from 2010 to 2022, the digital sector grew by 81.3%, and the telecommunications sector grew by 306%.[4]

81.3%
Digital Sector Growth

3. **Tech powers the UK's world-leading services exports** - In 2024, the UK became the first G7 economy to export more in services than it does in goods.[5] It is estimated that 74.9% of UK service exports are digitally delivered.[6]

74.9%
UK service exports digitally delivered

4. **Digital content is a growing share of other exports** - The UK is better than average at leveraging digital inputs to produce exports across all sectors - with agriculture and mining, textiles, and food leading the way.[7]

UK better than average at leveraging digital inputs to produce exports across all sectors

5. **UK digital trade is growing ever more important in its own right** - digital trade exports are growing at three times the rate of other trade and, as a share of the UK's trade, are twice the OECD and EU averages.[8]

digital trade exports growing at three times the rate of other trade

6. **techUK's members employ 1.1 million people** and had a combined turnover of £329 billion in 2023, with an estimated annual growth rate of 10%.[9]

10%
estimated annual growth rate

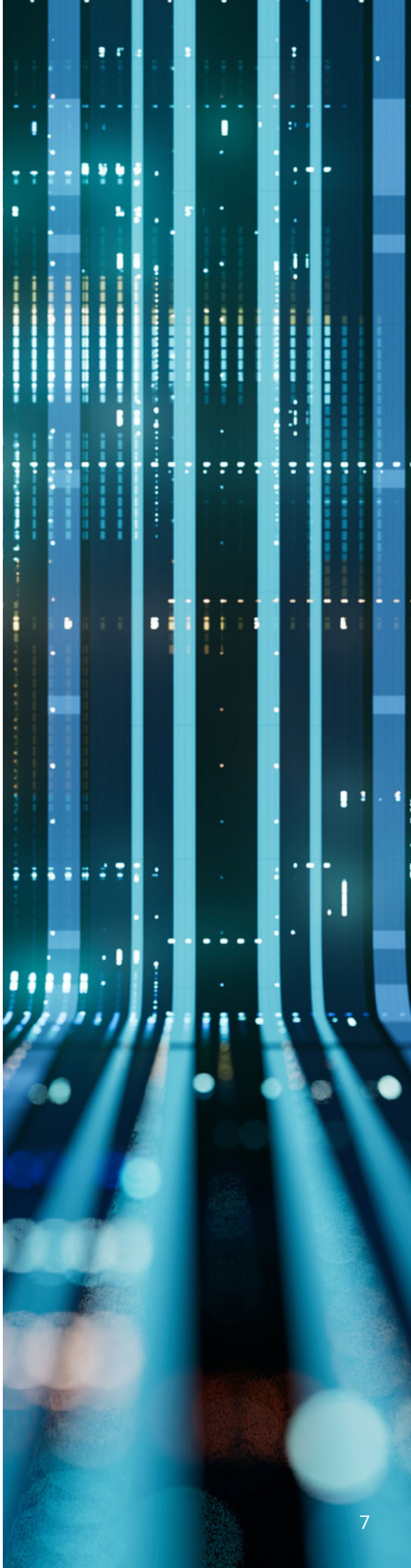
This success has been built on international foundations. Technology has long been a global enterprise. International collaboration has been the norm for cutting-edge academic research. Companies have opened R&D centres all around the world to commercialise these technologies, and trade in digital products has flowed freely across borders.

All of these pillars of success can no longer be taken for granted.

The tech sector is facing strong headwinds. As will be explored below, rising geopolitical tensions and worries about economic and technological security have altered the rules of the game. Increasing digital protectionism has erected barriers where previously there were none. Increasingly, nationalistic policymaking has impacted how countries approach critical and emerging technologies such as AI and semiconductors. This has often been accompanied by muscular industrial policies that can pursue a zero-sum game of attracting and retaining innovation activity in specific jurisdictions, to the detriment of others. Should the US embark on a renewed "America First" course with accompanying tariffs, even on friendly trading partners such as the UK, this will further add to the uncertainty even if new opportunities are opened, such as a US-UK Digital Trade Agreement.

These concerning trends have left the UK in a difficult position. As a trade-dependent mid-sized economy, the UK is highly exposed to geopolitical shocks. Furthermore, the UK's lack of fiscal heft in comparison to the USA, China, or the EU, means the UK's ability to deploy massive subsidies is limited.

In light of this, if the government is to succeed in its growth mission, then advancing the UK's technology sector must be at the heart of its approach. Various strategies must recognise the sector's importance as an enabler for every other part of the economy, be aware of the risks and opportunities that face the tech sector internationally, and coherently pull in the same direction.



In this uncertain world, the UK has an important role. International cooperation and collaboration are more crucial than ever. Trade increases prosperity and living standards, even if its impacts need to be better managed than in the past. The UK can and must be a vocal champion for the importance of these international connections.

To do this, the UK must take action. This should start with strengthening the UK's relationship with the EU. As much as the UK is a global economy, our most substantial economic, cultural, and security ties and interests remain rooted in Europe. A renewed and refreshed UK-EU relationship is foundational to the long-term success and security of the UK's tech sector.

Beyond the EU, the UK must grapple with Trump's America. There are opportunities and risks in this. For example, agreeing a UK-US digital trade agreement, or even a full free trade agreement, would be a significant achievement for both governments and a boost to the tech sector, provided any agreement does not undermine the UK's data adequacy status with the EU. There are other significant risks though. Most notably, there is likely to be increased pressure for the UK to fall behind the US in its approach to China. The results of the ongoing "China audit" will be important in grounding UK policy in its real interests, offensive and defensive, and will enable the government to better calibrate policy going forward - aligning with the US where sensible and providing greater evidence on where doing so would harm the UK.

Opportunities exist beyond the EU, US, and China though. The UK must proactively facilitate global collaboration and cooperation in support of the UK's tech sector. Whether it is a matter of pursuing international regulatory leadership and working for harmonisation, optimising the UK's influence over global standards, enabling research and collaboration on advanced technologies with partner countries, or negotiating sectoral agreements to protect critical supply chains, the government must be forward-thinking about the role it can play. Indeed, in some emerging areas, such as AI and quantum, fresh ground is ready to be broken on how to incorporate these technologies in trade deals.

These are no easy asks. The scale of challenges and the types of opportunities that exist are formidable. But if the UK government is able to navigate these uncertain waters, it will help equip the UK's tech sector to be a powerful enabling force behind a newly resilient and growing UK economy.

About This Report

The rest of this report is divided into three sections. The first section explores in greater depth the international trends facing the tech sector. These include the erosion of norms in a more protectionist and violent world, the emergence of other priorities in trade policy beyond ease of business, and the increasing use of industrial policies.

The second examines the implications for the UK and the threat landscape across economic, trade, and security domains.

The final section then sets out a series of policy recommendations that will help the tech sector enable the UK's growth and resilience. These recommendations are broken down into four pillars: Building Policy Coherence and Longevity, Enabling Security and Resilience, Accelerating Growth Through Trade, and Strengthening International Development and Cooperation.

Report Author

ORBIT POLICY

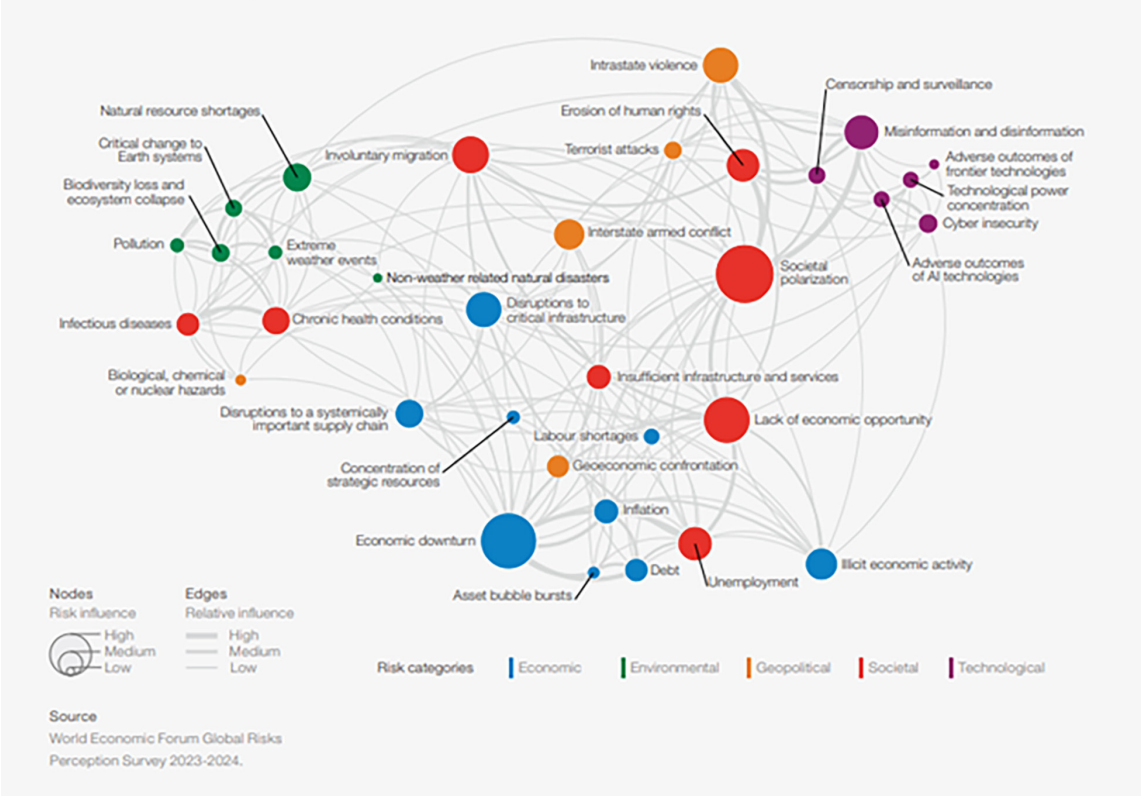
An Uncertain World

Amid the Polycrisis

The global trade and economic system is in unprecedented territory. A series of interlocking crises and long-term trends are serving to rip up the remains of the post-Cold War consensus. As Adam Tooze has said, we are in the age of the 'polycrisis.'[10]

The most recent Global Risks Report from the World Economic Forum has highlighted the current global headwinds (Figure 1). With two-year and ten-year time horizons looking markedly negative, and with two-thirds of expert respondents expecting global catastrophic risks to be either looming or at elevated risk by 2034, policymakers have their work cut out to head off these risks.[11]

Figure 1: Global Risks Landscape: An Interconnections Map.



Source: Global Risks Report 2024.

These risks are playing out in several ways. Climate change has a growing impact on global trade, particularly supply chains. The Panama Canal, for example, is suffering from a record drought that has slashed shipping along this crucial trade artery. This is likely to become the new normal, with the canal expected in future to only operate at full capacity for three or four months a year. Elsewhere, China has seen river levels plummet, impacting container traffic, and many of the world's busiest seaports could become unusable by 2050 with even a moderate increase in sea levels.[12] The economic costs to the UK from the spillover impacts of climate change are projected to be significant, even without taking into account the effects of electricity and water shortages on critical digital infrastructure such as data centres.[13]

Meanwhile, recent years have seen violence erupt on a scale not seen for generations. The Global Peace Index has found that more countries are engaged in conflicts than at any time since the Second World War, unleashing untold human suffering as well as severe economic impacts estimated at $19.1 trillion in 2023.[14]

Technology and their supply chains have been leveraged in these conflicts and have come under increasing threat. The war in Ukraine has seen technology used on and off the battlefield in new - and often worrying - ways, including the use of AI in information warfare and of remote sensing and facial recognition technologies that can also pose human rights risks.[15] These developments have been accompanied by increased cyber attacks on non-combatant countries, with "pro-Kremlin hackers...behind attacks targeting Germany, Greece, Poland, Switzerland, and Czechia."[16] The lines between civilian and military technologies have never been less clear.

This has been seen even more starkly in conflicts in the Middle East. The weaponisation of technology has taken new turns in the ongoing conflicts in the region. For example, with the planting of explosives in the batteries of pagers by Israeli intelligence services which, when detonated, injured thousands, including many civilians.[17] As Chris Miller has written for the Financial Times, this event "should send a jolt of fear through the otherwise staid world of global supply chain management".[18]

While companies know the necessity of dealing with cyber and software vulnerabilities, they are not confident they are sufficiently equipped to deal with these increasing threats. Many are not even reviewing these risks. A UK government survey on cyber security breaches found that only 11% of businesses review the cyber risks posed by their immediate suppliers and even fewer look at their wider supply chain. The figures are not much better for large companies - rising to 48% reviewing immediate suppliers and only 23% looking more widely.[19] Given increasingly complex physical and digital supply chains, this highlights the increased attack surface for cyber-attacks from hostile actors.

Technological risks from conflicts even extend to the seas, where increased Russian activity has raised concerns about the vulnerability of critical undersea cables that underpin global communications infrastructure, including the vast majority of internet traffic and more than $10 trillion in daily worldwide financial transactions.[20] Around 60 undersea cables connect the UK to the globe, which are potentially significant vulnerabilities.[21]

Geopolitical tensions also have significant impacts even when they remain below the level

of conflict. Rivalry between the US and China continues to impact trade and technology globally, contributing to a fragmentation of the world economy. The costs of the trade war between the two nations, which started in President Trump's first term and continued under President Biden, have been significant for American consumers and businesses. As well as increased costs for goods, tariffs have also contributed to layoffs, lower wages, and reduced R&D and innovation.[22] For 'bystander' countries, the effects have also been significant, though not consistently negative, as US-China tensions have seen supply chains move elsewhere.[23]

The re-election of Donald Trump as US President creates other uncertainties. The potential imposing of the US imposing new tariffs, pulling out of climate agreements, renewing tensions with China or diverging on recent approaches to AI regulation - likely to be a point of friction given the UK's longstanding leadership on AI safety – means many governments globally are going to spend significant time and energy calibrating to a very different America.

Shifting Priorities

In recent years, major shifts have been seen in the priorities and policies of governments globally as they respond to the 'polycrisis' and shifting demands from their electorates at a time of growing populism and polarisation. An overarching fact, though, is that the days of easy confidence in the wisdom of trade-liberalising, pro-growth policies are over.

The shift away from this paradigm have had many drivers. National security concerns have been a significant factor, given the state of global politics. Some countries have also placed an increasing focus on climate and sustainability. Linked to both has been a focus on resilience, with the COVID-19 pandemic highlighting the fragility of supply chains for critical goods.

Discontent with the pro-trade approaches has extended further, particularly concerning inequality. Past waves of globalisation left deep scars in many regions, and the lack of mitigation measures to support workers has been a point of contention and a driver of populism. Recent

industrial policies in the US, for example have looked to correct some of these harms, as well as pre-empt future disruption from the energy transition.[24]

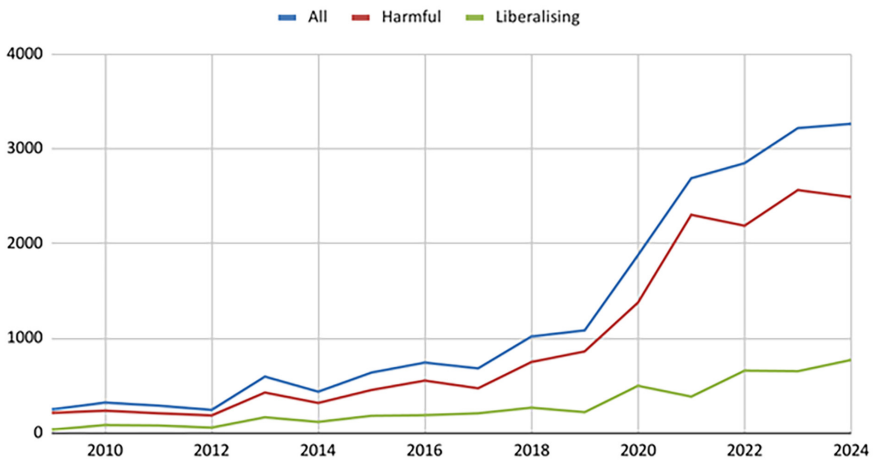
These various priorities have all contributed towards a broad global shift away from free trade and globalisation. In the US, the Hinrich Foundation notes that "never in the postwar era has the US political landscape been so anti-trade" and that "virtually no politician in America today sees a political upside in advocating pro-trade policies".[25] While the anti-trade agenda is not as blatant elsewhere, other countries and jurisdictions are seeing similar shifts. Even the EU, long an active advocate for open markets and the multilateral trade system, has seen a shift in approach. As a recent Bruegel briefing for the European Parliament has highlighted:

> *Today, the landscape for EU trade policy has changed drastically. In addition to, and partly in competition with, its traditional objective of economic wellbeing, it has also become a tool for other objectives, including European economic security (also known as open strategic autonomy) and the European Green Deal. Another way to frame this, however, is to argue that the meaning of economic wellbeing has been expanded from a narrow interpretation that focused on efficiency, to a broader one that now also includes security (or resilience) and climate sustainability, even though each one of these objectives might be the response to distinct concerns. EU trade policy must grapple increasingly with the potential conflict (or trade-off) between efficiency and security and climate.*[28]

Reshaped portfolios in the new European Commission reflect these shifting priorities. Commissioner Virkkunen's mandate goes beyond past focuses on digital to cover tech sovereignty, security and democracy.[27] In addition, Commissioner Šefčovič adds economic security on top of trade, with an instruction to develop a new economic security doctrine and to embed a "security-oriented approach" within the Commission's work.[28] These shifts have been further emphasised in the recent report for the Commission by Mario Draghi on "The future of European competitiveness".[29] In it, Draghi argues that "the previous global paradigm is failing," presenting an "existential challenge" to the EU that requires radical change as a response. In his view, that response is a new European industrial strategy, marrying decarbonisation with a renewed focus on technology and innovation.[30]

In this, the Draghi report is part of a broader shift away from purely free trade policies towards the resurgence of industrial policies, more aggressive economic interventions, and the use of a wide range of trade-distorting levers in support of other priorities such as sustainability and economic security. Research from Global Trade Alert highlights the vast growth in harmful interventions globally over recent years (Figure 2).[31]

Figure 2: The Rise of Protectionism: New Interventions Per Year



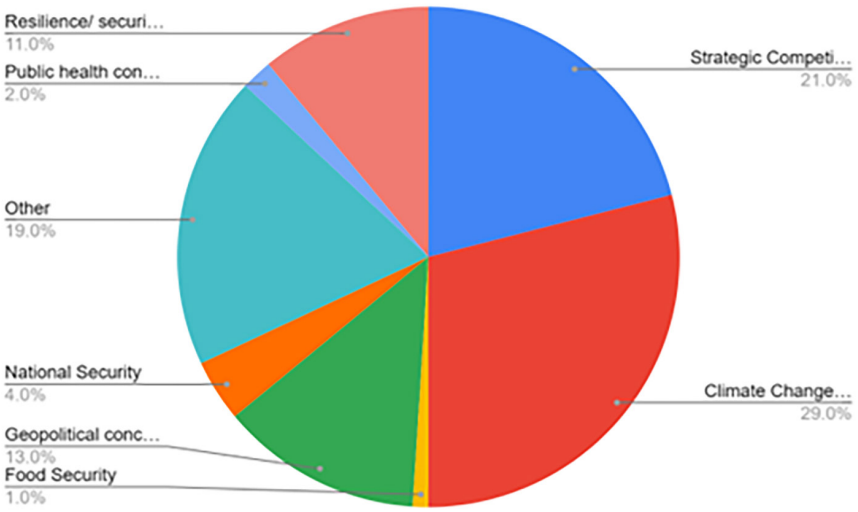
Source: Global Dynamics: Global Trade Alert

These interventions are widespread. While the US has contributed the most to these new policies, countries as varied as India, Brazil, Germany, Australia, Japan, Russia, and the UK have all introduced hundreds of harmful interventions.[32] In all, advanced economies account for around 60% of new interventions, while emerging markets and developing economies account for 40%.[33]

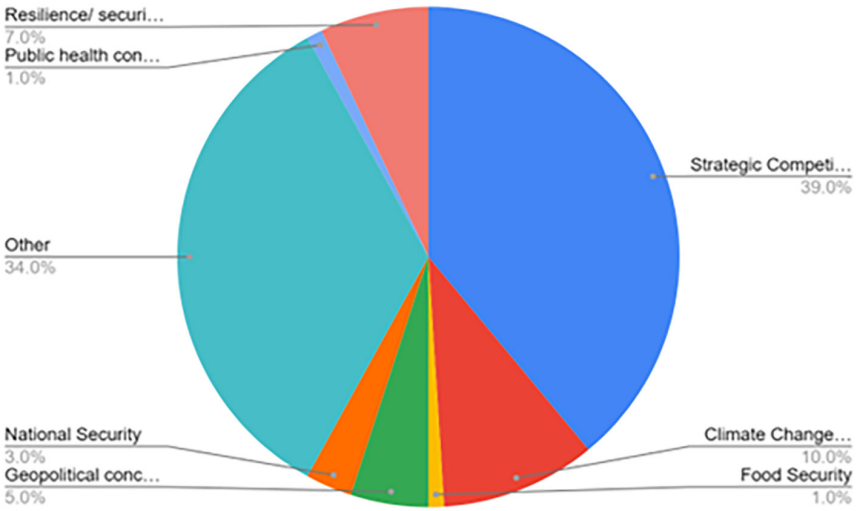
The varied reasoning between advanced and emerging economies for their interventions illustrates the changing priorities that modern industrial policies represent, as seen in Figure 3.

Figure 3: Share of Trade-Distorting Industrial Policies by Motive

Advanced Economies



Emerging Market and Developing Economies



Source: Anna Ilyina, Ceyla Pazarbasioglu and Michele Ruta, "Industrial Policy is Back. Is That a Good Thing?", EconoFact

Particularly notable are the 17% of interventions from advanced economies motivated by geopolitical or national security concerns, which are often targeted at China. Worries over Chinese advances in technology and the digital economy have not been limited to the US. However, responses from other countries and jurisdictions, such as the EU, Australia, and Canada, have often lagged behind US action.

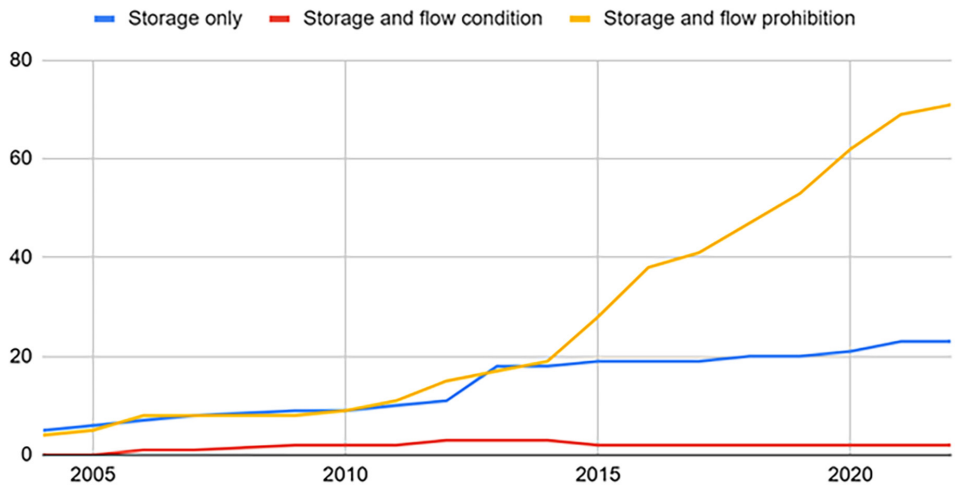
Worries about China are multifaceted. Fears over threats to critical national infrastructure, government and industrial espionage, and data exploitation have been prominent and borne out by evidence. In early 2024, US government agencies highlighted the Chinese state-sponsored group Volt Typhoon had "compromised the IT environments of multiple critical infrastructure organizations—primarily in Communications, Energy, Transportation Systems, and Water and Wastewater Systems Sectors" and that they were "pre-positioning themselves on IT networks [...] to disrupt functions".[34]

In addition, Chinese industrial policies have seen it become the key player in some sectors, such as critical mineral processing, with retaliatory tariffs and domestic industrial policies from other states seeking to level this playing field. China's growing influence in international standards-setting bodies has raised further concerns, along with a fear that an overreaction could disrupt what remains a relatively robust standardisation process.[35] Finally, there has been the worry that actual conflict involving China will cause massive disruption to key supply chains.

The response to these threats and concerns has been varied but has overall been marked by a greater "securitisation" of policy towards China, with a range of restrictions on Chinese firms aiming to de-risk trade.[36] Meanwhile, China has responded in similar ways, seeking to lessen its reliance on imports of advanced technology and engaging in its own process of securitisation.[37] The result of these moves and counter moves is to accelerate a decoupling of China and the West. This is an incomplete and inconsistent process, but some impacts are clear to see, such as a sharp drop in exports of semiconductors and integrated circuits to China and a significant fall in foreign direct investment into China.[38]

Notably, for the tech sector, these securitisation moves have included data flow restrictions, such as the Biden Administration's crack down on Chinese software in connected vehicles due to concerns about data collection and data flows to China.[39] This followed a decade of increasing restrictiveness towards cross-border data flows (Figure 4). These moves reduce competition since small firms cannot build their own data centres, instead increasing reliance on hyperscale cloud providers. The result is data management costs are increased by 15-55%, resilience is reduced, and downstream users face higher prices.[40]

Figure 4: Number and type of data localisation measures worldwide, 2004-2022



Source: https://www.oecd.org/en/topics/sub-issues/cross-border-data-flows.html

Despite these actions and the broader array of trade-distorting interventions, many measures of globalisation are holding up - including trade, capital, and immigration flows. But these should not distract from the shift that is underway. Researchers Pinelopi Goldberg and Tristan Reed conclude that while it is premature to talk of de-globalisation, "one thing is certain: there is no longer support for market-driven, unbridled globalization." This creates some problems in evaluating the success of policies designed to promote sustainability and resilience. While it is possible to model aggregate welfare benefits and distributional effects of trade policy, "there is not yet a quantitative benchmark for how much 'resilience' is optimal."[41]

Indeed, many of these policies may be counter-productive. As a recent report from the Hinrich Foundation argues:

> *"Even in the national security domain, industrial policies have trade-offs which affect resilience. Export controls may be used to keep sensitive technologies out of an adversary's hands. But they come at a cost, penalizing firms that make cutting-edge technology and potentially encouraging the adversary to step up their own innovation efforts."*[42]

While the exact impacts are still uncertain, it is clear that there has been a dramatic shift in international and trade policymaking globally in a more uncertain and volatile world. This raises some difficult questions for the UK.

A Challenging Landscape: International threats Facing the UK

The UK and its tech sector face unique challenges navigating this rapidly changing world. These include challenges in the trade and economic space and more immediate security and geopolitical threats. Yet the picture is not one of inevitable gloom and much depends on how the UK government chooses to respond to these challenges. While the UK faces a complex landscape, there are nonetheless bright spots, like the UK's tech sector, that can be built upon as key assets and opportunities to enable growth and resilience.

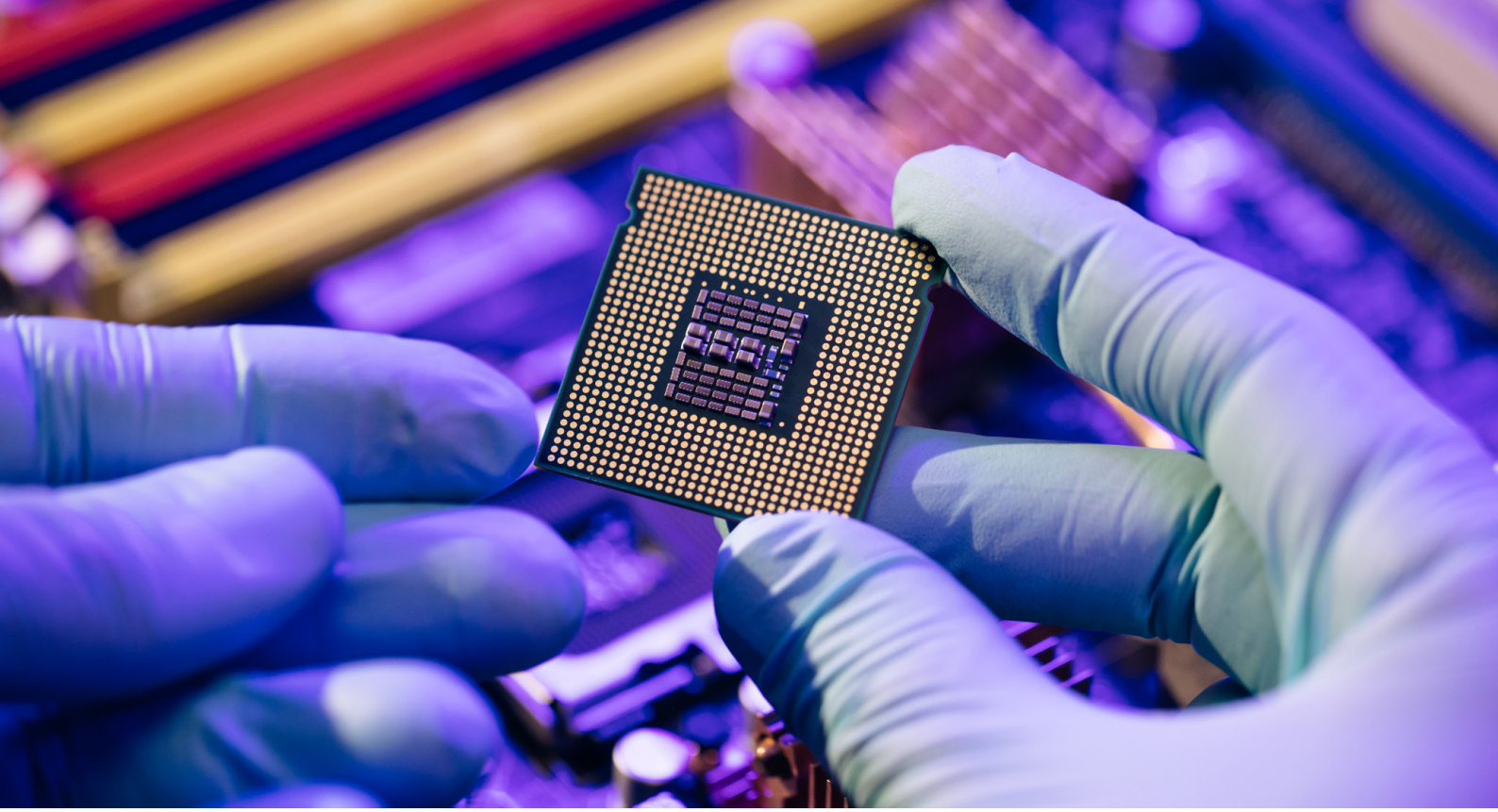
Trade and Economic Threats

Though the UK is one of the largest global economies, it nonetheless sits a distinct tier below the heavyweights of the US, China, and the EU. As a trade-dependent nation, the UK's economy is especially exposed to shifting global trends. The EU's trade as a percentage of GDP (external, not intra-EU) sits at 22.4%, the US at 27% and China at 38.4%. The UK's meanwhile sits at 65.6%. Global trade has long been a strength for the UK, but it is also a vulnerability in more volatile times.

Recent analysis from the Bank of England highlights this, pointing out that "as a small open economy, the UK is deeply embedded in supply chain networks, with roughly half of total production coming from the sourcing and sales of intermediate inputs".[44]

The UK faces several key trade and economic challenges. First is a high degree of trade exposure to certain countries and jurisdictions. The most concerning is China, given the security concerns covered more below. The same Bank of England research demonstrates that while on face value Germany is the UK's largest supplier, in reality, the UK "is sourcing a large share of Chinese inputs via other trade partners".[45] Given the importance of Chinese inputs in a wide range of advanced technologies, global moves to either decouple or de-risk supply chains involving China will have significant knock-on consequences for UK technology firms.[46]

The broader global exposure to Chinese and other crucial East Asian technological inputs, such as semiconductors from Taiwan, pose significant risks should conflict break out in the region. While it is difficult to assess the impacts, due to the many forms a conflict between China and Taiwan could take, even conservative estimates are astronomical. Given that Taiwan produced 92% of the world's most advanced logic chips as of 2021, even a blockade of Taiwan could cost companies that rely on Taiwanese chips $1.5 trillion in revenue annually with many knock-on, second-order impacts. Furthermore,

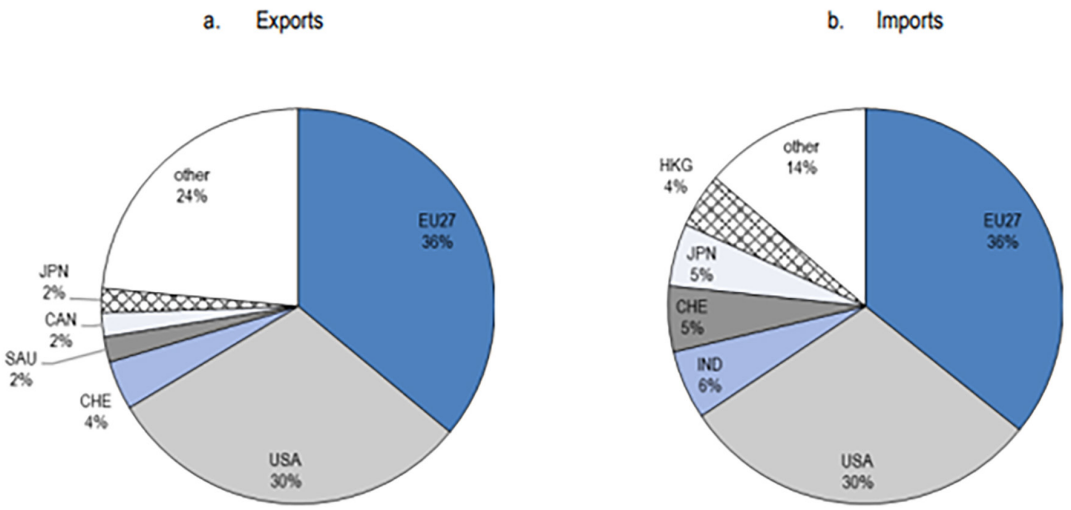


this figure does not take into account other forms of trade or financial implications.[47]

While exposure to China and East Asia more broadly has the most severe security implications, the UK is also highly exposed to both the EU and the US. The EU collectively represents the UK's largest trading partner - taking 42% of UK exports and providing 52% of UK imports in 2023.[48] With Brexit, this trading relationship has changed significantly, leaving the UK with less influence over the regulations and non-tariff barriers to trade that apply to the UK's exports, even if goods remain tariff-free. This is particularly concerning for the tech sector. As the Resolution Foundation has pointed out, digital and data "are fast-evolving regulatory areas with a high-risk of both active and passive divergence of EU and UK regulations" - which would erect significant barriers to UK-EU trade.[49]

However, focusing on digitally enabled services trade paints a slightly different picture of the EU's share of trade. As a recent analysis from the OECD shows, while the EU remains the UK's largest trading partner, the US is far closer in digitally enabled services trade than in trade overall. While the US receives 22.3% of the UK's overall goods and services exports and provides only 13.2% of imports, when it comes to digitally enabled services, both figures rise to 30%. (Figure 5)

Figure 5: UK imports and exports of digitally deliverable services are concentrated



Note: Digitally deliverable services identified using ONS sectoral classification sectors (SDA – business, SF – insurance, SG – financial, SH - charges IP, SI - Telecoms, computer and information, SJ - other business services, SK1 – Audiovisual). Data are for 2021.
Source: Own calculations using ONS - TISP - EBOPS data.

Source: J. López González, S. Sorescu and C. Del Giovane, "Making the most out of digital trade in the United Kingdom", OECD Trade Policy Papers, 5 September 2024 https://doi.org/10.1787/8f31d80b-en

This reflects the high degree of UK integration with both the EU and US digital and technological sectors - a UK strength and a challenge. Taking semiconductors as an example, recent analysis has identified significant dependencies on the US, with US investors, on average, holding a 27.5% share in 61 major located in the US, and 51% of customers are domiciled there.[50] While the US is a close ally, US policies may cause disruptions, and this level of dependence on a single country poses risks to the UK. This is especially true if the US imposes previously threatened blanket 20% tariffs, which could cost the UK £22 billion in exports, including an estimated 11% drop in computer and electronics exports to the US.[51] A further ratcheting up of tensions between the US and China would also come with costs (as highlighted above). Meanwhile, the same analysis shows substantial ties to the EU, but Brexit has created barriers to accessing European opportunities, such as funding and subsidies available through the European Chips Act.

A different threat to the UK comes from the progressive erosion of multilateral and plurilateral institutions, most notably the World Trade Organisation. As a mid-sized, trade-dependent economy, the UK relies on a stable international trade framework to ensure that its goods and services can reach other markets. Yet gridlock in the WTO has prevented much-needed reform and modernisation.

The recent agreement of over 80 members, including the UK, EU, and China - though not the US - on a stabilised text for the Joint Statement Initiative on Electronic Commerce is welcome and long overdue progress on updating global trade rules for digital trade. But even this achievement leaves a lot to be desired. Issues include the fact that many clauses are more signals of intent as

opposed to binding actions, that cross-border data flows are absent, that the moratorium on customs duties for electronic transmissions is not permanently extended, and that there is a lengthy list of exemptions.[52] Nevertheless, given it has taken over half a decade of negotiations to even reach this point, the existence of any kind of common rules for digital trade is an achievement and one the UK is set to benefit from should they be properly ratified and incorporated into WTO rules.

Another multilateral risk to the UK is the US's longstanding veto over new appointments to the WTO's Appellate Body. This issue has been ongoing since 2018 and has paralysed the WTO's dispute resolution mechanism. While most major trading nations have signed onto the Multi-Party Interim Appeal Arbitration Arrangement, the UK and the US remain outside it.

A final key economic risk is embedded in the resurgence of industrial policies, as discussed above. While international consensus has shifted on the need for more intentional interventions in the economy in support of objectives such as addressing climate change and boosting resilience, there are still significant risks and drawbacks. Industrial policies can be expensive, can lead to the misallocation of resources, and can contribute to worsening geoeconomic fragmentation and economic retaliation as countries get caught in subsidy races.[53] Given some of the fiscal constraints the UK is operating under, the UK is not able to spend the billions of Pounds necessary to keep up some of the subsidies being lavished, yet to ignore these developments risks leaving the UK tech sector at a competitive disadvantage.

Security and Geopolitical Threats

These economic risks are exacerbated by security and geopolitical risks facing the UK and impacting the UK's tech sector. As the 2023 Integrated Review Refresh summarised, we face a world of greater systemic competition leading to a deteriorating security environment.[54]

Technology and growing technological competition are crucial parts of this picture. Powerful technologies, such as AI, are becoming increasingly available and are being used to "threaten, harm and damage countries, societies and individuals remotely and in some cases anonymously," and offensive cyber capabilities are being used to harm the UK and UK companies.[55]

As covered above, China is a key source of these threats. The Intelligence and Security Committee of Parliament report on China concluded that China's "ambition at a global level – to become a technological and economic superpower, on which other countries are reliant" represents a "whole-of-state threat".[56] This has played out in many ways. The announcement in Spring 2024 that the UK and allies had identified Chinese state-affiliated organisations and individuals behind malicious cyber campaigns targeting democratic institutions and electoral processes has been merely one episode in a difficult relationship.[57] It also seems likely that Chinese-sponsored actors have breached critical IT infrastructure[58] and there are worries about Chinese theft of UK technology and intellectual property.[59] These actions all fit into a pattern of Chinese economic statecraft - the use of economic ties and tools to achieve Chinese geopolitical objectives.[60]

While the scale of China's challenge to the global order is immense, it is Russia that the government has described as "the most acute threat" to UK security.[61] Russia's war of aggression against Ukraine has upended European security. It has further been accompanied by a range of specific threats to the UK, including cyber attacks[62] and fears of sabotage against undersea cables.[63] Together with attacks from China, these threats paint a picture of coordinated attacks on UK and allied digital supply chains.[64]

The UK's tech sector is on the front line both as a target and as a crucial part of the UK's defences. For example, the AUKUS security partnership between Australia, the UK and the US is aimed at increasing security and defence capabilities in the Indo-Pacific region and includes commitments to the joint development of advanced technologies through Pillar 2. These technologies include AI, quantum and cyber, highlighting the increased role that the sector plays as part of the UK's defence and security landscape.

Protect and Grow: Opportunities and Recommendations

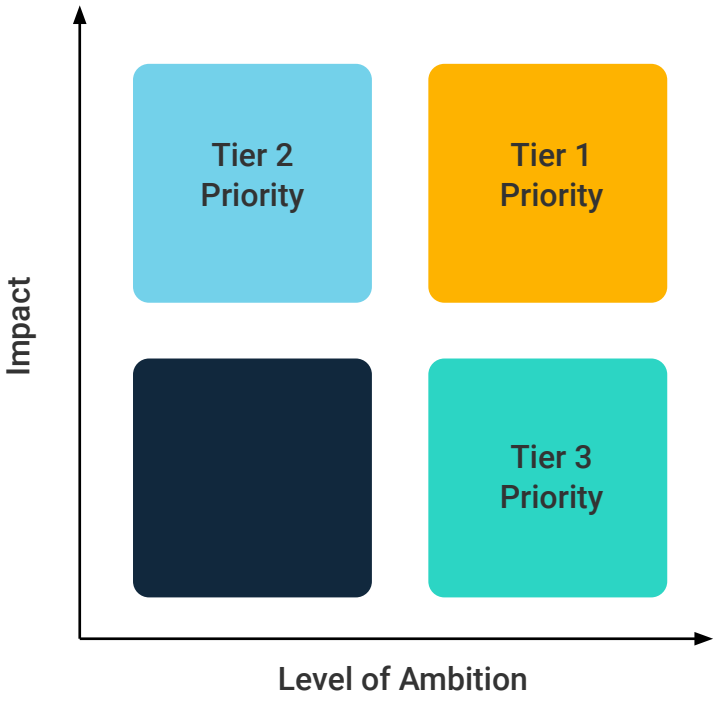
While the UK faces significant headwinds, it is by no means a universally dark picture. The UK has substantial strengths, not least the UK's thriving tech sector. Combined with other areas of UK leadership, such as its leading research ecosystem, its regulatory strengths, and its highly skilled workforce, there are bright opportunities, provided that the UK government makes sensible policy decisions.

The early signs from the new government have been encouraging. The Invest 2035 Industrial Strategy Green Paper demonstrates a recognition of the vital importance of tech as a "growth-driving sector" and innovation as an essential part of a pro-business environment. While much detail is still to come, this is a positive step.[65] Likewise, the Autumn Budget acted on recommendations from techUK's Growth Plan, with actions that will help drive business investment and productivity increases in the medium term.[66] The announcement of an "Audit" of UK-China relations is also a welcome step to clarify a crucial yet challenging relationship.

Yet more is needed to position the UK well, given the challenging and volatile international environment. The following 21 recommendations set out a series of steps that the government should take to ensure that the UK's tech sector can be a resilient and powerful engine of growth.

The recommendations fall into four pillars. The first outlines some foundational actions the government can take to ensure policy coherence and longevity. The second pillar focuses on economic security, setting out recommendations to ensure the tech sector's resilience. The third pillar moves on to steps the UK can take to facilitate the growth of the tech sector, particularly through trade policy. Finally, pillar four addresses other areas of international development and cooperation that can play a major role in supporting the growth and resilience of UK tech and which can buttress the UK's leadership globally.

These recommendations have varying levels of ambition and impact. Some recommendations are relatively simple and can have significant impacts on the sector. Others are highly ambitious and would require considerable work, but may still have an uncertain impact given the unknown future of emerging technologies. A third set is the kind of recommendations that, while difficult to achieve, could have clear and concrete benefits. To guide the reader, the recommendations have been coded to reflect these varying levels of ambition and impact:



Pillar	Recommendation	Tier
Building Policy Coherence and Longevity	1. Build Government Capacity in Key Areas	Tier 1
	2. Create Mechanisms to Ensure Transparency and Communication Across Government on Complex International Technology Issues and Avoid Policy Contradictions	Tier 2
	3. Commit to Long-Term Strategic Planning and Policy Continuity	Tier 2
	4. Ensure Policy Interventions are Well-targeted	Tier 3
Enabling Security and Resilience	5. Coordinate Economic Security & Industrial Policies with Allies to Maintain a Level Playing Field	Tier 1
	6. Utilise Procurement and Invest in Strategic Firms in Distress	Tier 2
	7. Partner with Industry and Leverage Technology to Identify, Manage, and Mitigate Threats	Tier 2
	8. Mitigate Business Impacts when Imposing Export Controls and Sanctions	Tier 3
	9. Ensure a Pragmatic, Practical and Streamlined Approach to Investment Screening	Tier 3

Accelerating Growth Through Trade	10. Pick Up the Mantle of Trade Leadership	Tier 1
	11. Reestablish a Better Trading Relationship with the EU	Tier 1
	12. Continue the Fight Against Digital Protectionism	Tier 1
	13. Lead in International Regulatory Innovation and Standards	Tier 1
	14. Lead The Charge for AI and Quantum in Trade	Tier 1
	15. Negotiate and Sign More Digital Trade Agreements	Tier 2
	16. Improve the Process of Negotiating and Implementing FTAs & Better Promote Trade	Tier 3
Strengthening International Development and Cooperation	17. Increase the UK's Attractiveness to Global Talent by Reforming the Visa System	Tier 2
	18. Enhance Research & Skills Cooperation to Maintain the UK's Science & Technology Leadership	Tier 2
	19. Recognise the Value of Digital and Tech to International Development	Tier 3
	20. Grow the UK's Leadership in Other Areas of International Technology Policy	Tier 3
	21. Negotiate and Sign other Technology Cooperation Agreements	Tier 3

Pillar 1: Building Policy Coherence and Longevity

1. Build Government Capacity in Key Areas

Tier 1 Priority

Details:

- In a rapidly changing economy, government capacity must keep pace. The government should ensure it has the in-house expertise and data needed to undertake crucial policy-making and that it has the business support postings to understand changes in technology and global markets.
- Having this capacity in place is an enabler of all other recommendations, supporting the government's ability to respond to the shifting landscape in a timely and effective manner.
- Examples of key places where there is a need for further investment in capacity and expertise that will support growth include the Catapult Network, the Office for Investment, export units in DBT, and trade-supporting FCDO postings. More defensive areas to protect the security and resilience of the sector include investments in technical expertise to research and advise risks to technology supply chains, particularly concerning defence and critical national infrastructure. Both areas would be aided by additional investments in foresight capacity across the government to help equip it with a greater ability to respond to emergent risks and opportunities.
- The government should also ensure that a strong trade career path is built within the Civil Service to equip the UK with the talent and expertise needed to have a world-leading trade policy.[67]
- It is also essential that regulators are well-resourced and have the right expertise to ensure they can allocate sufficient resources to secondary, pro-growth duties, such as pro-innovation schemes and international regulatory collaboration. (See also Recommendation 13). The same should apply to other publicly funded technology bodies, such as the Semiconductor Institute. International engagement should be built into mandates and adequately resourced.

2. Create Mechanisms to Ensure Transparency and Communication Across Government on Complex International Technology Issues and Avoid Policy Contradictions

Tier 2 Priority

Details:

- The unique opportunities and challenges facing the UK's tech sector do not neatly align with those of governmental departments. Therefore, it is essential to ensure coordination and information sharing.
- A Cross-Departmental International Technology Task Force should monitor risks, opportunities, and overall alignment across economic, industrial, trade, regulatory, and security strategies.
- This task force should include representation from FCDO, MoD, DBT, DSIT, HMT, and relevant agencies. It should also regularly engage with businesses to highlight areas of inconsistency and opportunity.
- Regular reviews should be built into its mandate to assess coherence across strategies and policies.
- This task force should identify areas where domestic policy needs to be updated to ensure that the UK is best in class in areas we are looking to trade in. Examples include supporting the UK's cyber exports by replacing the outdated Computer Misuse Act 1990 with modern legislation and ensuring that the government does not have data localisation requirements when procuring digital services to avoid justified calls of hypocrisy.

3. Commit to Long-Term Strategic Planning and Policy Continuity

Tier 2 Priority

Details:

- Businesses need certainty and continuity to maintain confidence and facilitate investment. Research has demonstrated that uncertainty and policy u-turns since the Brexit referendum have harmed business investment, which lags significantly behind the pre-2016 trends.[68] While government policies should be responsive to emergent issues, they should be guided by long-term goals that are clearly understood by businesses and investors.

- The importance of clarity on long-term goals and strategy was emphasised by the Harrington Review of Foreign Direct Investment, and the Government should ensure it delivers on the Review's recommendations.[69]
- Furthermore, new strategies, such as the Invest 2035 Industrial Strategy, should build on previous work, such as the Science and Technology Framework, which has served as an important guiding document for industry.

4. Ensure Policy Interventions are Well-targeted

Tier 3 Priority

Details:

- As the government responds to emergent issues, it is essential to ensure that policy interventions have clear goals and avoid collateral damage.
- International examples demonstrate how blunt tools can have consequences for other compliant actors. US tariffs have damaged the imports of friendly countries and impacted domestic manufacturers. Similarly, proposed changes to remove the EU's de minimus thresholds to tackle growing imports of non-compliant or counterfeit goods from China would be a blunt tool that would also harm compliant auction and e-commerce sites that have long traded with the EU without issue.[70]
- When crafting interventions, the government should consult with industry and act based on data to ensure that interventions do not have negative impacts beyond their targets.

Pillar 2: Enabling Security and Resilience

5. Coordinate Economic Security & Industrial Policies with Allies to Maintain a Level Playing Field

Tier 1 Priority

Details:

- While the shift towards more intentional interventions promoting resilience, security, and sustainability is necessary to tackle major challenges, it also comes with the risk of misallocating resources and wasteful international competition.
- To avoid this, the UK should negotiate and sign cooperation deals with allies and economic partners to provide coordinated interventions. These could be aimed at protecting critical sectoral supply chains, such as semiconductors. The UK's critical mineral deals with Canada and Australia can serve as examples.
- The UK should also avoid harmful subsidy races between allies and economic partners, which could negatively impact businesses through distortionary incentives and create substantial costs for the government.
- When imposing tariffs due to economic security concerns, these should coordinated with UK allies and economic partners to reduce exposure to UK businesses.
- It is crucial that the government recognises the importance of technology both as a critical part of the UK's economic security (for example, as part of the UK's critical national infrastructure) and as an important exporting and export-enabling sector. Efforts geared towards security should also balance the sector's needs for UK economic growth.

6. Utilise Procurement and Invest in Strategic Firms in Distress

Tier 2 Priority

Details:

- In the modern economy, ownership of intellectual property and other intangible assets is essential for a thriving economy. Likewise, given the heightened need to de-risk supply chains and ensure resilience, maintaining UK-based manufacturing assets can be of great importance.
- The UK government should commit to ensuring domestic capacity and supply chain security of critical technologies in the UK. This should include leveraging its procurement powers to be an early customer for high-risk, deep-tech companies in critical technologies, such as through creating a scale-up category in public sector procurement, as recommended in the techUK Growth Plan. The government should also be willing, when necessary, to invest in strategic firms in distress to avoid the loss of IP, talent, and assets to geopolitical rivals when no other acceptable investor can be found from the UK or other close allies.

7. Partner with Industry and Leverage Technology to Identify, Manage, and Mitigate Threats

Tier 2 Priority

Details:

- In a rapidly changing threat landscape, it is essential to ensure cooperation and coordination between industry and government to respond to threats and increase the UK's defences from threats.
- In particular, the government should take a tech-first approach to security to ensure that it uses the best available technology to identify, manage, and mitigate threats.
- In addition, the UK should update its legislative framework to require organisations to adopt state-of-the-art cyber defences to best tackle advanced and AI-enabled attacks. As part of this, supporting guidance like the Cyber Assurance Framework should be updated to embed proactive and preventative AI cyber defence measures. Such regulation should be proportionate and have as an objective preserving the integrity and security of essential services, directed at those sectors that have seen an increase in their vulnerability to cyber-attacks and which are also strategically important to the UK's economic security.

8. Mitigate Business Impacts when Imposing Export Controls and Sanctions

Tier 3 Priority

Details:

- The worsening geopolitical situation and the outbreak of the Russia-Ukraine war have brought about a proliferation of export controls and sanctions. These have impacted the tech sector, given the importance of technology inputs and many dual-use technologies.
- While export controls and sanctions are an essential part of the UK's foreign and economic security policy toolkit, they should be used with caution. As the Hinrich Foundation has noted, these policies come with trade-offs that can affect resilience: "export controls may be used to keep sensitive technologies out of an adversary's hands. But they come at a cost, penalizing firms that make cutting-edge technology and potentially encouraging the adversary to step up their own innovation efforts".[71]
- These measures must be drafted and implemented in ways that support the UK government's objectives, are aligned with the export control and sanctions regimes of the UK's international partners, and are practical and realistic for businesses to comply with.
- In particular, the government should ensure that industry is consulted and that it has a clear understanding of UK entities' ongoing interactions with impacted jurisdictions. It should also understand the impact of sanctions and controls on UK businesses and any challenges they may face in complying.
- Where a significant impact on businesses is expected, the government should ensure that support and guidance are forthcoming.
- The government should also ensure that countries the UK have signed an FTA with receive Open General Export Licenses to ensure that the benefits of trade deals can be realised for technologies impacted by export controls.

9. Ensure a Pragmatic, Practical and Streamlined Approach to Investment Screening

Tier 3 Priority

Details:

- The UK's investment screening regime, through the National Security and Investment Act, has not had a smooth impact. In a January 2024 response to the call for evidence, techUK highlighted the chilling effect it had throughout various industries, with some members noting that the UK had seemed to become a less attractive destination for investment as a result.
- The NISA regime needs to be pragmatic, practical and streamlined, ensuring that the process of submitting a notification to the Investment Security Unit is effective and in line with other internationally-comparable regimes. It is important that it also identifies transactions of genuine concern to the UK's national security and avoids unnecessary administrative filings that burden businesses administratively and deter investment into the UK.

Pillar 3: Accelerating Growth Through Trade

10. Pick Up the Mantle Of Trade Leadership

Tier 1 Priority

Details:

- With the US retreating into protectionism and the EU no longer a leader in trade liberalisation, the UK must seize the opportunity to step up and be a vocal champion of multilateralism and free and fair trade.
- At the multilateral level, the government should join the Multi-Party Interim Appeal Arbitration Arrangement. As the only major trading nation other than the US that is absent, the UK's ability to act as a multilateral leader and to protect UK interests is hampered by its absence.
- The agreement of a stabilised text as part of the Joint Statement Initiative (JSI) on Electronic Commerce at the WTO is a significant achievement, and the UK's role in helping get it this far should be celebrated. However, there is still work to be done. The UK needs to remain engaged and take a proactive role in getting the JSI integrated as part of the WTO's treaty framework, helping ensure that the WTO system remains nimble enough to serve the needs of the modern digital economy. The UK should also continue to advocate further progress when the JSI comes up for review, including adding data governance and cross-border data flows to the agreement.
- Bilaterally, the UK should continue to negotiate new free trade agreements (FTAs) and, in particular, look to where it is possible to break new ground in areas of innovative technologies such as AI and Quantum (see below Recommendation 14). The recent commitment from the government to negotiate a new modernised trade agreement with South Korea that includes digital and technology is a highly encouraging sign, as is the prospect of other prospective trade agreements including digital and tech commitments with Switzerland, India and the Gulf Cooperation Council.

11. Reestablish a Better Trading Relationship with the EU

Tier 1 Priority

Details:

- Even with Brexit, the UK's relationship with the EU remains probably the UK's broadest and deepest bilateral relationship in the world.[72] While there has been speculation following Donald Trump's re-election that the UK will have to choose between the US and the EU,[73] the reality is that both are essential trade and security partners and the UK must make pragmatic agreements with both.
- With the EU, priority areas for improvement include the recognition of professional qualifications, improving regulatory and standards cooperation, and facilitating mobility. For example, the UK should Erasmus+ and establish a youth mobility agreement with the EU.
- The UK should also build on the collaboration through the Trade Specialised Committee on Services, Investment and Digital Trade, along with other committees and working groups, to identify pain points that need removing and further mutually beneficial areas of alignment. These committees should include greater inclusion of business representatives in proceedings to ensure that stakeholders are adequately consulted and that these committees become forms for delivering meaningful outcomes.
- It is important to recognise that the UK will have to calibrate its positions to accommodate EU priorities if it is to secure the significant economic benefits of smoothed trading relations. For example, it has been reported that the EU has seen re-entry in Erasmus+ as the "kind of low-hanging fruit a pro-European British government would be expected to jump at".[74] Similar flexibility is needed from the EU too to facilitate a unique relationship with the UK that does not fit into existing models.

12. Continue the Fight Against Digital Protectionism

Tier 1 Priority

Details:

- The UK has long been a vocal opponent of digital protectionism, such as data localisation requirements and tariffs on electronic transfers. The UK must continue this advocacy with partners bilaterally and in key fora such as the WTO, OECD, G7, and G20.
- The UK should prioritise pushing back against the trend of increasing data protectionism globally. Data localisation requirements and restrictions on the free flow of data are harmful in several ways. OECD research has found they increase operating costs, increase vulnerabilities to fraud

and cybersecurity risks, and reduce resilience.[75] By increasing operating costs, downstream consumers also have increased costs, which impact people and small businesses with low incomes most and can reduce the viability of operating cloud and other digital services in less well-off markets.[76] In addition, localisation requirements can create human rights risks by allowing authorities in places with poor rule of law easier access to personal data.[77]

- While progress has been made on digital trade issues through the JSI on electronic commerce (see recommendation 10), data governance and data flows were not included. The UK must continue to push for a critical mass of countries willing to adopt a common language enabling cross-border data flows.
- The UK should also continue to work on this topic in other forums, such as through the Data Free Flow with Trust concept in the G7 and G20. It is important that the UK maintains the UK-EU data adequacy decision and its participation in the Global Cross-Border Privacy Rules system through its associate status.
- The UK must also practice what it preaches by creating a more flexible international data transfer regime that will allow the UK to better manage data flows. The government should also ensure that it does not include data localisation requirements in its own digital and software procurement.
- It is important to recognise that, sometimes, legitimate security concerns might warrant restrictions on data flows to certain countries. The reality of data flows means that it is incredibly difficult to disaggregate flows to certain countries. Should the UK government put restrictions in place, this must be done transparently and in collaboration with businesses to ensure that these restrictions are enforceable.

13. Lead in International Regulatory Innovation and Standards

Tier 1 Priority

Details:

- As techUK has recommended through its Growth Plan, a regulatory system that responds quickly and flexibly to market changes, while also providing certainty for investment, best supports the UK's competitiveness and economic growth.
- The UK has been taking positive steps in this regard, such as creating the Regulatory Innovation Office, but the government must now include an international lens in its pro-innovation regulatory approach while ensuring the regulatory system remains independent from short-term political pressure.

- FTAs, DTAs, and bilateral regulatory cooperation agreements should all be leveraged as opportunities to advance the UK's approach internationally. They would help build regulatory alignment across jurisdictions and level the international playing field for innovative UK firms.
- Likewise, the UK has long been a leader in the setting of international standards. In partnership with BSI, the UK's national standards body, UKAS and industry, the UK government should build on this global leadership to take a more strategic approach to the UK's influence in international standards-setting bodies and global accreditation fora, in particular over technologies and supply chains that are critical to the UK's competitiveness and broader national interests.

14. Lead The Charge for AI and Quantum in Trade

Tier 1 Priority

Details:

- Given AI's growing importance, the UK should take steps to advance its international AI leadership. Recent work from the WTO has highlighted AI's potential to significantly affect international trade by reducing trade costs, enhancing productivity across sectors, and reshaping traditional trade patterns.[78] The UK already has established leadership around AI safety. It is time to ensure this extends to both leveraging AI in support of trade and advancing the adoption and utilisation of AI, including through trade agreements.
- Many areas crucial to advancing the research, commercialisation and adoption of AI are already included in standard agreements. The UK must ensure that these are prioritised. OECD research has identified these as:
- Removing tariff and non-tariff barriers to computers, ICT and network equipment. to facilitate access to the hardware needed for AI.
- Providing an enabling regulatory environment for trade in services.
- Facilitating access to human expertise by lowering the barriers to the movement of professionals.
- Enabling data free flows with trust and removing data localisation requirements.
- Other areas where UK leadership could impact AI in trade include maximising the UK's influence over international and European regional AI standards, pushing for international alignment on cybersecurity and AI, advancing international provisions for AI safety and ethical governance of data and AI that are aligned with UK approaches, and through supportive bilateral investment frameworks for AI.

- The UK also has a burgeoning quantum sector, which is well poised to apply quantum to a variety of use cases that will yield societal and economic benefits. The National Quantum Strategy identified the importance of international partnerships and collaboration in supporting the commercialisation of quantum and the growth of the sector. The UK additionally took the lead in creating a specific joint International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) technical committee to develop standards for quantum technologies. The UK should push forward from these and develop an innovative approach to quantum in trade, including by establishing the UK at the heart of trusted supply chains for the sector.

15. Negotiate and Sign More Digital Trade Agreements

Tier 2 Priority

Details:

- Since Brexit, the UK has been a digital trade leader, helping to push the frontier along with other like-minded countries through Digital Trade Agreements (DTAs). The signature of the UK-Singapore Digital Economy Agreement and the UK-Ukraine Digital Trade Agreement are particularly worthy of celebration.
- While these agreements are comparatively new and lack rigorous research on their economic impact, DTAs still send strong messages to businesses and other countries about digital and technological ambitions. DTAs are also adaptable to new technologies and innovations - helping open the possibility of greater cooperation on emerging issues. Certain areas that DTAs cover, such as the mutual recognition of digital identities, are crucial to enhancing trust in the digital economy and unlocking growth opportunities.[81]
- For the UK, DTAs are also an important part of a trade agenda that capitalises on UK strengths as a major services and digital exporter.
- The UK should prioritise negotiating a DTA with the US. techUK polling of tech leaders in Q1 2024 identified the United States as their priority market. The first Trump administration signed a Digital Trade Agreement with Japan, and there are signs that the new administration would be open to a UK-US DTA. The UK should seize on this to establish common ground and establish cross-Atlantic leadership on digital trade. While the UK should also work for a full FTA, including digital provisions to ensure the UK avoids potential US tariffs, a DTA is a more realistic and less contentious prospect.
- Other non-EU markets that tech leaders have indicated are priority markets, and where the UK lacks an advanced digital agreement include Canada, Mexico, Saudi Arabia and the United Arab Emirates.

- Additionally, there should be continued efforts to digitise trade. These efforts speed up trade and help reduce prohibitively high costs that impact smaller businesses in particular.[82]

16. Improve the Process of Negotiating and Implementing FTAs & Better Promote Trade

Tier 3 Priority

Details:

- FTAs can and should be negotiated and implemented better than in the past - with greater recognition and mitigation for communities impacted by international competition, as the government recognised through its place-based lens in its industrial strategy green paper. The UK government should ensure that negotiations are based on the features of what David Henig calls a "mature trade policy", including through ensuring inclusive consultation, open reporting, engagement with the UK Parliament and devolved assemblies, and independent assessment of the impacts.[83]
- Creating a formal structure for industry engagement is essential to enable regular and meaningful engagement from industry at both the political and departmental official levels. Where appropriate, these engagements should include sight of negotiating texts under confidentiality agreements.
- The signature and ratification of an FTA are not the end of the process. If the UK is to realise the benefits of these agreements, then implementing the FTA and operationalising commitments to cooperate are essential. The government should work with industry to ensure that FTAs are brought to life.
- The government also needs to help more companies export. This includes through providing greater support to businesses looking to utilise FTAs as well as those looking to enter other international markets. Creating dedicated International Scale Up Managers in DBT would help this, along with greater efforts to leverage existing resources such as the Tech Hub Network and the Science and Innovation Network to support businesses navigating emerging international tech regulation.
- techUK members have highlighted the value of existing supports to their international expansion, but not enough businesses know what support is available. The government needs to additionally ensure that it is adequately promoting export-oriented programming and supports to businesses.

Pillar 4: Strengthening International Development and Cooperation

17. Increase the UK's Attractiveness to Global Talent by Reforming the Visa System

Tier 2 Priority

Details:

- Migration plays a vital role in sustaining ongoing innovation, competitiveness, and employment opportunities in the UK. However, the steep visa costs act as a deterrent for businesses and adversely affect the UK's attractiveness as a hub for tech companies. In early 2023, some techUK members reported that obtaining a visa for a UK-based staff can be up to six times more expensive than for EU-based staff. All in and as of October 2023, a five-year work visa costs around £9,000 and a two-and-a-half-year partner visa is £5,000 and these fees have just kept increasing.[84]
- With domestic shortages in critical tech roles ever more pronounced, this move is another barrier for scaling companies to access the talent they need to grow and access international markets, and leaves UK firms at a competitive disadvantage compared to the cheaper visa systems in our EU neighbours.
- Additionally, the current visa rules and system are exceedingly complex, making navigating it a challenge. Streamlining the visa application process and making it more straightforward would not only benefit businesses but could reduce administrative burdens for both applicants and government agencies, leading to more efficient processes.
- We should not view the need for international talent as a temporary measure until the UK can cultivate a sufficient domestic talent pool. If the UK aims to house world-leading tech companies, the demand for international talent, regardless of their nationality, will persist. This fundamental requirement will remain unchanged as the domestic talent pool expands. Ultimately, to maintain the UK's position at the forefront of global innovation and aspire to become a science and tech powerhouse, we must ensure that our visa system offers value for money and keeps costs competitive when compared to other countries.

18. Enhance Research & Skills Cooperation to Maintain the UK's Science & Technology Leadership

Tier 2 Priority

Details:

- Innovative technology research and development projects are highly international endeavours. It has been very promising to see the UK rejoin Horizon Europe and provide UK researchers with access to funding and international collaboration across Europe and beyond. Initiatives like UKRI's International Science Partnerships Fund are also positive programmes.
- The government must continue to build on these foundations to support international research collaborations further. For example, given the decline in institutional knowledge during the UK's absence from research consortia, further support is needed for UK research institutions to best take advantage of available opportunities through Horizon Europe. Looking forward, the UK should secure an association agreement with Horizon Europe's replacement (FP10) and begin negotiations to do this as soon as possible.
- The UK should also remain abreast of emerging research security requirements in partner jurisdictions. This is important to ensure that UK researchers are not excluded from international research partnerships due to the perception that the UK has insufficient research security standards.
- In addition, the UK should take the lead in facilitating international digital training collaborations. Leveraging platforms like the UK's tech trade partnerships, the UK can foster skill-sharing agreements with allied nations. These efforts would promote the movement of trained professionals across borders and create scalable training ecosystems, enabling access to critical digital capabilities worldwide.

19. Recognise the Value of Digital and Tech to International Development

Tier 3 Priority

Details:

- The UK has long been regarded as a leader in international development. However, changes under the previous government, including the abolition of the Department for International Development and significant budget cuts, have undermined that reputation in recent years. As the government embarks on rebuilding the UK's leadership, it is important to recognise the value of digital and technology to the UK's development agenda.

- As Sakiko Fukuda-Parr, Chair of the UN Committee for Development Policy, has argued, the potential of science, technology, and innovation to accelerate the UN's development agendas remains "vastly under-realized, particularly in developing countries - but also for public interest purposes across the world".
- The UK could make meaningful contributions in areas such as building digital infrastructure, supporting digital skills development, and facilitating digital technology adoption by businesses and governments, including through technical assistance to support the development of regulatory frameworks.

20. Grow the UK's Leadership in Other Areas of International Technology Policy

Tier 3 Priority

Details:

- The emergent nature of technology means that it is impossible to keep trade deals up to date with developments. While tariffs impact physical technology hardware, most impediments to technology and digital trade are non-tariff barriers. DTAs and regulatory cooperation agreements are powerful tools to facilitate the alignment of regulatory systems among like-minded partners. Still, they are not a realistic approach to every market, especially where major differences exist.
- Instead, the UK should ensure that its foreign policy and international engagement includes a significant focus on technology policy areas requiring multilateral cooperation, including AI in weapon systems, AI safety, digital ethics, and climate change through fora such as the UN, the OECD, the G7, and the G20. In pursuing these interventions, the government should ensure an optimal level of alignment with the global work of the UK's national standards body in international standards-setting bodies such as ISO and IEC.

21. Negotiate and Sign other Technology Cooperation Agreements

Tier 3 Priority

Details:

- Where aligned with the UK's trade and security interests, the UK should look to conclude other non-trade technology cooperation agreements that deepen partnerships and support targeted collaborations.
- AUKUS Pillar 2 remains the stand-out example of this, and the government should ensure that UK technology firms can fully use the collaborative opportunities it presents. This requires building an enabling environment through facilitating secondments, mutual recognition of security clearances, removal of barriers to the movement of people, and negotiation of exemptions for the UK from US export controls.
- The UK-Ukraine TechBridge strategic partnership also sets out a model of collaboration that delivers across four pillars: skills, innovation, trade, and investment. Continuing to support this initiative is valuable for Ukraine's recovery and for the UK tech sector.
- Other notable agreements that act as positive models for bilateral technology collaboration include the UK-India Technology Security Initiative and the UK-Japan Hiroshima Accord. The government should look to negotiate similar agreements with other strategic partners.

Conclusion

Julian David OBE, CEO, techUK

As we conclude this report, it is clear that the UK tech sector stands at a critical juncture. Our digital economy has demonstrated remarkable resilience and growth, consistently outpacing the broader economy and powering our services exports. However, we face an increasingly complex global landscape characterised by interconnected crises and concerning long-term trends – from climate change impacting trade flows to geopolitical instability sending shockwaves through the tech sector.

The shift away from free trade towards policies emphasising resilience, sustainability, and national security presents a multitude of opportunities and challenges for the UK as an open, trade-dependent, mid-sized economy. We are particularly vulnerable to disruptions in global supply chains and exposed to potential trade tensions between major powers. Yet these challenges also present opportunities for our vibrant tech sector to demonstrate its resilience and innovation, especially with the right policy decisions. For example, the UK cybersecurity sector saw a 4% increase in Gross Value Added in 2024. However, successes like these are underpinned by sustained leadership by the UK Government in maintaining an open trading environment with strong provisions for cross-border data flows, protection of intellectual property including source code and cryptography, freedom to deliver professional services in trade agreements, and a behind the border focus on regulatory harmonisation on technical standards.

This report outlines four crucial pillars for action. First, we must build policy coherence and longevity. The government must develop the capacity and expertise to understand our rapidly evolving sector while ensuring coordinated policies that avoid contradictions that could undermine their intent. The alignment of our Industrial Strategy with international trade objectives is fundamental to this approach. The Government should also continue to lead the fight against digital protectionism as well as lead the charge for AI and quantum computing in trade.

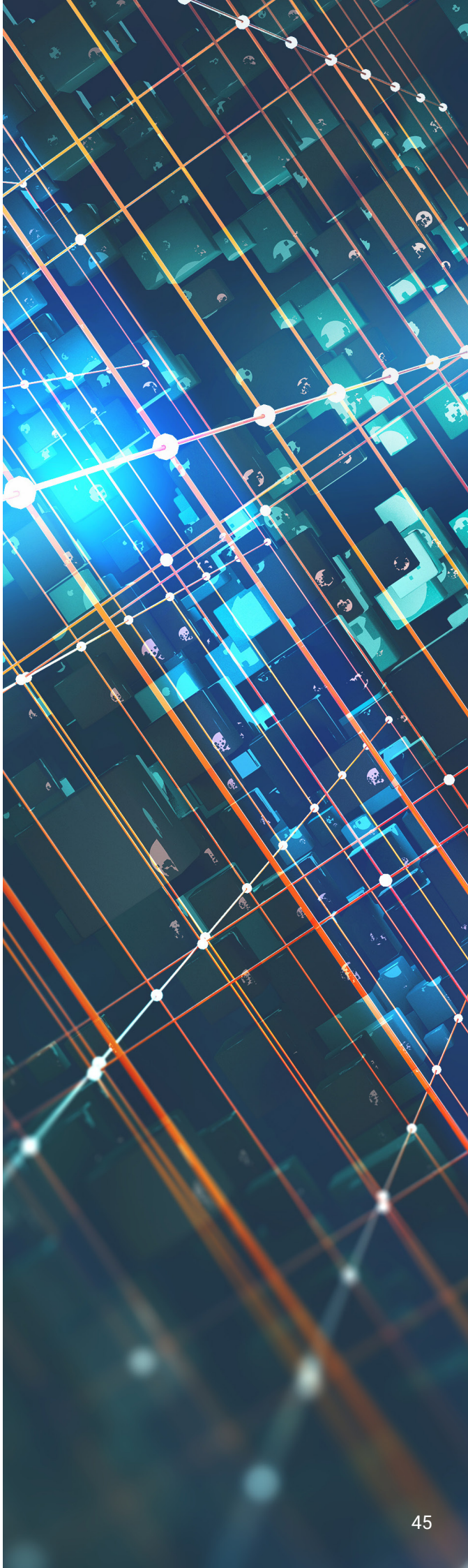
Second, we must enable security and resilience. This requires coordinated economic security and industrial policies with our allies to avoid harmful subsidy races while maintaining a level playing field. With less than 10% of UK SMEs currently engaging in exports compared to 44% in Germany, it is imperative that we create an environment that encourages businesses of all sizes to trade internationally.

Third, we must accelerate growth through trade. The UK must step up as a leader in support of multilateralism and free and fair trade. Our achievement as the first G7 nation where services exports exceed goods exports, with nearly 75% being digitally delivered, positions the UK uniquely to continue to lead in digital trade. We must expand our Digital Economy Agreements with key markets and continue our fight against digital protectionism, particularly through the WTO.

Fourth, and finally, we must strengthen international development and cooperation. This includes maintaining stable data flows with key partners – exemplified by the crucial upcoming June 2025 deadline for renewing the EU's adequacy decision. We need to enhance our leadership in digital trade policy, particularly in emerging areas like AI and quantum computing, where the UK can shape global standards and governance frameworks. Our recent re-entry into Horizon Europe and initiatives like the International Science Partnerships Fund provide crucial foundations for international collaboration that must be built upon.

The challenges we face are significant – from supply chain pressures on critical technologies like AI GPUs to the broader implications of great power competition and a rapidly changing climate. However, the good news is that the UK tech sector has demonstrable track record of innovation and adaptation in the face of global challenges. Success in this increasingly complex global backdrop, however, will hinge on the sustained commitment from our government to create the right conditions for UK tech companies to export and expand internationally.

As we move forward, techUK stands ready to work with government, our international partners, and our diverse membership of more than 1,100 companies to ensure that the UK remains at the forefront of technology and digital trade. The recommendations outlined in this report provide a clear roadmap for achieving these objectives. By maintaining our commitment to openness, innovation, and international collaboration, while building resilience where necessary, we can ensure that the UK tech sector continues to be a force for good around the world: driving growth at home and abroad, creating opportunities, and delivering solutions to global challenges.



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