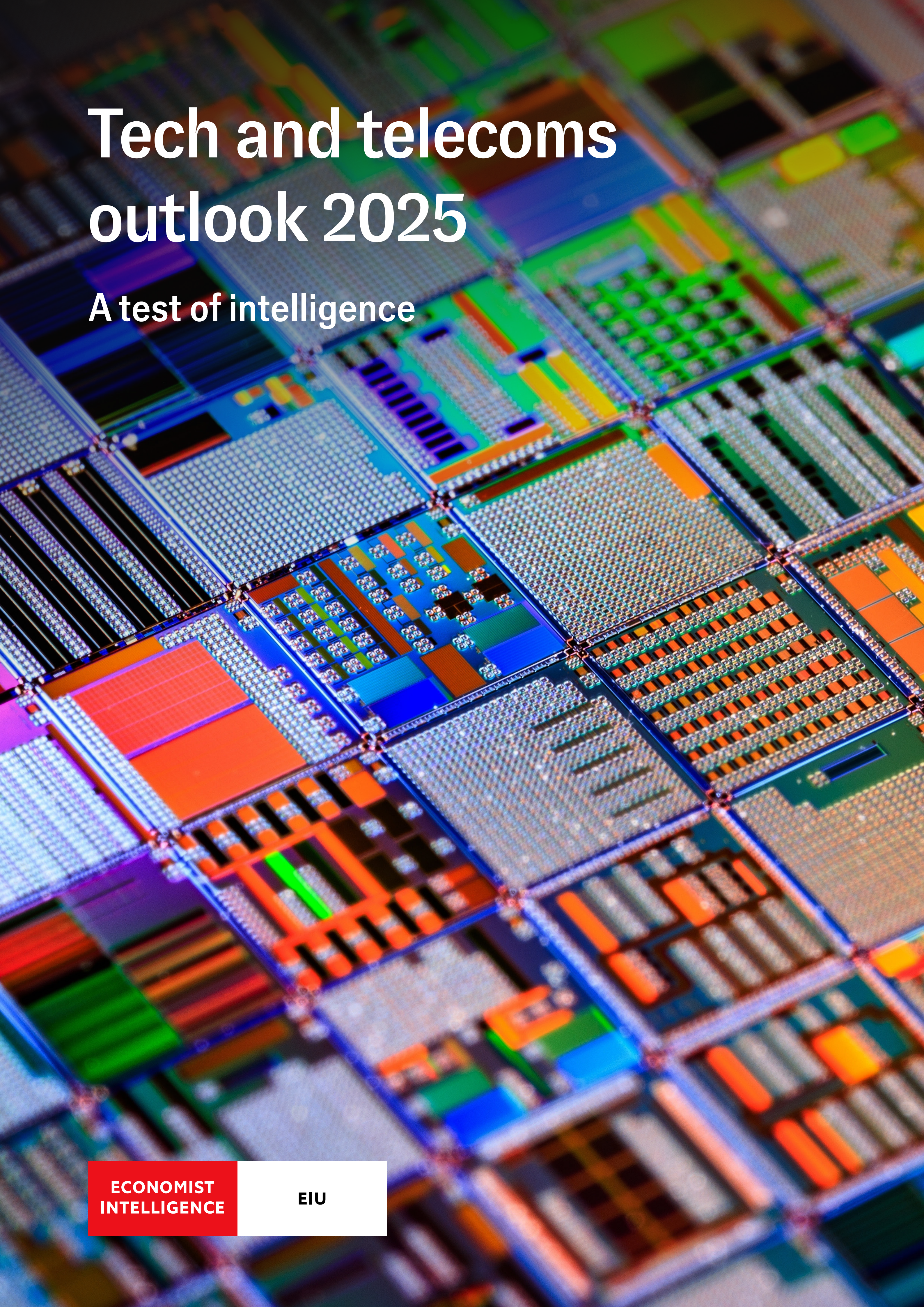
Tech and telecoms outlook 2025

A test of intelligence



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Artificial intelligence will continue to drive the technology sector in 2025, but firms will be under pressure to show returns.

- **Next year will be the year of realism for artificial intelligence (AI), as users struggle to deliver returns on their investment. Most companies will still be at the proof-of-concept stage for implementation.**
- **Semiconductor demand will be driven by AI rather than by traditional devices, but geopolitics and the tense relationship between China and the West will continue to trump economics when it comes to production decisions.**
- **Regulation of online content will start to converge, rebalancing the relationship between internet companies and states. However, governments will still diverge over the values driving regulation.**
- **More countries will turn on satellite internet services, but use cases will be limited to enterprise clients: military and maritime. Amazon's Kuiper will disrupt the market duopoly of Starlink and EutelSat OneWeb.**

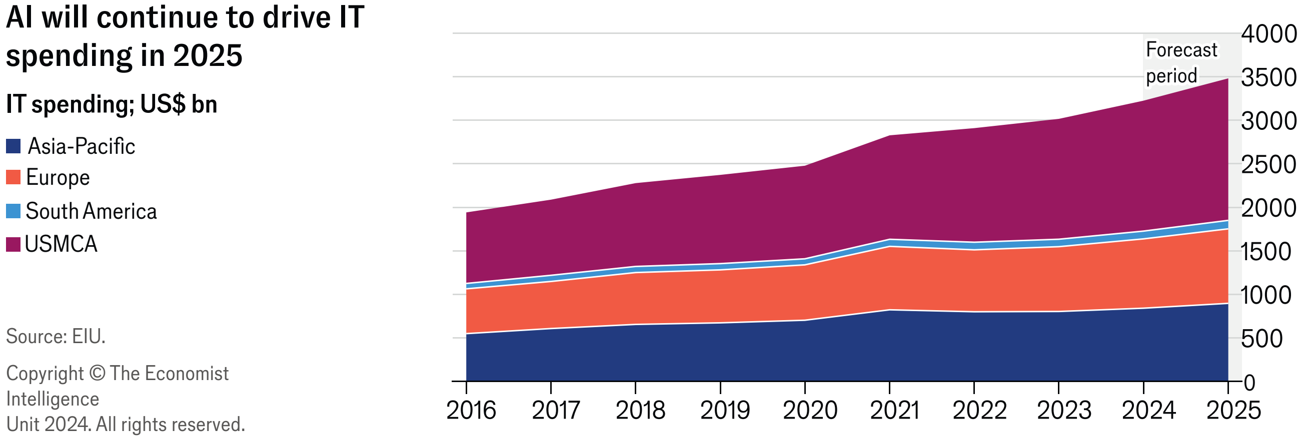
EIU called 2023 the year of experimentation for artificial intelligence (AI), and 2024 the year of implementation as companies started using the technology across multiple business processes. Although 2025 could be the year of monetisation, it will rather be the year of realism, as we do not expect these investments to start creating returns on investment as hoped. Many companies will continue trialling the technology, but further scaling up will be necessary, especially for generative AI, before it becomes profitable for its users.

Large-scale spending on AI infrastructure will continue in 2025. The largest tech companies will continue to benefit from their generous cash holdings and the profitability of their core businesses. This will allow them to spend heavily without affecting their bottom line too much. However, they will face challenges from tighter regulation as multiple countries pass AI rules. Sustainability and high energy usage will also remain a cause for concern as clients and investors monitor the large carbon footprint of building AI models.

So far the only tech company to have made real money from the AI boom has been Nvidia, a US chipmaker, whose chips are critical in building data centres. Nvidia will face steeper competition in 2025 as the market dynamics move from training to inference. The training phase requires more powerful chips to develop the AI model and its algorithms than inference, which builds on this training to deliver real-life results. Cloud players will also face more competition from edge devices, where real-time computing can be done on the device, as AI models develop. Data will still be available to train AI models, but they may become more costly to access as copyright takes hold. There will be more deals between AI companies and content holders in 2025, and the first court decision will be made on what can be used for free.

AI will continue to drive IT spending in 2025

IT spending; US$ bn



Source: EIU.

Chipmakers will prioritise geopolitics over economics

For chipmakers such as Nvidia and TSMC (Taiwan), AI will drive strong demand in 2025, while demand for traditional consumer electronics and devices will be more subdued. However, the semiconductor market will continue to be dominated by geopolitics. The US, Europe and Japan will continue to court new fabs in an attempt to reduce their reliance on Asian producers including Taiwan, South Korea and China. However, such efforts will be only partially successful; the delayed TSMC fab in Arizona will finally open in 2025, but Intel (US) has put construction of its EU plants on hold as part of a plan to cut costs by €9bn (US$9.1bn) by the end of next year.

Whoever wins the US presidential election will continue to put restrictions on China and its access to semiconductors, and not just cutting-edge chips. However, a Trump administration is likely to be less collaborative in its approach, meaning that allies such as Taiwan, Japan or the Netherlands will face tougher choices on how to deal with the US and China. Any new US administration could also use the Foreign Direct Product Rule to raise trade barriers, such as preventing the export of any product that uses US technology.

Regulation will cause nation states to clash with tech giants

The arrest of Pavel Durov, the founder of Telegram, an instant messaging service, in France, along with the ban of X, a social media network, in Brazil and the potential ban of TikTok, a video hosting service, in the US are all part of the evolving relationship between nation states and tech companies. There is a common push to make online platforms liable for what users publish on them. Both US presidential candidates, for example, are looking to change Section 230, which gives these companies immunity from any liability, and the EU is pushing ahead with the Digital Services Act to increase accountability.

The relationships between states and tech

Relationship	Definition
Replacement	Tech companies replace nation-states as the way to articulate the global order.
Co-optation	Nation-states retain complete control over tech companies as in China or Russia.
Cooperation	The two entities continue to work with each other, respecting each other's boundaries and sometimes collaborating on some key issues.

Source: EIU.

We expect more countries to try to make companies liable for the content on their platforms, or at least to ensure that platforms have the governance in place to mitigate the most harmful content. However, regulations will not be easy to approve; the US will face a divided Congress, and a mid-2024 ruling on the "Chevron deference" has undermined the power of regulatory agencies. This combination will give the US judiciary much more power to guide technology policy. The EU faces fewer administrative barriers, as shown by its success in approving the Digital Services, Digital Markets and AI Acts, but question marks remain about its ability to enforce these rules. These issues will continue in 2025.

The space race will pick up pace

Low-earth orbit (LEO) satellites have not yet proven their commercial value, but governments are paying close attention to developments in space. Satellite internet will become a reality in more countries next year, albeit still as trials, with Saudi Arabia, South Korea and Japan having this year announced billions of dollars worth of investments. No countries want to be left behind, but national security is a major cause for concern, as governments do not want to rely on infrastructure built by foreign companies.

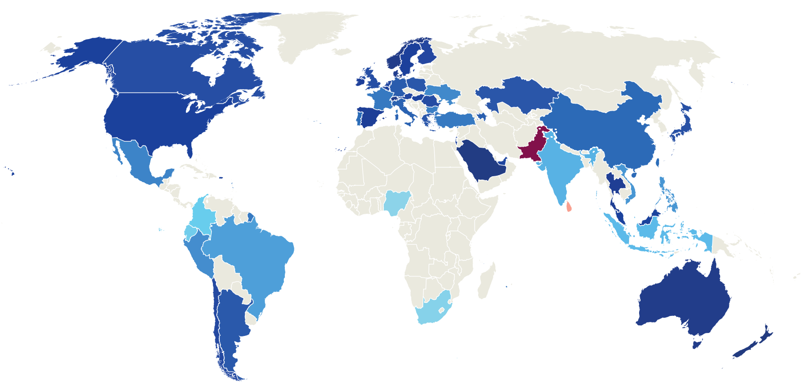
US-based Starlink leads the market with its 6,200 LEO satellites and its ability to reuse rockets, which reduces launch costs. Europe's Eutelsat OneWeb follows with more than 600 satellites, and Amazon's Kuiper will enter the market in 2025. SpaceX, a US spacecraft manufacturer, will lead in the launch category, with strong competition from the European Space Agency's rocket, Ariane6.

We maintain that the retail adoption of satellite internet will remain low in 2025, as the cost of setting up satellite communications is high. There is also strong competition from reliable existing terrestrial telecoms infrastructure. This means that the main users of satellite internet will remain enterprises: maritime, logistics, agriculture and military companies are all looking for reliable internet coverage in remote areas not covered by traditional infrastructure.

Most emerging markets will see internet penetration top 90% in 2025

Internet user penetration forecast; %

34.8 — 100



Source: EIU.

What to watch

Apple Intelligence: The first version of Apple Intelligence launched in late 2024, but the full version, which will include a more advanced and enhanced Siri, will be available in an iOS18 update expected in March or April 2025. This will make AI available to more consumers, but Apple has said that it may not launch the full service in the EU owing to uncertainty surrounding regulation, in particular whether the technology complies with the Digital Markets Act.

6G standards: 3GPP, the main global standards organisation for the telecoms industry, will start working on the standardisation of 6G in 2025, with technical working groups expected to take place from the third quarter. The final standardisation will come later, but high-level principles and potential use cases are expected to be discussed before then. It is hoped that the standard will be global, even though China is looking to push its own version of 6G world wide. 6G is also expected to be more software- than hardware-driven, as many operators are unwilling to undergo further large infrastructure upgrades.

Year of quantum: UNESCO has decided that 2025 is going to be the international year of quantum science of technology, as it will be 100 years since the development of quantum mechanics. This does not mean that quantum computing will become a reality in that year, but there will be a greater focus on its possibilities. Quantum computing can increase computing power exponentially, but to do so on a large scale will be a challenge. Companies will continue to invest, with an early focus on encryption, as a potential quantum computer could break the current encryption standards.

OECD tax deal: As an OECD tax deal is yet to be agreed whereby taxes are reallocated to revenue-generating jurisdictions and a 15% global minimum corporate tax rate is applied, we expect many countries to start introducing their own digital services taxes (DST). As large tech companies are from the US, and the US Congress is unlikely to agree to a global tax deal whoever is in the White House, this could mean US retaliation against countries that introduce their own taxes, and greater trade tensions.

US election: the impact on technology & telecoms

Trump: If Donald Trump, the Republican candidate, wins the US election in November 2024, his administration would have the same objectives as its Democratic predecessor in terms of reducing China's access to technology. However, its implementation of these policies would probably be quite different; it would be more unilateral and transactional in its trade restrictions for the technology sector, giving less importance to trying to bring other countries on board.

On antitrust issues, Republicans are traditionally light touch, but Mr Trump and other Republicans have called for more intervention, especially for big tech companies. The candidate for vice-president, JD Vance, has even called for a reform of Section 230 of the Communications Act of 1934, which protects internet platforms from being liable for content as publishers; however, it is unclear how much influence Mr Vance will have. A Trump administration would also be stricter on immigration than its predecessor. It may target the H-1B visa that many US technology companies have used to bring in the best and brightest talent. On the other hand, the Republican approach to AI is likely to be light touch, with the Biden Executive Order laying out principles on AI safety set to be scrapped.

Harris: A victory for the Democrat candidate, Kamala Harris, is likely to mean broad continuity from the presidency of Joe Biden, with ongoing public investment in infrastructure, including broadband networks and semiconductor manufacturing. The administration would look to introduce stronger federal regulation, for instance on AI, privacy or antitrust regulation. However, because Congress will still be divided, we do not expect any major rules to be passed. The same applies to reform of Section 230, proposed in the Democrat manifesto. A Harris presidency would continue to impose restrictions on China, especially over its access to the most advanced technology, but will do so in collaboration with its allies under a multilateral framework.

EIU's weather forecast for telecoms in 2025

Source: EIU.

Meet the EIU team

Dexter Thillien

Lead Editorial Analyst - Technology & Telecoms

Find out more

Dexter Thillien works for EIU as the lead analyst for technology and telecommunications. He has also published several reports, the latest on 5G and cyber-security, and has presented to a wide range of audiences since 2010.

In his current role, Dexter leads the editorial coverage for the technology and telecoms hub, looking at the market in itself as well as the impact of technology more broadly, highlighting the implications for corporate, financial and government clients. He has presented at several telecoms-specific trade conferences over the years, including events organised by the European Commission.

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Laveena Iyer

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Find out more

Laveena is part of the industry team, where she specialises in the information and communications technology (ICT) sector. She contributes to market reports and analysis across 60 countries with a keen interest in the Asia-Pacific region. Her work focuses on segments such as mobile and internet services, mobile money platforms, smartphone manufacturers, equipment vendors, start-up investments and government regulations.

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