ccs Insight | FDM

Host partner

PREDICTIONS
2026 & BEYOND

Silver & bronze partners

aws BROADCOM CBNG cisco interdigital MDS GLOBAL skylo

Gold partners

Qualcomm SAMSUNG TCL

Welcome

Shaun Collins
Group CEO

It has been an exciting year for CCS Insight, culminating in our acquisition by FDM. By joining forces, we can offer the clients of both companies a powerful combination of data, insights and practical advice.

The Predictions event is a good example of this, and we're delighted to have our new colleagues from FDM supporting us. This year, we have prepared over 100 predictions about the future of the connected world in the next few years. They are intended as a guide for both experienced participants in the tech industry and those embarking on new endeavours in a shifting landscape.

Our Predictions event reflects the breadth of our research and the strength of our insights. Together, FDM and CCS Insight have a very bright future, and we have ambitious plans to further expand and enhance our research and data offerings.

Mehul Kotecha
Co-Founder, FDM

This year marks a significant milestone for FDM as we celebrate our 10th anniversary and the acquisition of CCS Insight. Over the past decade, FDM has established itself as the industry standard in telecom pricing and market share data, supporting clients with clarity and confidence in rapidly changing markets. CCS Insight has a proud history of delivering its Predictions event, a flagship moment in the industry calendar that has guided clients through key technology shifts for many years.

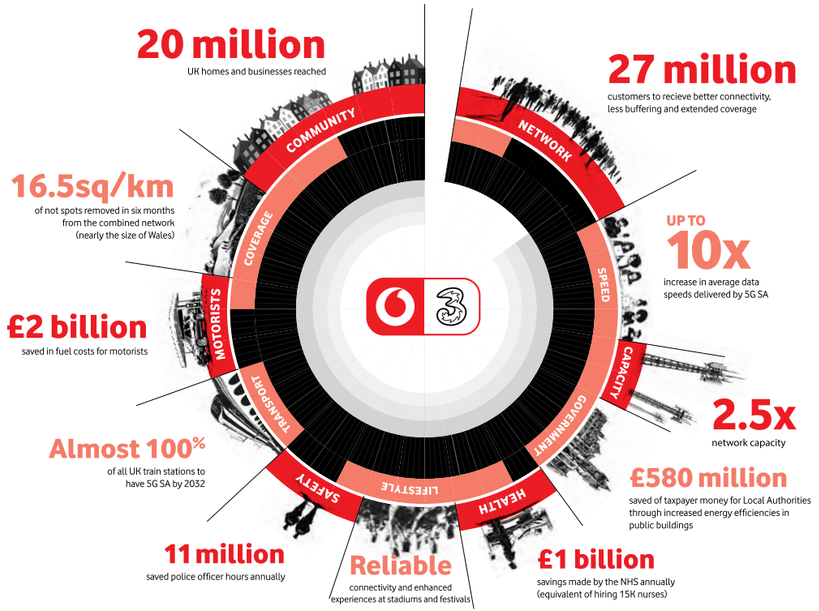
We are delighted to be part of this tradition now, bringing together CCS Insight's decades of connected technology expertise with FDM's unrivalled pricing and market share datasets. As we look ahead, this combination will allow us to deliver even faster, broader and sharper insights across more than 40 markets.

A heartfelt thank-you to everyone who has contributed to FDM's journey so far. I am proud of what we have achieved and am excited for our first predictions.

The things you love, in more of the places you live and visit

VodafoneThree is investing in the future of the UK – its businesses, its communities, and its people. From busy city centres to remote rural towns, we're connecting communities up and down the UK, making sure every area has the access it needs to work and live well.

The future we're building, powered by our world-class network:



20 million
UK homes and businesses reached

27 million
customers to recieve better connectivity, less buffering and extended coverage

16.5sq/km
of not spots removed in six months from the combined network (nearly the size of Wales)

UP TO 10x
increase in average data speeds delivered by 5G SA

£2 billion
saved in fuel costs for motorists

2.5x
network capacity

Almost 100%
of all UK train stations to have 5G SA by 2032

£580 million
saved of taxpayer money for Local Authorities through increased energy efficiencies in public buildings

11 million
saved police officer hours annually

Reliable
connectivity and enhanced experiences at stadiums and festivals

£1 billion
savings made by the NHS annually (equivalent of hiring 15K nurses)

A word from our CEO

A new era of connectivity has begun.
We will connect every nation, every community, in every corner of the UK. We will build the UK's best 5G network with an unprecedented £11bn privately-funded infrastructure project, laying the digital foundation for our country's growth ambitions. From big cities to small towns, and everywhere in between, our mission is to build the UK's best network.

Max Taylor, CEO, VodafoneThree

Qualcomm Predicts AI- and 6G-Driven Transformation to User Experience

We're delighted to welcome back Dr John Smee, Senior Vice President of Engineering and Head of Wireless Research at Qualcomm, to CCS Insight's Predictions for 2026 and Beyond.

Dr Smee joined us for our Predictions for 2024 and Beyond event, where we discussed the evolution of 5G and the importance of open standards. Now, two years on, it's a great opportunity to review the progress made with 5G, lessons learnt and what this means as we hurtle toward the next big "G". Few will be surprised that the role of AI and its influence on 6G is a big part of the conversation.

Understandably, there is some scepticism about 6G both inside and outside the industry. Many would argue that 5G still has plenty of room to grow and is yet to live up to the promise that accompanied its launch. To some extent, this is fair, particularly considering some of the far-fetched 5G applications, like remote surgery.

However, Dr Smee emphasized what has changed in the last few years. We now take for granted video calls on mobile and syncing large volumes of data from the cloud. We're not performing remote open-heart surgery, but our collective use of the network has evolved, and data consumption has exploded. This has been enabled by the capacity and efficiency of 5G. He rightly observed that if we were still reliant on 4G, our complaints would be a lot more vocal.

This picture obviously varies by market. Users' experience with 5G is more advanced in the US than in the UK, with the latter lagging in the transition to 5G standalone. This raises the question of what the industry has learnt from 5G and what will be done differently in the transition to 6G.

Dr Smee stressed that one change in the development of 6G will be to avoid small, incremental changes to the standard with each 3GPP release. By taking a more complete and fully packaged approach to the development of standards, the market has a clearer opportunity to drive innovation and scale.

A good example cited was a factory. Unlike consumer devices, which are often upgraded every few years, the retooling of a factory runs on a far longer upgrade cycle. Industry needs confidence and clarity. Dr Smee believes the industry has universally acknowledged the importance of this, which will ensure a change in approach with 6G.

Qualcomm has a bullish perspective on what this will mean for 6G. The integration of AI as a foundational part of 6G will introduce greater efficiency and coverage, meaning operators can maximize the value of their spectrum assets. This efficiency will be boosted by AI, both in the network and on-device, paving the way for a material change to the user experience.

Dr Smee predicts that this will be transformational. The advent of a more intelligent and predictive network, coupled with on-device AI, will be the catalyst for enormous change. Qualcomm believes it will transform how users interact with technology and each other. We're starting to see this transition today, with new device types such as smart glasses and AI agents that promise to change the app-centric way we interact with content. Dr Smee stated that this will begin to drive a shift away from the smartphone-centric world of today.

To hear more about how 6G and AI will transform the user experience, tune in to our online interview with Dr Smee for CCS Insight's Predictions for 2026 and Beyond, available at ccsinsight.com/predictions. A big thank you to Dr Smee and Qualcomm.

Geoff Blaber
Chief Operating Officer
CCS Insight

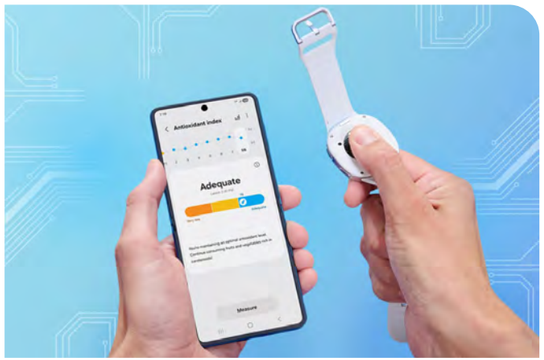
Qualcomm

Technology Tips for Healthier Ageing

At CCS Insight, we've long held the belief that the intersection of health and technology is going to play an essential role in society over the next decade. It's a view shared by Samsung's Annika Bizon, who will be joining me on stage at this year's Predictions event to discuss this and other topics in more detail.

As I get older, I've become more aware of how important health and well-being are. My awareness has been sharpened by the regular measurements and indicators that I get from my smartwatch, smart ring and the other wearable computing devices that I'm usually trying out. My job — and my passion for technology — means I've often got several health-related products tracking my statistics and general well-being.

At a very basic level, simply being aware of these indicators has nudged me to adopt healthier choices when it comes to diet, exercise and fitness. Recently, as devices have got more sophisticated, I'm gaining more-personal insights into my health. And I'm looking forward to the day when my smartwatch or smart ring can provide truly personalized, predictive indicators, by measuring my nutrition intake and activities in real time to keep me fit and well.



But my generation isn't the only one looking for guidance in health matters. Survey data from Strava suggests running clubs around the world saw a 59% increase in participation in 2024. The survey also found that over half of respondents had made new friends at fitness clubs, and nearly one in five younger club members had been on a date with someone they met during their workouts.

Of course, I'm not suggesting that wearing a smartwatch will guarantee you a date, but the trend is clear: more people are taking an active interest in their health, and using technology to improve the results. CCS Insight research reveals that most people buy their first smartwatch for its health-related features; for many, the purchase is one of the first steps toward a myriad of healthier lifestyle choices, all of which contribute to general well-being.

In June 2025, Samsung announced new Samsung Health features to help develop healthy habits to improve sleep, heart health, fitness and nutrition. The features are designed to help people lead healthier lives through proactive care and holistic health management. The company also launched a new feature on its Galaxy Watch that measures vascular load — the amount of stress on your heart and blood vessels while sleeping. It's a good example of the increasing sophistication of wearable computing devices like the Galaxy Watch.

The new vascular load metric joins a feature that Samsung calls Antioxidant Index, the Galaxy Watch employs an industry-first feature to measure carotenoids in just five seconds through its light-activated BioActive sensor. Carotenoids are antioxidants found in green and orange vegetables and fruits, stored in your skin.

Antioxidants help prevent chronic illnesses and promote healthy ageing. They neutralize free radicals, which damage cells and accelerate ageing. Behavioural factors, such as drinking alcohol, smoking, exposure to ultraviolet rays, stress and lack of sleep can all accelerate ageing by increasing free radicals in the body.

You can increase the level of antioxidants by drinking carrot juice, for example. A higher level of antioxidants means you're more likely to neutralize free radicals and slow the effects of ageing. The sensor and its associated index are a great way to turn abstract nutritional concepts into practical measurements that can change people's behaviour.

I'm looking forward to discussing these and other technologies with Annika at our Predictions event.

Ben Wood
Chief Marketing Officer
CCS Insight

TCL Combines New Screen Technology with Innovative Approach to a Smartphone for Kids

TCL has a long history of developing technology for younger users, most notably through its smartwatches for kids, which it's offered for nearly a decade. Additionally, TCL's affordable tablets have been firm favourites with parents seeking inexpensive and practical devices.

A key topic of discussion at our Predictions event this year is the societal impact of technology. Given the widespread ownership of mobile phones by children, it's understandable questions have been raised about the long-term effects of phone usage on children's mental health and well-being.

In addition to the problems of harmful content, cyberbullying and contact with strangers, prolonged screen time can give rise to eye strain, cognitive overload and digital addiction — all serious concerns that no parent can overlook.

An increasing amount of research is being done in this area, and a recent report from UK regulator Ofcom offered some interesting insights. Device ownership among children is now extremely high.

Ofcom's research indicates that by the age of 11, 82% of kids have their own mobile phone, as distinct from using a family device. As children get older, this number rises, with 97% of 12-to-15-year-olds having their own mobile phone. Astonishingly, 30% of six- and seven-year-olds also now have their own phone.

In response to this, TCL has continued to develop its range of child-friendly tech, most notably with the recent announcement of the TCL NXTPAPER 5G Junior.

The centrepiece of this device is the NXTPAPER display, which reduces glare and harmful blue light emissions. In common with other devices in the NXTPAPER range, a dedicated hardware button enables what TCL calls Max Ink Mode, which transforms the display into a calmer viewing experience and switches off notifications to give children a period of uninterrupted concentration — for example when doing their homework. This aligns well with the company's philosophy of encouraging everyone to "switch on, to switch off" and get away from the relentless distractions of a smartphone.

TCL is also acutely aware that parents want peace of mind when giving children their first smartphone. It's worked closely with Google to offer the latter's Family Link service, which provides content filters, real-time location tracking, and control over screen time and app usage. These are all extremely valuable features that parents today can't do without.

The NXTPAPER 5G Junior phone is primarily aimed at slightly older children, but TCL has a strong focus on catering for all age ranges, and its latest MoveTime watch is a perfect example of this. It's a device that offers parents who want to stay connected with their younger kids an alternative to a smartphone, and it's a great primer to teach kids about the importance of staying in touch, without all the worries and distractions that come with a smartphone.

It's encouraging to see TCL placing emphasis on this important area. Helping children use technology in a responsible manner is now a societal imperative. I'm looking forward to discussing this topic and more with TCL's European vice president of products, David Derrida, at our event.

Ben Wood
Chief Marketing Officer
CCS Insight

TCL

Making sense of the connected world

Businesses need peace of mind in their decision-making processes.

CCS Insight's global research and advisory services provide you with all the support you need to implement a strategy that keeps you ahead of the competition.

Our unique offerings are designed to keep you and your stakeholders reliably informed:

+ Unlimited analyst enquiry time
+ Access for your entire organization, at no additional cost
+ Insightful analysis backed with comprehensive real-time data

Predict market trends and identify alternative futures.

Capture and analyse the competitive landscape.

Recognize the potential of emerging technologies.

Understand buyer behaviours and attitudes.

Develop and execute market-positioning strategies.

Build relationships and influence the market by taking part in our events.

Manage costs and improve operational efficiencies.

Receive global market data, forecasting and analytics.

Obtain detailed data-driven product intelligence.

Build relationships and influence the market through participation in CCS Insight events.

Access go-to-market support and message testing.

Explore frequent data updates through interactive dashboards.

How do we help?

Stay accurately informed

We understand you need to be able to trust your research. We work with leading figures across industries and are frequently on the ground at key events, giving us first-hand insight into what's really happening in the market.

Build a winning strategy

We deliver concise, practical analysis that enables you to meet your goals. We also provide unlimited enquiry time with our analyst team so that you can get it right every time.

Communicate effectively

Use our reports to simplify complex decisions for your stakeholders. Unlike competitors, we provide your entire organization with access to our analysis at no extra cost.

Powerful industry voices

Our analyst team boasts some of the most respected names in the telecom industry. Our marketing services can supercharge your messaging.

Meet organizational goals

Need to balance short-term success against long-term goals? Our tailored deliverables provide you with concise solutions to complex requirements.

About FDM

FDM was founded a decade ago to address a clear gap in the market: the need for timely, reliable and accurate pricing data and market performance insights.

Since then, FDM has grown to become the industry standard for market share measurement, raising the bar on data quality and transforming how telecom businesses benchmark performance. Where operators once relied on Ofcom reports and financial results published months after the event, FDM now delivers thousands of fresh data points to clients every week. This enables real-time benchmarking of sales share across consumer and business broadband and business mobile, and most recently through the launch of its Consumer Mobile, Fixed Mobile Convergence (FMC) and Network Panels.

At the core of FDM's offering is a commitment to unrivalled data accuracy. By combining pricing and offer data with point-of-sale insights, FDM ensures its clients have the most robust, trusted intelligence to guide commercial decisions, sharpen strategies and maintain a competitive edge.

FDM Point of Sale Market Share Insights

FDM captures and collates point-of-sale data from every major ISP in the UK, anonymizing and rigorously quality-checking inputs to deliver trusted weekly market share insights. These are broken down across a wide range of KPIs, including speed and data tiers, contract length, average sales price, handset SKU and sales channel.

This intelligence empowers operators to make sharper trading decisions — understanding whether a promotion has genuinely shifted market share or simply followed overall market trends.

Looking ahead to the second half of 2025, FDM will expand its portfolio with the launch of the Consumer Mobile Panel and the UK's first FMC Panel. Together, these will significantly enhance the quality of mobile reporting and provide the industry's first consistent view of the rapidly growing FMC segment.

With weekly insights across these core markets, FDM clients gain the timely, actionable intelligence needed to compete with confidence. In 2026, FDM will be launching multiple European Point of Sale Panels and expanding into over 40 global markets.

Total market volume benchmark performance versus rest of market on a weekly basis

True average sales price across multiple KPIs

Contract-length data supporting forecasting

Triple play, including pay TV

Market-first fixed-mobile convergence tracking

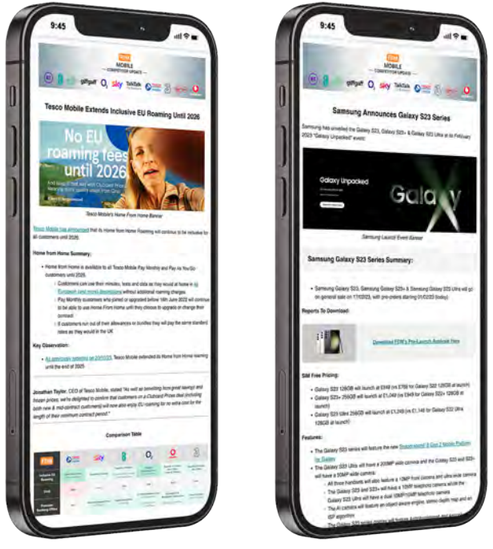
Handset-level insights to identify key devices by market

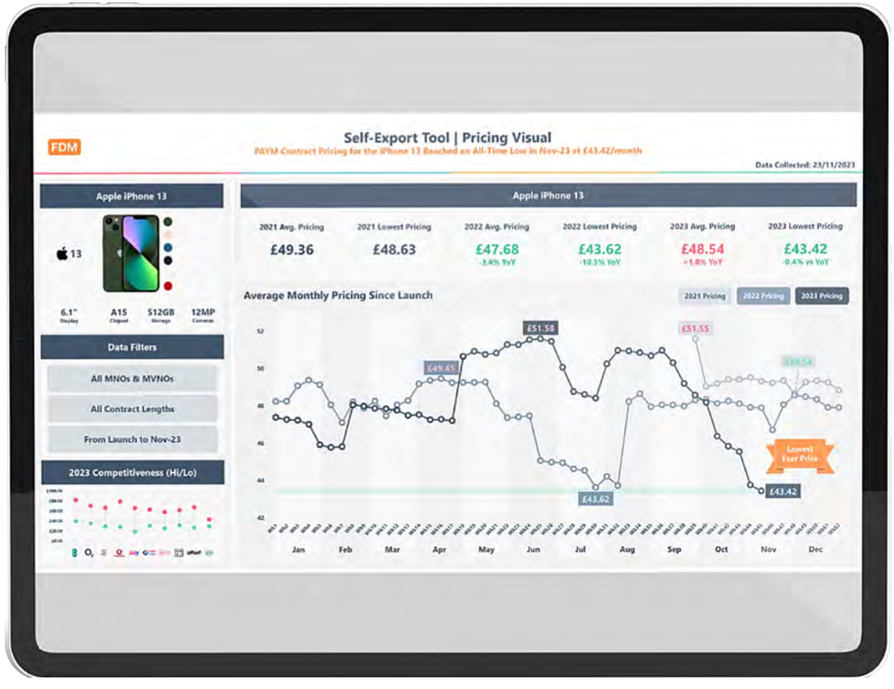
FDM Pricing Data

For over a decade, FDM has set the benchmark for best-in-class telecom pricing data across global markets. Each week, millions of data points are captured — from above-the-line banners and promotional offers to tariff guides and supplementary mystery shopping — creating the most comprehensive view of market activity.

As the industry has evolved, so too have FDM's methodologies, adapting to emerging trends such as regional broadband pricing and the introduction of split pricing models.

Every data point provided to clients is supported by a screenshot, ensuring full transparency and auditability. This rigorous approach makes FDM the trusted benchmark for marketing claims, relied upon by marketing and regulatory teams across the industry to validate campaigns and protect brand integrity.





A Leading Industry Presence

CCS Insight

RESEARCH AREAS

01
Connected Devices

02
Telecom Services

03
Network Innovation

04
Enterprise Transformation

Connected Devices

01

Mobile Phones

Our world-class research team develops detailed forecasts of shipments and revenue, examines market trends and offers timely insights on financial results, news and events.

Second-Hand Devices

Our interactive Power BI dashboards provide granular data and insights from the booming circular economy for smartphones, tablets, laptops and smartwatches.

Wearable Computing

We monitor mixed reality, spatial computing and wearable devices, covering the technology behind smartwatches, rings and trackers. Our surveys reveal consumer and enterprise attitudes in this fast-evolving space.

Connected Consumer

We track how consumers worldwide interact with personal and smart home devices. Using an interactive Power BI dashboard, our research offers insights into ownership, usage, brand perceptions, ecosystem loyalty and new technology trends.

Fixed Wireless Access

Discover the market potential of 5G fixed wireless access, which will bring high-speed broadband to about 150 million people by 2027.

Telecom Operators

We help operators steer a course through the maze of changing consumer behaviour, regulation and new network technologies. Our surveys plot the dynamics of buying mobile devices and services.

eSIM

As physical SIM cards disappear from mobile devices, we explain the dynamics of this change and its impact on network operators, device manufacturers and consumers.

Telecom Services

02

Satellite Connectivity

Our comprehensive reports cover every aspect of this developing technology, which we predict will be supported by more than one in eight smartphones within three years.

Network Innovation

Our reports examine innovations in network technology and offer recommendations to device-makers, operations and equipment suppliers. Topics covered include Open RAN, 5G standalone and RedCap.

Private Mobile Networks

We examine how 5G networks enable private slices of connectivity for business customers, opening a lucrative market for operators, and offer guidance on how to seize the opportunity.

Network Innovation

03

Enterprise Transformation

04

Employee Workplace Technology

Our research reveals how employees use workplace technology, navigate hybrid work and engage with devices, collaboration tools and emerging technologies, offering insights for strategic decision-making.

Senior Leadership IT Investment

We monitor how senior executives set technology priorities, allocate budgets and adopt emerging technologies, delivering benchmarks and recommendations that guide strategic decisions.

EMPLOYEE WORKPLACE TECHNOLOGY SURVEY

For organizations aiming to future-proof the way they work, employee opinions are paramount. However, internal surveys alone won't unlock insights into how to attract new talent or reveal how competitors are using emerging technologies you may not have considered.

Our survey of employees in the US and Europe across various industries explores attitudes and experiences with workplace technologies, including AI and generative AI. We highlight the opportunities and challenges, offering actionable insights for informed business decisions.

SCAN HERE to learn more

NETWORK INNOVATION

Research Area

The pace of network change is increasing. Software and automation are more important through virtualization and network APIs, as well as AI touching every part of a network.

There are competing visions for access networks as Open RAN divides vendors. The ecosystem is expanding as enterprises adopt private networks and satellite players partner to offer direct-to-device services.

Against this backdrop of innovation, data usage continues to increase, security is now key and, to keep pace, vendors seek to improve their marketing to drive deployment of the latest standards and network capabilities. The success of 5G standalone and 5G-Advanced will be the foundation for 6G.

SCAN HERE to learn more

CCS Insight's comprehensive Network Innovation research provides your organization with actionable insights, helping to deepen your understanding, build your strategy and communicate your offerings in this dynamic market.

PULSE :
Connected Consumer

SCAN HERE to book your demo

Quarterly Market Tracker

Political and economic uncertainty has reshaped how consumers value, use and replace their connected devices, creating a complex landscape for businesses to navigate.

Pulse: Connected Consumer is a quarterly survey tracking changing consumer relationships with connected devices across personal and smart home categories. Covering 15 personal devices and 14 smart home devices, the survey explores ownership, usage, expectations and attitudes, providing a comprehensive view of consumer behaviour, purchase intentions, ecosystem engagement and sustainability preferences. It draws insights from over 4,000 respondents across the UK, Germany, Spain, the US and India.

Five areas of focus:

Holistic view

Macroeconomic factors

Purchasing intentions

Environmental impact

Device innovation

Recent updates

To reflect market shifts, the survey was updated in March 2025:

- Expanded device coverage: now includes wireless headphones and kids' smartwatches.
- Refined categories: personal and shared devices are now addressed separately from smart home devices.
- New insights: additional questions explore brand perceptions, brand loyalty, ecosystem retention, smart home adoption, ease of use, compatibility, future appeal and adoption of subscription services.
- Dashboard restructure: the interactive dashboard has been refreshed to align with the new topics and device categorization.

Why *Pulse: Connected Consumer*?

This powerful tool helps businesses anticipate trends, adapt strategies and make informed decisions. By tracking more than 30 connected device categories, it provides practical insights into consumer attitudes, buying behaviours and market dynamics, keeping you ahead in a rapidly changing industry.

CCS INSIGHT RESEARCH

Second-Hand Devices

The secondary smartphone market is going through a period of transition. Regulatory headwinds, tightening margins and supply-side challenges are slowing growth in this previously booming segment. Companies must now navigate this increasingly complex landscape amid bottom-line pressure, putting the industry under newfound stress. However, evolving trade-in strategies, deeper involvement from manufacturers and the rapid growth of automation in device processing indicate market potential remains robust.

Drawing on insights from over 50 quarterly interviews and data feeds across more than 25 global markets, our interactive dashboard offers a complete view of the market's entire value chain, including sales and trade-in channels. This rich data enables us to generate detailed forecasts for four key device categories - smartwatches, laptops, tablets and smartphones - ensuring you stay ahead of trends and make informed decisions in an evolving industry.

We present granular insights into industry KPIs including:

- Market value and volume
- Brand and model performance
- Regional data
- Device grading

SCAN HERE to book your demo

Book a demo and see how we can help you create a data-driven strategy that is easy to communicate to stakeholders

skylo

Never Lose Coverage

As demand for always-on connectivity grows, satellite networks are becoming a key part of the mobile ecosystem. *Turning Satellite Connectivity into Operator Revenue* is a new report produced by CCS Insight in conjunction with Skylo, highlighting why satellite connectivity is increasingly vital for device-makers, mobile network operators, and consumers.

With a focus on the Asia–Pacific region, the report examines the unique challenges facing device manufacturers as they consider adopting the technology, and explores how mobile operators can generate revenue from satellite connectivity services and provide peace of mind for their customers.

Get the insight by scanning the QR code below.

SCAN HERE to download

About Skylo

Skylo Technologies is a global non-terrestrial network (NTN) service provider based in Mountain View, California, offering a service that allows smartphones, wearables, vehicles and IoT cellular devices to connect directly over existing satellites.

Devices connected over satellite are managed and served by Skylo's commercial NTN vRAN, featuring a 3GPP standards-based cloud-native base station and core.

Skylo works with existing satellite operators, network operators and device-makers to provide subscribers an anywhere, anytime connectivity solution between terrestrial and satellite networks.

MDS GLOBAL

Wholesale Plus: Driving Revenue and Profitability from Multilayer Business Relationships

CSPs are looking to boost revenue and enable new services by offering third-party access to their network and its functionality through an open framework, either directly or using aggregators.

To achieve this and maximise the revenue opportunity, CSPs will need to be able to manage and orchestrate complex wholesale billing models between multiple partners, while supporting a range of layered relationships and charging metrics.

For a deeper look at how CSPs can address these challenges and capture the opportunities ahead, download the full report, produced in collaboration with CCS Insight.

SCAN HERE to download

About MDS Global

MDS Global helps telecom providers grow revenue, improve customer experience and run more efficiently.

We deliver business support systems for B2B, B2C, B2B2X and IoT models. Our cloud-based platforms include billing and monetisation, customer experience, eSIM lifecycle management and AI-driven decision intelligence. Each one is built to scale as our customers grow.

Our clients include fast-growing MVNOs such as iD Mobile and tier-one operators like BT. We support MVNOs, MVNEs, network operators and wholesale providers. This includes everything from mobile and fixed to converged services.

We've spent more than 35 years working on everything from simple consumer tariffs to complex corporate and public sector contracts. As part of the Lumine Group, a family of over 30 telecom software companies, we bring the flexibility of a specialist provider together with the resources and standards of a global public company.

Learn more at www.mdsglobal.com

Contact us: marketing@mdsglobal.com

ARTIFICIAL INTELLIGENCE

1 AI does not provoke large-scale unemployment

History is full of technological innovations that initially promised a utopian — or dystopian — future where no one would have to work. The mechanization of agriculture, the Industrial Revolution, mass production, computers and the internet have all been heralded as potential causes of mass unemployment as technology replaced traditional tasks. But each innovation has brought a set of new, previously unimagined jobs. The widespread adoption of AI causes localized and short-term disruptions to employment that should not be underestimated, but humans' ability to create work prevails in the end.

2 Agentic AI gains headway in businesses first, with consumer agents advancing little by 2028

The vision of an AI agent that can seamlessly answer questions by accessing data from a multitude of sources and applications has become the next phase of hype about generative AI. Delivering it on consumer devices is slowed by the requirement for data to be shared between applications. By contrast, AI agents become increasingly prevalent in large organizations. They take on the role of operational coordinators, assigning and tracking tasks, automating network management, identifying hurdles and prompting human decisions with limited supervision. The ownership of internal data makes this a much more realistic and practical prospect than more-ambitious consumer implementations.

3 A large company will use AI to disguise the location of its customer care agents by 2027

Offshoring customer care centres to other countries has long been controversial and often unpopular with customers. But even within a country, the location of customer agents may be in an economically weaker area where agents have strong regional accents. A large enterprise uses AI-based models to alter the accents of their call centre staff in real time to more closely match the origin of the inbound call. Although this may be used to disguise the voices of call agents in a country like India, it is equally likely to be used to hide a regional accent within the same country.

4 Apple acquires a large language model to address AI challenges

Apple famously avoids large-scale acquisitions in favour of building products itself or making small technology-focused acquisitions. However, generative AI is proving challenging for Apple, and specifically the next-generation upgrade to Siri. Apple seeks to time an acquisition with mounting competition, a drop in pricing and falls in the valuations of large language models. This means timing is difficult to predict, but we maintain the view that there is a correction to the unfettered investment in infrastructure for AI in the next two years.

5 Search companies offer premium subscription options as AI-powered alternatives dominate

Over the next five years, free search services become more limited, hampered by the costs of operating large language models and the need to find ways that advertising can continue to work within AI-generated results without attracting regulatory ire. Additionally, as information owners put more content behind paywalls and other barriers to prevent models being trained on it, they demand payments from search providers to legally gain access. Search providers look to recoup investments by charging their users, possibly by bundling paid-for search with other offerings, similar to the way Amazon bundles free delivery, video and music into its Prime subscriptions.

6 In 2027, a quarter of enterprise compliance failures are linked to the use of unsanctioned AI tools

The rapid spread of generative AI is fuelling a new compliance risk: shadow AI. Employees are using tools like ChatGPT, Copilot and Gemini to boost productivity, often without formal approval or oversight. These tools are embedded in day-to-day workflows and difficult to monitor, increasing the risk of data leakage, bias and regulatory breaches. In regulated sectors such as finance, law and healthcare, shadow AI becomes a leading contributor to compliance failures, and this accelerates the development of AI-specific governance and monitoring frameworks.

7 By 2027, AI platforms evolve into sales intermediaries

They move from just providing information to active participants in the buying process, through the integration of buy-through and referral options like current price-comparison sites. For sellers, it represents a new route to market and a challenge in terms of visibility and pricing strategy. Early movers that establish partnerships and optimized product feeds for AI platforms gain a significant advantage.

8 The unpredictability of generative AI causes AI deployments to emulate human organizational structures by 2030

Generative AI is incredibly versatile, but, unlike conventional coding that always produces the same output with the same input, the content and quality of its output vary, even with the same inputs. It is also known to "hallucinate" results, and produce other kinds of imperfect output, just like a human. The rise of mechanisms for models to communicate with each other, like Agent2Agent, leads to multiple agents being used to monitor and manage the quality of generative output in a way akin to human organizations, like an editor reviewing a journalist's writing before publication.

9 A smartphone manufacturer launches an "AI free" smartphone and service by 2027

For all the attention devoted to AI, it is easy to overlook the growing array of privacy, security and socio-economic concerns from consumers. A smartphone manufacturer offers a stripped-down Android smartphone that is marketed as "AI free". It follows similar initiatives designed to limit exposure to apps and services as part of a digital detox. Although the idea is attractive to many customers in principle, the reality is that a multitude of apps and services have become infused with AI. The product sees limited mass-market success.

10 By 2029, the value of AI platforms is increasingly derived from their content agreements

As AI platforms become commoditized and they find themselves making more marginal gains with each update, they seek differentiation through exclusive access to key content sources, particularly as content owners only agree to access through licensing agreements. OpenAI and Google are particularly effective in securing deals, while others, such as Perplexity, find themselves slipping behind.

11 Investments in generative AI large visual models overtake large language models by 2028

Most of the hype for generative AI has been around language, with a natural language interface to input prompts paired with text-based output from the models. However, for interaction with the physical world, models shift to be visual, with real-time visual prompts driving the models, not text. The visual output from these large visual models is used to manage drones, robots, industrial automation and military equipment. In time, the models become simultaneously multimodal, combining real-time audio, video and other sensor input to create a new class of real-time physical world models.

12 By 2028, a generative AI company is forced to close owing to copyright-related legal action

There are multiple risks for generative AI models, based on the sources of information used to train the models and the potential for the output from models to include trademarked or copyright material. Litigation is already underway; one of the current lawsuits causes an AI start-up to cease business, as it is unable to meet the cost of recreating its model or paying the damages awarded against it. The two most likely actions are those involving a model that reproduces copyright-protected movie characters or the content of illegally acquired non-fiction books.

13 By 2027, small, focused AI models process more output tokens than large, general-purpose models

The direct and indirect costs of running large models lead to a proliferation of small models. Some of these are tuned to run at the network edge or on user devices, where their smaller size means lower investment in device memory is needed, others are deployed in the cloud as a cheaper solution to triage easy prompts. To enable high-quality performance, small models are trained and focused on a smaller problem area than the hyped existing large models.

14 Cloud capital spending continues to grow in 2026 before stalling abruptly in 2027

In 2025, investments in cloud infrastructure by Alphabet, Amazon, Meta and Microsoft top $300 billion, double 2022's total. Such growth continues in 2026 before receding sharply. Investor scrutiny of costs versus return sparks a dramatic change, resulting in these four companies cooling their investments in lock step. Such herd mentality has been displayed before, as shown by parallel headcount reductions after the pandemic and recent increases in capital expenditure.

15 In 2027, operators begin reporting financial and operational metrics to show the value of AI to their business

The decision reflects pressure from shareholders to demonstrate a tangible return on investments in AI amid the unrelenting hype surrounding the technology. Example metrics include employee effectiveness, customer enquiry resolution, network roll-out efficiency and time-to-market for new products and services. However, the disclosures do little to placate investor unease that previous expectations for AI were overblown.

16 Firms realize that replacing entry-level employees with AI was a mistake and reinstitute graduate intake programmes

As companies implement AI processes to replace basic tasks traditionally carried out by graduates in their first job, they dispense with their annual intake of graduates. But these young employees usually go on to develop skills and experience that prove more valuable to their employers. By opting for the short-term gain of reduced costs, firms are denied the longer-term benefits of regular employees. Realizing their error, they reinstitute graduate intake programmes by 2030.

17 From 2028, marketing experts start to optimize their brand presence in AI platforms, rather than search engines

As reliance on ChatGPT and similar platforms as a way to search the web grows, marketers need to ensure their products, data and brands appear in AI outputs. This creates a new discipline of AI footprint optimization, which blends technical search-engine optimization, data partnerships and brand-building. Companies that fail to adapt risk invisibility in consumer journeys increasingly mediated by AI assistants.

18 To 2028, automatic summarization, voice-to-text transcription, image editing and live translation are the most-used generative AI features

Despite promises of agentic AI and other hyped technologies, real-world applications of AI by consumers remain more grounded. Developers focus on integrating existing AI capabilities into software, creating user-friendly interfaces to the technology, and supporting regional language variations.

19 More and more sporting bodies replace human referees with AI

Boxing and other contact sports introduce AI judges to determine the outcome of matches by 2028, with proponents claiming AI adjudication is free from bias, corruption and mistakes. The 2034 FIFA World Cup sees assistant referees on the pitch replaced by AI-powered technology as part of efforts by host nation Saudi Arabia to showcase its technological prowess.

20 By 2028, generative AI art tools are commonplace in UK classrooms

Schools increasingly adopt art platforms with generative AI capabilities to support cross-curricular creativity, visual literacy and digital expression. These tools enable students to animate drawings at an early age or visualize scenes from creative-writing lessons, bridging artistic exploration with technological fluency and engagement.

21 Amazon's Alexa+ launches a personalized AI radio experience in 2026

The vast established network of Alexa devices provides a foothold for Amazon to roll out an on-demand channel that runs constantly in the background, much like live radio. However, the music being played, news being read out and even adverts are positioned to users as powered by an AI DJ, giving a listening experience that is fully tailored to the individual.

22 By late 2026, major social platforms display AI authenticity labels on user content

Social media platforms introduce visible tags on user-submitted content, indicating whether material is AI-generated, made with AI assistance, or created by a human. The platforms use their own AI systems to detect generated content, with varying degrees of success. They also rely on watermarking technologies applied by other AI systems, and users declaring the nature of content when they submit it. Creators who fail to disclose synthetic media risk algorithmic downranking, demonetization or account suspension.

23 An ISO framework for disclosing how responses to AI prompts are built emerges by 2027

It comes as pressure grows on software providers to publish details of how their generative AI routines create content from user prompts. The framework builds on the work of AI ethics boards to mandate explainable AI and avoid hidden bias in content generation.

GOVERNMENT

24 By 2030, five G20 countries attempt to introduce bans on social media for under-16s

Many nations evaluate the progress of legislation introduced by the Australian government at the end of 2025 before deciding whether to duplicate it. As in successive bans on indoor smoking, governments stress the health benefits of prohibition. Although the proposed bans meet with significant resistance from tech companies and free speech advocates, their popularity among many parents emboldens policymakers.

25 By 2030, the UK government mandates all dwellings must have fibre to the home

The legislation updates universal service obligations set out in 2018, which specify a minimum of 10 Mbps downloads. Although the provision of fibre connections requires significant investment, especially for multidwelling units, it helps reduce the digital divide for residents of older tower blocks, which typically house lower socio-economic groups. Like the prior legislation, the mandate proves difficult to achieve in practice.

26 By 2031, Ofcom and the Department for Science, Innovation and Technology back the creation of carrier-neutral "edge exchange zones" in major UK cities

The initiative aims to provide fixed-line networks with a guarantee of 5 ms latency and 1 Gbps speeds. It reflects governmental desire to support technology initiatives that boost economic growth. Latency-sensitive sectors already lead spending on network edge technologies, and telecom industry road maps emphasize edge automation as the next growth battleground.

27 By 2027, at least one country bans children under 16 from buying a smartphone

The decision follows growing concern about online safety, the amount of screen time and the use of social media as children receive their first smartphone at an ever-younger age. Australia is enacting legislation to ban under-16s from social media, and Denmark is set to prohibit the use of smartphones in schools.

29 By 2028, a G7 country requires drones weighing over 250 g to include cellular connectivity

In many markets drones above a certain weight already require a licence or some form of registration. There are also rules about flights in certain locations, such as near airports. However, these rules are easy to ignore. To enable clear enforcement of regulations and to ensure safety as more drone flights occur with the development of a low-altitude economy, 5G connectivity is mandated in new drones over 250 g in weight. The connectivity makes inter-drone coordination easier, enforces location blocks, and when 6G arrives enables the use of integrated sensing to understand a drone's surroundings.

28 In the UK, digital skills becomes a core qualification alongside maths and English by 2030

The UK government's strategy to develop a highly skilled workforce means a GCSE in digital skills becomes as important as qualifications in maths and English. The digital skills GCSE is a key determinant in assessing whether an individual can progress to the next stage of education or enter employment. The qualification covers coding, web design, social media use, online safety, and AI prompt engineering. Prompt engineering becomes a standard part of curricula at all levels of education, from GCSE to university degrees, often taught as a cross-disciplinary skill. The greater emphasis placed on digital skills is a boon to tech companies with learning programmes like IBM, Google and Microsoft, and policymakers increasingly call for frameworks that encourage industries to take a greater stake in secondary-level tech education.


GEOPOLITICS

30 The US quest for manufacturing autonomy proves to be an expensive exercise in futility

Calls for the US to significantly increase domestic manufacturing in every sector have been deafening. Yet there is little progress in consumer electronics and semiconductors over the next five years. Global supply chains have taken years to become established, cost structures are entrenched and fully dependent on low-cost manufacturing bases led by China plus a highly interconnected web of suppliers that are concentrated in areas far from US shores. Investment in US facilities by companies such as Intel and TSMC goes some way to addressing US government policy but the geographic make-up of the global consumer electronics market changes little.

31 By 2027, EU member states mandate satellite backup for critical national infrastructure

Responding to escalating cyberattacks and sabotage threats, and a greater need for telecom resilience, EU governments require mobile operators to integrate satellite communication redundancy for national infrastructure, including energy grids, public safety networks and transportation systems. In some instances the mandate extends to vital regulated industries like banking. Other companies, taking their cue from government, build satellite communications into their business continuity and disaster recovery plans.

32 By 2026, rising device costs force US schools and institutions to scale back 1:1 student tech programmes

Escalating tariffs on imported electronics and supply chain volatility drive up the cost of student devices such as Chromebooks and tablets. By 2026, many public school districts reduce their device-to-student ratios, delay upgrades or revert to shared-use models. This widens the digital divide, especially in lower-income areas, affecting educational outcomes.

33 The EU's Iris 2 satellite constellation fails to meet its launch date

The project is hampered by financial constraints and bureaucracy. Backed by European governments, telecom companies and satellite operators, the initiative aims to provide the continent with satellite sovereignty. It is delayed by the involvement of numerous partners and official bureaucracy, which increase costs. With European governments struggling with high levels of debt, there is an unwillingness to find additional funds, despite the EU's desire to end reliance on the SpaceX Starlink constellation. Its launch is delayed beyond 2030, to at least 2032.

34 By 2028, the US Department of Defense selects Samsung to build private 5G networks at its Indo-Pacific bases

Shifting geopolitical priorities mean the US Department of Defense selects South Korea's Samsung Networks to lead deployments of 5G private mobile networks at military bases in the region. Samsung is chosen over traditional suppliers like Nokia and Ericsson to strengthen the relationship with South Korea, an important regional ally. The deployments support secure, low-latency and autonomous defence applications, strengthening operational resilience amid rising tensions in the region.

35 By 2029, a satellite constellation is damaged by space junk, sparking a desire for greater international collaboration

With low-Earth-orbit satellites numbering in the thousands and at least 26,000 pieces of debris in the atmosphere, a major collision damages a satellite constellation. The importance of satellite connectivity prompts an attempt at greater collaboration between the US, Europe and China in space governance. However, there is little progress in collaboration, owing to the difficulty of assigning property rights in space.

CONNECTED DEVICES

36 By 2027, over a third of mobile phone sales in the UK are made directly from the manufacturer

CCS Insight research shows that more than a fifth of Britons bought their primary mobile phone directly from Apple or Samsung, compared with just one in 20 six years ago. Reasons for this include a greater focus from phone-makers on the direct route to market, the growing role of online channels, consumers' familiarity with major brands, and momentum in the secondary market. However, the trend raises questions about operators' role in the purchase process as their share of device sales continues to fall. The rise of eSIMs and the arrival of initiatives like Samsung's Galaxy Club loyalty programme further weaken their hand.

37 Despite the prominence given to AI features on smartphones, to 2027 people largely ignore them when choosing a phone

With hardware performance plateauing, manufacturers are attempting to differentiate their phones by focusing on elements like proprietary AI agents, contextual automation and personalized experiences. They hope AI features can create user lock-in while generating recurring revenue through premium services and subscriptions. However, over the next two years most consumers still select their next phone based on compatibility with an ecosystem or features like battery life and camera performance.

38 By 2028, Samsung abandons its own efforts in AI, relying exclusively on Google Gemini

To date, Samsung has attempted to maintain some in-house AI capability through Bixby and other initiatives for services such as translation. By 2028, it realizes this is futile and embraces Google Gemini, not only for its mobile products but across its entire product range, including TVs, smart home devices and more. This results from a strategy by TM Roh, who is keen to offer more consistency and interoperability among Samsung products in his elevated role overseeing all those areas.

39 Over the next three years, Android device-makers offer heavier incentives to younger buyers

CCS Insight research indicates that young people are highly likely to own Apple products, which presents a growing problem for Android companies. To counter this trend, device-makers like Samsung and Google bundle devices more heavily for younger people to try to tie them into the Android ecosystem.

40 Samsung quickly follows up Project Moohan with smart glasses that launch in 2026

Samsung and Google enjoy a tight partnership to develop wearable computing devices. After launching the first Android extended reality device with Project Moohan, Samsung rapidly follows with a pair of smart glasses within 12 months. The industry has pivoted from virtual reality headsets to glasses, and the Project Moohan device is less relevant as focus shifts to smart glasses following the success of Meta products in this area.

41 More than 10 million pairs of smart glasses are sold in 2028

On the heels of the successful Ray-Ban Meta glasses, Apple and Samsung launch their own versions of smart glasses, pushing the segment even further into the public eye. The involvement of major tech brands in the smart glasses space provides a powerful injection to sales in the category.

42 Over the next decade, connected watches for the elderly surge in popularity in countries with rapidly ageing populations

Countries such as Japan and South Korea are seeing a rapid expansion of the elderly population, who need increasing care and attention. The strong tech-literacy of these countries aligns well with rising interest in watches for the elderly, resulting in strong growth in this category.

43 Apple and Samsung move their principal smartwatch updates to biannual refreshes by 2027

Smartwatches have seen slowing innovation rates over the past few years as it has become increasingly difficult to add meaningful improvements every year. Both Apple and Samsung slow the refresh rate on their main smartwatch series, releasing updates every other year rather than every 12 months.

44 Apple enters the top five smartphone brands in India by volume in 2025

Despite Apple's global dominance, it has yet to break into the annual top five in India. Its debut among the front runners is the result of strong local manufacturing, easier financing schemes, better product availability in a variety of channels, and robust performance in mid-tier cities as well as tier-one markets in India.

45 Disinformation security becomes a feature on smartphones by 2030

Although initially a focus for enterprise solutions, software to guard against disinformation is widely adopted on consumer smartphones as a response to the proliferation of generative AI content. Deepfake detection, impersonation prevention and reputation protection are added to mobile operating systems such as Android, HarmonyOS and iOS.

46 Monocular augmented reality glasses run into problems with eye health

Augmented reality glasses with a display in just one eye are easier to build than binocular devices. However, a singular display means that the strain of use is not balanced across a user's eyes. Publicity surrounding this problem dampens sales in the category.

47 Garmin launches an injury warning indicator by 2026

Sports watches such as Garmin's Forerunner range continue to seek ways to differentiate and already offer training load indicators. The company takes this a step further by warning users when they may be overtraining to the point of risking injury, and even suggesting preventative or rehabilitation measures that could be taken, such as physiotherapy exercises.

48 Apple's first smart glasses include 5G connectivity

Apple's iPad and Watch products have been early and enthusiastic showcases of integrated cellular connectivity. The iPhone Air demonstrates the company's ability to squeeze advanced technology into ever-smaller spaces. This heritage and Apple's growing strength in energy-efficient modem technology spur it to include 5G technology in its first smart glasses. The constraints of a lightweight head-worn device make 5G Reduced Capability (RedCap) a potential option. The presence of a cellular transmitter so close to wearers' heads for extended periods raises concerns about health implications.

49 A renewed push behind HarmonyOS sees it capture 10% of global sales by 2028

As tensions between the US and China deepen, key players in China support the development of an independent, nationwide unified mobile operating system. Huawei's HarmonyOS serves as the foundation, with a broad coalition of Chinese firms adopting it as an alternative to operating systems derived from Android. Government backing, a massive domestic market and control over global smartphone manufacturing ensures HarmonyOS claims a tenth of global sales of new devices by 2028.

50 Emotion-recognition capabilities are offered in smartphones and wearable computing devices by 2030

Significant progress has already been made in proactive and preventative health, and we expect further progress in the coming years with new non-invasive sensors able to measure glucose levels and blood pressure. However, the next frontier in health comes from AI-powered emotion-sensing technology that offers users emotional support and coping strategies akin to those of a virtual psychologist.

51 To 2028, carmakers focus on software and experiences as a way to increase buyer loyalty

In a bid to replicate the work of smartphone ecosystems, where many users are tightly bound into hardware and software, some vehicle manufacturers step up efforts to boost loyalty through more-personalized driving experiences, including learning about an owner's driving style, preferred routes and even convenience stops. Although some strive to go it alone, those with strong relationships with content providers, especially other ecosystem players, are most successful.

52 By 2027, at least one manufacturer turns off 2G support by default from its smartphones

Second-generation network technology is now over 30 years old. Operators are increasingly switching 2G networks off to cut expenditure and reuse the spectrum for modern network generations. With increasing security threats, including from state actors, smartphones stop having 2G support on by default. In time, manufacturers remove 2G support entirely, starting with flagship models in developed markets. In markets where 2G still exists, or where users often travel to countries where 2G roaming remains important, support persists.

53 Apple bucks the trend of the smart glasses segment by designing its own frames

As smart glasses launch over the coming years, most companies collaborate with established eyewear companies — for example, Meta with EssilorLuxottica and Google with Warby Parker. Apple, as in so many other areas, goes it alone, offering its own custom designs and distribution.

54 By the end of 2030, 100 million smartphones are produced in fully automated and unstaffed factories

Spearheaded by Chinese manufacturers and powered by developments in AI, smartphone manufacturing is increasingly performed in automated factories. New factories developed in the US are fully automated to help manufacturers sidestep significant wage costs.

55 By 2027, over half of new smartphones offer at least five years of software and security updates

This is driven by regulatory pressure, especially in Europe, lengthening replacement cycles, and growing awareness of the environmental impact of the tech industry. Apple has long recognized the value of extended support, as it creates a pool of used devices that continue to generate revenue for Apple through its software and service offerings.

56 By 2029, robotic dogs are deployed in at least 10% of hazardous environments

They work in sectors like mining and defence, and are used for inspections in hazardous environments. This wave of automation aims to enhance operational safety, but organizations must prove the heavy investment involved offers advantages over ongoing improvements in safety standards for employees.

57 In 2026, Reliance launches sub-$50 and $100 smart glasses in India

The company attempts to disrupt the market by offering affordable augmented reality glasses that exploit its Jio connectivity ecosystem. The low price tempts some buyers to consider them as an alternative when buying traditional glasses. They achieve similar levels of success as Ray-Ban Meta glasses in the US, but fall short of the impact previously made by Reliance's range of low-cost JioPhone devices.

58 To 2030, smart glasses without a display will prove more socially acceptable than those with integrated displays

As smart glasses gain integrated displays, people talking to wearers of these devices find it annoying that the person they are talking to is constantly distracted and their eyes are not focused on them. As a result, smart glasses with displays are regarded as antisocial technology; audio-only smart glasses remain the more-attractive option as they are less intrusive.

SUSTAINABILITY

59 By 2029, the organized secondary market accounts for 40% of second-hand device sales globally

CCS Insight research identifies the organized secondary market as retail chains and other large-scale companies processing high volumes of second-hand smartphones, smartwatches, tablets and laptops.
The entry of new players, expansion by established brands and rising awareness of the environmental impact of device manufacturing see this market continue its upward trajectory. The trend is also helped by manufacturer buy-back schemes and similar initiatives.

60 More than 80% of second-hand smartphones sold in the organized secondary market in Europe are sourced from within the continent by 2030

The proportion of imported second-hand smartphones drops from 50% to less than 20% as regulations restrict the flow of devices from outside Europe. Players in the organized secondary market ramp up trade-in programmes and buy-back schemes to ensure a more consistent and reliable supply of devices for the European market.

61 By 2030, large enterprises publish a “return on commute” index in sustainability reports

Early tenants in intelligent buildings have reported higher comfort scores and fewer service calls as sensor data fine-tunes air conditioning, lighting and meeting-room tech. By blending occupancy comfort, meeting-quality analytics and per-employee energy use into a single index of the financial returns from employees commuting to the office, companies can quantify how well physical space and digital platforms work together. Adoption is voluntary and slow at first owing to the difficulty of compiling data on comfort levels and the quality of meetings. However, the power of linking employee experience to sustainability makes the index a hit with HR leaders, corporate social responsibility teams and investors.

62 By 2026, one in four launches of premium smartphones comes with buy-back or upgrade offers

As consumers weigh the long-term cost of owning a phone and its residual value, models that guarantee a buy-back or upgrade option become more attractive. Such schemes also ensure a consistent supply of devices into the organized secondary market.

63 By 2030, the EU starts to mandate green, energy-efficient telecom networks

Driven by sustainability targets and rising energy costs, European telecom regulators take the first steps to strict carbon reduction standards, pushing operators to adopt energy-saving technologies and circular economy practices.

64 To 2029, the gap in residual value between foldable and traditional smartphones remains significant

Despite growing popularity and advances in technology for flexible displays, foldable phones continue to depreciate faster than traditional designs. The poor perception garnered by initial models persists for several years. In addition, higher refurbishing costs lower their appeal to circular market players.

65 By 2027, Apple certifies refurbished iPhones in India

Apple steps up efforts to cement its foothold in India after breaking into the top five brands by volume (see Prediction 44). It opens more stores in the country, expands its manufacturing presence, and taps into the second-hand market through "Apple certified" devices that have been refurbished in India.

66 By 2028, 60% of enterprise device replacement cycles prioritize energy efficiency and sustainability credentials

Sustainability moves from a secondary benefit to a core driver in enterprise hardware decisions. Enterprises evaluate laptops, desktops and mobile devices based on energy use, the traceability of materials and circular design principles like modularity, repairability and recyclability. Suppliers respond with low-emission models, take-back schemes and transparent supply chains. Procurement teams align refresh cycles with broader sustainability goals, making environmental impact a central metric alongside cost and performance.

67 Energy efficiency becomes a top priority for consumers by 2029

CCS Insight's *Pulse: Connected Consumer* research finds that people generally support environmental initiatives in the tech sector. This support increases as more regulation comes into force that stipulates improvements in the next few years. The trend follows the recent EU mandate that devices must carry an energy efficiency label.

CONNECTIVTY

68 By 2029, a government mandates cellular connectivity supplied by a neutral host in all major public areas

The authorities in a small territory such as Singapore or Hong Kong stipulate that all public spaces with a daily footfall of more than 10,000 people must have adequate mobile coverage. Networks are installed and operated by a neutral party. The regulation helps boost mobile service in areas where people may need connectivity, such as sports venues and shopping centres. It also reduces reliance on public Wi-Fi networks with their potential problems of poor quality and lack of privacy.

69 Premium connectivity is sold as an optional add-on to tickets for a major event in 2027

Demand for internet access at venues continues to rise as people increasingly want to communicate with friends and family, use apps, post to social media and watch videos. However, the performance of networks at busy times is often poor and can quickly lead to customer frustration. This move sees an organization like a sports venue or ticketing agency partner with a telecom operator to offer a connectivity boost enabled through Wi-Fi or 5G network slicing, creating new revenue opportunities for both parties. Operators could also exploit the tie-up to offer a service directly to their customers.

70 In 2030, over a quarter of a billion travel eSIMs are provisioned worldwide

The figure represents a fourfold increase from about 70 million in 2024, according to CCS Insight's forecast. The travel eSIM market is enjoying strong growth as specialist providers such as Airalo and Holafly continue to undercut mobile operators' roaming deals. The upward trajectory is also supported by continued uptake of eSIM-capable smartphones, greater awareness and understanding of eSIMs and steady growth in international travel over the period.

71 Apple enables voice calls over satellite in the US by 2027

Building on the launch of iMessage over satellite, Apple introduces voice calling capabilities in conjunction with its satellite partner Globalstar. The service helps recoup some of Apple's $1.1 billion investment in Globalstar's C-3 constellation. The constellation expands coverage and capacity, enabling voice services adhering to 3GPP non-terrestrial network standards directly from iPhones. Their advent further integrates satellite communications into mainstream connectivity.

72 A delivery company begins to equip vehicles with satellite-capable smartphones in 2026

The significant role of delivery services and the need for drivers to stay connected to corporate systems and their customers prompt an international delivery company to roll out smartphones that can connect to the latest generation of non-terrestrial networks. The company also requires independent contractors to have a satellite-enabled phone and plan so they can conduct their work in or out of terrestrial network coverage.

73 By 2029, operators in the UK are mandated to support a minimum elevation in urban areas to reach high-rise flats and offices

This regulation, in part, improves safety provisions, particularly in the wake of the Grenfell fire disaster in London in 2017. It is also the starting point for legislation of low-altitude airspace to help drones operate, which is already seeing progress in places like China.

74 Subscription fatigue kills half of streaming services by 2028

With dozens of competing services, and consumer spending under pressure, the streaming industry undergoes major consolidation. Inflation, rising churn, fragmented content and regulation that makes it easier to cancel all accelerate subscription cancellations. By 2028, only a handful of dominant platforms — such as Netflix, Disney+ and Amazon Prime Video — remain intact. Many others merge, retrench to niche markets or shut down entirely.

75 By 2030, UK terrestrial broadcasters combine to create a single streaming platform to tackle global giants like Netflix

The move is seen as a last-ditch attempt to remain relevant in TV viewership amid escalating competition from deeper-pocketed rivals. It follows a long-term decline in public service broadcasting and a trend toward online consumption. The motivation is to achieve scale and reduce costs in pursuit of a more sustainable business model. The BBC and ITV are the main protagonists, with Channel 4 and 5 potentially also involved. The initiative clears several major hurdles, including regulatory approval and a fierce debate about government funding.

TELECOM OPERATORS

76 Operators promote a shifting range of metrics to claim network superiority

Most operators have widely touted their network population coverage. In 2026, geographic coverage becomes more prominent in marketing material as the metric increases thanks to growing investment in satellite connectivity, which can quickly penetrate underserved locations. Once satellite connectivity makes coverage ubiquitous, operators switch to other metrics such as battery life or network uses for specific services such as Netflix, YouTube, Spotify and Instagram.

77 By 2027, two European operators agree a strategic partnership for their enterprise units

The move is driven by the benefits of scale as operators' business divisions remain on the back foot amid declining use of traditional telephony services like fixed-line phones into offices. The collaboration largely focuses on areas of strong potential, such as cybersecurity, cloud services, AI and the internet of things, and includes joint procurement, product development and shared learning. If successful, it could be a precursor to a full merger. BT, which recently moved to carve out its international business into a standalone unit, is a contender to form one part of a potential deal.

78 A Middle Eastern telecom company takes a majority stake in a Western European operator by the end of 2028

Companies from the Middle East have started to eye the European sector as they look to expand beyond regional markets. For example, e& has built up its shares in Vodafone and acquired telecom assets in eastern Europe, and Saudi Arabia's stc has a nearly 10% stake in Telefonica. As European operators struggle for growth, some could fall prey, such as France's SFR or Vodafone Portugal, although any move would prove controversial amid concerns about national security.

79 In the first half of 2027, T-Mobile becomes the largest US mobile carrier by number of subscriptions

The achievement represents a stunning turnaround for the previously struggling company that was far adrift of dominant rivals AT&T and Verizon about a decade ago. The ingredients of its success include vast improvements to its mobile network — supported by spectrum acquired from its merger with Sprint — and a string of targeted "Un-carrier" initiatives aimed at overcoming common customer frustrations. Overtaking Verizon to claim the top spot within this timeframe requires it to continue its strong recent leadership in adding new customers.

80 By 2028, a leading European mobile operator reports that more than half its customers are on an unlimited data plan

CCS Insight's consumer surveys reveal pent-up demand for unlimited tariffs as customers seek the reassurance of never running short of data amid continued growth in usage. Operators in Spain could be among the first to reach the milestone; here, our research shows that nearly three-quarters of people would consider the all-you-can-eat option next time they renew or upgrade. To minimize strain on networks and to retain the ability to upsell customers, speed-tiering of unlimited plans is widely deployed. Eventually the industry almost entirely transitions to unlimited data, mirroring the move away from voice and text bundles about two decades ago, although some operators make the leap too early and suffer the consequences (see Prediction 85).

81 A pop star launches their own mobile service by 2027

It has never been easier for brands to move into mobile; for a modest investment, aggregators and enablers can do much of the heavy lifting, and eSIMs can help people get connected more quickly. The pop star's motivation is to better engage with their audience. This includes combining a mobile service with competitions, exclusive rewards, priority tickets and discounted merchandise. Candidates include Taylor Swift, Katy Perry and Beyonce. Actors, broadcasters, influencers and sportspeople who command a wide following watch the move with interest.

82 By 2028, a major market sees a year-on-year decline in total annual cellular traffic

Although data volumes continue to rise, the rate of increase has been steadily slowing as the S-curve of growth begins to flatten in many markets. Additionally, some operators like Elisa are using advanced compression techniques to better manage traffic to preserve capacity. However, the overall long-term industry upward trend remains firmly in place, supported by multiple factors. These include the advent of new categories of device such as connected laptops, the deployment of additional spectrum that lets networks support more data usage, higher-quality and more data-heavy streaming as apps automatically increase quality on better-performing networks, and the growth of fixed wireless access in some markets.

83 By 2028, a major European operator converts parts of its 5G network into AI-managed energy hubs

The hubs combine charging for electric vehicles, renewable energy and battery storage to balance local grid demand and sell excess power back to the grid. Growing energy costs, increasing pressure on national grids and the rise of electric vehicles are creating new challenges for energy management. Telecom operators, with their widespread network infrastructure, help balance local demands for energy, using AI-powered management to optimize energy use in real time and sell excess power back to the grid.

84 In 2027, a network operator follows Apple's lead and markets itself based on its privacy credentials

Apple's success in differentiating its products through privacy claims prompts a network operator to take a similar approach. It promotes its network as being the most privacy-conscious and makes commitments to obfuscate location information, IP addresses and more to safeguard users' privacy.

85 A European mobile virtual network operator that offers only unlimited data plans launches, but fails by 2028

A new virtual operator launches a service that offers only unlimited data plans, albeit with fair use limits. Although unlimited plans appeal to some people, most of its customers feel they are not using enough of their unlimited data to justify the premium price.

86 By 2028, at least one major European operator accepts payments in cryptocurrency

The move follows the precedent set by AT&T, which started to accept payments in Bitcoin through BitPay in 2021. It is heralded as a sign of growing mainstream acceptance of digital currencies, and the operator positions itself as a digital leader in financial and telecom innovation.

NETWORK INNOVATION

87 China is the first country to deploy commercial 6G networks

China's massive investments in telecommunications infrastructure, government-backed research and leadership in 5G adoption position it as the front-runner for 6G deployment. Taking advantage of its vast manufacturing capabilities and strong domestic market, China aims to launch initial 6G services in 2030. Operators and other players in the US, South Korea, Japan and the EU are investing heavily in 6G research and standards development, but challenges like fragmented regulation and infrastructure readiness put them a few steps behind their Chinese counterparts.

88 Millimetre wave fails to gain traction for fixed wireless access services in Europe until the mid-2030s

A lack of available spectrum and devices and waning interest in the technology mean that adoption of millimetre wave is a lot slower than originally expected by operators and equipment suppliers. Despite the benefits offered by millimetre-wave connections, including speeds of up to 1 Gbps, and the launch of millimetre-wave services aimed at mobile devices, operators in Europe eschew the technology for fixed connections until the advent of 6G sparks renewed interest in the 2030s.

89 Standalone 5G is the default technology for any 5G network launching after 2026

Early 5G networks launched using 5G non-standalone, which used existing 4G core networks. This enabled early launches without an operator needing to invest in switching the network core. However, 5G standalone is now belatedly gaining momentum and from the start of 2027 all new 5G networks support standalone technology.

90 A streaming platform buys a network slice by 2028

A major streaming platform purchases a 5G network slice to improve performance on its mobile apps for users who want to stream video content on the move. It offers users a better quality of service and allows the platform to differentiate itself from rivals. With its strong roll-out of 5G standalone networks, Germany could be a market where this is initially trialled.

91 Millimetre wave is deployed as a marketing tool in UK networks in 2027

Following successful spectrum auctions toward the end of 2025, the technology is deployed in the UK, although it fails to make as much progress as operators had hoped, as detailed in Prediction 88. As a marketing vehicle to promote its network, VodafoneThree launches millimetre-wave services for smartphone users, initially at the Glastonbury Festival and then more broadly at major venues, despite few phones supporting the technology.

92 6G technology is not significantly faster than 5G

Recent advances in mobile radio network waveforms have done little to improve efficiency. Where 3G and 4G enabled much more data to be transmitted in the same amount of spectrum, with 5G New Radio the improvement slowed dramatically as technology started to close on the constraints of Shannon's limit. With 6G, the main improvements to speed come through access to new spectrum — for example in the upper 6 GHz and 7 GHz bands — and the use of larger antenna arrays on cell sites, and not from fundamental waveform innovations.

93 AI triggers a shift to Arm-based architecture in radio access networks

Intel has long done well in high-performance workloads, such as those needed for radio access networks. However, Arm-based vendors are now pushing hard to grow their market share, especially with greater use of machine learning models to improve mobile radio performance. Additionally, the AI-RAN Alliance is seeking to turn base stations into mini AI data centres. Its more than 100 members include many Arm-based vendors, but Intel is notable by its absence. The flexibility of Arm to integrate other capabilities into a system on a chip, as well as its longstanding performance-per-watt characteristics, unseat Intel. The process takes many years, because of the relatively slow pace of change, completing during the 6G era in the 2030s.

94 Network automation efforts plateau at Level 4, unless artificial general intelligence is achieved

There has been and will continue to be enormous progress in automating many network management and fault resolution functions in telecom networks. However, the vision of a completely autonomous end-to-end Level 5 network remains merely an aspiration for the next five years. Although certain parts of a network achieve Level 5 in the next few years, the enormous and rising complexity of networks, the ongoing need to add new capabilities as 3GPP releases continue to roll out, and the unpredictability of generative AI means networks overall break the Level 4 mark but not hit a full Level 5. However, should artificial general intelligence be achieved, then all things become possible and Level 5 may be reached quickly.

95 Public safety and dual civilian and military use are the main new applications of 6G networks

Older network generations focused on consumer services. This began to change with 5G as industrial services using lower latencies, network slicing and support for a large number of simultaneous connections came to the fore. With 6G, there are new focus areas, notably the integration of non-terrestrial networks and the ability of networks to understand their environment using cellular radio signals. The telecom industry looks to new market opportunities beyond consumers and enterprises, and public safety presents a timely new opportunity. Public safety encompasses first responders and emergency services, other civilian authorities charged with assisting with environmental events, as well as increasing dual use or outright military usage of 6G technologies.

ENTERPRISE

96 In 2027, 100,000 businesses and 1 million consumers are hit by a single cyberattack

Hackers expose an unpatched vulnerability in the now-defunct Windows 10. Millions of consumers and businesses continue to use the operating system for several years after most software and security updates end in November 2026. The interconnected nature of modern computing means the effects are felt around the world.

97 By 2028, major cloud marketplaces mandate security attestations for software deployed through the marketplaces

The initiative results in a 30% drop in vulnerabilities shipped in marketplace-deployed software. Amazon Web Services already exposes security and compliance data in its Vendor Insights feature. The implementation of attestations by all marketplaces reinforces the trend toward curated catalogues of software and continual scanning.

98 By 2029, 40% of FTSE 350 companies run their most-sensitive AI on UK-based clouds or on-premises clusters

The on-premises clusters are certified by a newly created "Sovereign AI Alliance". Sovereignty concerns have prompted a third of UK enterprises to repatriate workloads, according to CCS Insight research.

99 By 2028, Amazon, Google and Microsoft marketplaces introduce certified multivendor solution packs for enterprise software

The packs capture about a fifth of the marketplaces' total sales in major vertical markets. Amazon Web Services already lets partners publish joint listings, and current multivendor packs produce larger deal sizes and faster close rates, according to Zscaler. The trend aligns with our research finding that enterprises want outcome-led, governance-aligned procurement channels rather than one-off integrations.

100 Global credit-rating agencies adopt an "intelligent-ready building" score by 2029

The three largest credit-ratings firms — S&P Global, Moody's and Fitch — already weave detailed factors such as Scope 3 emissions and board diversity into their risk models; extending them to a metric that captures energy usage, occupancy and digital-twin telemetry of buildings is a logical next step. Companies that retrofit or design "intelligent-ready" offices can point to tangible numbers, and the scores have an impact on financing terms — even a modest 0.15% off a loan's interest rate is enough to put facility upgrades on every corporate board agenda.

101 By 2029, the US, Japan and European countries mandate machine-readable software bill of materials and live roll-back for software in critical infrastructure

The 2024 CrowdStrike incident highlighted systemic third-party risk and prompted calls for roll-back assurance. The regulations are introduced in an attempt to mitigate supply-chain attacks and API vulnerabilities, which feature high on executives' threat lists.

102 Converged networks for IT and operational technology are a planning consideration in G7 cities by 2032

City planning authorities already require planning applications to consider energy performance and the provision of electric vehicle chargers. They extend such stipulations to a rule that every new or renovated office must incorporate a single, sensor-ready network. The presence of converged networks pushes equipped buildings up ratings indexes, which helps owners attract tenants and investors.

103 By 2031, global property indexes give landlords a "digital maturity" score

Current examples, such as 150 Holborn in London, demonstrate how occupancy telemetry reduces the risk of overprovision and lowers operating costs. Data feeds allow index providers to introduce a "digital maturity" factor into their weightings. It redirects passive fund flows toward the most-instrumented, low-carbon buildings and nudges slower landlords to accelerate roll-outs of telemetry and digital twins. For telecom operators, network equipment makers and managed-service providers, this creates a sizeable new market for converged IT and operational technology connectivity and analytics platforms.

104 By 2032, the UK Engineering Council develops a Chartered Automation Architect qualification

The qualification is a label that any chartered engineer can attach to their title to show they can design and run AI-powered automated systems. The council requires holders to demonstrate mastery of automation strategies, policy frameworks and AI-driven delivery for digital operations and software-defined infrastructure. CCS Insight research reveals demand for automation is high in enterprises; the development of an add-on qualification means existing chartered engineers in other fields can upgrade their skills for smart factories and digital supply chains without starting from scratch.

105 By 2031, 70% of global financial institutions have migrated to quantum-resilient encryption

CCS Insight surveys of C-suite executives indicate that the risk of encryption being broken by quantum computing ranks highly in their lists of potential threats. Secure encryption is fundamental to several sectors, including banking and the telecom industry, which is already piloting quantum-safe networks.

106 By 2027, 10% of large enterprises develop policies to control smart speaker usage by home workers

Many hybrid and home workers have smart speakers in their homes. After a landmark case in which a smart speaker is found to have recorded and divulged sensitive information discussed by an employee working at home, employers draw up policies limiting or prohibiting the presence of smart speakers in home environments. HR, finance and legal departments lead the charge. In response, manufacturers introduce “work mode” settings that disable always-listening or restrict cloud processing during working hours, creating a compliance-friendly alternative to outright bans. In some jurisdictions, growing awareness of the risk that home smart speakers pose to workplace confidentiality and privacy prompts regulatory intervention.

107 By 2030, ambient-responsive workplaces adapt dynamically to the type of work being performed

Intelligent buildings use environmental sensors, calendar context, device telemetry and behavioural signals to adjust lighting, sound, temperature and display content in real time. Task-based individual work could trigger lower light levels and reduce acoustic distractions; a team meeting might prompt brighter lighting and more collaborative space layout. Organizations like Cisco are already embedding workplace analytics into their building platforms. The lines between facilities management and digital workplace design blur, giving organizations new ways to support productivity, well-being and the employee experience.

108 By 2035, at least one major employer offers brain–computer interfaces for disabled employees

As neurotechnology moves from clinical research into enterprise use, a large organization pilots brain–computer interface support for employees with disabilities. These systems allow individuals to interact with digital tools through neural signals rather than traditional input devices. Although it is framed as an accessibility breakthrough, the use of such interfaces in a professional setting raises questions about cognitive privacy, consent and data protection. It prompts legal and ethical debate about the future of human–machine interaction at work.

INDEX

A guide to key themes and companies.
Numbers refer to each prediction,
not page numbers.