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2026 Research Themes

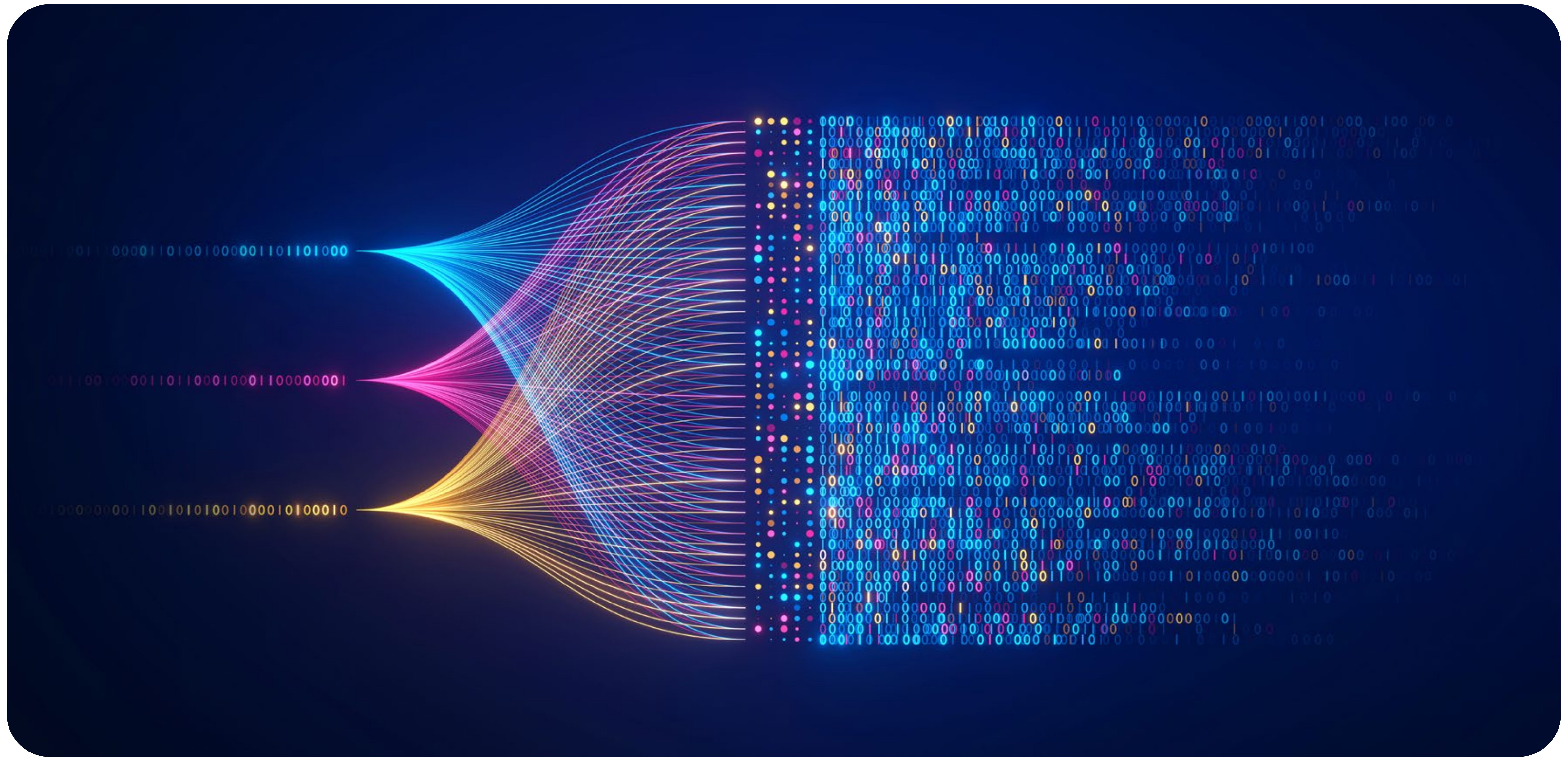
Topics shaping the industry and driving our focus

December 2025

The thinking behind the Research Themes for 2026

01

Transition from 2025 to 2026



Throughout 2025, GSMA Intelligence has analysed developments and innovation spanning all areas of the telecoms industry and wider digital ecosystem. As the industry continues to evolve in 2026, how will the Research Themes change?

- **Evolving themes.** Most of the 2025 Research Themes will continue to run their course, though some will have new angles to analyse. Telco networks is a primary example of a theme that will evolve in 2026 to capture the transition from 5G to 'beyond 5G'. Emerging technologies will also evolve, to include quantum and robotics.

- **New themes.** For 2026, security has been elevated to a standalone theme, given its crucial role enabling digital transformation in the AI era. GSMA Intelligence has also introduced a digital home approach to developments in fixed and pay TV.

The thinking behind the Research Themes for 2026

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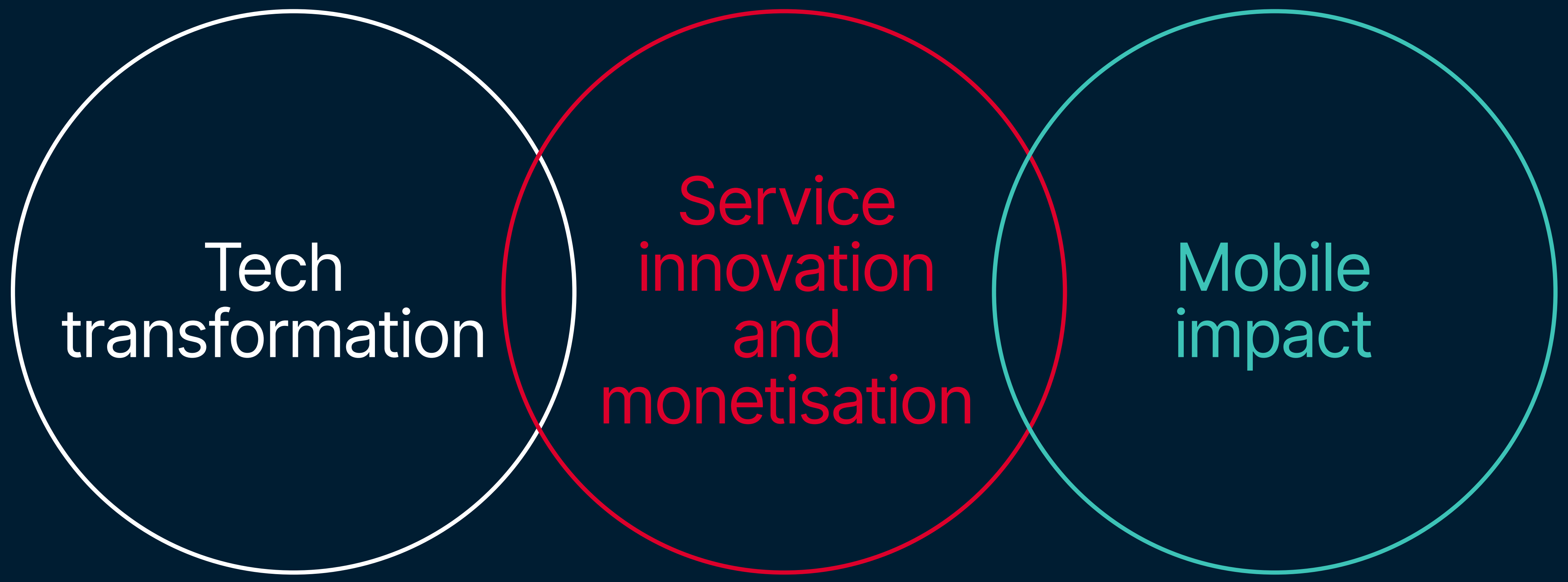
02

Three major areas of focus

The 2026 Research Themes span three important areas of development and innovation in the telecoms industry and wider digital ecosystem: tech transformation, service innovation and monetisation, and mobile impact.

The three areas are highly interrelated, as tech transformation is instrumental to service innovation and monetisation, and the combined effect helps drive impact.



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03

What’s ahead

The objective of the 2026 Research Themes is to address the key trends and questions shaping the evolution of the industry, and what they mean for operators and all relevant stakeholders.

The 2026 Research Themes set the direction of the GSMA Intelligence 2026 Research Agenda and will be addressed throughout the year through reports, insights, surveys, presentations at industry conferences, briefings with clients, blogs, webinars and infographics.

2026 Research Themes

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Tech transformation

Telco networks
Building a new cycle of innovation in 5G, 'beyond 5G' and fixed networks

AI
Accelerating deployments and transformational impact in telecoms and beyond

Emerging technologies
Advancing satellite/NTNs, edge, quantum and robotics

Security
Developing best-in-class solutions to protect networks, devices and users

Service innovation and monetisation

Digital industries and B2B
Turning enterprise spend on digital transformation into B2B opportunities, and leveraging telco capabilities

eSIM and IoT
Scaling up consumer adoption of eSIM globally and capturing the next phase of IoT growth

Consumer devices and services
Reshaping B2C growth and user experience through 5G, AI and device innovation

Digital home
Innovating fixed, pay-TV and adjacent services to redefine bundling and home experiences

Mobile impact

Industry value
Shaping the policy, technology and market structure environments that unlock investment, innovation and socioeconomic impact

Digital economy
Reducing the mobile internet usage gap and driving digital inclusion and affordability

Spectrum
Delivering the full potential of spectrum resources to support the mobile economy

Sustainability
Accelerating progress on energy efficiency, net zero, ESG and circularity

2026 Research Themes

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Tech transformation

01

Telco networks

Building a new cycle of innovation in 5G, 'beyond 5G' and fixed networks

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Telco networks

Building a new cycle of innovation in 5G, 'beyond 5G' and fixed networks

2026 areas of focus

- **Mobile networks:** new technologies and capex priorities; progress on energy efficiency; a new wave of 2G/3G sunsets.
- **5G network evolution and 'beyond 5G':** acceleration of 5G standalone (SA); early 5G-Advanced; 6G planning and messaging.
- **Network APIs:** progress with commercialisation and use cases; footprint expansion; supply versus demand dynamics.
- **Fixed broadband:** rise of 5G FWA; fibre upgrade (fibre-to-the-room and gigabit networks); sunsetting of copper-based networks.

$179bn

Mobile operator capex in 2026 globally ($940 billion cumulative during 2026–2030)

174

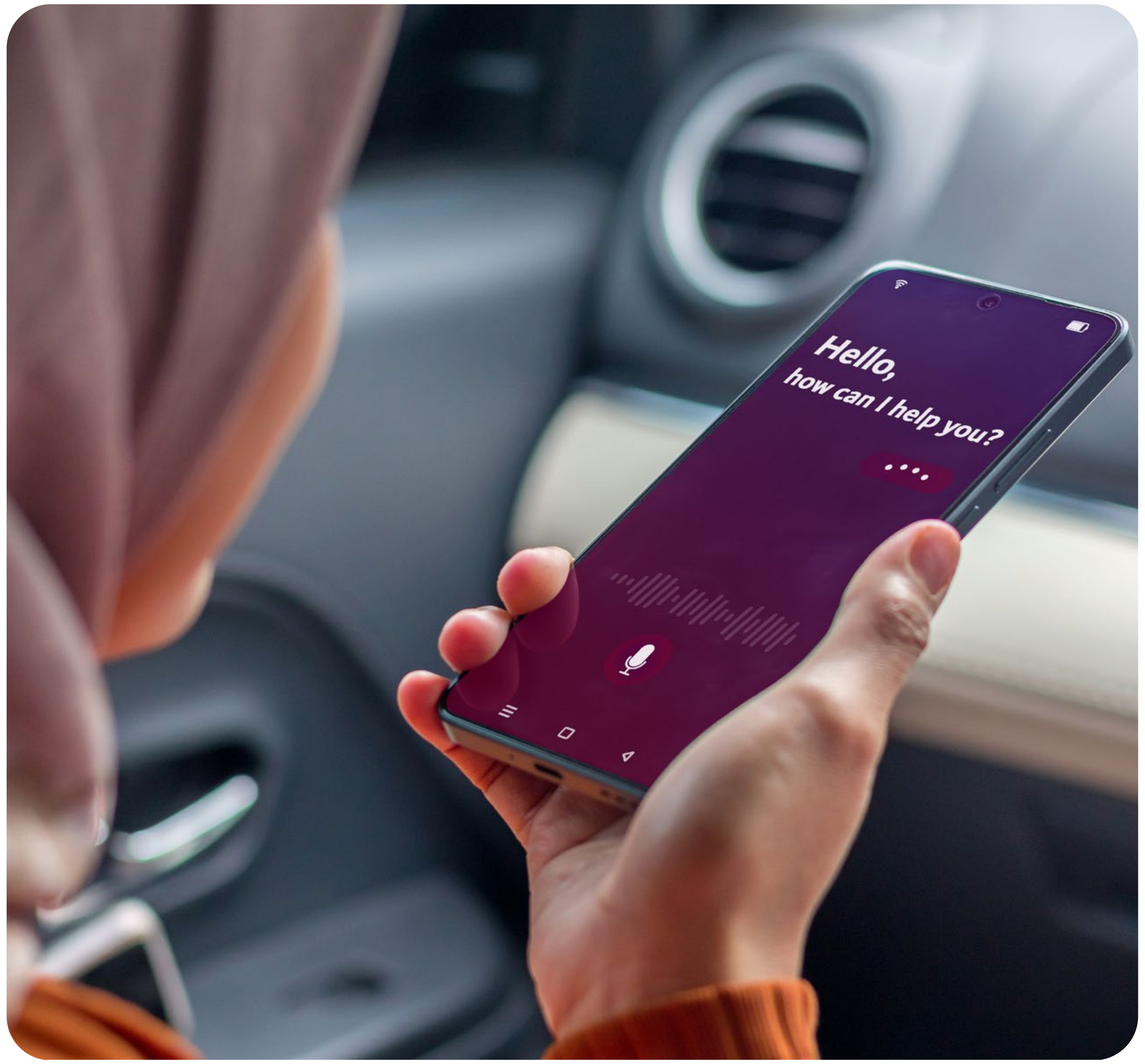
Number of operators that have launched (78) or announced plans to launch (96) 5G SA

89%

Share of operators that think 6G will enable new service and business models

AI

Accelerating deployments and transformational impact in telecoms and beyond



2026 areas of focus

- **AI for telecoms:** deployments and areas of focus (e.g. network, customer and beyond); cost versus revenue goals.
- **Telecoms for AI:** new revenue models (e.g. inference, GPUaaS), best practices and strategies; partnership dynamics and AI value chain.
- **AI for consumers:** tech roadmap for devices and services; vendor monetisation approaches; consumer adoption and user experience.
- **AI for enterprises:** adoption and future spend; enterprise AI use cases; business impact areas; edge AI; supplier innovation.

47%
Share of telco AI deployments involving customer-care activities

20%
AI's share of total enterprise spend on digital transformation for 2025–2030

47%
Share of genAI-aware consumers using the technology on a weekly basis

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Emerging technologies

Advancing satellite/NTNs, edge, quantum and robotics

2026 areas of focus

- **Telco satellites and NTNs:** progress with network coverage and commercialisation; partnerships and service monetisation strategies.
- **Quantum tech:** from testing to early deployments; impact in the telecoms industry; operator roadmap and key use cases.
- **Edge:** growth in sovereign cloud, edge and AI offerings; operator and enterprise investments in edge tech; edge AI competition.
- **Robotics:** uptake in robotic systems and humanoids; countries and sectors driving momentum; connectivity and compute requirements.

158

Total number of live (33) and planned (125) telco partnerships with satellite companies

1m

Threshold for the number of qubits on a single chip required to run a stable quantum application

(source: Microsoft)

40%

Share of enterprises rating edge technology as ‘extremely important’ to their digital transformation

Security

Developing best-in-class solutions to protect networks, devices and users

2026 areas of focus

- **Telco security:** operator threat landscape; shifting strategies from a reactive approach to a proactive security strategy; security suppliers.
- **Double-edge sword of AI:** from threat (AI-driven threats to networks) to defence (using genAI to strengthen cybersecurity).
- **Enterprise buyers:** adoption of cybersecurity tech; spend through to 2030 and priorities; expectations of impact on digital transformation.
- **Security for IoT:** new tech and specifications requirements; use cases seeing the biggest shifts in demands; the role of eSIM.

55%

Share of enterprises undertaking digital transformation that make advanced use of cybersecurity technology

10%

Cybersecurity's share of total enterprise spend on digital transformation for 2025–2030

5%

Percentage of total operator spend (capex and opex) allocated to security

2026 Research Themes

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Service innovation and monetisation

Digital industries and B2B

Turning enterprise spend on digital transformation into B2B opportunities, and leveraging telco capabilities

Consumer devices and services

Reshaping B2C growth and user experience through 5G, AI and device innovation

eSIM and IoT

Scaling up consumer adoption of eSIM globally and capturing the next phase of IoT growth

Digital home

Innovating fixed, pay-TV and adjacent services to redefine bundling and home experiences

Digital industries and B2B

Turning enterprise spend on digital transformation into B2B opportunities, and leveraging telco capabilities

2026 areas of focus

- **Digital transformation of industries:** enterprise priorities and spend; supplier preferences; deployment challenges and return on investment.
- **Technologies:** developments in 5G, private networks, cloud, edge, AI, IoT and cybersecurity; competition and partnership dynamics.
- **Operator B2B strategies:** B2B revenue growth; technologies and services beyond connectivity driving growth; B2B monetisation.
- **IoT:** growth outlook (connections and revenues); shifting operator strategies; impact of new tech (e.g. RedCap, eSIM and satellite).

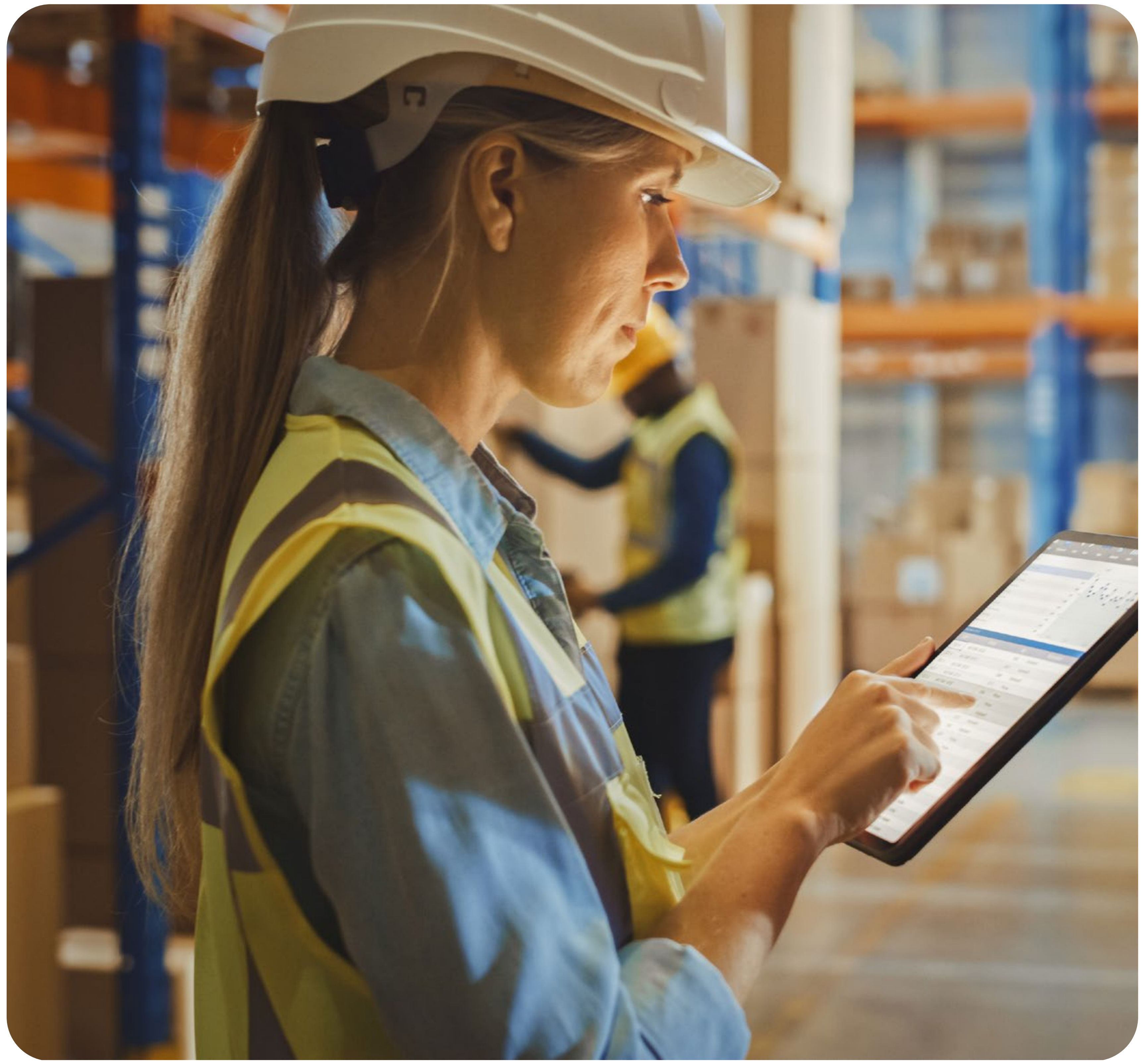
10%
Enterprise spend on digital transformation as a percentage of enterprise revenue during 2025–2030

~30%
B2B's share of operator revenues (for major operator groups)

2×
Growth of the global IoT market: $2 trillion in revenues by 2030, doubling from $1 trillion in 2024

eSIM and IoT

Scaling up consumer adoption of eSIM globally and capturing the next phase of IoT growth



2026 areas of focus

- **eSIM in the consumer market:** progress with eSIM devices and eSIM connectivity services; eSIM-only outlook; adoption growth.
- **Consumer behaviour:** progress on awareness of eSIM and factors behind it; interest in using eSIM; travel eSIM and digital brands.
- **eSIM in the IoT enterprise market:** emerging use cases beyond automotive; adoption of SGP.32; eSIM in private networks.
- **eSIM innovation and monetisation:** new eSIM services and business models; eSIM monetisation strategies (B2C and B2B).

63%

Share of MNOs that have launched eSIM service for smartphones (for domestic connectivity)

~45%

Growth in the number of travellers adopting travel eSIM offerings in the last year

10%

Global eSIM penetration of the smartphone market by the end of 2026

Consumer devices and services

Reshaping B2C growth and user experience through 5G, AI and device innovation

2026 areas of focus

- **Device evolution:** impact of AI, foldables, XR, eSIM and satellite; smart glasses growth; OEM market share changes and competition.
- **Consumer behaviour:** replacement rate trends; loyalty to brands; sales channel preferences; behaviour for refurbished smartphones.
- **Digital entertainment and services:** innovation in gaming, video and other digital services; user experience and AI impact.
- **Operator and vendor strategies:** monetisation routes; new retail strategies; rise of digital brands; competition and partnerships.

40%

Chinese brands (Xiaomi, Oppo, Vivo, Huawei, Tecno and Honor) account for over 40% of global market share

59%

Share of consumers playing digital games at least once per week

81%

Share of smartphone users who intend to replace their smartphone with the same brand

Digital home

Innovating fixed, pay-TV and adjacent services to redefine bundling and home experiences

2026 areas of focus

- **Fixed broadband:** service upgrade (e.g. symmetrical multi-gigabit service, FTTR); operator commercial practices shaping growth.
- **5G FWA:** next wave of launches; customer adoption growth; market segmentation and use cases; CPE evolution; early use of RedCap.
- **Fixed-mobile convergence:** future of quad-play and new flavours of bundles; operator multiplay strategies focused on the digital home.
- **Pay TV and video:** shifting consumer behaviour and drivers; cord-cutting impact; commercial practices shaping growth; OTT outlook.

27
Number of countries where operators have commercially launched fibre-to-the-room services

4
Number of markets that will have 5G FWA penetration of more than 10% by the end of 2026

40%
IPTV connection growth will accelerate in 2026, reaching almost 40% of the market

2026 Research Themes

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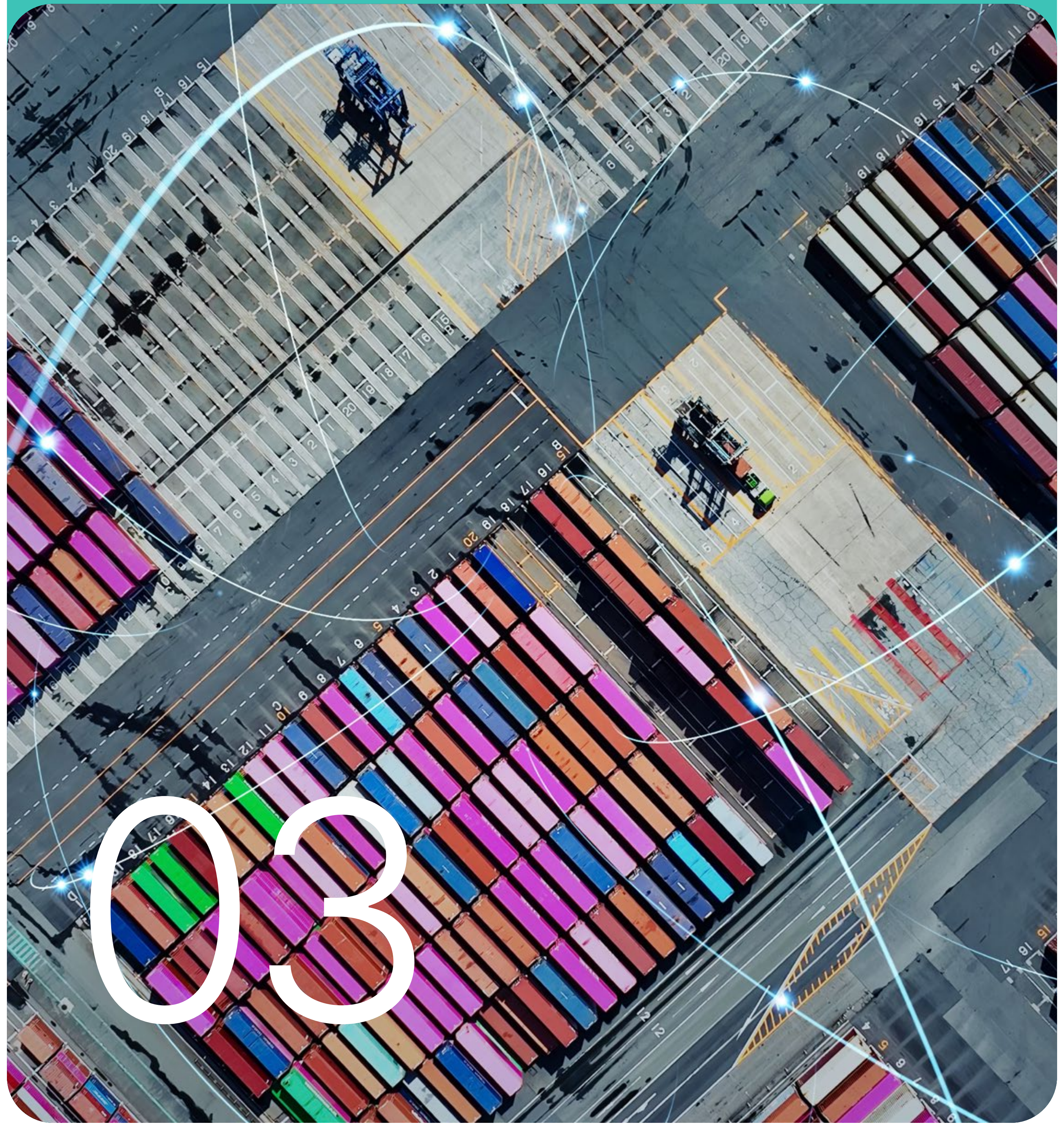
Mobile impact



Industry value

Shaping the policy, technology and market structure environments that unlock investment, innovation and socioeconomic impact

Digital economy

Reducing the mobile internet usage gap and driving digital inclusion and affordability

Spectrum

Delivering the full potential of spectrum resources to support the mobile economy

Sustainability

Accelerating progress on energy efficiency, net zero, ESG and circularity

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Industry value

Shaping the policy, tech and market structure environments that unlock investment, innovation and socioeconomic impact

2026 areas of focus

- **Industry sustainability:** assessment of telecoms industry health across various financial metrics (profitability, investment, cash flow).
- **Profitability levers:** levers impacting telco profitability and magnitude of impact.
- **Beyond connectivity:** telco progress beyond traditional telecoms; B2C and B2B areas of growth; operators and countries leading.
- **Policy and regulation:** assessment of reforms needed to support mobile impact while balancing investments and returns.

35%
Average EBITDA margin of telecoms operators in the last 10 years

15%
Mobile capex as a percentage of mobile revenues globally in 2026

27%
Revenue beyond traditional core telecoms as a percentage of total revenues (average of 16 operator groups, 2023)

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Digital economy

Reducing the mobile internet usage gap and driving digital inclusion and affordability

2026 areas of focus

- **Mobile value:** leveraging mobile tech to support digital economy growth and accelerate digital and financial inclusion.
- **Mobile internet connectivity:** progress on reducing the internet usage gap; mobile investment gaps and areas of market reform.
- **Affordability:** enhancing handset affordability for low- and middle-income countries; impact on the mobile economy.
- **Sustainable Development Goals (SDGs):** industry progress so far and challenges; the road ahead to meet the long-term goals.

5.8%

In 2024, mobile technologies and services generated 5.8% of global GDP (8.4% by 2030)

4.7bn

58% of the world's population (4.7 billion people) are using mobile internet on their own device

16%

Across LMICs, affordability of entry-level handsets has remained relatively unchanged at 16% of monthly income

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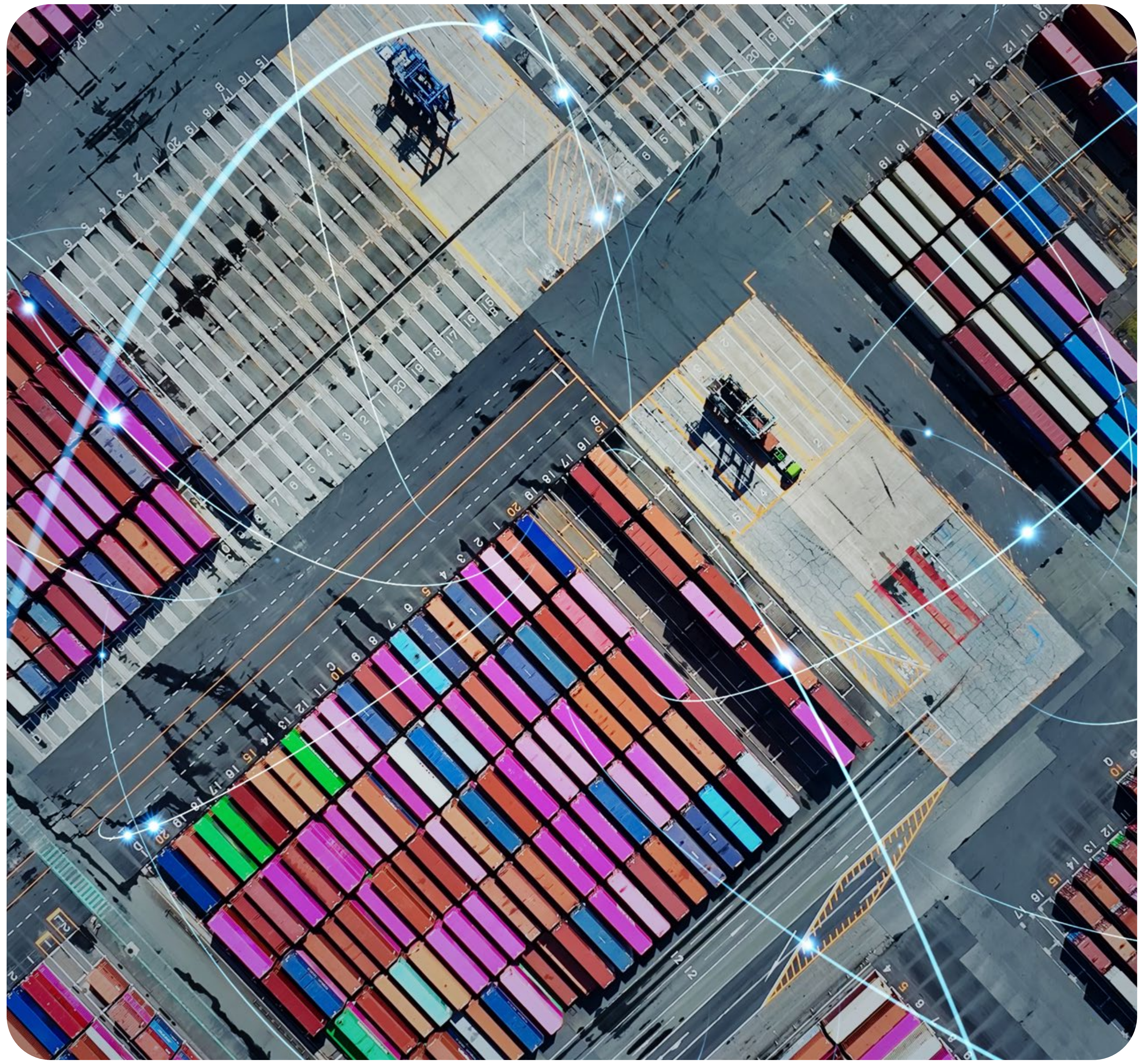
Spectrum

Delivering the full potential of spectrum resources to support the mobile economy



2026 areas of focus

- **Spectrum auctions:** the next phase of 5G spectrum assignments; pricing dynamics; renewals of licences in legacy spectrum bands.
- **New spectrum needs:** assessment of future spectrum needs for 5G and 6G, across low-, mid- and high-frequency bands.
- **Effective management:** efficient use of spectrum to maximise value for consumers and enterprises; policy and regulatory implications.
- **Network sunsets:** the next wave of 2G/3G sunsets and implications on devices and services; tech neutrality and spectrum migration.

100+

Number of countries where spectrum bands that can be used for 5G services have been assigned

7%

Global cumulative spectrum costs account for 7% of operator revenues (63% increase over the past 10 years)

42 & 28

Number of 2G and 3G networks (respectively) that will be shut down during 2026–2030

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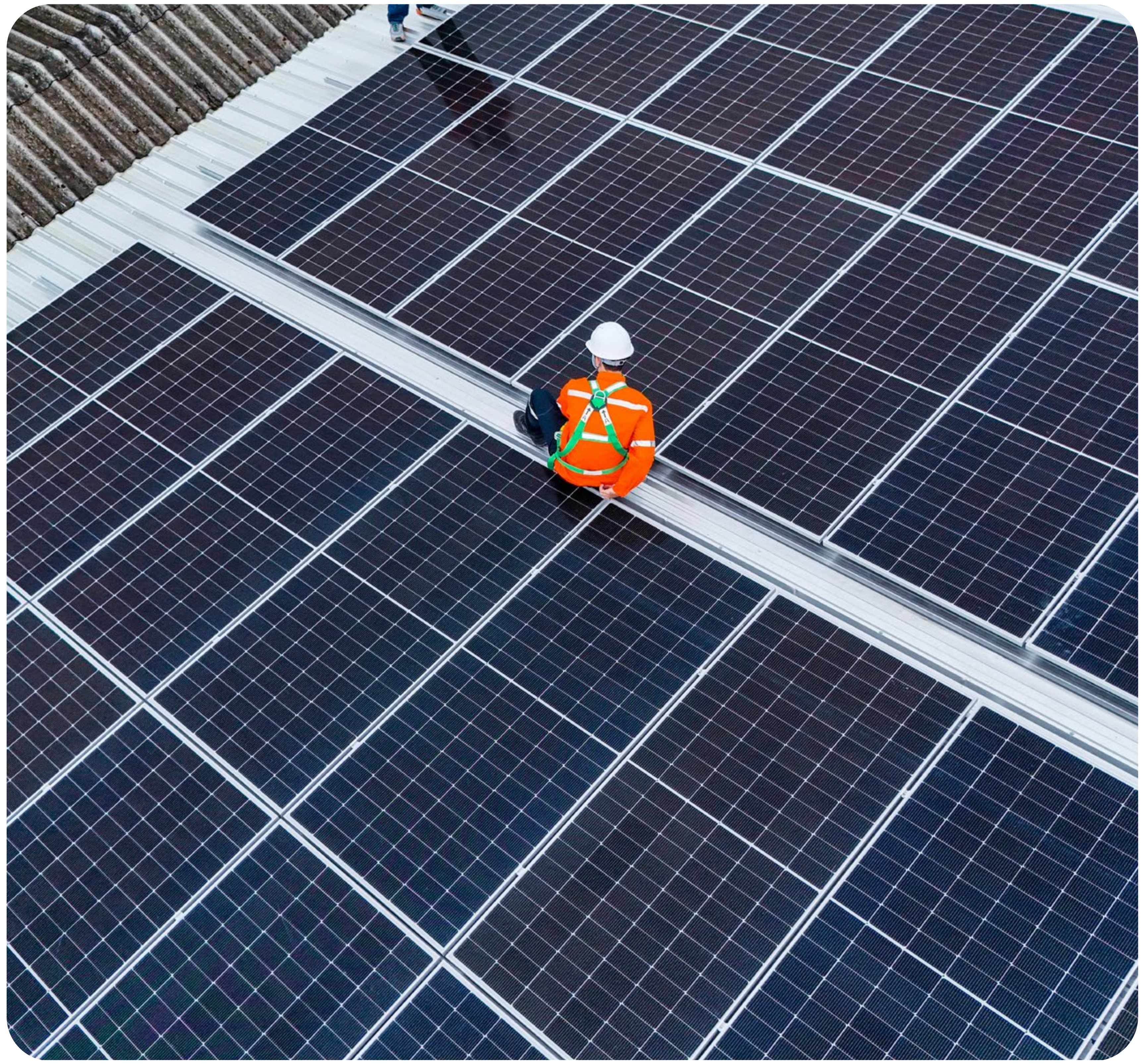
Sustainability

Accelerating progress on energy efficiency, net zero, ESG and circularity



2026 areas of focus

- **Energy efficiency:** progress in networks and data centres; impact of shifting 4G/5G and AI workloads to the cloud and edge.
- **AI impact:** direct contributions to data centres and telco access networks versus downstream energy savings through efficiencies.
- **Circular economy:** advancements in devices and networks; operator practices; consumer behaviour for refurbished phones.
- **ESG:** shift to common reporting KPIs; impact on external reputation from different stakeholders.

300

Over 300 operators have announced net-zero targets; 2040 and 2050 are the major milestones

1%

Percentage of global energy use attributed to operator networks (fixed and mobile)

38%

Share of consumers replacing their smartphone who would consider purchasing a pre-owned, refurbished phone

The 2026 Research Themes cut across all content modules

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	Mobile Operators & Networks	Fixed, TV & Convergence	IoT & Enterprise	Digital Consumer	Spectrum
Telco networks	✓	✓	✓	✓	✓
AI	✓	✓	✓	✓	
Emerging technologies	✓	✓	✓	✓	✓
Security	✓	✓	✓	✓	
Digital industries and B2B	✓	✓	✓		✓
eSIM and IoT	✓		✓	✓	
Consumer devices and services	✓	✓		✓	
Digital home	✓	✓		✓	
Industry value	✓	✓	✓	✓	✓
Digital economy	✓		✓	✓	✓
Spectrum	✓	✓	✓		✓
Sustainability	✓	✓	✓	✓	✓

GSMA Intelligence: data, research and insight

GSMA Intelligence

More than 50 million data points updated daily. 170 data metrics modelled and forecast to 2030. 250 reports published annually.

Data

Mobile Operators & Networks

- Granular coverage of mobile operators and market metrics across all countries
- Historical data and forecasts to 2030
- Subscribers, connections, network and operational data, ARPU and financials
- Operator Network Transformation Survey
- Satellite and NTN tracker
- MVNO tracker
- Rollout of 5G SA, 5G-Advanced, open RAN and VoLTE

Fixed, TV & Convergence

- Granular coverage of fixed voice, broadband and pay TV across 37 of the world's largest markets
- Historical data and forecasts to 2030
- Fixed voice, broadband and pay-TV connections, bundling and convergence, financials
- Product and service tracker
- 5G FWA coverage globally
- Network sunsets tracker (copper-based legacy networks)
- FTTR tracker

IoT & Enterprise

- IoT connections and revenue
- Historical data and forecasts to 2030
- Breakdown of IoT connections and revenues (e.g. cellular & non-cellular; enterprise & consumer; vertical use cases; revenue segments)
- Operator Enterprise Opportunity Survey
- Global Digital Transformation Survey (enterprise survey)
- 5G RedCap tracker

Digital Consumer

- Global consumer survey of major markets
- Interactive consumer survey dashboards covering 5G, gaming, video services, devices, eSIM, the metaverse, and genAI (with filters for specific consumer segments)
- eSIM: devices, services, adoption forecast to 2030
- Travel eSIM
- Smartphone vendor market share (all countries)

Spectrum

- Spectrum Navigator: tracker of spectrum auctions, assignments, pricing, licence duration and obligations
- Granular data covering 200+ countries and 1,000+ operators worldwide, from 1980 to today
- Spectrum for 5G and previous-generation networks
- Network sunsets and tech neutrality
- Spectrum pricing

Research

Spotlights: reports covering important trends, developments and events in the telecoms/digital ecosystems and their implications

Industry major reports: reports on specific topic streams with in-depth analysis of the market and future outlook, including major trends and competitive dynamics

Industry Checkpoint: reports that help navigate how the market is changing, identify the new trends that matter and understand the implications of these developments

Insightful charts: a monthly graphic providing a visual way of telling an important story or development in the industry – turning data into insights

Operator case studies: a concise way to shine light on operators' strategies and business models, as well as how they are launching new services

Operator profiles: a data-driven series profiling operators, with insights across footprint, operations and financials

Regional research: Mobile Economy reports and Region in Focus series examining major trends (technology, market, policy and regulation) shaping the regional telecoms landscapes

Bespoke consulting: on-demand, customised research on industry topics including megatrends, technology/service innovation, economic and social impact of mobile technology and spectrum

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