



EU2429 A New Deal for Mobile

Sharpening Europe's
competitive edge and securing
future technology leadership



The EU's competitiveness, single market, security and green agendas must prioritize expansive transformational connectivity. We need a New Deal for Mobile with the same political focus and commitment to delivery that drove the GSM success over 40 years ago.

Introduction

Mobile has connected and transformed the world in ways we could not have imagined when European governments and industry players began collaboration on the uniquely successful GSM standard four decades ago. We are now seeing the development of a mobile-first world, powered by cloud and AI that will accelerate major cross industry trends such as electrification, decarbonization, resilient supply chains and industrial automation. 5G will be key to driving digital innovation at scale across European industry.

However the European telecom market has suffered from an investment gap since the 4G era, with other regions securing digital leadership and seeing a stronger emergence of digital businesses. Regulation has driven artificial deflation and market entry at the cost of scale and innovation with an average number of subscribers per operator of around 5 million compared to 107 million in the United States and 467 million in China¹. This limits operators' earning potential and hinders their ability to invest.

At Ericsson we firmly believe that transformational connectivity should be at the heart of Europe's competitiveness agenda. We need to bridge the connectivity investment gap and lay the foundations for Europe's future technology leadership. This paper sets out our headline recommendations on what needs to be done to achieve this. We look forward to working with the new European Parliament and Commission in supporting efforts to ensure the region gets the transformational connectivity its citizens and businesses deserve, and its global competitiveness demands.

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¹ [Much more than a Market](#) – Enrico Letta, April 2024

A New Deal for Mobile

Europe's competitive edge can be sharpened through high performance, open and programmable mobile networks.

While 4G networks drove the app economy, a globally competitive Europe will need more than "best effort" consumer connectivity.

We need transformational connectivity, delivered through widely available, high-performance, open and programmable mobile networks. This will be key to sharpening the EU's competitive edge, positioning Europe as a top location for industrial and technology companies to grow and securing future technology leadership. Cloud, AI and quantum-based innovation will all require advanced mobile infrastructure to scale.

Europe's developers, innovators and tech creators need access to enhanced connectivity capabilities such as speed, bounded latency, differentiated Quality-of-Service (QoS) and authentication.

Ericsson is leading efforts² to make these easy to use, powering a network effect that can drive investment and scale the delivery of differentiated connectivity to meet the needs of specific users, use cases, services and applications.

European developers, innovators and tech creators need access to enhanced connectivity capabilities.

Mobile provides an underpinning technology to support Europe's digital ecosystem, opening the way for the region's companies to become the hyperscalers of the future, and helping position the EU as a world class industrial and technology leader.

Europe trails global leaders in the deployment and adoption of transformational 5G.

The cornerstone of transformational connectivity today is the deployment of 5G at speed and scale, leveraging mid-band spectrum to manage new capacity and throughput demands, and 5G standalone (5G SA) for additional functionality.

This combination provides a step change in network capability compared to 5G non standalone deployments on lower band spectrum and can support advanced use cases including instant health-monitoring, real-time control of factory machinery, smart grids for renewable energy management, and connected and automated mobility.

5G SA is "still not deployed at any meaningful scale."

However, with 5G mid-band covering just over half the EU's population and 5G SA "still not deployed at any meaningful scale"³, the European Commission (Commission) has signaled that "a higher quality of service and additional functionalities are needed to meet the demand for more advanced services"⁴. It concludes that "the connectivity infrastructure of the Union is not yet ready to address the current and future challenges of the data driven society and economy and the future needs of all end-users"⁵.

Meanwhile leading digital economies are seizing the transformational 5G opportunity and racing ahead in connecting their populations and businesses to digital opportunities and growth. China and India are clear frontrunners, having launched 5G SA as critical national infrastructure to drive industrial competitiveness and with 5G mid-band population coverage at 95 and 90% respectively⁶.

² [Ericsson strategic partnership to provide access to network APIs](#) – Ericsson, September 2023

³ [State of the Digital Decade 2024](#) – Commission, July 2024

⁴ [Staff Working Document](#) "Digital Decade in 2024: Implementation and perspective" – Commission, July 2024

⁵ [How to master Europe's digital infrastructure needs?](#) – Commission, February 2024

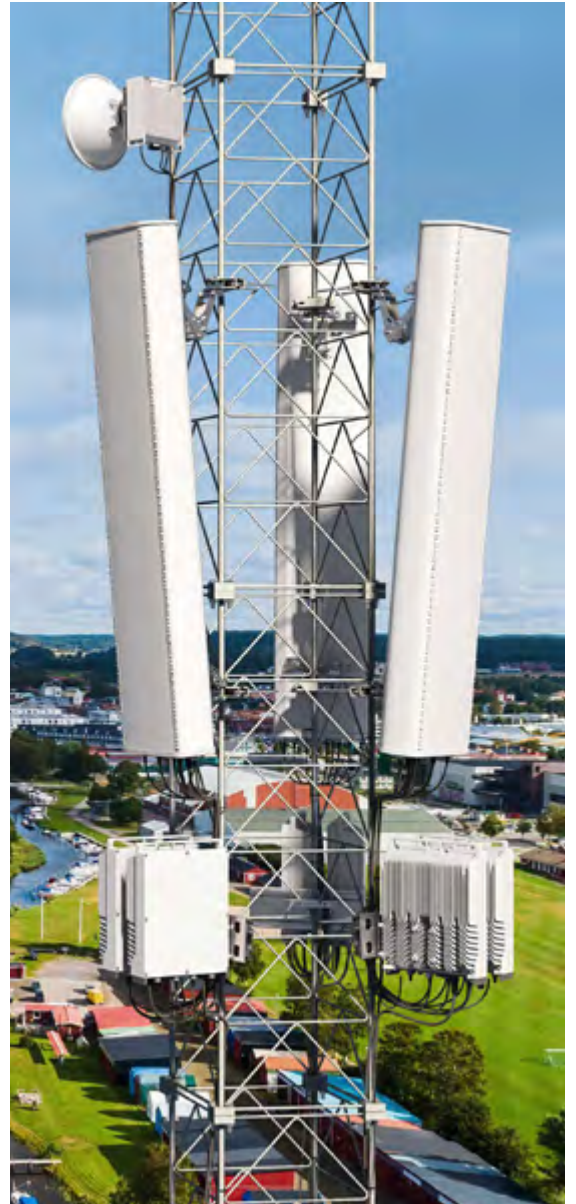
⁶ [Ericsson Mobility Report](#) – June, 2024

Europe needs a New Deal for Mobile to bridge its investment gap and unleash the full network effect of transformational mobile connectivity.

The EU's industrial policy, competitiveness, single market and green agendas must prioritize expansive transformational connectivity to help close the region's productivity, innovation and growth gaps with its major global competitors. We urgently need a New Deal for Mobile with the same political focus and commitment to delivery demonstrated by Europe's leaders with the GSM success over 40 years ago.

A true, functioning Digital Single Market that drives economy wide digitalization powered by high performance networks will be a key enabler for Europe's competitiveness and future technology leadership.

We need more private and public investment, a more integrated single market, and an investment and innovation first approach to regulation.



The key priorities are:

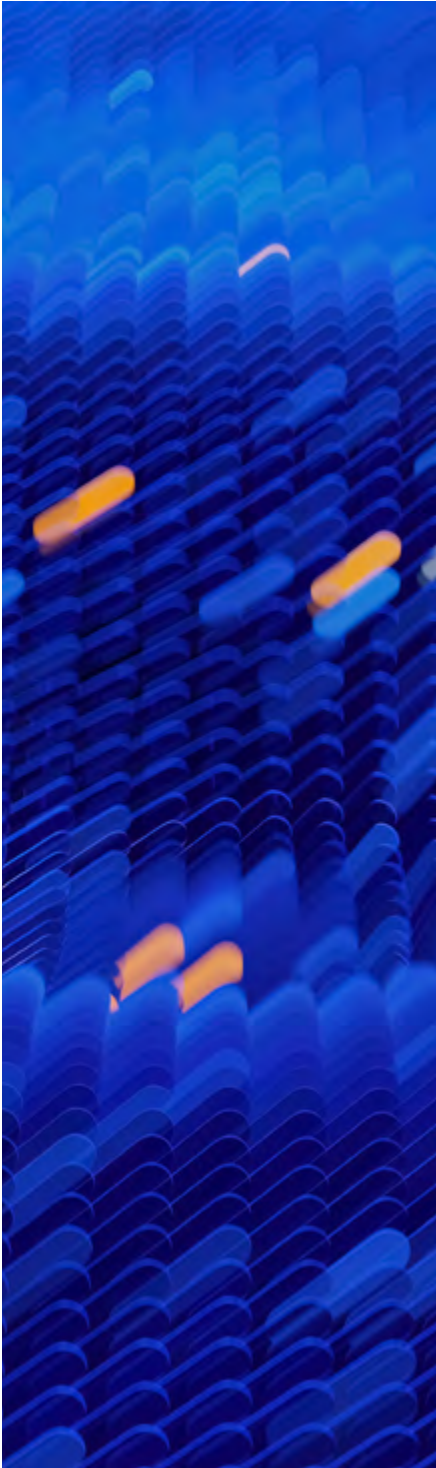
A. Incentivizing investments in the deployment and take up of secure, transformational 5G

B. Securing the foundations for Europe's future connectivity and technology leadership

C. Promoting digital inclusion and trusted connectivity in third countries and driving global 6G collaboration.

A.

Incentivize the deployment and take up of secure, transformational 5G at speed and scale to drive Europe's global competitiveness



1. Prioritize transformational connectivity that delivers a step change in performance and capabilities from 4G and early 5G.

We share the Commission's assessment⁷ that the EU needs a more meaningful KPI to track progress in deploying transformational 5G.

The current KPI for the Digital Decade wireless connectivity target is the "percentage of populated areas covered by at least one 5G network, regardless of the spectrum band used". However, as the Commission acknowledges, this "does not give a realistic read out of the availability of 5G performance and capabilities that are needed to meet growing consumer and industry needs".

A measurement focused on network capabilities by geographic area would provide a more granular and comparable view on the connectivity performance available to Europe's citizens and businesses.

2. Support sustainable market scale by conditioning mergers on deployment commitments rather than imposing punitive remedies.

To promote pan-European operators and develop the telecoms single market, operators must first be able to scale nationally through in-market consolidation.

However, where such mergers have been approved, the conditions imposed have often dampened the expected efficiency gains.

Rather than imposing strict structural remedies, European authorities should tie market merger approvals to 5G SA build-out. Mergers can, especially around the introduction of a new technology generation, drive investment and innovation, creating dynamic efficiencies in terms of lower unit costs and higher quality of service.

3. Strengthen EU wide coordination and best practice on spectrum licensing and pricing, including the tradeoff of fees for network deployments.

By October 2023, European operators had spent EUR 26 billion at spectrum auctions for the main 5G bands⁸. Annualized spectrum fees in Europe represent around 30% of total mobile capital expenditure⁹, reducing capital returns by around 20%. High spectrum costs have directly impacted telecoms operators' investments in network coverage and performance. Further major spectrum costs can be expected over the coming years with many licenses up for renewal¹⁰.

Governments and regulators can help address the financial burden imposed on operators by trading off spectrum fees for appropriate coverage commitments.

Any future reform of the European Electronic Communication Code should consider how to reinforce EU wide best practice on spectrum pricing and licensing, including investment friendly assignment procedures, licenses that carry the presumption of renewal or are issued in perpetuity, and careful assessment of the investment impact of any market shaping measures such as reservations for new market entrants.

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⁷ [Digital Decade Cardinal Points](#) (p.58) – EC, September 2023

⁸ [The State of Digital Communications 2024](#) – ETNO, January 2024

⁹ Barclays Research estimates - 2020

¹⁰ [Ensuring European spectrum renewals are aligned with Digital Decade targets](#) – Aetha, October 2022

4. Promote green and digital transformation across all industry sectors, SMEs and public services to drive productivity, improve services and accelerate decarbonization.

Transformational connectivity is also a fundamental lever for tackling climate change, helping drive carbon abatement across all industry sectors and public services, and delivering on Europe's net zero ambition. Connectivity is vital for the transformation from fossil fuels to electrification and can reduce Europe's carbon emissions 15% by 2030, while making 5G available across the power, transport, building, and manufacturing sectors could lead to an additional 5% in cuts¹¹.

The EU should ensure advanced digital networks, such as 5G SA and fibre, are explicitly included in the Sustainable Finance Taxonomy to reflect the importance of connectivity for the green transition and facilitate sustainable investments for the build out of networks in Europe.

Connectivity can reduce Europe's carbon emissions 15% by 2030, while making 5G available across the power, transport, buildings, and manufacturing sectors could lead to an additional 5% in cuts.

Public administration entities and ministries should be used as demand accelerators by introducing advanced connectivity in all public services, positioning the public sector as a key anchor tenant for transformational connectivity. Tax incentives for productivity enhancing investments in digital and green transformation should also be encouraged, as recommended by the IMF and implemented in the UK¹².

Meanwhile, coordinating efforts to accelerate the shutdown of 2G/3G networks will free up spectrum for the deployment of more energy efficient 5G deployments and further contribute to the green enabling effect across other sectors.

5. Leverage carefully targeted and technology neutral public investment to bring the benefits of transformational connectivity to more citizens and businesses, sooner.

Recovery and Resilience Facility (RRF) resources, combined with the updated Broadband State Aid Guidelines, can be more effectively leveraged to help bridge Europe's connectivity investment gap. While some countries have moved quickly to realize this opportunity¹³, only a small portion of digital transformation funding has been reserved by Member States for connectivity¹⁴ with only a limited amount disbursed to date.

We share the Commission's assessment that Member States should "map their connectivity gaps and explore financing to complement private investment." Unspent RRF funding could usefully be redirected to address this opportunity. Further EU resources to support connectivity and the twin transitions should be prioritized in the next Multiannual Financial Framework.

Public investment support must be technology neutral and based on a full assessment of the costs and benefits of different connectivity solutions. 5G Fixed Wireless Access (FWA) can complement fiber in meeting Europe's 2030 gigabit connectivity goals, offering cost effective, quickly deployable connectivity to homes and businesses where wired solutions are either unavailable or delivering limited bandwidth.

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6. Ensure trust and security in 5G networks.

5G cybersecurity and end-user trust in 5G networks must be ensured across the EU. A holistic cybersecurity framework should therefore underpin Europe's critical infrastructure cybersecurity policy. Continued deployment of secure networks with trusted providers is a prerequisite to ensure Europe's competitiveness and resilience.

The Commission has implemented the 5G Cybersecurity Toolbox principles to its own procurement of communication services¹⁵ and funding programmes. This approach should be followed across Member States with the Toolbox fully implemented in a timely manner.

7. Enable innovation in the deployment and commercialization of differentiated connectivity services.

To realise the full potential of high-performance, mobile networks it is important that National Regulatory Authorities enable the development, deployment and commercialization of differentiated connectivity when applying the provisions of the EU's Open Internet Regulation.

The Commission has indicated that more clarity is needed on how the rules apply to certain differentiated connectivity use-cases "by signaling that new high-performance services should be possible within the scope of the Regulation"¹⁶.

The Letta single market report¹⁷ backs this approach, calling for "additional guidance in the form of a Recommendation on how to develop and deploy differentiation-based use-cases...to give operators more flexibility and clarity." We strongly agree with this view and recommend the Commission and BEREC consider the guidance by Ofcom in this area and pursue implementation¹⁸.

¹¹ [Connectivity and Climate Change](#) – Ericsson, November 2021

¹² [Super-deduction](#) – UK Treasury, March 2021

¹³ [Commission approves Spanish scheme to support 5G](#) – June 2023

¹⁴ EUR 23 billion in grants available, under EU Programmes for the 2021-2027 programming period, including around EUR 16 billion under the RRF – [State of the Digital Decade Report 2023 - EC, September 2023](#)

¹⁵ [Implementation of the 5G cybersecurity Toolbox – Communication, June 2023](#)

¹⁶ [Second report - implementation of the Regulation on Open Internet Access](#) – Commission, 2023

¹⁷ [Much more than a Market](#) - Enrico Letta, April 2023

¹⁸ [Ofcom revises net neutrality guidance](#) - Ofcom, October 2023

B.

Secure the foundations for Europe's future connectivity and technology leadership

Europe's connectivity and technology leadership tomorrow will be built on a pro-investment policy framework that incentivizes investment in transformational 5G today.

The regions with the greatest potential to benefit from 6G will be those that deploy the most advanced 5G networks by the end of this decade. A smart and strategic policy approach to standardization, intellectual property rights, future spectrum, research and AI are also key foundations.



1. Promote a global, open, voluntary, industry-led and inclusive approach to standardization.

Preserving and promoting a global, open, voluntary, transparent, industry-driven, and inclusive European standardisation system must remain a priority. Ensuring that standards are developed in accordance with WTO TBT principles and supporting the role of international SDOs is essential. EU participation in international standard setting through ITU/ISO/IEC, and leveraging existing agreements between these organisations and ETSI, CEN, and CENELEC, should be further promoted.

Guidance, awareness raising, and funding support should be mobilised to encourage European companies of all sizes to actively participate in global standardisation activities.

2. Prioritize IPR as a key enabler of Europe's future technology leadership and rethink the SEP proposal.

Robust, globally competitive IPRs are essential to driving investments in 3GPP technologies and sustainable innovation on top of these networks. The proposal on Standard Essential Patents needs a rethink as it risks weakening the EU's leadership in global standardisation and its position as a net exporter of advanced connectivity innovations.¹⁹

The proposal would add bureaucracy, establish a system that could disrupt market driven valuations of technology, reduce the role of EU courts in the global FRAND debate, and undermine the newly formed UPC²⁰. Europe must be able to turn successful investments into business opportunities, notably patents²¹.

3. Ensure a coordinated European approach to future spectrum availability.

Europe can lead on spectrum allocations for 5G Advanced and 6G by adopting a coordinated approach. This should focus on securing upper 6 GHz spectrum, driving the global policy debate on 6 GHz spectrum harmonization for licensed use, shaping the path towards 6G by considering spectrum in the closest proximity to 6GHz, and analysing possibilities within parts of 7.1-8.4 GHz, in line with WRC-27 Agenda Item 1.7.

A predictable timeline for spectrum band availability would help prioritize investments in the research and technology needed to serve those bands. Global harmonization of spectrum across regions will continue to be necessary to leverage technology investments into global scale products.

4. Meet the 3% of GDP research funding target, focus on forward looking research and prioritize connectivity, green and digital in the next Framework Programme.

The EU's R&D intensity (R&D expenditure as a percentage of GDP) was estimated at just 2.27% in 2021, significantly below its global peers²² and well short of the 3% target.

We need to propel Europe as a R&D hotspot and hub for deploying new ideas by stepping up public-private partnerships, targeted public procurement and innovation-oriented public funding.

The next EU Framework Programme should retain Horizon Europe's focus on forward looking research and bolster support for the region's competitiveness, twin transition and security agendas to reduce technological dependencies.

It will also be important to give greater emphasis to 6G research. Ericsson strongly believes that early phase research should be precompetitive, enabling close collaboration with academia and within the industry, and leading to openly available published outcomes. In this vein we aim to catalyse a much broader ecosystem where our technology contributions are used as an input for cross industry innovation and research.

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5. Build trust in AI but only regulate when being used to automate for the first time or where there could be misuse.

Transformational 5G fully leverages the power of AI to ensure maximum efficiency and performance as networks become increasingly complex. At the same time advanced 5G connectivity is a key enabler for AI technology at the application level. Ericsson fully supports the EU's objective of stimulating the uptake of AI while mitigating the potential negative impact of "high risk AI". We are committed to working with policymakers and other stakeholders to find internationally consistent approaches to achieving this.

It is key to build trust around AI and set up the guardrails necessary to ensure safety and transparency. However, overly broad, sweeping regulation of AI technologies, applied to all use cases, can have a detrimental impact on innovation across many industries. Looking ahead, regulation is appropriate where AI is being used to automate, for the first time, higher-level human thought and decision-making, and where misuse of AI could cause direct harm to individuals or society.

¹⁹ [Reforming Standard Essential Patents](#) – ECIPE, April 2023

²⁰ [EU reform of standard essential patents licensing - Ericsson](#)

²¹ [Innovation made in Europe \(p.9\) – ERT, March 2023](#)

²² [EU investment in R&D](#) – Eurostat, October 2023

C.

Promote digital inclusion and trusted connectivity in third countries, and drive global 6G collaboration



1. Promote digital inclusion and trusted connectivity in third countries.

The EU should step up efforts to promote digital inclusion and secure, trusted connectivity in third countries by reinforcing the Team Europe approach, enhancing international cooperation through platforms such as the ITU, G7, and EU Digital Partnerships, and bolstering resource support through the Global Gateway initiative, EBRD and EIB financing.

Technology neutrality must be prioritized as the key tenant for regulatory, procurement and financing frameworks. Governments should ensure a market led approach without technology mandates, ensuring all providers are free to choose the best available communications technology from trusted suppliers.

Public funding support must be aligned with the EU Toolbox on 5G Cybersecurity and the Commission's June 2023 Communication.

2. Drive global 6G collaboration on research, cybersecurity and standards.

The EU should further bolster global collaboration on a shared 6G vision and roadmap, built on key principles such as security, trust, resilience, sustainability, openness, interoperability, inclusiveness and transparency. The Digital Partnership model should be expanded to include new partners and broadened in scope to cover 6G research.

3. Support the maintenance of duty-free software transfers.

The EU must continue to promote the importance of the WTO Moratorium on imposing tariffs on electronic transmissions, which is at increasing risk of not being extended beyond 2026. The agreement has been key to building today's digital world and its lapse would have a significant negative impact on the economic and digital development of any countries subsequently choosing to introduce tariffs.

While supporting an extension to the Moratorium is the first priority, the EU must also collaborate with other regions to work to minimize the negative impact of its potential expiry and continue to support global digital growth.

About Ericsson

Ericsson is one of the few truly global European technology leaders, a trusted partner, and key contributor to the region's economy and society.



Technology and innovation leadership

- Global leader in the research, design, development, manufacture and deployment of secure, high-performing and energy efficient mobile networks.
- Annual revenues in hardware, software & services of USD26 billion, nearly 100,000 employees and customers in more than 180 countries.²³
- One of Europe's five largest technology companies by revenue (Fortune 500 Europe).
- EUR3 billion annual R&D investments and 21 Research & Development centres in Europe.
- 50% of the world's 5G traffic outside mainland China carried over our networks²⁴.
- Nearly 30,000 engineers and inventors – more than 60% located in Europe.
- Innovating at the cutting edge - designing our own chips, now at 2 nanometres or less.
- Highest ranked European based company out of the top companies in the EU Industrial R&D Investment Scoreboard 2023²⁵ engaging in AI.
- 60,000 granted patents and more than 100 + signed license agreements.²⁶
- In 2023, Omdia, Frost and Gartner all ranked Ericsson ahead of its 5G competitors.²⁷
- 2024 – Ericsson topped Frost Radar 5G network infrastructure market ranking for fourth year running.²⁸

**50% of the world's
5G traffic outside
mainland China carried
over our networks.**

²³ [Ericsson Annual Report 2023](#)

²⁴ [Ericsson Annual Report 2022](#)

²⁵ [The 2023 EU Industrial R&D Investment Scoreboard \(fig 102 and p. 157\) – JRC](#), December 2023

²⁶ [Patents and licensing: Investing in technology innovation \(ericsson.com\)](#)

²⁷ [Omdia market landscape: RAN vendors 2023 - Ericsson a Leader in 2023 Gartner Magic Quadrant 5G Network Infrastructure for CSPs - March 2023](#)

²⁸ [Ericsson leads 5G Frost Radar ranking four years in a row - May 2024](#)



Sustainability leadership

- Overall sustainability leader in a 2023 ABI study²⁹ to assess the capabilities of telco technology vendors in designing and creating equipment, software and services that reduce energy use and waste across the telecom industry.
- Our 5G portfolio is 10 times more energy efficient per transferred data compared to 4G (2022 compared to 2017).³⁰
- We are targeting a 40% reduction in energy consumption for a typical new radio base station site by 2025 compared to 2021. By 2023 we had achieved a 30% drop.³¹
- Our latest generation of Massive MIMO radios are 40% more energy efficient and offer a 46% reduction in embodied carbon reduction.

Openness leadership

- Making networks fully programmable and globally available with open interfaces and open APIs that enable continuous business growth and innovation.
- Leading the industrialization of the three pillars of Open RAN: cloudification, open fronthaul and open management for network programmability.
- The USD14 billion strategic agreement with AT&T will see Ericsson drive and power their nationwide Open RAN network transformation in the US over the next five years.³²
- A million Ericsson radios in the field are hardware-ready for next generation of open fronthaul in 2024.

²⁹ [Sustainability Assessment: Telco Technology Suppliers' technology analysis report](#) - ABI, February 2023

³⁰ [Sustainability & Corporate Responsibility Report](#) - Ericsson, 2023

³¹ Ibid

³² [AT&T and Ericsson in major future network deal](#) - Ericsson, December 2023



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