Advanced connectivity revitalizing **rural communities across Europe**

5G and Europe's rural communities
5G Fixed Wireless Access (FWA) complements fiber in meeting Europe's 2030 gigabit connectivity goals by offering cost effective and rapidly deployable advanced connectivity to homes and businesses where wired solutions are either unavailable, ordeliver limited bandwidth.

When deployed and adopted at scale, transformative 5G helps close the digital divide, improve public services, and revitalize rural communities.

It leverages global standards, an established ecosystem, economies of scale and the same infrastructure used to provide mobile services.

To realize 5G's full potential to support rural connectivity and transform agriculture, Europe must prioritize widespread advanced and trusted connectivity and promote policies that incentivize investment, drive adoption and enable innovation.[1]

"Broadband empowers rural communities to thrive economically, socially and environmentally. Bridging the digital divide between rural and urban areas allows equality of opportunity and sustains vibrant rural living. Connectivity is a cornerstone of a sustainable, inclusive future for all communities."
European Commission: Broadband connectivity stimulates rural revitalization[2]

5G use cases in rural communities

Supporting public services:
Helps revitalize rural communities through the transformation of transport, health and education services, enabling, for example, telehealth and remote learning. This attracts further investment, supporting vibrant rural communities and helping reverse the depopulation trend.

Enabling precision agriculture:
Enables real-time data capture and analysis of equipment, livestock, soil, crop and air moisture conditions for more effective care and maintenance, and more targeted use of fertilizers and pesticides. Connects advanced agricultural machinery, helping execute decisions remotely and automatically in real time.

Connecting rural homes and businesses communities:
Bridges the rural connectivity gap with 5G Fixed Wireless Access to rural communities. Supports inclusive growth in areas by helping local businesses digitalize and connect to the broader economy, driving productivity and creating new wealth and job opportunities.

[1] Ericsson, "Drive innovation, growth and competitiveness in Europe with 5G".
[2] European Commission, Broadband connectivity stimulates rural revitalisation (2025)

40% reduction in water use
Trials of 5G-enabled smart irrigation systems on 12,000 acres in Jilin Province, China, reduced fresh water usage by 40% compared to a conventional system.[3]

13% increase in crop yield
By some estimates, around 15 percent of US farmers use IoT technologies on the farm. 5G-enabled technology, such as connected sensors and algorithms designed to optimize operations, can reduce costs by 15 percent, and increase crop yields by 13 percent.[4]

5G FWA on 5G SA **Finland**

About the program
Elisa, the market-leading Finnish telecommunications company, has a 5G network that now covers over 95 percent of Finland's population. The company launched its premium 5G Fixed Wireless Access (FWA) service, Omakaista[5] (Own Lane), in early 2024, leveraging a 5G Standalone (SA) network with dedicated network slicing.

Benefits of 5G
- **Superior performance:** Own Lane utilizes radio resource partitioning and relative priority scheduling to maintain superior performance, even during peak hours, outperforming traditional 4G/5G FWA without slicing. It was developed to meet t he high-capacity, low-latency demands of home users for applications like remote work and online gaming.
- **Fiber-like speeds:** The Own Lane service ensures fiber-like performance, offering speeds up to 1,000 Mbps, with a guaranteed minimum of 100 Mbps and a typical speed of 500 Mbps. The service is enabled by technician-installed outdoor receivers.
- **Customer satisfaction:** Trials have confirmed consistent customer satisfaction with Elisa's Own Lane service, noting stability and speeds comparable to fiber.

Impact of 5G FWA on 5G SA
- **5G stepping stone:** Elisa's 5G SA network now spans all Finnish municipalities, and the company sees this rollout as a stepping stone toward widespread 5G SA adoption and future enterprise solutions.
- **Affordability:** The 5G FWA service is priced competitively with fiber due to its premium quality.

Elisa's FWA service provides fiber-like speeds of up to 1 Gbps.

1 Gbps

5G's capabilities

5G's transformational impact
Advanced and trusted mobile connectivity is critical infrastructure that will underpin electrification, automation and digitalization across economies and societies. It is pivotal to scaling cloud and AI innovation, driving industrial competitiveness, enabling decarbonization and supporting digital inclusion in rural areas.

High performing, programmable networks
The foundation for advanced mobile connectivity today is the deployment of transformative 5G at speed and scale, with mid-band spectrum to boost capacity and 5G standalone (SA) for new functionality. This delivers high performing programmable networks with a step change in capabilities and performance.

Differentiated connectivity
While "one-size-fits-all, best-effort" mobile broadband powered the consumer app economy, the full digital transformation across industries and public services requires differentiated connectivity. Transformative 5G provides an innovation platform that unlocks network capabilities, tailoring connectivity to different users and use cases.

[3] GSMA, How 5G Can Boost Agricultural Output (2022)
[4] IoT World Today: Connected Farming Harvests Data and Gives Agriculture a Jolt (2020).
[5] Ericsson: Premium FWA services enabled in Finland with 5G SA.