



# Blazing the 5G trail

From 2011 to 2020 – and beyond

Ericsson and its key industry partners have reached several important milestones on the road to global 5G standardization.

## 2011

We initiated discussions among the top four mobile infrastructure vendors to ponder 4G's successor



## 2012–2015



We managed the METIS project, collaborating with universities and research institutes to address the challenges of 5G mobile and wireless communications



We built a 5G radio testbed

## 2015–2016



We proved several tech concepts, including:

- 5G-LTE dual connectivity
- 5G multipoint connectivity with distributed multiple-input and multiple-output (MIMO)
- 5G data rates exceeding 5Gbps



We won several early 5G awards, including:

- Biggest Contribution to 5G Development  
LTE Asia Awards
- Biggest Contribution to 5G Standards  
LTE & 5G World Awards

## 2016–2017



5G advances:

Landmark 5G patent application filed – the largest in the world in terms of inventors in the cellular industry (source: Derwent Innovation)



Use cases delivered:

- Test peak rates of 15Gbps per user, and a latency below 3 milliseconds (with Telia)
- 25Gbps downlink throughput (with NTT DOCOMO and Korea Telecom)



Record-breaking 5G field trial, reaching 3.6Gbps at 170kph (with SK Telecom and BMW)



We performed the world's first federated end-to-end network slicing live demo, providing end-to-end network service between Korea and Germany (with SK Telecom and Deutsche Telekom)



Multiple 5G New Radio (NR) trials



First public 5G live network use cases deployed in Europe (with Telia)



Ericsson and Qualcomm, in collaboration with leading operators, showcased 5G NR non-standalone (NSA) multi-vendor interoperability, as the standard was approved



5G network tested at the Indianapolis Motor Speedway (with Verizon)



First end-to-end multi-vendor 5G commercial network data call over licensed 3.5GHz spectrum (with Telstra and Intel)



First 5G deals signed with Vodafone UK, Swisscom and Verizon

## 2018–2019



Connected a smartphone prototype to a live 5G network with Swisscom and Qualcomm



Ericsson and Intel, with China Mobile, showcased 5G NR standalone multi-vendor interoperability, as the standard was approved



First to successfully perform interoperability tests with third-party device chipsets in high, mid and low bands



Leading 5G standardization, with the most 5G-related contributions submitted in the key 3GPP Working Groups RAN 1 and RAN 2 through the end of 2018



Over 3 million 5G-ready (hardware) radios shipped to our customers since 2015



By end of April 2019, publicly announced commercial 5G deals with 18 named, not claimed, operator customers



47 Memorandums of Understanding (MoU) for 5G collaborations with operators



First with commercial live networks in the US, South Korea and Switzerland and deployed operational 5G networks based on commercial equipment in Europe, the Middle East, Australia and Asia

## Tomorrow



We will see 5G in action:

There will be even more use cases and applications deployed, for both consumers and industries

