

IoT – Von der Vision zur Realität



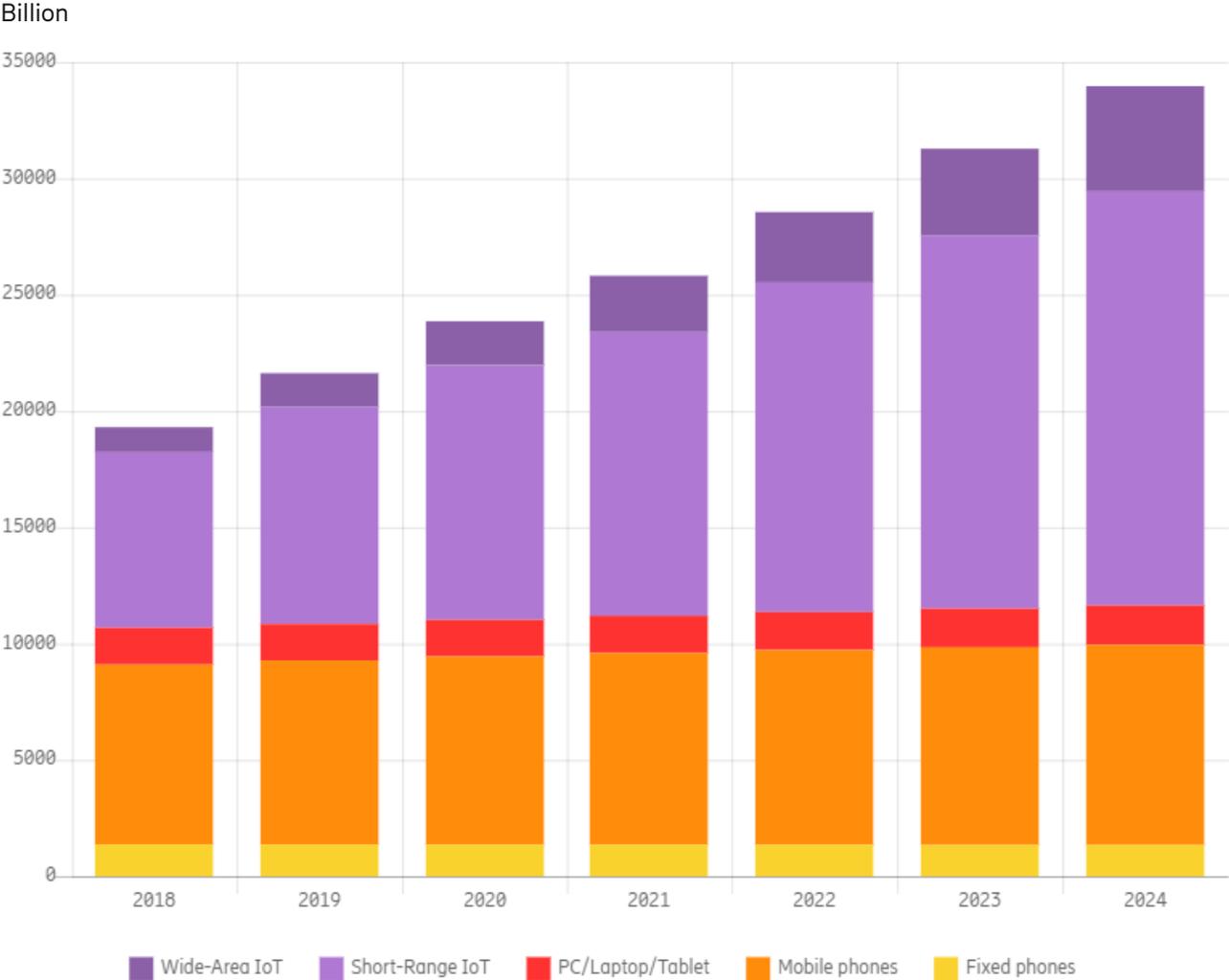
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Back in 2009 Ericsson predicted
50Bn Connected Devices in 2020

Reality check in 2019: Today IoT is the main driver for mobile connections growth



IoT connections (billion)			
IoT	2018	2024	CAGR
Wide-area IoT	1.1	4.5	27%
- Cellular IoT ²	1.0	4.1	27%
Short-range IoT	7.5	17.8	15%

² These figures are also included in the figures for wide-area IoT

Cellular IoT connections
in 2024 expected to reach
4.1 billion

Factors slowing down IoT Growth



Complex and
fragmented
ecosystem



Difficult trade-offs
between
connectivity,
coverage and
capacity



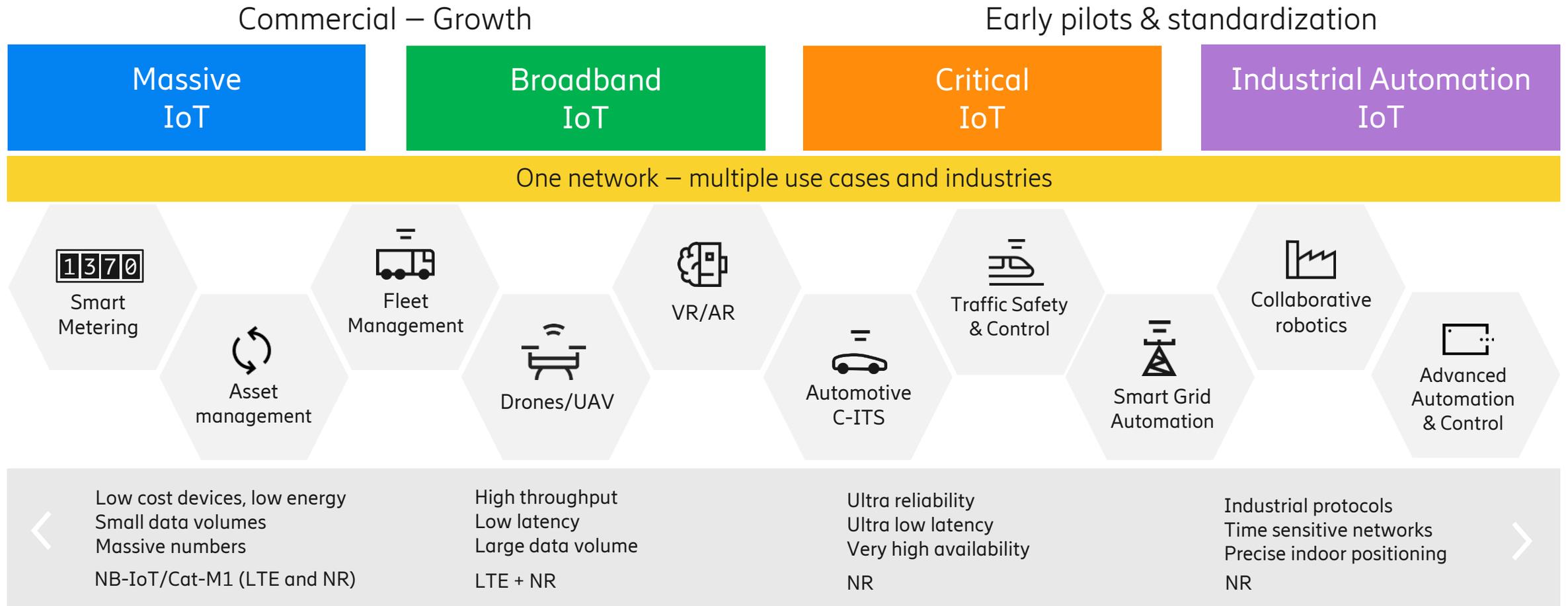
Long development
cycles and slow
time to market



Lack of standard
solutions



Identified cellular IoT evolution and segments



Massive IoT continues to evolve



Extended Outdoor Range

- NB-IoT Extended Cell Range up to 100km



Fleet management, Agriculture, Environmental

Improved Throughput

- Cat-M1 & NB-IoT Increased Throughput



Software/Firmware Upgrades, Wearables



Global adoption

>80 commercial networks in 40 markets
both NB-IoT & Cat-M1 for diverse use cases

5G technologies

Meet 5G performance and capacity requirements fully co-existing with 5G NR

Ensured Long lifecycle

Replace legacy 2G technologies

Converged Requirements (LPWA)



Multiple Industries and Use cases

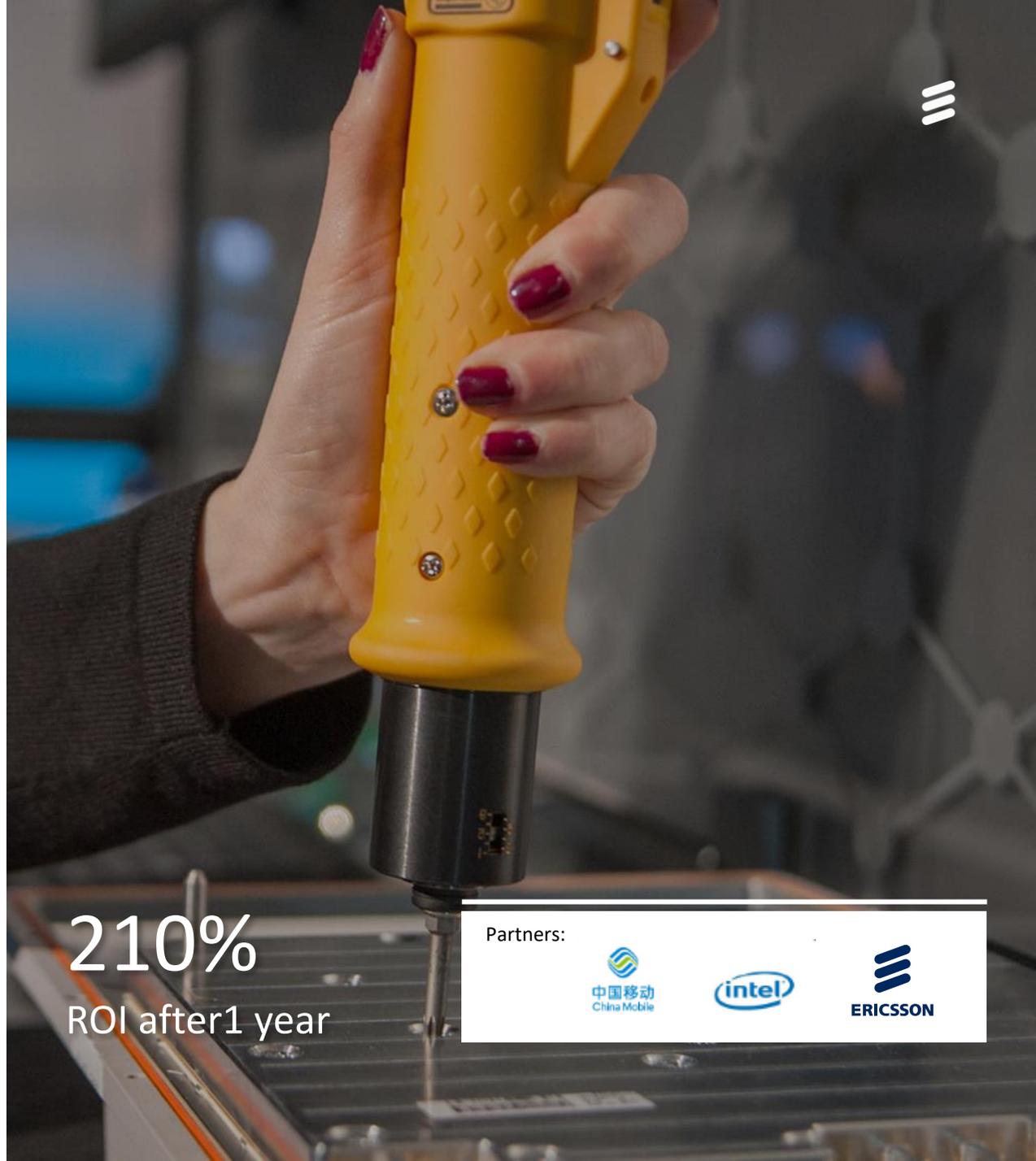
Utilities – Smart metering
Wearables – Health surveillance
Smart Cities – Smart sensors
Transport – Fleet management

Connected Screwdrivers

Manual maintenance process
1000 high-precision screwdrivers

Automated solution with real-time motion sensor
over cellular IoT (NB-IoT) & cloud

6 months break even, 210% ROI after 1 year
Completely phase out manual tracking

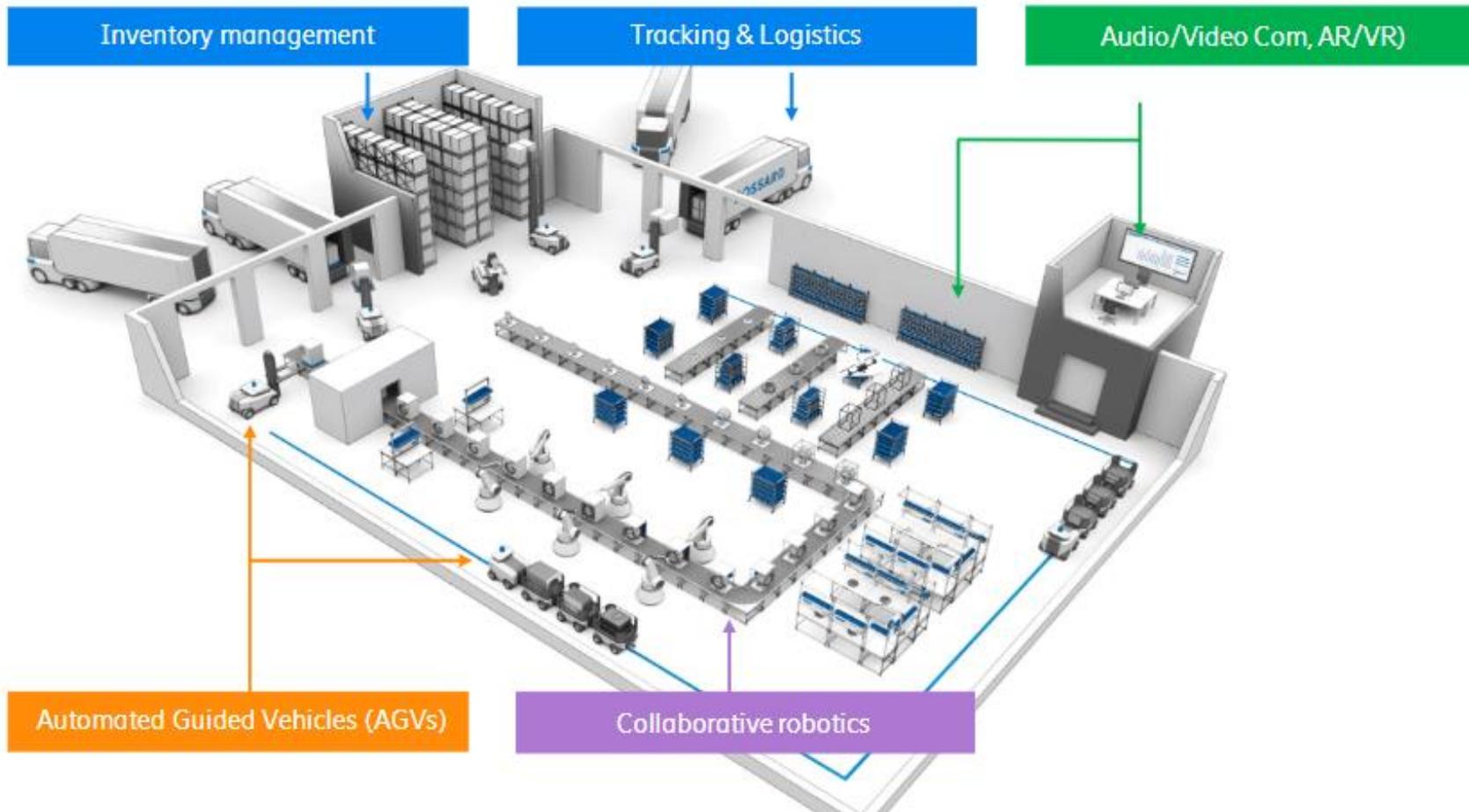


210%
ROI after 1 year

Partners:



Cellular IoT segments for Smart manufacturing



5G in Production - BLISK

Connected Adaptive Production

- Adaptive Production relies on a precise and up-to-date insight into the production process.
- This requires real-time data acquired from sensors directly integrated within the workpiece under production.
- The chosen BLISK production use case, connects sensor on the BLISK within an 5 axis free moving environment by 5G enabled Ultra Reliable Low Latency Communication (URLLC)



- Validation of Ericsson NR Radio for
 - real-time acquisition of BLISK production data (1ms latency)
 - real-time adaptive control of the BLISK milling machine.
- The real-time correction of the machining process is leading to new precision and quality levels in industrial production.
- The BLISK production is known as an early adopter of technology advancements.

Partners:





AGV

STATUS MOVING TO WORKSTATION



Deutsche Telekom and Ericsson partner to provide industry solution for OSRAM

- Prototyping a mobile robotics solution for Automated Guided Vehicles (AGV) to transport goods across the shop floor in a more flexible production environment.
- Dual slice campus network combines public and private LTE to support industrial use cases
- Ericsson is the provider of the campus network system as well as radio partner for surrounding public LTE coverage

First industrial self-driving vehicles are now moving autonomously on our roads



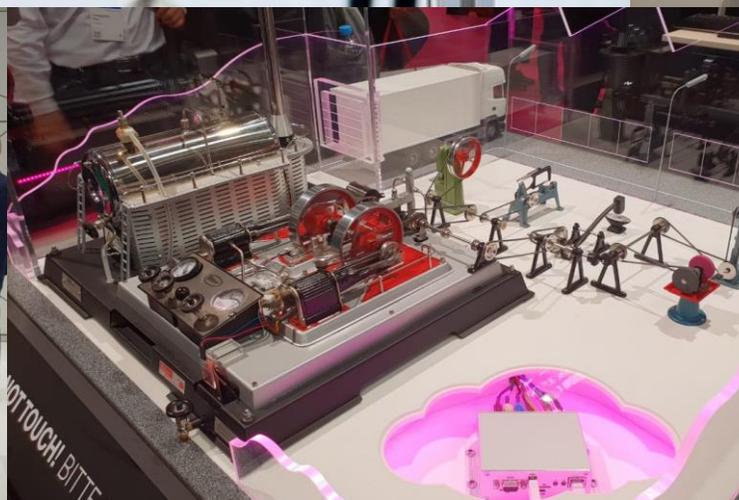
- Ericsson, Telia and Einride are creating a transport ecosystem by connecting electric, autonomous vehicles to elimination emissions
- 5G is a key enabler of sustainable transport providing the connectivity and reliability needed to safely introduce autonomous trucks onto public roads
- Ericsson's Cloud Core for 5G powers the first commercial installation of Einride's Autonomous Electric Transportation (AET) system

Cellular IoT segments for remote surgery training



Starre Endoskopie

(Arthroskopie, Laparoskopie und
Thorakoskopie)





ericsson.com/iot