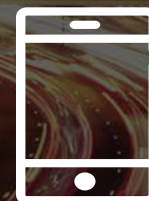


MOBILE BROADBAND TRENDS AND FUTURE EVOLUTION

LUIS MUCHACHO
MBB Customer Solutions



Working with customers in

>180

countries

>110K

people

~15%

of our Net Sales are re-invested in R&D yearly

>40%

world's mobile traffic passes through Ericsson equipment



>2.5B

subscribers served by the networks we support

>950M

subscribers served by the networks we manage

5TH

largest SW supplier in the world

GREATER DEMAND THAN EVER

2013 ECO SYSTEM HIGHLIGHTS



1B

Smartphones shipped in 2013, 38% YoY

1B

mobile facebook users

100B

APP downloads in 2013

>40%

of YouTube traffic is mobile
(up from 6% only 2 years ago)

LARGER SCREENS ACROSS ALL SEGMENTS



5.6" HD 4k



LTE Carrier aggregation

Will grow in capability not volumes

\$600-\$1000

5" HD 1080p



LTE, several bands

From \$350

5" HD 720p

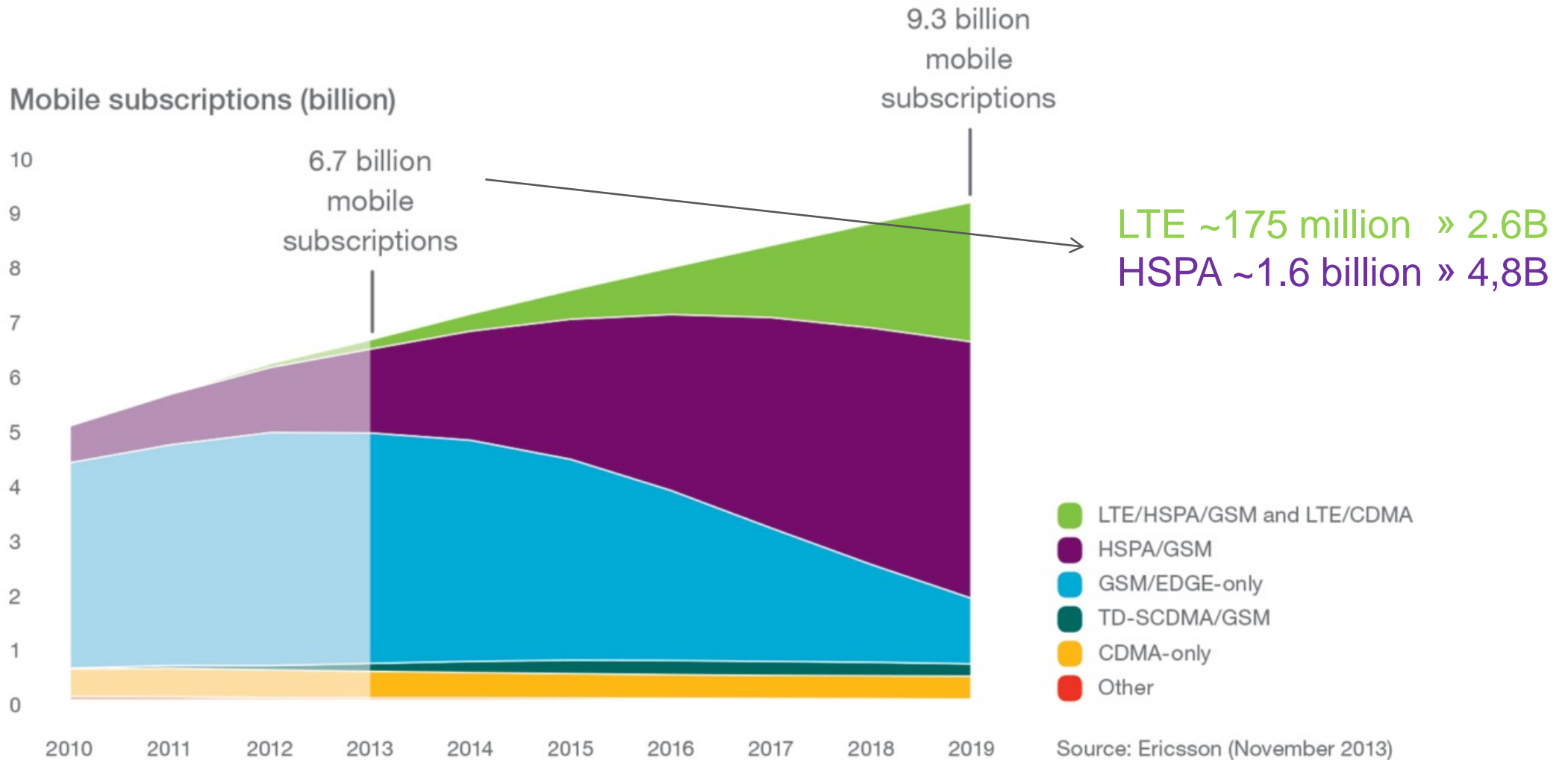


Mediatek-based – Lenovo, Coolpad...

HSPA 42

\$100-\$300

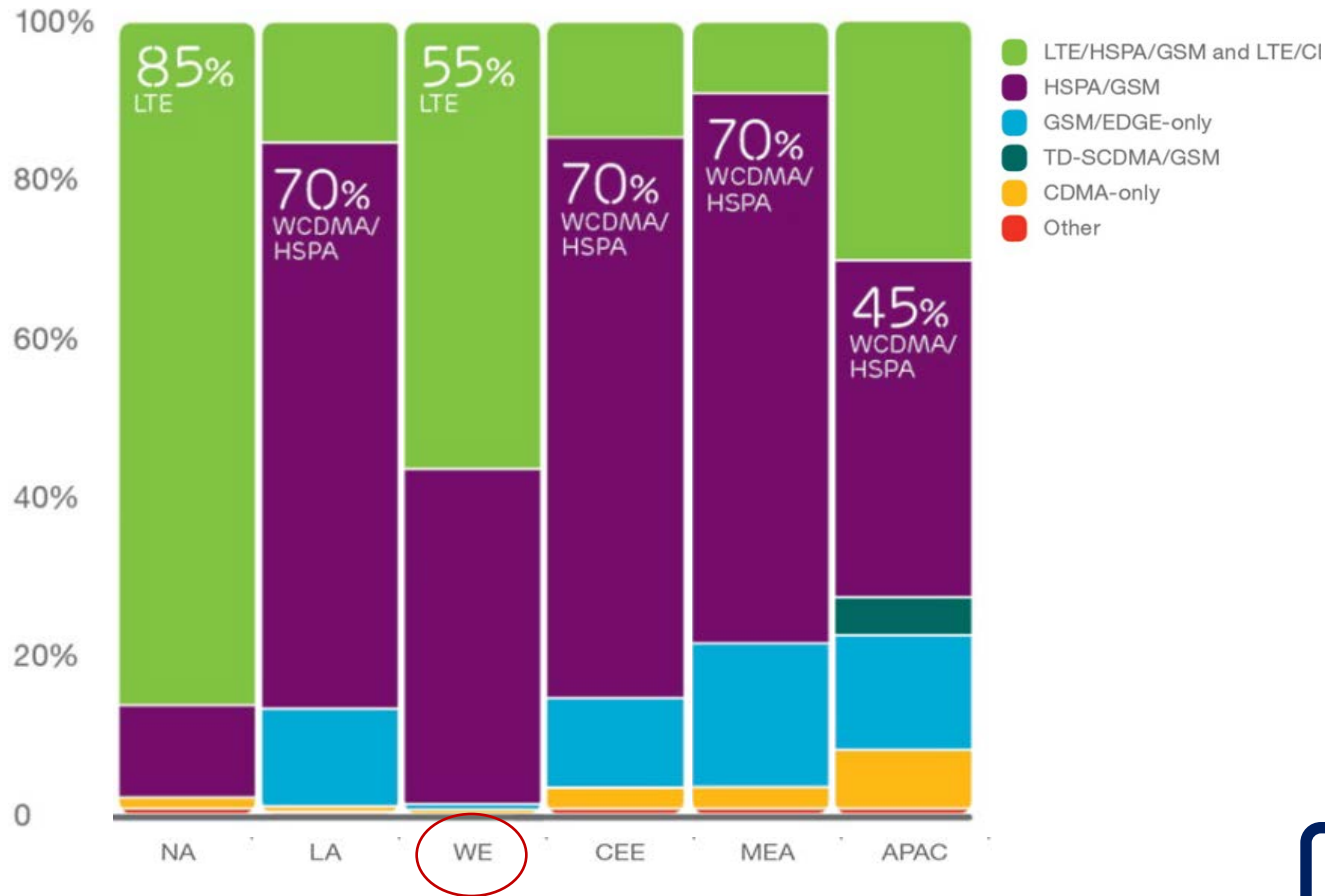
9.3B MOBILE SUBSCRIPTIONS 2019



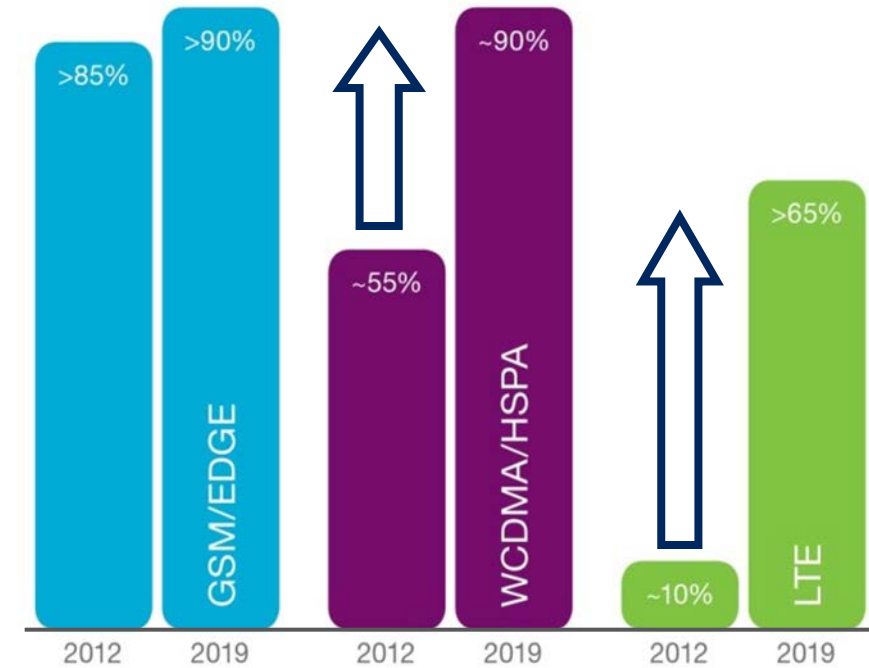
7.4B HSPA/LTE SUBS 2019



2.6B LTE, 4.8B HSPA



MBB COVERAGE!






Accelerate LTE & Expand HSPA
Re-farm GSM spectrum

5.6 BILLION SMARTPHONES IN 2019

mobile PCs, tablets and mobile
router subscriptions

smartphone subscriptions



	2013	2019
	3.3 GB	13 GB
	1 GB	4.5 GB
	0.6 GB	2.2 GB

10X

growth in mobile
data traffic between
2013 and 2019

MOBILE APPLICATION TRAFFIC OUTLOOK



Application mobile data traffic volumes by device type



>50%
TRAFFIC IN 2019
WILL BE VIDEO

- File sharing
- Video
- Audio
- Web browsing
- Social networking
- Real-time communications
- Email
- Software download & update
- Other encrypted
- Other

Source: Ericsson (November 2013)

SOCIAL NETWORKS ON SMARTPHONES
VIDEO ON TABLETS & SMARTPHONES

10 HOT CONSUMER TRENDS 2014

What changes can we expect to see in how we use the internet and communicate in 2014 and beyond?



10 HOT CONSUMER TRENDS 2014

What changes can we expect to see in how we use the internet and communicate in 2014 and beyond?



TIME TO CONTENT

CRITICAL FOR USER EXPERIENCE



AFTER
4 SECONDS
10 % OF USERS
ABANDON
ONLINE VIDEOS



AFTER
10 SECONDS
40% OF USERS
HAVE GIVEN UP...

“Just a second please”

For Web browsing:
25% of users abandon after 4 seconds
50% of users give up after 10 seconds

APP COVERAGE



- › It's an app centric world
- › User want reliable access for their apps wherever they go in the network
- › App coverage requires a true end-to-end approach to design, build and run mobile networks

City plan view without mapped coverage



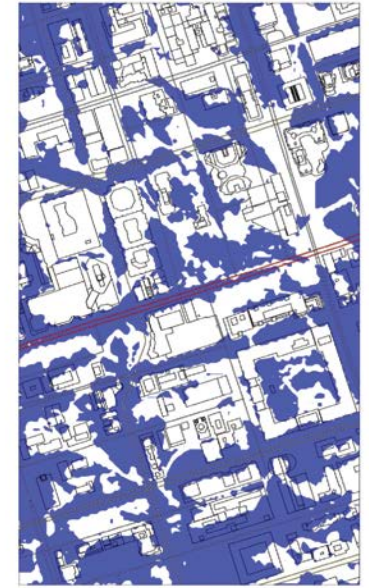
Voice coverage (red)



Music coverage (yellow)



Video streaming coverage (blue)



Music streaming needs >160 Kbps, Video streaming >720 Kbps

“Every app has its own coverage map”

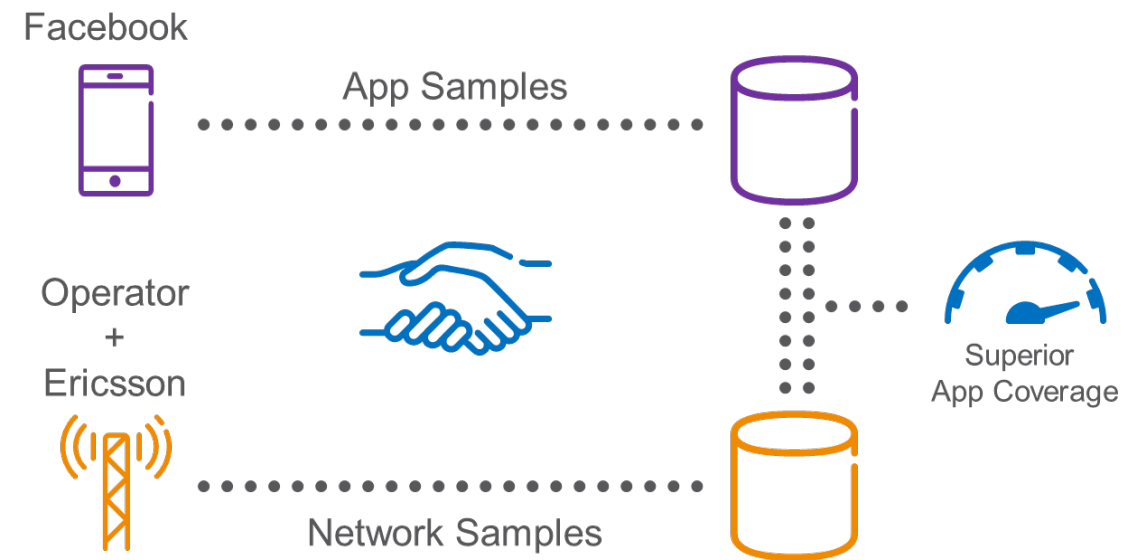
“App Coverage” – the area where my app works as I expect”

Please refer to Ericsson web site:
[Real Performance](#)
[White paper](#)

FACEBOOK COLLABORATION

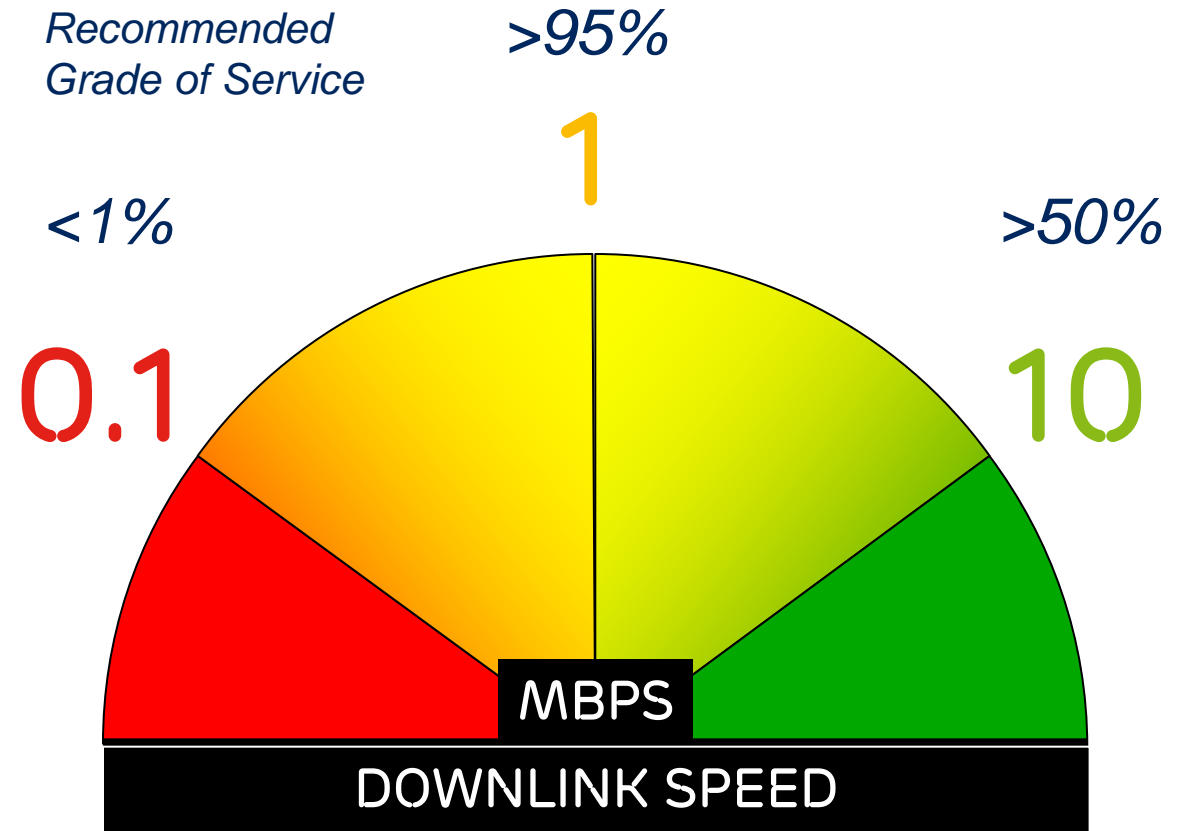
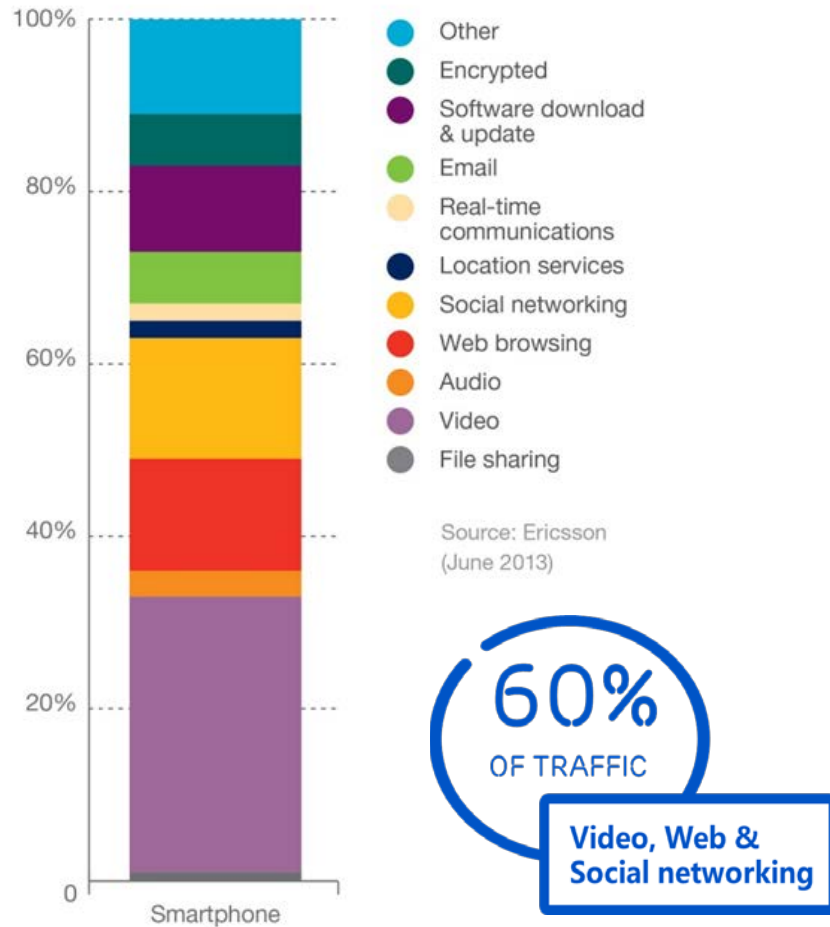


- › Joint innovation lab
- › Joint application and network analytics
- › Optimized network & apps for best experience



[Reaching out for the next 5B users]

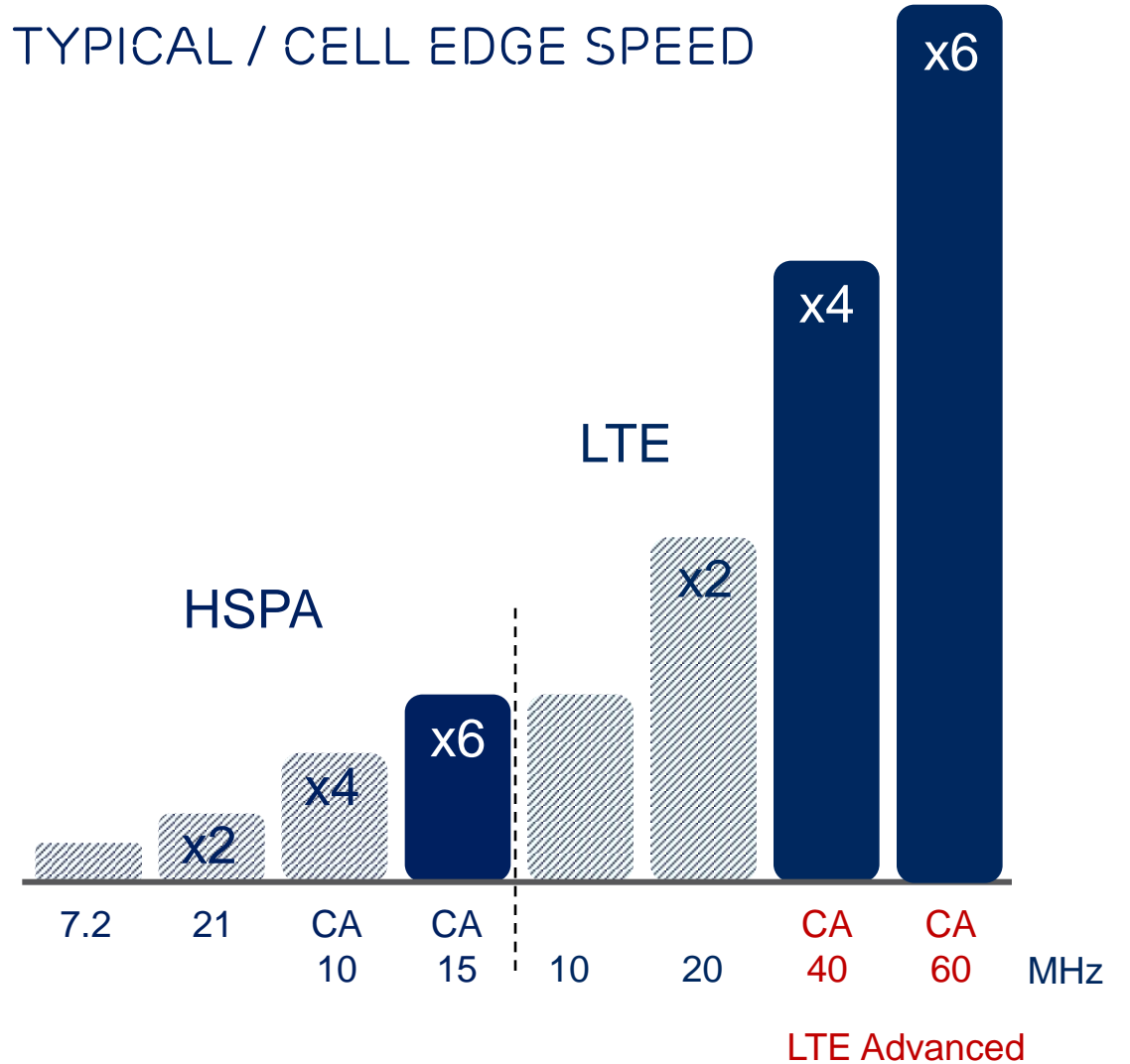
SECURE APP COVERAGE



"If I hardly ever experience **0.1 Mbps**, always get at least **1 Mbps** and typically around **10 Mbps**, I am a happy customer"

IMPROVING APP COVERAGE: NW & DEVICE CAPABILITIES

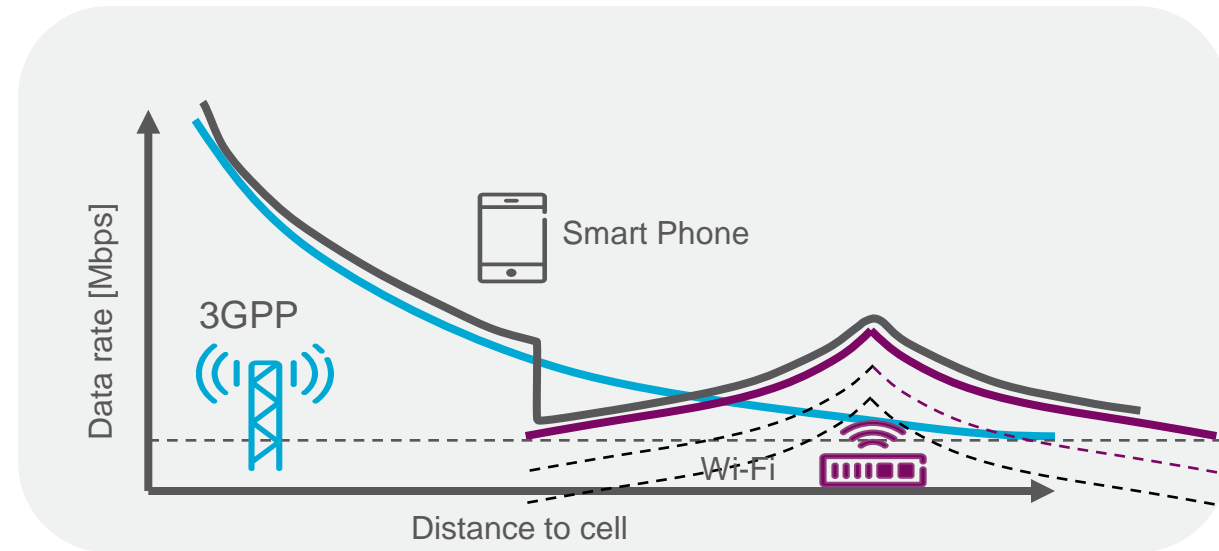
TYPICAL / CELL EDGE SPEED



REAL TIME TRAFFIC STEERING



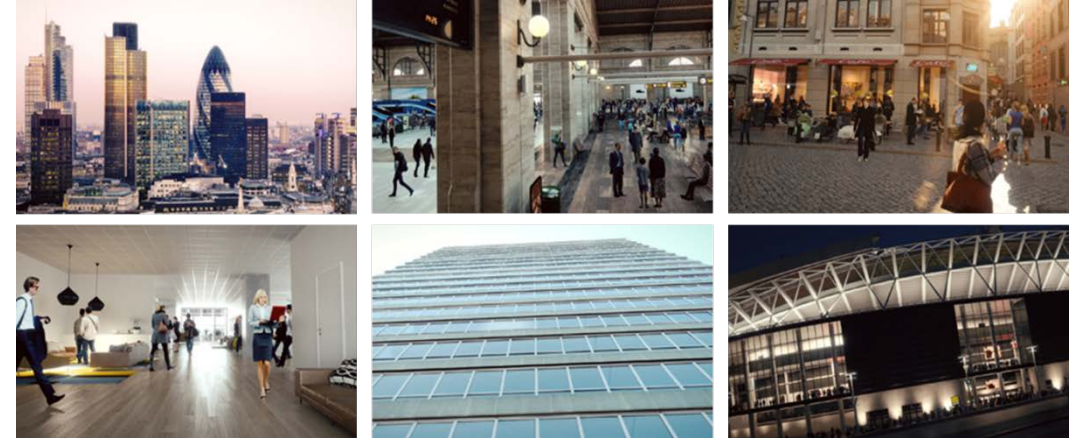
- › Bringing WiFi & cellular together
- › Network controlled, clientless
- › Superior user experience





ADD SMALL CELLS

- › User experience driven
- › Addressing site acquisition, spectrum shortage & indoor coverage
- › Superior user experience & lowest TCO through coordination – Heterogeneous Networks



INDOOR TECHNOLOGY BREAKTHROUGH



- › 2 years of research, 14 patents
- › Elegant, dot-shaped design antenna element
- › Ultra-compact with flexible mounting.
- › Minimalist small cell radio fully integrated with macro mobile networks
- › Leverages on existing indoor wiring and outdoor cellular infrastructure. Addresses a wide range of in-building environments
- › Provide high-quality access to mobile broadband and voice services indoors, effectively addressing current coverage challenges.

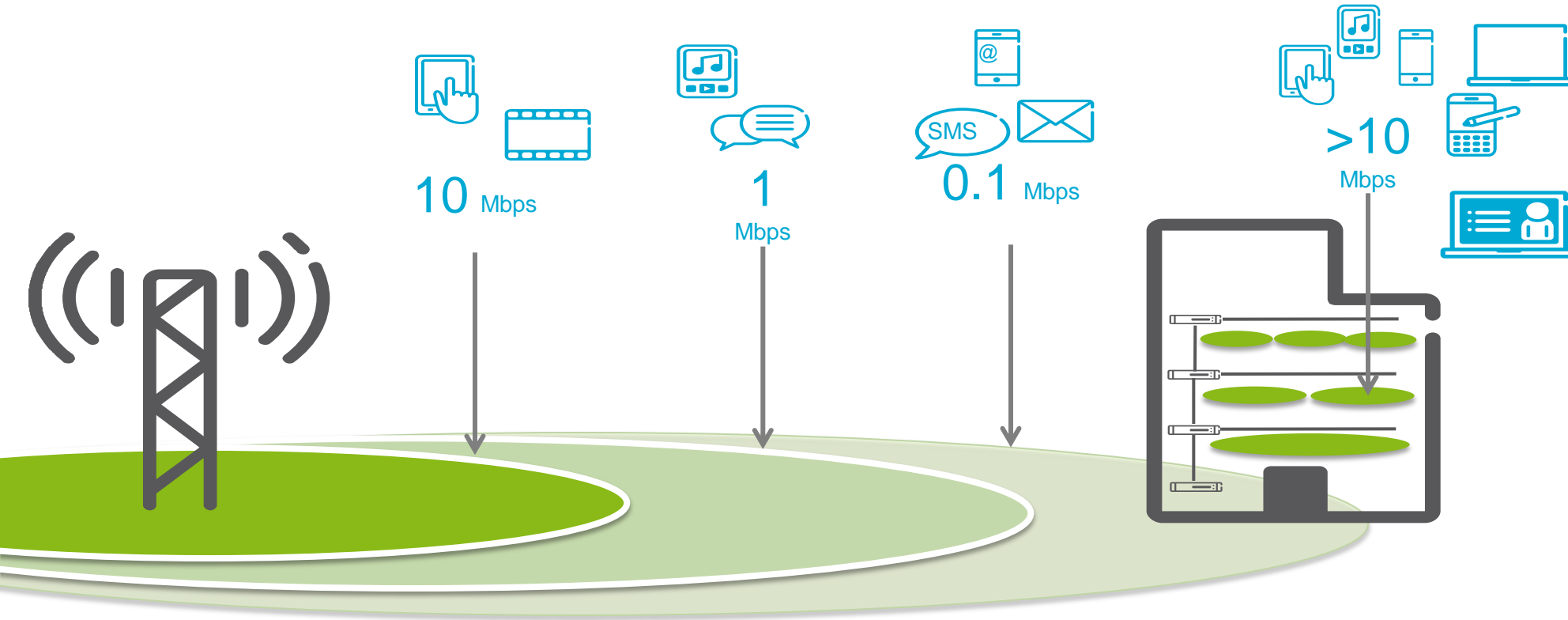
Radio Dot System

1st

Ultra-compact
indoor radio
solution



APP COVERAGE



Performance relevant to the end user
everywhere

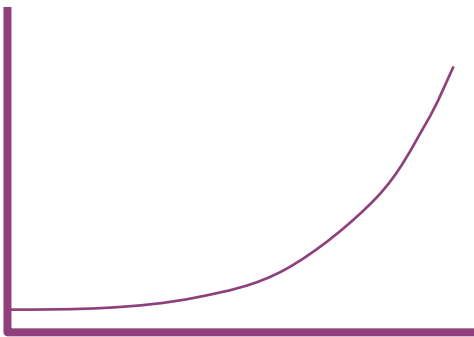


IN 2020 THERE WILL BE 50
BILLION CONNECTIONS

KEY CHALLENGES FOR >2020



Massive growth in Traffic Volume



“1000x”

Massive growth in Connected Devices



“50 billion devices”

Wide range of Requirements & Characteristics

MBB and New Use Cases

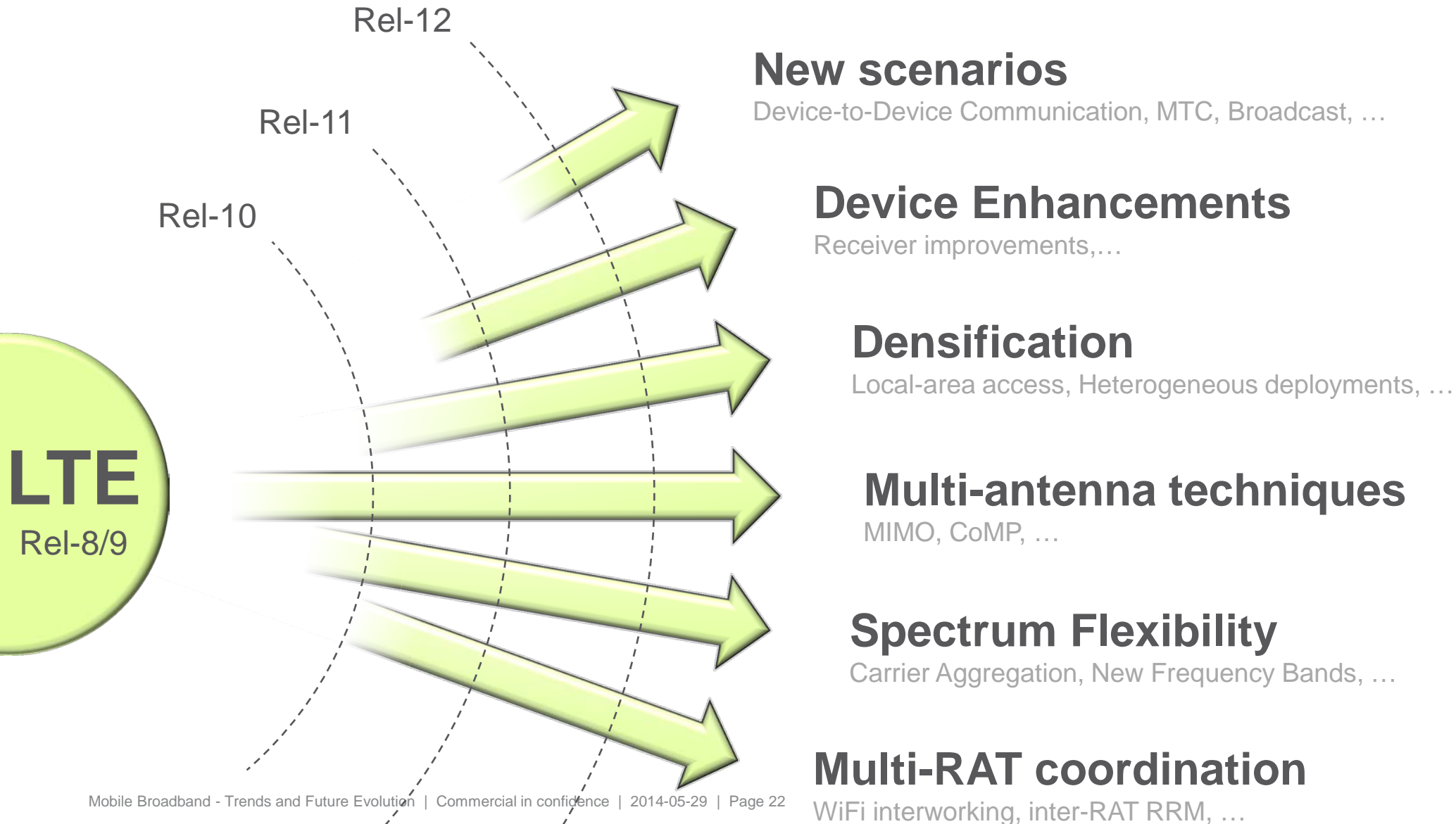
- Data rates
- Latency
- Reliability
- Device energy consumption
- Device cost
-



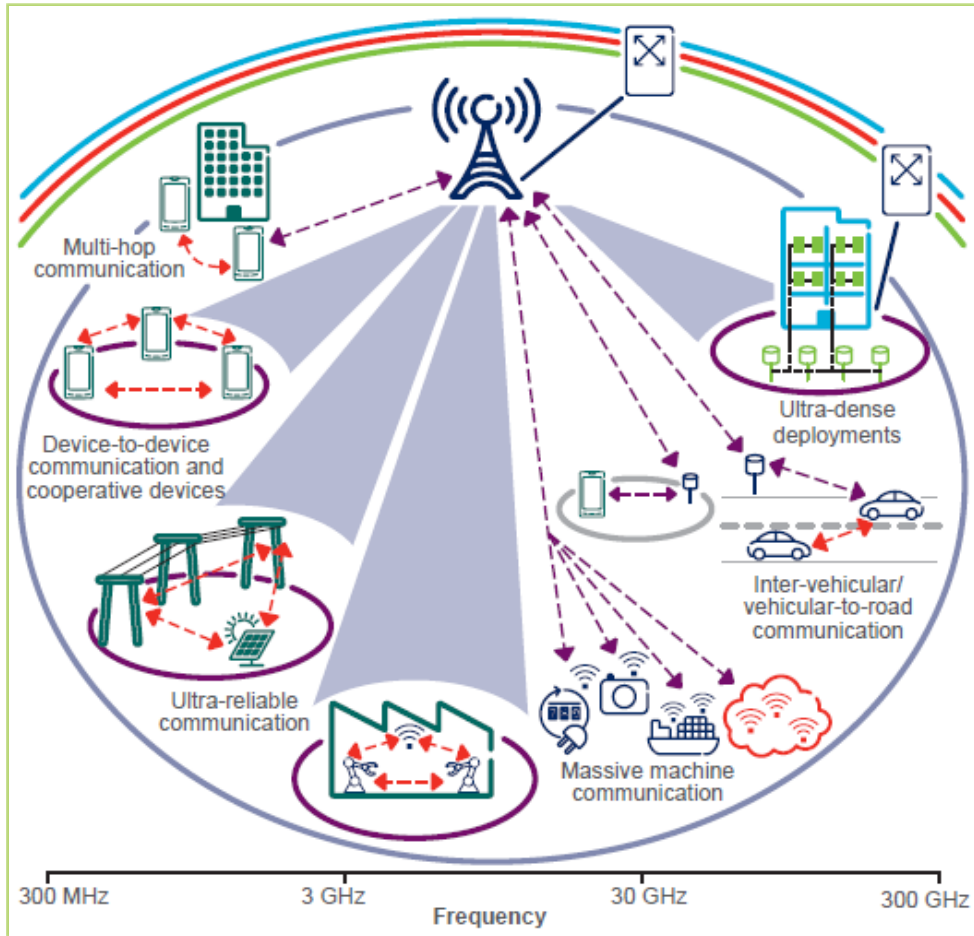
Affordable and sustainable



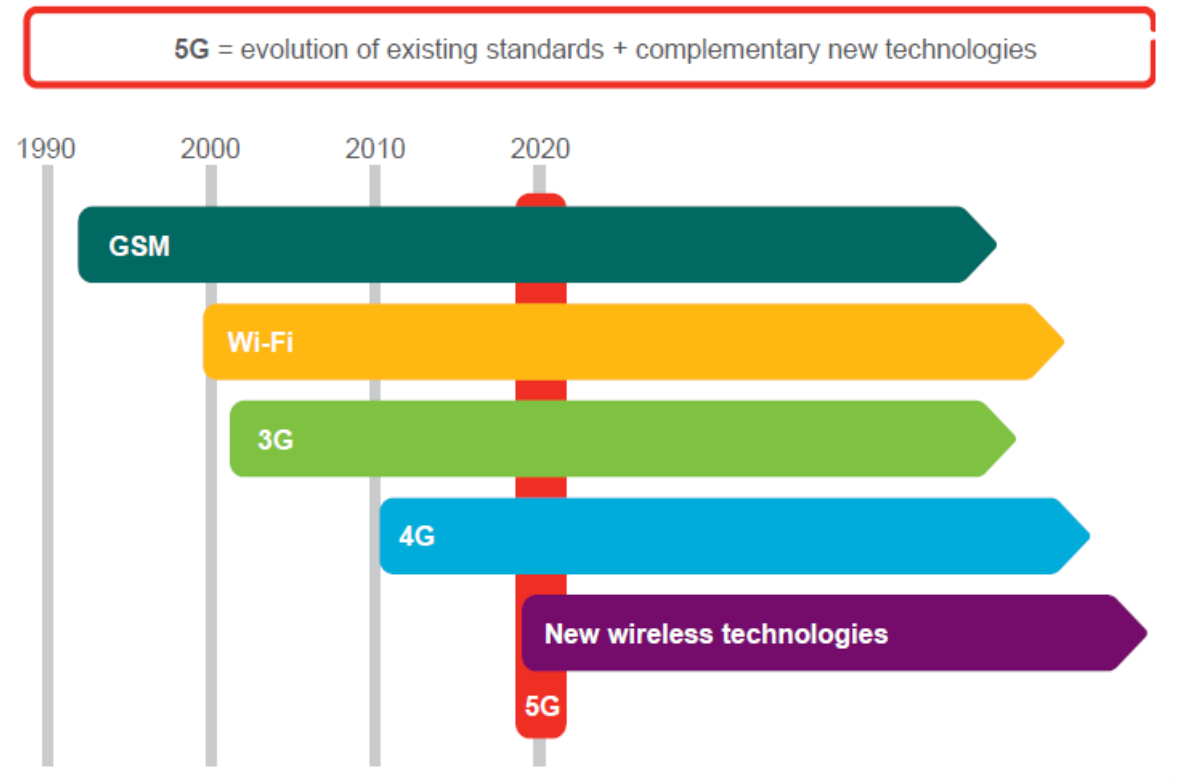
LTE – MAJOR EVOLUTION TRENDS



THE NETWORKED SOCIETY BEYOND SMARTPHONES



=>
5G

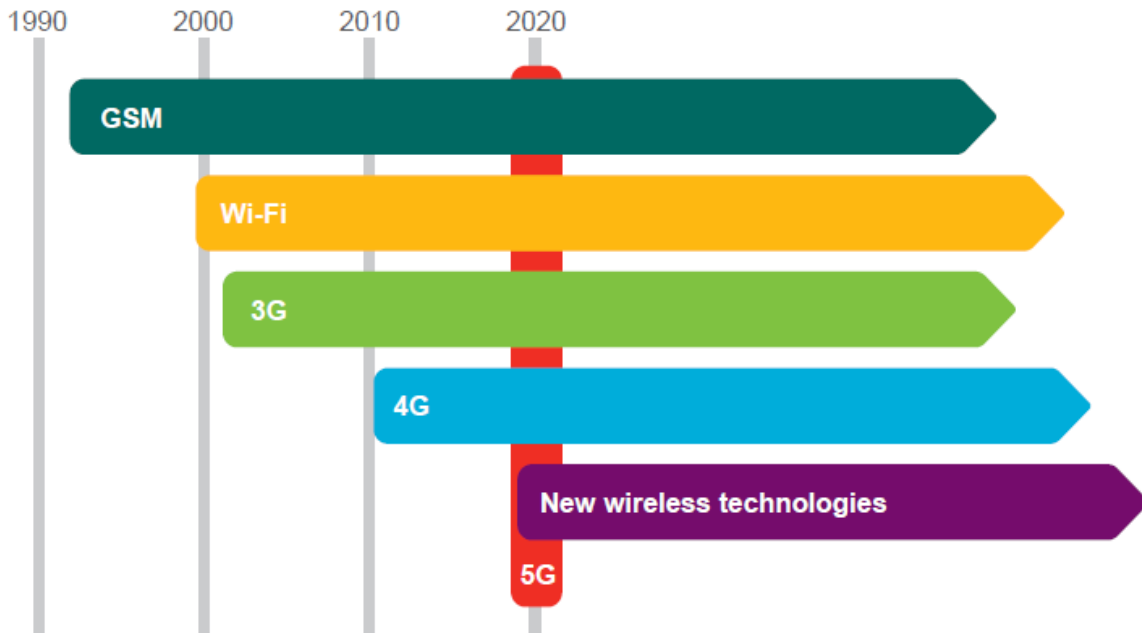


See [Ericsson White Paper](#) for more info

DRIVING THE FUTURE



5G = evolution of existing standards + complementary new technologies



Network Society vision: When one person connects, their life changes. With everything connected, our world changes...

An aerial night view of Istanbul, Turkey, featuring the Bosphorus Bridge and the city's lights. The bridge is illuminated with red and white lights, and the city below is a dense grid of lights. The Bosphorus Strait is visible in the background, with the city of Istanbul on the opposite shore. The sky is dark blue, and the overall scene is a vibrant display of urban illumination.

COVERAGE IS MORE
THAN IT USED TO BE



ERICSSON