



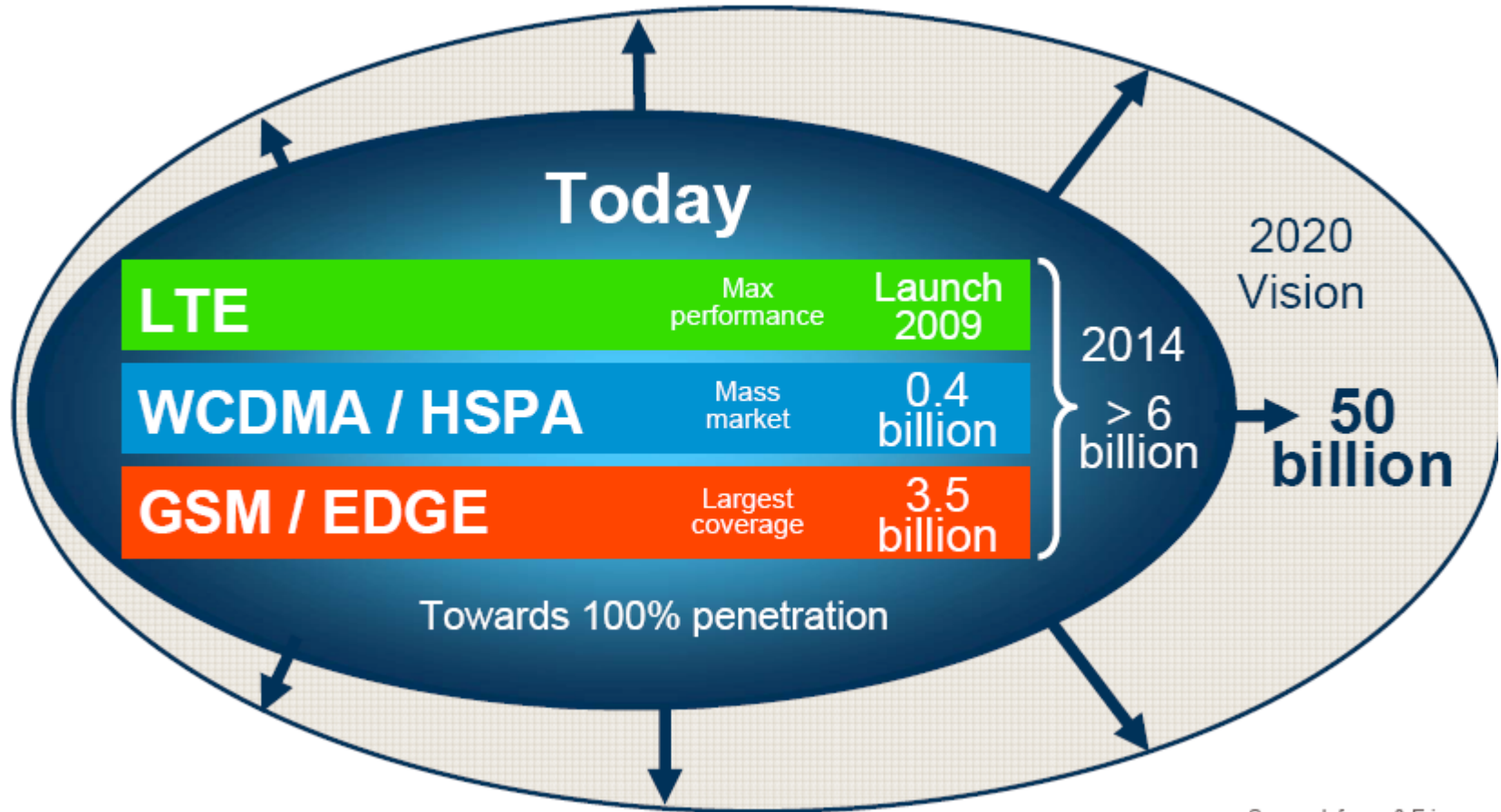
Perspective Setorial de HSPA Evoluido

Jesper Rhode
Ericsson Brazil

New Mobile Broadband Module C3607w



A wider vision: Everything Connected



Source: Informa & Ericsson



Handheld internet

Mobile internet overtakes fixed



Handheld Internet larger than fixed

900 million smartphones

\$29.5 Billion from mobile apps

600 million social network users



50B connected devices

2020

Smartphone sales up 16% in a downturn

RIM, Apple, Android up 80%

2009

2013

Voice and Internet in one device

China Unicom

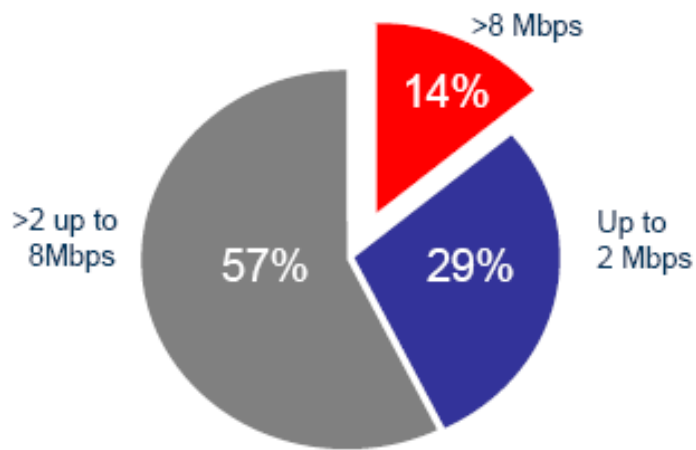
WCDMA/HSPA Mobile Broadband live

- Commercial launch in 285 cities
- World's largest HSPA network
 - More than 100 000 sites

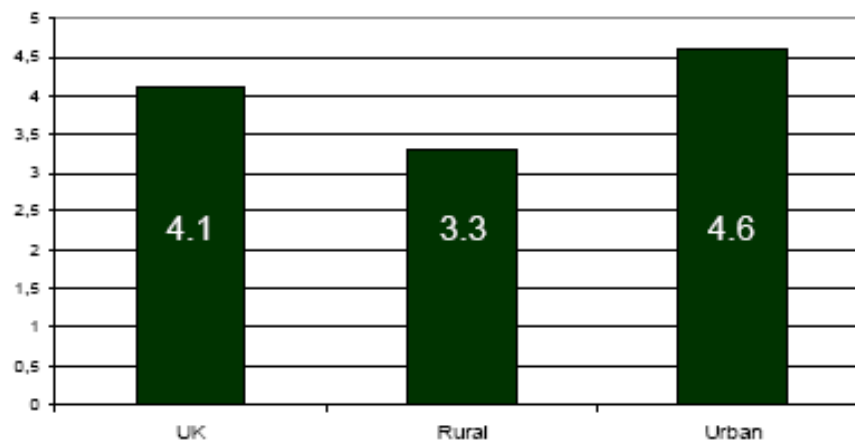
- Targeted subscriber growth
 - 8 million end of year
 - 150 million 2014



Fixed Broadband in the UK



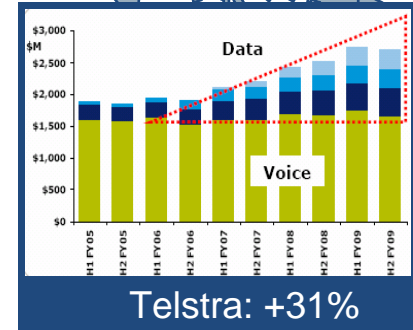
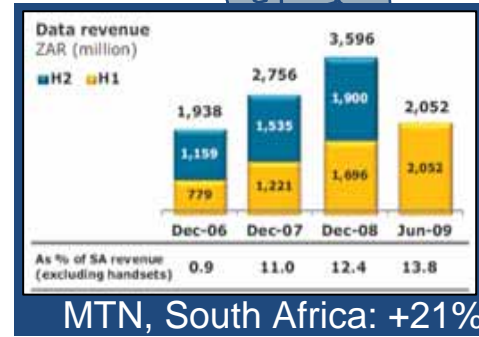
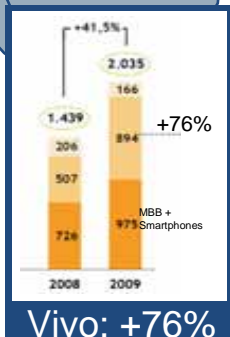
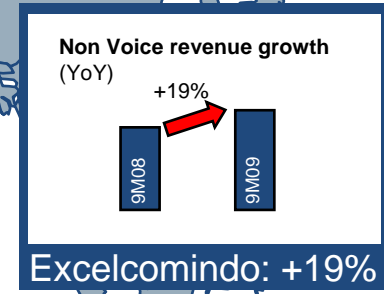
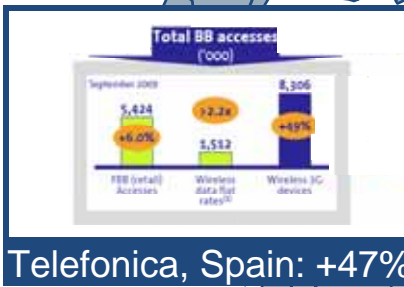
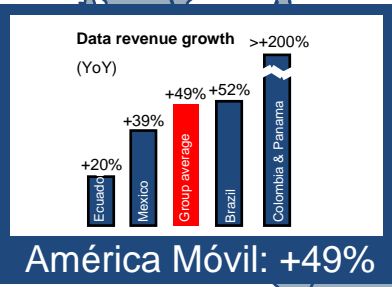
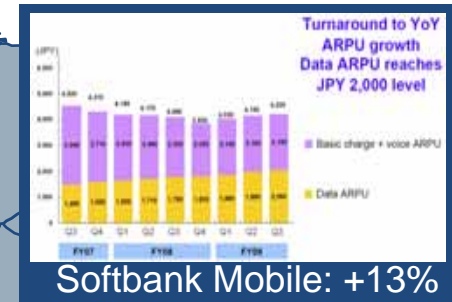
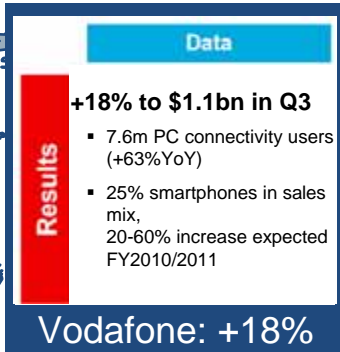
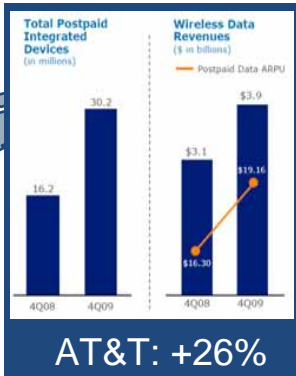
Headline speed of UK residential broadband connections



Average downlink speeds (Mbps)

Average Uplink speeds: 0.43 Mbps

Wireless data revenue growth



Sources:
Financial reports and analyst presentations from the respective companies

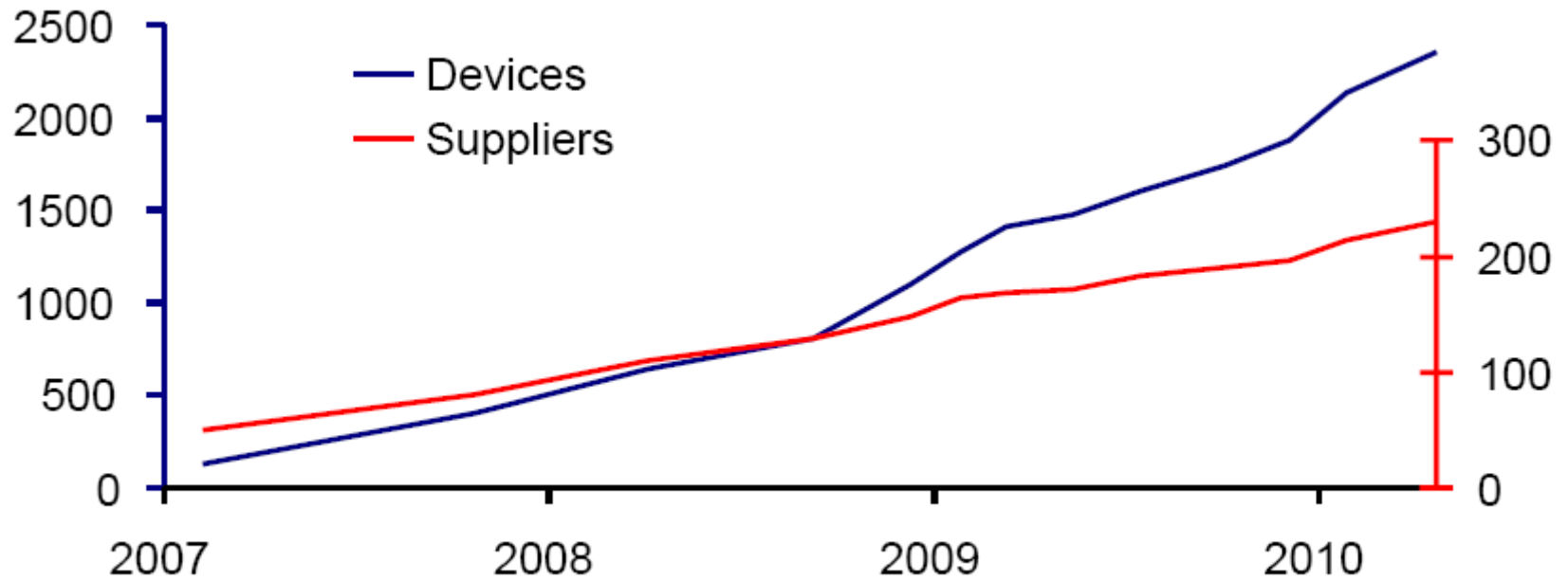
Double digit growth

2349 HSPA enabled devices from 230 suppliers

- › 1014 Phones, media players, cameras, Ebook readers (43%)
- › 1063 PC with embedded HSPA, PC cards, USB modems (45%)
- › 272 Routers and femtocells (12%)



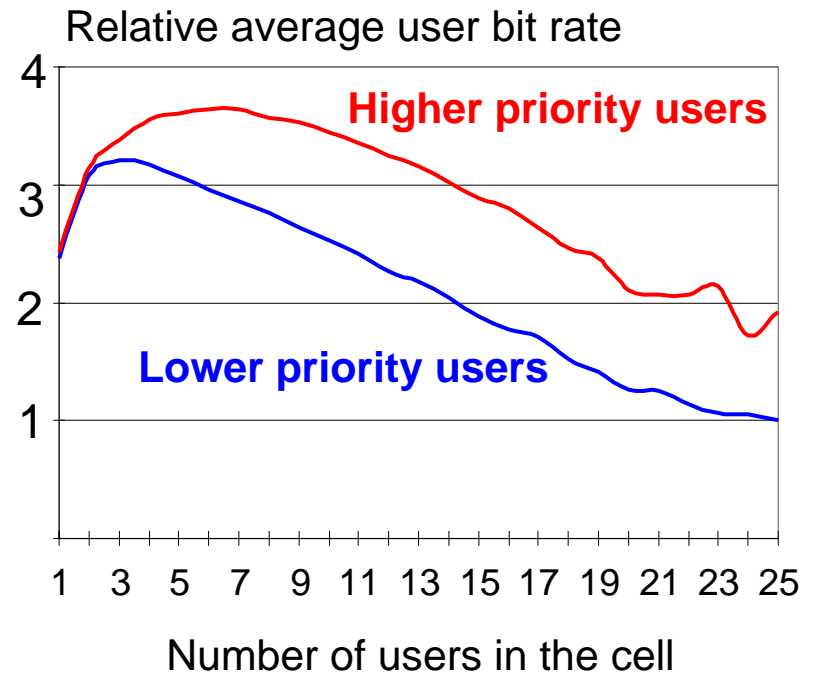
HSPA Device Availability



Quality of service control

In commercial operation

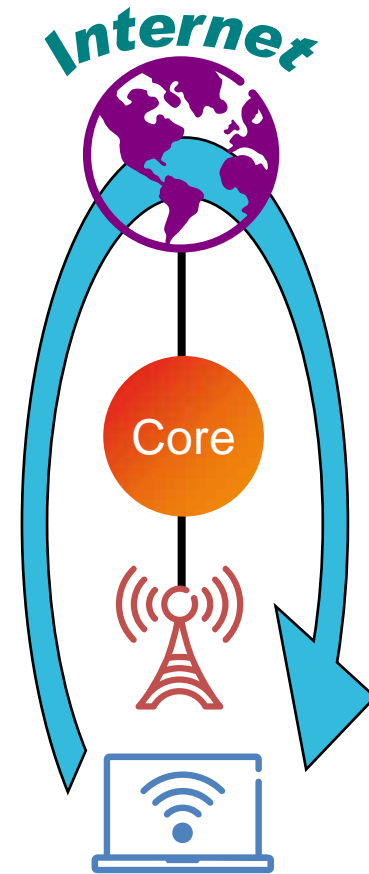
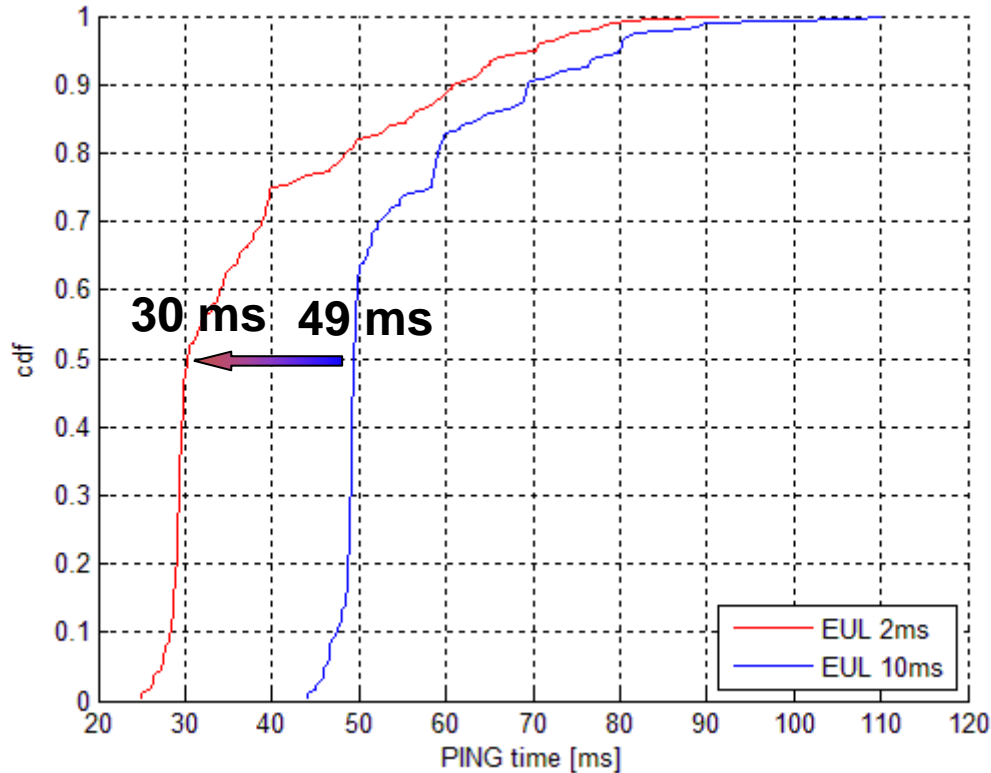
- Control Network load
 - Lower priority for abusers in loaded cells
- Premium subscriptions
 - Higher data rates for prioritized users



Tailor user experience with higher revenues

Attractive HSPA Latency

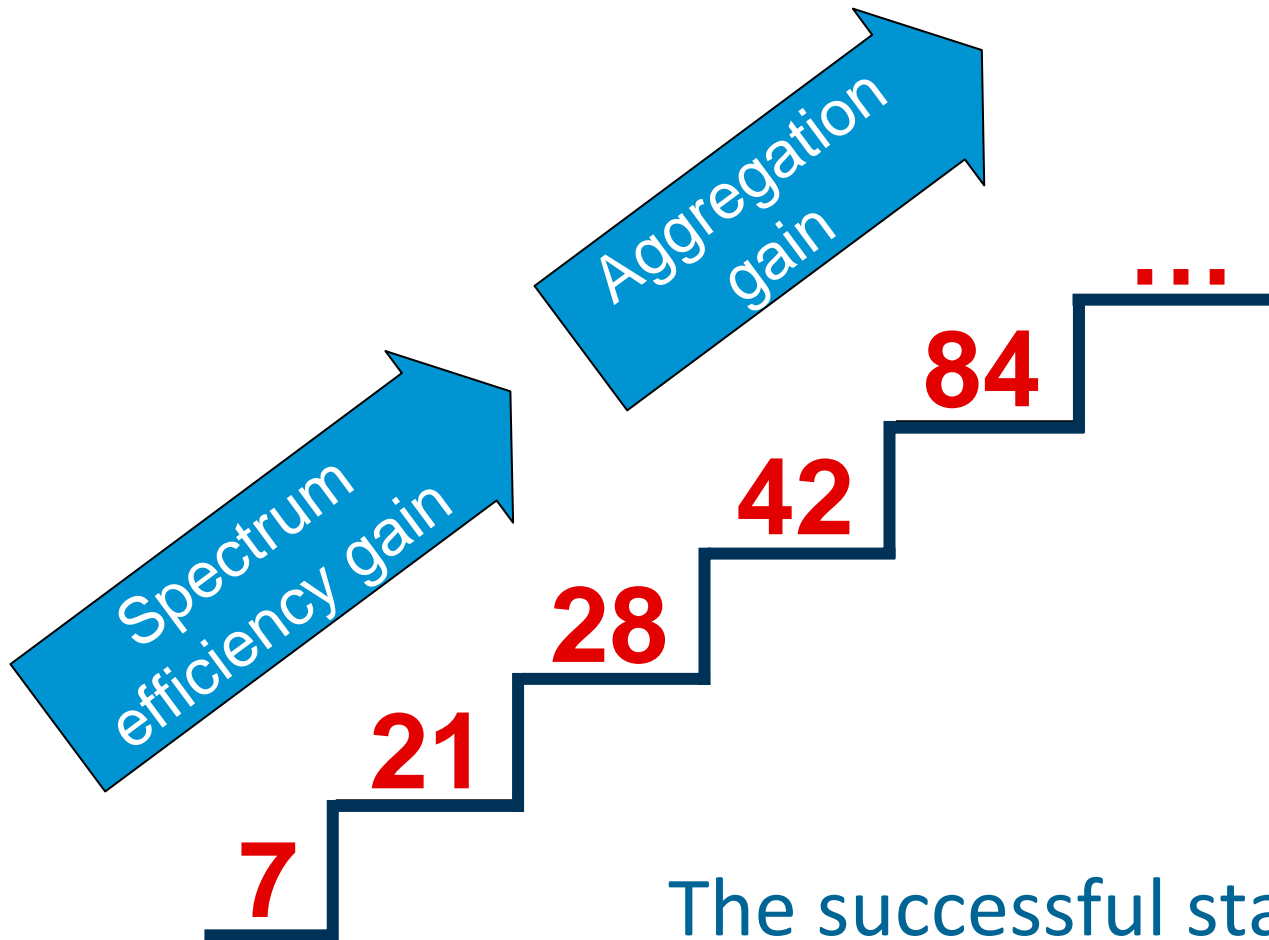
Faster user experience with lower latency



Latency below 30 ms in commercial networks

HSPA Evolution

Peak rate in Mbps



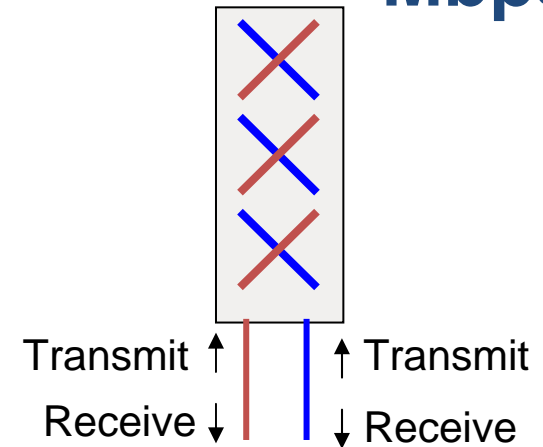
The successful staircase

28 Mbps

Myths and Facts of MIMO

- Myth: MIMO only works with OFDM
- Fact: MIMO works in HSPA
- Myth: MIMO requires new antennas
- Fact: Old antennas shall be re-used
- Myth: Legacy UEs kill MIMO deployment
- Fact: No problem with Ericsson MIMO

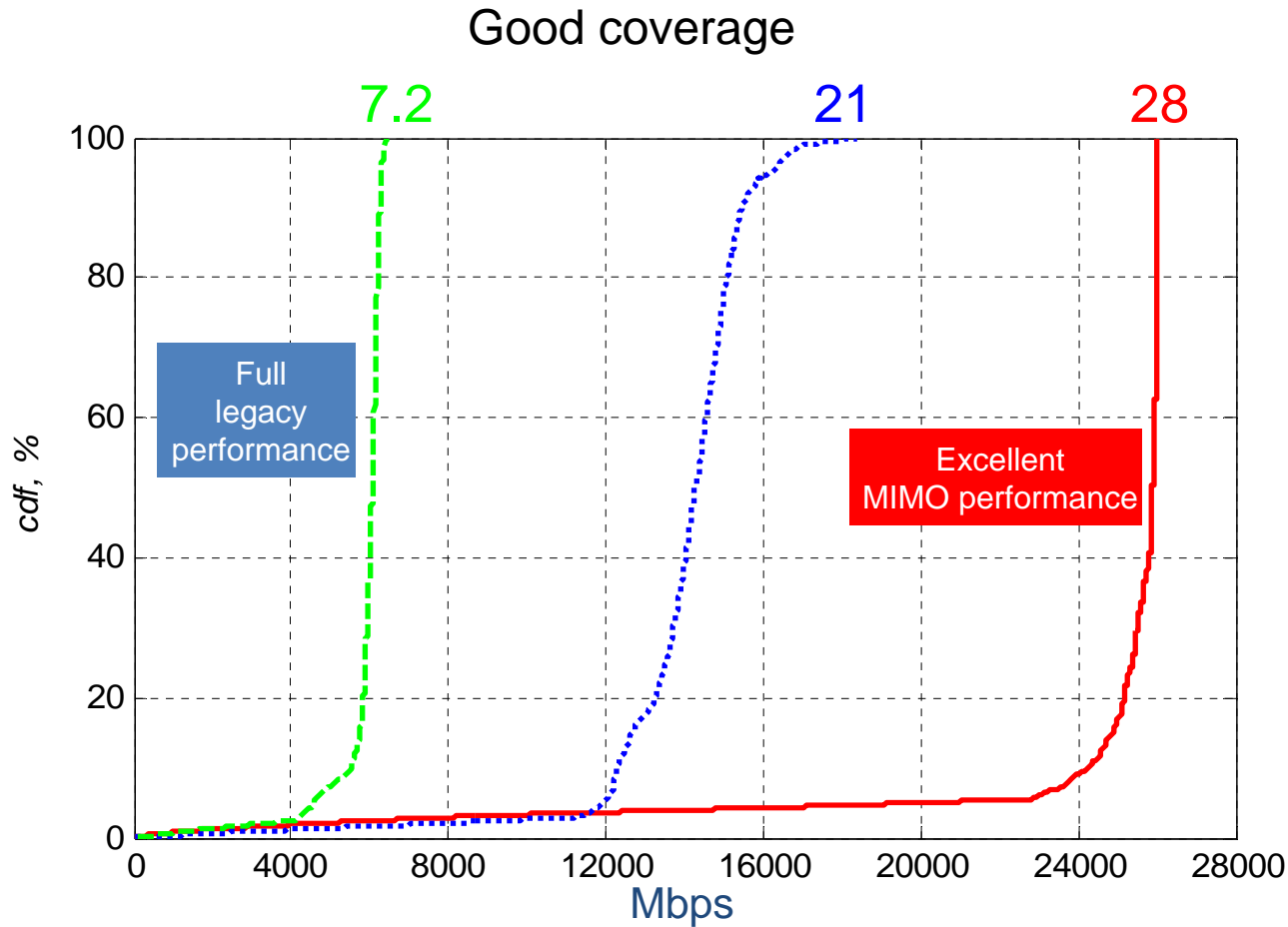
28
Mbps



MIMO now in mass deployment

MIMO COMMERCIAL OPERATION

No IMPACT ON LEGACY HSPA PERFORMANCE



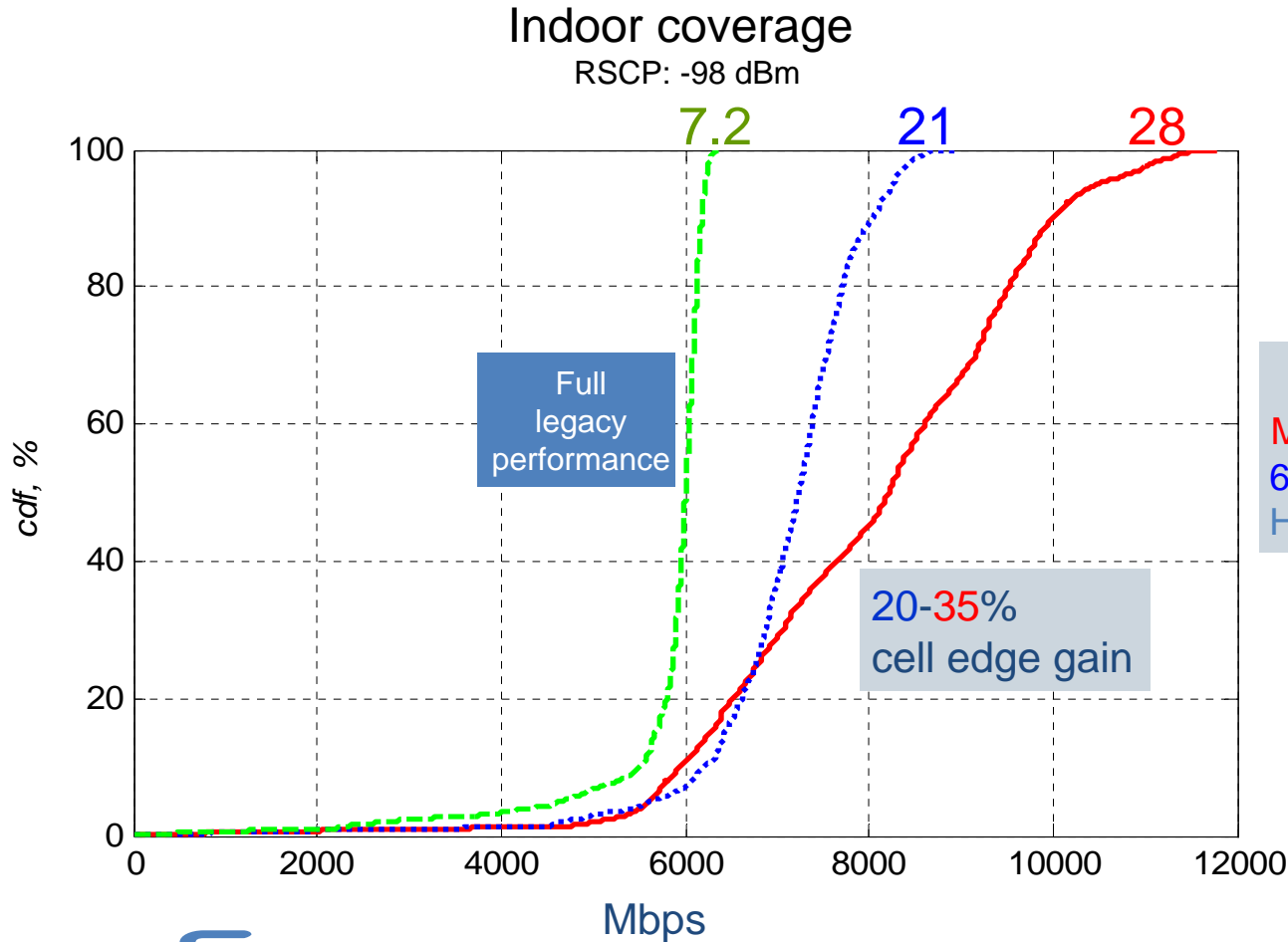
28
Mbps

Median	
MIMO:	26 Mbps
64QAM:	14 Mbps
HSPA7.2:	6 Mbps

MIMO, legacy HSPA devices & voice on same carrier

MIMO COMMERCIAL OPERATION

No IMPACT ON LEGACY HSPA PERFORMANCE



28
Mbps

Median

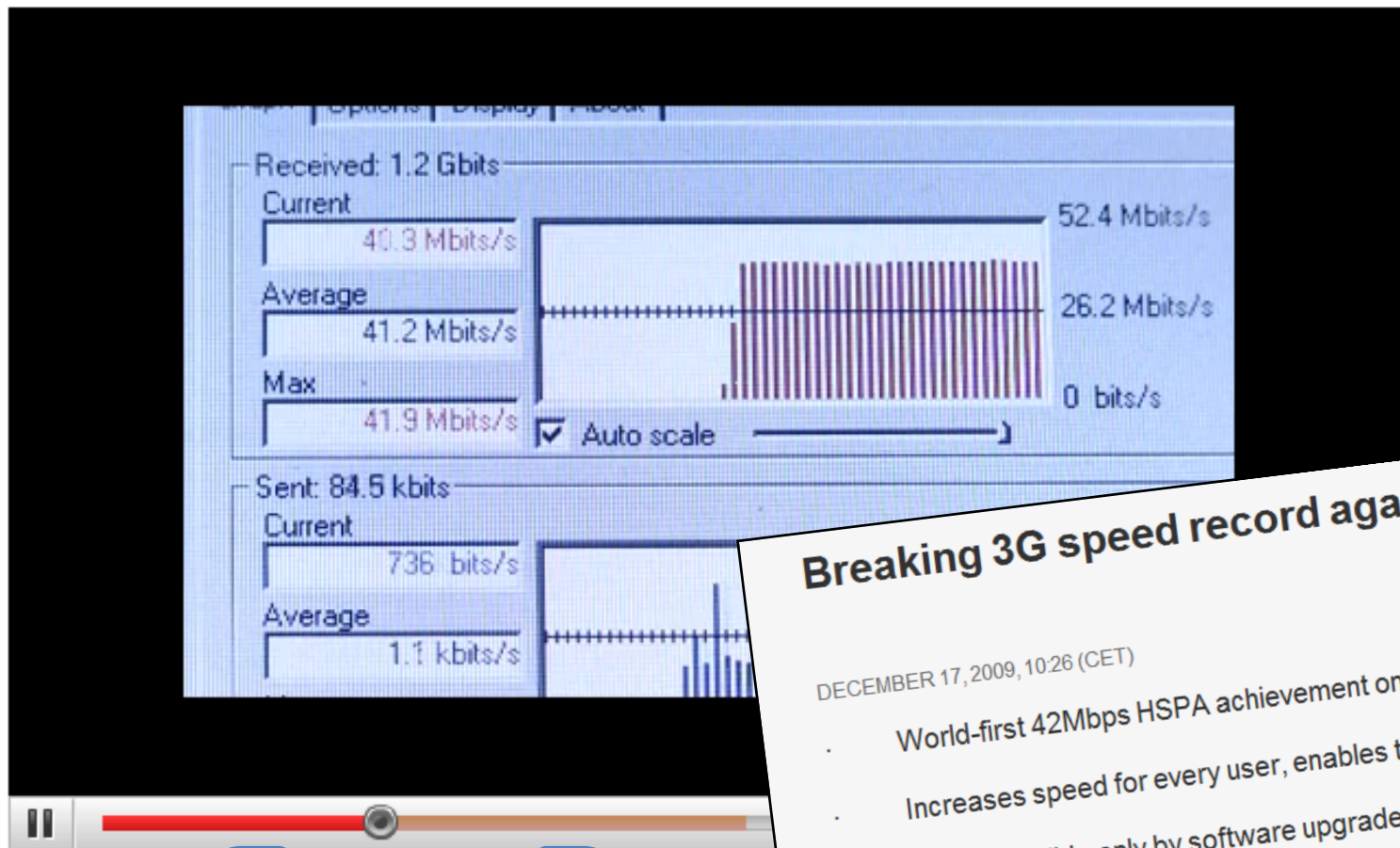
MIMO:	8.2 Mbps
64QAM:	7.2 Mbps
HSPA7.2:	6.0 Mbps

[MIMO, legacy HSPA devices & voice on same carrier]

Breaking HSPA speed record

16 December 2009

HSPA breaks speed record



42
Mbps

Breaking 3G speed record again

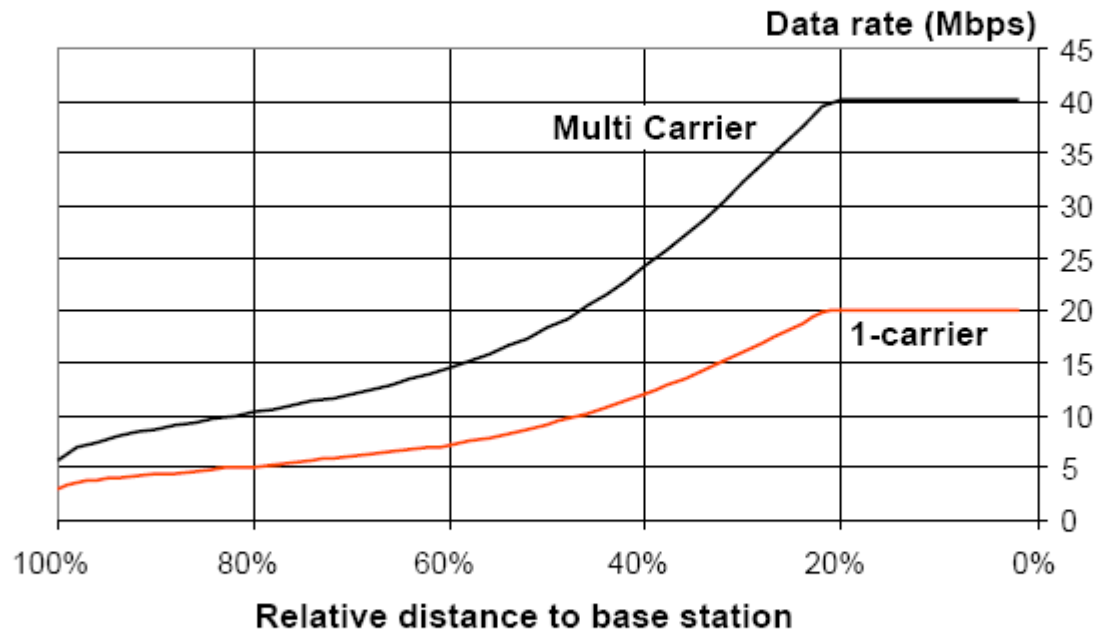
DECEMBER 17, 2009, 10:26 (CET)

- World-first 42Mbps HSPA achievement on commercial products
- Increases speed for every user, enables true "instant access"
- Made possible only by software upgrade

Live at MWC

Multi Carrier performance

42
Mbps

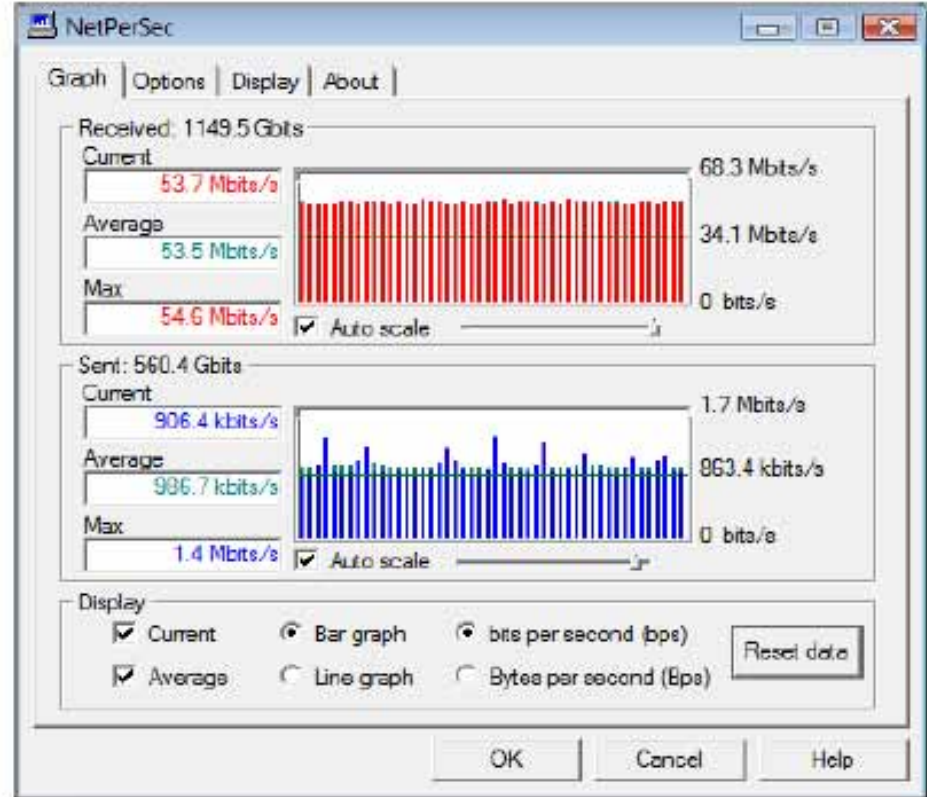


Simulation result

Higher speed throughout cell area

Multicarrier HSPA with MIMO

56 Mbps



84 Mbps already here



Live at MWC
First contract announced

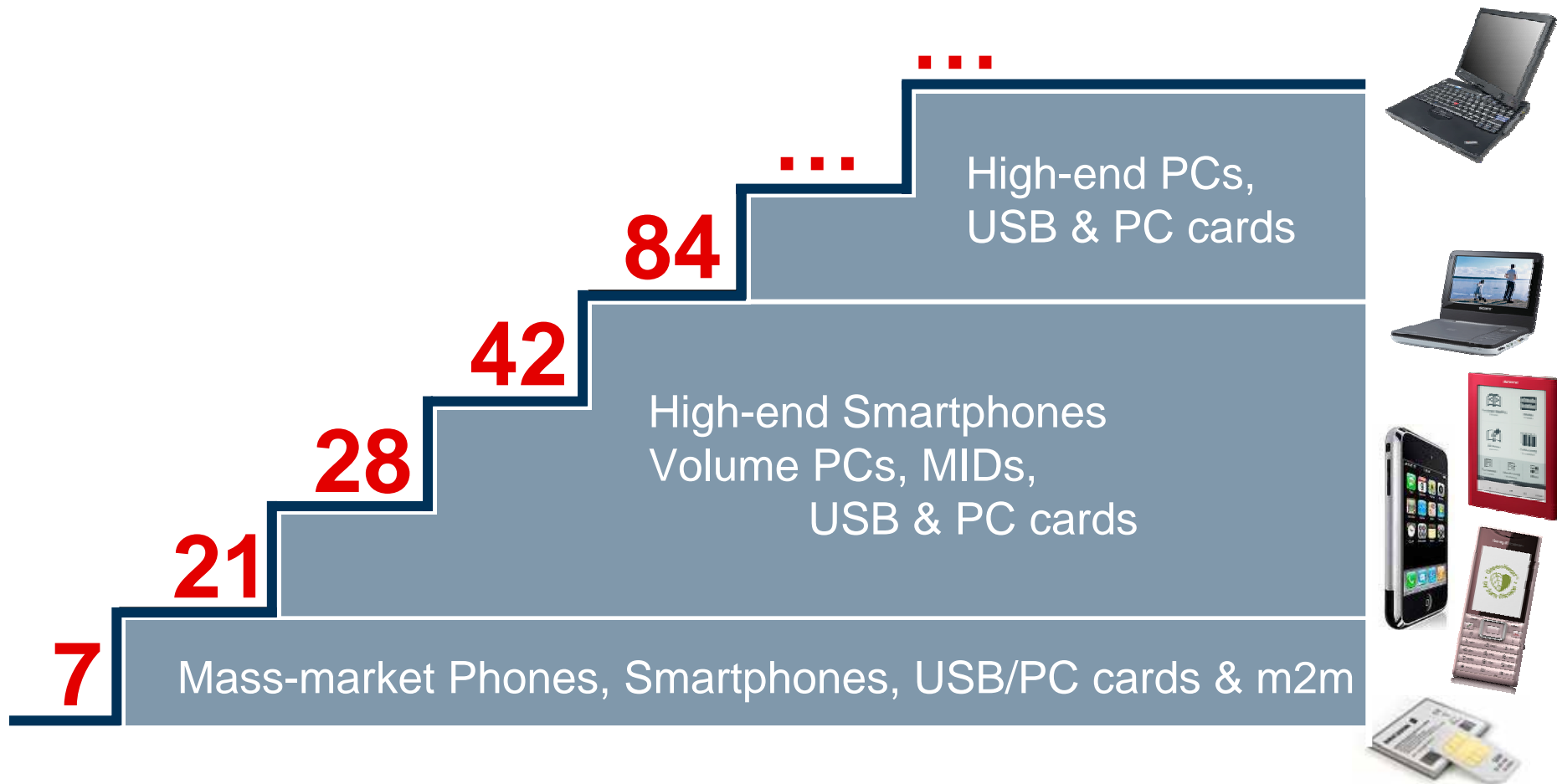
World's first with 84Mbps

FEBRUARY 5, 2010, 11:53 (CET)

- New world record of 84Mbps HSPA technology
- To be showcased at Mobile World Congress in Barcelona February 15-18
- Operator 3 Scandinavia first to choose 84Mbps HSPA

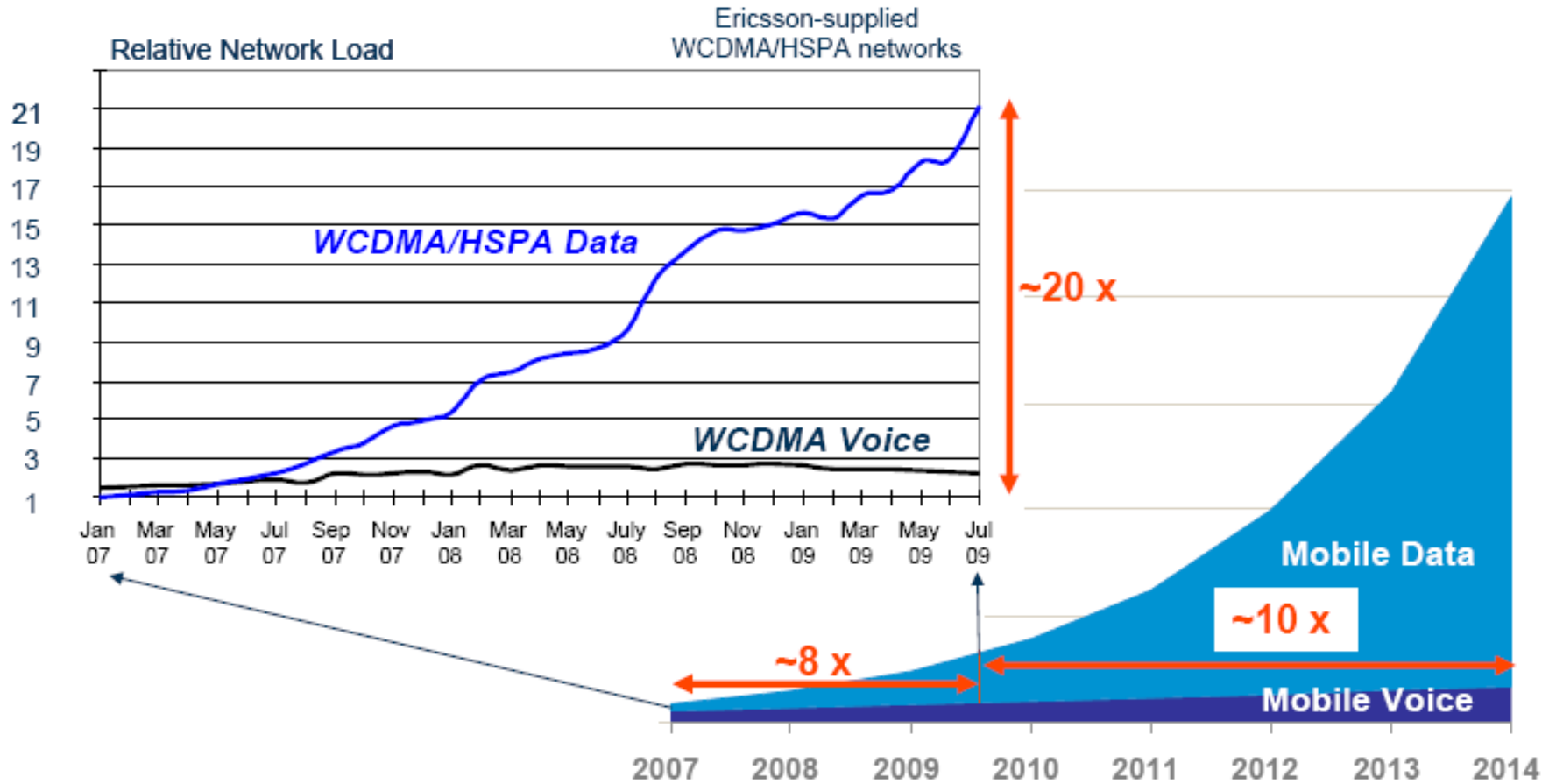
...th of data traffic in mobile networks continues, driven by
...ther devices. Wireless access to data servi

All segments in one network



Voice & data, high to low-end – all in one network

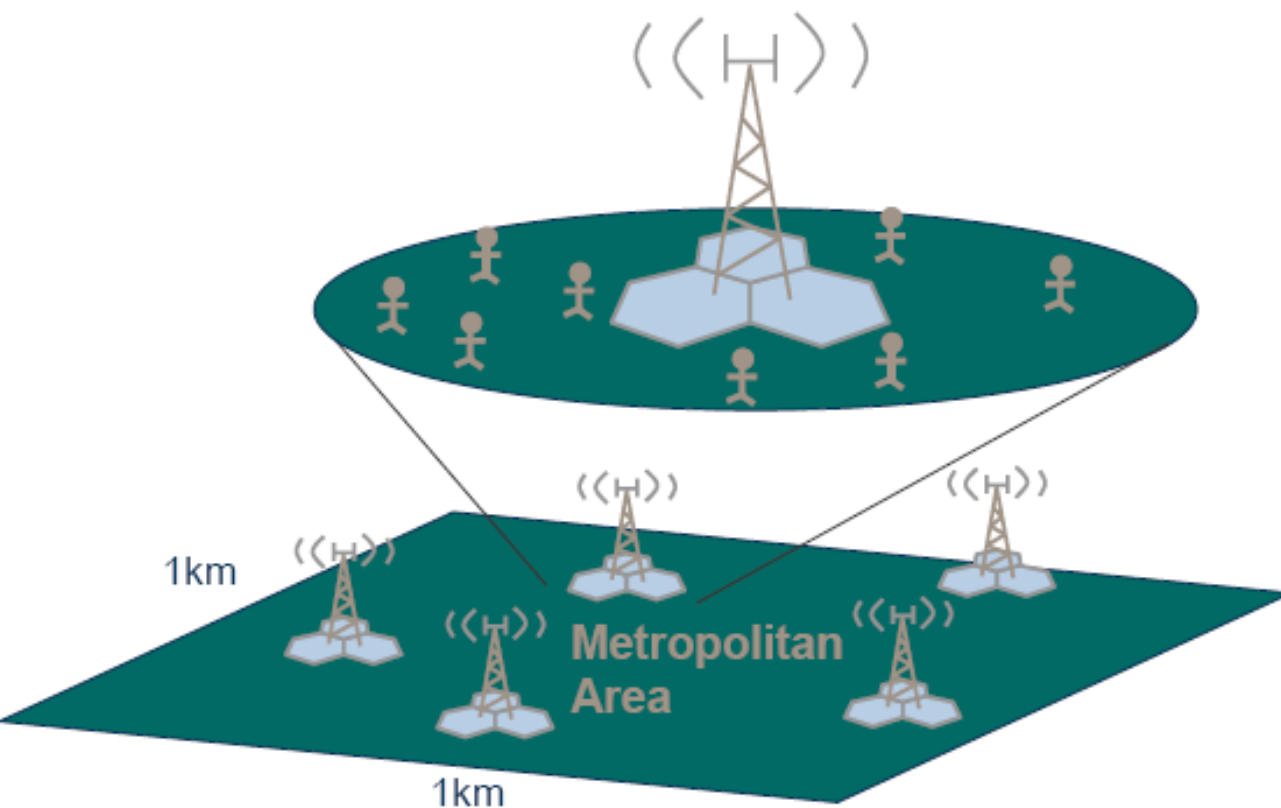
Mobile Traffic Growth HSPA is the engine



Source: Ericsson

HSPA growth outpaces mobile data traffic growth

Mass Market Broadband with HSPA



Metropolitan city

- 5000 inhabitants / km²
- 3 mobile operators
- Each operator: 5 sites/km²

Site capacity per operator

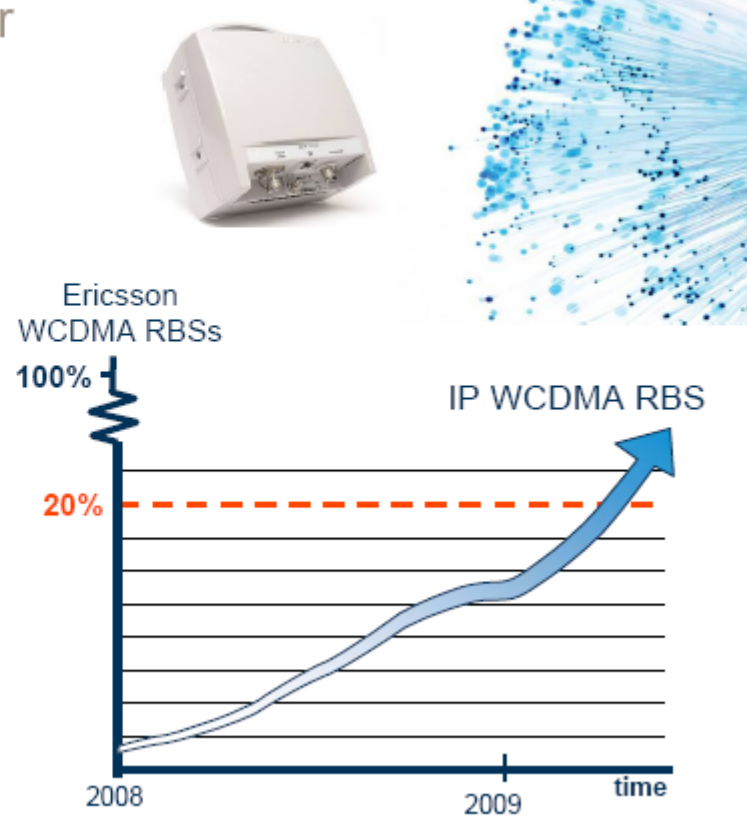
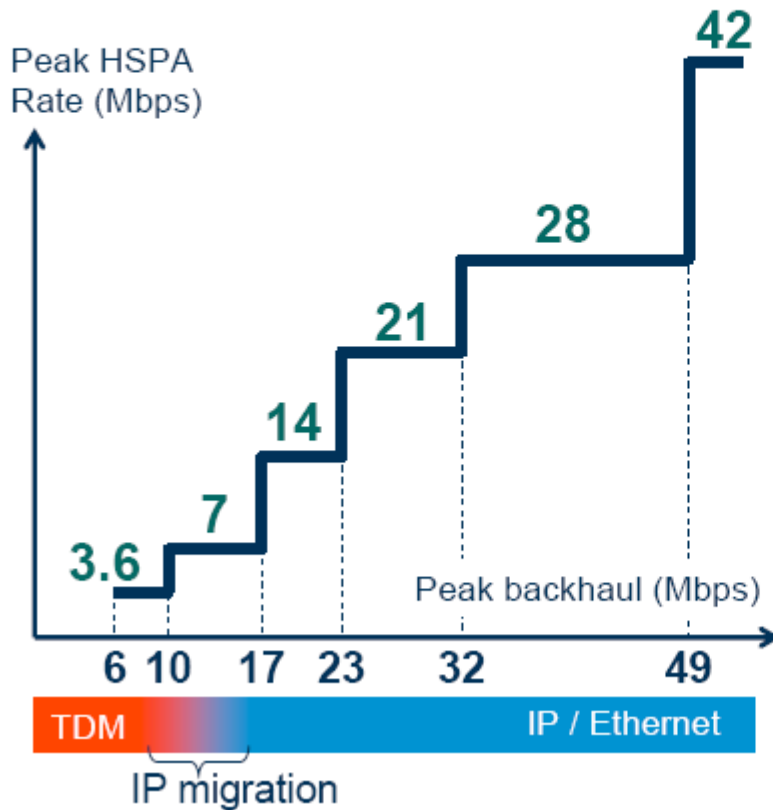
- 333 GB / day
- 3 sectors x 3 carriers
- 7 Mbps / sector-carrier
(~1.5 bps/Hz spectral efficiency)
- 12 hours / day

Every site shared by 3 operators

Each inhabitant can consume 1 GB per DAY

RAN backhaul

Move to Ethernet microwave and fiber



Source: Ericsson





Thanks!

Jesper Rhode
Ericsson Brazil