



Matthias Eder

Nokia Siemens Networks

Education

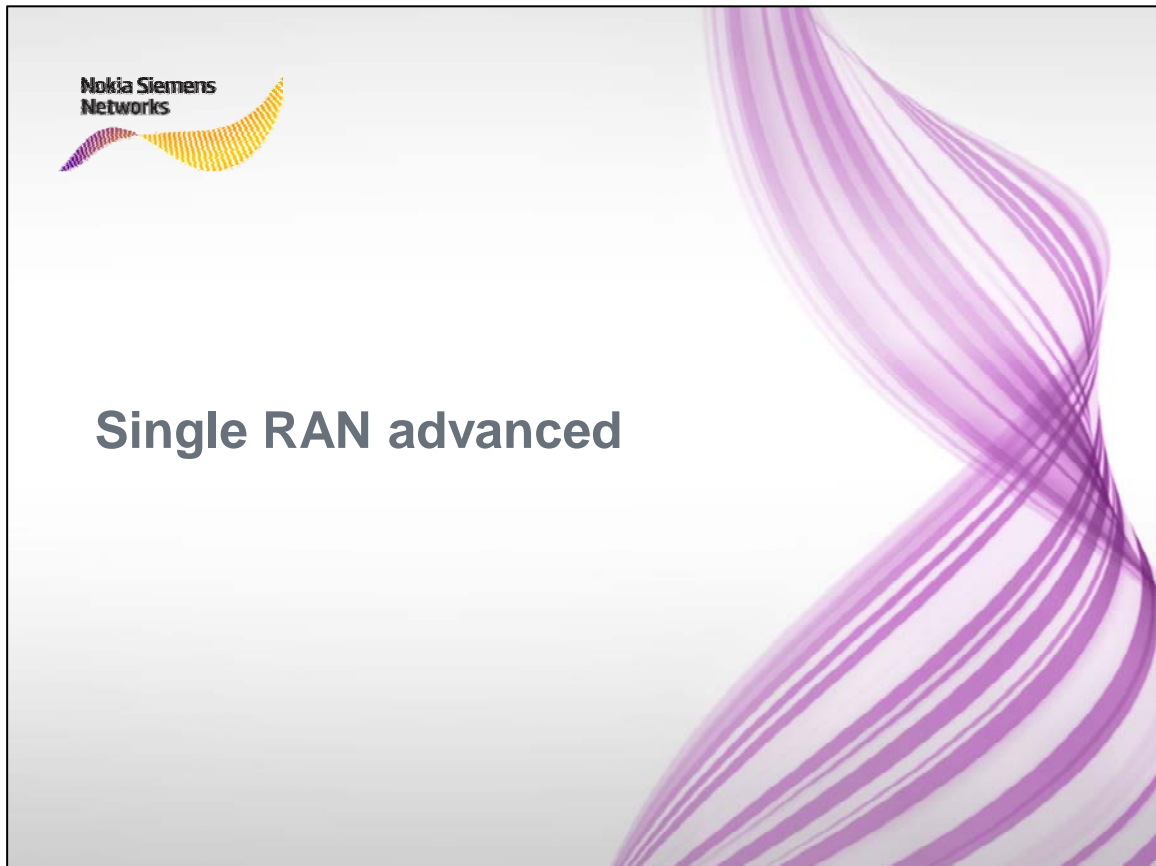
1992 – 1996: Fachschule für Elektronik 1100 Wien Ettenreichgasse

Professional career

01. 2011 – today: Nokia Siemens Networks Radio Access Sales Engagement Manager – Radio Access. Solution Engagement Manager; Swisscom
02. 2010 – 12.2010: Nokia Siemens Networks Radio Access Sales Engagement Manager – Radio Access Solution Engagement Manager; Radio Access mobilkom austria group/ Telekom Austria group.
09. 2009 – 02.2010: Nokia Siemens Networks Radio Access Sales Engagement Manager – Radio Access. Solution Engagement Manager; Radio Access, customer VIVACOM (Bulgaria).
06. 2007 – 09.2009: Nokia Siemens Networks Radio Access Sales Solution Manager - Business Development BWA. Solution Sales Manager; Radio Access Products WIMAX, Flash OFDM and LTE in West South Europe.
- 12.1999 – 06.2007: Siemens Communications
- Technical consultant CEE; IP and Transport Products. Microwave(PDH, SDH), optical SDH equipment, copper PDH equipment (FMX), Point to multipoint microwave equipment, WIMAX (16d/e)



Referat Matthias Eder (Nokia Siemens Networks): Single RAN advanced



Agenda

- Industry Trends and why single RAN
- Single RAN advanced
- Single RAN evolution outlook 2020

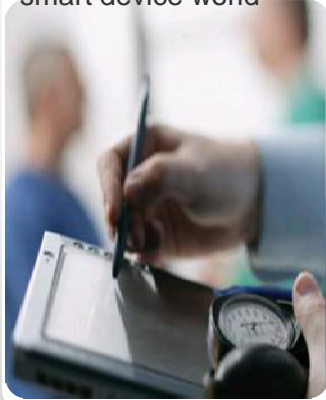
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Key Industry Trends

Customer experience in a smart device world



Video, video, video

CAPEX & OPEX bubble indigestion

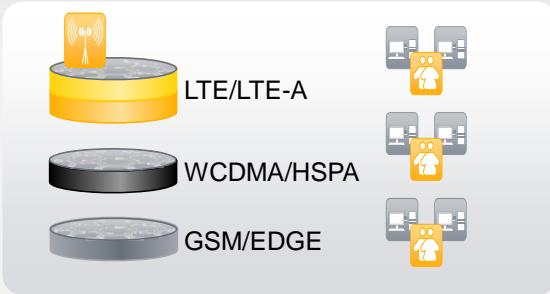


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Why do you need Single RAN Advanced?

Current model

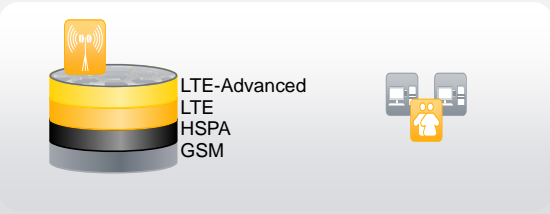
- High costs
- Difficult to manage
- Hard to maintain
- Complexity increasing over time



LTE/LTE-A
WCDMA/HSPA
GSM/EDGE

Network cost optimization increases profit


Single RAN makes it simpler – All 3GPP technologies in one single module



LTE-Advanced
LTE
HSPA
GSM

One efficient, simple and adaptive network


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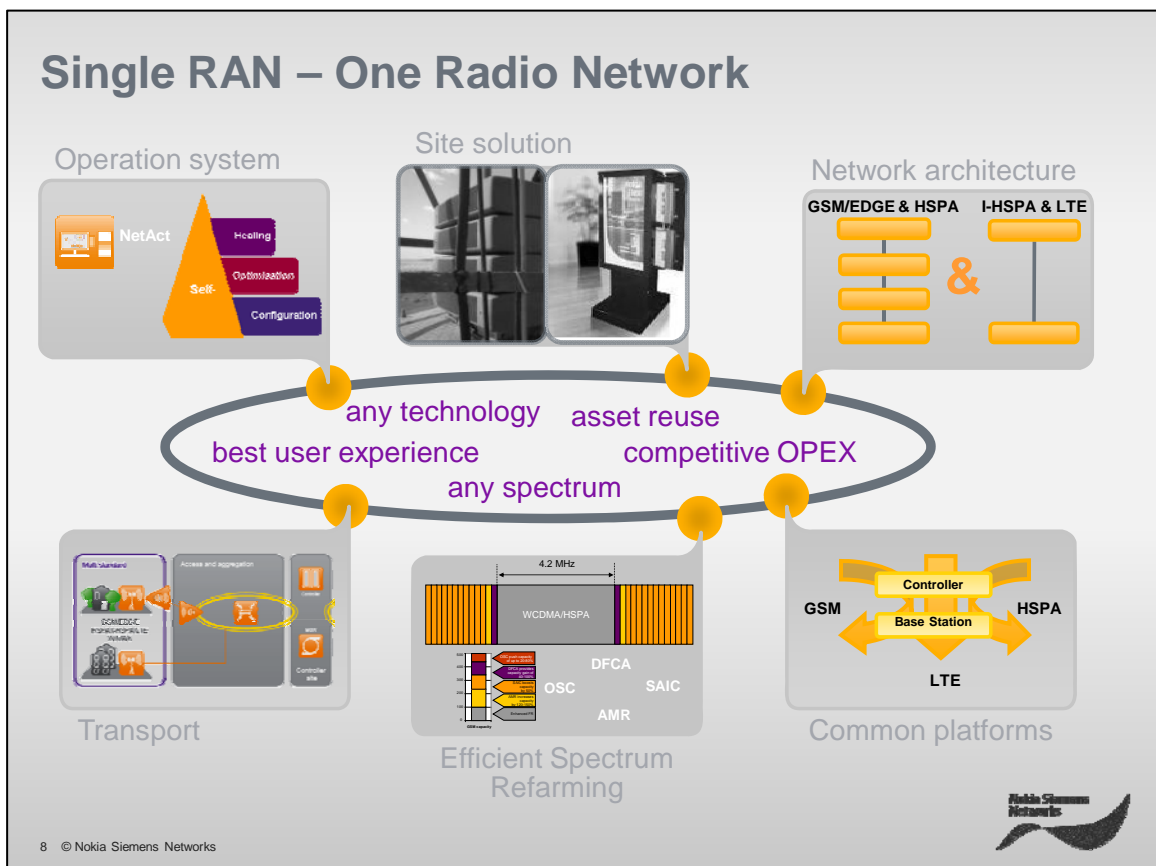
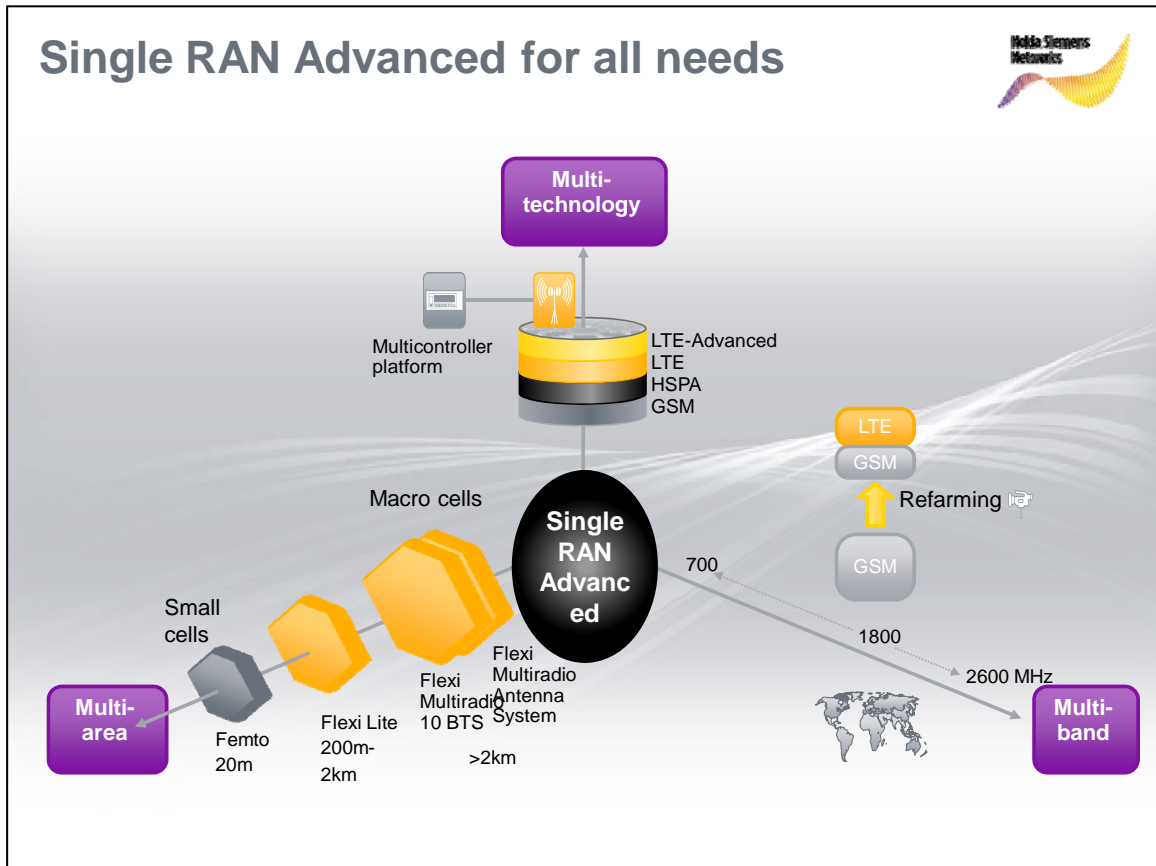
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- Industry Trends and why single RAN
- **Single RAN advanced**
- Single RAN evolution outlook 2020

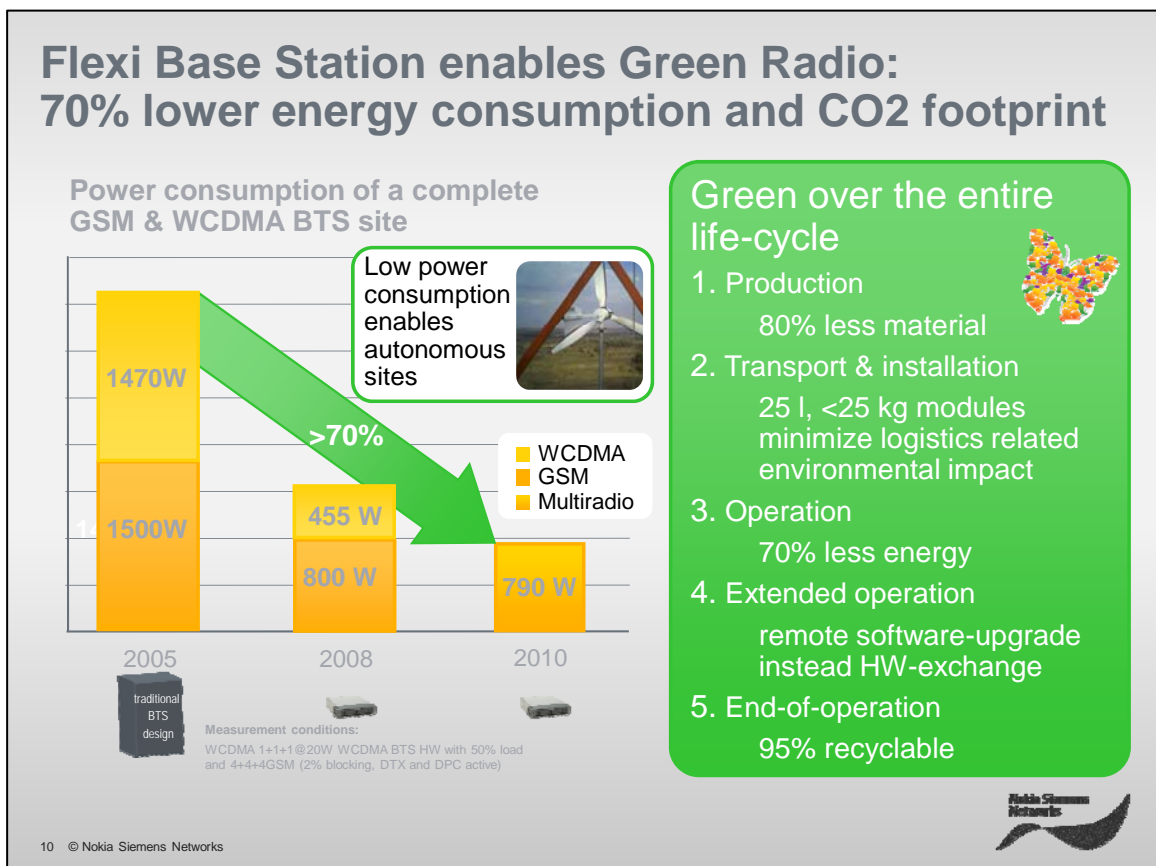
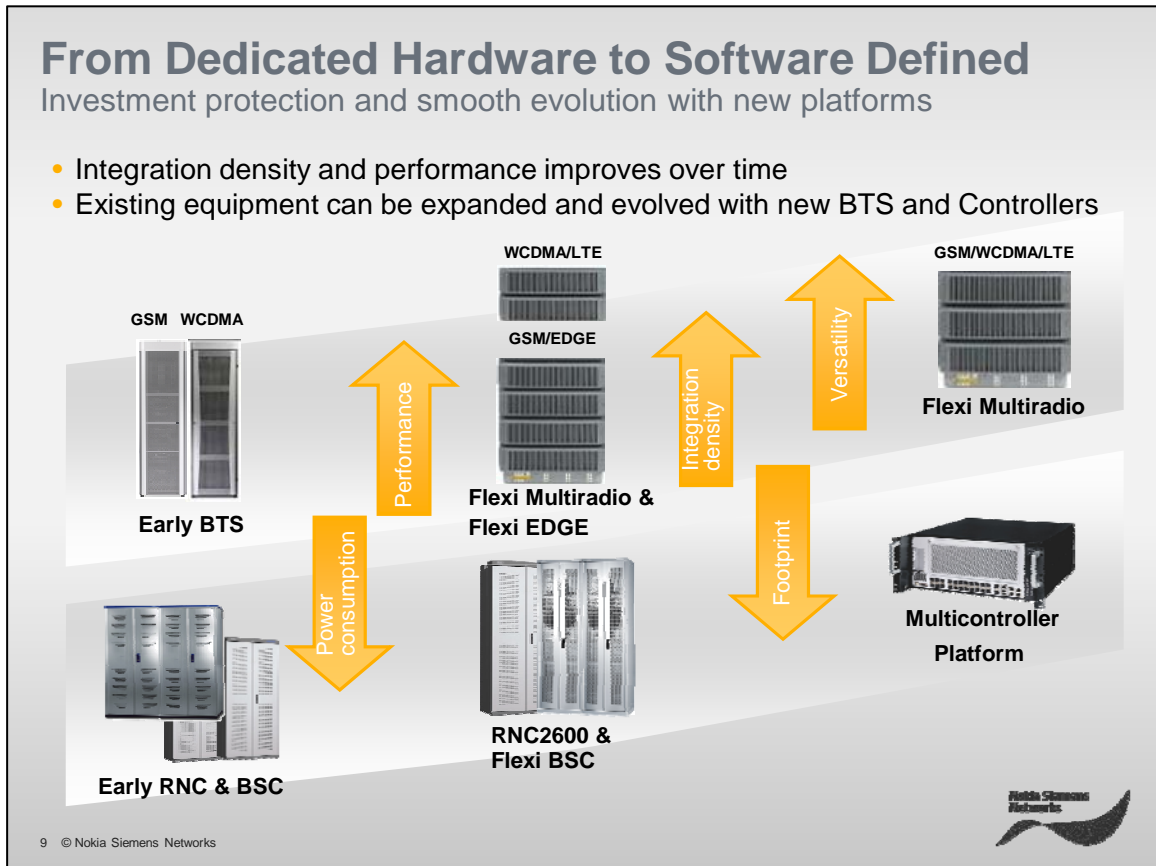
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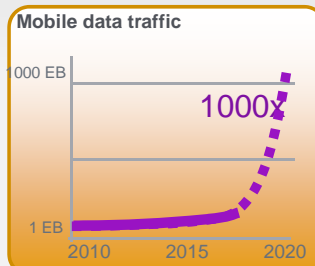
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What will the world want from wireless by 2020?

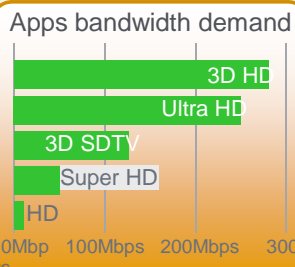
Support up to 1000 times more traffic



Rock solid, ubiquitous connectivity



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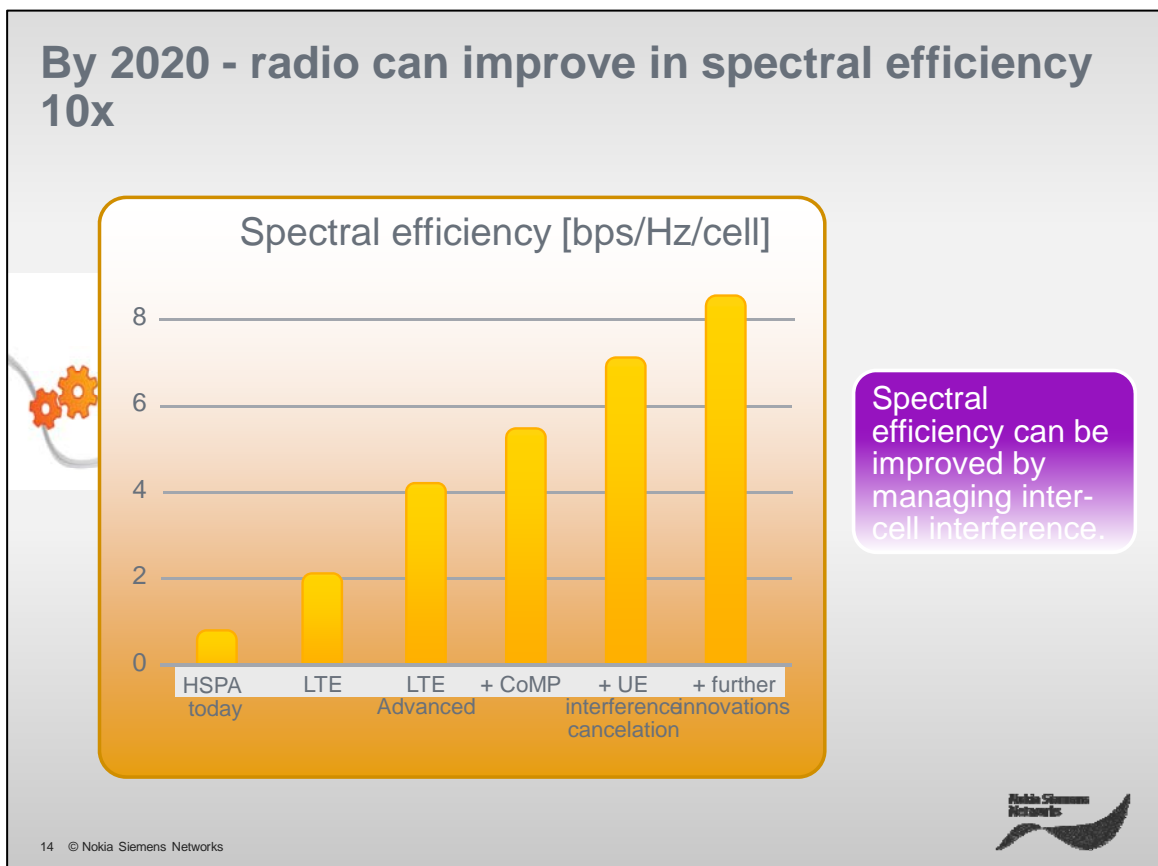
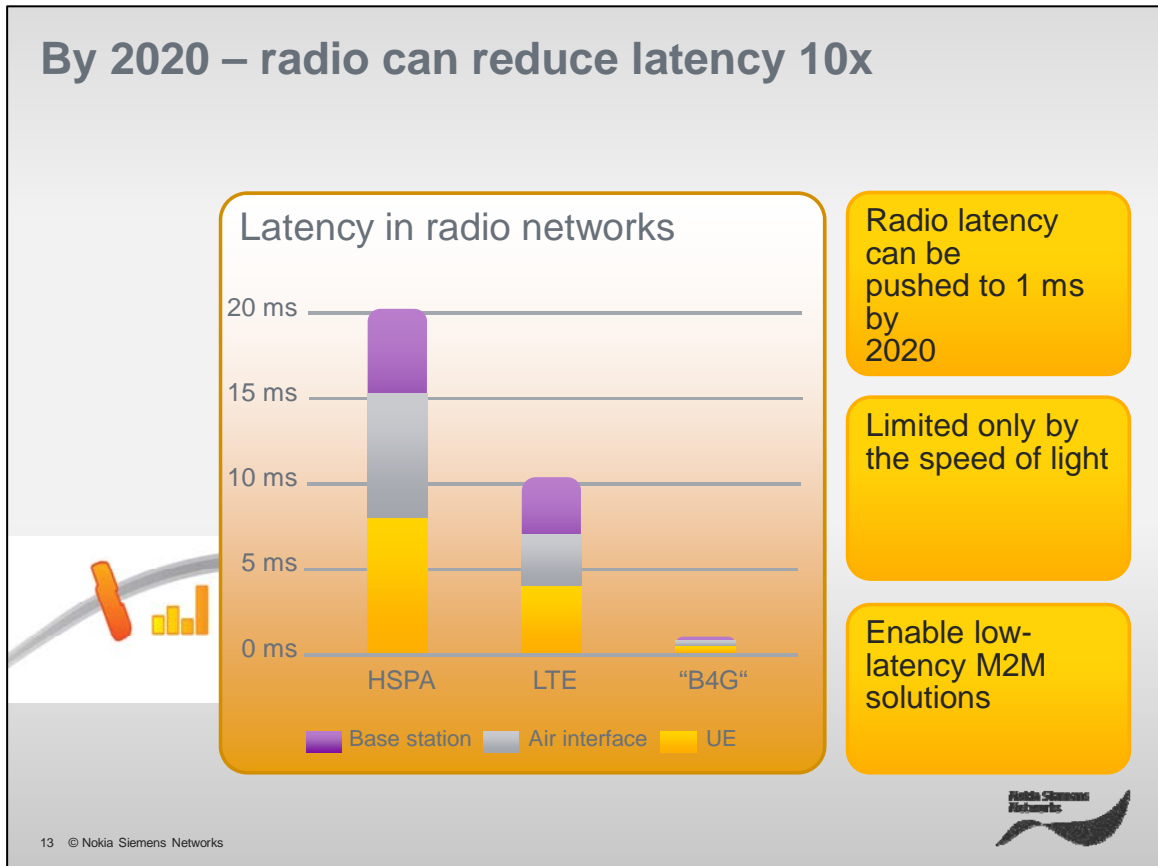


Gbps peak speeds



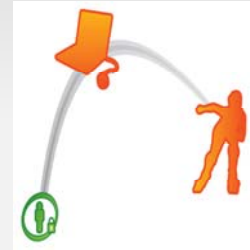
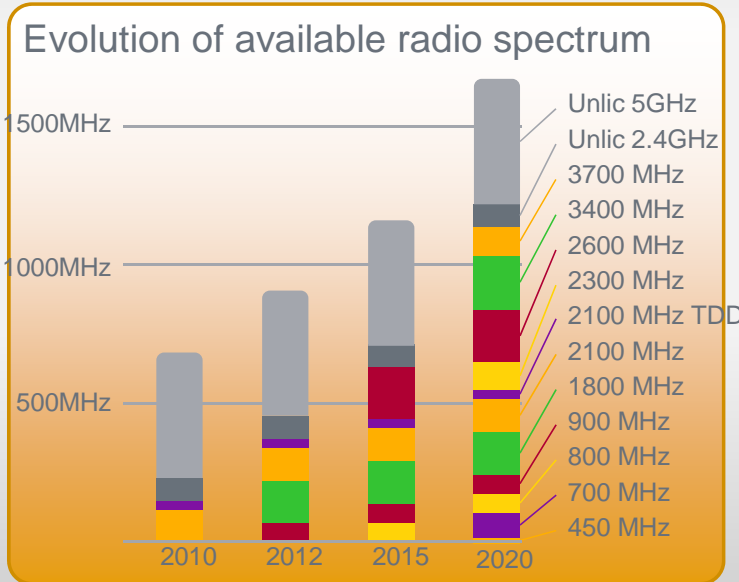
Millisecond latency for true "local feel"

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By 2020 - there can be 10x more spectrum available



10 times more spectrum can be made available if we drive for it.

Cognitive radio enables optimized spectrum usage over multiple operators

How about the “old” radio technologies in 2020

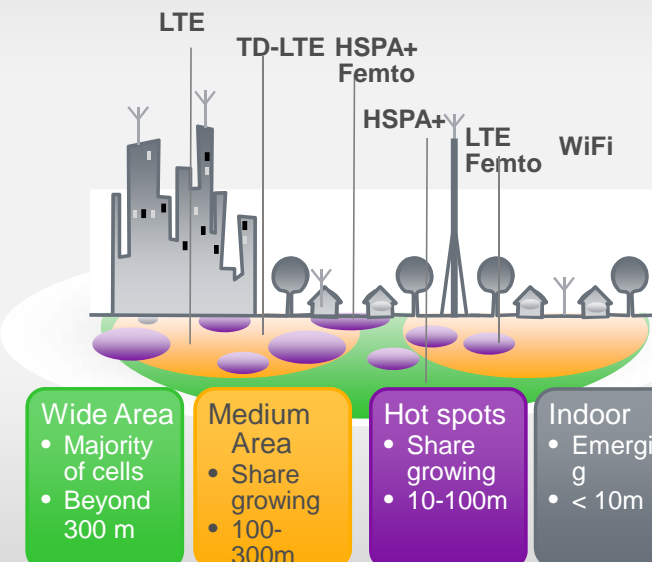
GSM will still be around driven e.g. by installed M2M base and billions of legacy devices

HSPA and LTE networks will deliver the ubiquitous mobile broadband experience.



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Heterogeneous Networks – more cells, technologies, bands



LTE networks will coexist in parallel with existing 2G & 3G networks for many more years

Multi-radio traffic and interference mgmt. are needed to manage the traffic growth

Smaller cells will enable offload of local high capacity traffic from wide area network

The myriad of cells and layers requires smart optimization and network mgmt. solutions

Wide Area

- Majority of cells
- Beyond 300 m

Medium Area

- Share growing
- 100-300m

Hot spots

- Share growing
- 10-100m

Indoor

- Emerging
- < 10m

Heterogeneous Networks cannot be handled in the traditional way

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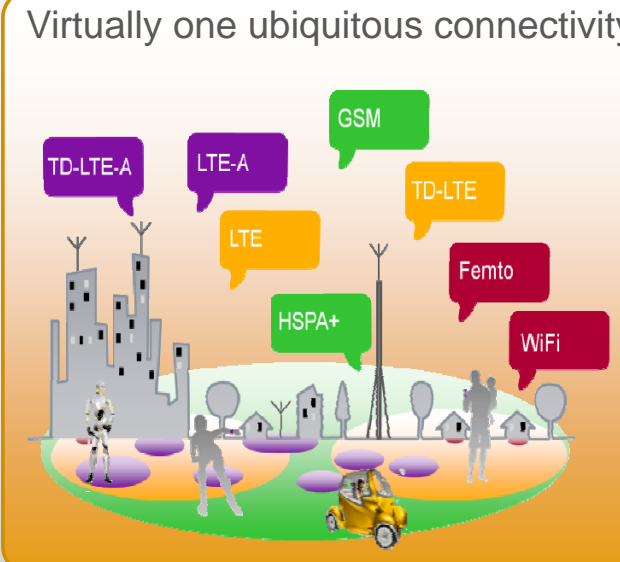
How can we deploy, commission and maintain all the radio technologies, frequency bands and layers?

All cells and frequency layers automatically managed by advanced SON

All spectrum under unified resource management for instant capacity and coverage optimization

Cognitive networks will reduce errors, improve quality and lower operation and energy costs

Virtually one ubiquitous connectivity




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Gigabit Experience Reliable, Efficient and Personal



- Ubiquitous Connectivity
- Cognitive Networks
- Unified Radio Resource Management
- Liquid Radio
- Wideband Multiradio
- Active Antennas
- Self Organized Networks
- Heterogenous Networks
- Multi-Standard
- Multi-Carrier

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Thank You

