

Wireless Broadband: Does one size fit all?

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A tale of two industries

**Mobile Broadband
2010s**

**Mobile Multimedia
2000s**

**Digital cellular & Fixed
Internet, 1990s**

**Personal computer
1980-90s**

**Analog Cellular
1980s**

**Transistors
1960-1970s**

Evolution of Mobile Services

Messaging



Basic text messaging



Multimedia messaging with pictures and audio



Multimedia messaging with video

Corporate access



Dial-up connections




Always-on, performance and security enhancements



Accelerated connections, voice and data multitasking

Browsing



Black and white screens, simple graphics




Instant connectivity, colour screen, WAP Push




xHTML for WAP and web integration, animated content


Downloading



Ringling tones, icons, screensavers, business cards

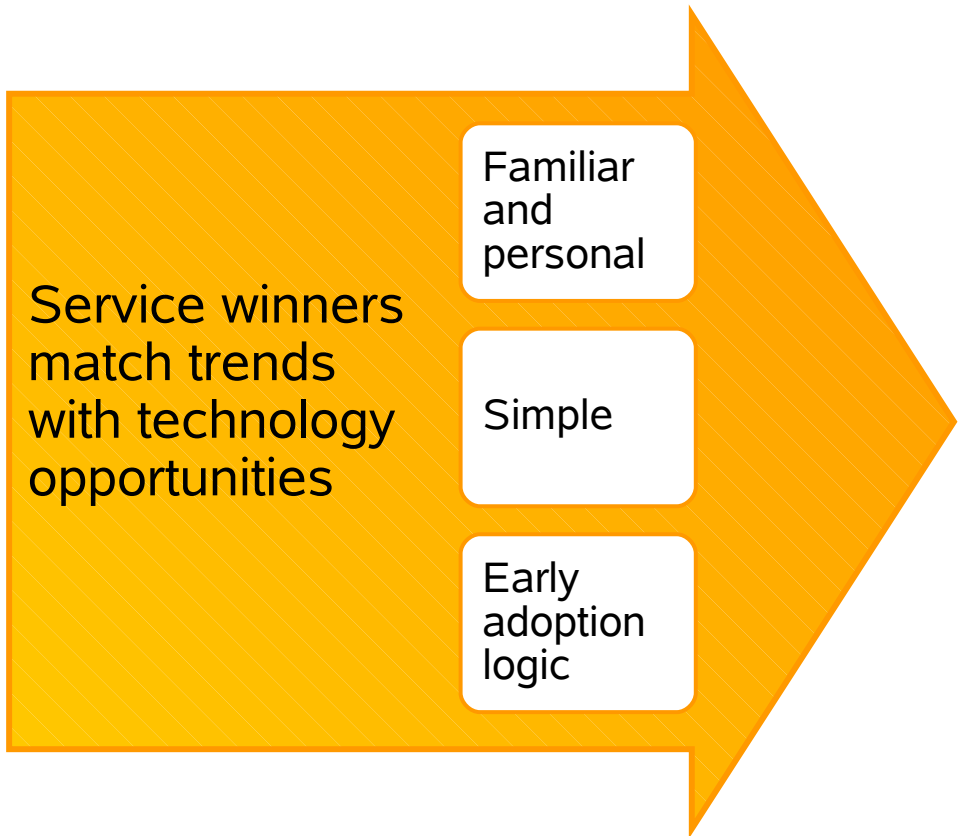


Downloadable applications, MIDI sounds



Video content (MMS, streaming)

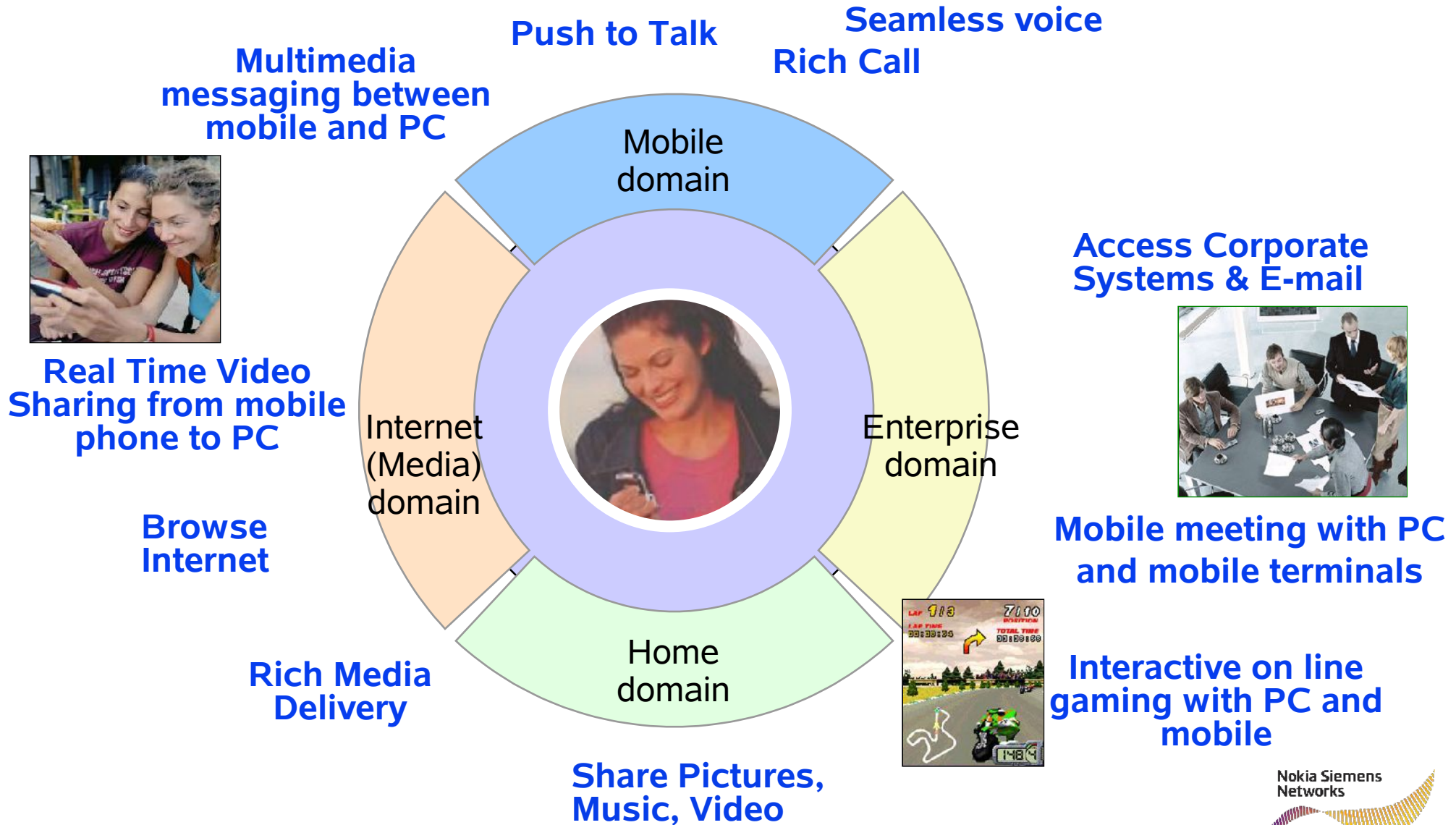
Internet goes mobile



Happy end users



Converging digital world opens new business opportunities



Mobile minutes of use exceeded fixed minutes in 2005

Global figures represent 75 countries

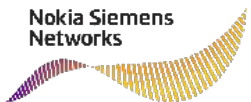
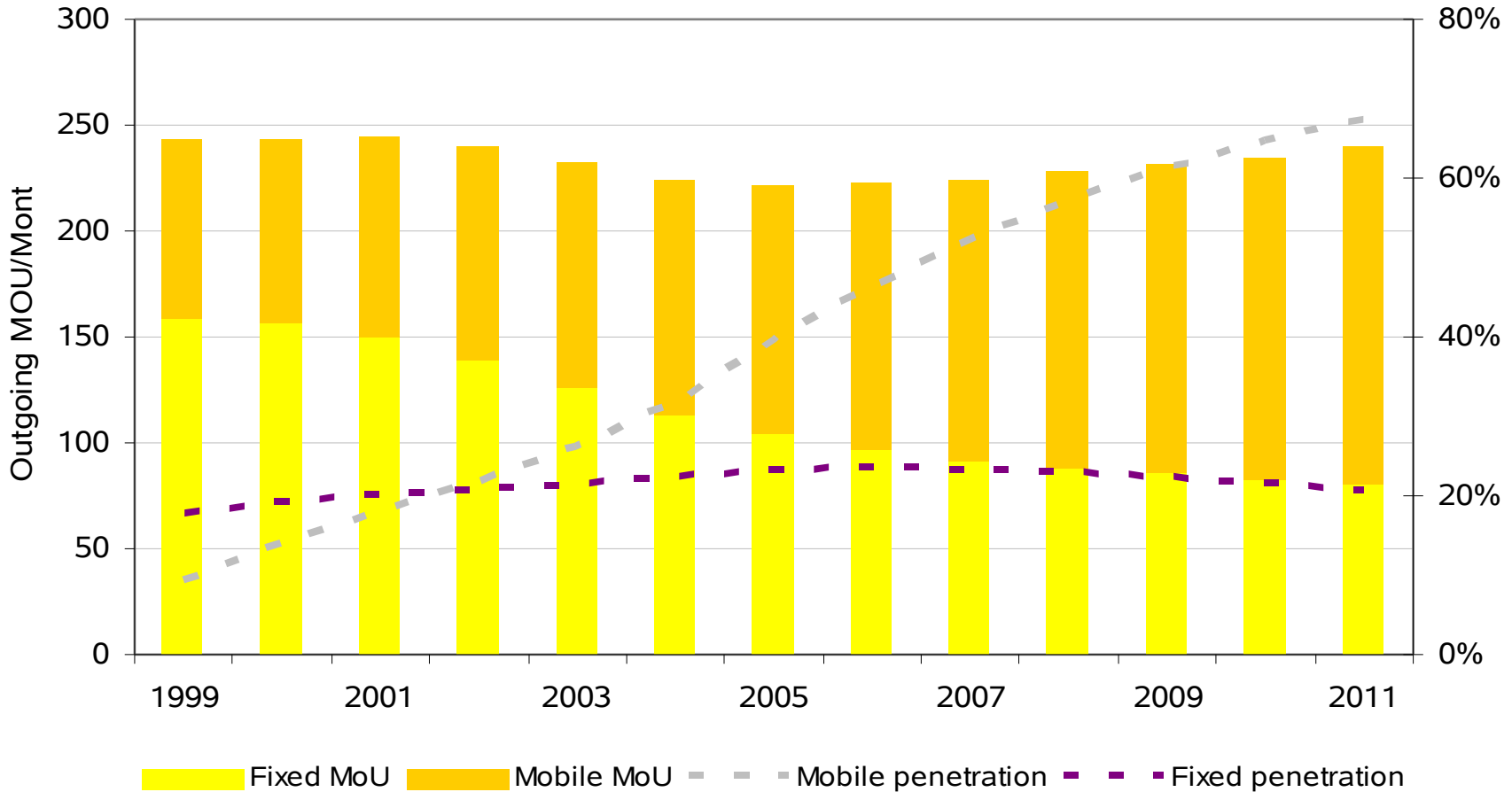
Total MOU stable

Fixed-to-mobile substitution

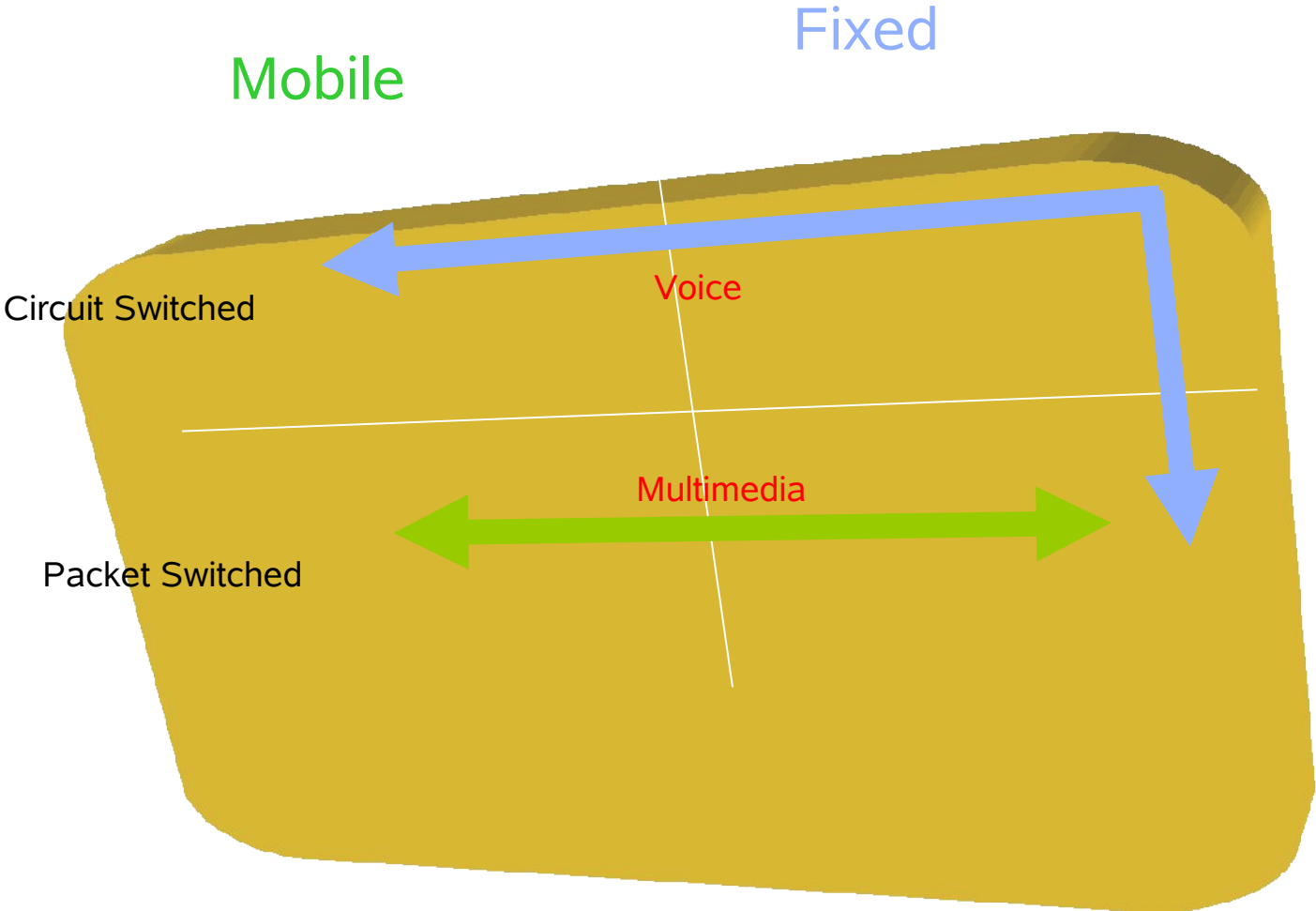
Global

Mobile MOU = Mobile minutes/subscriptions

*Fixed MOU = Fixed line minutes/(subscriptions * average number of people per household)*



Convergence, open battlefield



Operator: Does one size fit all?

- **Volume** of services

Different market uptakes

Enormous price elasticity

- **Complexity** of services

- Complexity of the **value chain**

Content providers

Application service providers

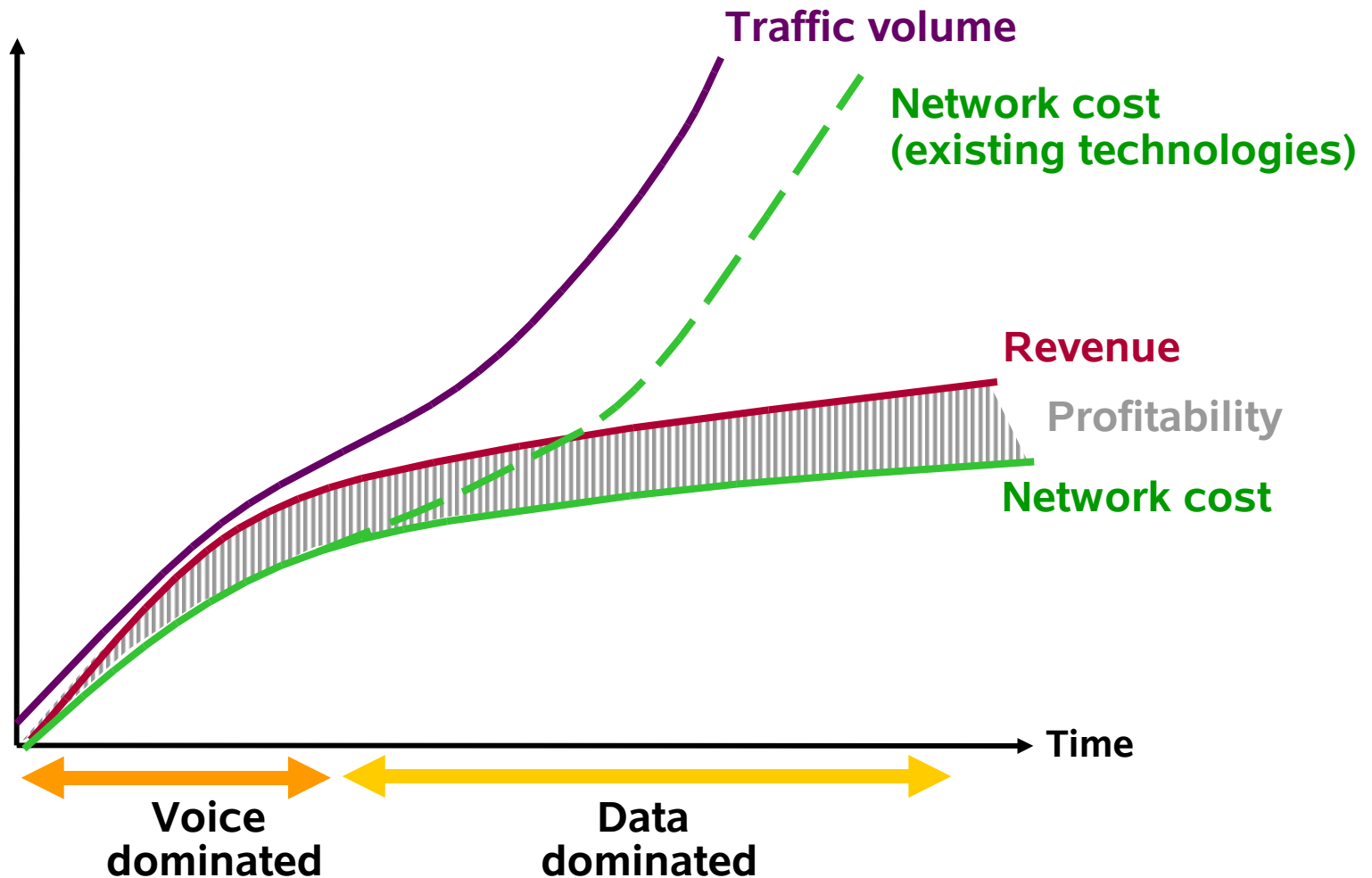
Access providers

Corporate access

- Different **business models** for different services



Traffic increase requires low cost/bit technologies



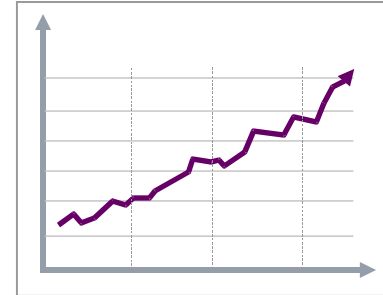
Price per MByte has to be reduced to remain profitable

Telecommunication Trends



All IP

- I&C industry observes a growing trend towards an all-IP architecture



Wireless Data

- Operators observe increase in wireless data usage



Device Capabilities

- Ever increasing device capabilities are moving away from network capabilities



Services / Applications

- Services and Applications are moving towards the network/internet



Spectrum

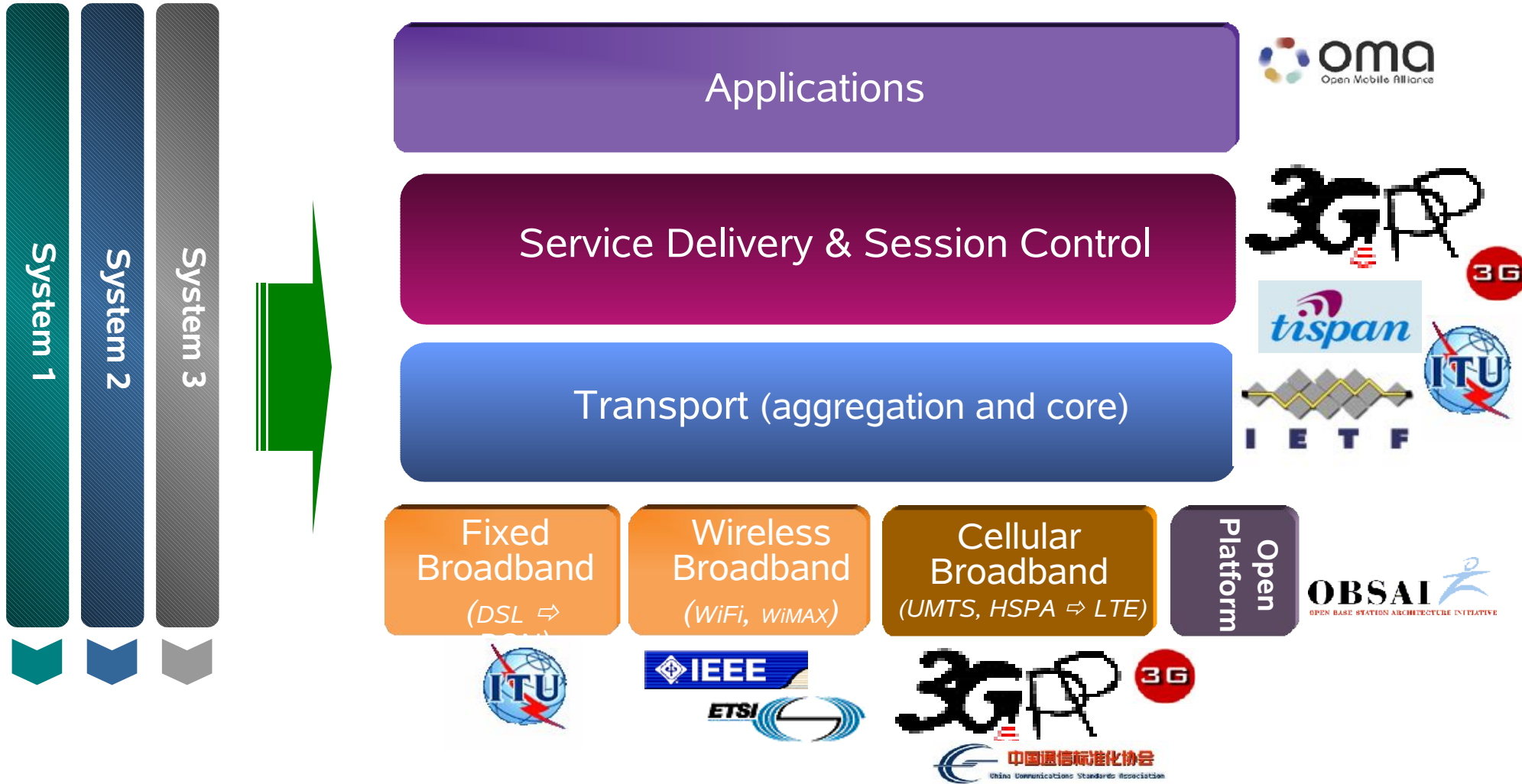
- Wireless industry faces spectrum liberalization



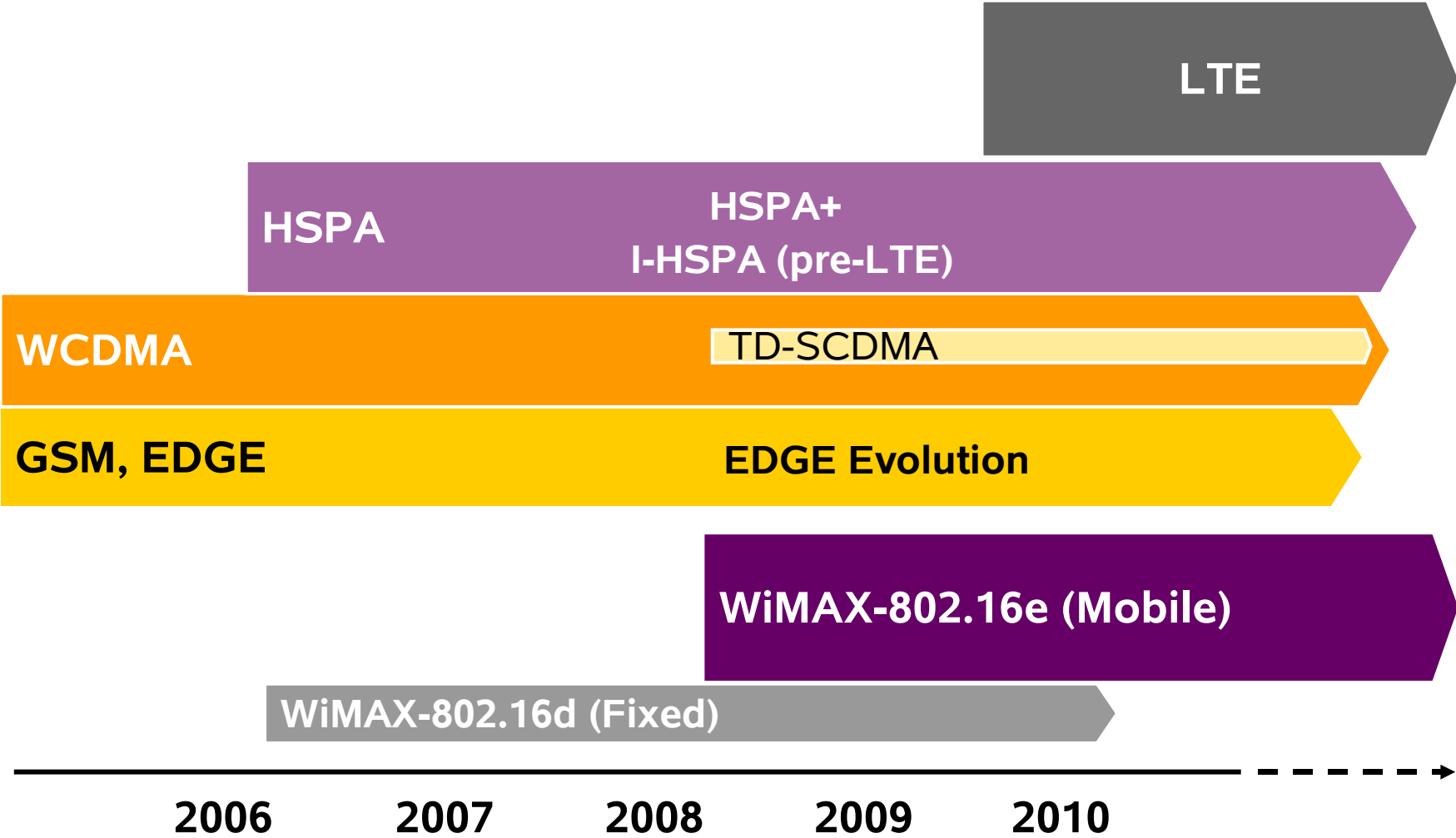
Flat Rates

- Subscribers go for predictable communication costs

Future Networks



Radio Evolution



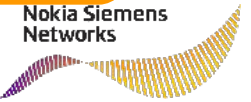
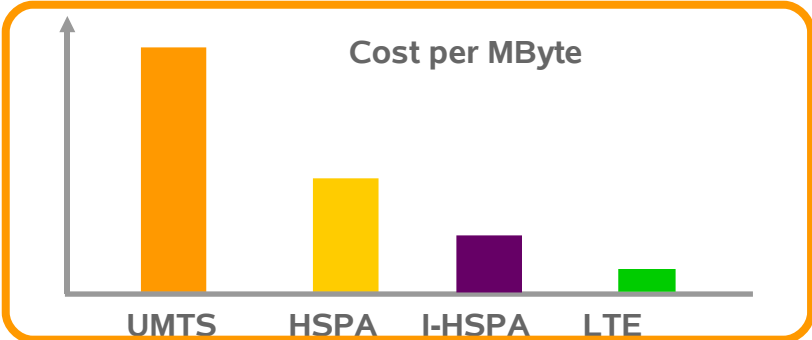
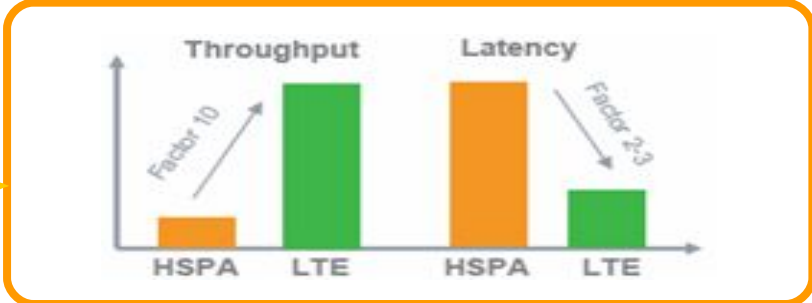
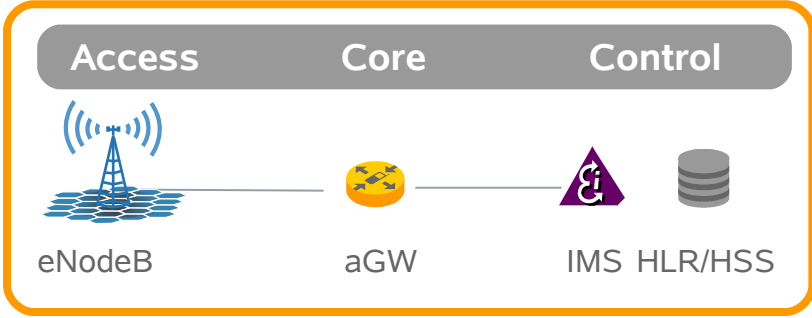
LTE / SAE: fulfill the requirements of a next generation mobile network

LTE/SAE

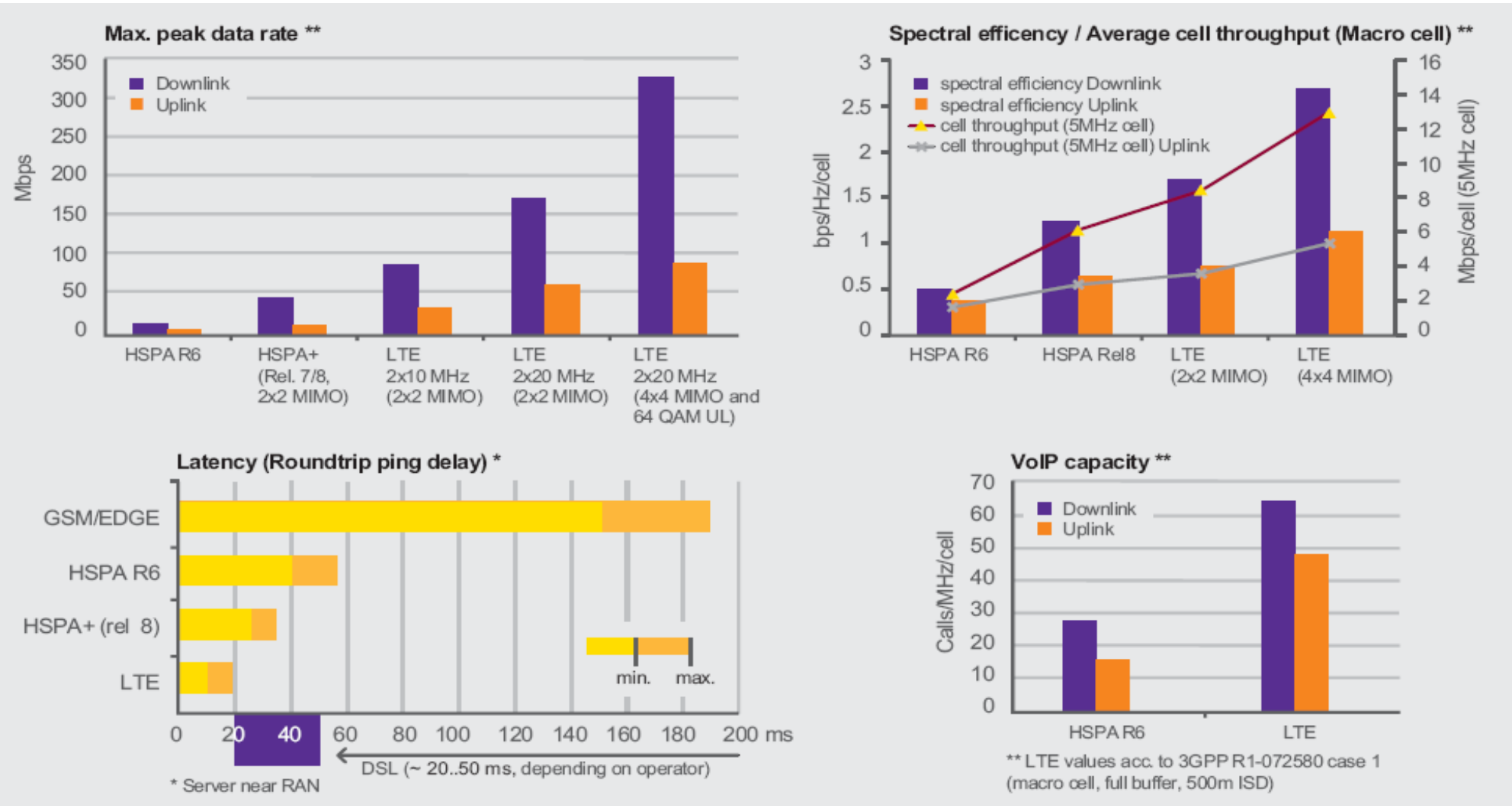
IP based flat architecture

Performance enhancement

Cost reduction



The Enhancement of The Performance



Ready for multiradio

- NSN Flexi BTS modules for GSM/EDGE, WCDMA/HSPA and **LTE**

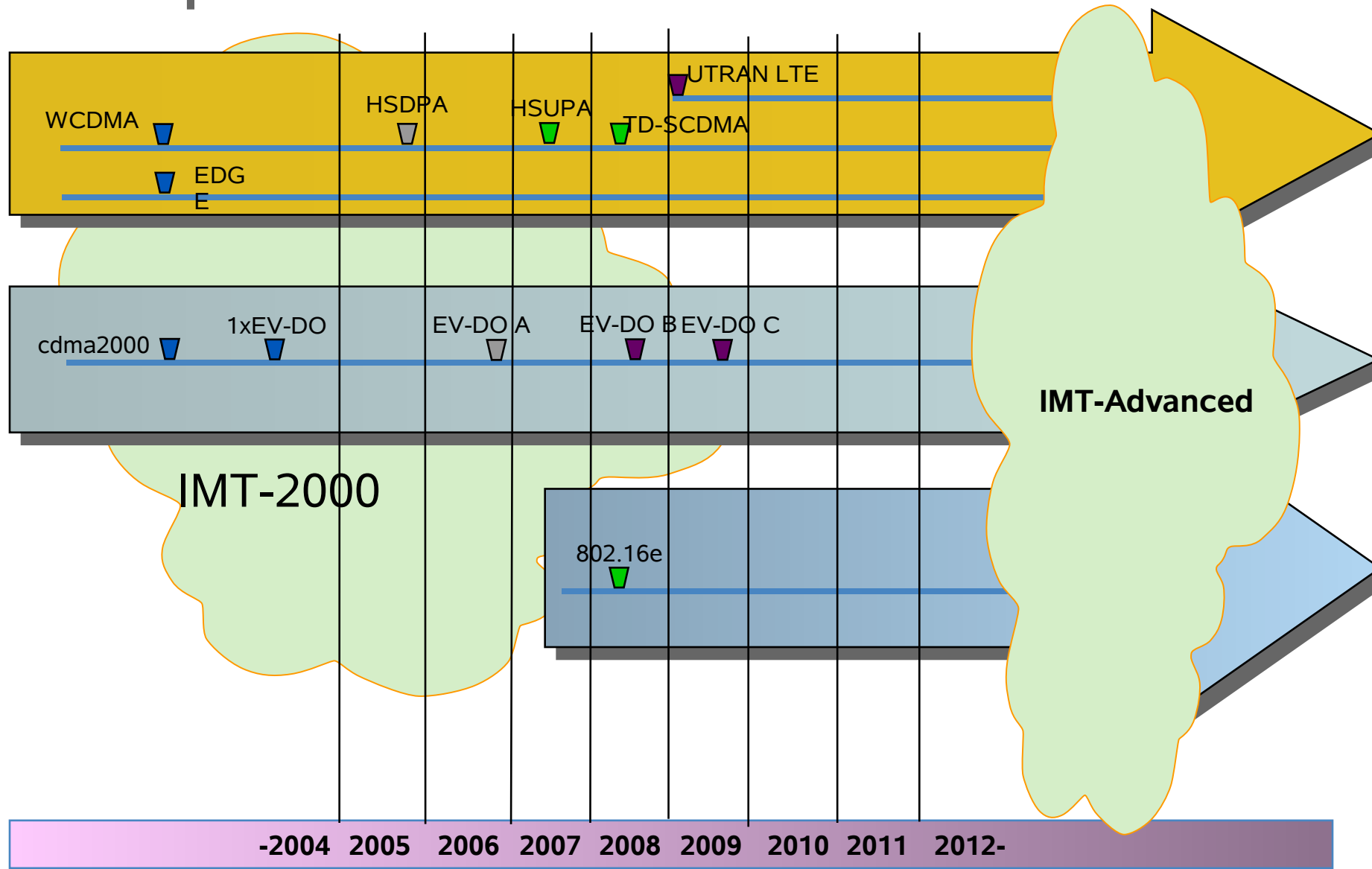


- Easy building of efficient and flexible multiradio sites
- Same site acquisition and construction principles – synergies in network rollout and maintenance
- Standardized interfaces between modules

With Flexi BTS you can efficiently build multiradio sites



Evolution paths to IMT-Advanced

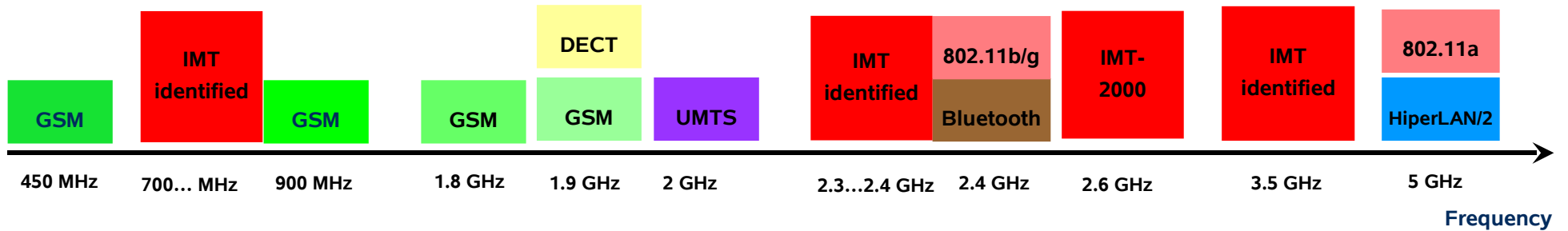


■ = Commercial ■ = Possible commercial launch

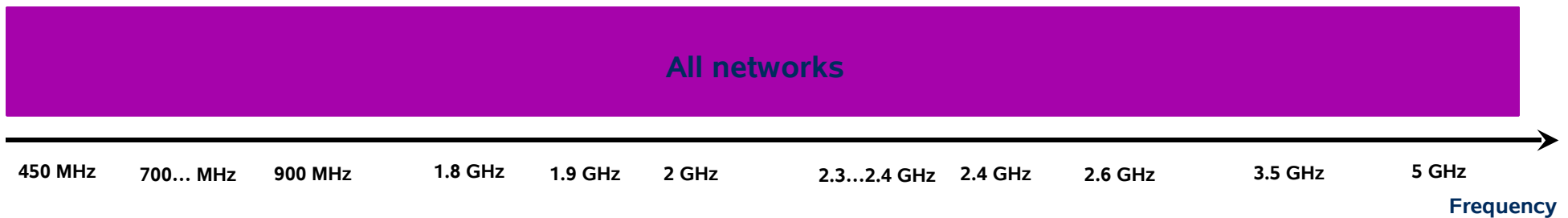


Spectrum

Current spectrum - RAT (Radio Access Technology) allocation:



Reconfigurable devices allow more flexibility in spectrum allocation for available RATs:



Our market vision of 2015 – the World connected

Applications predominantly in Internet

5 Bn people connected

Broadband Everywhere

Thanks