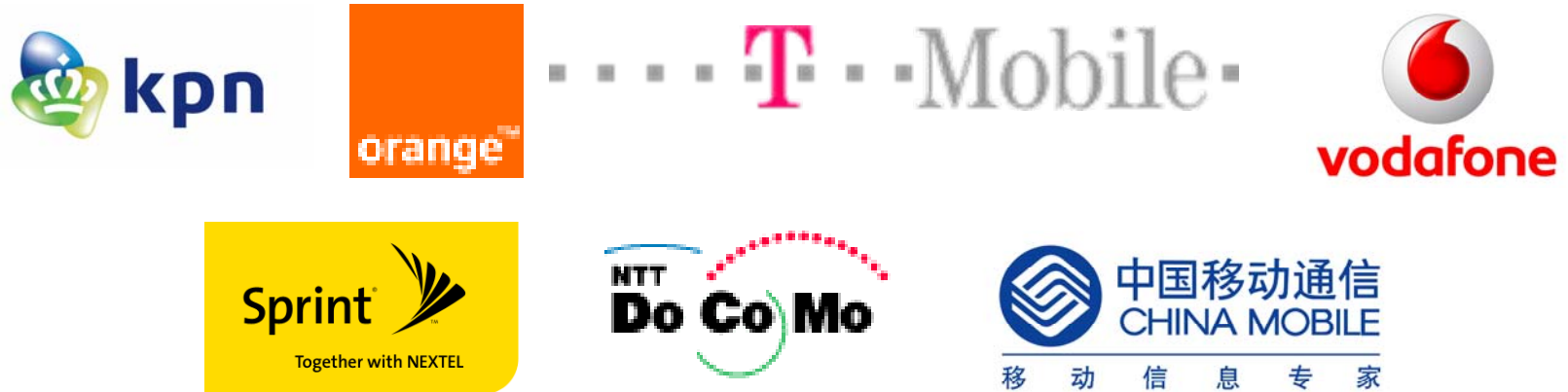


Next Generation Mobile Networks

An Operator's CTO Initiative



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NGMN – The Motivation

NGMN is fully committed to HSPA and EVDO developments. The focus is beyond

- Customer requirements / convenience
- Competition of technologies
- Legacy systems carrying current business
- We need competitive systems from 2010 onwards
 - cost optimised
 - high bandwidth
 - low latency
 - Simplicity

NGMN was initiated to ensure customer's expectations
Operators acting as the ambassadors of the customers
Today NGMN represents more than 700 mil customers
NGMN is an open global initiative. Further contribution is welcome

NGMN – The Critical Success Factors

Market reality:

Bandwidth is driving applications, applications are driving bandwidth

- In terms of cost and performance NGMN shall be as close as possible to xDSL at the starting point and in the future
- NGMN shall have easy and simple service integration capabilities
- Support of a fast and efficient standardisation
- Global standard for mobile communication (GSM, CDMA, UMTS, ...)
- Fair and predictable IPR regime

NGMN – Potential Evolution of Spectrum Usage

Coverage extension

- in rural areas
- indoor in urban areas
- bridge the digital divide

UMTS @ 2 GHz

Extension of capacity,
throughput and higher
bitrate services

From around 2007 - 10
UMTS @ 900 MHz

From around 2007 - 10
UMTS @ 1800 MHz

From around 2008 - 10
UMTS @ 2,5 GHz

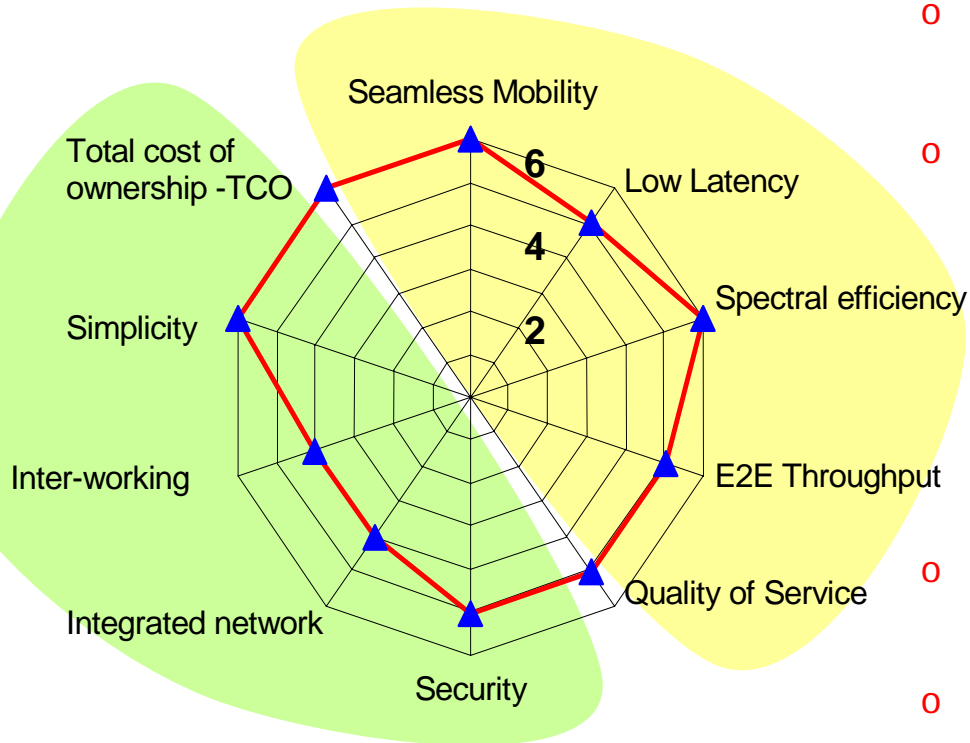
From around 2010
NGMN in existing mobile bands

IMT-Advanced

not later than 2010
TV bands

2010 or later
(probably ~ 2015)
WRC-07 bands

NGMN - Priorities



- Spectrum efficiency desired to be 6 - 8 times HSPA
- “Mobile broadband” user experience:
 - latency < 30ms e2e
the *radio system* should not limit the user experience
 - Increased throughput across the coverage area: e.g., peak data rates > 50 Mbps & average rates > 10 Mbps
- ‘Always On’ without significant network overhead or reduction of terminal battery life
- Efficient multicast and broadcast support & delivery of conversational services (e.g. speech, video call) over an all PS infrastructure (**All IP**)
- All achieved at a cost/performance ratio comparable to xDSL

NGMN - Timeline

- End of 2008: Standards completed
- In 2009: Systems and devices available for operator trials
- In 2010: Commercial service possible on a country and operator-specific basis

