



Pan-European Digital Strategy: Collaboration, Not Competition!

EETT's International Conference on Digital Dividend
Athens, Greece – February 24, 2009

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Outline

- Is EU legislation/harmonisation needed on DD?
- DD status and timing: preparatory work?
- Momentum behind the 800 MHz band
- Getting the spectrum balance right
- Strategies for a collaborative approach for DD use

Who is interested?

- ✓ terrestrial Broadcasting operators;
- ✓ ‘wireless/mobile broadband’ operators;
- ✓ applications such as Programme Making and Special Events (PMSE);
- ✓ users of licence-exempt devices in the “white spaces” (spectrum unused by licensed devices); and
- ✓ public sector users (e.g. Public Protection and Disaster Relief (PPDR)).



Challenges around the corner

DD is an opportunity to realise essentials of EU Lisbon strategy

- Broadcasters 'owned' the UHF band for 50 years
- Mobile ops want it but are talking about CAPEX reduction

National debate between broadcasters and MNOs: URGENT

Engineering and business model challenges

Policy challenges: new standards and spectral allocation

Might prove unaffordable and unsustainable:

- **Over complex/incompatible standards:** expensive to design and test, much time and R&D cost needed
 - **Spectral allocation:** 25 cellular frequency bands
- ...adding to the cost & risk of mobile broadband provision!**



Steps towards harmonisation...

Frequency planning vs. licensing

A realistic commitment with real preparatory work

A concrete migration plan – switch off region by region

Risks of being ‘out of line’ or a late change of mind:

- Subscale market for service providers and manufacturers
- Re-planning of broadcasting networks
- Change existing international agreements on spectrum use
- Changes or upgrades to set-top boxes or aerials for DTT

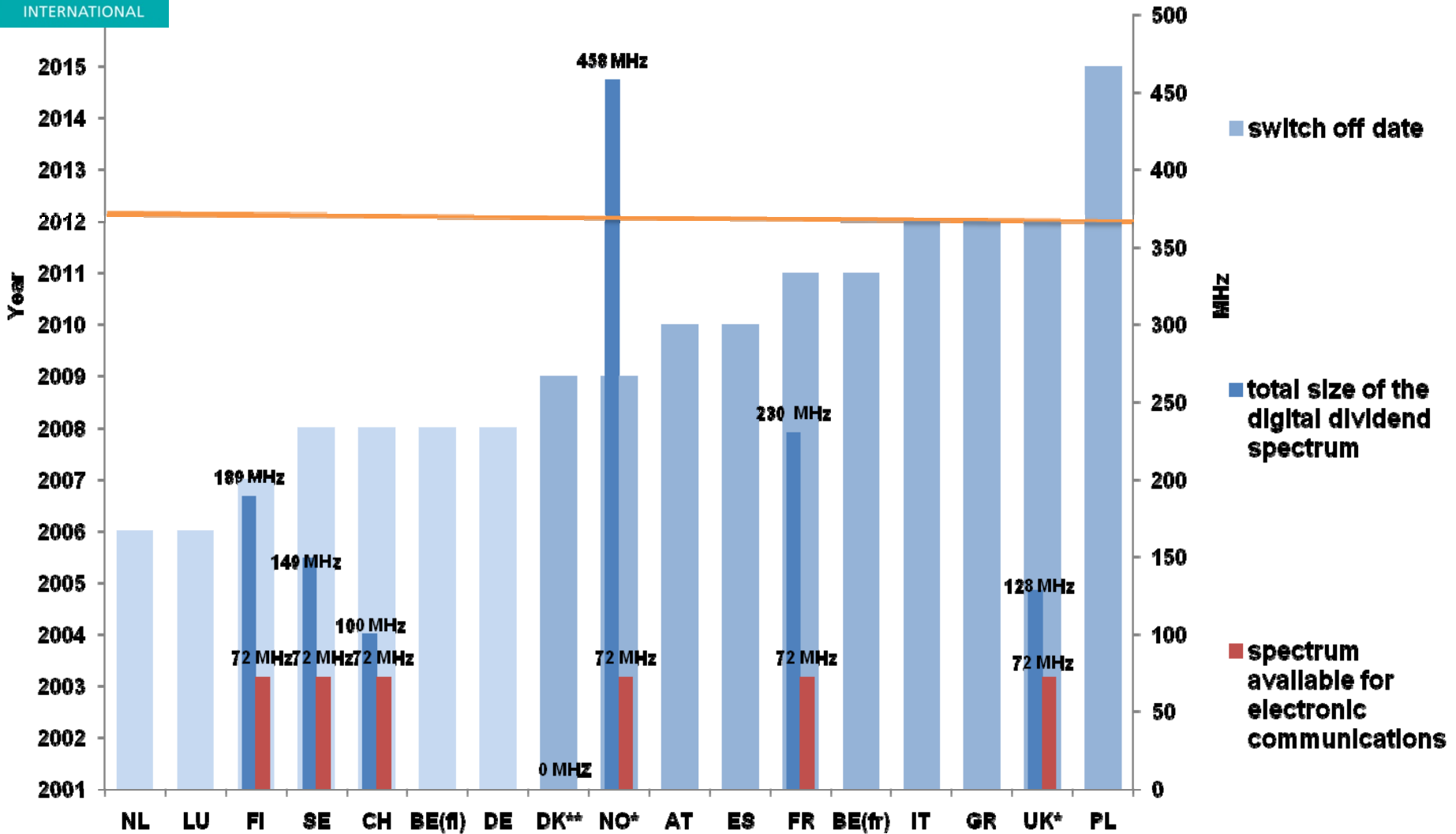
No industry support for UHF-harmonised band for Mobile TV

- No need for a harmonised dedicated sub-band across Europe
- Minimum 8MHz to support a single DVB-H multiplex to be allocated on a national basis

UMTS - LTE already have multicast (one-to-many) functionality embedded



Available DD spectrum for telecoms use: Momentum behind the 800 MHz band



source: CI research (*proposed, ** in Denmark, the entire UHF band is allocated to broadcasting)

FI, SE, CH, FR, proposed by UK & NO and possibly GE & IE soon to follow. Reasons?



Is there demand to fill in for 48 HDTV channels?

DVB-T efficiency:

- 1 MUX (8 MHz carrier) = 4-6 S-TV or 2-4 HDTV channels

If all DD to broadcasting :

- 12 DTT MUX = 48 HDTV channels

If 72 MHz for telecoms:

- 10 DTT MUX = 40 HDTV channels
- + nearly full mobile broadband coverage

TV channels should switch to MPEG-4 to release more spectrum

Should MNOs pay for it to compensate the broadcasters?

Collapse of advertising revenues: impact on # DTT channels?



Conclusion: Collaboration, Not Competition

- Important for MSs not to lag behind:
 - Delay in the launch of DSO process would affect the availability of new services
 - Delayed decisions on UHF could adversely affect investment
- More spectrum LIBERALISATION and TRADE
- A mobile/broadcast COLLABORATIVE approach
- **White spaces:** mobile community could be encouraged to work with the broadcasters on a common standard to provide compatibility with DVB and LTE 800 MHz devices.
- **Site sharing at high and low UHF band:** for DBV portable TV
- **Joint revenue opportunities:** for content and advertising



Thank you!

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