



SESSION 2B - Spectrum harmonisation: the key to 5G?

What needs to be harmonised? What is "nice to have" but not essential? Does Europe being first to 5G matter? How does harmonisation help achieve this aim?

Chair: J.Scott Marcus, Senior Fellow, Bruegel

Gunnar Hökmark MEP, European People's Party, European Parliament

Carlota Reyners Fontana, Deputy Head of the Radio Spectrum Policy unit, DG CONNECT, European Commission

Philip Marnick, Group Director, Spectrum, Ofcom and Chairperson, Radio Spectrum Policy Group

Jacek Niewglowski, Chief Strategy Officer, PLAY

Antonios Drossos, Managing Partner, Rewheel

Spectrum harmonisation: the key to 5G?

Is spectrum *usage* harmonised across the EU28 national mobile markets?

ECTA regulatory conference November 2016

Brussels, 10 November 2016.

Spectrum usage – The elephant in EU's digital single market yard

- Member States may attach coverage (i.e. deployment) obligations when assigning spectrum rights of use according to the EU electronic communication framework



However, an obligation to deploy spectrum does not ensure that the spectrum will actually be put into efficient use!

Spectrum deployment ≠ efficient spectrum usage

The oil rig analogy

- Consider a country that assigns rights of use for exploitation of its natural oil resources to 3 multinational operators
- While the rights of use come with a deployment obligation (e.g. 10,000 oil rigs) there is no usage (e.g. volume of oil extracted per annum) obligation
- Undoubtedly, the 3 operators will try to maximize their profits by commanding high oil (access) prices through tightly controlled supply volume (data cap) restrictions
- OPEC cartel supply restrictions lead to higher oil prices suppressing economic activity
- Overly restrictive mobile data caps lead to high digital fuel prices suppressing activity in the digital economy



Finland had 37 times higher spectrum than Greece!

Elisa Finland had 55 times higher spectrum than Vodafone Greece!



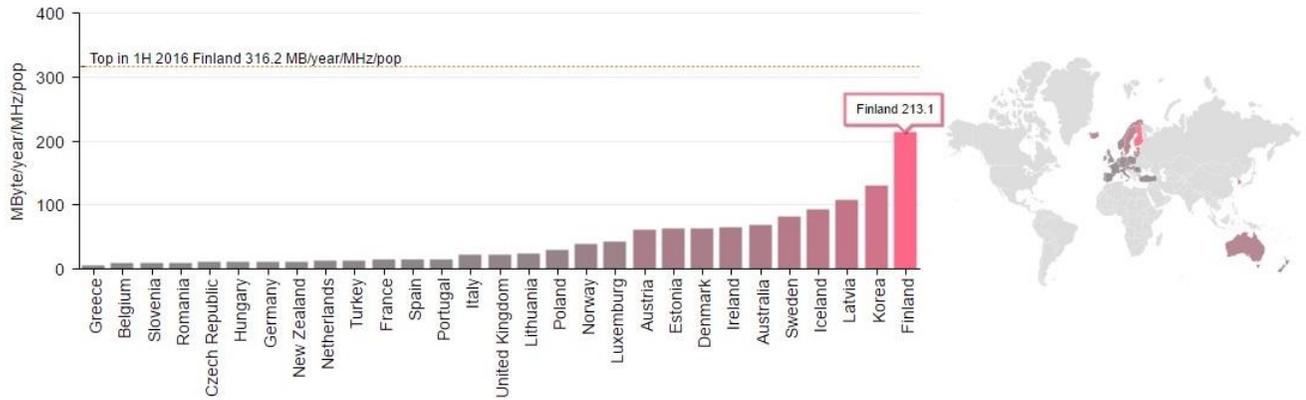
DIGITAL FUEL MONITOR

Overview Data caps and prices Data usage Spectrum usage Countries Telco groups Mobile-first Zero-rating Roaming Insights DFMonitor-PRO

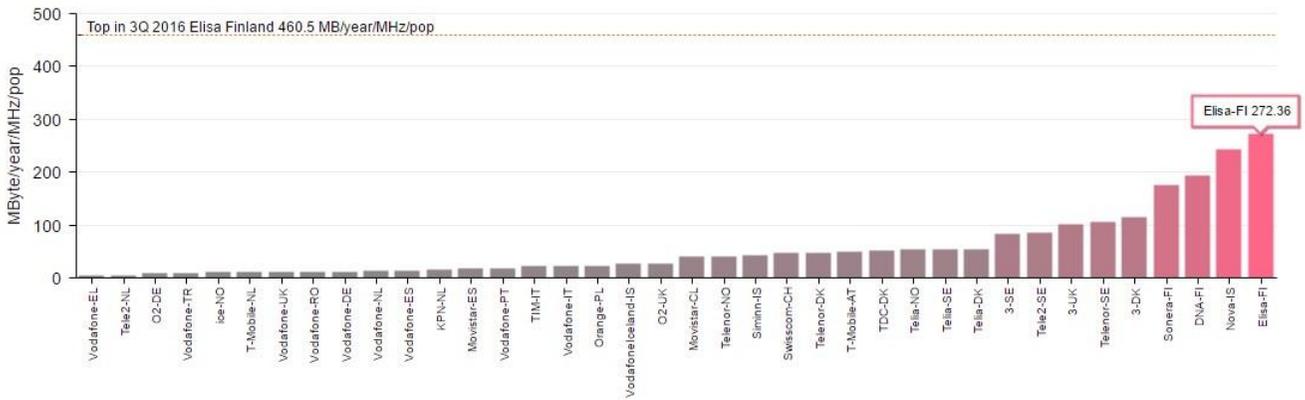
Country comparison
Operator comparison

PRO username:
password:
Enter

Spectrum usage in 2015



Spectrum usage in 2015

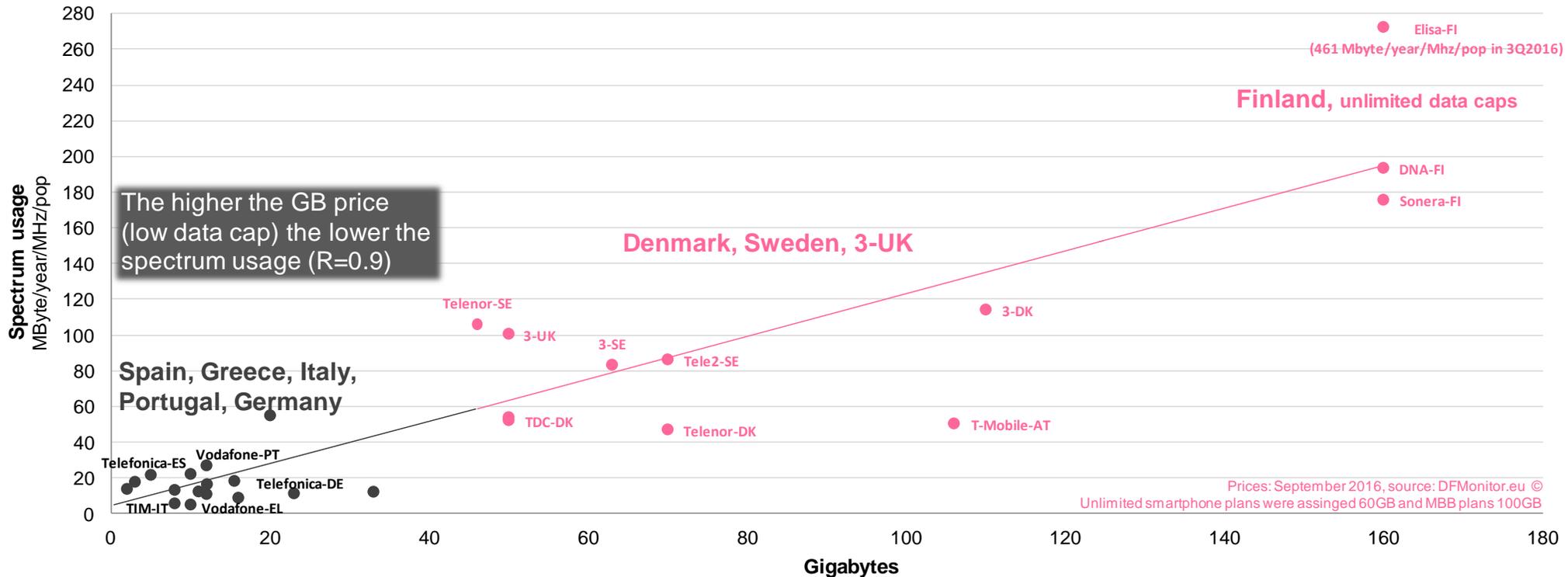


Show OECD Show 2Q 2016

For the answer do not look far: High GB prices (i.e. tiny data caps) are suppressing demand as Commission VP Ansip stated

Spectrum usage versus data cap price affordability in EU28

Spectrum usage (MByte/year/MHz/pop) in 2015 versus maximum gigabytes €30 and €25 bought respectively in smartphone & data-only plans



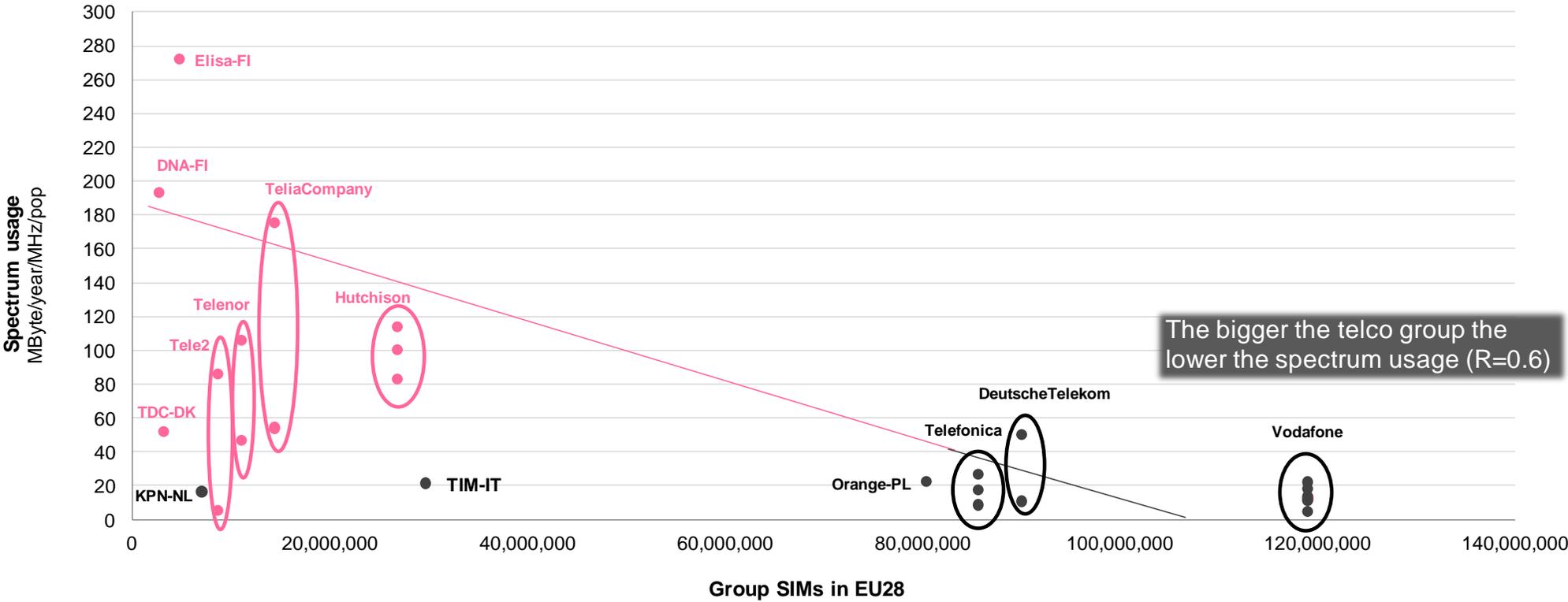
4G gigabytes that €30 buys in smarhone (with at least 1,000 min&SMS) plans + 4G gigabytes that €25 buys in mobile broadband (data-only) plans

Prices: September 2016, source: DFMonitor.eu ©
Unlimited smartphone plans were assigned 60GB and MBB plans 100GB

Smaller operator groups use spectrum much more efficiently than big telco groups which are present in many EU national markets

Spectrum usage versus telco group size

Spectrum usage (MByte/year/MHz/pop) in 2015 versus telco group total EU28 SIMs



Source: DFMonitor.eu ©

So what should regulatory and competition authorities do?

Ex-ante

- National regulatory authorities should actively facilitate network competition by setting aside significant amount of spectrum for new entrants and challenger MNOs
 - Challenger (typically no.4) MNOs have much higher spectrum usage than incumbent MNOs. Challenger MNOs control significantly lower spectrum and have several times higher data usage due to lower (affordable) prices
- National regulatory authorities should actively and timely enforce BEREC net neutrality guidelines by prohibiting the wide-spread harmful zero-rating practices
 - The 23 EU28 operators that zero-rated video sold for €30 during September 2016 **eight times less gigabytes** in 4G smartphone plans than the 69 operators that did not zero-rate video and had two times lower spectrum usage¹.

Merger control

- The European Commission should no longer wave through potentially harmful mergers (Vodafone/Liberty Global Netherlands) between mobile and fixed operators
 - The 32 mobile-centric operators in EU28 sold for €30 during September 2016 **eight time more gigabytes** in 4G smartphone plans than the 60 fixed-centric operators and had four times higher spectrum usage².

¹ DFMonitor 6th release 2H2016 <http://www.dfmonitor.eu/zero-rating/>

² DFMonitor 6th release 2H2016 <http://www.dfmonitor.eu/mobile-first/>

Thank you

Rewheel
PRO-COMPETITIVE TELECOM STRATEGY

 **DIGITAL FUEL MONITOR**
MONITORING MOBILE CONNECTIVITY COMPETITIVENESS
By Rewheel