

How Public Policy Shapes 5G Spectrum, Competition & Net Neutrality

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Who Makes Spectrum Available?

ITU-R harmonizes frequency *allocations* worldwide

- ITU = Int'l Telecommunication Union, est. 1865, now a UN agency
- Allocation = purpose for which a frequency band can be used
- 5G = IMT-2020: International Mobile Telecoms, aka cellular

National governments make *assignments*

- Who gets to use which part of the allocated band
- Where (geographically) and on what basis (e.g. exclusive vs. shared)

Timeline for 5G Spectrum Allocation

World Radio Congress (WRC)

- Held every 3-4 years, with regional preparatory meetings in between
- WRC-15 this November
- Looking for available frequency bands for IMT-2020
- Unlikely to identify bands below 6 GHz
- Bands above 6 GHz may get on study agenda for WRC-19

Competition Policy

Will disruptive operators be merged out of existence?

- Vertical mergers: Content + Conduit
- Horizontal mergers: One network operator buys another

Will MVNOs discipline facilities-based operators?

- Mobile Virtual Network Operator: essentially a reseller
- Arrangements are privately negotiated in US, more regulated in EU

Will LTE coexist fairly with Wi-Fi in unlicensed bands?

LTE on Unlicensed Bands



Technical variants emerging with widely different competitive implications

Network Neutrality

Limits on ISP's ability to tilt user choice of apps & svcs

- Open Internet svcs: ISP can't block, throttle, or require pay-for-priority
- Specialized svcs: use same IP network but rely on separately managed capacity and limited reach (US) or require non-best-effort QoS (EU)
- Zero-rating: allowed but monitored to ensure not hampering open Inet

5G business models likely to test "specialized services"

- Connected car scenarios often cited as example of need for low latency

Questions?

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Q&A Backup

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Future of Mobile Mergers?

US

2011: Justice Department and FCC reject AT&T acquisition of T-Mobile

2014: Sprint decides not to try merging with T-Mobile

2015: Dish Network & T-Mobile reportedly in merger talks

EU

“Incumbent operators argue that if they cannot merge with their rivals in the same country they will be unable to increase their investment. I’ve heard this claim quite often, but I have not seen evidence that this is the case. Instead, there is ample evidence that excessive consolidation may lead not only to less competition and more expensive bills for consumers, but that it also reduces the incentives in national markets to innovate. In fact, infrastructure investment can be stimulated by competition.”

- Margrethe Vestager, Competition Commissioner, June 15 speech “Antitrust in the EU 2015-2016”

At least until the next election.

ITU's Three Regions

