

Notes on Dahlmann, Parkvall, Skold's "5G NR"

Chapter 2 – "5G standardization"

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Type of organizations involved in creating technical specifications and standards, as well as regulations:

- ▶ Standards Developing Organizations (SDOs): 3GPP, ETSI, ATIS, etc;
- ▶ Regulatory Bodies and Administrations: control spectrum use, set licenses, regulate placing on the market, award certifications, *setting requirements*. Examples: ANATEL, ECC (Nationals), ITU (Global);
- ▶ Industry forums: promoting and lobbying for specific technologies. GSMA Association, Next Generation Mobile Networks, etc

The role of ITU-R:

- ▶ It's the radio communications sector of ITU;
- ▶ Aims at ensuring efficient and interference-free use of RF spectrum by all wireless devices;
- ▶ Composed of subgroups and working parties that produce reports and recommendations;
- ▶ Within ITU-R is the Working Party 5D (WP5D), which is responsible for the overall system aspects of International Mobile Telecommunications (IMT) systems
- ▶ Provides *Radio Interface Specifications* (RSPCs);
- ▶ Each recommendation contains *Radio Interface Technologies* (RITs);
- ▶ It does not create specifications, but maintains recommendations and reports for IMT;
- ▶ The actual specifications are maintained by an SDO and the RSPCs provide references to the specifications

- ▶ Examples of RSPC:
 - ▶ IMT-2000: (3G, WCDMA, etc);
 - ▶ IMT-Advanced: 4G/LTE
 - ▶ IMT-2020 (planned): will provide radio interface technologies for 5G.

IMT Process in ITU-R WP5D

1. Looks for future roles and trends;
2. Set future usage scenarios (eMBB, URLLC, mMTC)
3. At World Radio Conference (WRC) 2015 new bands for IMT were discussed;
4. Publication of technical requirements, evaluation guideline, submission template (for candidate technology)

Capabilities of IMT-2020

