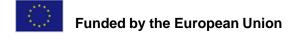
## Terms and conditions of "5G frequencies" in Germany

Dr. Bernd Sörries

Amman, 15.1.2019



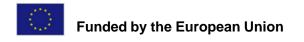




## **Use of Spectrum in Germany (3,6 GHz band)**

Frequencies for nation-wide network deployment or frequency use

- Decision taken and auction will take place end of 1Q19 or beginning of 2Q19 (auction contains 2 GHz frequencies as well)
- Frequencies for regional or local network deployment or frequency use (still under consideration – final decision expected before the aution takes place)
  - > 3,7 GHz 3,8 GHz (1 x 100 MHz)





## Coverage obligations for MNO acting already on the market (I)

- Coverage obligation can be fulfilled with all spectrum assigned to a mobile network operator
- Successful bidders are obliged to cover
  - Until end of 2022 at least 98 % of households per Land with minimum 100 Mbit/s (Downlink)
  - Until end of 2022 all federal highways with minimum 100 Mbit/s and a latency of max. 10 ms,
  - Until end of 2024 all state roads (Bundesstraßen) with mimimum 100 Mit/s and a latency of max. 10 ms,
  - Until end of 2024 all country roads (Landstraßen) with mimimum 50 Mbit/s,
  - Until end of 2024 all railroads with min. 100 Mbit/s
  - With regards to roads and railroads, obligation is fulfilled if one mobile operators covers the unserved roads and railroads (obligation leads not necessarily to a duplication of network infrastructure along roads).

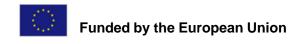






## Coverage obligation (II)

- 1.000 "5G-base stations" to be deployed
- 500 base stations with minimum 100 Mbit/s (downlink) in "white spaces" until end of 2022







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