Federal Ministry
for Economic Affairs
and Energy

eu2020.de

German 5 G strategy

Outline and present challenges

ITU Regional Forum for Europe on 5 G Strategies

22 and 23 October 2020

Wolfgang Crasemann, Head of Unit: International Digital Policy

Objectives

- 5 G connectivity for all citizens until 2025 (100 mbps)
- Extension of existing infrastructure to all areas
- Connectivity along all major road-, rail- and waterways
- Germany as lead market for 5G applications

Activities

- Better framework conditions for investments
- Allocation of the necessary frequencies (3.5 GHz and 26 GHz band)
- Dialogue process
- 5 G research (National and European)
- Support for 5 G solutions in cities and communities

5G Spectrum Auction in 2019

- Contract awards come with coverage obligations for mobile network operators:
  - Connectivity of 98 % of all households by the end of 2022 (at least 100 mbps)
  - Connectivity of major roads, rail- and waterways by the end of 2022 (at least 100 mbps)
  - Construction and operation of 1,000 new 5G base stations by the end of 2022
- Winners: 4 private companies: Deutsche Telekom, Telefónica, Vodafone and 1&1 Drillisch
- Revenue: € 6,6 billion (→ digital investments in schools and municipalities)

5G Deployment

Dt. Telekom:	4.700 5G base stations (+ 1.500 by the end of 2020) objective: 60 mill. citizens by the end of 2020
Vodafone:	mainly in the cities (10 mill. citizens by the end of 2020) also in rural areas by low frequency band
Telefonica:	big cities by the end of 2020
1&1 Drillisch:	big cities in cooperation with Telefónica (roaming)

Present Challenges

- Rural areas (low frequency bands of 700 to 900 MHz necessary, satellite solution to be checked)
- 4 G tower infrastructure not yet installed in all regions (new state aid programme of € 1.1 billion for the construction of 5,000 towers
- 5 G Standalone not yet achieved (5 G fibre backhauling and updates of core network technology necessary)
- End-user devices just entering the market
- Security demands (no exclusion of individual companies)

Private 5 G Campus Networks

- Reserved frequences for private campus networks (3.7 – 3.8 GHz band)
- Examples: Business campus, start-up centers, individual companies, radio stations, stadiums
- Allocations on application: already 74 awards by Sept. 2020
- Advantages:
  - Low costs
  - Better security standards by proprietary systems
  - Independency from mobile suppliers
  - Testing of new technologies

Priorities for the European Presidency

Expanding EU‘s digital sovereignty

- Monitoring system for European digital capacities
- High level of private and public investment
- Sovereign and resilient European data infrastructure
- Toolbox for 5 G networks (voluntary application)
- Development of European cloud capacity (GAIA-X)
- Human-centric artificial intelligence
- Modern digital regulatory framework (Digital Service Act)