



**RTR**

*Wir stehen für Wettbewerb und Medienvielfalt*



# BEREC report

## Awards and coverage obligations

Stefan Felder

Regulierungsdialog 17.12.2018



## Starting point – RSPG Report on efficient awards

- Consulted with industry and with academics
- Possible award mechanisms
- There is no one-size-fits-all
- Design depend on objectives and should be tailored to the national circumstances
- Important principles such as transparency, consultations, minimise uncertainties and the risk of an inefficient assignment, avoid collusion and strategic bidding, etc.
- Different types of auctions formats (sealed bid, SMRA, SCA, CCA, etc.)
- Risks in an auction (substitution risk, aggregation risk, fragmentation risk, threshold risk, common value uncertainty, bid shading, complexity, budget-constrained bidders, gaming, tacit collusion, price-driving, strategic-demand reduction, eligibility parking, etc.)
- Assessment and development of formats
- Further issues: packaging, lot sizes, multiple bands, reserve prices, deposits, anti-collusion rules, license duration, fees, competition measures, coverage obligations, wholesale access, trading and leasing, UIOLI, sharing, etc
- Analytical framework and process



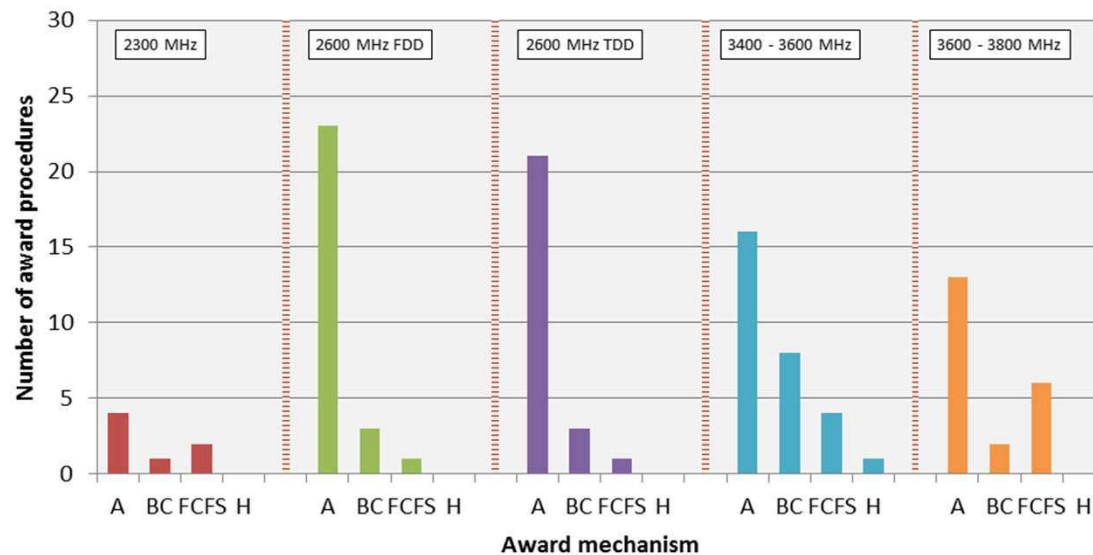
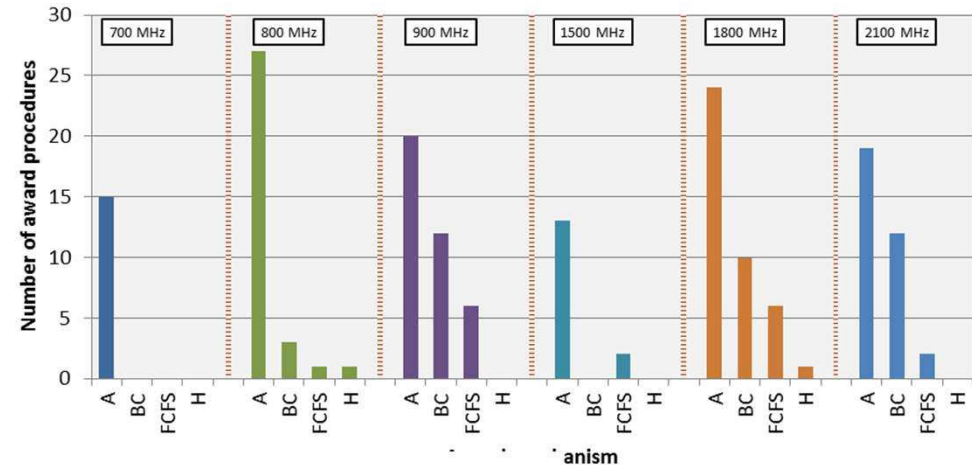
## BEREC report

- **General**
  - Title: “BEREC report on practices on spectrum authorization, award procedures and coverage obligations with a view to considering their suitability to 5G”
  - No replication of RSPG report – stronger focus on practices of NRAs/CAs (LTE auctions) and suitability for 5G
- **Structure**
  - Award regimes for ECS bands
  - Choice and design of award mechanisms (what matters?)
  - Competition measures
  - Band-bundling and band structure (lot sizes, etc.)
  - License scope and characteristics (duration, geographical, type of RoU)
  - Coverage obligations
  - Basis: 283/131 award procedures and bands
  - Future awards (suitability to 5G)



# Authorisation regimes

- Auctions
- Beauty contents
- First come first serve
- Hybrid form





What are the design objectives of award procedures?

Competition

Efficiency

Coverage

Innovation

Other  
objectives



## What matters for the choice of the auction format?

Objectives

Market  
circumstances

Efficiency  
considerations

Acceptance  
and practical  
considerations



# What matters for the choice of the auction format?

- **Market circumstances**
  - Amount of spectrum, number of blocks
  - The homogeneity of blocks (substitutes or not?)
  - Participants, competition on the market, heterogeneity of demand
  - Market and technology development
- **Efficiency**
  - Setup market mechanism; flexibility with maximum freedom of choice
  - Aggregation risks and substitution risks
  - Common value uncertainties (Winner's curse risk)
  - Fragmentation risks
  - Pro-competitive bidding incentives (avoid collusion, strategic bidding, strategic demand reduction, etc.)
  - Price transparency and discovery
- **Acceptance and practical considerations**
  - Acceptance
  - Transparency
  - Easy to understand, clarity and low complexity
  - Quick and simple solution
  - Fairness (equal opportunity by each bidder)
  - Result of public consultations





## Factors to consider in designing the award procedure

- **Measures to safeguard competition**

- Spectrum Caps
- Reserved spectrum for certain bidders or group of bidders (e.g. new entrants)
- Wholesale access obligations

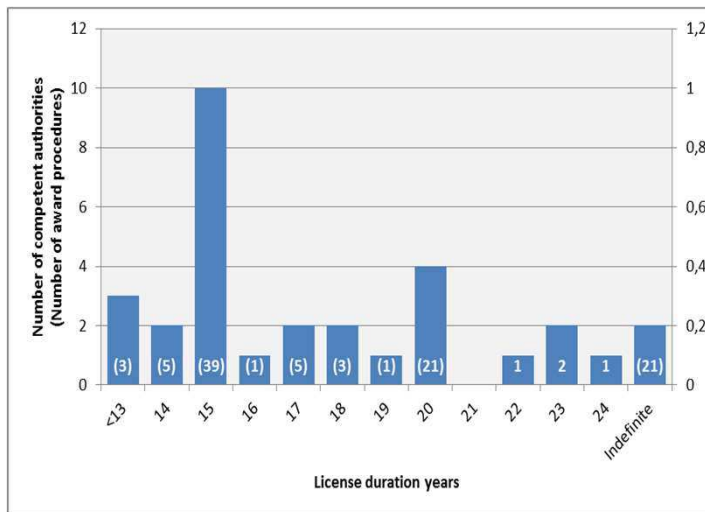
- **Reasons for band-bundling**

- Facilitate market entry (access to an appropriate set of bands)
- Allow for more flexibility (substitution,...)
- Provide opportunity to be awarded spectrum in bands that allow to provide appropriate coverage and capacity
- Reasons against: release the spectrum as soon as it becomes available

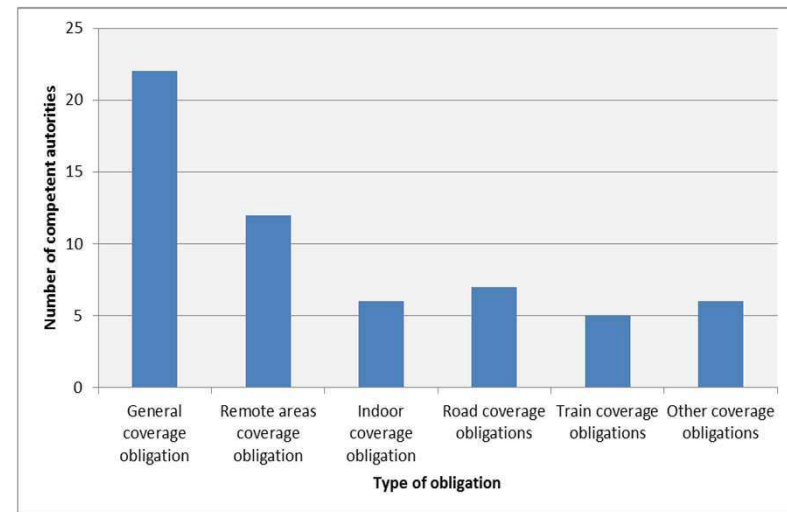


# Factors to consider in designing the award

## Licence durations



## Coverage Obligations





## Awards and coverage obligations for 5G

### Spectrum Authorisation for 5G

- Mix of bands used:
  - 700 MHz (coverage)
  - 3.4-3.8 GHz (capacity and FWA)
  - 26 GHz (high capacity and very low latency)
- Different bands will require different authorisation regimes
- Innovative ways of authorising spectrum may be necessary (26 GHz)

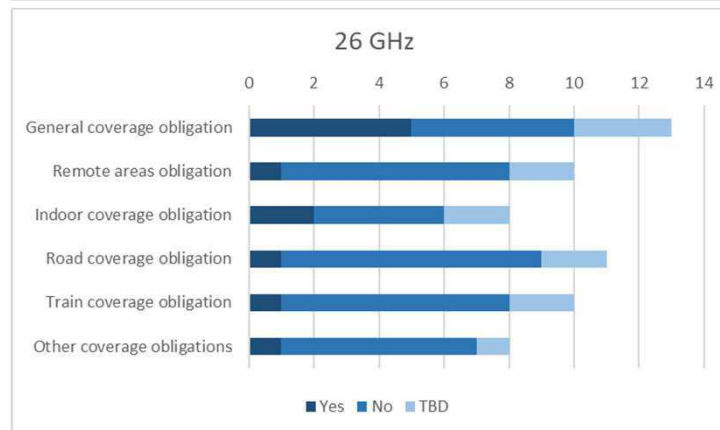
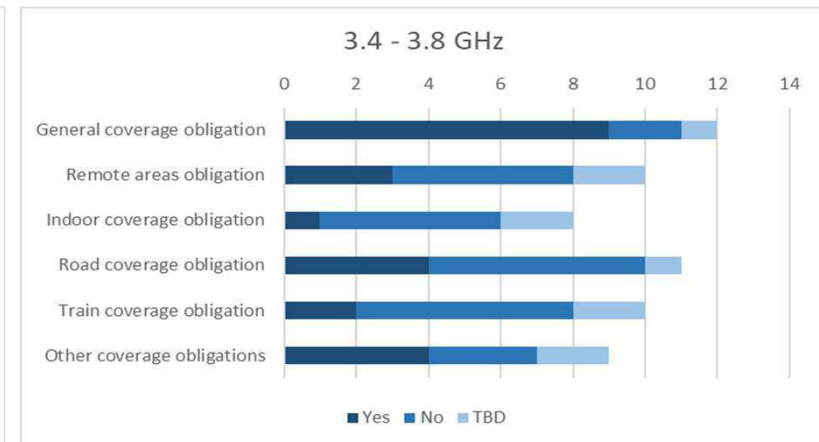
**Too early for concrete conclusions!**

### Coverage obligations and targets for 5G

- 5G Action plan
- Focus on road and railway seem to increase
- Remote area obligations
- Specific locations obligations
- Area coverage
- Enhanced mobile broadband
- Specific quality of service requirements
- Needs of verticals?



## Which type of coverage obligations are foreseen for the awards of the 5G candidate bands?





**RTR**

*Wir stehen für Wettbewerb und Medienvielfalt*

Auf Wiedersehen!