

5G Multiband Auction in the Czech Republic

Outline of basic rules

(February 2019)



Czech **Telecommunication** Office

Key objectives of the auction



- 1) **promote competition on the Czech mobile market** by enabling a new player to enter the infrastructure market
- 2) ensuring **efficient use of the newly available spectrum**
- 3) creating conditions for technical development of electronic communications networks and services, in particular with the assumption of future **development of 5th generation networks and services**

These objectives are in line with the coordinated process of the European Union Member States with the aim to create conditions for the development of networks of the 5th generation and the focus of the European Commission on the 5G development. At the same time, CTU took into account the results of its regulatory and analytical work in performing ex-ante regulation, in particular the evaluation of the situation on the mobile market in the Czech Republic.

Frequency spectrum to be auctioned

The auctioned spectrum is planned to be assigned for the period of **15 years for 700 MHz band** and **12 years for 3400 MHz band**.

Auction will include:

- 1) **700 MHz band - 2x30 MHz** from the “core” band for basic nationwide coverage (703 – 733 MHz paired with 758 – 788 MHz)
- 2) **3400 MHz band – 190 MHz** of capacity spectrum (3410-3600 MHz)

The auction will be arranged in a format of **Simultaneous Multi Round Auction (SMRA)**. This format has been successfully used in previous auctions in the Czech Republic, both single band (3600 MHz) and multiband auctions (800 MHz, 1800 MHz and 2600 bands MHz), including auctions where more complex combinations of abstract and specific blocks of different sizes were offered.



700 MHz
15 years (until 2035)



3400 MHz
12 years (until 2032)

SMRA format

Auction blocks and spectrum caps

- **Auctioned blocks in 700 MHz band:**
 - 2 abstract blocks 2x10 MHz
 - 2 abstract blocks 2x5 MHz
- **One block of 2x10 MHz reserved for new market entrant²⁾**
- **Spectrum cap - 2x10 MHz in 700 MHz**



700 MHz

2 abstract blocks of 2x10 MHz
2 abstract blocks of 2x5 MHz

- **Auctioned blocks in 3400 MHz band:**
 - 19 abstract blocks of 10 MHz (TDD)
- **Spectrum cap - 80-100 MHz in both 3400-3600 MHz and 3600-3800 MHz bands**
- **Minimum bid - 40 MHz**



3400 MHz

19 abstract blocks of 10 MHz

Auction conditions – 700 MHz band

Coverage obligation

The basic coverage obligations will assume a minimum coverage of 95% of inhabitants. In addition, every block will hold a specific coverage obligation for defined regions of at least 95 % of the area and 99 % of inhabitants. The obligation shall be fulfilled in 7 years from the spectrum assignment.

On top of this a specific obligation will be defined for coverage of main road and railway corridors (TEN-T) at the level of at least 95 % which should be fulfilled within 5 years from spectrum assignment.

National roaming obligation

Every winner of spectrum in 700 MHz band who is a holder of spectrum in 800 MHz band will be committed to provide national roaming to everyone who will also be a winner in the 700 MHz band and does not hold spectrum in the 800 MHz band.

This obligation will be due in 5-6 years and will only be valid under the condition of a permanently achieved level of the applicant's own network coverage.

PPDR obligations

Commitment to provide PPDR services should be designed in the form of a conditional obligation to submit an offer to a public contract organized by the Ministry of the Interior on:

- Providing national roaming for PPDR communications on the 5G and 4G networks of those auction participants who acquire at least one 5 MHz block in the 700 MHz band,
- To provide priority PPDR services within the 4G and 5G commercial networks, ie. those using frequencies acquired in the 700 MHz auction, including the implementation of coverage requirements in the areas of interest and specific objects. This part of the commitment will be set for those auction participants who get a range of 2 × 10MHz spectrum (excluding the block reserved for new entrants).

Obligation to protect broadcasting

CTU, in accordance with the conditions set out in this document, will set out an obligation to holders of rights in the 700 MHz band to respect the measures that the CTU determines for the protection of terrestrial TV broadcasting.

Auction conditions – 3400 MHz band

Efficient use of spectrum

To ensure efficient use of these frequencies CTU will set the following conditions:

- In maximum of 24 months after the date of the decision granting the allocation of radio frequencies the winner will be obligated to use at least part of 3400 MHz spectrum.
- In maximum of 48 months after the date of the decision granting the allocation of radio frequencies the winner will be obligated to start using the radio frequencies.

Coverage obligations

The development criteria will be valid for each holder of rights in the 3400 MHz band that is not at the same time, a holder of rights in the 3700 MHz band.

In the 3400 MHz band, CTU assumes, as in the 3700 MHz band, the determination of development criteria aimed at providing high-speed access services in residential units.

Refarming obligations

The CTU will sets a commitment on the holders of the allocations in the 3400 MHz band to jointly refurbish the 3400 MHz and 3700 MHz frequency bands.

The conditions of this commitment will be determined equivalent to a similar commitment defined within the tendering procedure for the 3700 MHz band.

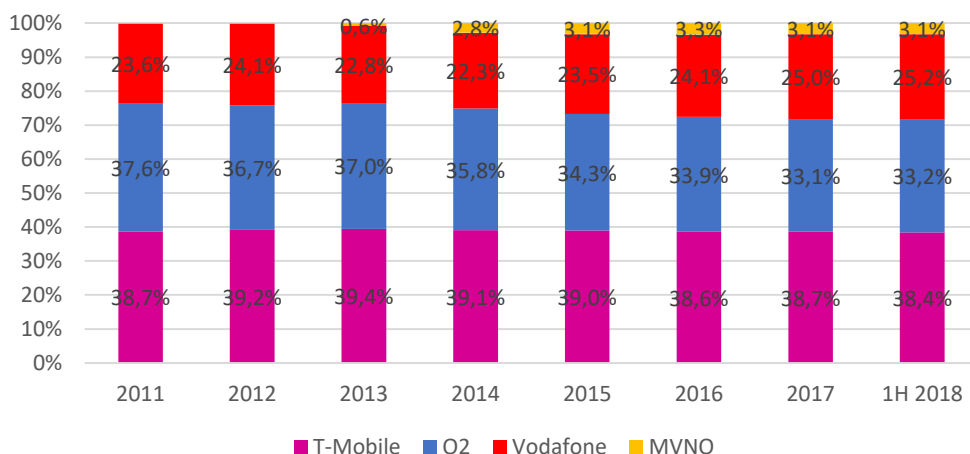
Basic review of Czech mobile market

Main brands on Czech mobile market: **T-Mobile, O2, Vodafone**

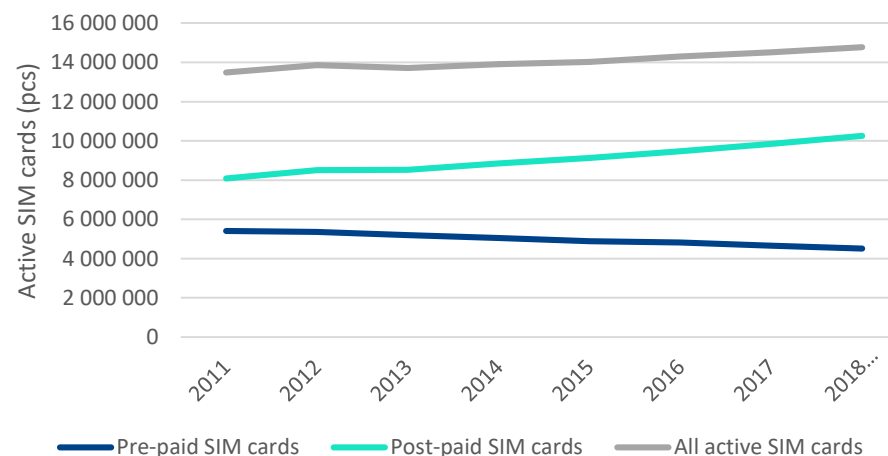
Although high penetration of the mobile market, the subscriptions grew over 2018 by nearly 4.4%, which means a penetration rate of 140%.

The mobile market grew more in 2018 than in previous years. There is an expected high saturation of mobile phone subscriptions over the next few years. Although this is possible, 3G subscriptions will decrease in favour of faster technologies, which will nearly penetrate every mobile subscription in near future.

Evolution of market shares of SIM cards, while accounting MVNO with equity share to target MNO retail share on [2011 – 2018]



Evolution of pre-paid/post-paid active SIM cards [2011 – 2018]



Outcome of 4G/5G spectrum auctions

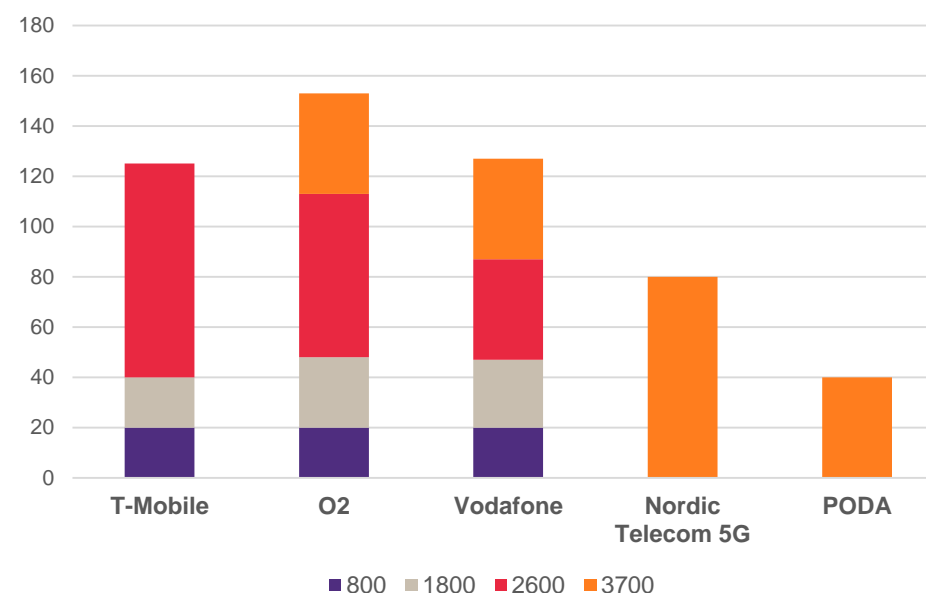
3,7 GHz Auction (2017) - CTU assigned radio frequencies in the 3600 – 3800 MHz band to O2 (40 MHz), Vodafone (40 MHz), Nordic Telecom 5G (80 MHz) and newcomer PODA (40 MHz). T-Mobile and Suntel Net participated as well. [Total price CZK1.0bn]

1800 & 2600 MHz Auction (2016) - the auction of 7 block of spectrum in 1800 MHz and 2600 MHz bands which were left from the previous auction. T-Mobile, O2 and Vodafone took part in this auction. [Total price CZK2.6bn]

- In the 1800 MHz band, O2 won two blocks of 2×2.9MHz and one of 2×5MHz, while Vodafone won a similar 2×5MHz block.
- Meanwhile in 2600 MHz band , T-Mobile won 2×10MHz in the paired part of the band, and one unpaired block of 25MHz, while O2 won an unpaired block of 25MHz.

800, 1800 & 2600 MHz Auction (2013) –the auction took place with winning bids for T-Mobile, Telefonica and Vodafone [Total price CZK8.5bn]

Operators spectrum holdings [MHz]



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