

Process for the award of 5G spectrum;

BK1-17/001

I. Overview of the previous steps in the process

The Bundesnetzagentur began the preparations for the award of the spectrum back in 2016:

- **"Frequenz-Kompass" in July 2016**

The "Frequenz-Kompass" identified some first areas for regulatory action.

- **Points of orientation in December 2016**

The points of orientation addressed the spectrum suitable and expected to be available for the rollout of 5G infrastructures.

- **Key elements and identification of demand in June 2017**

The key elements gave an overview of the framework conditions for future frequency assignments. With its key elements, the Bundesnetzagentur also initiated **demand identification proceedings** for nationwide assignments in the 2 GHz and 3.6 GHz bands.

- **Consultation draft in January 2018**

The consultation draft set out the following:

- The examination of the notifications of demand concluded that spectrum resources in the 2 GHz and 3.6 GHz bands are scarce.
- On account of this scarcity, it is intended to order that auction proceedings be conducted.

II. Decisions on the award of 5G spectrum

With its decisions, the President's Chamber is ordering – as proposed in the consultation draft – that auction proceedings be conducted for the 2 GHz and 3.6 GHz bands on account of the predicted scarcity of spectrum (**Decisions I and II: order for and choice of auction proceedings**).

The present decisions do not relate to coverage obligations or service providers. These issues will form part of subsequent President's Chamber decisions (Decisions III and IV: award conditions and auction rules).

In the process for Decisions I and II, the President's Chamber studied in great detail the responses received, and evaluated and assessed them.

Decisions I and II essentially correspond to the consultation draft.

Details are given below:

1. Re Decision I (Order for proceedings)

The decision on the order for proceedings addresses four fundamental points:

- Timing of the order
- Spectrum availability
- Scarcity
- Order for award proceedings

a) Timing of the order

A total of 2 x 60 MHz (paired) from the 2 GHz band and 300 MHz (unpaired) from the 3.6 GHz band will be made available jointly for nationwide use in one set of proceedings at an early stage.

Combined provision at an early stage will give companies maximum planning and investment certainty, particularly for the introduction of new technologies (eg 5G).

This approach enables different regulatory framework conditions in a band to be aligned in an open, transparent and non-discriminatory procedure.

b) Spectrum availability

In the 2 GHz band, 2 x 40 MHz (paired) will be available for new assignments as from 1 January 2021. The remaining spectrum in the 2 GHz band, totalling 2 x 20 MHz (paired), will be available for new assignments as from 1 January 2026.

Part of the spectrum in the 3.6 GHz band is currently assigned until 2021/2022.

➤ Earlier usability of the 3.6 GHz spectrum

The spectrum at 3.6 GHz is to be able to be used for 5G systems and is to be made available for new assignments at an earlier stage from 2019.

The aim is to enable contiguous spectrum to be newly assigned and used at the earliest possible opportunity. Administrative proceedings have already been initiated and the companies concerned have been consulted about appropriate and proportionate measures.

➤ **Full usability of 300 MHz for nationwide assignments**

The majority of the spectrum (300 MHz) will be made available nationwide. This will allow mobile operators to roll out 5G swiftly and flexibly. The smaller proportion will be made available for regional assignments. This will allow companies or local authorities to obtain their own spectrum for autonomous radio networks.

The draft President's Chamber decision already proposed a division of the spectrum into 300 MHz and 100 MHz. The present decision takes account of the specific usability owing to any necessary guard bands. It makes it clear that any guard bands necessary between the nationwide network and regional networks are to be implemented by the regional network operators. Therefore, the full 100 MHz of spectrum will not always be available for regional assignments. However, the full 300 MHz of spectrum will be able to be used without restrictions for the swift rollout of 5G nationwide.

➤ **Up to 100 MHz for regional/local assignments**

The spectrum in the 3700 - 3800 MHz band totalling up to 100 MHz is to be provided in an application procedure for regional and local assignments. This will allow applicants to obtain frequency assignments with high bandwidths over the entire period. Thus, it will be possible to provide large bandwidths for 5G applications for regional and local assignments as well, so that the advantages of this band for 5G can be fully exploited. The Bundesnetzagentur is currently drawing up an application procedure. This will be published for consultation at a later stage.

c) Scarcity

Several companies notified their qualified requirements in the demand identification proceedings. In total, the qualified demand exceeds the supply of available frequencies in both the 2 GHz and the 3400 - 3700 MHz band. Besides the demand identification proceedings, the President's Chamber has based its forecast of excess demand for spectrum on other facts as well. These facts relate to the competitive environment, the continued growth in data volumes, and technical developments.

Both when looking at the results of the demand identification proceedings and other facts separately and when looking at all the facts together, the Chamber comes to the conclusion that the number of applications is expected to exceed the frequencies available in the 2 GHz and 3.6 GHz bands.

d) Order for award proceedings

Given the scarcity of the spectrum resources, the President's Chamber is ordering that award proceedings be conducted. Award proceedings are the standard proceedings as provided for by law. Award proceedings are also suited to ensuring fulfilment of the Bundesnetzagentur's statutory task.

2. Re Decision II (Choice of proceedings)

The President's Chamber is ordering that auction proceedings be conducted. According to the Telecommunications Act, as a general rule auction proceedings are to be conducted should spectrum resources be scarce. Auction proceedings are also suited to promoting the regulatory aims set out in the Act.

In the Chamber's view, there is no evidence that auction proceedings would, to any considerable extent, take funding needed for network rollout away from the market. The payment obligations from past award proceedings only play a subordinate role in relation to total revenue and therefore should not be a deciding factor for investments in network rollout. In the Chamber's view, the factors determining decisions on investments in network rollout are the specific business models, the development of demand, and the level of competition in the market.

III. Further action

The next step will be to draw up the consultation drafts for the award conditions and auction rules (Decisions III and IV). The draft for Decision III will, in particular, deal with coverage obligations, service provider arrangements, and term lengths for frequency assignments. The consultation drafts for both Decision III and Decision IV will be put out for public consultation. It is intended to finalize the Decisions III and IV by the end of 2018.

The qualification procedure for the auction proceedings will be opened upon publication of Decisions III and IV. Following this, the auction proceedings will be able to be conducted.