

Consultation on the Tender Conditions

in the procedure for awarding
spectrum in the 700, 1500 and
2100 MHz ranges

NON-BINDING TRANSLATION

Vienna, 17. September 2019

Contents

1	Introduction.....	3
2	Award objectives	4
3	Tender Document and Auction Rules.....	5
4	Selected topics.....	5
4.1	Technical terms and conditions of use	5
4.2	Coverage obligations	5
4.3	Measures safeguarding competition	7
4.3.1	Measures safeguarding competition relating to spectrum distribution.....	7
4.3.2	MVNO obligation	8
4.4	Minimum bid.....	9
4.5	Product and auction design	10
5	Statements	11

Annex 1: Cover Sheet

Annex 2: Draft Tender Document (including appendices)

Annex 3: Report by DotEcon Ltd.

Annex 4: Report by Takon GmbH

1 Introduction

Following the publication of a position paper on infrastructure sharing and the award of licences in the 3410 to 3800 MHz range, the Telekom-Control-Kommission (hereinafter: TKK) sees the awards in the 700/1500/2100 MHz bands as making a significant additional contribution to the introduction of 5G in Austria. Preparations for joint awarding of those bands began back in 2016. A consultation on product and auction design has previously been completed, while hearings involving interested companies and institutions have also been held before the TKK.

The TKK currently assumes that a date in December 2019 is realistic for the invitation to tender. The auction would then be held as planned in early 2020. Spectra will be available for use as follows: 700 MHz from 1 July 2020 or upon notification of the award decision (in the event that notification is provided after 1 July 2020); 1500 MHz upon notification of the award decision; and the 2100 MHz from 1 January 2021 (after currently awarded licences have expired). The regulatory authority nonetheless reserves the right to deviate from this plan if warranted on significant grounds.

In the following, the TKK consults stakeholders on the Tender Document and the Auction Rules (Annex 2) and, at the same time, submits individual topics for discussion in this Consultation Document; in response, the TKK anticipates receiving from the market valuable suggestions on the Tender Document, which, being planned for formal disclosure in December 2019, might vary from the document currently under consultation.

Statements are to be e-mailed to tkfreq@rtr.at by **21 October 2019**. Please use the cover sheet template (appendix 1). A list of the organisations/individuals that have submitted statements for the consultation and consented to disclosure of the organisation/individual will be published. Only if requested will the complete individual statements be published as well.

The TKK is considering holding a hearing as part of the consultation. This hearing is primarily aimed at potential bidders. In order to take part in the hearing, applicants must register with the regulatory authority by email (tkfreq@rtr.at) no later than **12.00 noon on 4 October 2019**.

2 Award objectives

The TKK is focusing the award procedure on the objectives listed below:

- Objective 1: Legal certainty
- Objective 2: Ensure efficient spectrum use
- Objective 3: Safeguard/promote effective competition
- Objective 4: Promote coverage
- Objective 5: Promote innovation

Maximising auction revenue is expressly ruled out as an award objective, as is actively supporting new market entrants through actions such as reserving spectrum. To the extent relevant and feasible, the regulatory authority will base key design decisions on the objectives listed above.

Efficient frequency use is ensured where bidders are able to acquire spectrum to meet their individual needs, and where a frequency lot is assigned to the bidder who puts the highest value on that lot and submits the highest bid for it.¹ This requires a *product design* that matches the demands of potential users, ensures fair and equal participation of all users and allows competition for incremental spectrum. This needs to be complemented by an *auction design* suited to identifying the bidder with the highest valuation. The award procedure also needs to be designed so as to largely avoid any *unnecessary fragmentation* of spectrum within a single band. *Aggregation and substitution risks* are to be minimised in the auction through a suitable design. Bidders should, for example, be allowed to acquire larger frequency blocks for 5G. Exercising such an option should not be impaired by switching barriers or aggregation risks.

The significance of the third award objective (competition) for the design of the award procedure is underscored by the most recent amendment to the TKG 2003. By means of a suitable selection of appropriate instruments, the regulatory authority intends to safeguard competition on the downstream mobile telecommunications markets in the coming years. The aim here is not only to prevent an excess concentration of licences in the hands of a single network operator, but also to ensure that a sufficient number of effective providers (mobile network operators and MVNOs) will be active on the market after the auction.

The 700 MHz band may be the last coverage spectrum to be awarded for mobile services for some time. The TKK will accordingly place particular emphasis on meeting the goal of ensuring the best possible coverage for the Austrian population and for Austrian companies. To achieve this goal, the regulatory authority plans to impose demanding coverage obligations. The aim in doing so is to achieve important coverage targets derived from national and European objectives in connection with 5G.

¹ Cf. Art. 55 Telecommunications Act (TKG 2003) and ruling 2013/03/0149 of 4 December 2014 by the Austrian Administrative Court (complaint by a mobile network operator against the TKK decision of 19 November 2013, F 1/11-283)

3 Tender Document and Auction Rules

The award procedure is planned to cover spectrum in the 700 MHz, 1500 MHz and 2100 MHz ranges. Because the number of frequencies in these bands is 'limited', as defined in the Frequency Utilisation Ordinance, the regulatory authority is responsible for the spectrum award.

As part of this consultation, and as is required in Art. 55 Par. 3 of the TKG 2003, the regulatory authority is publishing proposals for the Tender Document and the Auction Rules (see Annex 2). The TTK wishes especially to invite potential participants in the award procedure to comment on the draft versions of the Tender Document and Auction Rules.

In addition, detailed explanations and in some cases specific questions on selected topics can be found in section 4.

4 Selected topics

4.1 Technical terms and conditions of use

Several radio transmitters are still currently operating in the 700 MHz band in Austria (see section 3.5 in the Tender Document). In the past and up to the present, policymakers have been consistently making efforts to have the 700 MHz band cleared completely by 30 June 2020 (see Art. 33a et seq. of the KommAustria Act). Nonetheless, the regulatory authority cannot currently rule out delays in freeing up the band but does assume that any such will be short-term at most. The regulatory authority does not see any potentially resulting differences in the values of the 700 MHz band frequency blocks as significant enough to warrant auctioning off specific blocks in the principle stage. Bidders do, after all, have the possibility of taking any varying values into account when bidding in the assignment stage of the auction.

The regulatory authority does not regard it necessary to include any specific rules for this case among the coverage obligations. Potential buyers of the spectrum offered will be able to meet the coverage obligations despite any delays in clearing the band. This will be ensured through appropriately designing the coverage obligations (in terms of the frequencies available for use and the geographic conditions) and by stipulating adequate periods for meeting them.

In the case of the 1500 MHz band, specific, existing installations are to be protected and transmissions from those locations tolerated. The technical terms and conditions of use specify the requirements necessary for protecting those installations.

4.2 Coverage obligations

In the previous consultation, the regulatory authority put three coverage targets up for discussion (transport routes, areas inhabited by the population and households with inadequate internet access), in addition to the coverage obligations aimed at

preventing spectrum hoarding within specific bands. The regulatory authority additionally proposed options for coverage obligations and auction models that would allow the ambitious coverage objectives set out by policymakers to be met.

Participants in the consultation mostly agreed with coverage targets 1 and 2 (transport routes and inhabited areas) but only partly with the third objective (households with inadequate internet access). In relation to the scope of coverage obligations, the responses were very mixed. While mobile telecoms viewed the coverage obligations as going way too far, others commenting on the proposal saw them as not ambitious enough. Mobile telecoms specifically criticised the extended obligations relating to the inhabited areas objective (90% of the settled area within all Austrian municipalities) as well as the extended obligation applying to roadways, referring to them as being set too high and being too costly to meet. Coverage obligations for areas outside of permanent settlements are generally rejected. In this context, mobile telecoms also refer to potential auction risks, such as distortion of competition.

In response to the criticism expressed, the regulatory authority has taken action and modified the obligations as outlined below.

A third-party company was tasked with simulating current coverage conditions in Austria, to obtain a solid foundation for deciding on economically viable coverage obligations and to specifically identify poorly serviced areas. Particularly with reference to wide area coverage targets, the regulatory authority sees focusing on poorly serviced areas as a high priority. The regulatory authority has accordingly identified roughly 2,100 cadastral municipalities that rank low in terms of coverage—in some cases very low.² The regulatory authority has targeted these municipalities in the 'extended coverage obligations'. Those areas enjoying very good service even now can expect comparable 5G coverage in future. Major infrastructure investments, which enhance features such as location and accessibility, have already been made in such areas. We can assume that, in the coming years and decades, operators will deploy 5G here with frequency bands still currently in use with older technologies.

The regulatory authority has attuned the basic coverage obligation to more strongly reflect policy objectives as well as consultation input. This applies in particular to achieving seamless coverage of transport routes (roads and rail) and urban areas, as far as possible.

To implement the extended obligations, the regulatory authority has developed an auction model to ensure a very high degree of wide area coverage. Yet at the same time the auction is designed to minimise any undesired effects and risks (such as unsold frequencies and distortion of competition). The regulatory authority has had the design peer-reviewed by the RSPG as well as recognised experts from academia. The model is aimed at improving coverage in a very high number of poorly serviced cadastral municipalities, while avoiding redundant coverage, and thereby achieving

² This was determined using a coverage index reflecting population and area coverage.

the greatest possible effectiveness. The extended obligations are cast partly in the form of obligations bound to certain frequency blocks and partly through a procurement auction, allowing bidders to acquire the right to provide service to additional cadastral municipalities at a reduced price.

The mobile telecoms have indicated that the data speed of 30/3 Mbps requested in the consultation is clearly too high to be provided throughout the entire coverage area (including at cell boundaries or under very high traffic, for instance). That, it is said, could only be achieved through a correspondingly costly increase in network density. The required data speeds specified by the regulatory authority are framed in terms of the average data speed within the coverage area or a suitable percentile figure that, while allowing a lower speed in the individual case, ensures the required data rate will be supported on average and in the vast majority of cases.

The regulatory authority has accepted a number of other suggestions put forth in the consultation. These include:

- Changing obligations tied to specific frequencies from a model based on population coverage to one defined in terms of broadcasting locations. This appears to be sufficient for preventing any spectrum hoarding.
- Now that railways are included in coverage obligations, the regulatory authority proposes a model building on cooperation between the railway infrastructure operator and mobile network operators to meet this requirement. A similar model is proposed for motorways and limited-access highways.
- The extended obligations focus more strongly on population coverage and settled areas. In the case of permanently settled areas, the requirements relating to the extent of fulfilment and data speeds have been reduced.
- As set out in the design, extended obligations bound to certain frequencies will be distributed among all winners of frequency blocks in the 700 MHz band.
- Obligations bound to certain frequencies have been assigned to frequency blocks by political district (*Bezirk*) to help operators benefit from synergy when rolling out service.
- Roadway coverage requirements are now specified in terms of outdoor coverage instead of 'in-car' coverage.

Question 1: Do you have any additional suggestions for improvements that would support the coverage objectives specified by policymakers and regulators?

4.3 Measures safeguarding competition

4.3.1 Measures safeguarding competition relating to spectrum distribution

During the previous consultation, the regulatory authority presented the potential competition challenges that might be expected to arise from the distribution of frequency usage rights, proposing caps as a concrete measure to safeguard competition.

In the case of the 1500 MHz band, the regulatory authority now proposes a cap of 60 MHz for each operator.

In the previous consultation, the regulatory authority was intent on ensuring that no one operator obtained a total of more than 43% in the 700, 800, 900, 1500, 1800 and 2100 MHz bands. Since then, licences have been awarded in the 3.4–3.8 GHz bands. Every MNO acquired at least 100 MHz in all regions. This has resulted in more symmetric spectrum distribution currently. The regulatory authority accordingly now plans to ease this limitation. Specifically, the 43% cap is now also to include the 2.6 GHz (FDD and TDD) and the 3.4–3.8 GHz bands allocated to mobile telecommunications. The spectrum awarded regionally—in the case of 3.4–3.8 GHz either to A1 or to regional operators—will be weighted on the basis of the proportion of the regional population to the overall population. Based on this weighting, A1 now has 122 MHz in the 3.4–3.8 GHz band, with 367 MHz awarded in total. This means that A1 is now limited to a maximum of 130 MHz in the 700, 1500 and 2100 MHz ranges. There are no binding limitations arising for the other operators, these being already subject to stricter caps for individual bands, i.e. two thirds of each of the 700 and 2100 MHz bands and 60 MHz (of the 80 MHz) in the 1500 MHz range.

Question 2: Do you have any comments on the potential competition challenges or the proposed spectrum caps?

4.3.2 MVNO obligation

In the first consultation, the regulatory authority recognised a risk of wholesalers collaborating on both mobile services and broadband customer products once the merger-based wholesale offer expired, resulting in negative impact on the mobile wholesale market and retail markets. In response, the regulatory authority considered an appropriate MVNO obligation, which was put up for discussion.

Since then there have been developments that now require reassessment. We refer here specifically to changes in wholesale contracts, new end user offers in the mobile service and wireless broadband segments, new market entrants as a result of the 3.4–3.8 GHz award, broader demand for virtually unbundled lines, and anticipated or actual market entries on the part of additional MVNOs.

In the light of these developments, the regulatory authority has reassessed the situation and concluded that, for the time being, an MVNO obligation is no longer necessary for this award procedure. This is based on the following:

- Varying wholesale contracts give way to various new end user offers, each of which considered individually results in added competitive pressure, while also enabling other market participants to achieve improved wholesale terms through corresponding clauses and/or negotiations, and thus to make better end user offers.
- The regulatory authority expects an adequate and effective level of competitive pressure from the outside—that is, not emanating directly from the three

MNOs—in the coming years, which will be clearly felt even after expiry of the merger-based wholesale offer.

This is a preliminary conclusion. The regulatory authority wishes to give everyone, especially the MVNOs, another opportunity to directly comment on this assessment as well as on the MVNO obligation (still) currently included in the rules. In regard to the current assessment, the authority again calls upon stakeholders, and MVNOs in particular, to explain in detail why they hold an MVNO obligation necessary.

Although the regulatory authority is maintaining, for the time being, that an MVNO obligation is no longer necessary, the current version of the Tender Document under consultation nonetheless (still) provides for a voluntary MVNO obligation. In detail, the rules specify ensured wholesale access for MVNOs under generally defined conditions, in exchange for a reduction of the frequency licence fee by an amount to be determined later. The MNO bidding the lowest price discount would receive that discount and simultaneously acquire the obligation to allow wholesale access. If no MNO was interested in the price discount, the MVNO obligation would be dropped.

If the final version of the Tender Document does not contain the MVNO obligation, the Tender Document will be revised as follows (as far as the regulatory authority is currently aware):

- Section 6 (MVNO obligation) will be omitted entirely.
- Stage 4 of the Auction Rules will be dropped and the current stage 5 will become stage 4.
- Certain other changes, such as those relating to bank guarantees, fines payable and price discounts, will also be required.

We expressly mention that it will be necessary to reassess the need for an MVNO obligation with every future spectrum award.

Question 3: Concerning the need for an MVNO obligation, do you have any comments, anything to add or proposals for changes? Please give reasons for your opinion.

Question 4: In the event that the final Tender Document does include an MVNO obligation, do you have any comments, anything to add or proposals for changes concerning the details of how the obligation is defined? State whether it adequately ensures wholesale access for MVNOs and whether the specific terms are acceptable to MNOs. Please give reasons for your opinion and/or provide suggestions for specific changes and/or additions.

4.4 Minimum bid

In accordance with legal requirements, the regulatory authority has collected national and international reference values as a basis for estimating the lowest market value in each case, in order to determine minimum bids.

4.5 Product and auction design

With the assistance of DotEcon Ltd., the regulatory authority has developed two models that meet the award objectives listed at the outset while largely reflecting the input from the first consultation (see annex 3 by DotEcon Ltd., “Auction design proposals for the award of frequencies in the 700, 1500 and 2100 MHz bands”). While both are suitable for meeting the ambitious coverage objectives and obligations, each has its specific advantages and disadvantages, arising from the auction format selected.

The regulatory authority has had the two models peer-reviewed by recognised experts from academia (see annex 4 by Takon GmbH, “Comments on *Auction design proposals for the award of frequencies in the 700, 1500 and 2100 MHz bands*”) as well by RSPG experts.

Based on the recommendations and proposals made as part of the peer reviews, the regulatory authority has selected the first model (the non-combinatorial model). The Auction Rules are based on that general model. The regulatory authority has made the following additional changes based on the Takon recommendations:

- 2x5 MHz lots are to be awarded in the 700 MHz band to allow competition for incremental spectrum. At the same time, the data speed for the coverage obligation is to depend on the bandwidth acquired, to avoid aggregation risks associated with the data rate (with 2x5 MHz, half the data speed compared with 2x10 MHz). The simulations ordered by the authority have confirmed this stipulation.
- Generic coverage objects are to be awarded in the procurement auction and a ‘pay-as-bid multi-unit auction’ used. Following the proposal and the coverage objectives, the regulatory authority has selected poorly serviced cadastral municipalities to be the coverage object in the procurement auction. Specific cadastral municipalities will be assigned after the auction, by means of a coordination mechanism.
- In addition, the extended obligations bound to certain frequency blocks are to be distributed more or less symmetrically among the six lots in the 700 MHz band during stage 1. At the same time, larger coverage areas are to be formed to enable synergy effects to be utilised during rollout. The simulations have shown the coverage deficiencies to be very unevenly distributed over the various federal provinces. The regulatory authority has correspondingly decided to assign the cadastral municipalities to the six lot categories by political district.
- More flexible rules of activity in stage 1.
- The procurement auction of the MVNO package is to be held separately from the procurement auction for the extended coverage obligations.

The auction rules can be found in appendix E of the Tender Document.

5 Statements

Statements are to be emailed by **21 October 2019** to

tkfreq@rtr.at

Please use the cover sheet below, referring in the details of your statement expressly to the specific question in the Consultation Document, section in the Tender Document or the specific auction rule.

The regulatory authority will publish a list of the organisations/individuals that submitted statements for the consultation and consented to disclosure of the organisation/individual.

If requested, the complete individual statements will be published as well.

ANNEX 1

to the Consultation on the Tender
Conditions

in the procedure for awarding spectrum
in the

700, 1500 and 2100 MHz bands

Cover Sheet



Cover Sheet – Statement for the Consultation on the Tender Conditions in the procedure for awarding spectrum in the 700, 1500 and 2100 MHz ranges

General information

Statement submitted by: [Click here to enter text](#)

Represented by (if applicable): [Click here to enter text](#)

Postal address: [Click here to enter text](#)

Email address: [Click here to enter text](#)

Confidentiality

Please indicate whether your statement is confidential and, if so, which parts, while providing reasons:

Not confidential	<input type="checkbox"/>	Name/Contact	details/Profession
	<input type="checkbox"/>		
Statement content	<input checked="" type="checkbox"/>	Organisation	<input type="checkbox"/>

Certain passages of the statement are confidential

In this case we request you to additionally submit an appropriately redacted version of the document that you consider suitable for disclosure. The Telekom-Control-Kommission will publish an anonymised summary (without naming organisations/individuals) of all the statements received. Additionally, a list of the organisations/individuals that submitted statements for the consultation and consented to disclosure of the organisation/individual will be published.

Declaration

I hereby confirm that this communication is a formal statement within the framework of the current consultation and that the statement will be used by the regulatory authority subject to any confidentiality requests indicated above. When submitting the statement by email, the requests concerning confidentiality given above will be considered by the regulatory authority as relevant for deciding whether to publish the information, rather than any standard email texts concerning the confidentiality or disclosure of email contents (including any attachments).

Name

Signature

ANNEX 2

to the Consultation on the Tender
Conditions

in the procedure for awarding spectrum
in the

700, 1500 and 2100 MHz bands

Draft Tender Document

The draft Tender Document is separately available for downloading.

ANNEX 3

to the Consultation on the Tender
Conditions

in the procedure for awarding spectrum
in the

700, 1500 and 2100 MHz bands

Report by DotEcon Ltd. (“Auction design
proposals for the award of frequencies in
the 700, 1500 and 2100 MHz bands”)

The document is separately available for downloading.

ANNEX 4

to the Consultation on the Tender
Conditions

in the procedure for awarding spectrum
in the

700, 1500 and 2100 MHz bands

Report by Takon GmbH (“Comments on
Auction design proposals for the award of
frequencies in the 700, 1500 and 2100
MHz bands”)

The document is separately available for downloading.