

Consultation

Position Paper on

Infrastructure Sharing in

Mobile Networks

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Non-binding translation

NON-BINDING TRANSLATION

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bei der Rundfunk und Telekom Regulierungs-GmbH (RTR-GmbH)

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Overview

Permissibility of cooperation arrangements

- Passive sharing
 - Up to 50% sharing with one partner is unlikely to raise competitive concerns
 - No quantitative limit for future rollouts
- Backhaul
 - If necessary, only to be considered in the context of an overall assessment of competition
- Active sharing
 - Separation between the required coverage and the obligation for own infrastructure rollout allows more active sharing with certain restrictions
 - Prohibition of active sharing in Vienna, Linz and Graz as large, very densely populated areas
 - In other areas case-by-case assessment based on competition law
 - Transfer of spectrum possible (Article 56 TKG procedure)
 - Reporting obligation and duty to provide information about active sharing

Options for intensified cooperation arrangements

- In specific circumstances, more far-reaching cooperation is possible – also in very densely populated areas where active sharing is in principle prohibited.
 - Exemption is linked to the obligation to offer sharing to outside parties upon request.
- Sharing of legacy technologies
 - Case-by-case assessment based on competition law
 - 10% respectively 3% share of legacy terminals for a service as threshold for 3 to 2 or 2 to 1 reduction

Promotion of market entry

- Promotion of new entrants or MVNOs is possible in the context of award procedures
- Rules of this Position Paper do not apply to cooperations between or with new entrants

I. Introduction and background

Competition is driving the development of mobile communications, thereby providing reliable, low-cost, high-quality and innovative communications services to the population and the economy. At the same time, shared rollout and shared use of mobile communications infrastructure („Infrastructure Sharing“) enable network coverage at lower costs. Shared infrastructure may restrict competition incentives and the decision-making independence of the individual mobile operators and thus competition. The objectives of the TKG 2003 are both, the creation of low-cost, modern infrastructure and functional competition. Consequently, there may exist a conflict of objectives between these two different goals of the TKG 2003.

Against this background, in 2002, the Telekom-Control-Kommission (TKK) published for the first time a Position Paper on Infrastructure Sharing on the construction of the 3G networks. In 2011, the paper was revised, reflecting the technological and economic changes and the challenges of more far-reaching coverage.

Since the merger of two operators in 2012, three mobile network operators using their own infrastructures (MNOs) have been and currently are active in Austria. Mobile virtual network operators (MVNOs) obtain wholesale services from MNOs and strengthen competition on the retail market. This market structure, which has changed since 2011, but also upcoming frequency awards¹ as well as the technological development towards fifth generation mobile communications standards in particular have made a revision of the Position Paper of 2011 necessary. Fifth generation mobile communications is expected to bring in its wake among other things considerably higher bandwidths, more flexibility in the supply of services, shorter response times as well as the possibility of more intensive interoperation of many devices („Internet of Things“). This requires – besides further frequencies – in particular investments in additional sites and fast backhaul connections.

Against this background, the position of the TKK for the upcoming awards of frequencies and their subsequent use shall be expressed. The position shall

- provide the mobile operators with a legal framework that is as clear as possible for the upcoming awards and the associated investments;
- facilitate passive sharing for future rollouts;
- safeguard the required minimum extent of infrastructure competition;
- outline how coverage objectives in respect of mobile services do not preclude cooperation arrangements;
- create a framework for competitive cooperation arrangements with active infrastructure where duplication is not economically viable;
- allow more efficient use of spectrum by cooperation scenarios for legacy technologies; and

¹ Spectrum Release Plan. Schedule of Future Frequency Awards, RTR, December 2016, https://www.rtr.at/en/FRQplan/Spectrum_Release_Plan_EN.pdf

- if deemed necessary, encourage competition through new MNOs and MVNOs.

Irrespective of this, there may be restrictions on the possible cooperation scenarios under general competition law. Additionally, the regulatory approval for the transfer of spectrum requires a competitive assessment by the TKK.

II. Legal and economic framework

a. Objectives and instruments of regulation

Objectives of regulation

The TKK and its agency, Rundfunk und Telekom Regulierungs-GmbH (RTR-GmbH, together: the regulatory authority), have the legal obligation to ensure coverage in Austria with reliable, low-cost, high-quality and innovative communications services by encouraging competition. Regulation shall serve the purpose of efficiently using existing infrastructure and frequencies and encouraging efficient investments in infrastructure and innovations.

Instruments available within the framework of regulation

To achieve these objectives, the regulatory authority has several regulatory instruments:

- In the course of awarding a frequency usage right and pursuant to Article 55 (10) in conjunction with Article 47 (2) 1 TKG 2003, obligations may be imposed in the ancillary conditions so as to achieve the objectives of regulation. Within the framework of these obligations, new entrants may be also granted access to the mobile networks of existing operators for a limited term.
- Shared use of passive infrastructure shall be provided pursuant to Article 8 (2) TKG 2003.
- The transfer of frequencies is subject to regulatory approval pursuant to Article 56 TKG 2003. In particular, the effect on competition is to be assessed. Where it is deemed necessary, the transfer shall be prohibited or approved only in conjunction with imposing ancillary conditions.

b. Role of general competition law

Pursuant to Article 127 TKG 2003, the regulatory authority reviews cases also according to general competition law and, where applicable, makes applications to the Cartel Court. Moreover, pursuant to Article 46 KartG 2005 it is entitled to make statements in procedures in the telecommunications sector. The competition law related guidance given in this paper is based on these competences of the regulatory authority and on the overarching regulatory principles laid down in Article 1 TKG 2003.

The general competition authorities, however, are responsible for ex-post monitoring² of competition and have corresponding possibilities of sanctioning. Therefore and pursuant to Article 2 (4) TKG 2003, the regulatory authority cannot anticipate their decisions. But the regulatory authority can be proactive or contribute to decisions. The present position paper takes account of these circumstances.

Role of competition in mobile communications

Competitive pressure from other providers is the central control element that drives mobile operators to permanently improve their offers, implement cost savings, make investments and pass on the cost savings and the additional benefit also to consumers.

Competition in different time dimensions

In the assessment of competition, different time dimensions have to be taken into account. This refers to

- relatively direct and short-term competition in defining a specific offer with regard to price, quality of services, bandwidth, data volume and similar parameters;³
- medium-term decisions, for example, on the rollout of the mobile network and the expansion of capacity, increase in the degree of geographical coverage or improvement of quality (such as increasing bandwidth or reliability); as well as
- long-term decisions on the entry into a market and the acquisition of spectrum.

The prospect of protecting or increasing profitable sales by offering customers greater benefit (e.g. by improved coverage) or a better-value offer due to efficiency enhancements drives investments and constitutes a central incentive for the build-up and expansion of mobile communications infrastructure. The larger an operator's own market share is, the smaller is the incentive to make such investments in order to win additional customers from other competitors. The lower the competitive pressure of others is, the smaller is the incentive to retain the existing customers through investments and better offers.

Competition vs. economies of scale in cooperation

Independent mobile communications infrastructures allow competition independently of other MNOs. At the same time, joint rollout and joint operation of mobile communications infrastructure, as opposed to several infrastructures, bring about savings in many areas. In particular, in areas with low usage, the economies of scale in mobile communications are comparatively high. Because of this cost

² An exception is ex-ante monitoring within the framework of merger control.

³ Short-term competition also includes MVNOs.

structure mobile communications is an oligopoly with only few participants – in particular in medium- and long-term infrastructure competition.

Assessment standard for competition under general competition law

Cooperation agreements can lead to the development or strengthening of market power of individual operators, the cooperation partners or all market participants (collusion) in the short, medium or long term and may prevent or obstruct the entry or expansion of competitors (including MVNOs).

Within the meaning of Article 101 (1) TFEU, agreements that restrict competition are prohibited. Article 101 (3) TFEU provides an exemption to the prohibition of restrictive agreements. So in a first step, any agreement between MNOs has to be assessed in order to evaluate whether it has an anticompetitive object or any actual or potential restrictive effects on competition within the meaning of Article 101 (1) TFEU. In a second step – which only becomes relevant when an agreement is found to restrict competition – an assessment of restrictive and pro-competitive effects is done within the framework of Article 101 (3) TFEU. The burden of proof under the provision of Article 101 (3) TFEU rests on the undertaking(s) invoking the benefit of this provision of exemption.⁴

Article 101 TFEU is without prejudice to the application of Article 102 TFEU that prohibits the abuse of a dominant position.

The Austrian Cartel Act (Article 1 ff) is applicable in parallel.

Restrictive effects on competition within the meaning of Article 101 (1) TFEU

When assessing whether an agreement in mobile communications restricts competition, particular attention shall be paid to the following competition dimensions and competitive premises:

- Short-term competition vis-à-vis consumers
- Medium- and long-term competition, in particular: avoidance of irreversible investments, maintenance of incentives and the ability for autonomous decisions (regardless of existing cooperation arrangements), for example with regard to the development of new sites
- The likelihood of coordination: the exchange of strategic information and/or an agreed significant commonality of variable cost may increase the likelihood of coordination with respect to short-term competition and/or infrastructure investment

Any infrastructure sharing agreement between MNOs has to be assessed to see whether it limits the possibility to compete against each other or if it limits

⁴ See also: Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (2011/C 11/01), “Horizontal Guidelines, 2011”; Communication from the Commission — Notice — Guidelines on the application of Article 81(3) of the Treaty (Text with EEA relevance), Official Journal C 101 , 27/04/2004 P. 0097 – 0118

independent decision-making. Furthermore, sharing agreements may also give rise to anticompetitive foreclosure concerns in particular with respect to MVNOs.

A production agreement is unlikely to lead to restrictive effects on competition if the parties to the agreement do not have market power in the market on which a restriction of competition is assessed.⁵ However, the three MNOs typically have market power in the Austrian markets for mobile services for end-users, for access and call origination of calls on public mobile networks, for international roaming as well as for the termination of mobile calls. If these markets are affected, it is thus unlikely that restrictive effects can be excluded outright due to the lack of market power of any of the three MNOs.

In order to assess whether an agreement has restrictive effects on competition the market needs to be examined with and without the agreement in force and its alleged restrictive effects; and the two scenarios need to be compared. The existing stand-alone infrastructure of each MNO needs to be taken into account when assessing whether an MNO might be able to independently carry out the envisaged project or activity covered by the cooperation.

Assessment of cooperations that are found to be restrictive within the framework of Article 101 (3) TFEU

If an agreement includes a restriction of competition within the meaning of Article 101 (1) TFEU, an analysis within the framework of Article 101 (3) TFEU is applicable. For such an analysis, it is necessary to examine the four conditions of Article 101 (3) TFEU:

- efficiency gains;
- fair share for consumers;
- indispensability of the restrictions;
- no elimination of competition.

The derogation in Article 101 (3) TFEU applies only if these four conditions are cumulatively fulfilled.⁶

III. Structure of a mobile network and definitions

To assess cooperation arrangements in mobile communications for regulation, it is necessary to delineate the principal parts of a mobile network for regulatory purposes. It is a specific characteristic of mobile communications that the terminal equipment (identified via the SIM card) is connected to the access network via radio. The greatest possible comprehensive coverage with radio cells forms the basis of the mobile network. The access network is connected to the core network via the backhaul. The core network controls the connections of the terminal equipment to

⁵ See para 168-173 or 186 of the Horizontal Guidelines, 2011

⁶ Article 2 (1) KartG 2005 is applicable in parallel.

the access network and also establishes the connection to other networks.⁷ Below, the individual components of the access network will be described in some more detail.

a. Definition of the passive components of the access network

Passive components of the access network are, in general, all components that are operated without electrical energy. The joint use of these components is called passive sharing; in normal operation passive sharing does not have a direct influence on the principal parameters in short-term competition. Passive components are, among other things, the masts at the respective sites as well as other antenna mounting equipment (e.g. on rooftops). The power supply itself as well as a cabinet are also passive components. Potential air-conditioning or lighting – as part of the cabinet – would also be considered passive components despite requiring power supply, due to the lack of competitive influence in normal operation. Parallel lines, such as fibre optic cables between individual elements of the access network, are also passive components of the access network.

b. Definition of the backhaul: connection between access and core networks

The transmitting and receiving stations in the access network are connected to the core network via the backhaul. This connection can be established, for example, via microwave radio or fibre optics. Even though fibre optics is best suited to meet the requirements of 5th generation mobile networks due to reliability, high bandwidth as well as low latency, it often requires the deployment of new lines. In any case, two parallel lines allow independent usage. By contrast, the shared use of a line often requires coordination and a minimum extent of information exchange.

c. Definition of the active components of the access network

Usually, the active components of the access network are operated by electrical energy and are responsible, among other things, for signal generation, processing and amplification as well as control. They include, for example, the transmitter, the receiver, the hardware and software that generate, control and amplify or receive and decode the radio signal, or the electronic control of the antenna tilt. Antennas that require electrical energy, such as those equipped with an electrical amplifier or an electrical control for antenna tilt, are active components. Agreements that permit other operators the use of active components (such as National Roaming) are treated like active sharing in the assessment within the framework of this Position Paper.

d. Frequencies

⁷ The differentiation between access and core networks is based on the functional delineation of 3GPP, as amended (3GPP TS 23.002 V14.1.0).

Exclusive frequency usage rights are assigned to mobile communications companies. The acquisition of an exclusive right to use a frequency range is a prerequisite for the independent operation of a high-quality mobile network.

e. Expected future development of the mobile networks

The delineation between access and core networks and the network architecture itself are subject to change across different technologies and over time. In the future, technological developments shall also enable mobile infrastructure operators to concurrently provide several mobile networks that are, to a certain extent, independent of each other. Each mobile network shall have individualised service parameters (such as bandwidth, reliability) and shall thus respond exactly to the needs of the respective customer segment and subsequently practically form or enable a private network. The software shall enable individual functions within the mobile network to be performed on locally different hardware units so as to improve specific service parameters or perform certain functions centrally or on outsourced computers and, thus, more cost-efficiently. Among other technological changes seen to emerge is the trend towards using several antennas in parallel so as to increase data transmission capacity or improve coverage.

In the course of this development also innovative forms of cooperation arrangements governing mobile infrastructure may arise that need not necessarily be concluded between existing mobile operators.

IV. Permissibility of cooperation arrangements

Prior to discussing the permissibility of cooperation arrangements that restrict competition, current safeguarding of infrastructure competition shall be addressed.

Infrastructure competition is safeguarded in particular by the Multiband Auction 2013

The award of spectrum is the prerequisite for setting up a mobile network. In the award procedure the regulatory authority aims at a minimum number of competitors, a minimum extent of infrastructure that is independent of each other in the medium and long term and, thus, infrastructure-based competition, as well as extensive and/or fast coverage of large parts of the population with mobile communications services. In particular, in the context of the multiband auction in 2013, it was safeguarded by the ancillary conditions that extensive coverage would have to take place by means of a self-operated network.⁸ A self-operated network requires each MNO to operate its access network with its own active parts and thus prohibits sharing. This imposed coverage obligation by means of a self-operated network is linked to the licence terms for these bands and will expire at the end of 2029 and 2034, respectively.

⁸ See section 4) Coverage obligations in the frequency allocation certificate in the Notice F 1/11-283 of 19.11.2013, https://www.rtr.at/de/tk/F_1_11/30230_Zuteilungsurkunde_F_1_11.pdf

In addition, the individual MNOs have a large number of sites and passive infrastructure at their disposal independently of each other and are in a position to newly plan and establish sites and passive infrastructure themselves.

a. Passive sharing

Against this background, the regulatory authority is not currently considering including rules on passive sharing in the ancillary provisions of the frequency allocation notice. General competition law is applicable and the regulatory authority provides guidance within its competence.

At present, all three MNOs have a considerable amount of independence and have the ability to acquire new sites independently of their competitors. This is a starting point if the assessment of a passive sharing agreement requires a hypothetical scenario of comparison without such an agreement.

For the existing sites, sharing of up to 50% of sites with one partner is unlikely to raise any competitive concerns. In cases of more than 50% sharing of existing sites with one partner, the regulatory authority would apply a case-by-case analysis.

For future rollouts, the regulatory authority provides no quantitative indication for a cooperation of two partners. The following factors are relevant – amongst others – in the assessment of whether an agreement on passive sharing restricts competition.

- If an infrastructure sharing agreement restricts the sharing MNOs' ability to plan, develop and operate individual sites independently, it is likely that a restriction of competition within the meaning of Article 101 (1) TFEU is given. By contrast, the proven independent ability and incentive for competitive build-up and expansion of mobile coverage makes it more likely that passive sharing is not restricting competition in terms of Article 101 (1) TFEU.
- The planned extent of independent investment in passive infrastructure.
- Uniform network design, the mutual obligation to supply sites, obligatory advance information and the restriction of access for third-party competitors are likely to restrict competition in terms of Article 101 (1) TFEU.

When an agreement between MNOs restricts competition, in particular the following possible aspects play a role in the assessment of passive sharing within the meaning of Article 101 (3) TFEU.

- The magnitude of the savings potential, especially in sparsely populated areas when new sites are established.
- Reduced environmental impact and a public interest to share sites.
- Faster coverage with a new technology or a new band by combining the sites of several operators.

- Faster rollout, lower costs and higher quality due to joint connection of a site via fibre optic cables.⁹

Any restriction of the extent of passive sharing under competition law does not contradict the obligation to offer individual site sharing pursuant to Article 8 (2) TKG 2003. It is not individual shared use of a site but the total extent of shared use that may have a considerable impact on competition.

b. Backhaul

The regulatory authority is currently not considering including rules on backhaul sharing in the ancillary provisions of the frequency allocation notice. General competition law is applicable and the regulatory authority provides guidance within its competence.

In any case, joint deployment of separate lines (such as two fibre optic cables) and separate operation fall under passive sharing and the (above-mentioned) corresponding rules. Shared use of a line often requires coordination and information exchange. Normally, this may raise competitive concerns only if there are effects on competition from an overall perspective. In particular, any information exchange related to backhaul sharing needs to be assessed on possible collusive effects on related markets. As part of the regulated wholesale services of backhaul, a minimum level of information exchange is also required and thus competitively accepted. This must be taken into account in the assessment.

c. Active sharing

The regulatory authority considers to address active sharing within the ancillary conditions of frequency licence awards pursuant to Article 55 (10) in conjunction with Article 47 (2) 1 TKG 2003. Moreover, general competition law is applicable and the regulatory authority provides guidance within its competence.

On the basis of the above-mentioned reasons, the regulatory authority presumes for the upcoming awards that currently there is largely safeguarded medium-term competition in rural areas. Therefore, it will consider imposing obligations to offer services in these areas without imposing a wide-ranging minimum infrastructure.

No active sharing in Vienna, Linz and Graz (as very densely populated areas)

In the three largest cities of Vienna, Linz and Graz as large, very densely populated areas, the regulatory authority considers that there are only minor economies of scale in the construction and operation of shared active parts of the access network. For this reason, the regulatory authority is considering allowing the provision of services in Vienna, Linz and Graz in the ancillary provisions of the frequency allocation notice only in the form of an access network without active sharing in order to ensure a minimum level of infrastructure competition. This prohibition

⁹ The assessment of cooperation in the case of backhaul is given below.

would apply to cooperations between existing MNOs – also via third parties – with a certain minimum of spectrum.

Depending on the band characteristics, the award terms, the economic and technological circumstances and, where applicable, other factors, e.g. the risk of spectrum hoarding, the regulatory authority may also exclude active sharing in other areas (also to meet coverage requirements) in the ancillary provisions of the frequency allocation notice. For example, a regional award may require a minimum of infrastructure investments on a regional basis in order to regionally secure a level of services for customers on competing infrastructures.

Active sharing is not precluded ex ante by coverage requirements

Coverage requirements serve an explicit regulatory objective by ensuring fast rollout or rollout covering specific areas of a new band with corresponding technology. In this respect, also coverage of per se economically unprofitable areas may be required. It will be decided in the context of the respective award procedure whether coverage is required only upon acquisition of a specific frequency package or, for example, upon acquisition of a minimum amount of spectrum of a band.

In areas where active sharing is not prohibited in the ancillary conditions of the respective notice (basically in Vienna, Linz and Graz – in individual awards this prohibition may go beyond these cities) MNOs may decide whether they provide coverage either on the basis of their own active access network or by means of infrastructure-based cooperation arrangements. General competition law is applicable – also by the regulatory authority within its above mentioned competences.

Reporting obligation and duty to provide information about active sharing

Active sharing outside of Vienna, Linz and Graz without the transfer of frequencies does consequently not require the approval of the regulatory authority. However, where necessary, the regulatory authority needs to be aware in due time of the details of the different cooperation arrangements to be able to appropriately assess the effects on competition.

Therefore, in the ancillary conditions of the frequency award notice and in line with Article 90 TKG 2003, the regulatory authority considers imposing a reporting obligation on users of a frequency in order to be able to have a basic understanding of the amount of active sharing. The regulatory authority considers providing a report form that each operator would have to fill out. Once a year, every operator would have to inform the regulatory authority on the partner, the planned timeframe, the frequency packages, the technology, the extent of the shared active components, the number of shared sites and the traffic volume handled on the shared infrastructure over the past year. For each active sharing where the exemption (see below) applies, every operator would have to provide a description of the geographical extent and the reason for the exemption.

Furthermore, it is being considered to introduce a duty to provide comprehensive and complete information on request in order to assess any potential competitive concerns and to examine the exemption provision. Accordingly, in future awards the ancillary conditions of the frequency notice may stipulate that operators have to provide at anytime all required information (including the contractual agreement) on active sharing at the request of the regulatory authority in order to enable a competitive assessment.

Case-by-case assessment from the perspectives of competition law

As mentioned, initially, within the assessment of cooperation, it is required to assess whether an active sharing agreement is a restriction of competition within the meaning of Article 101 (1) TFEU.

In line with the Multiband Auction 2013, all three MNOs have to have coverage of more than 90% or 95% (broadband) respectively 98% (narrowband) of the population with the respective services. Within the area of already achieved coverage with stand-alone active access network, each MNO might be able to independently carry out a new or renewed investment in the active access network. Active sharing – even if networks are logically separated – is likely to reduce the ability for independent decision-making since many medium-term decisions, such as the rollout of a new site or the installation of new equipment, often require coordination measures between the competitors. If a restriction of competition is found, the cumulative conditions of Article 101 (3) TFEU have to be fulfilled for the exemption of the prohibition and the parties of the agreement have to prove the legitimacy of their claim for an exemption.

If solely the agreement or a part thereof (and all its individual potentially restrictive clauses) enables the partners to carry out a certain project or activity, the counterfactual in absence of the agreement or a part thereof is that the project or activity cannot be carried out independently. In such a case, the agreement or a part thereof might not be restrictive within the meaning of Article 101 (1) TFEU.

If a cooperation arrangement or a part thereof produces additional geographical network coverage going beyond the existing one (in particular on the basis of the ancillary conditions in the Multiband Auction 2013) and the imposed coverage requirements, the cooperation arrangement or the relevant part thereof, that produces additional coverage, is more likely not restricting competition. However, if the arrangement fosters collusion, it may still restrict competition. For example, a cooperation covering only a small area or a specific project may still have a collusive effect on a more general basis.

If a restriction of competition within the meaning of Article 101 (1) TFEU is found, the burden of proof for the exemption under Article 101 (3) TFEU lies with the MNOs.

Transfer of spectrum is not precluded ex ante, assessment pursuant to Article 56 TKG 2003

In areas where only one cooperation partner performed a rollout, the transfer of spectrum may lead to capacity expansions. At the same time, the other cooperation partner or partners is/are deprived of the incentive to roll out their own sites in this area. This is often efficient in the short run but it is likely a restriction of medium- and long-term infrastructure competition. At any rate, cases of active sharing involving the transfer of frequencies shall be referred to the TKK on the basis of Article 56 TKG 2003. Without approval such sharing is not permitted. The regulatory authority is obliged to assess the facts of the case also according to general competition law.

d. No sharing in the core network

The regulatory authority is of the view that a sharing of substantial core network functions among existing MNOs is unlikely to entail significant cost savings relative to the total cost of operating a mobile network. At the same time, it is rather likely that the sharing of substantial core network functions requires an intensive operational coordination that would restrict overall competition between MNOs. Furthermore, the required information exchange for sharing essential functions within the core network is likely to have a collusive effect on the overall competition between MNOs.

From the regulatory authority's point of view, cooperation arrangements on essential functions of the core network between existing MNOs are thus likely incompatible with the required minimum extent of infrastructure competition. Therefore, within the ancillary conditions of the spectrum awards, the regulatory authority considers banning such cooperation between MNOs with a minimal level of spectrum.

e. Assessment of the expected future development of the mobile networks

At present, the regulatory authority does not consider performing a separate examination of future technological developments. Generally, technological improvements and cost saving potentials are to be encouraged as long as competition is maintained. If current regulations restrict technological development in an unacceptable way, the regulatory authority will make corresponding adjustments.

V. Options for intensified cooperation in active sharing

The regulatory authority considers including an exemption to the considered prohibition of active sharing between MNOs in Vienna, Linz and Graz in specific circumstances in the ancillary provisions of the frequency allocation notice. Also in that case, competition law is applicable for any intensified cooperation and the considerations below may play a role in the respective assessment, too.

a. Exemption from the prohibition of active sharing

Higher capacity requirements and the demand for improved coverage, in particular in densely populated cities and within buildings, may require the rollout of a

considerably more densified network of mobile communications sites in the future. Generally, there exist many potential sites that are suitable for densification of a mobile network. It is one of the central tasks of each individual MNO to roll out a corresponding network of mobile communications sites in infrastructure competition. Each MNO's capability and incentive directed at cell densification are essential to maintain and further encourage infrastructure competition. However, when establishing densified networks, the coordination effort can be very high: different site providers have to provide sites and will receive compensation in return. Different approval and rollout processes as well as different energy supply and backhaul systems are complex.

Criteria for the exemption

The exemption from the prohibition of active sharing applies to the situation in which active sharing is objectively necessary for effective competition of MNOs. In view of the objective necessity, it is necessary to examine whether competitors could in the foreseeable future establish parallel or alternative active parts of the access network or replicate the active parts of the access network concerned in order to be able to exercise a competitive constraint on the market. The exemption also requires that there is a demand for the relevant services and that the active parts of the access network concerned are essential for the provision of these services. If these conditions are fulfilled only for individual parts of the active access network, the exemption only applies to these individual parts.

In particular, companies (such as hotels or shopping centres) or providers of infrastructure (such as transport infrastructure companies) can provide or require uniform active parts of the access network and are often interested in a uniform, low-cost supply of mobile services by all providers. De facto, replication of active parts of the access network can also be impossible in terms of costs. In such cases, it may be necessary to share active parts of the access network.

If the exemption criteria are fulfilled, more far-reaching cooperation is possible

The general rule that no active sharing is allowed in Vienna, Linz and Graz (and other regions depending on the ancillary conditions of the notice) would not apply if the criteria of the exemption were fulfilled. The exempted and thus shared active infrastructure would have to be offered on demand also to outsiders within the scope of what is technically and economically possible.

On a limited scale, the transfer of frequencies may not cause competition concerns

The transfer of frequencies continues to require the approval of the TKK. However, in the context of an exempted active infrastructure and on a limited scale, e.g. to increase capacity, the same may not cause competition concerns. Upon request, the regulatory authority shall assess such transfer pursuant to Article 56 TKG 2003. For the assessment of the effects on competition, in particular the design of the contract is crucial. The regulatory authority is obliged to assess the facts of the case also according to general competition law.

b. Sharing of legacy technologies

The lack of specific rules for a technology in the ancillary conditions of the terms of use of a frequency notice allows in principle the sharing of legacy technologies. Due to technological change, legacy technologies (2G, 3G) are likely to be used less frequently in the future. Continued operation of existing technologies may lead to higher incremental costs while sales volumes decrease. Also, spectrum as a scarce resource can often be used more efficiently using the latest technologies.

General competition law also applies to cooperation regarding legacy technologies. As a first step, it is necessary to examine if cooperation regarding legacy technologies restricts competition within the meaning of Article 101 (1) TFEU. Consequently, the comparison of the scenarios with and without the agreement is essential. Firstly, an assessment of the expected medium- and long-term competition for the legacy technology (to develop the network and capacity and to improve geographical coverage and quality of service) must be made, i.e. in terms of investment. Secondly, it would be necessary to examine whether geographical coverage and services on legacy technologies were maintained. Thirdly, it would have to be examined whether service competition between the three MNOs and the MVNOs were maintained. Regarding these three points, the agreement must not lead to a deterioration. This is a necessary precondition for ensuring that there is no restriction of competition within the meaning of Article 101 (1) TFEU. In addition, it should also be noted that cooperation in the case of legacy technologies, which converts fixed costs into variable costs for the parties involved, increases the likelihood of coordination in short-term competition and thus likely restricts competition within the meaning of Article 101 (1) TFEU.

If a restriction of competition within the meaning of Article 101 (1) TFEU is found, the burden of proof for justification under Article 101 (3) TFEU lies with the MNOs.

10% or 3% share of legacy terminals for a service as threshold for 3 to 2 or 2 to 1 reduction

If for less than 10% of the terminals of a particular service on a market (e.g. data transmission with a certain minimum bandwidth) only one technology is left, a reduction to two independent infrastructure operators for such a legacy technology might be justifiable. If the number of these terminals drops to 3%, one uniform infrastructure for such a legacy technology and competition of services among all three operators and the MVNOs might be sufficient.

In any case, a competition law based case-by-case examination is necessary. If the transfer of spectrum is also agreed upon, an assessment must be carried out by the TKK in accordance with § 56 TKG 2003.

VI. Promotion of market entry or short-term competition

Currently, three mobile network operators are active on the Austrian market as competitors with their own infrastructures. They use spectrum of different

frequency ranges and have a nationwide network of mobile communications sites at their disposal. On this basis, they are able to offer corresponding comprehensive coverage and to compete.

Promotion of new entrants or MVNOs is possible in the ancillary conditions of awards

Within the framework of frequency awards, it is possible for new entrants to acquire spectrum. It takes years for a new entrant to establish corresponding independent coverage. Depending on the development of competition on the Austrian mobile communications market, the TKK can take measures to encourage new entrants or MVNOs in the course of frequency awards. Obligatory infrastructure sharing for a specific term (e.g. temporary mandatory National Roaming offer in rural areas for new entrants¹⁰ or an obligatory nationwide wholesale offer for MVNOs) may be among these measures.

Rules of this Position Paper do not apply to cooperations with new entrants

A new entrant can also enter the market in specific segments, e.g. in regional coverage, specific coverage areas (indoor) or as specialist for certain services. In any case, the rules of this Position Paper do not apply to new entrants, the rules shall be determined on a case-by-case basis. A cooperation of a new entrant with an existing MNO or between two new entrants will usually provide for additional service and infrastructure competition. Thus, such cooperation does probably not restrict competition within the meaning of Article 101 (1) TFEU.

VII. Validity of this Position Paper

This Position Paper refers to the upcoming awards according to the current Spectrum Release Plan 2016. Each cooperation arrangement shall be assessed on a specific case-by-case basis. If necessary, the TKK can revise this Position Paper at any time. In any case, a revision is scheduled within the framework of the next Spectrum Release Plan.

¹⁰ In 2013, the ancillary conditions of a frequency notice for a new entrant in the 800 MHz pre-auction would have required coverage of 95% of the population within 8 years. See section 3.4.2.1.1, Ausschreibungsunterlage im Verfahren betreffend Frequenzuteilungen in den Frequenzbereichen 800 MHz, 900 MHz und 1800 MHz, https://www.rtr.at/de/tk/multibandauktion_AU/27890_F1_11_Ausschreibungsunterlage_Multibandauktion_2013_ohne_Anhaenge.pdf.