Český telekomunikační klastr TUSR Výbor Nezávislého ICT průmyslu z.s.

In Brno on March 13, 2024

Request for allocation of the 5.925 - 6.425 GHz band for outdoor fixed wireless services

In the coming years home and enterprise internet access in the European Union will face critical bottlenecks. Available research data as well as everyday experience of internet service providers show that the volume of data transmitted via the internet is increasing rapidly. This increase in turn necessitates constant technological improvement to be carried out by the operators.

A significant part of end users presently accesses the internet through RLAN (Radio Local Area Networks) fixed wireless networks. These networks excel in speed and economy of their deployment while retaining a high quality of service. For this reason, they are essential especially in rural areas where they often represent the only available option of a high-quality internet connection – the deployment of fiber-optical networks to remote or sparsely populated locations often being economically unfeasible even with directed state aid. Wireless internet connection is however widespread also in urban areas where it offers favorable service pricing options to the customers.

The concurrent presence of multiple internet access technologies enables infrastructure competition, a competition that leads network operators through market mechanisms to modernize, improve and streamline their internet service infrastructures. This makes infrastructure competition a very important aspect of the telecommunications market in any member state, and one that brings benefits not only to the end-users, but through synergic effects also to the economy as a whole. Such competition cannot take place without a robust and competitive fixed wireless infrastructure. Without it telecommunication networks tend to stagnate. The plurality and variety of telecommunications infrastructures also usually leads to a high level of regular business competition on a given telecommunications services market. This effect is more pronounced the easier it is to deploy the infrastructure in question and to connect customers in the geographical area. The ideal benefit for the telecommunications market in a member state is achieved when there is a large number of telecommunications operators, each (or at least most) of which own and operate their own infrastructure. This is due to the fact that such operators are not directly dependent on others and are able to freely define both the properties of their products as well as their pricing policy, and thus form their market strategy as well as adequately participate in the business competition.

For the reasons outlined above, wireless telecommunication networks are critical for the existence of infrastructure competition on the relevant market – considering the technological limitations of metallic infrastructure, the outdoor wireless RLAN networks represent the only robust competition to the fiber-optic technology and without them infrastructure competition cannot take place in a meaningful manner. Due to the aforesaid ease of their deployment (as compared to metallic or fiber-optic networks) fixed wireless networks are also an essential tool for enabling access of a larger number of telecommunications operators to the relevant market with all the benefits inherent in it from the viewpoint of business competition and its beneficiaries. This way

fixed wireless networks unambiguously help the development of competitiveness and sustainability even in densely populated areas.

In rural and sparsely populated or remote areas the significance of fixed wireless networks for internet connectivity rises even further, as it has proven to be economically unprofitable to connect said areas to the internet through fiber-optic technology even with EU or state provided aid. In many places fixed wireless networks represent the only reliable option for both household and enterprise internet access – a situation that is unlikely to change. For example, in the Czech Republic alone more than one million households are connected to the internet via fixed wireless networks. In the foreseeable future this number of connections absolutely cannot be replaced by fiber-optic technology because such replacement is economically, technically, and organizationally unfeasible. Without well-functioning fixed wireless networks, a large part of the population will not have access to quality internet connectivity.

All the aforesaid information gives reason to the conclusion that the operation of outdoor RLAN networks is a great benefit to the economy. In countries with a large share of fixed wireless connections such as the Czech Republic with more than 1 100 000 connections or the Slovak Republic with more than 280 000 it is also a necessity. These networks however need to be supported by the state primarily through radio spectrum frequency allocation. This is exactly the area where we can expect a significant bottleneck to form in the medium term at the latest unless relevant steps are taken. With the dramatically increasing volumes of transmitted data, we can safely say that the radio spectrum available to fixed wireless networks today is insufficient. Although wireless networks experienced a rapid technological development in the last several years, the high intensity of utilization of the available spectrum makes impossible the use of channels wider than 20 MHz impossible. This leads to limitations regarding connection speeds that can be provided to customers.

A viable solution to this problem would be the allocation of the presently discussed 5.925 – 6.425 GHz band for the operation of outdoor fixed wireless connections. Such allocation would unlock the potential of the deployment of the cutting-edge Wi-Fi 6 technology, that utilizes this band of radio spectrum. Both the required standardization and the chips for this technology are ready and commercial devices of various manufacturers are already entering the market. Therefore, the rollout of the Wi-Fi 6 technology would not be hindered by any unnecessary delays. Considering the opening of the 6 GHz frequency band especially in the USA and Canada, we can reliably expect that the technology will already be not only available, but also mature, when the frequencies are allocated in Europe.

The provisional final acts of the World Radiocommunication Conference 2023 (WRC-23) also indirectly favor the deployment of fixed wireless networks in the 5.925 – 6.425 GHz band. The responses by the members of associations of fixed wireless networks operators show that the wireless ISPs are generally ready to invest in this new technology and to rebuild their networks to the Wi-Fi 6 standard. This rebuild will mostly entail only changing the active devices on already existing broadcasting sites, which will be dramatically easier, faster, and cheaper than the deployment of fiber-optic infrastructure could be. Up to 160 MHz channels enabled by the Wi-Fi 6 technology will ensure capacity, speed and resilience of wireless connections using this technology fully in line with the requirements of the digital society in the 21st century.

The allocation of the 5.925 – 6.425 GHz band (also known as the lower 6 GHz band) will bring undisputed benefits in the quality of internet connectivity as well as business competition, including also the infrastructure competition, it will remove a bottleneck caused by the depleting capacity of available radio frequencies for hundreds of thousands or even millions of households, that currently rely on a wireless connection, and will allow a fast and efficient modernization of the telecommunications market. The enterprises active on the telecommunications market are ready for this change and would like to take advantage of it as soon as possible and to the greatest possible extent.

For all the aforesaid reasons, the representatives of the associations Český telekomunikační klastr (The Czech telecommunications cluster), Výbor nezávislého ICT průmyslu[1] (Committee of independent ICT industry) and Telekomunikačná únia Slovenskej republiky (Telecommunications union of the Slovak Republic) representing telecommunications operators active in the Czech Republic and in the Slovak Republic call upon the respective national regulators to promote on the national as well as European levels the earliest and most extensive allocation possible of the 5 925 – 6 425 GHz band for outdoor use by fixed wireless telecommunication networks (RLAN/Wi-Fi).

We are ready to provide any necessary cooperation to that end.

Český telekomunikační klastr z.s.

Telekomunikačná únia Slovenskej republiky

Výbor nezávislého ICT průmyslu, z. s.

[1] The association Výbor nezávislého ICT průmyslu, z.s. does not represent its member Vodafone Czech Republic a.s. in this matter.