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report

DEVELOPMENT OF 5G NETWORK IN CROATIA

By Marija Mušec, Partner, and Mia Kanceljak, Attorney-at-Law, Law Firm Bardek, Lisac, Mušec, Skoko in cooperation with CMS Reich-Rohrwig Hainz

››› MARIJA MUŠEC

››› MIA KANCELJAK

IN 2017, the Croatian Regulatory Authority for Network Industries ("HAKOM") formed a working group entrusted to identify the main challenges for the introduction of 5G in Croatia. The working group is expected to propose a Croatian Action Plan in accordance with the plan and initiative of the European Commission for the development of the digital single market[1].

The Digital Single Market Strategy envisages that implementation of the 5G network in the EU is a key value for the EU's competitiveness on the global market and could result in 2 million new job positions. In order for the implementation to be successful, the coordination of all Member States is required. Some Member States were late with their implementation of 4G in 2015, because of which we can see discrepancies in Internet speed across the EU. According to the Digital Economy and Society Index (DESI), Croatia has an average Internet speed of 7.30 Mb/s, which makes it the lowest ranking Member State. As a result, implementation of infrastructure for 5G in Croatia will require significant funds.

INVESTMENT OPPORTUNITIES ARISING FROM DEVELOPMENT OF 5G NETWORK

Apart from the telecommunication sector, other industries such as transport, health care, education, and production can also profit from the introduction of the 5G network. There are various investment opportunities resulting from the introduction of 5G networks. One of the strategic goals is the digital transformation of traditional sectors, such as the construction, agricultural and food sectors, and the textile and steel sectors.

Implementation of the 5G network will enable connections between smart devices, from smart phones, household appliances, to cars, smart machines, etc. Citizens will have access to new services offered by smart cities, smart industries, smart cars, and other kinds of applications. 5G will also enable the development of autonomous driving, where the costs of installment of sensor technology are already decreasing. Connected cars would be able to inform the driver if there is an obstacle on the street, or if an object is approaching in real time. 5G technology enables these processes to be completed within a matter of milliseconds, so that the car can react almost immediately.

5G will enable robots to be controlled remotely, which could have various potential uses, such as performing medical treatments with remote controlled robots through virtual reality technology. This will also enable the development of advanced production. Virtual reality technology will also expand in other ways, enabling new modes of social interaction which provide premium user experience and the almost immediate upload of content.

The EU plans to invest EUR 500 million in a Pan-European network of digital innovative centers in which companies will be able to test digital innovations and establish pilot-projects for the development of advanced technologies, such as the Internet of things.

Rising demand for 5G services will likely benefit licensed spectrum owners, mostly governments, but also some private companies. Equipment vendors, i.e. owners of 5G network equipment such as radios and antennas, will likely also benefit, as mobile operators will need to invest in this equipment before launching 5G services. Owners of cellular towers will also benefit, as existing towers may be used to deploy new equipment capable of delivering 5G signals.

REGULATORY DEVELOPMENT AND CHALLENGES

So far, HAKOM has not published a tender for allocating a radio frequency range for 5G. Based on publicly available information, HT is the first telecom in Croatia that achieved 5G functionality in real infrastructure conditions and thus made an important step towards making 5G networks available in Croatia. Also, HAKOM issued a temporary license to A1 to use the radio frequency spectrum in the 3500 MHz band, which helped A1 test new technologies prior to introducing the 5G network.

On 25 January 2019, HAKOM issued a public invitation for allocating spectrum in the radio frequency band 2500-2690 MHz for the period from May 2019 until October 2024. This will not only serve to improve 4G, but also pave the way for 5G. The award decision is expected to be published in March 2019.

The development of 5G in Croatia has not yet begun to reach full speed and will surely not be finished in the near future, but all stakeholders should be prepared once this process starts rolling.

One of the challenges that will have to be tackled after implementing 5G and digitalizing the industry will be the protection of (personal) data collected and generated by smart devices and sensors. The European Commission is aware of that challenge and will encourage countries to adopt guidelines (or new laws, if necessary) in order to ensure consumers are protected in the era of digitalization.

[1] *Communication from the European Commission on Connectivity for a Competitive Digital Single Market - Towards a European Gigabit Society; Communication from the European Commission on a Digital Single Market Strategy for Europe.*