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Per Email:

The Independent Communications
Authority of South Africa (ICASA)
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Date: 12 January 2023

Attention: Mr Manyaapelo Richard Makgotlho
E-mail: rmakgotlho@icasa.org.za
E-mail (Copy): jdikgale@icasa.org.za

Re: Response to ICASA's draft radio frequency spectrum assignment plans

Dear Mr Makgotlho

PRASA commends ICASA's regulatory consultation process of the implementing of the Draft Radio Frequency Spectrum Assignment Plans for the frequency bands. On the 11th of February 2022, we have provided the input/comment in the Radio Frequency Migration Plan and the International Mobile Telecommunications (IMT) Roadmap on the need of spectrum for transportation industry usage, however they were not reflected in this consultation process by the authority yet.

Since GSM-R is a 2G-based technology and currently 2G network has a proposed shutdown date sets for June 2024, we see Future Railway Mobile Communication System (FRMCS) will be an ideal substitute. It is the future worldwide telecommunication system designed as the successor of GSM-R, and also as a key enabler for rail transport digitalization and service innovation. At present our organization has already started its digitization process and would be seeking to enhance its current GSM-R network services with FRMCS system services.

As compared to GSM-R, FRMCS offers a higher quality of service, uses spectrum more efficiently and is more cost effective. The system is also planned

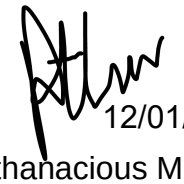
to deliver more in terms of applications such as Automatic Train Operation (ATO) or the Connected Driver Advisory System (C-DAS). PRASA has commenced with implementation of full train control systems in all new fleet rolling stock and trackside signalling system to fulfil the European Rail Traffic Management System (ERTMS) requirements. Further applications are expected to be introduced progressively. Critical FRMCS railway applications like monitoring and control of critical infrastructure may be operated efficiently using narrow band IoT. The FRMCS is capable of integrating new applications and technological developments over an extended period of time as railway communication systems have a much longer life cycle compared to public electronic communications networks and services.

The harmonization study from the European Union (EU) has identified dedicated railway bands in GSM-R expanded band (874.4-880.0 MHz // 919.4-925.0 MHz) and TDD 1900-1910 MHz for FRMCS throughout the Europe. Notably the GSM-R expanded band is a brand-new spectrum range for 4G, and it needs time to verify and develop its ecosystem.

TDD 1900-1910 MHz is a band that can get benefits from reusing ITU/3GPP telecoms mature B39 ecosystem, fast to go to market and commercial. Most European countries chose TDD 1900-1910 MHz for FRMCS, as well as pioneers in Asia and Africa. Currently, we see TDD 1900-1910 MHz is the best choice for South Africa. On one hand, it can reuse current GSM-R network. On the other hand, it follows FRMCS trend and can evolve to 5G seamlessly.

In conclusion, we strongly recommend ICASA consider reserving the spectrum from 1900 to 1910 MHz for railway industry, and start the process from draft and publish related Radio Frequency Spectrum Assignment Plans (RFSAPs) for consultation ASAP.

Regards



12/01/2023

Mr Athanacious Makgamatha
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