



European Utilities Telecoms Council

Response to the consultation by the Bundesnetzagentur on the proposed allocation of 450MHz spectrum.

August 2020

The European Utilities Telecoms Council (EUTC) welcomes the opportunity to respond to the public consultation by the Bundesnetzagentur on the proposed allocation of 450MHz spectrum to a national operator serving predominately the specific communication needs of critical infrastructures.

EUTC would like to highlight that private broadband radio technologies are instrumental in facilitating the evolution of traditional grids towards the Smart Grid. As pointed out in ETSI Technical Report TR 103 401¹, Smart Grid services need to rely on a private, reliable, redundant, scalable and high-performance telecommunications network. Private broadband radio technologies such as LTE are key to achieving this challenge which necessarily comes along with the need of broadband spectrum exclusively allocated to utilities. As identified in the ETSI report ETSI TR103 492², a minimum 2x3 MHz bandwidth in frequency bands below 1 GHz is required for smart grid services and applications.



EUTC has long been advocating the allocation of at least 2x3 MHz spectrum in the 400MHz frequency range for the requirements of the energy utilities, in particular to ensure secure and reliable digitization of smart grids in Europe. The minimum 2 x 3 MHz of spectrum in the 400 MHz region required for smart grid operations is only 0.5% of the 1200 MHz of spectrum which was identified for broadband radio services in the 2012 EU Radio Spectrum Policy Programme³.

Over the last few years we have seen many spectrum allocations respectively use case for critical infrastructures in the 400MHz frequency band, notably in Austria, Denmark, Ireland, Netherlands, Poland as well as based on the existing 450MHz spectrum assignment in Germany.

EUTC has been following closely the recent developments in Germany is fully supportive of the Präsidentenkammerentscheidung as proposed by Bundesnetzagentur. From our perspective it is key that the Bundesnetzagentur ensures as currently foreseen (i) the priority access for communication requirements of critical infrastructures and (ii) allocating the spectrum to the best qualified bidder for this specific use case via a non-discriminatory beauty contest. From a European perspective we would like to underline the urgent need to implement the newly established cross-border recommendations with the neighbouring countries to ensure fast and smooth deployment of networks also in border regions.

Not being a directly interested party in the spectrum we are abstaining for further specific comments but would like to add the international and European perspective, underlining why this spectrum decision is crucial to combat energy transition.

¹ https://www.etsi.org/deliver/etsi_tr/103400_103499/103401/01.01.01_60/tr_103401v010101p.pdf

² https://www.etsi.org/deliver/etsi_tr/103400_103499/103492/01.01.01_60/tr_103492v010101p.pdf

³ <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32012D0243>

EUTC is of the firm opinion that allocation of radio spectrum can make a positive contribution to combatting Climate Change as outlined in the EU “Radio Spectrum Policy Group’s work programme for 2020 and beyond”⁴.

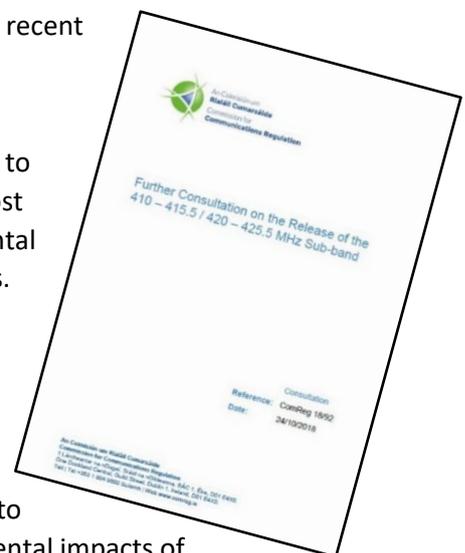
The UN Climate Action Summit in New York on 23 September 2019 declared that “Climate change is the defining issue of our time and now is the defining moment to do something about it. There is still time to tackle climate change, but it will require an unprecedented effort from all sectors of society.” [Diagram below] Energy production and use, including the energy used in transport, account for some 80% of the EU's greenhouse gas emissions. Thus, to tackle climate change effectively, Europe will have to largely 'decarbonise' its energy systems by moving away from fossil fuels.



Because of the unique propagation characteristics of spectrum in the 400 MHz region, allocating spectrum in this band for use by utility ‘smart grids’ will help Germany to manage the challenges of grid development in the 21st century in accordance with European Commission initiatives encouraging the use of Smart Grids in order to deliver more efficient energy generation and consumption as required under the EU Electricity Directive, and fulfil the ambitions set out by the Commission President Ursula von der Leyen in her ambitious European Green Deal Initiative.

Furthermore we would like to highlight a few of the conclusions of a recent Irish Government report on allocation of spectrum in the 400MHz frequency band for utility applications⁵:

- Smart Grids are a key component of government efforts to meet demand for increased energy requirements in a cost effective and secure way while reducing the environmental impact of consumption and associated carbon emissions. Different functions of the Smart Grid could provide substantial reductions in energy use and carbon emissions by using new technology and making renewable energy and efficiency programs more affordable and potentially more accessible.
- In particular, greater integration of renewable energy into electricity and gas grids is key to lowering the environmental impacts of generation and meeting climate change targets.
 - The International Telecommunication Union (ITU) has outlined how Smart Grids can help to mitigate climate change by building more controllable and efficient energy systems;



⁴ https://rspg-spectrum.eu/wp-content/uploads/2019/10/RSPG19-029final-RSPG_work_programme_20_and_beyond.pdf

⁵ <https://www.comreg.ie/publication/further-consultation-on-the-release-of-the-410-415-5-420-425-5-mhz-sub-band/>

- The United Nations (UN) has outlined that the demands of climate change requires the development of a Smart Grid which is founded upon communications networks that can deliver centralised real time monitoring and control, eventually across the entire power distribution domain.



- A number of seminal international and national studies have estimated the potential carbon reductions arising from the use of Smart Grids:
 - the Electrical Power Research Institute (EPRI) has estimated that Smart Grid enabled electrical distribution could reduce electrical energy consumption by 5% to 10% and carbon dioxide emissions by 13% to 25%;
 - a smart electrical power grid could decrease annual electric energy use and utility sector carbon emissions by at least 12% by 2030; and
 - the Sustainable Energy Authority of Ireland estimates that by 2050, Smart Grids will see an accumulated reduction in energy related CO2 emissions of 250 million tonnes.
- At a European Level, the European Commission has been encouraging the use of Smart Grids in order to encourage more efficient energy generation and consumption. For example, under the Electricity Directive
 - *“Member States should encourage the modernisation of distribution networks, such as through the introduction of **smart grids**, which should be built in such a way that encourages decentralised generation and energy efficiency.*
 - *“In order to promote energy efficiency, Member States or, where a Member State has so provided, the regulatory authority shall strongly recommend that electricity undertakings optimise the use of electricity, for example by providing energy management services, developing innovative pricing formulas, or introducing intelligent metering systems or **smart grids**, where appropriate.*
- The European Commission has an existing policy framework for climate and energy from 2020 to 2030 which proposes new targets and measures to make the EU's economy and energy system more competitive, secure and sustainable. It includes targets for reducing greenhouse gas emissions and increasing use of renewable energies noting that *“the EU and Member States will need to develop further their policy frameworks to facilitate the transformation of energy infrastructure with more cross-border interconnections, storage potential and smart grids to manage demand to ensure a secure energy supply in a system with higher shares of variable renewable energy”*.

The European Utilities Telecom Council (EUTC)

EUTC is the leading European Utilities trade association dedicated to informing its members and influencing policies on how telecommunication solutions and associated challenges can support the future smart infrastructures and the related policy objectives through the use of innovative technologies, processes, business insights and professional people.

This is combined with sharing best practices and learning from across the EUTC and the UTC global organization of telecommunication professionals within the field of utilities and other critical infrastructure environments and associated stakeholders.

If utilities are to construct their own private radio networks, it will be essential for them to be guaranteed access to a small amount of dedicated radio spectrum for their operations. THE EUTC Spectrum Proposal is summarised in the table (left). A minimum of 2 x 3 MHz of spectrum in the 400 MHz region is currently being sought by many utilities around Europe to service their operational requirements.

EUTC members include leading European and German utilities, among others E.ON, Innogy and Netze BW.

CONTACT DETAILS:

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| <i>EUTC Spectrum Proposal</i> | |
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| <i>Within Europe, multiple small allocations within harmonised bands:</i> | |
| LESS INTENSE APPLICATIONS | |
| <ul style="list-style-type: none">• VHF spectrum (50-200 MHz) for resilient voice comms & distribution automation for rural and remote areas. [2 x 1 MHz] | |
| ANCHOR BAND | |
| <ul style="list-style-type: none">• UHF spectrum (400 MHz bands) for SCADA, automation, smart grids and smart meters. [2 x 3 MHz] | |
| MORE DENSE APPLICATIONS | |
| <ul style="list-style-type: none">• Lightly regulated or licence-exempt shared spectrum for smart meters and mesh networks. (870-876 MHz)• L-band region (1500 MHz) for more data intensive smart grid, security and point-to-multipoint applications. [10 MHz] | |
| FOUNDATION BANDS | |
| <ul style="list-style-type: none">• Public microwave bands (1500 MHz – 58 GHz) for access to utilities' core fibre networks/strategic resilient back-haul.• Public satellite bands to complement terrestrial services for particular applications. | |