



BTG response on public consultation RSPG opinion documents issued on February 15 2021

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Introduction

BTG is an interest user group in the area of ICT and Telecommunications in the Netherlands. BTG represents since 1986 the interests of Dutch enterprises and organizations using communications services. BTG organizes network meetings for sharing knowledge and experiences. BTG counts 180 members from business and governmental organizations and represents these organizations nationally and internationally. BTG is member of the INTUG.

BTG interconnects organizations and performs active lobbying between government, suppliers and members in the area of ICT and Telecommunications. BTG realized already many years ago the strategic value of radio spectrum in the development of the digital society. For frequency spectrum matters BTG is lobbying to the Ministry of Economic and Climate affairs in the Netherlands.

BTG has established 5 years ago an expert group under their members, called KMBG: Critical Mobile Broadband Users. This expert group represents BTG member with business and mission critical mobile communications need. The expert group articulates the need for critical communications and bundles the interest of the users. The group shares knowledge of communications technology and contributes to policies for the government and mobile network operators. In the past years BTG in close cooperation with the Dutch MNOs have agreed on a specification for passive installations to provide mobile indoor coverage.

BTG recognizes a mismatch between the mobile mass market services and critical communications needs. Mass market services are in most cases best effort services. Best effort service are not good enough for critical needs. Critical needs communication can be provided by either private networks or by public mobile networks or both. It is however not known whether or not mobile operators can and will develop solutions that cater for all possible critical needs communications.

BTG has responded on many public consultations on frequency spectrum matters from the Dutch government. This is the first response of BTG on a public RSPG consultation.

The BTG response

The [RSPG \(Radio Spectrum Policy Group\)](#) has launched a public consultation on February 15. 2021 on three concept *Opinions*:

1. Draft RSPG Opinion on a **Radio Spectrum Policy Programme (RSPP)**.
2. Draft RSPG Opinion on **Spectrum Sharing** – Pioneer initiatives and bands
3. Draft RSPG Opinion **Additional spectrum needs and guidance** on the fast rollout of future wireless broadband networks

The BTG response is listed below per document.



1. RSPG21-014final_Draft_RSPG_Opinion_on_RSPP:

The BTG confirms the RSPG statement that the future Radio Spectrum Policy Programme is a means to support key Union policy areas: the European Gigabit Society, the European Green Deal, New industrial strategy for Europe and Shaping Europe's digital future.

Frequency spectrum is "the fuel" for mobile connectivity which enables economical and society developments. Radio spectrum is scarce so efficient allocation and usage are important conditions. We see that public networks of mobile operators makes efficient deployment of spectrum possible. Governments in each EU country divide the scarce spectrum over mobile network operators via auctions. This process has been executed over the past decades and has generated large amounts of Euro's for governments and per country a limited number of MNO's. BTG recognizes the benefits of a healthy and competing mobile telecom market for the mass market mobiles services and increasingly specific needs of business market.

1.1 Freedom of choice

On the other hand, BTG sees the necessity of freedom of choice. Many verticals have specific mobile communication needs that are not always fulfilled by services available from the MNO's. It's unlikely to expect that MNO's can anticipate on the tailored needs of enterprises in several verticals. Private mobile solutions, in most cases locally, can provide an answer for those specific needs. This constitutes a market niche compared to the mobile mass market. The economical and societal importance of mission and business critical mobile communications is already considerable and increasing. For these private solutions radio spectrum is required. We see that developments in Germany (with 5GACIA) and the United States (with CBRS) where governments have assigned spectrum to private mobile networks are expected to lead to an acceleration of economic development. BTG recommends a balance (freedom of choice) between solutions from MNO's and the possibility of developing private mobile network solutions.

For single company private solutions or private solutions shared between enterprises spectrum licensing periods must be at least 10 years. Otherwise, investments in critical mobile infrastructures are in most cases difficult and as a result the development of a solution will take a much longer lead time to start.

From the perspective of providing market verticals with options to create their own private mobile networks, we are happy to see that the RSPG recommends to note specific strategic EU policies regarding services other than electronic communication services (ECS), for which spectrum needs should be addressed. BTG has the view that thus far there has been too much focus on developing the markets by making spectrum available to players serving ECS and underestimating the needs for vertical specific private mobile networks and their market impact.

1.2 Critical users

The assignment via auctions of spectrum should, in our opinion, not primarily aim for high bids in an auction but at a solution that enables flexibility and adaptability. Sharing spectrum between user groups can be a way to go.



We recognize “critical” users with a:

- a. Regional outdoor coverage area need limited to a certain area and in the area a limited number of potential users. For this type of user with critical need a private solution with private spectrum is in most cases financially feasible.
- b. Regional outdoor coverage area need limited to a certain area and in the area a large number of potential users. For this type of user with critical needs a shared spectrum solution but also sharing of mobile infrastructures (RAN sharing) could be a good solution.
- c. Large outdoor coverage area need with limited capacity needs. The larger the area the more interesting a mobile network operator solution will be. The question is, is the mobile operator, that is focussed on the mass market, willing to adapt the specific critical functionalities. If not, this user has a challenge in creating solutions. But with the availability of limited spectrum in a low frequency band could provide solutions where the user has the choice for MNO or private.
- d. Large outdoor coverage area need with large capacity needs. The larger the area the more interesting a mobile network operator solution will be. The question is, is the mobile operator, that is focussed on the mass market, willing to adopt the specific critical functionalities. If not, this user has a challenge in creating solutions, because the availability of private spectrum to cover large areas is not available. For this user with critical needs, alternatives with a multi operator solution could be the way to go.
- e. Indoor coverage area need. Indoor connectivity needs are already massive and will grow in the near future. For specific critical needs, private spectrum can provide solutions. This spectrum can be shared between buildings and possibly also within buildings depending on mutual isolation.

In view of the significant shortage of private spectrum indoor usage seems most applicable to spectrum sharing solutions or the use of spectrum leased from MNOs, especially for MNO spectrum that is not used in a certain area or region. Currently no mechanisms are in place in The Netherlands to enforce such use-it-or-lease-it mechanisms.

For the user groups mentioned above a differentiated approach to making spectrum available seems more appropriate, focussed at matching the most appropriate frequency band and required bandwidth. Geographical aspects, time variability of the need or usage in certain circumstances (e.g., factory upgrades) can make sharing of spectrum a realistic option.

1.3 Eco-system

For mobile solutions an eco-system of technology, network equipment and mobile devices in certain frequency bands is required to be successful in the market. An eco-system will only be developed in case there is a demand market that is large and interesting enough for the supply market. Standardization, both for technology and spectrum, is key for the development of global eco systems. In time clarity around spectrum allocation for solutions will contribute to the development of eco systems and in-time readiness of the eco system. We have the opinion that it takes too much time in Europe before the EU and each member state provides clarity around spectrum allocation, especially for private usage. In time clarity will contribute to the goal of the EU and its member states to be the frontrunner in the digital transformation. But what we see in different European countries frequency band 43 and band 3.8 – 4.2 Ghz are emerging and the apparent divergence in assigning private spectrum is already visible.



1.4 Use it or share it

We are positively surprised by your mention of the principle of “use it or share it” for spectrum; although in The Netherlands such principle is not available, we see it as a valuable tool that can reduce the spectrum scarcity and find solutions for the significant lack of spectrum for private networks.

More openness on un-used frequency spectrum in certain geographic areas can stimulate the discussion with potential users and license owners to share or lease available spectrum. Regulation could be considered to force license owners to lease or share spectrum and can also create and put bounds on the conditions and pricing of sharing and leasing. Also, a multi-tiered spectrum access approach e.g., along the lines of the US CBRS seems interesting, although for geographically smaller countries like the Netherlands it may prove to be too difficult to ensure sufficient decoupling between the different usage tiers.

1.5 Pilots and trials

Pilots, trials and getting experience with dynamic spectrum sharing and discussions with the user- and operator market on effective regulations is needed to get traction on sharing. Monitoring tools for market and spectrum aspects should be an integrated part of all pilot and trial periods, including extensive publication of results, development of best-practices and resulting recommendations. Sharing of knowledge and experiences in other parts of the world can help to accelerate building the necessary knowledge on applicability and pitfalls of sharing mechanisms.

Important considerations for any spectrum sharing approach are flexibility and manageability. There may well be a range of usage scenarios varying from rather slow manually controlled sharing mechanisms (e.g. for infrequent, pre-planned specific events) to highly dynamic cases where near-real-time authorising would be needed. These aspects should be well covered in trials and pilots, possibly with automation of spectrum allocation management processes and also in solutions direct integrated into the mobile network technology. We notice that this draft RSPG opinion refers to the usage of unlicensed spectrum where possible. It is our opinion that unlicensed spectrum is a good solution for less critical, best effort, communications, but not suitable for business or mission critical applications. And in dense user locations unlicensed spectrum rapidly reaches its usage limits.

1.6 Strategy

For the strategic long-term goal of Europe in the development of the Telecommunications industry engagement with R&D for the next generation mobile networks 6G is evident. The 5G market needs still attention to become successful. We recognize that the business models of Mobile Network Operators are still focused on mass market applications and not or not yet tailored to serve also niche markets in the business sector. We also recognize that regulations for net neutrality appear to limit the development of niche solutions, especially related to prioritization, a feature that in many situations is essential for business and mission critical services.

We recognize that regulations around open markets, stimulation of competition and level playing field, limit an efficient way to develop shared radio networks in the future.. We notice the growing importance and dependency of society on mobile communications and the economic and social development that has taken place with the aid of mobile communications. Until today this growth was built on mass market type services and business models, but with industry 4.0 and other digitization initiatives of the professional, business and production market segments (verticals) we



notice a growing discrepancy with the mass-market mobile network operator approach. We see a challenge in matching demand and supply of niche needs and applying regulation to close the gap.

1.7 Climate change

On climate change BTG fully supports the RSPG statements:

- self-regulation and other voluntary initiatives of the wireless ECS sector to reduce its carbon footprint and incentivize the increase of the share of electricity consumption from renewable energy sources.
- wireless ECS sector cooperation and coordination to develop energy efficient standards and to design services and equipment based on such standards.

2. RSPG21-006final_Draft_RSPG_Opinion_on_Spectrum_Sharing

BTG supports the RSPG view that spectrum sharing in the Union is so far implemented in a rather static and conservative manner and needs to be developed, in particular for its potential to achieve more efficient use of radio spectrum, and to give incentives for innovation. We see spectrum sharing as a promising route to support dedicated solutions for mobile communication for industry and enterprise.

2.1 Sharing options

Options are mentioned like “use it or share it”, spectrum pooling, license shared access, geolocation database. Also, the option of network slicing and roaming agreements are mentioned as elements that could be considered for the creation of sharing model.

BTG recognizes a gap between the mobile communications need of their members, the feasibility and practicalities of current sharing models and expected results of these models in providing solutions. If spectrum sharing is to be used to enable private mobile network solutions, aspects like temporal availability, ease of management and long-term stability are essential and need to be well understood by all parties involved. We believe it is necessary to bridge the mindset of spectrum policy makers, service providers and users by explaining each other’s challenges and understanding each other’s languages. Based on the current opinions of RSPG it is difficult to see the effectiveness of sharing.

BTG encourages their members to articulate their mobile communication needs today and also in the near future. Increasingly we are seeing that the need for mobile communications is changing from nice to have to need to have. Industrial and business processes are increasingly becoming mobile and time critical, thus becoming heavily dependent upon mobile communication solutions. Also, the volume of communications has been increasing from narrow band voice into broadband data and video. And verticals have their specific demands, which often are more uplink heavy than downlink oriented, thus being rather different from the usual perspective and capabilities of public mobile operator networks.



2.2 Sharing conditions

For BTG it would be interesting to trial and experiment with dynamic sharing mechanisms and multi-tier sharing concepts, for example focussed at geographical “pockets”, to gain experience and understanding how this can match the needs of vertical. A good start could be to share current knowledge on this matter and share experiences within Europe and other parts of the world with similar solutions.

3. RSPG21-008final_Draft_RSPG_Opinion_on_Additional_Spectrum_Needs

With this document the RSPG provides a summary of the RSPG survey that was conducted between 15 June and 21 August 2020 and derives several opinions on the responses that were received from 25 Countries.

In their opinion RSPG recognises that spectrum demand for verticals has been addressed in the mid-bands in a dissimilar way in MS, due to different national circumstances (e.g. priorities for efficient spectrum use).

BTG has also recognized this situation, e.g., where countries have been identifying different parts of the 3.5GHz band for private usage. A key result of this is that the creation of international product eco systems in the EU becomes a challenge due to limitations in market volumes for equipment. Resulting in an EU market that is divided instead of bundled. Our question is how the RSPG can aid in aligning spectrum allocations across the EU member states.

BTG is happy to see that the RSPG recognises that there is a demand for vertical use in the mmWaves, and recommends that options should be developed for addressing vertical needs in the mmWaves, in order to facilitate consistent approaches.

BTG has recognized a very strong demand for vertical use in the mid bands where there is a serious spectrum scarcity. BTG sees technology uncertainties in applying mmWaves bands for critical communications. Applying mmWave in for example large steel-based areas (refineries, warehouses, etc) is as of yet not proven. Pilots and trials should be organized, and their results published to take away these uncertainties.

BTG is quite surprised to read the following conclusion of the survey “Due to low interest expressed by verticals most MSs have not considered dedicating spectrum for vertical use”.

Contrary to this BTG has continuously expressed to the Dutch government a high interest for vertical use of spectrum. Thus far there are no significant positive results in terms of sufficient spectrum for private/vertical usage in The Netherlands. For example, the planned allocation of spectrum for private usage in the 3.5GHz band deviates significantly from that applied in other EU countries. The reason BTG is responding to this consultation is to express the specific need of verticals for dedicated spectrum.

BTG strongly supports the RSPG recommendation to investigate the possible use of the band 3.8-4.2 GHz for private networks and local vertical applications while protecting receiving earth stations and other existing applications and services. It is important to mention that MNO’s already have been given 300 MHz in the 3.5 GHz band. Essential here is to ensure harmonised availability across the EU to grow the eco system for infrastructure and device equipment.



On the subject of designating spectrum for FWA in the mmWave bands, BTG notices that there already are FWA application in the mid band where it is maybe more logic to shift FWA applications to the mmWave band. This would free-up midband spectrum for other business- and mission critical application by verticals.