

## **Remarks to EU High Level Dialogue On Spectrum-Related Issues, 3 February 2016**

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**Chair of the Radio Spectrum Policy Group**

Thank you for the opportunity to speak to this distinguished group today.

This is my first public appearance as the Chair of the Radio Spectrum Policy Group, or RSPG. It is an honour to be elected by my peers, and I look forward to the RSPG contributing to the debate on spectrum management in Europe. We are living in a critical and fascinating time for those of us who live and breathe spectrum. It's driving the new economy in all sorts of different and exciting ways.

I've spent most of my career in the mobile sector, so I'm personally looking forward to contributing to these debates, which so often are centred on the mobile sector. However, we mustn't forget that spectrum is about much more than mobile broadband – indeed it is supporting an ever increasing range of services and applications that are vital to our economy and society.

You might have started your day today turning off an alarm clock that synchronises its time using spectrum. Perhaps your journey here began with unlocking a car door with a wireless key fob; or perhaps you came on a train that uses its own communications systems to co-ordinate with other trains and with the central control; or on a flight that uses a hundred different technologies, all dependent on spectrum, for communications, navigation and safety. As you listen to the presentations you might be using tablets and smartphones to check facts, tweet headlines or turn your central heating off.

Some of you might not have heard of the RSPG before today, but for over ten years, we have been the European expert authority on spectrum policy.

The group was set up to bring together the spectrum management authorities from every Member State. We provide advice to European lawmakers on many spectrum issues, to foster a functioning internal market for services that rely on spectrum.

The DSM strategy, and within that, the review of the Telecoms Framework, presents us with a welcome opportunity to look at the European rules for co-ordination of spectrum management. It comes at a time when the uses of spectrum are proliferating and the value of spectrum to the economy has never been greater. It has never been more important that we get these rules right, because the opportunity costs - if we get them wrong - could be extremely high.

The RSPG welcomes the fact that spectrum is a core part of these debates, and that it's recognised as a fundamental input to important services.

The RSPG already has a good track record of contributing to European spectrum policy-making. It has advised European law-makers on a long-term strategy on the future use of the UHF band – this is the 700MHz spectrum that is uppermost in everyone's minds today, as the Commission has presented a new legislative proposal to harmonise this for mobile use in the EU. It advised on the so-called 'Digital Dividend', which was the previous repurposing of broadcast frequencies for mobile use. We also have an on-going statutory role advising the Commission on the Radio Spectrum Policy Programme, or RSPP, which

includes targeted actions in support of the roll out of high-speed wireless broadband, via the identification of at least 1200 MHz of suitable spectrum by 2015 for wireless data traffic.

Today, the RSPG has published an Opinion on the Framework Review.

And the new Work Programme that we will propose under my Chairmanship will contribute to the development of the Digital Single Market further in a number of specific ways. For example, RSPG expert working groups will consider the core issues of 5G mobile technologies, the Internet of Things, and Intelligent Transport Systems. We will provide further advice on the Framework Review and the Digital Single Market strategy, and we will build on our recent report on best practice in spectrum awards, with an on-going programme for disseminating and improving upon best practice knowledge in this key area.

I'll say more about these. But first, let me start with the Framework Review.

### The RSPG Opinion on review of the Telecoms Framework – some key themes

Our starting point is: how can the current regulatory framework be improved for European citizens?

In order to answer that question, we need to understand what the deficiencies might be in the current framework and what the specific goals are to be achieved by revisions to it.

The current framework sets out principles such as technological neutrality that have been and will continue to be critical in the future management of spectrum. It is far from clear that the current framework is causing problems, and more needs to be done to clearly articulate what specific goals we are trying to achieve.

It goes without saying that the RSPG is ready to advise European policy-makers on any specific proposals that are made, and the institutions necessary to deliver these: that is a key reason for our existence.

But I hope the RSPG will also be able to step back and offer its own analysis, too – building a greater, independent strategic capability is one of my principal ambitions for the RSPG during the next two years, starting with the subject of the digital single market.

### Spectrum for ECS

Spectrum is essential for mobile broadband services, so-called Electronic Communication Services, or ECS. It is easy to focus on ECS, particularly as they are such a fundamental part of our modern lifestyles. But a next-generation connected society is not only about mobile broadband, and wireless communications encompasses more than mobile devices. We need a broader view of the role of spectrum in realising the potential of the Digital Single Market.

For example, the Internet of Things and machine-to-machine communications technologies could bring about an explosion in the number of internet-connected devices, revolutionising the business models and practices in such disparate sectors of the economy as agriculture, healthcare, and manufacturing. And spectrum is also necessary for sectors beyond wireless communications, such as scientific applications and radar. Innovations in these and other areas might or might not rely on mobile broadband networks; it is too early to say.

But mobile broadband is the focus of the Framework, and it is instructive to consider the recent history of spectrum use for mobile broadband in Europe, if we are asking how the current Framework might be improved.

To start with, it's important to note that the current framework has delivered mobile broadband in Europe. Europe is already leading the world in terms of spectrum release for mobile broadband – we are on track to meet the 1200MHz target for spectrum release set out in the RSPG. People talk about South Korea being ahead, and indeed they may be in terms of services. But they are achieving that with less spectrum than Europe.

Some have suggested that the European market as a whole is currently constrained by a lack of available spectrum, or by the current institutions and processes. We do not agree. This is not to say we are complacent: any process can be improved, and that was the aim of our work looking at best practice for spectrum awards.

More broadly, the RSPG has a track record of advising on future spectrum policies and we will maintain a strategic focus – looking ahead in the medium and longer term not just to spectrum needs in the technical sense (such as frequency allocation, or technical harmonisation measures), but also on the strategic and institutional dimensions of spectrum management.

There is considerable excitement currently about 5G, which is a catch-all term for the next generation of mobile communications, even though there is no agreement internationally on the technical requirements yet, or the spectrum that will be needed to meet these requirements. The RSPG is planning detailed work on 5G, and as an ex-mobile executive I share the excitement about the revolutionary products and services that might be enabled by the next evolution of mobile networks, but it is worth also making a few simple points.

First, 5G will not replace 4G. There is wide agreement that 4G will continue to be the main mobile network for many years. But 5G networks in parallel to 4G will be able to offer higher performance for applications that require it, and in particular, improved mobile broadband speed and capacity, but also higher reliability and lower latency. In plain English, that means connections capable of enabling a host of new uses for mobile networks, from tele-health to connected cars.

Second, a large part of the spectrum policy thinking around 5G is identifying the right spectrum bands. This is likely to mean allocating new bands to 5G, but also re-farming existing bands: the present framework provides a sound underpinning for this. But the spectrum planning for 5G must begin with the research and development and the global standards processes that now govern innovation in mobile networks. Our ambition for 5G is that there is global development of the standards, rather than a patchwork system of regionalised versions. This is what will enable the fullest realisation of benefits for every region, including Europe. Another ambition is to make sure 5G is delivered for everybody.

### Spectrum and innovation

Thinking about 5G innovation leads me to the broader question of innovation in wireless services more generally. Innovation is a key theme of the Digital Single Market strategy, and as national spectrum authorities, RSPG members are all familiar with this imperative at the national level too, as our administrations seek to stimulate growth in the new economy.

In wireless services, we tend to see two kinds of innovation.

First, there is global innovation in mobile devices and the networks that these rely on. This is the innovation mechanism that we are currently seeing in relation to 5G. It relies on global processes, for example, the global mobile standards body 3GPP. It needs global harmonisation of spectrum bands, which occurs at the World Radio Conference run by the ITU. These global processes have long lead times because they involve years of technical research activity with huge resource requirements. As such, they are led by global equipment manufacturers and network operators.

In reality, this might not be the type of innovation that we are often talking about encouraging in Europe. At the global level, spectrum managers are working together with standards bodies to facilitate the development of new technologies and the global identification of suitable bands. And at the European level, as I said in relation to 5G, our ambition here is that innovations of this type are brought quickly to our regional market, and that global agreement is achieved, because the economies of scale are such that a regional patchwork of different systems will bring fewer benefits and slower progress.

Then there is real “grass-roots” innovation, the kind done by people in their garages. This is driven by small- and medium-sized companies: start-ups and SMEs, in the jargon. This type of innovation relies on finding bits of spectrum that can be made available quickly, through a variety of techniques such as licence exemption or spectrum sharing.

RSPG members have themselves innovated in their spectrum management practices, in order to provide this type of spectrum. In the UK, for example, we have recently set up a new approach to allow for the exploitation of the “white space” in the valuable frequency bands that have been used for broadcasting. We use a central database to co-ordinate different users, so that a new user can just check whether a frequency is available at a given location and time, and if it is, they can go ahead and use it.

Whatever the approach taken, the role of regulators in facilitating this sort of innovation is simply to make spectrum available, locally and quickly – and otherwise, not to stand in the way. Regulators are not themselves responsible for delivering innovation, but they can set the conditions under which it can flourish by removing barriers to entry at the local level and enabling new entrants to access the market.

### Harmonisation and the Framework

So what can we say about the evolution of the framework?

To have as a goal the harmonisation of spectrum, is to mistake the means for the end.

Rather, our goal should be to achieve the optimal use of spectrum in order to achieve EU and national policy objectives. Harmonisation should be pursued insofar as it helps us achieve that goal.

In considering what kind of harmonisation will deliver those objectives, it is worth bearing in mind the very important point that a service is not the same thing as a frequency – and in order to deliver a service across Europe, it is not necessary for the same frequency to be made available for it in every Member State.

To take a timely example, 4G mobile services have been delivered across Europe using a variety of spectrum bands in different national markets. Modern mobile equipment is designed to cope with different frequencies in different places.

It has been argued that delays in the release of 800 MHz across Europe contributed to delays in deployment of 4G. But I don't think this is right. Indeed in some countries – the UK for example – 4G services were first deployed in the 1800 MHz band. In other countries 4G services were deployed in the 2.6 GHz band. The truth is that mobile operators across Europe have had a degree of flexibility over the bands in which they choose to deploy 4G technologies, their decisions in large part driven by the bands included by global manufacturers in their mobile chipsets. The Framework explicitly anticipates and encourages this flexibility: this is what is meant by “technology neutrality”.

Having said that, *technical* harmonisation is absolutely necessary, so that equipment everywhere works to common technical standards and doesn't interfere with other users in a band or neighbouring bands. But this doesn't mean it always make sense to do the same thing, using the same spectrum, in every country. That type of harmonisation is simply not necessary in order to deliver pan-European services.

Indeed, that type of harmonisation might make it more difficult for spectrum managers to deliver services and manage their spectrum efficiently, if it fetters their discretion. To take the simplest example, a less densely populated country will not have the capacity requirements of a larger country. Other factors will also differ across countries, such as geography, legacy users, the structure of mobile markets, and differences in the requirements of other public sector users such as the emergency services and the military. These are not differences that can be simply wished away. But if the national spectrum manager has sufficient flexibility, then these different circumstances can be accommodated, while still delivering the necessary pan-European services. If every spectrum authority were required to licence the same exact bits of spectrum in the same exact way, despite their different needs, this would risk sterilising spectrum, a finite resource, and spectrum is too valuable and too important to allow this to happen.

So the RSPG supports harmonisation where it leads to more efficient spectrum use and where it is driven by clear demand. In our opinion on the Framework Review, we have set out some simple criteria for when harmonisation brings benefits: where it supports economies of scale, where it responds to cross-border necessity, and where it is required for mobility of services or EU-wide provision.

What we need is a more intelligent approach to harmonisation. We need to ask when it is likely to bring benefits, and on the basis of that analysis, decide when and when not to harmonise and with what degree of flexibility. We need to give manufacturers the certainty they need, while ensuring that spectrum is not going to be sterilised and that Member States can continue to meet the needs of consumers.

### Conclusion

To sum up, we need to be more agile, more intelligent, in our approach to spectrum management - and the RSPG is ready to play a greater role in this.

I've spoken about how the RSPG has already delivered advice to the Commission aimed at supporting the Digital Single Market, and about our strategic approach to spectrum management in a world of increasing demand for wireless services.

The RSPG is uniquely positioned to play a fundamental role in shaping European spectrum policy – it has the track record, the expertise and the support of all Member States in doing so.

Looking ahead, we see the potential for an enhanced role of the RSPG, not only assisting the European institutions on spectrum policy issues, but also taking forward the dissemination of best practices in spectrum management. This is already beginning with our work on spectrum awards, which will be adopted at the next RPSG Plenary meeting in a few weeks' time.

The Framework Review provides a timely opportunity to re-examine Europe's approach to spectrum management. Again, we are not complacent about the status quo. But it is critical to make sure that the approach Europe adopts is the correct one, because the potential costs to European citizens and consumers of ineffective and ill-judged approaches to spectrum management could be high.

I would like to conclude by welcoming the cooperation of BEREC, or the Body of European Regulators for Electronic Communications – our sister organisation comprising the national regulators who are responsible for the functioning of electronic communications markets in Europe. BEREC and the RSPG share the same goal of ensuring the next generation of mobile services is available to all Europeans – our different focus, BEREC on electronic communications markets and the RSPG's on spectrum, means that together we can see the whole picture.

BEREC and the RSPG have today announced further joint working on the Digital Single Market and the Framework Review, building on their experience of developing best practices and on RSPG's work on spectrum awards, a project that benefited from invaluable BEREC input.

Both through this joint working and as an independent expert voice on spectrum, the RSPG looks forward to advising European policymakers on the development of Digital Single Market, including on the Framework Review, over the coming years.

Thank you.