



## EUROPEAN COMMISSION

Directorate-General for Communications Networks, Content and Technology

Electronic Communications Networks and Services

**Radio Spectrum Policy Group**

**RSPG Secretariat**

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DG CNECT/B4/RSPG Secretariat

**RSPG16-026 FINAL**

## **RADIO SPECTRUM POLICY GROUP**

### **Progress Report of the RSPG Working Group**

#### **on spectrum aspects of Internet-of-things**

I- RSPG work item: update to Plenary	
<b>II- Work item</b>	Spectrum aspects of Internet-of-things (IoT) including M2M
<b>Rapporteur/s</b>	Oli Bird, Ofcom, UK; Fokko Bos, Min. of Economic Affairs, NL
<b>Rationale</b>	<p>Internet-of-things (IoT) including Machine-to-machine communication (M2M) will impact the economic growth and social development. There is a need to strategically review those topics. RSPG is aiming at supporting the on-going transformation at its best in compliance with the EU policies for the digital society and economy, transport as well as innovation and competitiveness.</p> <p>IoT is used e.g. for remote monitoring, management in warehouses, remote control, telemedicine and telemetry. Additionally within traditional industries, such as logistics (eFreight), automated manufacturing and retail, intelligent objects facilitate the exchange of information and increase the effectiveness of the production cycle. It involves sensors, RFID, Wi-Fi or cellular links. The OECD expects that about 50 billion devices in 2020 will be connected to the internet. Hence the predicted growth of IoT applications would put pressure on the use of existing SRD bands, especially in frequency bands below 1 GHz. As 5G is very suitable for the requirements of M2M which are low latency and high availability it should be considered as important technology for IoT.</p> <p>Therefore, a need to strategically review the current status on IoT including M2M with the aim of developing a spectrum strategy has been identified, taking into account the individual requirements.</p> <p>RSPG has previously addressed the Internet-of-things (IoT) including Machine-to-machine communication (M2M) in its report on “sectoral needs”.</p>
<b>Scope</b>	<p>Taking into account the RSPG report on ‘sectoral needs”, the RSPG plans to develop a spectrum strategy including:</p> <p>A review of “state of the art”, regulatory issues, the provision of access to spectrum and, as appropriate, to address spectrum and connectivity needs for IoT including M2M. Various types of IoT devices and applications should be considered such as smart meters/grids, automated manufacturing and various forms of e-health devices (RFID tags, remote control, etc.). The impact on the sector from 5G should be also addressed.</p> <p>RSPG will cooperate with relevant entities in developing this strategy.</p>
<b>Planned deliverables and timing</b>	<p>RSPG Opinion (if needed accompanied by a Report)</p> <ul style="list-style-type: none"> <li>• Draft Opinion in November 2016</li> <li>• Final Opinion in February 2017</li> </ul>
<b>Analytical approach</b>	<p>The working group aims at responding to the strategic EU policy objectives, defined by the RSPP.</p> <p>An early discussion in the group suggests that it is becoming increasingly necessary to promote existing spectrum options to new stakeholders in the field of IoT technology. For the longer term, a range of questions need to be answered. These included issues around how much spectrum might be required, which frequencies, if and how the</p>

	<p>market is growing, and whether there are any spectrum bottlenecks on the horizon.</p> <p>Identification of particular challenges:</p> <ul style="list-style-type: none"> <li>• The ranges of networks that might feature – short range, long range, etc.;</li> <li>• Features of use cases that might have spectrum implications, e.g. wall penetration;</li> <li>• Innovation in the sector – ensuring that new market players could identify and use spectrum;</li> <li>• Overlap with 5G and the relationship with “standalone” networks;</li> <li>• Relationship with licensing models/ unlicensed / licence-exempt spectrum;</li> <li>• Connectivity needs - Coverage of rural areas (e.g. for smart farming)</li> <li>• Spectrum opportunities, including spectrum sharing.</li> </ul> <p>Different studies are available in member states with recent research or developments in IoT. These will be exchanged. Look at common findings and approaches. Look at trends in applications and use, trends in technology, spectrum policy / harmonisation and possible bottlenecks.</p>
<p><b>Project plan</b></p>	<p>The work streams on IoT and ITS will be held at the same time so as to ensure convenience for those needing to travel to attend, and to keep the work areas joined-up. Project milestones for each of the work streams generally mirror each other and have been aligned with RSPG plenary meetings.</p> <p>Next steps / Work to be undertaken:</p> <ul style="list-style-type: none"> <li>• Agree an approach to defining ‘IoT’ and ‘M2M’ that will consequently define the scope of the work;</li> <li>• Work strategically from a list of likely scenarios / use cases, and in turn consider the networks necessary to support these, then the spectrum bands and licensing models that will enable these networks;</li> <li>• Hold a stakeholder meeting with specific invitees to gather a range of external perspectives;</li> <li>• Locate this work within a broader strategic context for IoT and the wider implications for digital policies as part of the DSM.</li> </ul>
<p><b>Dependencies</b></p>	<p>A regular dialogue will be set up with the 5G workstream, given the strong links and potential overlap between the IoT / ITS and 5G work areas.</p>

**Members, stakeholders and resources**

<p>Members</p>	<p>Sabrina Stanislas Boumier, Ministry for Industry and Digital Infrastructure, FR          Florence Erpelding, ANFR, FR          Erika Forsberg, Ofcom, UK          Walter Guggi, Ministry of Transport and Digital Infrastructure, DE          Steve Jones, Ofcom, UK          Oliver Keden, BNetzA, DE          Rüdiger Martin, DG Connect          Giuseppe Rizzo, DG Connect          Tom Wikström, Ficora, FI          Kenneth Concannon, Conreg, IE</p>
<p>Key stakeholders</p>	<p>Tbd</p>

	CEPT ETSI GSM-A Alliance for Internet of Things Innovation (AIOTI)
Other resources	tbd

**Work flow (internal and external milestones)**

III- Date	Action / deliverable	Internal Work group only	External Plenary, Publication
Year 2016			
3 May	First meeting of work group – discuss scope and plan	Work group	n/a
8 June	Update to Plenary	Rapporteur	Plenary
29 June	Second meeting of work group – discuss feedback from Plenary and first contributions	Work group	n/a
Early autumn (date TBC)	Stakeholder workshop	Work group	Stakeholders
(date TBC)	Third meeting of work group – drafting	Work group	n/a
9 November	Draft Opinion presented to Plenary	Rapporteur	Plenary
December (date TBC)	Public consultation published	Work group	Publication
2017			
January (date TBC)	Fourth meeting of work group – discuss responses and final drafting	Work group	n/a
February (date TBC)	Final Opinion presented to Plenary	Rapporteur	Plenary
March (date TBC)	Publication	Work group	Publication
Future dates and actions to be decided in light of agreed work plan			