



EUROPEAN COMMISSION

Directorate-General for Communications Networks, Content and Technology

Electronic Communications Networks and Services
Spectrum

Report

Aeronautical Spectrum Seminar, 10 December 2013

This event was the follow-up of a high level meeting between DG Connect and the UK Civil Aviation Authority, where it was decided to organise a seminar aimed at informing the non-aeronautical spectrum stakeholders of the peculiarities of this sector.

Andreas Geiss, acting Head of the DG Connect Radio Spectrum unit co-chaired the event and made the first keynote speech. He notably underlined that the aeronautical community is a large user of spectrum. Therefore it is important to have a better understanding of present and future use of spectrum in that sector. How will we satisfy spectrum requirements? Efficient use and innovative developments are needed and welcome, but how to deal with older technologies? It is important to look at sharing and coexistence possibilities. Which are the strategic principles of the aeronautical industry?

The Aeronautical Spectrum Seminar was co-chaired by **Luc Tytgat**, Director of Single Sky at EUROCONTROL. In his keynote speech Mr Tytgat gave some information about EUROCONTROL. He underlined that Aviation is a dynamic industry, which relies on diversified kinds of applications for Communication, Navigation and Surveillance. Protected spectrum is here justified by life-safety aspects. Introducing any modification is a long process considering the global nature of aviation, which requires global agreement on interoperability matters. The industry needs to master the ITU cycle in order to assure that European aeronautical spectrum needs are considered. It is important to be properly organised in order to warrant efficiency. But legacy constraints must be kept in mind. Time-lag requirements are key. Mr Tytgat also reminded the audience that EUROCONTROL also covers the military sector. Furthermore, the SESAR Joint Undertaking is a strong asset for efficiency and cooperation. EUROCONTROL is involved in preparing the European Aeronautical Common Position together with all major stakeholders, including the EU. Mr Tytgat asked for EUROCONTROL to be able to participate in RSC and RSPG and highlighted the importance of aviation to be represented in RSC and RSPG. EUROCONTROL to be consulted on matters affecting directly or indirectly aviation spectrum. A High Level Agreement exists between EUROCONTROL and the EU, which allows collaboration on spectrum. EUROCONTROL would like to synchronize their cycle with the EU cycle on spectrum and is prepared to reuse existing spectrum and making efforts *i.a.* to deploy new generation, low power radars.

Regarding EUROCONTROL's request to participate in spectrum debates Andreas Geiss responded that there are possibilities to invite specific stakeholders to RSC or RSPG meetings in function of specific relevant agenda items and that, more broadly, there is always the possibility to establish workshops.

Dr. Branimir Stantchev from DG Connect Spectrum unit made the first presentation delineating the institutional framework of spectrum. He underlined that spectrum is a shared competence between the EU and the Member States. EU competences relate to harmonisation of bands and technical conditions as well as coordination between Member States.

He then explained the content of the main reference EU legislation in the field of radio spectrum.

Mr Laurent Dersy, from the same unit, illustrated more in detail the Radio spectrum Policy Programme (RSPP) which constitutes the main strategic document in this field.

The series of presentations from the Aeronautical community was started by **Andrew Knill**, UK CAA & Aeronautical Spectrum Frequency Consultation Group chairman. One of the aims of his presentation was to show the place of aviation in the bigger picture. It is not just a matter of safety but also of efficiency. We must – Mr Knill said - guarantee consistency with the international environment. Stakeholders have diverse requirements (commercial air carriers, military, general aviation). Spectrum is a key component for Communication, Navigation and Surveillance. It would be ridiculous to expect a completely interference-free environment. Aircraft just don't do emergency stops, so we must be conservative and this is reassuring for passengers and people on the ground. In the past, spectrum was the last issue in the several steps when for instance introducing new technologies, but now it is the other way round. One of the tasks of the Aeronautical Spectrum Frequency Consultation Group is to contribute to the development of the European Aeronautical Common Position (on aeronautical spectrum). Frequency management is now incorporated in interoperability regulations. Notably, European wide coordination is achieved through the implementation of the Spectrum and Frequency Information Resource (SAFIRE).

Mrs Barbara D'Amato, (IATA) highlighted the importance of aviation for Europe, analysed the impact on air carriers of various European initiatives (like the RSPP) and asked for the acknowledgment of the need for safe and reliable flight and its benefits to Europe. She also asked to avoid the fragmentation of frequency management or national/regional initiatives that change spectrum use or result in “taxes” on airlines.

[Unless specified, all speakers below are from EUROCONTROL]

Mr José Roca illustrated the European solution to spectrum scarcity which consists in a narrower spacing of communication channels (8.33 KHz instead of 25). However, being a "regional" solution it resulted in delays in standardisation, delays in consensus and higher costs.

Mr David Bowen gave detailed information on the development of the SESAR programme. He underlined the need to rationalise Communication Navigation and Surveillance (CNS) services because SESAR Operational Improvements are underpinned by CNS capabilities. SESAR aims at delivering solutions that target identified performance improvements and spectrum availability is fundamental to such an evolution.

Mr Raffi Khatcherian gave further information on SESAR spectrum strategy and vision. In order to support the traffic growth, SESAR ensures efficient use of aviation spectrum and has the vision to create sustainable environment for spectrum efficient systems.

Mr Dominique Colin spoke about the increasingly important role of Remotely Piloted Aircraft Systems (RPAS). Because of the intrinsic nature of RPAS (which from an Air Traffic Control point of view must be considered as any other manned aircraft), spectrum used for Command and Non-Payload Communication (CNPC) links will require additional spectrum which is currently under review. .

Mr **John Mettrop** (UK CAA & Chair ITU-R WP 5B) presented a performance based approach to spectrum, to be used in order to justify aviation requirements. The system is based on a matrix including the probability of occurrence (of safety linked events) and the degree of severity of safety occurrences. While events with no immediate effect may be acceptable with a "certain" frequency, more severe events like serious incidents or accidents are unacceptable beyond a very strict probability of occurrence (one every several hundred million flight hours).

In his closing statement, **Mr Knill** concluded that a continuing and improved engagement at all levels is necessary to ensure informed debate. Aeronautical systems need an evidence-based approach to protection criteria in order to ensure that safety issues are well defined. The aeronautical sector is ready to work towards removing obsolescence and unnecessary duplication, also through the introduction of "Sunset clauses" when introducing new technologies. It is necessary to proactively encourage emerging technologies which future proof aviation and make more efficient use of spectrum, as is the case in the UK with the Spectrum Release Programme and non-cooperative surveillance. And finally, it is necessary to work with other stakeholders to build confidence in aviation as a responsible spectrum manager and user.

The video of the event (including the morning EC-CEPT session) is available at the following address:

<https://scic.ec.europa.eu/streaming/index.php?es=2&sessionno=4b0a0290ad7df100b77e86839989a75e>

(The aeronautical seminar begins at point 5:00:38)