CEPT Workshop on Spectrum for Drones / UAS

**29 - 30 May 2018**

**Venue:**

Scandic Copenhagen

Vester Søgade 6

DK-1601 København V

Denmark

**Online registration:**

<https://cept.org/ecc/groups/ecc/client/meeting-calendar/event-details/?meetingid=2182>

Deadline for registrations: 26 May 2018 (8 pm)

**Introduction**

Unmanned Aircraft Systems (UAS) technology has gone through massive development in recent years, and the market for civil UAS shows exponential growth, similar to all other significant new technologies. There are a number of challenges in fully realising the potential for growth that UAS bring with them. One of these challenges is meeting the spectrum requirements for UAS. Frequencies are used for command and control and identification as well as for payload transmissions (e.g. on-board cameras sending information to the ground).

The focus of the workshop is on UAS that fly in circumstances where they do not need communications with air traffic control (ATC).

Communication solutions for drones-to-drones, drones-to-infrastructure, communication transmitters distributing positioning information in order to avoid collisions, geo-fencing, e-identification, drones traffic management are aspects for which presentations will explain possible solutions and the relation to spectrum use.

See also [ECC Report 268](http://www.erodocdb.dk/Docs/doc98/official/pdf/ECCRep268.pdf) for background information. There is also an [explanatory document](https://www.efis.dk/documents/79124) on non-professional UAS use under general authorisations.

The aim of the workshop is to understand better the spectrum needs of existing and future Drones/ UAS applications. The outcome of the workshop will be further considered within the relevant CEPT/ECC groups.

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| **Workshop Programme – Day 1, Tuesday 29 May 2018** | | | | |
| **Time** | | **Presentation Title** | **Presenter** | |
| 8.30 | Registration | | |  |
| 9.00 | Welcome & Opening of Workshop | | | **Mr Eric Fournier**, Chairman of the Electronic Communications Committee (ECC), L'Agence Nationale des Fréquences (ANFR), France |
| 9.15 – 10.00 | Keynote 1 – Frequency Management | | | **Mr Thomas Weilacher**, Chairman of ECC WG Frequency Management (WG FM), Bundesnetzagentur, Germany |
| Keynote 2 – New regulatory Framework for UAS/Drones | | | **Mr Antonio Marchetto**, RPAS Technologies Expert  European Aviation Safety Agency |
| ***10.00 – 10.30 Coffee Break*** | | | | |
| ***Session A – Overview of activities in CEPT/ECC, ETSI, International Organisation, First Use Cases***  *(Session chairman: Mr Thomas Weilacher, Chairman of ECC WG FM (Working Group Frequency Management)* | | | | |
| 10.30 – 12.30 | An overview of ECC activities (and relation to other regulatory measures) on spectrum use for UAS/Drones | | | **Mr Florian Cziczatka**, FM CG Drones Chairman, Austrian Ministry for Transport, Innovation and Technology, Austria |
| Standardisation activities (ETSI and 3GPP) for drones/ UAS | | | **Dr Michael Sharpe**, Director of Spectrum and Equipment Regulation, ETSI and **Ms Helka-Liina Määttänen**, Ericsson, Rapporteur of LTE Rel-15 WI on Aerials |
| Drone detection & identification | | | **Mr Christoph Sulzbacher**, Senior Research Engineer, AIT, Austria and **Mr Hans-Peter Stuch**, Project Leader, Fraunhofer-Institute FKIE) |
| Selected use cases and applicable rules for UAS-Drones used for public protection and disaster relief. | | | **Dr Michael Judex**, Chairman of a Working Group for the use of UAS/Drones, Federal Office of Civil Protection and Disaster Assistance (BBK), Germany |
|  | Current EUROCONTROL work programme on Drones | | | **Mr Raffi Khatcherian**, Head of the International Spectrum Management at EUROCONTROL |
| ***12.30 – 13.30 Lunch*** | | | | |
| ***Session B – Some Stakeholder Views and Use Cases***  *(Session chairman: Mr* *Stephen Talbot,*  *Vice-chairman of ECC WG FM (Working Group Frequency Management), OFCOM UK)* | | | | |
| 13:30- 15:30 | Overview of Spectrum Use of Flying Models | | | **Mr Frank Tofahrn**, General Secretary EMFU (European Model Flying Union, Germany |
| What is mandatory in the different airspace (not only ATC communication) and different requirements between VLOS and BVLOS (Beyond Visual Line Of Sight) operation | | | **Mrs Catherine Ronflé-Nadaud**, UAS Program Manager,  **Mr Christian Fleury**, French Civil Aviation's Spectrum Manager, Ministère de la transition écologique et solidaire, France |
| Administration View and lessons learned from the ADCO market surveillance campaign on RPAS | | | **Mr Lucio Cocciantelli**, OFCOM Switzerland and Chairman of the Group of Administrative Co-operation under the RE Directive |
| Types of drones’ operation and generated communication traffic | | | **Mr Christoph Legutko,**  Government and Policy – CEE Director, Intel Deutschland GmbH, Germany |
| Secure UAV Operation in the U-Space using IEEE 802.11p - Technologies for Detect-And-Avoid, Drone-to-Drone, Drone-to-infrastructure | | | **Mr Jacques Kruse Brandao**, Head of Political Affairs & Public Co-Creation, NXP, Netherlands |
| Safety, security and ecosystem for professional UAS: a view on frequency regulation | | | **Mr Christophe Dress**, Aero Communications Marketing & Strategy Director, Thales Group, France |
| ***15.30 – 16.00 Coffee Break*** | | | | |
| ***Session C: Presentation of Selected Case Studies***  *(Session chairman:* *Mr Kenneth Concannon, Spectrum Management, COMREG, Ireland)* | | | | |
| 16.00 – 18.15 | Drones/ UAS used in existing MFCN networks | | | **Mr Jan-Hendrik Jochum,**  Spectrum Policy & Projects, Deutsche Telekom, Germany |
| Trials of Mobile-Connected Drones and the Benefits of Operator-Managed Licensed Spectrum | | | **Dr Eric Murray**, Principal Engineer, Vodafone New Technologies and Innovation, United Kingdom |
| Spectrum for drones in emergency situations and LTE rural access | | | **Mr Ayan Ghosh**, Everything Everywhere (EE)/BT Group, United Kingdom |
| Spectrum as a key issue in both drone operation and drone surveillance | | | **Mr Luc Haeberlé**, Managing Director Colibrex (LS telcom), Germany |
| CAMCOPTER-Future UAS Requirements out of Experience | | | **Mr Johannes Hecht**, Schiebel, Austria |
| Reliable and Redundant Communications in the Danish Drone Test Environment | | | **Mr Brad Beach**, Director, UAS Denmark Testcenter |
| Drones in utilities day-to-day operations as well as during emergencies; flight control, backhaul, overcoming limits to line-of-sight operation | | | **Mr Robert Heiliger**, Member of the Board of Directors,European Utilities Telecoms Council (EUTC) |
| ***18.15 Workshop Close – Day 1*** | | | | |

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| **Workshop Programme – Day 2, Wednesday 30 May 2018** | | | |
| **Time** | **Presentation Title** | | **Presenter** |
| ***Session D –***  ***Views of CEPT Administrations, Market Surveillance and EC***  ***(Session chairman: Mr Thomas Weber, European Communications Office (ECO), Chairman ECC/WGFM Short Range Devices Maintenance Group (SRD/MG)*** | | | |
|  | View on UAS/Drones Spectrum Use | **Mr Andreas Geiss,** European Commission  DG Communications Networks, Content & Technology, Head of Unit B4 – Spectrum Policy | |
|  | Administration View | **Mr Miguel Capela**, Portuguese Regulator ANACOM (Autoridade Nacional de Comunicações), Portugal | |
|  | Administration View | **Mr Petteri Jokela**, Finnish Communications Regulatory Authority (FICORA), Finland | |
| 09.00 – 11.00 |
| Administration View | **Mr Vincent Durepaire** and **Mr Antone Borissov,**  L'Agence Nationale des Fréquences (ANFR), France | |
| Administration View | **Mr Stephen Talbot**, OFCOM, United Kingdom | |
|  | Administration View | **Ms Aire Siinvert**, Technical Regulatory Authority, Estonia | |
| ***11.00 – 11.30 Coffee Break*** | | | |
| ***Closing Session:***  ***Panel Discussion and Guidelines for Further Work***  *(Session chairman: Mr Eric Fournier, Chairman of the Electronic Communications Committee (ECC), ANFR, France)* | | | |
| 11.30 – 13.00 | **Panellists** Mr Florian Cziczatka (FM CG Drones Chairman, Austrian Ministry for Transport, Innovation and Technology, Austria), Mr Antonio Marchetto (European Aviation Safety Agency), Dr Michael Sharpe (ETSI), Mr Christoph Legutko (Intel), Mr Petteri Jokela (FICORA – Finland) | | |
| Summary of the workshop and closing remarks | **Mr Thomas Weilacher,** Chairman ECC Working Group Frequency Management (WGFM), Bundesnetzagentur, Germany | |
| ***13.00 – 14.00 Lunch*** | | | |
| ***14.00 Workshop Close – Day 2*** | | | |