



CEPT Workshop on
5G Mobile Communications
 Organised by the Electronic Communications Committee (ECC)
Mainz, Germany 2-4 November 2016



DAY 1: 2nd November – 14:00 – 17:30

Opening: Keynotes on the context for 5G

Summary: This session will present relevant background information on existing work on 5G in both a global and European context. The performance objectives and targets of 5G will be introduced

Session chair:
 Eric Fournier
 (ECC Chair, ANFR)

Global context
5G performance objectives and target applications

Mario Maniewicz
 (ITU BR Deputy Director)

European context – RSPG

Philip Marnick
 (RSPG Chair, Ofcom UK)

European context – competition issues

Dr. Wilhelm Eschweiler
 (BEREC Chair, BNetzA)

European context – EC

Andreas Geiss
 (DG CONNECT)

Session A: Overview of ECC activities on 5G

Summary: This session will focus on existing ECC activities on spectrum requirements for 5G, covering short term work in existing bands and longer term work on identification of new bands for 5G. Prioritisation of bands will be considered.

Session chair:
 Eric Fournier
 (ECC Chair, ANFR)

ECC PT1 activities
*Ongoing activities in 3.4-3.8 GHz – is there anything else that could be done?
 Should other existing bands be considered?*

Steve Green
 (ECC PT1 Chair, Ofcom UK)

CPG activities
Overview of AI 1.13 bands, initial prioritisation

Alexander Kühn
 (CPG Chair, BNetzA)

Coffee break

Session B - The road to WRC 19: AI 1.13

Summary: This session will focus on the recent developments regarding the global regulatory environment for 5G, i.e. which spectrum will be available on a globally harmonised basis. What are the key obstacles to overcome on millimetre wave spectrum allocations and identification? What needs to be done so that spectrum for 5G on a global scale will be available directly after WRC-19?

Session chair:
 Alexander Kühn
 (CPG Chair, BNetzA)

CPG
List of bands and current priorities. Is the identified prioritisation suitable?

Robert Cooper
 (CEPT AI 1.13 Co-ordinator,
 Ofcom UK)

ITU-R
TG 5/1 and related matters

Cindy Cook
 (TG 5/1 Chair,
 Government of Canada)



CEPT Workshop on
5G Mobile Communications
 Organised by the Electronic Communications Committee (ECC)
Mainz, Germany 2-4 November 2016



DAY 2: 3rd November – 9:00 – 17:00

Session C: Technological outline (standardisation)

Summary: This session will provide an overview of 5G technological developments, and relevant ongoing and planned standardisation activities

Session chair:
 Steve Green
 (ECC PT1 Chair, Ofcom UK)

ITU-R activities on technology development and standardisation

Håkan Ohlsén
 (WP 5D Vice Chair, Ericsson)

Ongoing IMT 2020 work items in WP 5D

Global context for standardisation for 5G
Ongoing and planned activities within 3GPP

Dino Flore
 (3GPP RAN Chair, Qualcomm)

Requirements for European harmonised standards
Ongoing and planned activities within ETSI, and link with 3GPP process

Adrian Scrase
 (ETSI CTO)

Coffee break

Session D: Future mobile broadband requirements

Summary: This session will focus on the requirements from industry to meet the objectives of 5G performance objectives. Viewpoints from both operators and manufacturers will be considered

Session chair:
 Steve Green
 (ECC PT1 Chair, Ofcom UK)

General overview of technology requirements

Dr. Werner Mohr
 (5GPPP, Nokia)

Operators' perspective

GSMA, speaker TBC

Network manufacturers' perspective

Ulrich Rehfuss
 (Digital Europe, Nokia)

Device manufacturers' perspective

Quan Yu
 (GSA, Huawei)

Satellite industry perspective

Alexander Geurtz
 (ESOA, SES)

Lunch



CEPT Workshop on
5G Mobile Communications
 Organised by the Electronic Communications Committee (ECC)
Mainz, Germany 2-4 November 2016



Session E: New applications – new requirements
Summary: In this session new 5G applications and requirements from vertical industries will be considered

Session chair:
 Alexandre Kholod
 (CPG PTD Chair,
 Ofcom Switzerland)

Intelligent Transport :

- Automotive
- Railways

Niels Peter Skov Andersen
 (CAR 2 CAR Communication Consortium)

Dirk Schattschneider
 (Deutsche Bahn)

Media and Broadcast

Darko Ratkaj
 (EBU)

Utilities

Robert Heiliger
 (EUTC, EON)

Machine to Machine communications:

- Home automation and wearables
- Industrial automation

Daniel Hartnett
 (DECT Forum)

Ludwig Winkel
 (ZVEI, Siemens)

Healthcare

Speaker TBC

Public safety

Dr. Barbara Held
 (TCCA, BDBOS)

Coffee break

Session F: Other challenges

Summary: This session will present an overview of some of the wider technological and infrastructure related challenges to meet the 5G performance objectives

Session chair:
 Doriana Guiducci
 (ECC PT1 SWG-C Chair,
 Fondazione Ugo Bordoni)

Rural challenges

What are the challenges involved to provide reliable national coverage?

Taco Kluwer
 (Radiocommunications Agency Netherlands)

Backhaul challenges – an operator's view

What are the requirements to provide necessary backhaul capacity for 5G? What technologies are required (fibre vs wireless)? Is there a risk of spectrum crunch?

Walter Kroeze
 (Vodafone)

Device issues/design challenges

What are the implications of including multiple mmwave bands in a single device. Are there battery life issues?

Luigi Ardito
 (Digital Europe, Qualcomm)

Science industry issues

Edoardo Marelli
 (European Space Agency)



DAY 3: 4th November – 9:00 – 12:00

Session G: Looking beyond the borders - Status outside Europe

Session chair:
 Alexander Kühn
 (CPG Chair, BNetzA)

Summary: In this session 5G activities in other regions will be presented, focusing on existing research and developments as well as identified future plans

WRC AI1.13 - perspectives from other regions:

- | | |
|--|---|
| <ul style="list-style-type: none"> • Inter-American Telecommunication Commission (CITEL) | <p>Brian Patten
(NTIA USA)</p> |
| <ul style="list-style-type: none"> • Asia-Pacific Telecommunity (APT) | <p>Hiroyuki Atarashi
(NTT DoCoMo Japan)</p> |
| <ul style="list-style-type: none"> • Regional commonwealth in the field of communications (RCC) | <p>Vadim Poskakukhin
(Radio Research and Development Institute (NIIR) Russia)</p> |
| <ul style="list-style-type: none"> • African Telecommunications Union (ATU) | <p>Mario Maniewicz
(ITU BR Deputy Director, on behalf of ATU)</p> |
| <ul style="list-style-type: none"> • Arab Spectrum Management Group (ASMG) | <p>Tariq Al Awadhi
(Telecommunications Regulatory Authority UAE)</p> |

Other ongoing and planned 5G developments:

- | | |
|--|---|
| <ul style="list-style-type: none"> • USA | <p>Brian Patten
(NTIA USA)</p> |
| <ul style="list-style-type: none"> • Japan | <p>Hiroyuki Atarashi
(NTT DoCoMo Japan)</p> |
| <ul style="list-style-type: none"> • China | <p>Xu Xiaoyan
(China Academy of Information and Communications Technology)</p> |
| <ul style="list-style-type: none"> • UAE | <p>Tariq Al Awadhi
(Telecommunications Regulatory Authority UAE)</p> |
| <ul style="list-style-type: none"> • Russia | <p>Vadim Poskakukhin
(Radio Research and Development Institute (NIIR) Russia)</p> |

5G trials and pre-commercial networks

Michael Krämer
(GSA, Intel)

Coffee break



CEPT Workshop on
5G Mobile Communications
Organised by the Electronic Communications Committee (ECC)
Mainz, Germany 2-4 November 2016



Final Panel Session: Sum up and Way forward

Summary: In this session the conclusions from the workshop will be summarised, and the identified next steps for CEPT will be discussed.

Session chair:
Eric Fournier
(ECC Chair, ANFR)

Setting up the CEPT roadmap for 5G

- 3.4-3.8 GHz band
- Other existing bands
- Priority bands for AI 1.13
- Other priorities, challenges, timeframe

Panellists:
Alexander Kühn
(CPG Chair, BNetzA)
Steve Green
(ECC PT1 Chair, Ofcom UK)
Alexandre Kholod
(CPG PTD Chair,
Ofcom Switzerland)
Doriana Guiducci
(ECC PT1 SWG-C Chair,
Fondazione Ugo Bordoni)
Karl Löw
(WGSE Chair, BNetzA)
Thomas Weilacher
(WGFM Chair, BNetzA)

Closing – 12:00