

## **Minutes of the Tenth Management Committee Meeting**

### **COST Action IC1004 – Cooperative Communications for Green Smart Environments**

**Monday, May 26th, 2014 – Aalborg, Denmark**

#### **1. Welcome and opening formalities**

The plenary of the tenth MC meeting of COST Action IC1004 was chaired by Prof. Roberto Verdone, Vice-Chair of the Action, who opened the meeting at 9.10 am, on behalf of Prof. Narcis Cardona, Chair of the Action.

Prof. Gert Pedersen, the Local Organizer, welcomed the audience and provided information about the city and local arrangements.

#### **2. Adoption of the agenda**

The [agenda](#) for the tenth MC meeting was adopted. The attendance list was circulated.

#### **3. Approval of the Minutes of the last MCM**

The minutes of the 9th MC Meeting were posted on the IC1004 website, under the section Official Documents. The minutes have been approved.

#### **4. Status of the Action**

Prof. Verdone reported the status of the Action to the audience. Up to now, the Action is:

- composed by 28 signatories countries (+1: Hungary)
- represented by 54 MC Members (+ Chair)
- Number of registered experts so far: 618
- Number of COST country entities (institutes, etc.) currently participating: 129
- Number of COST International Partner Countries: 6
- Number of non-COST entities (institutes, etc.) currently participating: 15 (+2 in process)
- Number of COST Near Neighbours Countries: 1 (Montenegro)

#### 4.1 Status of the Action, NCI's

##### Current Non-COST Members

The current approved Non-COST Members (14) are the following:

Australia	La Trobe University
Canada	The Communications Research Centre
China	Academy of Broadcasting Planning
China	Beijing University of Posts and Telecommunications, Wireless Technology Innovation Institute
China	Beijing Jiaotong University (BJTU)
China	Tongji University
Colombia	Universidad Icesi
Japan	Japan Advanced Institute of Science and Technology
Japan	National Institute of Information and Communications Technology
Japan	Tokyo Institute of Technology
Japan	NTT DOCOMO, INC
USA	COMSEARCH
USA	Motorola Mobility US
USA	National Institute of Standards and Technology

The following two applications are still in progress:

Lebanon	American University of Beirut
Japan	NTT DOCOMO
Korea	Samsung
China	Huawei

No longer possible to include new non-COST participants officially (entered the last year term of the Action).

#### 4.2 Monitoring Progress Report

Prof. Verdone reports about the Monitoring Progress Report and Annual Progress Conference of the ICT Domain that was held in Kosice (Slovakia) from the 23<sup>rd</sup> to the 24<sup>th</sup> April 2014. The status of the Action was there presented. What was mainly appreciated was the high participation in the

Action of industrial partners.

#### *4.3 Meeting reimbursement*

Prof. Verdone reports about the new reimbursement procedure for the eligible expenses of the COST Country representatives. The new electronic procedure was explained, according to the eCOST guidelines.

Reimbursement will be based on COST rules and the eligible participants were invited to complete the online procedure uploading the document for the reimbursement no later than June 6th, 2014.

The Chair reported that 42 participants (including Chair, MC members and official substitutes) are entitled to be reimbursed for their attendance to the current MC Meeting (the list can be found [here](#)).

### **5. Report from Grant Holder responsible**

The GH, Prof. Roberto Verdone, reported about the Third Year Term budget (June 1, 2013 - May 31, 2014):

- A grant of 177.900 EUR has been assigned to the Action
- On October 2013 the first instalment has been received (65%)
- On January 2014 the European Commission Financial Report has been approved.

The Grant Holder reported about the expenses already occurred during the 3<sup>rd</sup> Year Term and the financial balance of the Action.

The proposal of additional representatives to be reimbursed (WG Chairmen and Ms. Ramona Rosini) has been approved.

The GH reported about the budget for the 4<sup>th</sup> year term, which consists in an assignment of 183.000 euro. Activities are eligible from the 1<sup>st</sup> of June 2014. A draft of the budget distribution proposal is presented to the MC members for discussion and approval. The MC members approved the budget.

### **6. Presentation and Discussion of Technical Documents**

95 TD number requests were requested by the deadline, and 94 TDs have been finally submitted, and will be presented and discussed by the Working Groups during the three days of the meeting. The final schedule of the TDs

presentation was modified with respect to the original one, and the attendees approved it.

The list of TDs can be found here: [TD list 10thMCM](#)

The Chair reminded the WG Chairs to discuss the following topics during technical sessions:

- Proposal or joint activities (tutorials, training schools, etc.)
- Dissemination activities, conferences
- Book contributions to Table of Contents, in particular: Editorial Board (WGs), List of topics, etc.

The plenary resumed on

**Tuesday, May 27th 2014, at 13.35**

and was chaired by Prof. Roberto Verdone, Vice-Chair of the Action, on behalf of Prof. Narcis Cardona, Chair of the Action.

## **7. Budget and Workplan for the 4<sup>th</sup> year term**

The MC members approved the budget distribution proposal.

## **8. Final book**

The proposed book structure and ToC shall consider a total number of approximately 350 pages (on average 3 TDs per page). It should be focused on “environments”, and have the following chapters and sections (in brackets, people in charge of the related chapter):

1. Intro- Scenarios, environments, evolution (N.Cardona)
2. Urban Radio Access Networks (S. Salous)
  - 2.1 Introduction
  - 2.2 Radio Propagation in urban scenarios
  - 2.3 Urban reference scenario
  - 2.4 Conclusion
3. Indoor Wireless Communications Systems (K. Haneda)
  - 3.1 Introduction
  - 3.2 Indoor Channel Modelling
  - 3.3 Indoor Radio Link Analysis and Field Tests
  - 3.4 Techniques and models for indoor localization

3.5 Millimeter-wave radios: measurements, modelling and applications

4. Vehicular Communications Environments (L. Ekiz, E. Strom)
  - 4.1 Introduction
  - 4.2 Radio Channel Measurement, Characterization, and Modelling
  - 4.3 Antennas for vehicular communications
  - 4.4 Communication Systems
  - 4.5 Summary and Outlook
  
5. Wireless Body Area Communications (R. D'Errico, K.Yazdandoost)
  - 5.1. Wireless Body Environment intro
  - 5.2. Antenna design and modeling
  - 5.3. On-body channel
  - 5.4. Off-body and B2B channel
  - 5.5. Upper layers for BANs
  - 5.6. PHY and MAC protocols
  - 5.7. Cooperative approaches
  
6. Green and Efficient RAN Architectures (S. Ruiz)
  - 6.1. Resource Management Ecosystem for Cellular Networks
  - 6.2. Resource Management in Wireless Networks
  - 6.3. Energy Efficient Enhancements
  - 6.4. Spectrum Management and Cognitive Networks
  - 6.5. Virtualised and Cloud based Architectures
  - 6.6. Reconfigurable Radio for Heterogeneous Networking
  
7. Cooperative Strategies and Networks (J. Sykora)
  - 7.1 Introduction
  - 7.2 Cooperative and relay-aided processing
  - 7.3 Physical Layer Network Coding
  - 7.4 Cooperative networks
  
8. Evolved Physical Layer (A. Burr)
  - 8.1 Introduction
  - 8.2 Interference Management
  - 8.3 Energy Efficiency
  - 8.4 MIMO
  - 8.5 Iterative Methods and Coding
  - 8.6 Link abstraction for system-level modelling
  
9. Radio Channel Measurement and Modeling Techniques (C. Oestges)

- 9.1. Introduction
- 9.2 Measurements techniques and material characterization
- 9.3 Parameter estimation techniques
- 9.4 Physical modelling techniques
- 9.5 Analytical modelling approaches
- 9.6 Updated COST2100 model

## 10. Innovations in Antenna System for Communications (B.K.Lau)

- 10.1 Introduction
- 10.2 MIMO Antenna Innovation
- 10.3 Channel-aware and Reconfigurable Antennas
- 10.4 RFID and Sensor Antenna Innovations
- 10.5 Modelling and Characterization of Antenna Systems
- 10.6 Antenna Measurement Techniques

## 11. Over the Air Testing MIMO system (G. Pedersen)

- 11.1 Introduction
- 11.2 Research topics relevant to all methods
- 11.3 Research topics specific to MP
- 11.4 Other methods
- 11.5 Field evaluation
- 11.6 Discussion and Future Work

## 12. Future trends and Recommendations

Two special chapters (1.Introduction and 12.Future Trends) are left open to sections definition, to be structured by the Krakow meeting.

A proposal for including a standardization section within Chapter 12 has been made, decision is deferred to Krakow meeting.

The Final Book ToC has been approved by the MC members.

The chapter editors indicated the names of each section editors.

Future calendar:

- Negotiation with the publisher → after the table of contents has been defined
- Assigning the TDs to each book sections
- Planning the contributions to all sections
- Editorial board Skype meetings

The editorial board will work on the book according to this calendar.

Regarding the budget for the book, the COST Office will provide additional

budget to this item. The idea is to use the COST Office budget to buy the free copies from the publisher (in exchange of the royalties). This has already been done within COST2100.

## **9. Reports from WG Chairs**

The WG and SWG Chairs were asked to report about the activities:

Prof. Claude Oestges reported about the activities carried out within WG1 ([Minutes](#)) ([Attendance list](#))

Dr. Buon Kiong Lau reported about the activities carried out within SWG1.1 ([Minutes](#)) ([Attendance list](#))

Dr. Tommi Jämsä reported about the activities carried out within SWG1.2 ([Minutes](#)) ([Attendance list](#))

Prof. Alister Burr reported about the activities carried out within WG2 ([Minutes](#)) ([Attendance list](#))

Dr. Jan Sykora reported about the activities carried out within SWG2.1 ([Minutes](#)) ([Attendance list](#))

Prof. Silvia Ruiz reported about the activities carried out within WG3 ([Minutes](#)) ([Attendance list](#))

The TWG Chairs were asked to report about the activities:

Dr. Raffaele D'Errico reported about the activities carried out within TWG-B ([Minutes](#)) ([Attendance list](#)).

Dr. Klaus Witrisal reported about the activities carried out within TWG-I ([Minutes](#)) ([Attendance list](#)).

Prof. Gert Pedersen reported about the activities carried out within TWG-O ([Minutes](#)) ([Attendance list](#)).

Dr. Dennis Rose reported about the activities carried out within TWG-U ([Minutes](#)) ([Attendance list](#)).

Dr. Levent Ekiz about the activities carried out within TWG-V ([Minutes](#)) ([Attendance list](#)).

The WG Chairs were asked to send their Minutes to the Action Chair.

## **10. Liaisons to other Bodies/Projects**

The following liaisons have been established so far:

- Buon Kiong Lau (SE), VISTA
- Sana Salous, (UK) Vice-Chair of URSI C
- Istvan Szini, CTIA
- Haibin Zhang, (NL) GreenTouch
- Allister Burr, FP7 Diwine
- Tommi Jämsä, FP7 METIS
- Roberto Verdone, Newcom#, EurACON

The rapporteurs have been invited to send their reports about Projects by June 6<sup>th</sup>, 2014

## **11. Dissemination and Training activities**

### Newsletters

The Vice-Chair provided some information about statistics regarding the newsletters. The Vice-Chair invited to disseminate the link among contacts.

### Short Term Scientific Missions (STSM)

The Chair reminded again the procedure to apply for a STSM (the applicant has to fulfil form at eCOST tool: <https://e-services.cost.eu/stsm> and then sends it to Chairman and Host Institution 6 weeks prior to the STSM start) and the evaluation procedure (the applications are evaluated by Evaluation Panel including at least three among WGs Chairs).

The Call is open.

### Training School

Proposal for future Training Schools have been made, details will be provided by proponents during next meetings.

### Joint Activities

2 Workshops at EuCNC to be held in Bologna on 23-26 June 2014.

## **12. Future meetings and conferences**

The Chair reminded about the dates of the next MC Meetings:

- 11<sup>th</sup> MC Meeting, 24-26 September 2014, Krakow – PL  
Local organizer: Pawel Kulakowski.
- 12<sup>th</sup> MC Meeting, 28-30 Jan 2015, Dublin – IE  
Local organizer: Brennan Conor



Dates have been fixed during this meeting

- Final MC Meeting, 12-14 May 2015 (tentative date), Valencia – E  
Local Organiser: Narcis Cardona

Prof. Vittorio Degli Esposti proposed to grant some scholarship to students participating to the European School of Antennas Course "Short range radio propagation: theory, models and future applications" organized together with Claude Oestges and Tomas Kurner in Bologna on June 30 - July 4, 2014 – Bologna.

Due to reasons related to the transition from the third to the fourth project year, the MC Members decided not to grant this proposal.

### **13. AoB**

Nothing has been reported.

### **14. Close of Meeting**

The Action Points to be performed after the end of the 10th MC and Scientific Meeting were reminded to the audience.

Prof. Roberto Verdone closed the meeting by thanking Prof. Gert Pedersen, all his team for hosting the meeting and all attendees.