2nd Management Committee Meeting

Lille, France
30 May – 1 June 2016
2. Adoption of the Agenda

1. Opening formalities and quorum check
2. Adoption of the Agenda
3. Approval of the Minutes of the last MCM
4. Status of the Action
5. Report from Grant Holder
6. Reimbursement issues and rules
7. Election of WGs Chairs and ECI Representative
8. Report from Dissemination Manager
9. Invited talks (including a report from IC1004 action)

10. Presentation and Discussion of Technical Documents

11. Future MCMs and Workshops
12. Reports from Working Group Chairs
13. Report from Training Chair (STSMs, Training Schools and Tutorials)
14. Liaisons with International Bodies and Projects
15. AOB
16. Close of Meeting
Any change to the agenda?

ATTENDANCE LISTS

Please sign the attendance list for the day(s) you are present

AND

ONE attendance list for EACH WG/EWG you attend

No reimbursement of travel expenses (for those entitled to) if attendance lists are not duly signed
Any comment on the minutes (sent by email/posted on the website)?
Inclusive Radio Communication Networks

- Supporting wireless connectivity for any rate/communication units/scenarios
- Key challenges: spectral and spatial efficiency ... and many constraints
- Goals: novel designs for 5G and beyond encompassing
  - Radio channel modeling for inclusive scenarios
  - Capacity, energy, mobility, latency and scalability at PHY and MAC
  - Network automation, moving nodes, could and virtual architectures at MAC and NET
  - Experimental research and demonstration covering OTA, IoT, localization and radio access techniques
4. Status of the Action

March
Kick-off, Brussels, 22 March 2016 (→ EoA: 21 March 2020)
Science Officer: Dr. Ralph Stübner
Election of Core Group and Interim WG chairs

April
Signature of Grant Agreement
Non-COST institutions procedures (Chair/Officer)
Website

May-June
2nd MCM (Lille, 30 May-1 June 2016)
   80 TDs, more than 105 participants
   3 Invited Speakers
4. Status of the Action

Partners

- Number of signatory countries: **33** (out of 36)
- Number of MC Members: **64** (+ Chair)
- Number of MC Substitutes: **53**
- International Partner Countries/Institutions:
  - 11 approved (8 activated so far)
  - 1 pending approval (TokyoTech, Japan) → e-approval

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4. Status of the Action

Partners (1)

• COST country institutions

✓ Commitment to have contributions (TD, tutorial, etc.) at least at ONE meeting/training school per year

✓ Deregistration from the internal website access if not fulfilled
Partners (2)

• International Partner Countries/Institutions

When should we accept applications from NCIs?

COST rules: mutual benefit

Other criteria: scientific excellence (Universities)
role in industrial context (Industries)
technical topics and WGs addressed
geographic balance

✓ Commitment to have contributions (TDs, tutorial, etc.) at TWO meetings/training schools per year

✓ Deregistration from the internal website access if not fulfilled
4. Status of the Action

Research Infrastructures

- More than 30 RIs exist among IRACON partners
  - 5G and IoT Testbeds
  - Massive MIMO
  - Channel sounders and channel emulators
  - Anechoic chambers
  - OTA setups
  - ...

- All RIs are available for joint activities
- Full list (to be updated with new inputs) will be published in the public part of the website
4. Status of the Action

Organization

- **7 Working Groups**
  - ✓ 3 Disciplinary WGs
  - ✓ 4 Experimental WGs

- Sub-WGs can be created when necessary (flexibility)

- Each WG is coordinated by 2 co-Chairs
4. Status of the Action

Implementation of COST policies (approved at KOM)

• Inclusiveness target countries*
  ✓ Prefered countries for MC meetings and training schools
  ✓ «Bonus» in STSM evaluation (additional criterion), all things being equal
  ✓ Priority in TS grants

• Gender balance
  ✓ Promoting better balance in WG chairs (we are on track !)
  ✓ «Bonus» in STSM evaluation (additional criterion), all things being equal
  ✓ Priority in TS grants

• Early Career Investigators
  ✓ Main targets of STMS grants
  ✓ Represented in the core group (annual rolling representation)

* Bosnia-Herzegovina, Bulgaria, Cyprus, Czech Republic, Estonia, Croatia, Hungary, Lithuania, Latvia, Luxembourg, Malta, Montenegro, Poland, Portugal, Romania, Slovenia, Slovakia, the former Yugoslav Republic of Macedonia, Republic of Serbia and Turkey
4. Status of the Action

Organization

(Disciplinary) Working Groups

1. Radio Channel Modelling
   - Sub-WGs
2. Physical Layer
   - Sub-WGs
3. Radio Access Networks
   - Sub-WGs
4. OTA and Antenna Testing
5. Internet of Things
6. Location and tracking
7. Radio Access

Steering Committee

Core Group

Chair
Vice-Chair
Training Chair
Dissemination Manager
ECI Rep.
WG Chairs

DWGs:
1. Radio Channel modelling
   SWGs: Body, Vehicular, mmWave
2. Physical Layer
3. Radio Access Networks
   SWGs: Virtual RAN, Spectrum

EWGs:
4. OTA & antenna testing
5. Localisation, tracking
6. IoT
7. Radio Access
4. Status of the Action

Core Group

- **Vice-Chair: Narcis Cardona**
  - Responsible for WG coordination

- **Grant Holder: Roberto Verdone**
  - Financial reporting and support to meeting organization

- **Training and STSM Manager: Laurent Clavier**
  - Responsible for promoting the organization of training schools
  - Responsible for STSM evaluation

- **Dissemination Manager: Luis Correia**
  - Responsible for newsletters, social media, liaisons, dissemination activities (special sessions and workshops)

- **ECI Representative**
  - Proposed by ECIs at the 2nd MCM and approved by the MC
  - Newsletter editor
4. Status of the Action

**First Grant Period Goals**

1. Agree on specifications and requirements in terms of channel models for inclusive radios
2. Define requirements and applications scenarios for Physical (PHY) and Medium Access Control (MAC) layer techniques
3. Define requirements and applications scenarios for MAC and network (NET) layer techniques
4. List and organize pan-European laboratory facilities and networks for shared experimental research addressing Over-the-Air (OTA) testing, IoT, localization, tracking and radio access
5. Facilitate the collaboration between ESRs through STSMs (6 missions over the GP)
4. Status of the Action

First Grant Period Goals (cont’d)

6. Establish or maintain liaisons with international standardization bodies, via the identification of liaisons and invited speakers at each IRACON technical meeting: the MIMO OTA Sub-Group (MOSG) of CTIA, the 3GPP RAN4, the ETSI Technical Committee on ITS

7. Establish procedures for continuing cooperation with International Scientific Associations, mainly to URSI and IEEE

8. Establish links with existing H2020 projects, exploring the possibility of organizing one joint workshop during the grant period

9. Train ESRs through the organization of one training school, with a focus on shared competences (e.g. IoT-cellular, theory-experimentation, etc.)

10. Disseminate IRACON position and results via the publication of a newsletter and one position paper (white paper) on 5G; the organization of two special sessions at international conferences (EuCNC and one conference to be defined); the organization of one full-day workshop at PIMRC 2016
## Work and Budget Plan

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<td>STSMs</td>
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<td>7 200.00 EUR</td>
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<td>Other Expenses Related to Scientific Activities</td>
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**Total Science Expenditure**  
122 610.00 EUR

**Financial and Scientific Administration and Coordination (MAX. 15%)**  
15 %  
18 390.00 EUR

**Total Grant**  
141 000.00 EUR
5. Report from Grand Holder

Financial Flow

- COST
  - Grant
  - GH
    - Travel reimbursements or grants
    - MC Members
    - Other Experts
    - Contract
    - Contract
    - Secretary
    - Differens s.r.l. (for website)

- Contributions to local expenses
  - External Institution
    - Contracts
    - Local services (e.g. catering for meetings)
    - Local Organizer
      - OR
      - OR
      - ...
5. Report from Grand Holder

Website

- Agreement with Differens s.r.l.: mid April
- First release: May 5
- Second release: May 27 → advance payment due

All contents provided by Lucia Vitiello, a posteriori check by me
Still many typos to be corrected

- Final release: July 31 → final payment due

Please send suggestions / comments / proposals of amendments to our secretary (lucia.vitiello@unibo.it) during this meeting
- Next release (open for further comments): June 30
Internal rule for MC Meetings, to be approved

- Up to two MC members per COST Country
- MC members can be replaced by officially nominated MC substitute, if the Chairman and GH receive request by given deadline
- Priority for MC meetings (for Lille meeting, only priority 1)
  1. All MC members who apply, or MC official substitutes, Action Chair, Secretary, invited speakers and ECI representative
  2. WG/EWG/SWG Chairs (while budget is available*)
  3. Non-MC members, presenting a TD, when replacing an MC member (while budget is available*)
  4. Other experts, one per country (while budget is available*)

* Budget available:
  - for last MC meeting, based on estimate of residual availability;
  - for previous MC meetings, if estimated expenses (= 800 EUR/reimbursement) do not exceed meeting budget as indicated in WBP (for Lille: 43,250 EUR)
Internal rule for Technical Meetings, to be approved

- Priority for technical meetings
  1. Action Chair, invited speakers
  2. WG/EWG/SWG Chairs (while budget is available*) in combination with COST policy priorities (inclusiveness/gender)
  3. Core Group members, Secretary (while budget is available*)

* Budget available:
  - if estimated expenses do not exceed meeting budget as indicated in WBP
6. Reimbursement issues and rules

For this meeting

- 47 MC entitled + 3 invited speakers + Chair + Secretary = **52 people**
- Budget available as per WBP: 43,250 EUR
- Expected expense for reimbursements (priority 1): 52*800 = 41,600 EUR

The reimbursement procedure MUST take place on e-cost

For archiving/audit purposes, please also email to the secretary your travel copies with your signed reimbursement form in PDF format no later than

1 July, 2016 (AP 2/1)
Working Group Chairs

- WG chairs will be proposed by each WG at the second MCM (first scientific meeting) and elected by the MC
- Team of **two** co-chairs (one at least being MC member or substitute)
- **Election of 7 WG chairs: candidacies received so far**
  1. WG-1 (radio channels): Sana Salous and Katsuyuki Haneda
  2. WG-2 (PHY-MAC): Hanna Bogucka and Jan Sykora
  3. WG-3 (NET): Silvia Ruiz, Yan Zhang and Lucio Studer
  4. WG-OTA: Wim Kotterman
  5. WG-IoT: Erik Ström and Chiara Buratti
  6. WG-LT: Carles Anton and Klaus Witrisal
  7. WG-RA: Florian Kaltenberger and Mark Beach
ECI Representative

- **What is an ECI?**
  Early Career Investigator, PhD + 8 years maximum

- **Role of ECI representative in the core group (one-year mandate)**
  Participation to core group discussions
  Preparation of meetings (pre-meeting, etc.)
  Newsletter editor

- **Candidacies received**
  1. Margot Deruyck (BE) *was elected*
  2. Valeria Petrini (IT)
  3. Sasko Ristov (FYRM)
8. Report from Dissemination Manager

Dissemination Manager
Luis M. Correia

Dissemination in COST (1)

• “dedicated dissemination and exploitation activities targeting small and medium-sized enterprises (SMEs) and companies in Europe.”

• Dissemination is one of the 4 “Networking Tools” to be used to reach the Objectives

• Together with Exploitation, it’s part of the Measures to Maximise Impact
Dissemination in COST (2)

- The Research Coordination Objectives identifies

  ✓ “Dissemination of research results to the general public”

  ✓ “Dissemination of research results to stakeholders (excluding specific input in view of knowledge application, as per objective)”
Dissemination in IRACON (1)

- **Organisation of Training Schools**, with IRACON lecturers, which are open to the community at large

- **Joint organisation of Training Schools**, with lecturers from IRACON and from other Actions and H2020 R&D projects, open to the scientific community at large

- **Establishment of strategic liaisons and joint activities** (e.g., joint meetings and workshops) with other COST Actions and H2020 R&D projects in this area
8. Report from Dissemination Manager

Dissemination in IRACON (2)

- Joint publications with COST CA15104 IRACON acknowledgment

- Organisation of topic specific Special Sessions and Workshops in conferences, namely EuCNC, but extending to key IEEE ones (ICC, GLOBECOM, PIMRC, WCNC), as well as EuCAP and URSI GA

- Presentation of IRACON in EC Coordination Meetings, reaching projects in the same area

- Active participation in COST supervised and organised activities and events

- Issue of an Action Leaflet, by the beginning of activity, explaining the key aspects of IRACON, to be distributed to stakeholders

- Social media presence (facebook, linkedin, IRACON blog)
Dissemination in IRACON (3)

- Issue of

  ✓ a Quarterly Newsletter, with key news from IRACON, addressing major technical and scientific developments, and announcing future activities and events

  **Steering committee meeting (highlights: TD, picture) on Tuesday at 6 pm SHARP in Amphi PASCAL**

  ✓ White Papers, with the views of IRACON on the future development and research challenges in wireless communications, focusing on its specific areas
Exploitation in IRACON (1)

- To set up consortia with some of its members for the proposal of projects within H2020

- To develop models and methods coming from the joint work developed within the Action, to be published in the proper means (e.g., scientific journals, but not exclusively)

- To foster the conditions to submit contributions on models and methods to standardisation bodies, jointly with industry, towards the conclusion of the Action
Exploitation in IRACON (2)

• **To foster the creation of a confederation of experimental environments in research labs**, so that experimentation can be made available to other research groups (in both academia and industry) as well as SMEs (e.g., to evaluate solutions before reaching the market) within the Action.

• **To use the knowledge created in the Action by many of its members in teaching at graduate and post-graduate levels**.

• **To edit a book at the end of the Action**, with its main results, to be published by a commercial company in the area of R&D.
The Plan (1)

- “Dissemination and training will be supervised by the Dissemination Manager and the Training School Coordinator,”

- “each WG will deliver one annual report on achievements and be responsible for the organisation of one tutorial (tutorials will be organised in conjunction with MC meetings) and one training school,”

- “all WGs will also organise workshops and special sessions in international conferences and contribute to WG- and Action-level white papers.”
8. Report from Dissemination Manager

The Plan (2)

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On Monday (now): Massive MIMO

- Algorithmic aspects of Massive MIMO
  Maxime Guillaud, Huawei Technologies, France Research Center
- Experimental aspects of Massive MIMO
  Ben Lavasani, National Instruments Europe

On Tuesday (after lunch): EU research and COST

- European research towards 5G and beyond: Policy, Research and funding opportunities
  Rémy Bayou, DG Connect, European Commission
- IC1004 White Paper on Channel Measurements and Modeling for 5G Networks in the Frequency Bands above 6 GHz
  Sana Salous, Durham University, UK
There are 80 TDs to be presented
(5 TDs are withdrawn: 1, 48, 56, 61, 69)

Working Groups discussions should include

- Scientific challenges (a new model ? 5G specifications ?) and actions to meet the WG objectives
- Training School proposals/topics for 2017
- Workshop proposals for 2017 (we already have one workshop for the next meeting + one proposal for 2017)
- Joint activities with H2020 projects
- Tutorial offers for upcoming meetings (starting from January 2017)

- Joint activities (experiments, papers, etc.)
- Short Term Scientific Missions among participant institutions

- Any other idea to foster the dissemination of the Action?
## 10. Presentation and Discussion of TDs

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### Room Details
- Room 1: Amphi PASCAL
- Room 2: F024
- Room 3: A13N
- Room 4: A12S
Upcoming Meetings

• Second technical meeting
  ✓ Durham, UK, **Oct 4-6 2016**
  ✓ Organizer: Sana Salous
  ✓ IET Workshop on mm-wave antennas and propagation on Oct 3, 2016

• Third MC meeting and technical meeting
  ✓ Lisbon, PT, **Feb 1-3 2017 (+ tutorial on Jan 31)**
  ✓ Organizer: Luis Correia

• Fourth (MC meeting and ?) technical meeting
  ✓ Spring 2017
  ✓ Proposal from Lund University (SE) + experimental tutorial offered
Upcoming Meetings

- **Fifth technical meeting**
  - Sep 2017
  - Proposals from TU Vienna (AT), TU Graz (AT) and Uni. Catania (IT)

- **Fifth MC meeting and sixth technical meeting**
  - Jan-Feb 2018
  - Proposal from European University Cyprus (CY)

- **Future meetings**
  - Spring 20xx: proposal from Aalborg University (DK)
  - ...

Workshops

- IET Workshop on mm-wave antennas and propagation on Oct 3, 2016
  ✓ Organizer: Sana Salous

- Proposal for a joint workshop with H2020 SANSA project in 2017, co-located with one of our meeting

- Idea from TU Graz for a workshop on localization and IoT
12. Reports from WG Chairs

DWGs

1. WG-1 (radio channels): Sana Salous and Katsuyuki Haneda
2. WG-2 (PHY-MAC): Hanna Bogucka and Jan Sykora
3. WG-3 (NET): Silvia Ruiz and Hamed Ahmadi

EWGs

1. WG-OTA: Wim Kotterman and Moray Rumney
2. WG-IoT: Erik Ström and Chiara Buratti
3. WG-LT: Carles Anton and Klaus Witrisal
4. WG-RA: Florian Kaltenberger and Mark Beach
12. Reports from WG Chairs: EWG-RA

Radio Access EWG Chairs:
Florian Kaltenberger, Eurecom
Mark Beach, University of Bristol

Scientific Challenge
• Validation & Optimisation of New Radio Access Techniques

Key Words
• Test beds (Massive MIMO, Vehicular Comms, Millimetre Wave, Full Duplex, WiFi, BlueTooth, Health Care)
• Hardware-in-the-Loop / Channel Emulation

STSM (under development)
• Bristol (Paul Harris) to Lund Uni about Outdoor/Mobile Massive MIMO

Tutorial / Workshop
• Massive MIMO Channels (Fredrik Tufvesson – Lund) ... Ready to go tutorial
Technical Sessions

• Presented TDs
  ✓ 6 TDs, 4 presentations at Early Career Investigators

• Sessions
  ✓ 1st: 20 delegates, many questions
  ✓ 2nd: 11 delegates, inc discussion on WG objectives, keywords etc.

• Concerns
  ✓ Overlap with EWG on IoT as well as WG1 and 2
  ✓ Channel sounders and campaigns

• Other Observations
  ✓ Chairing of sessions
  ✓ Compressed time for last speaker on several occassions
13. Report from Training Chair

Training Schools

The goal is to organise at least one training school per grant period (12 months)
Prefered locations in inclusive countries
Proposals are welcome

Any suggestions?

- Proposal from Narcis Cardona and Kimmo Kansanen in the area of body-centric propagation
  - Where: Valencia (ES)
  - When: November or early December 2016
Short Term Scientific Missions (STSM)

Aims of STSM

- Contribute to the scientific objectives of the action
- Strengthen networks (between different countries)
- Learn a new technique/take measurements using instruments/methods not available in your own institution
- Particularly intended for young scientists (ECIs)

Open call (application on e-cost)

Evaluation by 3 persons (members of the Steering Committee)
Evaluation criteria

- **CV of Applicant**
  ECIs and PhD students have priority to be granted

- **Workplan & Schedule**
  Is the working plan well defined and structured? Is the schedule of activities realistic?

- **Expected outcome**
  Which WGs of IRACON can be interested in the results of this STSM? Is the STSM focused on a specific objective among IRACON scopes? …

- **Scientific Networking**
  How the Host Institution supports the applicant? Could the work described in the STSM be performed off-line?

- **Financial Plan**
  Consider an average of 60 to 80 EUR per night stay reasonable, apart of travel costs; if it’s above that quantity, it should be explained/justified

- **COST Policies** (only use grades 1, 3 or 5, if the applicant/host meets none/two/all criteria)
  Is the applicant or the host from an inclusive target country? Is the applicant a female researcher?

- **Comments on any other aspect**
Evaluated STSMs

3 proposals received so far (which is a lot before the first technical meeting)

- Two were rejected (but a revised proposal can be re-evaluated later)
- Main reasons were
  
  ➢ STSM budget plans did not fall in the objectives of the action (we only have a limited amount of budget for STSM and demands around maximum 1000-1200€ are expected)

  ➢ We expect rather short missions with a focused scope (the proposed STSMs were 10-week missions with a long preparation period included in the mission before two weeks of experimentation)
Positively evaluated STSM, **approved**

**Applicant:** Prof Davy Gaillot, IEMN, Villeneuve d'Ascq (FR)

**Topic:** Characterization and Modeling of the MIMO Radio channel in the W-band

**Host:** Jose María Molina-Garcia-Pardo, SiCoMo Group, Universidad Politécnica de Cartagena (SP)

**Amount:** 850€
List of liaisons with international bodies, standards and projects

- 3GPP – Aki Hekkala
- URSI – Sana Salous
- ITU-R – Sana Salous and Belen Montenegro
- H2020 METIS-II – Narcis Cardona
- H2020 mmMAGIC – Mark Beach
- H2020 5G crosshaul – Mark Beach
- IEEE 1900.6 – Kostas Katzis
- EurAAP – Claude Oestges
- EURACON – Roberto Verdone
15. Any Other Business

E-Mailing

• Usage of global reflector
  ✓ From this meeting on, the global reflector (??@iracon.org, moderated) should not be used to advertise events (outside those of the Action itself)
  ✓ Ask Lucia (lucia.vitiello@unibo.it) to include your announcement on the IRACON Web Page

• WG reflector will be created soon

AOB ?
## 16. Close of Meeting

### Action points

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<td>Send STSM Applic.</td>
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### Action points

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Les gens du Nord ont dans le coeur le soleil qu'ils n'ont pas dehors …

Thank you!

See you in Durham, UK Oct 4-6, 2016

Claude Oestges
ICTEAM
Université catholique de Louvain