



Lund, May 29 - 31, 2017

Subject | Minutes of the 4th Management Committee Meeting of COST Action CA15104 “Inclusive Radio Communication Networks for 5G and beyond (IRACON)”

**Lund, Sweden
29/05/2017**

1. Welcome to participants/Opening formalities

The plenary of the *4th Management Committee Meeting* of COST Action CA15104 (IRACON) was chaired by Prof. Claude Oestges, Chair of the Action, who opened the meeting at 2.00 pm. He verified the quorum, i.e. two-thirds of the Participating COST Countries, was present: 25 out of 34 countries participating in the Action were represented in the meeting. Prof. Oestges welcomed the audience.

2. Adoption of the Agenda

The agenda for the *4th MCM* was adopted without modifications.

3. Approval of minutes and matters arising of last meeting (MCM3, Lisbon)

The minutes of the *3rd MCM* were sent by email and posted on the IRACON website, under the section “Meetings & Events”, “Meetings”, “3rd MC meeting and 3rd technical meeting”, “Documents”, “[Minutes](#) (and [attachments](#))”. The minutes have been approved.

The Chair reminded to sign the official attendance list for each day of the meeting attended and to sign one attendance list for each WG/EWG attended. No reimbursement of travel expenses (for those entitled to) will be processed if attendance lists are not duly signed.

Prof. Oestges announced that the Newsletter meeting for the Members of the Steering Committee will be held on Tuesday at 3:30 pm in room E:2517.

4. Status of the Action

Prof. Oestges reported on the status of the Action to the audience. Up to now, the Action is composed by the following Partners:

- Number of signatory countries : 34 (out of 36)
- Number of MC Members : 66 (+ Chair)
- Near Neighbour Country Institutions : 1 e-approved
- International Partner Country Institutions :

- 14 approved (12 activated so far)



Institution Name	Country
Beijing Jiaotong University	China
Tokyo Institute of Technology	Japan
Comsearch	United States of America
NIST	United States of America
Samsung Electronics Co.	Korea, Republic of
Japan Advanced Institute of Science and Technology	Japan
Motorola Mobility LLC	United States of America
Universidad Icesi	Colombia
Niigata University	Japan
Council for Scientific and Industrial Research	South Africa
University of Prishtina	Kosovo
Northeastern University	United States of America

- 2 pending approvals to be approved
- **Northeastern University (USA)**
 - Representative: Prof. Pau Closas
 - Status: approved by IRACON MC, now under approval in Bruxelles (COST EB approval)
- **Huawei (CN)**
 - Representative: Dr. Wu Xingfeng
 - Status: with SO, needs IRACON MC and COST EB approval

The Chair welcomed the new Kosovo institution, the University of Prishtina, and presented the applications still in progress. He also invited the audience to approve the Huawei (CN) application during the MC meeting. The audience decided to proceed with the MC procedure.

Prof. Oestges showed the map of the countries involved in the Action and invited all to go on IRACON website under the section “About”, “[IRACON RIS](#)” to find the list of the IRACON Research Infrastructures.

The Chair recalled the IRACON internal rules and commitments for Partners:

➤ **Partners (1)**



- **COST Country Institutions**
 - Partners have to provide contributions (TD, tutorial, etc.) at least at one meeting/training school per year.
 - Deregistration from the internal website access if not fulfilled.

- **Near Neighbour Country Institutions**
 - Partners have to provide contributions (TD, tutorial, etc.) at least at one meeting/training school per year, but these partners have to present at least two contributions 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

Prof. Oestges reported about the status of the first Grant Period deregistration progress. The Secretary started to check the un-active partners and some (40 - 50) have not been active since the start of the Action (not counting this meeting). After the Lund meeting the Core Group will evaluate the situation, contacting those who are still inactive. In the absence of an activity (TD, tutorial, etc.), the partners who don't fulfill the rules will be deregistered from the website (access is regained through any activity).

The Chair broadcasted the last COST Action CA14105 (IRACON) activities and results:

- **February 2017**
 - 3rd MCM (Lisbon, 1-3 Feb 2017)
 - 77 TDs, more than 130 participants
 - 2 Invited Speakers
 - Tutorial on IoT for 5G (R. Verdone), with 30 participants

- **March 2017**
 - 1st IRACON Training School
 - 46 participants
 - 14 IRACON grants

- **March 2017**
 - IRACON special sessions at EuCAP 2017 (Paris)
 - Large to very large attendance on both sessions



3 Best Paper Awards (2 for IRACON ECIs)

- **May 2017**

4th MCM (Lund, 29-31 May 2017)

85 TDs

2 Invited Speakers

Tutorial on massive MIMO (F. Tufvesson) on 1 June 2017 (33 attendants)

Prof. Oestges showed the **first Progress Report (PR1)** only based on e-COST statistics of CA15104 submitted:

Action: Inclusiveness Target Countries (ITCs)				
	Participating countries % ITC	MC Members % ITC	Leadership roles % ITC	Relative representation of ITCs in Leadership roles
Action CA15104	50%	49%	11% → 19%	23% → 39%
All Actions	46%	44%	20%	45%

Action: Early Career Investigators (ECIs)			
	MC Members % ECI	Leadership roles % ECI	Relative representation of ECIs in Leadership roles
Action CA15104	20%	0% → 12.5%	0% → 62%
All Actions	24%	8%	33%

Action: Gender Balance			
	MC Members % Female	Leadership roles % Female	Relative representation of females in Leadership roles
Action CA15104	14%	33% → 25%	241% → 192%
All Actions	41%	20%	49%

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Action: Gender Balance			
	MC Members % Female	Leadership roles % Female	Relative representation of females in Leadership roles
Action CA15104	14%	33%	241%
All Actions	41%	20%	49%

The Chair explained that the purpose of the report is to monitor, after the Action has been running for one year, the Action's implementation of the:



- Scientific Committee (SC) Recommendation (from the proposal stage), and
- COST Excellence and Inclusiveness Policy (regarding Inclusiveness Target Countries, Early Career Investigators and gender balance).

The Actions' inputs is reviewed by the Scientific Committee; for each Action the SC will issue a classification.

The Chair highlighted that he had to fill in the comments on an e-COST template where each WG has one chair (no possibility to include co-chairs) and that CA15104 e-COST statistics are wrong, owing to the fact that each WG is co-chaired (corrected figures). E.g. the averages of women and ECIs are in conflict: he chose to show the women representatives, but this put less ECIs. The Chair asked for remarks or comments, but there were no any.

Prof. Oestges reminded some important rules:

➤ **Reimbursement Eligibility**

- **MC meetings**

- 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
- Eligibility priority for MC meetings
 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*)

- **Technical meetings**

- Eligibility priority
 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*)

➤ **Deadlines and Procedures**

- **TD submission**

- Request a TD number (20 days before the meeting)
- Send to the secretary a full TD (10 days before the meeting) using the cover page available on the website
 - These deadlines are set to enable the StC to prepare the meeting schedule

- **Meeting registration: two actions are required**



- Register on IRACON website (20 days before the meeting)
- Accept the e-cost invitation
- **Reimbursement (for those entitled to)**
 - Accept the e-cost invitation
 - Fill the the e-cost and submit the claim (after the meeting)
 - The reimbursement procedure MUST take place on e-cost
 - If you cannot attend but are replaced by an eligible substitute
 - Send a request to the Chair and GH (Cc: Secretary, lucia.vitiello@unibo.it) at least 20 days prior to the event to enable the reimbursement of your official substitute

➤ **e-Mailing and Acknowledgment**

- **Usage of global reflector**
 - From this meeting on, the global reflector (all_ca15104@iracon.org, moderated) should not be used to advertise events (outside those of the Action itself)
 - Ask Lucia Vitiello (lucia.vitiello@unibo.it) to include your announcement on the IRACON Web Page, under section “[News](#)”

- **WG reflectors have been created**

- **Acknowledge COST CA15104 IRACON on all joint publications**

This work was carried out in the framework of COST Action CA15104 IRACON

➤ **Dissemination Actions**

The Chair reminded about future dissemination actions. Prof. Oestges asked for new Special Sessions proposals layable as COST CA15104 (IRACON). To be official, Special Sessions should be entitled to IRACON (e.g. “IRACON Session on ...”). They can be joint with other projects, co-organized with Workshops and other Special Sessions.

Prof. Sana Salous accepted to submit a proposal. Prof. Roberto Verdone suggested that ISCWS 2017 call for demos and posters was still open. Dr. Margot Deruyck recommended to submit videos at the ISWCS 2017 PhD Student Pitch Contest.

- **Special Sessions**
 - Conferences with special sessions (calls are closed)
 - ISWCS 2017, Bologna, Aug 28-31, 2017
 - EuCAP 2018, London, April 9-13, 2018

- **Conferences with other events**
 - ISWCS 2017, Bologna, Aug 28-31, 2017



- PhD student Pitch Contest (deadline: June 8, 2017)
- Demos and posters

5. Review of Action deliverables

Prof. Oestges outlined the deliverables to be provided to COST Action during the first two years:

- **Deliverable 1** (M14, May 2017): Working Groups first year term annual report summarising the achievements of every WG (all WGs)
- **Deliverable 2** (M20, November 2017): Overview of IRACON Reference Scenarios and assessment of 5G radio access techniques through experimental platforms -> WG3, EWG-RA
- **Deliverable 3** (M24, March 2018): Submission to international bodies of contributions about concerted 5G radio channel models (WG1)
- **Deliverable 4** (M24, March 2018): Collaborative white paper on new localization techniques suitable for 5G and the Internet of Things (EWG-LT+IoT)
- **Deliverable 5** (M26, May 2018): Working Groups second year term annual report summarising the achievements of every WG (all WGs)
- **Deliverable 6** (M36, March 2019): Collaborative white paper on future architecture and protocols for the Internet of Things (EWG-IoT)
- **Deliverable 7** (M38, May 2019) : Working Group third year term annual report summarising the achievements of every WG (all WGs)
- **Deliverable 8** (M42, September 2019): Technical inputs and liaison statements to Standardisation Groups on metrics for Over the Air (OTA) testing (EWG-OTA)
- **Deliverable 9** (M42, September 2019): IRACON concerted radio channel models for 5G and beyond (draft book chapter) (WG1)
- **Deliverable 10** (M26, May 2018): Working Group final report summarising the achievements of every WG in the overall Action (draft book) (all WGs)

The Chair talked about the deliverable 1, a sort of annually report from WGs, to be presented by the end of May. The deliverable 1 is almost ready, contributed by the WG Chairs and edited by the Chair and the Vice-Chair. It will contain 1 page per WG/meeting with the scientific results and dissemination activities. It will be published on IRACON website after the meeting in the public part of the website, under the section “Publications”, “Deliverables”, “[Deliverable 1 – M14, May 2017: Working Groups first year term annual report summarising the achievements of every WG](#)”.

The Chair asked for questions, but there were no any.

6. Report from the Grant Holder

Prof. Oestges reported the expenditures that the Action had during the 1st Grant Period:



Budget for Y1

Networking Tool	Description	Budget	Actual balance
Meetings	2 MCMs, 1 TM, 1 workshop	97 910.00 EUR	92 173.63
Training Schools	1 TS	12 500.00 EUR	7 851.59
STSMs	6 STSMs	7 200.00 EUR	11 164.00
Dissemination	1 (website set-up)	4 500.00 EUR	4 500.00
Other Expenses Related to Scientific Activities	Bank fees	498.65 EUR	562.80 (+ about 300.00)
Total Science Expenditure		122 608.65 EUR	116 251.02
Financial and Scientific Administration and Coordination (MAX. 15%)	15 %	18 391.30 EUR	17 437.80
Total Grant		140 999.95 EUR	133 689.82

The GH Scientific Representative, Prof. Roberto Verdone, explained that the aim was to spend the whole amount of the grant, but the Action was able to spend 133.689,82 euro (- about 7 kg).

Prof. Verdone also explained the reason: basically it was related to the lack of flexibility of the management of the COST Office. In particular in Bruxelles they asked to have 2 MCMs and 1 TM (not possible 3 MCMs during the 1st year). During the chick of meeting, they discuss to have the 2nd meeting no MCM as at the end they cannot spend all the fund, luck of possibility to spend all the fund. Prof. Verdone told that most probably the 2nd year with 3 MCMs things will be simpler.

Prof. Oestges showed the budget plan for the 2nd Grant Period:

Work and Budget Plan for Y2

Networking Tool	Description	Budget
Meetings	3 MCMs	126 000.00 EUR
Training Schools	2 TS	15 000.00 EUR
STSMs	At least 6 STSMs	7 200.00 EUR
Dissemination	-	0 EUR
Other Expenses Related to Scientific Activities	Bank fees	500.00 EUR
Total Science Expenditure		148 700.00 EUR
Financial and Scientific Administration and Coordination (MAX. 15%)	15 %	22 300.00 EUR
Total Grant		171 000.00 EUR

The Chair and the GH Scientific Representative reminded about an issue on the



reimbursement schedule caused by the second instalment of the 1st Grant Period. In November the Grant Holder (CNIT) received an email from the Head of Science Administration and Finance of COST Association concerning the COST Action Grant Agreement. The email informed that the second instalment (amounting to up to 35% of the Grant amount) had to be postponed until the approval of the Yearly Financial Report of the Action. Prof. Verdone explained that this is contractually legal, but that the Grant Holder finished the fund and the reimbursements are postponed until the reception of the final grant payment.

The **reimbursement execution priority list** will be the following:

- Invited speakers to meetings and training schools
- Grants to TS students and STSM ECIs
- ECI MC members
- All the rest

7. Report from Training Manager (STSMs, Training Schools and Tutorials)

The Chair reported about the last Cost Action CA15104 Training Schools:

- [Training School on Antennas and Propagation for Body Communications \(joint with WIBEC\)](#)
 - Dresden (DE), March 1-3, 2017
 - IRACON organizers: Narcis Cardona, Luis Correia, Kamran Sayrafian and Kimmo Kansanen
 - Participants: 46

- [Training School on Large-Scale Propagation \(joint with ESoA\)](#)
 - Louvain-la-Neuve (BE), June 12-16, 2017
 - IRACON organizer: Claude Oestges
 - IRACON teachers: Vittorio Degli-Esposti, Conor Brennan, Thomas Kürner and Claude Oestges

Prof. Oestges reminded that the Action offers support to Training School (number of grants for PhD students and ECIs to attend).

E.g. for the 2nd *Training School* in Louvain-la-Neuve (BE), the Action accepted 12 grant applications out of 13 (1 arrived after the deadline). The students are funded, provided they sign the TS attendance list and the Grant Letter.

The Chair summarized the [STSMs](#) status:

- **STSMs for GP1**
 - 12 proposals received
 - 10 accepted and carried out -> short information on the website
 - 2 rejected
 - Final budget: 11.164 €



➤ **STSMs for GP2**

- 4 proposals received so far
- 3 already accepted
- 1 under review
- e-COST tool problem, to be resolved

The Chair asked the audience to submit applications about two months before the STSM starting date. He also reminded that the CA15104 policy is to grant the maximum numbers of STSMs, so each STSM will be grand of a maximum amount of about 1.200 EUR.

The Chair asked for questions and comments, but there were no any.

8. Report from Dissemination Manager

Prof. Luis M. Correia, Dissemination Manager, talked about dissemination Actions. Prof. Correia explained that the Core Group were checking the promised done to establish networks. The Secretary circulated emails asking to send the following lists:

- **List of research groups** with activity in the area of the Action (name of the group and contact person/email)
- **List of doctoral schools** (i.e., universities awarding a Ph.D. degree) in Europe with activity in the area of the Action (name of the university/school and contact person/email)

The lists will be available online.

➤ **Blog**

Prof. Correia and Prof. Oestges explained the importance of the IRACON blog:

- To launch discussions and/or express views on matters dealt with within the Action
 - Possible blog posts include, but are not limited to: a short survey, a technical overview, a small tutorial, etc.
- Schedule ensuring (at least) a bi-monthly contribution
- Contributors: members of Steering Committee
- If you have an interesting contribution for the blog, contact Luis Correia

The Chair challenged the audience to read the blog, to put some ideas in order to increase the Social Media activities and to involved more people.

The Chair asked for questions or comments, but there were no any.

9. Election of ECI Representative



The Chair explained the procedure for the new election of the ECI Representative for the second Grant Period. The ECI is an Early Career Investigator (maximum 8 years after the PhD, ie PhD degree after June 1, 2010).

The ECI Representative works in the Core Group for 1 year mandate. He/She participates to Core Group discussions and preparation of MC meetings, he/she is the Newsletter editor and the blog moderator. Dr. Margot Deruyck (Belgium) was elected for the first Grant Period and her mandate is ending at the end of that meeting.

In April, before the Lund meeting, an email was sent for spontaneous candidacies to apply for the role of ECI Representative of the second Grant Period. The Chair, Prof. Oestges, and the Secretary, Lucia Vitiello, have received two ECI candidacies:

1. Dr. José A. del Peral-Rosado (Spain)
2. Dr. Luca Feltrin (Italy)

There was another candidacy from Golsa Ghiaasi Hafezi (Norway), but the candidacy did not fulfill the requirements: candidates have to be ECI for the full year of the mandate. The Chair asked for other spontaneous candidacies. Any other than those mentioned above were received.

Prof. Oestges asked the candidates to be ready to present themselves during the election on May 30 and invited them to ask the previous ECI Representative any questions about the role.

10. Keynote talks

Prof. Oestges presented the two Keynote talks of the *IRACON 4th Scientific Meeting*:

- **Key IEEE 802.11 components: High Efficiency Wi-Fi and Wake-Up Radios**

Dr. Leif Wilhelmsson, Ericsson Research, Lund, Sweden

- **Next levels of low power and long range cellular IoT**

Dr. Peter Karlsson, Sony Mobile, Lund, Sweden

11. Presentation and Discussion of Technical Documents

Prof. Oestges presented the TDs submitted and the schedule of the *IRACON 4th Scientific Meeting*:

- **TDs**

- 80 TDs to be presented (**Annex 3-Action_CA15104_TDs list_Lund**)
- Working Groups discussions should include
 - Next deliverables
 - Training School proposals/topics for 2018 and beyond



- Workshop proposals for 2018 and beyond (we already have one proposal for Sep 2017)
- Joint activities with H2020 projects
- Tutorial offers for upcoming meetings (starting from January 2018)
- Joint activities (experiments, papers, etc.)
- Short Term Scientific Missions among participant institutions
- Any other idea to foster the dissemination of the Action?

➤ **Schedule (Annex 4-Action_CA15104_TDs-Schedule_Lund)**

Lund (SE) May 29-31, 20. Day One		Day Two			Day Three			
Room	E:A	E:2517	E:2311	E:A	E:2517	E:2311		
Hours	9.00 - 10.30							
Sessions	WG1		WG2	WG3	WG1	OTA + IoT-B	LT	
TD number or other	Ch. models	Signal proc.	RRM	SHF	Hum. block.	Location		
TD number or other	24	34	62	5	65	32		
TD number or other	48	70	76	45	68	33		
TD number or other	39	73	1	54	72	50		
TD number or other		74	10	67		DISC (OTA)		
Coffee Break	10.30-11.00			10.30-11.00				
Hours	11.00 - 13.00			11.00 - 13.00				
Sessions	WG1		WG2	WG3	OTA	IoT-B	RA	
TD number or other	mmWave	Coding	Networks	Testbeds	Body comm	RAN perf.		
TD number or other	64	7	22	11	8	17		
TD number or other	69	41	57	60	14	2		
TD number or other	25	31	9	61	29	26		
TD number or other	82	15	84	63	58	59		
TD number or other	66		18	80		13		
TD number or other	DISC (WG1)	DISC (WG2)	DISC (WG3)	DISC (OTA)	DISC (IoT)	DISC (RA)		
Lunch	13.00-14.00 Karhuset			13.00-14.00 Karhuset				
Hours	14.00 - 15.30		14.00 - 15.15		14.00 - 15.00			
Sessions	Plenary		WG1	WG2	IoT	WG1 (+WG3)	OTA +RA	
TD number or other	PLENARY MCM (E:A)		Antennas	MIMO	NB-IoT/SDR	Vehicles	WSN	
TD number or other			20	44	75	21	(all WGs)	mMIMO
TD number or other			27	85	78	42	77	37
TD number or other			28	30	19	81	38	49
TD number or other			71		40			
TD number or other	15.15-15.30 Election of ESR repr. // NL		15.15-15.30 Election of ESR repr. // NL		15.15-15.30 Election of ESR repr. // NL			
Coffee Break	15.30 - 16.00		15.30 - 16.00		15.30 - 16.00			
Hours	16.00 - 18.00		16.00 - 18.00		16.00 - 18.00			
Sessions	Technical Plenary		WG1 + RA	LT	IoT-B	PLENARY MCM (E:A)		
TD number or other	Invited Talks		mmW test	LT	WBANs			
TD number or other	Dr. Leif Wilhelmsson, Ericsson Research		4		35			
TD number or other	High Efficiency Wi-Fi and Wake-Up Radios		36	3	16	16:30 End of Meeting		
TD number or other	Dr. Peter Karlsson, Sony Mobile		55	56	23			
TD number or other	Next levels of low power and long range cellular IoT		51	12	43			
TD number or other	TD # 46		DISC (WG1)	DISC (LT)	DISC (Body)			
End time	18:00		18:00		18:00			
Social event	18:00		19:00		Dinner Skissernas museum			

Prof. Oestges reminded that the ECI Representative election will be hold on May 30 at 3:15 pm and closed the MCM plenary.

Lund, Sweden
30/05/2017

➤ **Election of ECI Representative**

The Chair explained the meaning and the procedure for the election of the ECI Representative. The Chair asked for other spontaneous candidacies and invited the previous ECI Representative, Dr. Margot Deruyck, to explain the role.

Prof. Oestges invited the two candidates to present themselves and motivate their candidacy in a few words. After responding to audience questions, the Chair asked everyone, except for ECIs and the Action Secretary, to leave the room for the votation (only ECIs could vote) by rising hands. Dr. Luca Feltrin obtained 14 votes, Dr. José A. del Peral-Rosado 9 votes.

Dr. Luca Feltrin was elected as ECI Representative for the second Grant Period of the



Action.

The Chair thanked Dr. Margot Deruyck for her job in the Core Group during the first Grant Period.

Lund, Sweden
31/05/2017

The *4th Management Committee Meeting* resumes started on Wednesday at 4:00 pm.

The Chair notified the audience about the ECI Representative Election result.

Prof. Oestges asked for MC members discussion and approval of Huawei (CN) application to join the Action as International Partner Country Institutions. He reminded that he sent the application to the MCMs via email during the day. The Chair asked for questions, but there were no any. The MCMs approved the votation. All the MCMs were in favour. The application was formally and unanimously pre-approved by the MC.

12. Future MCMs and Workshops

The Chair presented the upcoming meetings:

➤ **Fifth MC meeting and technical meeting**

- Graz (AT), Sep 12-14 2017
- Workshop on Localization and IoT
- Organizer: Klaus Witrissal

➤ **Sixth MC meeting and technical meeting**

- Nicosia (CY), Jan 29-31 2018
- Organizer: Konstantinos Katzis

➤ **Future meetings Proposals**

- Proposal from Aalborg University (DK), U. Catania (IT), Uni. Montenegro (ME), AIT/TU Vienna (AT), CTTC (ES), Uni. Cartagena (ES), Uni. Valencia (ES), UGent (BE), UCL (BE)
- We are currently looking for firm proposals for Spring 2018 and September 2018

➤ **IRACON Workshop on Localization and IoT**

- Graz (AT), on Sep 12, 2017
- One-day workshop co-organized by COST IRACON and TU-Graz Lead Project "Dependable Things"
- Organizers: Klaus Witrissal, Carles Anton and Chiara Buratti
- Call still open until June 7



13. Reports from Working Group Chairs

The WG co-Chairs were asked to report on the activities of each WGs.

- Prof. Katsuyuki Haneda reported about the activities carried out within WG1: Radio channels (**Minutes_WGs_Lund, DWG1-meeting-report_Lund**).

- Prof. Jan Sykora reported about the activities carried out within DWG2: PHY layer (**Minutes_WGs_Lund, DWG2-meeting-report_Lund**).

- Dr. Hamed Ahmadi reported about the activities carried out within DWG3: Net layer (**Minutes_WGs_Lund, DWG3-meeting-report_Lund**).

- Dr. Wim Kotterman reported about the activities carried out within EWG-OTA: Over the air testing (**Minutes_WGs_Lund, EWG-OTA-meeting-report_Lund**).

- Dr. Slawomir J. Ambroziak reported about the activities carried out within the new SEWG-IoT: Internet-of-Things for Health (**Minutes_WGs_Lund, EWG-IoT-meeting-report_Lund**).

- Prof. Klaus Witrisal reported about the activities carried out within EWG-LT: Localisation and tracking (**Minutes_WGs_Lund, EWG-LOCmeeting-report_Lund**).

- Prof. Claude Oestges reported about the activities carried out within EWG-RA: Radio Access (**Minutes_WGs_Lund, EWG-RA-meeting-report_Lund**).

The Chair encouraged the WGs to find some goals or joint goals and targets for the end of the action.

The Chair pointed out some key points about the dissemination activities:

➤ **Leaflet**

- Goal: high-level introduction of the Action
- Explains the key aspects of our activities
- Updated after each meeting
- Available at <http://www.iracon.org> under “Publications”, “[Leaflet](#)”

➤ **Newsletters**

- All issues available at <http://www.iracon.org> under “Publications”, “[Newsletters](#)”
- Next issue to be expected after this meeting

➤ **Blog**

- To launch discussions and/or express views on matters dealt with within the Action
- Possible blog posts include, but are not limited to: a short survey, a technical



overview, a small tutorial, etc.

- Schedule ensuring (at least) a bi-monthly contribution
- Contributors: members of Steering Committee
- If you have an interesting contribution for the blog, contact Dr. Luca Feltrin (luca.feltrin@unibo.it)

➤ **Social Media**

- [Facebook](#): @CA15104
- [Twitter](#): @IRACONAction
- [Linkedin](#)
- If you have an interesting contribution for the Social Media, contact the Secretary (lucia.vitiello@unibo.it)

14. Liaisons with International Bodies and Projects

The following liaisons have been established so far with international bodies, standards and projects:

- 3GPP – Aki Hekkala
- URSI – Sana Salous
- ITU-R – Sana Salous and Belen Montenegro
- H2020 5G-XCAST – Narcis Cardona
- (H2020 mmMAGIC – Mark Beach)
- H2020 5G X-haul – Mark Beach
- CommNet (EPSRC network) – Mark Beach
- IEEE 1900.6 – Kostas Katzis
- EurAAP – Claude Oestges
- EURACON – Roberto Verdone
- WiBEC – Narcis Cardona
- 5G initiative – Fernando Velez
- Met5G – Tim Brown • Clear5G – Haibin Zhang

15. AOB

The Chair suggested to find the next events information [online](#) and to book flight and accommodation as soon as possible.

16. Close of Meeting

The Action Points to be performed after the end of the *4th Management Committee and 4th Technical Meeting* were reminded to the audience by the Chair:



Action points

AP	WHAT	WHO	WHOM	WHEN
5/1	Submit reimbursement forms	Those entitled to	e-cost	July 1
5/2	Send Minutes of Group Meetings	Group Chairs	Chair + Secretary	July 1
5/3	Send STSM Applic.	Those interested	e-cost + Training Chair	Open call
5/4	Send list of research groups/PhD schools	MC	Secretary	July 1

AP	WHAT	WHO	WHOM	WHEN
5/5	Register to 5th MCM	Attendees	Website	Aug 28
5/6	Request TD number	Authors	Website	Aug 28
5/7	Submit TD	Authors	Website	Aug 31

Prof. Oestges closed the meeting by thanking Prof. Fredrik Tufvesson and all his team for hosting the meeting and all attendees.

List of attachments

List of Annexes

- Annex 1- Agenda
- Annex 2- List of persons entitled for reimbursement
- Annex 3- TDs list Lund
- Annex 4- TDs Schedule Lund
- Annex 5- Attendance lists Lund
- Annex 6- Attendance lists WGs Lund
- Annex 7- Attendance list Tutorial Lund



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Minutes_WGs_Lund

DWG1 meeting report Lund

DWG2 meeting report Lund

DWG3 meeting report Lund

EWG-IoT_IoT-Health meeting report Lund

EWG-LT meeting report Lund

EWG-OTA meeting report Lund

EWG-RA meeting report Lund