



Cooperative Radio Communications for Green Smart Environments

12th Management
Committee Meeting
Dublin, Ireland
28-30 Jan 2015



Prof. Narcis Cardona
Univ. Politecnica Valencia
iTEAM Research Institute



Wed 28-Jan-2015

PLENARY

1. Opening formalities
2. Adoption of the Agenda
3. Approval of the Minutes of the last MCM
4. Status of the Action
 - a) The COST IC1004 group
 - b) Training and networking, STSMs, Liaisons
 - c) Future activities, Final Workshop
 - d) Book status
 - e) Grant Holder Report (CNIT, R.Verdone)
5. Follow-up proposal
6. Invited talks
 - “Test and Trial Ireland – Exploiting Ireland’s natural radio spectrum advantages” - Joe Lynch Test and Trial Ireland.
 - “Future Evolution of Cellular Networks” - Dr. Holger Claussen, Department Head, Small Cells Research; Bell Labs, Alcatel Lucent Ireland.

Wed 28-Jan-2015

(con't)

7. Technical sessions (11:30-13:30)

- TWG-Vehicular; Joint with Training School
- TWG indoor

Wed 14:30 - Fri 13:00

7. (con't) Presentation and discussion of TDs // Working Groups

Friday 30-Jan-2015

14:00 PLENARY

8. (Reports from Group Chairs →written)
9. (Liaison rapporteurs to International Bodies and Projects →written)
- 10. Final Book** status and short-term actions
11. Dissemination and Training activities. 8th Training School
- 12. Final meeting** and workshop, Valencia 5-7 May 2015
- 13. Follow-up** proposal
14. AOB

End of meeting by 15:45

ATTENDANCE LISTS:

Please sign the

GENERAL ATTENDANCE LIST,

ONE PER DAY

&

ONE attendance list for

EVERY **Working Group** you attend

3. Approval of the Minutes of the last MCM



Minutes are available under ...\\official documents and after MC approval also under ...\\meetings

The PDF file contains hyperlinks to WGs Minutes and other documents like reports from liaisons rapporteurs, etc.

--> Approval?

4. Status of the Action

Number of signatories countries: **30 ! (Estonia signed MoU on Sept 2014)**

Number of COST country entities (institutes, etc.) currently participating: **136**

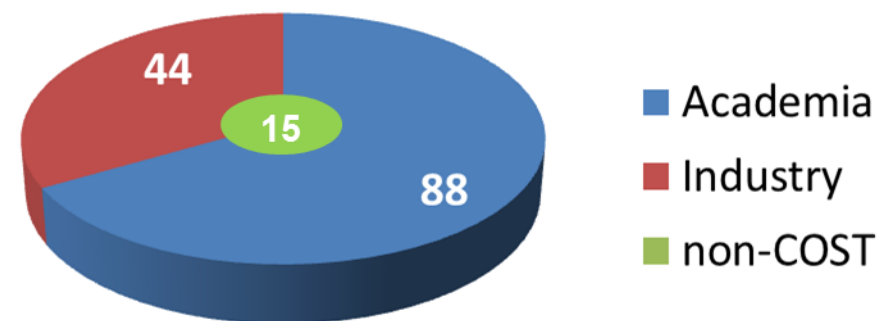
Number of COST Near Neighbour Countries: **1**

Number of COST International Partner Countries: **6**

Number of non-COST entities (institutes, etc.) currently participating: **16 (+4)***

Number of MC Members: **56 (+ Chair)**

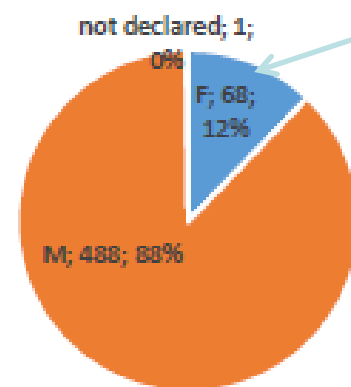
Number of registered experts so far: **> 600**



* Samsung Korea, Huawei Technologies, Qualcomm, New York University

4. Status of the Action

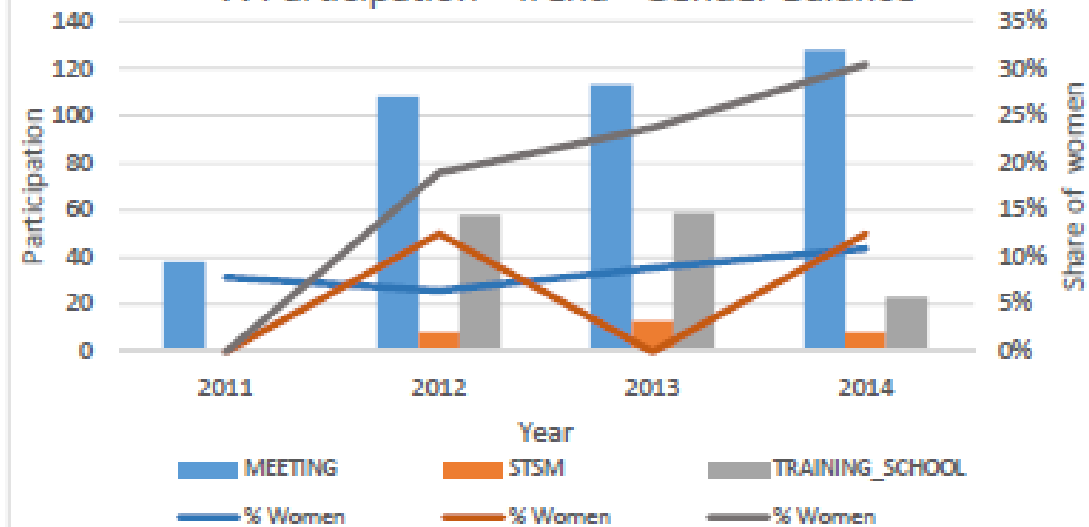
6. Gender Balance



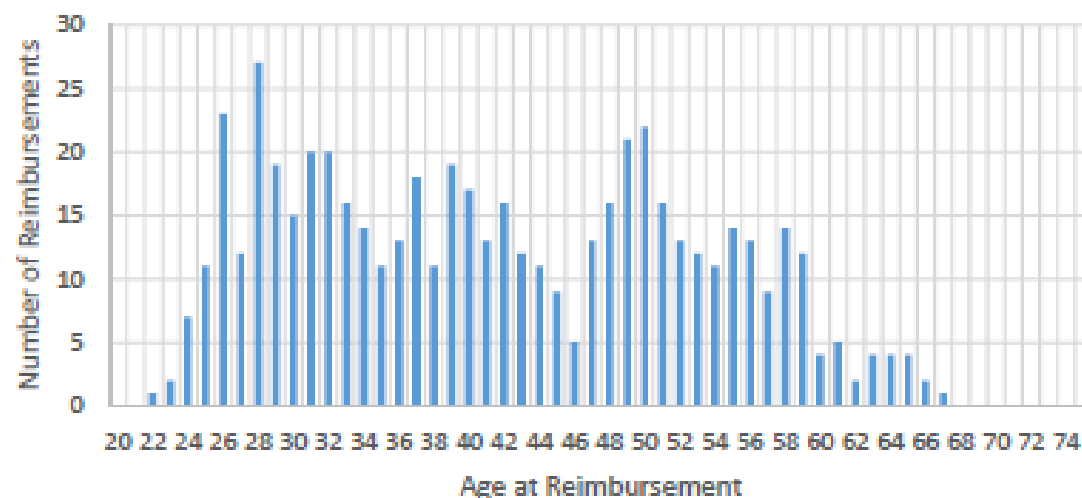
■ F ■ M ■ not declared

14%

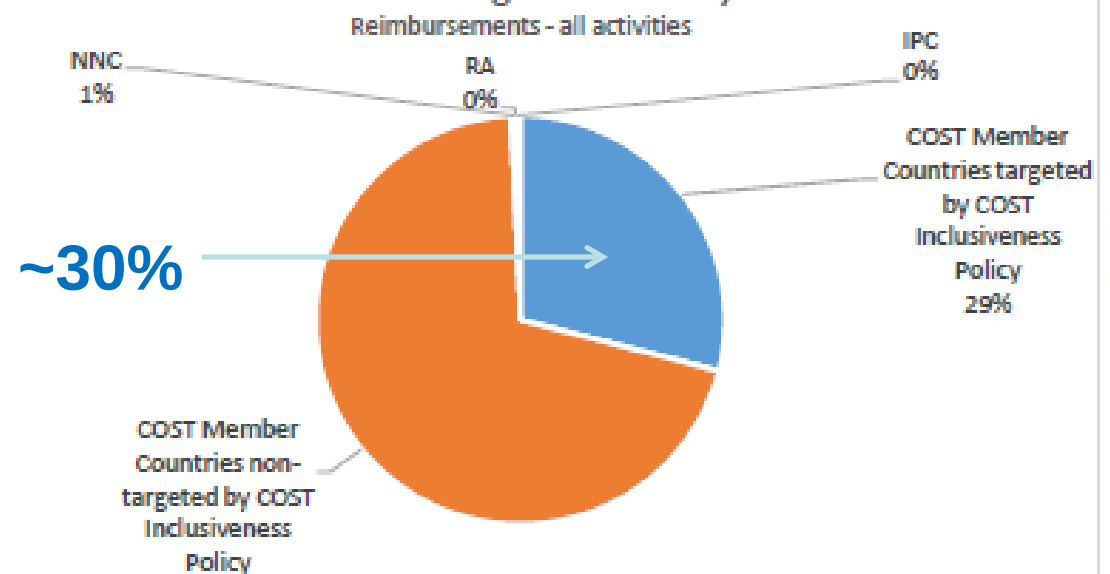
7. Participation - Trend - Gender Balance



8. Age Balance



9. Inclusiveness Targeted Country Balance



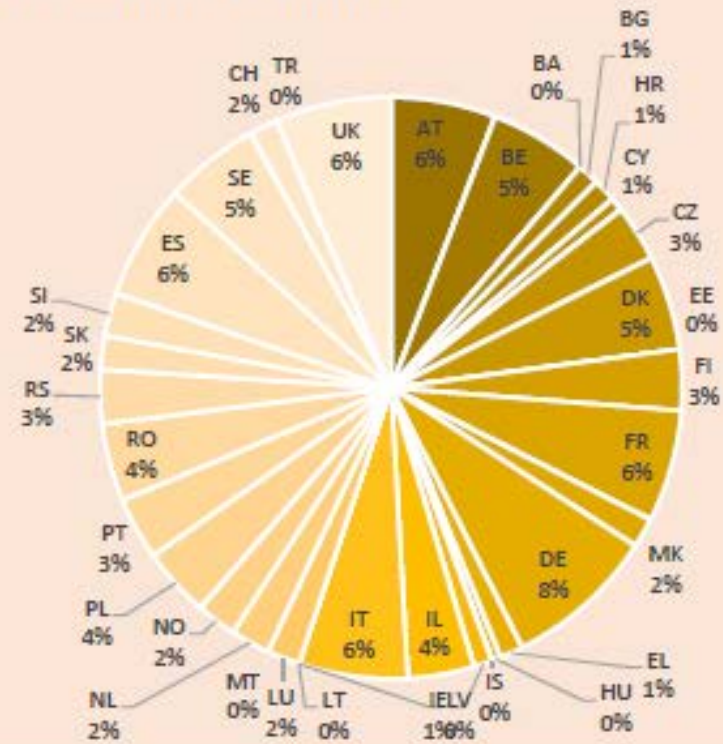
Official Data from COST Office records

4. Status of the Action

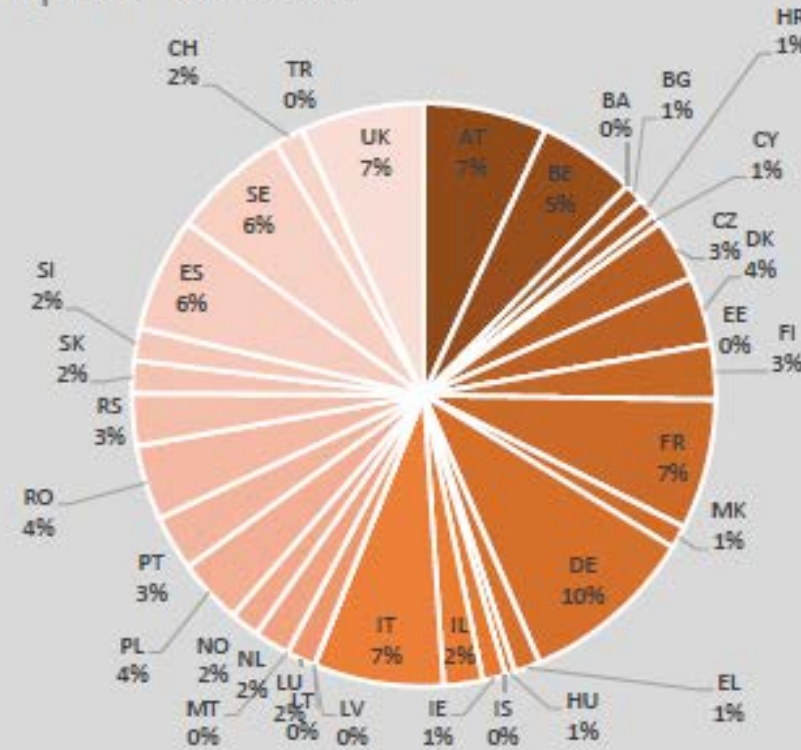
Action Number: IC1004

Data from 1/1/2010 to 31/12/2014

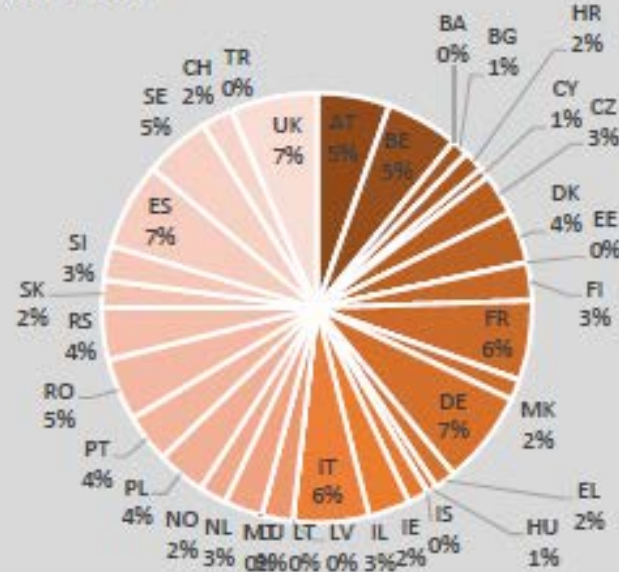
1. Reimbursements - all activities



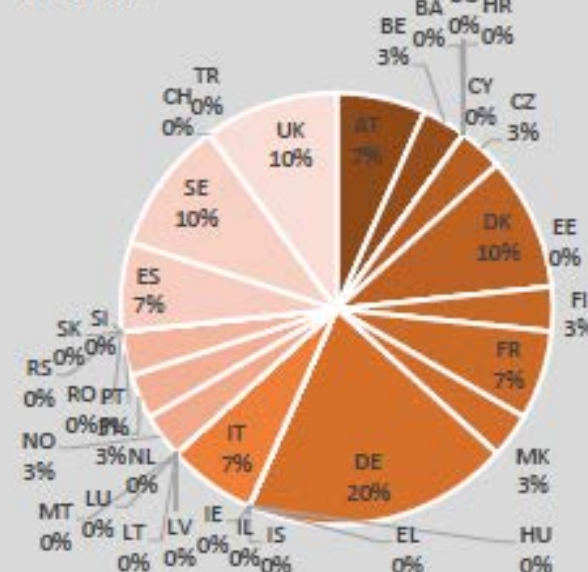
2. Participation - all activities



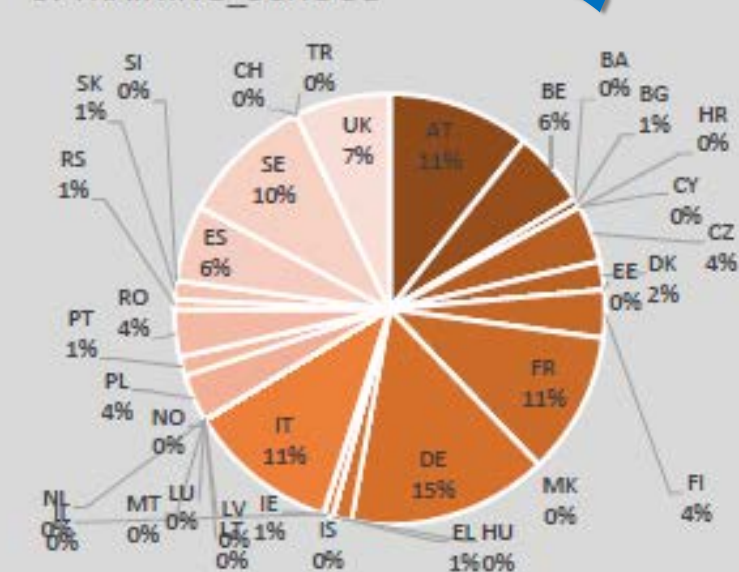
3. MEETING



4. STSM



5. TRAINING_SCHOOL



✓ BALANCED

4. Status of the Action

Current Non-COST Members (16 + 4):

The following are MC Observer requests being process (click on one to see the Detail page).

#	ID	Type	Action	Country	Institution	Participation
2	611	IPCR	IC1004	US	COMSEARCH	Approved on 2011-12-09
3	627	IPCR	IC1004	CN	Tongji University	Approved on 2011-12-09
4	653	IPCF	IC1004	JP	National Institute of Information and Communications Technology	Approved on 2011-10-21
5	693	NNCR	IC1004	ME	University of Montenegro	Approved on 2011-12-09
6	694	IPCF	IC1004	JP	Tokyo Institute of Technology	Approved on 2011-10-21
7	710	IPCF	IC1004	CO	Universidad Icesi	Approved on 2011-10-21
8	711	IPCR	IC1004	AU	La Trobe University	Approved on 2011-12-09
9	770	IPCF	IC1004	CA	The Communications Research Centre	Approved on 2011-10-21
10	807	IPCR	IC1004	JP	Japan Advanced Institute of Science and Technology	Approved on 2012-06-08
11	869	IPCF	IC1004	CN	Beijing University of Posts and Telecommunications, Wireless Technology Innovation Institute	Approved on 2012-03-28
12	900	IPCR	IC1004	US	National Institute of Standards and Technology	Approved on 2012-12-14
13	901	NNCR	IC1004	LB	American University of Beirut	Template Completion
14	1055	IPCR	IC1004	CN	Academy of Broadcasting Planning	Approved on 2012-12-14
15	1218	IPCR	IC1004	CN	Beijing Jiaotong University (BJTU)	Approved on 2013-09-16
16	1577	IPCF	IC1004	JP	NTT DOCOMO, INC.	Approved
17	1676	IOR	IC1004	XI	Samsung Electronics Korea	SO Validation
18	1677	IOR	IC1004	XI	Huawei Technologies Co., Ltd.	Template Completion

- No longer possible to include new non-COST participants officially (entered the last year term of the Action)
- **Samsung Korea** was accepted to attend and participate to technical meetings
- **Qualcomm** (contributing to this meeting) intends to participate to the end of the Action
- **Huawei** intended to participate to Dublin and Valencia.
- **New York University** invited to contribute to Dublin (and Valencia) meetings → **OBJECTIONS ?**

Training activities

7th IC1004 Training School on

Methods and performance metrics for assessing Vehicular Communication Systems

January 26-28, 2015

Dublin City University, Dublin, Ireland

Organised by **Erik Ström & Levent Ekiz**

Grants: 20 ESR and PhD students



Speakers:

Burak Simsek, Volkswagen; Erik Ström, Chalmers University of Technology; Jan Carlsson, Swedish Technical Institute; Levent Ekiz, BMW; Maziar Nekovee, Samsung; Mark Hakim, Qosmotec Software Solutions; Mikael Nilsson, Volvo Cars; Werner Wiesbeck, Karlsruhe Institute of Technology; Wim Kotterman / Reiner Thomä / Mattias Hein, TU Ilmenau; Tommi Jämsä, Anite;

4. Status of the Action

Networking, STSMs

CALL for STSMs

CLOSED

14 applications received

(budget was intended for 8-10 in the year term)

8 Approved:

Peter Bagot (Bristol); Conchi Garcia-Pardo (Valencia); Jakub Kmiecik (Krakow);
Troels Pedersen (Aalborg); Stefan Mijovic (Bologna); Jan Hejtmanek (Prague);
Slawomir Ambroziak (Gdansk); Yan Zhang (Oslo);

1 cancelled

2 rejected

3 under evaluation

Liaisons

- Application from IC1004 to enter **5GPPP** accepted
Formal agreement to be signed after COST Office review
- Liaison statement presented and approved at **3GPP RAN4**
I. Szini, W.Kotterman, G.Pedersen, T. Jamsa
- **Globecom** panel on mmWaves
Sana Salous on behalf of IC1004

4. Status of the Action

Future activities

8th Training School on

“Cooperative Networks”

Luxembourg, April 2015

Organisers: Symeon Chazinotas, Silvia Ruiz

Final Workshop & Meeting

5-7 May 2015, Valencia

Local Organiser: Narcis Cardona

Final meeting and workshop

Final Meeting & Workshop

Proposed dates 5-7 May 2015, Valencia

Local Organiser: Narcis Cardona

Venue: Universidad Politécnica

Proposed Format:

5-May: Full day **Workshop** (selected topics from IC1004 results)

6-May: WGs **sessions**, Technical presentations, Final report, book review

7-May: Technical Plenary sessions, invited talks

+ Availability for pre-meeting activities on the 4th

Progress Report

No longer Annual Progress Conferences of the ICT Domain after the swap to H2020, as well as no Action Rapporteur assigned, but **REPORT will be MANDATORY**

COST
Domain Committee "Information & Communication Technologies"

COST Action IC1004
Start Date 19 May 2011

Cooperative Radio Communications for Green and Smart Environments

**MONITORING
PROGRESS REPORT**

Reporting Period: from 1st May 2013 (or start date of the Action)
to 28th February 2014

This Report is presented to the relevant Domain Committee.
It contains three parts:

I. Management Report prepared by the COST Office/Grant Holder
II. Scientific Report prepared by the Chair of the Management Committee of the Action
III. Previous versions of the Scientific Report; i.e., part II of past reporting periods

The report is a "cumulative" report, i.e. it is updated annually and covers the entire period of the Action.

Confidentiality: the documents will be made available to the public via the COST Action web page except for chapter II.D Self evaluation.

Based on the monitoring results, the COST Office will decide on the following year's budget allocation.

**WG Chairs, be prepared for reporting
by 30th April on**

- Results vs Objectives
- Impact, Dissemination
- Networking
- Any other relevant achievement
of your WGs

1. Intro- Scenarios, environments, evolution	0%
2. Urban Radio Access Networks	60%
3. Indoor Wireless Communications Systems	100%
4. Vehicular Communications Environments	90%
5. Wireless Body Area Communications	75%
6. Green and Efficient RAN Architectures	80%
7. Cooperative Strategies and Networks	90%
8. Evolved Physical Layer , cooperative,...	0% ??
9. Radio Channel Characterisation, modelling, sounding,	80%
10. Innovations in Antenna Systems for Communications	100%
11. Over the Air Testing of MIMO systems	90%
12. Future trends and Recommendations (open)	0%

4. Status of the Action

Final Book Calendar, reviewed

		Who	
Sept-2013	Ghent	Editor	Launch process, approve calendar
5-Feb-2014	Ferrara	MC	Selection of topics, ToC proposal (Chapters) Appoint Chapter editors Approval of EB, ToC and CE
		CE	Definition sections and SE
		E	Contact Publishers
		EB	TD to chapters map
		EB	Definition of edition Guidelines → Subjected to publisher
May-14	Aalborg	MC	Approval of ToC+sections + TD to Chapters map
		CE	Identify Section Editors
		E	Send proposal to publishers
		E	Circulate Edition guidelines
		CE	TDs to Sections map
		All/SE	Start contributions
Sep-26	11th MCM	MC	TD sections mapping, review status Approve publisher → committed to EB
2014-Oct-20			
		EB	Editorial Board Meetings
2015-Jan-08			
2015-Jan-28	12th MCM	All	First Draft ready (uncomplete)

4. Status of the Action

Final Book Calendar, short term

		Who	
28-Jan-2015	12 th MCM	All ?	Final deadline 6 Feb, First Draft ready → 9-Feb
<i>Editorial Board meeting this afternoon 6pm</i>			
6-Feb-2015		CE	Map TDs from Dublin meeting to Sections, for 2 nd Draft
<i>Circulate Chapter among WG participants (authors) for review</i>			
10-Feb-2015		SE	Ask Authors original figures, check no Copyright conflicts
10-Feb-2015		E	Ask authors mapping their TDs to open literature (in case)
28-Feb-2015		SE	Send comments, corrections, amendments to CE
31-Mar-2015		E	Second draft compilation, Circulate to ALL for review, comments

Objective: Final Draft ready by Valencia MCM, Final version delivered to Publisher by 31st July 2015

4. Status of the Action

BUDGET for 4th year term

Report from Grant Holder

Type of expenditure	Budget	Details	Already Spent	After Adjustment
1. Meetings and WS	112.700,00	EuCNC and Globecom 2014 Workshops	5.947,38	116.200
		11 th MCM Krakow	35.746,28	
		12 th MCM Dublin	-	
		Valencia Final Meeting and Workshop	-	
2. STSMs	10.000,00	8 to 10 STSMs	10.110	14.000
3. Training schools	34.200,00	7th Training School, Vehicular Tech, (Dublin)	5.700 (grants) + 6.200 (trainers) + 1.500 local	26.700
		8th T.S. Cooperative Networking (Luxembourg)	-	
		+ 9 th TS (joint) →cancelled	0	
4. Dissemination/ Publications	1.500,00	Web page (&server) maintenance	-	1.500
5. Others	730,43	Bank fees, post, etc.	-	730,43
Secretariat - 15% of sum(1:6)	23.869,57	Secretariat, CNIT (IT)	9.516	23.869,57
TOTAL	183.000,00			183.000,00

4. Status of the Action

Report from Grant Holder

Additional BUDGET

(after closing the Action period)

- Book publication: applied 9.650 €
- Two speakers reimbursed to EuCNC 2015 (Paris, June 29/July 2, 2015)

Reminder on Travel and Reimbursement issues

NEW Procedure @ eCOST

COST Office has introduced a **Strong Authentication** feature in e-COST, enabling **Online Travel Reimbursement Request** (OTRR) forms to be submitted fully online. The new feature is based on the release of 'One Time Passwords' similar to those used by some e-banking systems.

The Online Travel Reimbursement Request (OTRR) allows **each participant to directly encode** into e-COST the expenses incurred in relation to the attendance of COST Action meetings, as well as to submit the **supporting documents** linked to the request, by scanning them and attaching them to the Online Travel Reimbursement Request (OTRR).

=> **no need to hand the form over during the MC meeting or send the hard copy by post**

The OTRR is to be **submitted only after the meeting** took place. After the participant has encoded the relevant expenses and uploaded the supporting documents, the participant will be able to authenticate him/herself by providing the InWebo password, and submit the claim.

Travel and Reimbursement issues

Procedure @ eCOST

The steps to be performed in order to submit your travel reimbursement request :

Before the meeting

Step 1, the participant is asked to accept or decline the invitation received by email (the usual e-cost invitation email)

Before or after the meeting

Step 2, the participant can start to fill in the claim

Step 3, the participant can encode the expenses

Only after the meeting

Step 4, the participant is asked to select a bank account

Step 5, the participant can submit the claim

AP → Upload your docs and submit claim by 15th February

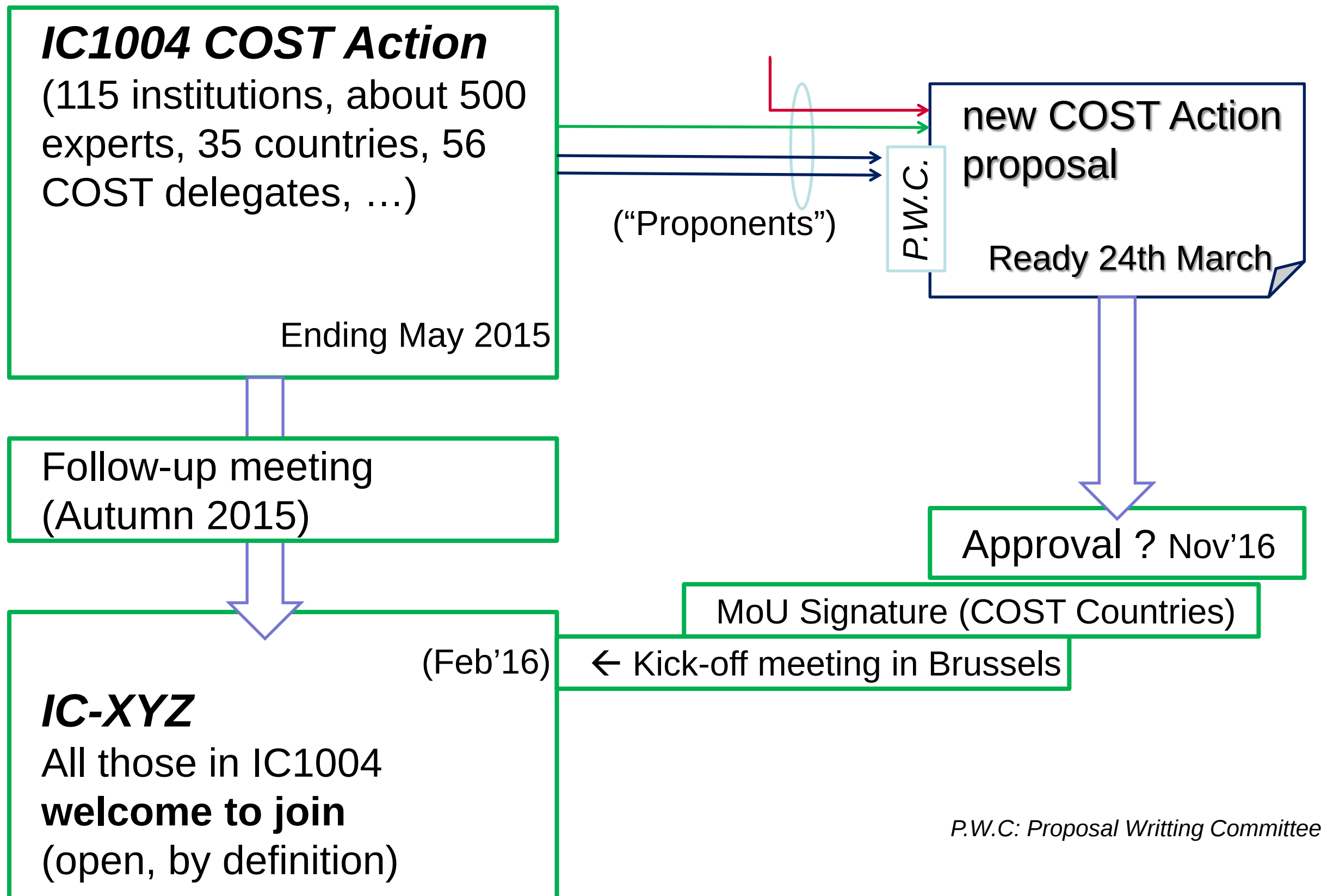
Open Call, deadline 24th March (*expected extension to 31-March*)

e-COST tool not open for submission until >2-Feb

- Procedure: One-stage submission

The proposal is reviewed by **3 experts**, then consensus report is prepared by one of the **6 Panels** (per knowledge area) and, in case they need to, there will be a "quality check" with the "**national experts**" (nominated by the National coordinators)

- Decisions taken at CSO by end of October
=> kick-off about Jan/Feb 2016
- 42 new Action to approve in this call
- Second call by November 2015



Proponents:

- 1** - Main proponent (one EU expert)
- 20** - COST Countries (minimum 5 over the 31)
- 1** - Near Neighbour Countries
- 5** - International partners (Academia and Industry)
- - EU Agencies
- 2** - EU RTD organisation
- 2** - International organisations

Objective

+ Offer from Newcom# partners to join our proposal

Keywords: Knowledge share, open; Emerging talents; Transdisciplinary; Inclusiveness, opportunities, balance (gender), ...

S&T EXCELLENCE	IMPACT	IMPLEMENTATION
Soundness of the challenge	Scientific, technological and/or socio-economic impact	Coherence and effectiveness of the work plan
Progress beyond the state-of-the-art and innovation potential	Measures to maximise impact	Appropriateness of management structures and procedures
Added value of networking	Level of risk and level of potential innovation/breakthroughs	Network as a whole
Total Mark for the section: 25 points	Total Mark for the section: 20 points	Total Marks for the section: 20 points
TOTAL MARK AWARDED: 65 points OVERALL THRESHOLD: 45 points		

in 15 pages

Proposals failing to achieve the overall threshold shall not be funded.

TOPICS TO DISCUSS during WG sessions

- **Book**
 - Review status, missing parts
 - Map of new TDs
 - Agree on short term –by 15th Feb- actions
 - **8th Training School (WG3)**
 - Define contents, appoint speakers, calendar, budget
 - **Final Workshop**
 - Proposal of Activities / Sessions / Speakers
 - **Follow-up**
 - Topics, scope, inputs, structure,...
- & appoint experts for writing (commit for the 4 coming weeks)

TDs allocation to WGs

WG 1	1, 5, 13, 17, 21, 32, 36, 49, 55, 57, 65, 66, 72, 75, 76, 80, 81, 85, 87, 88, 89, 90	(22)
SWG 1.1	8, 23, 25, 27, 41, 50, 59, 61, 73	(9)
SWG 1.2	24, 62, 74, 83, 86	(5)
WG 2	2, 28, 40	(3)
SWG 2.1	31, 45, 52, 78	(3)
WG 3	3, 12, 14, 18, 26, 33, 34, 47, 56, 63, 71, 82	(12)
TWG-B	4, 35, 51, 60, 70	(5)
TWG-V	6, 16, 30, 37, 42, 77, 79	(7)
TWG-U	7, 38, 39, 46	(4)
TWG-i	11, 15, 19, 20, 22, 29, 43, 44, 67, 68, 84	(11)
TWG-O	9, 10, 54, 58, 64	(5)
WG1+2	48, 69	(2)
withdrawn	53	(1)

WGs sessions Schedule

	Wed 28th	TD#	room		Thu 29th	TD#	room		Fri 30th	TD#	room
9:00	Opening, MC PLENARY (+Invited Talks) QG13			9:00	WG1 +U (sounding)	21,36,49,75,90, 5	HG22	9:00	SWG1.2	74,83,24,86,62, DISC	HG22
					WG2	2, 28, 40, DISC	HG17		SWG1.1	8, 23, 50,73 DISC	HG17
					WG3 (spectrum)	3, 18, 47, 63, 71, DISC	HG10		TWG-V	37, 77, 6, 79, DISC	HG10
11:00				11:00				11:00			
	Coffee				Coffee				Coffee		
11:30	TGW-V joint TS session + 16, 30, 42 HG22			11:30	WG1 +i	17,32,72,85,89	HG22	11:30	TWG-i (uwb)	19, 20, 22, DISC	HG22
					TWG-B	4, 35,51,60, DISC	HG17		TWG-O	54, 58, 64 +DISC	HG17
	TWG-i (loc)	15, 67, 68, 84 , 44	HG17		TWG-O	9, 10, DISC	HG10		TWG-U	7, 46, +DISC	HG10
				13:00				13:00	TWG-V	+DISC	HG08
13:30					Lunch				Lunch + Newsletter meeting		
	Lunch			14:00	WG1 (mmW) +i	55,57,66,87,88	HG22	14:00	MC PLENARY QG13		
14:30	WG1+2	69, 48, DISC	HG22		SWG1.1	25,41,27,59, 61	HG17				
	WG3	12, 34, DISC	HG17		WG3 (LTE)	14, 26, 33, 82, 56	HG10	15:30			
16:00				16:00					End of meeting by 15:45		
	Coffee				Coffee						
16:30	WG1 + U (ray-tr.)	1,13,65,76,80,81	HG22	16:30	TWG-i:mm	11, 29, 43,DISC	HG22				
	SWG2.1 (+WG3)	31, 45, 52, 78, DISC	HG17		TWG-B	70, +DISC, +Book	HG17				
					TWG-U	38,39, DISC	HG10				
18:00				18:00							
		scheduled	0			scheduled	0				
18:00	Editorial Board meeting			18:30	Depart to Social Event						

...MC Plenary continues on Friday at 14:00

Attendance lists from WGs/SWGs/SIGs:

Have you signed the
GENERAL ATTENDANCE LIST?

No signature, no reimbursement...

Friday 30-Jan-2015

14:00 PLENARY

8. (Reports from Group Chairs →written)
9. (Liaison rapporteurs to International Bodies and Projects →written)
- 10. Final Book** status and short-term actions
11. Dissemination and Training activities. 8th Training School
- 12. Final meeting** and workshop, Valencia 5-7 May 2015
- 13. Follow-up** proposal
14. AOB

End of meeting by 15:30

- Disciplinary Working Groups:
 - WG1: Claude Oestges, U.C.L. (BE)
 - SWG1.1: Buon Kiong Lau (SE)
 - SWG1.2: Tommi Jämsä
 - WG2: Alister Burr, U.York (UK)
 - SWG2.1: Jan Sykora (CZ)
 - WG3: Silvia Ruiz, U.P.C. (ES)
- Topical Working Groups Coordinator:
 - TWGC: Alain Sibille, Telecom ParisTech (FR)

- Vehicular Environment, TWG-V
Levent Ekiz (DE), Erik Strom (SE)
- Body Environment, TWG-B
Raffaele D'Errico (FR), Kamyaz Yazdandoost (JP)
- Urban Environment, TWG-U
Sana Salous (UK), Denis Rose (DE)
- Indoor Environment, TWG-I
Pawel Kulakowski (PL), Klaus Vitrisal (AT)
- MIMO-OTA Testing, TGW-O
Gert Pedersen (DK), Wim Kotterman (DE)

Please send MINUTES of your WGs to Secretary by **Feb 28th**

- ...
- Buon Kiong Lau , COST VISTA
- Sana Salous, Chair of URSI C
- Istvan Szini, CTIA
- Moray Rumney, 3GPP RAN4
- Alain Sibille, FP7 Lexnet
- Tommi Jämsä, Narcis Cardona, FP7 METIS
- Roberto Verdone, Newcom#, EurACON
- **Alain Mourad, (InterDigital), OFCOM; ETSI MWT pre-standardisation groups...**
- **MIWEBA, 60G (HHI)**
- Others

Rapporteurs are kindly asked to report at plenaries and to send a short written report.

Please send your reports to Secretary by **Feb 28th**

Who

6-Feb-2015

SE

Final deadline SE input: 6 Feb, First Draft ready → 9-Feb

Circulate Chapters among WG section editors for first review

6-Feb-2015

CE

Map TDs from Dublin meeting to Sections, for 2nd Draft

10-Feb-2015

SE

Ask Authors original figures, check no Copyright conflicts

10-Feb-2015

E

Ask authors mapping their TDs to open literature (in case)

Editorial Board meeting (telco)

28-Feb-2015

SE

Send comments, corrections, amendments to CE

31-Mar-2015

E

Second draft compilation, Circulate to **ALL** for review, comments

Objective: Final Draft ready by Valencia MCM, Final version delivered to Publisher by 31st July 2015

- Training School:

“From HetNets to Cloud Radio Access Networks”

Venue: Luxembourg

Dates: 2 ½ days 2015, **21-23 April**

Organisers: Symeon Chazinotas, Silvia Ruiz.

Attendees: expected 35 (20 grants to ESR//students)

IC1004 support:

- Trainers travel costs
- 20 grants for PhD and ESRs
- organisational support

<http://www.ic1004.org/training-schools>

Registration and application for grants open by 1st March

Newsletter

Editor: Prof. Alain Sibille

Welcome to **distribute the link** among your professional contacts:
<http://www.ic1004.org/index.php?page=newsletter>



CALL FOR WORKSHOPS

IEEE PIMRC 2015, Aug 30, 2015, Hong Kong Convention and Exhibition Centre, Hong Kong
www.ieee-pimrc.org/

The IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) conference is soliciting proposals for workshops to be held in conjunction with the IEEE PIMRC conference. Workshops are scheduled for Sunday, August 30, 2015, at the conference venue in Hong Kong.

Workshop topics should be consistent with the topics and goals of the broader IEEE PIMRC conference. These topic areas broadly include "Fundamentals and Physical Layer", "MAC Layer and Cross-Layer Design", "Mobile and Wireless Networks", and "Services, Applications and Business". Within this broad scope, workshop proposals should address specific technical areas or emerging/hot topic areas. Successful workshop proposals will be for topics that are sufficiently differentiated from other conferences and symposia.

Each workshop must have at least two organizers from two different institutions.

Workshop proposals should be submitted, no later than April 15, 2015, via EDAS.

Submission Deadline: April 15, 2015

For more information, please feel free to contact the Workshop Co-Chairs: [Chiu Ngo and Laurent Clavier](#).

+About 50 conferences/courses/events with COST participants involved in organisation; announced at (www.ic1004.org)

...all under www.ic1004.org/announcements

***Any offer for Workshop, Special Session,
Training School, Tutorial, ... is welcome at any
time during the Action
chair@ic1004.org***

Final Meeting & Workshop

5-7 May 2015, Valencia

Local Organiser: Narcis Cardona

Venue: Universidad Politécnica

Format:

5-May: (2 ?) **Workshop(s)**

- **Radio Channel models for higher frequency bands (C.Oestges)**

-

6-May: **WGs sessions (regular TDs)**

7-May: Technical Plenary track, selected topics from WGs + invited talks

Final Meeting & Workshop

Special Issue proposal to Eurasip WCN, peer review of the papers of the Final Workshop, published by end of 2015

Proponent: Narcis Cardona

Proposal Writing Committee:

Claude Oestges, Laurent Clavier, Katusyuki Haneda, Buon K. Lau, Luis Correia, Roberto Verdone, Levent Ekiz + 1 or 2 from N#

- Supporting Institutions, Companies, Countries:

Send your willingness to participate as supporting Institution and/or contact person for your Country. → chair@ic1004.org

- Participants:

anybody welcome, send inputs BY 6th-FEB on any aspect of the technical annex (science, impact, networking) to chair@ic1004.org

...proposal written on the following basis:

- **Scope: Radiocommunication Networks**
- **Focus**: IMT2020, 5G and beyond, Wireless IoT, ...
- Moto, name, acronym:

- **Structure**: Working groups + interdisciplinary
- **Writing**: PWC collects inputs, and writes the proposal, IC1004 Technical Committee reviews
- **Supporting** institutions: declare willingness, instructions sent along next two weeks.

Summary of keywords from WGs discussions

WG3, Areas: Spectrum MGM, Cloud/Virtual RAN, HetNets...

- Network automation: Self-organizing and self-optimizing network functionality and performance far beyond what is now being introduced in LTE, possibly towards real cognitive networks
- Traffic steering and load balancing methods in heterogeneous networks
- Interference management and cell cooperative strategies
- The impact of Network Function Virtualization (NFV) on the operational paradigms
- Personal mobile networks
- Vehicular networks, moving networks => traffic models,
- M2M, device to device, ...
- Backhaul, bottleneck in ultra dense networks
- Multi-technology content delivery, Multilink
- Internet of Things,
- Spectrum licensing, sharing, coexistence, (radar, M2M, DTT, ...)
- (Radio) Resource Sharing
- LTE-unlicensed (LTE-U)

Summary of keywords from WGs discussions

WG1

(keyword areas) mmWave, Sounding, Ray Tr. Ch modelling...

WG2

Cloud Networking (CRAN), Wireless personal devices, small access points, W – IoT

Theoretical foundation challenges: (low latency, very long/short messages?, ...). New multiple access ? Massive MIMO, mmWaves, small cells, ...

5G ? and beyond; Inclusive wireless netws

Energy efficiency, higher frequency bands computation and processing,

TWG-U:

5G and beyond, ch. Sounding, mmwave, MMIMO, SON, DAS, Data bases for Ray tracing (materials, ...)

Summary of keywords from WGs discussions

TGW-i:

60GHz, 250G ?, localisation/tracking, scenarios of application, manufacturing/logistics, ...

TWG-V:

Internet of Cars (%G apps), certification, architecture in-car, 700MHz/600MHz limits, 5G use cases, mobile nodes issues,

SWG1.1

Decoupling, reconfigurable ant. Systems,

TWG-B

Multiple BANs (coexistence, B2B, D2D, context awareness) Energy efficiency, body implant, dosimetry, HBC (human body comms), mmWave for BAN,

Summary of keywords from WGs discussions

SWG 1.2.

Channel models, test cases sounding, vehicular.

Contribute to Standards, promotion to forums (ITU SG3, 5D, IEEE .11ax, NG60, 3GPP, OFCOM, FCC)

TWG-O

1) Evolution of OTA: OTA closer to operational practice, (testing adaptive antennas, allowing for system adaptation in test cases, better channel models/time evolution); 3-Dimensional OTA; Coexistence:

- LTE-WLAN in unlicensed bands (0.7, 2.6 GHz)

- DSRC, ITS , WLAN at 5.8, 5.9 GHz

Multiband OTA (e.g. carrier aggregation); Bidirectional OTA (device-to-device, Ad-hoc networks, V2X)

2) OTA for 5G: Vertical topic: channel sounding, -modelling, and OTA for mm-waves; Testing 5G Base stations.

Any other business?

Action Points after 12th MCM:

AP	WHAT	WHO	WHOM	WHEN
12.1	Complete reimbursement procedure on-line	Those entitled to (MC members+ substitutes)	eCOST	15-FEB
12.2	Send Minutes of Group Meetings	Group Chairs	Chair	28-FEB
12.3	Liaisons: send reports	Rapporteurs	Secretary	28-FEB

Action Points after 12th MCM:

AP	WHAT	WHO	WHOM	WHEN
12.4	Register to Final meeting	attendees	website	15-Apr
12.5	Request TD number	authors	website	15-Apr
12.6	Entitle substitutions	MC	Secretary	15-Apr
12.7	Submit full TD	Authors after after 12.4+12.5	website	22-Apr
12.8	Book flights for Valencia	Attendees	-	ASAP



Cooperative Radio Communications for Green Smart Environments

See you in Valencia, May 5-7
...(and beyond?)

