

## INFSO-ICT-216203 DAVINCI

### D7.1.1

#### *Plan for the use and dissemination of foreground, issue 1*

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**Abstract:**

This document describes the planned activities in DAVINCI to disseminate and exploit the knowledge gained during the current project runtime. This description is not seen as final and comprehensive, it is rather seen as a continuous process of opportunity analysis which will assure the best possible result for exploitation.

**Keyword list:** dissemination, workshop, conference, publication, standardisation process

**Disclaimer:**

## **Executive Summary**

This report is intended to steer the direction of submission to journals, conferences, together with raising preliminary interest for standardization & regulatory bodies, during the 1<sup>st</sup> half of the project.

The relation of knowledge which is generated within the DAVINCI project and regulatory and standardization bodies is outlined. Special emphasis is placed upon the ITU-R process towards IMT-Advanced and the standardization within IEEE 802.16m.

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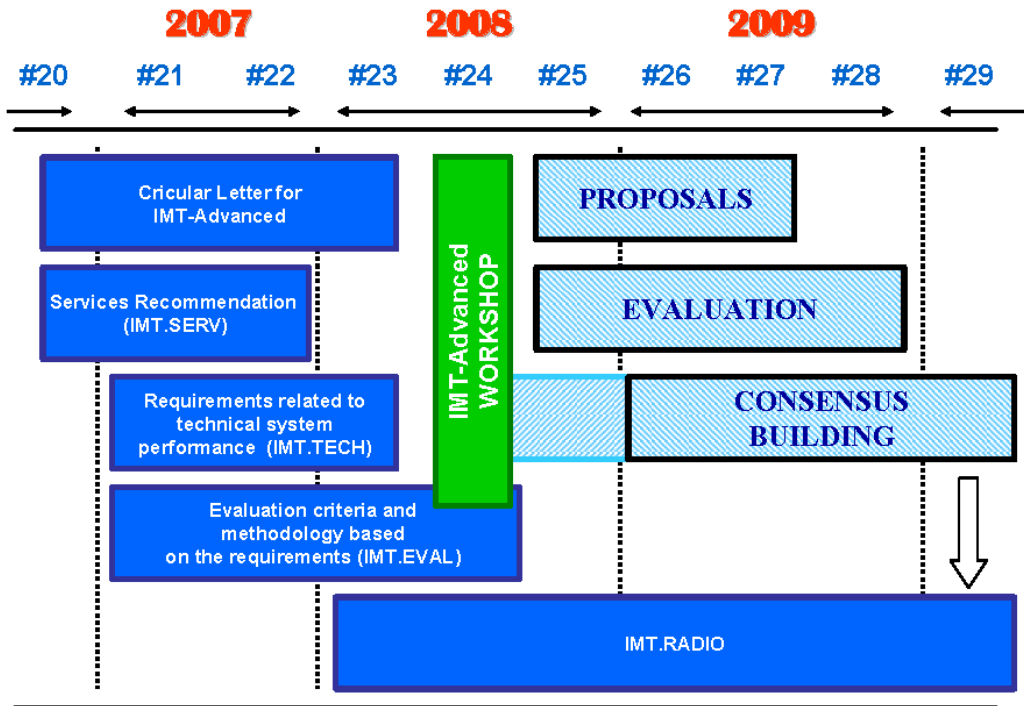
## List of Acronyms and Abbreviations

CA	Consortium Agreement
CfC	Call for Contributions
EMD	Evaluation Methodology Document
ICT	Information and Communication Technologies
IPR	Intellectual Property Rights
ITU	International Telecommunication Union
LDPC	Low-Density Parity Check (Codes)
MIMO	Multiple Input Multiple Output
NEWCOM	Network of Excellence in Wireless Communications
PMT	Project Management Team
QoS	Quality of Service
RF	Radio-Frequency
SDD	System Description Document
SRD	System Requirements Document
TGm	Task Group m, also called IEEE 802.16m
UWB	Ultra Wideband

# 1. Exploitable Knowledge

## 1.1 Regulatory bodies: ITU-R

The main regulatory body of interest within DAVINCI project will be ITU-R with its recommendations, and requirements for IMT-Advanced Systems.



**Figure 1-1: ITU-R process towards definition of IMT-Advanced**

The current expectations w.r.t. the IMT-Advanced process are given in the Figure 1-1 above. It's worth noticing the IMT-Radio is spanning from 2008 till mid-2010, which covers whole duration of DAVINCI project. Besides, the proposals and Evaluation process is supposed to start by end of 2008, when DAVINCI will get its preliminary results and outcomes.

## 1.2 Standardization: IEEE 802.16m

Even though 3GPP LTE-Advanced was set-up recently, the FP7-DAVINCI project mainly focuses onto the IEEE 802.16m (<http://wirelessman.org/tgm/index.html>). Indeed, the 'WiMAX Evolution' standard, also called Task Group m (TGM), has started last year already, and has already achieved major stages, such as agreeing about Official System Requirement Document (SRD) [SRD07], and most importantly the Evaluation Methodology Document (EMD) [EMD08].

Currently, the Task Group is still discussing the keystone System Description Document (SDD) [SDD08] that will describe key features from the new system.

In order to be aligned with the above mentioned ITU-R process (Figure 1-1), and thus being capable of submitting IEEE 802.16m as a good potential candidate for IMT-Advanced, the following milestones have been proposed in IEEE 802.16m (Figure 1-2):

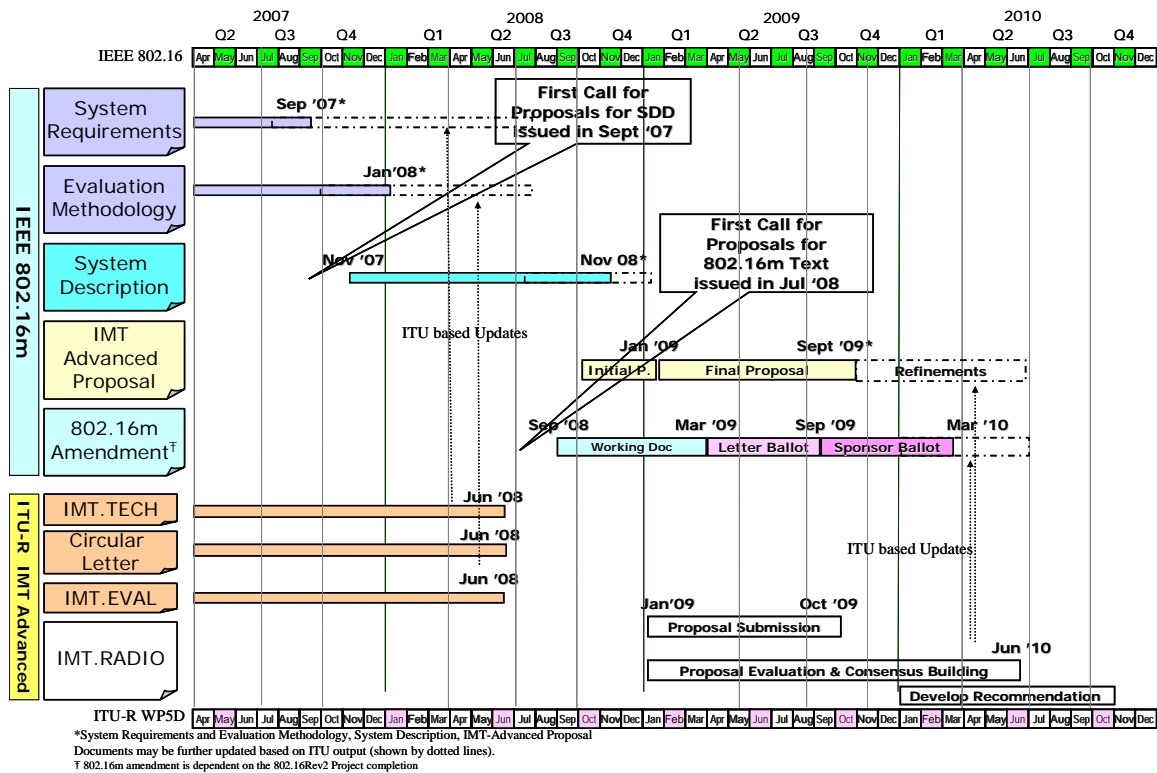


Figure 1-2 IEEE 802.16m Timeline towards IMT-Advanced Systems

So far, the TGM has managed to stick to the workplan, by releasing the System Requirements (SRD) and Evaluation Methodology documents (EMD) on time.

The System Description Document (SDD) started late 2007, is due to be finished by end November 2008, in order to allow 2 process to start on a very timely manner:

- **IMT Advanced proposal:** Starting last Quarter 2008, and ending September 2009, with potential refinement mid-2010
- **IEEE 802.16m Amendment:** This is the ‘add-on’ to current IEEE 802.16, and thus tightly related with ITU-R process, together with impacting definitely the Time-to-Market

Within the IEEE standard, the current process for submitting technical contributions is following Call for Contributions (CfC) decided among the Task Group.

There is NO crystal and long term OFFICIAL visibility within the IEEE 802.16m about which topics should be addressed, and when.

However, it has been already proposed a couple of times, by multiple companies, as a semi-harmonized manner to follow the time-plan described hereafter (Figure 1-3):

IEEE Meetings Schedule	Suggested Main Topics for new material for TGM SDD for each IEEE meeting	Notes
January 2008	Frame Structure, Multiple Access Schemes	
March 2008	DL Symbol Structure, Pilots, Resource Allocation DL control channel design	
May 2008	UL Symbol Structure, Pilots, Resource Allocation, UL control channel design, DL MIMO Schemes, HARQ architecture	
July 2008	DL synchronization, UL MIMO Schemes, Interference Mitigation Concepts, Upper-MAC Concepts (Mobility and power management)	MAC and PHY specific topics to discussed in parallel
September 2008	Relay, Multi-Radio Coexistence, MBS, LBS, Security principles (Begin baseline stage 3 document)	Deadline for new proposals
November 2008	SDD Clarifications/Comments	Only for clarification and correction

**Figure 1-3 IEEE 802.16m latest proposed Milestones for Call for Contribution (CfC)**

As it can be noted, the specific Channel Coding topic has not been raised yet clearly. So DAVINCI should definitely take advantage of that by preparing and evaluating its technology. It is not really expected that the whole channel coding topics would be discussed soon, since it is not seen as the major priority so far, since a lot has to be defined first.

So again, end of the year, as planned in the current DAVINCI workplan would be timely to address and maybe push some preliminary outcomes into the TGM. This could be done then via different manners: Contributions or tutorials. As mentioned in the consortium agreement, Companies policies, and strategies are highest priority and it might thus restrict the alternatives at some point.

## 2. Dissemination

Wide and targeted dissemination and exploitation is of particular importance for the DAVINCI project. The project partners are very active in ensuring that public awareness is raised and the results of DAVINCI become widely disseminated to targeted audiences in order to impact public and commercial decision-making as well as R&D investments. The ICT industry is one of the main target groups.

Four major means are used for the dissemination of knowledge:

- DAVINCI Web site for general information
- Publications in international conferences and journals
- Contributions to the international regulatory and standardisation process
- the ICT Concertation and Cluster meetings
- Workshops or seminars dedicated to the core technology of DAVINCI

The following actions help to achieve this objective:

- implement an alternative channel coding solutions to turbo codes
- introduce new coding schemes to wireless standards
- point out the new ways for development of channel coding

### 2.1 Web Site

DAVINCI web site (<http://www.ict-davinci-codes.eu/>) is one of the tools for dissemination of project aims and achievements. At the web site one can find:

- information about project objectives and results
- description of works done in all workpackages
- tutorial presentations (e.g. white papers)
- a mailing list with newsletters to which everyone can subscribe

### 2.2 Publications in international conferences and journals

DAVINCI will submit papers to renowned scientific publications. The procedures for acceptance of papers are quite lengthy, e.g. in case of IEEE Transactions it takes up to 18 months to reach acceptance. The following shows a list of candidate scientific journals, where research results in DAVINCI could get public awareness. This list isn't seen binding neither comprehensive, as during runtime of the project changes could result from the outcome of the work as well as changes in the scientific marketplace could reflect in alternative solutions for information publishing.

- IEEE Transactions on Communications
- IEEE Transactions on Information Theory
- IEEE Transactions on Wireless Communications
- IEEE Wireless Communication Magazine
- Eurasip Journal on Wireless Communications & Networking
- Eurasip Journal of Applied Signal Processing
- IEEE Journal of Selected Areas in Communications
- IEEE Journal on Selected Areas in Signal Processing
- IEEE Transaction on Vehicular Technologies
- Wiley European Transactions on Telecommunications
- Wiley International Journal of Communication Systems and Networks
- IEEE Communications Magazine
- IET Electronic Letters
- Elsevier Wireless Communications and Mobile Computing

Additionally, on <http://bscw.ict-davinci-codes.eu/bscw/bscw.cgi/288>, a list of relevant calls for papers of special journal issues and relevant conferences will be maintained.

DAVINCI is aiming for events with a high scientific standard and high visibility. The Project Management Team (PMT), from which a recommendation is given to the participants to consider submitting papers, discusses potential target conferences.

The following gives an overview from today's viewpoint, where DAVINCI results could contribute best possible to conference scopes.

Conference	Location	Date	Submission deadline
<a href="#">ICT Mobile Summit 08</a>	Stockholm	10-12 June 2008	25 January 2008
<a href="#">Globecom 2008</a>	New Orleans	30 Nov – 4 Dec. 2008	31 March 2008
ICC 2009	Dresden, Germany	14-18 June	08 Sept 2008
ICASSP 2009	Taipei, Taiwan,	19-24 April 2009	29 Sept 2008
PIMRC 2009	TBD		
WCNC 2009	Budapest, Hungary	5-8 April 2009	22 Sept 2008
European Wireless 2009	TBD		
ICT Mobile Summit 09	TBD		
EUSIPCO 2009	Glasgow, UK	24-28 August 2009	06 Feb. 2009

### 2.3 Contributions to the international regulatory and standardisation process

Thanks to the strong commitment of some key partners within standardization bodies, the whole consortium will keep following the progress status of candidates to IMT-Advanced (cf. ITU-R 1.1 and WiMAX Evolution 1.2), and thus identify any suitable opportunity for valuable contributions promoting some key technologies of DAVINCI. This process will be of course achieved under rules agreed by partners and detailed within the Consortium Agreement (CA).

### 2.4 Concertation and Cluster Meetings

These events are organized by the European Commission and are important means to exchange results amongst ICT projects. DAVINCI is regularly participating at such meetings and contributing on special issues when appropriate. DAVINCI will place its activities within the URASM cluster (Universal Radio Access and Management) and will search links with similar projects like PHYDYAS and WIMAGIC.

### 2.5 Possible Liaisons with related Networks of Excellence

#### 2.5.1 NEWCOM++

NEWCOM++ (Network of Excellence in Wireless Communications, <http://www.newcom-project.eu:8080/Plone>) aims at creating a European network that links in a cooperative way a large number of leading research groups addressing the Strategic Objective “Mobile and wireless systems beyond 3G”, a frontier research area of the Priority Thematic Area of ICT.

The main dimensions of the NEWCOM++ vision are:

- Strengthening, development and integration of research in the field
- Empowerment of groups and individuals via dissemination activities
- Effective use of produced knowledge via exploitation-commercialization-standardization strategies.

The NEWCOM++ integrated research activities are divided into disciplinary and multidisciplinary activities. Multidisciplinary activities are: ad hoc and sensor networks, UWB and reconfigurable radio. Disciplinary activities deal with signal processing, MIMO, RF and microwave devices, protocols and architectures, traffic modeling and QoS provision. DAVINCI will search for opportunities of cooperation and especially dissemination within the many initiatives of this NoE.

### 2.6 Workshops or seminars dedicated to the core technology of DAVINCI

In order to bring close DAVINCI objectives and results, some workshops will be organized independently on special sessions at conferences or participation in other meetings (see chap. 2.4 and 2.5). They will be held in partners' countries. They will be one- or two-day meetings focused on scientific and practical aspects of main topics, i.e., LDPC coding, link level solutions and implementation architectures.

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