CoRaSat
COgnitive RAdio for SATellite Communications
FP7-ICT
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Deliverable D5.4
Dissemination Plan

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1 EXECUTIVE SUMMARY

This deliverable presents a detailed plan for the dissemination of the ideas, technical results and outcomes of the CoRaSat project in order to raise awareness about the added value and potential of CoRaSat technologies for relevant stakeholders, including regulators, satellite and terrestrial operators as well as scientific community and general public. Detailed plans are outlined for the most relevant ways to disseminate the CoRaSat achievements, including journal and conference publications, workshops, tutorials, white papers, panel discussions, contribution to regulation and standardisation initiatives, dissemination activities towards industry-related audiences as well as the general public.

2 SCOPE AND STRUCTURE OF THE DOCUMENT

This deliverable presents a detailed plan for the dissemination of the ideas, technical results and outcomes of the CoRaSat project in order to raise awareness about the added value and potential of CoRaSat technologies for relevant stakeholders, including regulators, satellite and terrestrial operators as well as scientific community and general public. Detailed plans are outlined for the most relevant ways to disseminate the CoRaSat achievements, including journal and conference publications, workshops, tutorials, white papers, panel discussions, contribution to regulation and standardisation initiatives, dissemination activities towards industry-related audiences as well as the general public.

This deliverable is organised as follows. First, Section 3 presents the rationale for the dissemination activities envisaged for CoRaSat, summarising the main dissemination paths and activities foreseen for the project. The dissemination of CoRaSat achievements towards the scientific community by means of high-profile journals and well-reputed conferences is detailed in Section 4. The dissemination activities planned towards the regulation and standardisation bodies is discussed in Section 5, while the dissemination towards industry-related audiences is explained in Section 6. A brief plan for public dissemination towards the general public is also considered in CoRaSat, which is described in Section 7. The dissemination activities for the scientific, regulatory, standardisation and industrial communities will be carried out throughout the duration of the project. An initial 3-year roadmap for such activities is presented in Section 8. Finally, Section 9 concludes the deliverable.

3 RATIONALE FOR DISSEMINATION

The dissemination of project results and outcomes as well as their exploitation are key indicators of the success of the project. To ensure that the results of CoRaSat will achieve the highest possible impact, the consortium will concentrate on a variety of dissemination routes targeting relevant stakeholders such as regulatory bodies, standardisation bodies, industrial stakeholders (satellite and terrestrial operators) as well as the scientific community. The main purpose of CoRaSat dissemination is to raise awareness about the benefits of Cognitive radio (CR) for SatComs and spread the main findings, results and outcomes of the project.

Since the application of CR to SatComs is a very new concept, a key element of the project will be to disseminate project outcomes towards regulators in order to pave the way for a full adoption of decisions allowing and enabling CR for SatComs. Providing input to standardisation bodies is also a key item for the inclusion of CR techniques in satellite standards that currently do not entail a flexible spectrum usage. Project outcomes will be also disseminated to industrial stakeholders for knowledge transfer. Given that there are a number of CR projects and initiatives concerned with terrestrial systems, CoRaSat intends to liaise with these via the project concertation routes and technology platforms. Finally, CoRaSat will also ensure high quality publications at both satellite and terrestrial conferences and top scientific journals in order to raise awareness in the scientific community and report the key technical results and outcomes.

The main dissemination activities and target areas include the following:

- Submissions to recognised international conferences and magazines from both the satellite and terrestrial domains (see Section 4). This dissemination path will make the satellite community aware of the benefits that the CR principles and concepts can bring to SatComs, and the terrestrial community will be aware of the applicability of CR spectrum sharing principles in communication scenarios, such as the satellite case, which have received little attention in past CR research.
- CoRaSat partners will participate and contribute to relevant, high-profile international conferences, symposia, workshops and summits by submitting technical papers, giving technical presentations and tutorials, showing posters, organising special sessions and/or workshops and presenting the CoRaSat project at exhibitions and other relevant events (see Section 4).
- The key technical achievements and outputs will be published in referred international specialised journals. Submissions to special issues of highly recognised journals are also foreseen and contributions to edited books might be considered as well. High-impact journals from both the satellite and terrestrial domains will be considered so that results and findings of CoRaSat can be taken up and used in future advancements and research (see Section 4).
- Regulators, institutional and governmental bodies will be informed of CoRaSat progress via face-to-face meetings and presentations. Inputs will be provided to EU regulators in the form of advice on how to organise the spectrum sharing of bands between terrestrial and satellite systems, in order to assist them in spectrum decisions in the various bands and to create awareness on the possibility of sharing spectrum in satellite bands based on CR principles (see Section 5).
- CoRaSat partners will contribute to and influence relevant standardisation bodies by promoting and triggering new work items and activities in these bodies (see Section 5).

- Dissemination to the industrial community (satellite and terrestrial industrial associations) will be addressed by taking part in relevant events and giving presentations on CoRaSat project results (see Section 6).
- Collaboration with other EU-funded research projects working on CoRaSat-relevant topics will be pursued by means of EC clusters and concertation meetings relevant to the project's objectives. Related FP7 and national projects will be contacted in order to liaise and benefit from mutual outputs. CoRaSat partners will attend relevant dissemination events from other projects (see Section 6).
- General articles for the national press will be released in order to awaken the views of scarce spectrum and the ideas of spectrum sharing in the general public (see Section 6.3).
- CoRaSat will maintain a project web site summarising the project objectives and providing regular updates with relevant news, issued (public) deliverables, reports and white papers, which will be made publicly available online (see Section 6.3).

A detailed description of relevant dissemination activities is provided in the rest of this document.

4 PLAN FOR CONFERENCES AND JOURNALS

International conferences, magazines and journals are important means for rising awareness of the added value and potential for CoRaSat technologies in the scientific community and disseminating the achievements and technical outputs of the CoRaSat project. Technical work packages (WP2-WP4) will target well-reputed conferences, magazines and journals from both the satellite and terrestrial domains. This will make the satellite community aware of the benefits that the CR principles and concepts can bring to SatCom scenarios, and the terrestrial community of the applicability of CR spectrum sharing principles in communication scenarios that have received little attention so far.

The following major satellite conferences will be targeted (the dates shown are for the next edition of each conference):

- Ka and Broadband Communications, Navigation and Earth Observation Conference [October 14-17, 2013, Florence, Italy].
- International Communications Satellite Systems Conference (ICSSC) [October 14-17, 2013, Florence, Italy].
- Advanced Satellite Multimedia Systems Conference (ASMS).
- International Conference on Advances in Satellite and Space Communications (SPACOMM) [April 21-26, 2013, Venice, Italy].
- International Conference on Personal Satellite Services (PSATS) [June 27-28, 2013, Toulouse, France].
- International IEEE-AESS conference in Europe about Space and Satellite Communications (ESTEL).
- European Microwave Conference (EuMC) [October 6-10, 2013, Nuremberg, Germany].

The following major terrestrial conferences in the general area of wireless communications will be targeted (the dates shown are for the next edition of each conference):

- Future Networks and Mobile Summit (FuNeMS) [July 3-5, 2013, Lisbon, Portugal].
- IEEE Global Communications Conference (GLOBECOM) [December 9-13, 2013, Atlanta, GA, United States].
- IEEE International Conference on Communications (ICC) [June 9-13, 2013, Budapest, Hungary].
- IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) [September 8-11, 2013, London, United Kingdom].
- IEEE Vehicular Technology Conference (VTC) [September 2-5, 2013, Las Vegas, United States].

Attendance to the following conferences and workshops in the specific area of CR will also be sought in order to promote the satellite case (the dates shown are for the next or more recent edition of each conference):

- IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN).
- International Conference on Cognitive Radio Oriented Wireless Networks (CROWNCOM) [July 8-10, 2013, Washington DC, United States].
- IEEE ICC Workshop on Cognitive and Cooperative Networks (CoCoNet5) [June 9, 2013, Budapest, Hungary].

- The Second IEEE International Workshop on Emerging COgnitive Radio Applications and aLgorithms (CORAL) [June 4, 2013, Madrid, Spain].

CoRaSat partners will participate and contribute to relevant, high-profile international conferences, symposia, workshops and summits by submitting technical papers, giving technical presentations and tutorials, showing posters and organising workshops and/or special sessions. Specific short-term plans include a submission to SPACOM 2013 for early dissemination. A special session on CR with invited papers from EU-funded projects will be organised at the EW 2013 conference, which might include contributions from CoRaSat.

Technical work packages within CoRaSat (WP2-WP4) will take into account IEEE Transactions, Journals and Magazines as well as other high-profile specialised publications such as Elsevier, Wiley, EURASIP and Springer journals, including not only open calls but also special issues that are relevant to CoRaSat. Specific short-term plans include the submission of an article to an IEEE Magazine (or similar) in early 2013 in order to create awareness of the problems addressed by CoRaSat, and a later article to provide specific results and solutions. A wrap-up article of the first months of activities in CoRaSat might be considered for a special issue or relevant conference event, such as the Special Issue on Cooperative Cognitive Networks of the EURASIP Journal on Wireless Communications and Networking (manuscript due by April 1, 2013) or the Cognitive Radio Series of the IEEE Journal on Selected Areas in Communications (manuscript due by November 1, 2013). Other relevant journal articles will follow the technical work and outcomes of CoRaSat.

Paper submission deadlines will be tracked using the CoRaSat internal project calendar on the private CoRaSat website. All intended publications will be put on the common website and submitted to all partners together with a request for permission to publish. A publication policy will be developed with a corporate publication profile.

5 PLAN FOR REGULATION AND STANDARDISATION

This section lists regulatory and standardisation bodies that play an important role in the areas and topics of interest for CoRaSat. The results and outcomes from CoRaSat might influence and be exploited mainly by these bodies. These agencies and bodies will be given dedicated seminars to these organisations in each of the partners' countries.

5.1 Regulatory bodies

Current regulation does not allow the deployment of CR in scenarios anticipated in CoRaSat. The project will seek to facilitate changes in the regulatory regimes in terms of market liberalisation and the operation of more operational flexibility. There is a long way to go in this respect and CoRaSat will influence this via WRC's by first getting the topic on future agendas and then inputting reports under the various study items. There is a need to involve the regulators in individual countries as well European organisations, such as CEPT, and CoRaSat will lobby these bodies on a regular basis. Regulators, institutional and governmental bodies will be informed of CoRaSat progress via face-to-face meetings and presentations to members of the bodies. Inputs will be provided to EU regulators in the form of advice on how to organise the spectrum sharing of bands between terrestrial and satellite systems, in order to assist them in spectrum decisions in the various bands and to create awareness on the possibility of sharing spectrum in satellite bands based on CR principles. It is also intended to set up workshops to which regulators will be invited to expose them to outcomes from the project.

5.1.1 European regulatory bodies

The following international regulatory bodies, working groups and activities will be considered.

5.1.1.1 CEPT

The European Conference of Postal and Telecommunications Administrations (French: *Conférence européenne des administrations des postes et des telecommunications,* CEPT) was established on June 26, 1959, as a coordinating body for European state telecommunications and postal organisations. CEPT's activities included co-operation on commercial, operational, regulatory and technical standardisation issues. CEPT was responsible for the creation of the European Telecommunications Standards Institute (ETSI) in 1988.

CEPT is organised into three main domains:

- Electronic Communications Committee (ECC) is responsible for radio communications and telecommunications matters and formed by the merger of ECTRA and ERC (European Radiocommunications Committee) in September 2001. The ECC considers and develops policies on electronic communications activities in European context, taking account of European and international legislations and regulations. The permanent secretariat of the ECC is the European Communications Office (ECO). ECO provides advice and support to CEPT to help it to develop and deliver its policies and decisions in an effective and transparent way.
- European Committee for Postal Regulation (CERP, after the French "*Comité européen des régulateurs postaux*"), is responsible for postal matters.
- The Committee for ITU Policy (Com-ITU) is responsible for organising the co-ordination of CEPT actions for the preparation for and during the course of the ITU activities meetings of the Council, Plenipotentiary Conferences, World Telecommunication Development

Conferences, World Telecommunication Standardisation Assemblies and other meetings as appropriate.

Within the ECC, the Working Group (WG) on Frequency Management (FM) related with Satellite Communications (sub-committee FM 44) as well as with Reconfigurable Radio Systems (RRS) and Licensed Shared Access (LSA) (sub-committee FM 53) are of particular interest, as it is the Working Group (WG) on Spectrum Engineering (SE) related with the Fixed Service (sub-committee SE 19) and with the Space Service Compatibility Issues (sub-committee SE 40). CEPT has undertaken a comprehensive review of the regulatory framework applying to FSS services in the Ka band, for which a significant number of CoRaSat scenarios have been identified [1][2][3][4][5]. The relevant CoRaSat activities will contribute to the elaboration of the new regulatory framework, and if needed to its implementation by CEPT administrations by providing the proof-of-concept and techniques allowing the safe introduction of the services.

5.1.1.2 RSPG

The Radio Spectrum Policy Group (RSPG), the Advisory Board on radio spectrum policy issues of the European Commission, supports and advises the Commission on radio spectrum policy issues, related with the coordination of policy approaches as well as measures that are necessary for the establishment of a harmonised European market. The Radio Spectrum Policy Group is a high-level advisory group assisting the Commission in the development of radio spectrum policy in the Community. Its members are representatives of Member States and the Commission. The RSPG was established on the basis of a Commission Decision (2002/622/EC) [6].

The RSPG contributes to the development of a Radio Spectrum Policy in the Community that takes into account not only technical parameters but also economic, political, cultural, strategic, health and social considerations. The high-level advisory group also considers the various potentially conflicting needs of radio spectrum users with a view to ensuring that a fair, non-discriminatory and proportionate balance is achieved. According to the new remit, the RSPG can also be requested by the European Parliament and/or the Council, in addition to the Commission, to issue an opinion or write a report on specific Radio Spectrum Policy issues relating to electronic communications.

The RSPG consults extensively and in a forward-looking manner on technological, market and regulatory developments relating to the use of radio spectrum in the context of EU policies on electronic communications, transport and research and development. Such consultations are addressed at all relevant radio spectrum users, both commercial and non-commercial, as well as any other interested party.

The RSPG adopts opinions, which are meant to assist and advise the Commission on Radio Spectrum Policy issues, on coordination of policy approaches and, where appropriate, on harmonised conditions with regard to the availability and efficient use of radio spectrum necessary for the establishment and functioning of the internal market. In this respect, relevant recent and currently on-going activities include, for example, the Communication (2012) 478 [7] on the promotion of the shared use of radio spectrum resources in the internal market, the RSPG Report on Collective Use of Spectrum (CUS) and other spectrum sharing approaches [8], and the forthcoming RSPG Opinion on Licensed Shared Access (LSA) to be adopted by end 2013 [9]. The Decision 243/2012/EU of the European Parliament and of the Council establishes the Radio Spectrum Policy Program (RSPP). The Articles 4.1 and 4.4 of the RSPP promote the use of cognitive techniques towards an enhanced efficiency and flexibility in spectrum use. The contribution of relevant CoRaSat activities through the national regulatory bodies will be considered.

5.1.1.3 RSC

The Radio Spectrum Committee (RSC) is responsible for specific technical measures required to implement the broader Radio Spectrum Policy. The RSC is composed of Member State representatives and chaired by the European Commission.

Established by the 2002 Radio Spectrum Decision (676/2002/EC), the RSC assists the Commission for the development of technical implementing decisions to ensure harmonised conditions across Europe for the availability and efficient use of radio spectrum. It also develops measures to ensure that information on the use of radio spectrum is provided accurately and in a timely manner. The activities of the RSC are established in a work programme which allows prioritisation and scheduling of the various topics and issues it is required to address.

The Committee exercises its function through advisory and examination procedures that are set out in the EU's Regulation 182/2011 of the European Parliament and of the Council of 16 February 2011. The comitology process allows the Commission to discuss its proposals with national administrations before implementation in order to ensure that any measure is optimised to the various national situations. As part of its remit under the Radio Spectrum Decision, the Commission may issue mandates to CEPT for the development of technical implementing measures that can ensure harmonised conditions for the availability and efficient use of radio spectrum. These mandates specify the task to be undertaken and the timeframe in which they should be achieved.

5.1.2 National regulatory bodies

Several national regulatory bodies will also be taken into account in CoRaSat. Some examples of the national regulatory bodies that will be considered are detailed below.

5.1.2.1 OFCOM (United Kingdom)

The Office of Communications (Ofcom) is the government-approved regulatory and competition authority for the broadcasting, telecommunications and postal industries of the United Kingdom. Ofcom was initially established by the Office of Communications Act 2002 and received its full authority from the Communications Act 2003 [10].

Ofcom has wide-ranging powers across the television, radio, telecommunications (telephone, broadband, spectrum licensing and protection) and postal sectors. It has a statutory duty to represent the interests of citizens and consumers by promoting competition and protecting the public from what might be considered harmful or offensive material. Some of the main areas Ofcom presides over are licensing, research, codes and policies, complaints, competition and protecting the radio spectrum from abuse.

Regarding spectrum licensing and protection, Ofcom is responsible for the management, regulation, assignment and licensing of the electromagnetic spectrum in the United Kingdom, and licenses portions of it for use in TV and radio broadcasts, mobile phone transmissions, private communications networks, wireless devices, etc. The process of licensing varies depending on the type of usage required. Some licences simply have to be applied and paid for, other commercial licences are subject to a bidding process. Most of the procedures in place have been inherited from the systems used by the previous regulators. However, Ofcom might change some of these processes in future.

Ofcom protects the radio spectrum in a number of ways: working within International organisations (ITU, CEPT and BEREC), licencing UK controlled commercial radio spectrum, and investigating and

carrying out (when necessary) enforcement activities to clear interference or illegal use from the spectrum.

5.1.2.2 BNetzA (Germany)

The Federal Network Agency (German: *Bundesnetzagentur*, BNetzA) is the German regulatory office for electricity, gas, telecommunications, post and railway markets. It is a federal government agency of the German Federal Ministry of Economics and Technology.

In radio communications, the Agency manages the radio frequency spectrum, licenses broadcasting transmitters and detects radio interferences. Licensing radio and TV stations (that is, content providers), however, is the task of State authorities.

5.1.2.3 ANFR and ARCEP (France)

In France, two administrative authorities are in charge of regulating telecommunications and posts: ANFR (French: *Agence Nationale des FRéquences*) and ARCEP (French: *Autorité de Régulation des Communications Électroniques et des Postes*). ANFR is in charge of all the different aspects of radio spectrum management and ARCEP is in charge of the market regulation.

ANFR is an administrative authority created in 1997, in charge of the planning, the management and the control of the radio frequencies utilization. ANFR is also in charge of the coordination of the implementation over the French territory of all the radio electric stations. ANFR is also the French representative in the international bodies dealing with spectrum regulation.

ARCEP is an independent administrative authority in charge of regulating telecommunications and posts in France. ARCEP is responsible to support the introduction of competition in the telecommunications sector, and regulate the relevant markets. In this sector, the role of the Authority is to ensure the exercise of a fair and effective competition to benefit the consumers in the market for electronic communications.

5.1.2.4 ILR (Luxembourg)

ILR (French: *Institut Luxembourgeois de Régulation*, www.ilr.lu) is the National Luxembourgish regulatory authority addressing, among other sectors, electronic communications and radio spectrum regulations. As an actor in the construction of the internal market, its mission is to ensure control and supervision in the interest of the consumer, the proper functioning of markets based on an effective and sustainable competition, while ensuring a universal service base.

5.1.2.5 AGCOM (Italy)

AGCOM (Italian: *Autorità per le Garanzie nelle Comunicazioni*) is the regulator and competition authority for the communication industries in Italy, which is in charge of the dual responsibility of ensuring the correct competition among the operators on the market and protecting pluralism and fundamental freedoms of citizens in the field of telecommunications, publishing, mass media and postal services.

5.1.2.6 IBPT (Belgium)

IBPT (French: *Institut Belge des services Postaux et des Télécommunications*) in Belgium is mainly responsible for the regulation and control of the sectors of postal services and telecommunications (now called electronic communications), ensuring that these markets remain competitive.

IBPT exercises its powers through two kinds of activities in particular:

- The first concerns new regulatory tasks in the liberalised telecommunications markets. IBPT makes the necessary arrangements in order that the regulatory framework is observed, competition can develop fully and fairly, certain tasks of public interest are carried out and consumer interests are protected.
- The second concerns the exercise of supreme authority in specific technical fields. Certain resources, such as the electromagnetic spectrum or the numbering space, are scarce, and the regulator is required to share, regulate and monitor their use with accuracy. IBPT carries out yet more technical tasks of public interest.

5.2 Standardisation bodies

One of the major objectives of CoRaSat is to provide contributions to the main standardisation bodies. The most relevant standardisation bodies for CR (IEEE 802.22, DYSPAN P1900.6, and the ETSI RRS group) have been mainly concerned with the use of CR in terrestrial systems. It will be important to introduce the satellite dimension into these groups, as it currently does not exist. In addition the ETSI Technical Committee SES (in particular the Satellite Communications and Navigation Working group) concerned with satellite systems has so far not considered CR and it will be key to input technical reports to them. Other groups that will be monitored are: IEEE 802.11,16 (microwave links), IEEE 802.19 (coexistence between wireless standards of unlicensed devices), IEEE 802.21 (handover and interoperability between heterogeneous network types), DYSPAN P1900.4 (Architecture and Enablers for Optimized Radio & Spectrum resource usage) and 3GPP standards for cellular systems. A detailed and exhaustive revision of the standardisation bodies and activities that are relevant to CoRaSat is provided in [3]. The activities and progress of these standardisation bodies will be closely monitored by CoRaSat. CoRaSat partners will also contribute to and influence relevant standardisation bodies by promoting and triggering new work items and activities in these bodies where appropriate.

6 PLAN FOR INDUSTRY DISSEMINATION

Dissemination to the business community (satellite and terrestrial operator associations) will be addressed by taking part in their events as well as organising research seminars and workshops to which relevant industries will be invited. Collaboration with other EU-funded research projects working on CoRaSat-relevant topics will be pursued by means of EC clusters and concertation meetings relevant to the project's objectives. Related FP7 and national projects will be contacted in order to liaise and benefit from mutual outputs. CoRaSat partners will attend relevant dissemination events from other projects. A detailed list of FP7 projects relevant to CoRaSat (including discussions on how such projects are relevant and can benefit CoRaSat) is provided in [4].

European Technology Platforms (ETPs), industry groups and national associations are an important way of dissemination towards industry-related audiences. Some target entities are presented below.

6.1 European Technology Platforms

European Technology Platforms (ETP) are seen as relevant assemblies of industrial and academic actors for dissemination, as they take into account project results in shaping the next research agendas. Identified technology platforms, which deal with topics connected with CoRaSat are mainly ISI and Net!Works, but also NEM and NESSI. The consortium members already have connections with these ETPs. A brief description of these ETPs is provided below. It is important to underline that on-going activities at European Commission level might significant change the organization of these ETPs through merging actions and with the creation of Public Private Partnership (PPP) at ICT level. In this case, CoRaSat will adapt its dissemination strategies by addressing also those new bodies that will be considered important and in line with the objectives stated in this document..

6.1.1 ISI

The Integral SatCom Initiative (ISI) is an Information and Communications Technologies (ICT) ETP led by the European SatCom industry and supported by the European Commission to address Satellite Communications (SatCom) strategic research and innovation challenges. ISI is the ETP on Satellite Communications, whose membership embraces major part of relevant private and public stakeholders from Satellite Communications (SatCom) and Space sector in Europe. It gathers approximately 200 member organisations representing all the stakeholders of the European SatCom sector from 29 different countries. It includes members from manufacturing industry, network operations and service provision, Small and Medium Enterprises (SMEs), research centres and academia, European and National Institutions. Some international (non-European) research entities do also participate.

The ISI European Technology Platform activities address in a unified way, all research, technology and innovation aspects related to satellite communications, including mobile, broadband, and broadcasting applications.

In particular, ISI objectives are:

- to define and harmonise the enabling research priorities for emerging SatCom solutions across the European SatCom industry sector in order to contribute to make the European SatCom industry more competitive, thus joining to the overall European ICT pillar;
- to provide network and end-user applications and services capable to target European societal challenges;

- to foster the development of innovative technologies, products and services up to in-orbit validation and large scale pre-operational experimentations that will enable the development/deployment of future satellite network infrastructures.

Activities within ISI are internally organised into the following Working Groups:

- *Regulatory & Standards Working Group* aims at identifying the regulatory and standardisation issues that may affect the deployment of future SatCom systems, services and applications.
- *Market & SatCom Solutions Working Group* aims at identifying the positioning of future SatCom solutions in three domains: Security, Broadband for All, and Future Internet. It provides recommendations for relevant missions and users' needs, which serve as guidelines to define the relevant R&D themes.
- *R&D Working Group* aims at maintaining and updating the ISI Strategic Research and Innovation Agenda (SRIA) and ensuring its implementation for the development of the SatCom sector in Europe.
- *Policy and Promotion Working Group* aims at demonstrating how the planned ISI research and innovation activities will support the European policies. It also promotes the need for institutional financial support to the European SatCom industry's research and innovation activities.
- *ISICOM Task Force* is an "ad hoc" Working Group set up to define the specific research & technology roadmap for satellite networks supporting institutional related missions, including security.

6.1.2 Net!Works

Net!Works is the ETP for communications networks and services. Communications networks enable interaction between users of various types of equipment, either mobile (e.g. mobile phones) or fixed (e.g. PCs); they are the foundation of the Internet. The Net!Works European Technology Platform gathers more than 700 players of the communications networks sector: industry leaders, innovative SMEs, and leading academic institutions. The mission of Net!Works is to strengthen Europe's leadership in networking technology and services so that it best serves Europe's citizens and the European economy.

6.1.3 NEM

The Networked & Electronic Media (NEM) Initiative is an ETP that aims at building sustainable European leadership in content production and networking technologies. As an industry-led initiative, NEM aims at fostering the convergence between consumer electronics, broadcasting and telecoms in order to develop the emerging business sector of networked and electronic media. Its objective is to promote an innovative European approach to the convergence of media, telecommunications and consumer electronics towards a Future Media Internet that will enhance the lives of European citizens through a richer media experience.

The NEM constituency includes all major European organisations working in the networked and electronic media area, including content providers, broadcasters, network equipment manufacturers, network operators and service providers, academia, standardisation bodies and government institutions.

6.1.4 NESSI

NESSI is the ETP dedicated to Software and Services. NESSI provides input to the EU Institutions on research actions and technology matters of particular importance to the software domain, and the overall aim is to enable the software and services sector help vitalise the great potential of the European economy and society. NESSI gathers partners and members from all over Europe, both from industry and academia, and engages in close dialogue with the European Commission and other stakeholders on several topics of specific relevance to NESSI - such as Horizon2020, Cloud Computing and Big Data.

6.2 Industry groups

6.2.1 ESOA

The European Satellite Operators' Association (ESOA) is a non-profit European organisation established with the objective of serving and promoting the common interests of European satellite operators. The Association is the reference point for the European satellite operators industry and today represents the interests of 10 satellite operators who deliver information communication services across the globe.

The European Satellite Operators' Association (ESOA) was formed in March 2002 to represent the interests of the industry with key European organisations, including the European Commission, Parliament, Council and the European Space Agency as well as other international organisations. ESOA's goals include ensuring that satellites benefit from the appropriate political, industrial and regulatory environment to fulfil their vital role in the delivery of communications. ESOA is governed by a Board of Directors, made up of the CEO's of its 10 Member Companies.

ESOA is often consulted as reference point for the industry by policy-makers, national and international regulators, other industrial groups, associations and academics for information concerning facts and views of the industry or with requests to cooperate on specific issues. It often participates in conferences representing the space or satellite operator's industry.

As the provision of satellite communications through ESOA members in fact implies global coverage, ESOA also has Co-operations with other organisations on issues that affect members' business outside Europe.

6.2.2 ETNO

The European Telecommunications Network Operators' (ETNO) association has become the principal policy group for European electronic communications network operators, with 50 members and observers in 35 countries. ETNO members are pan-European operators, also holding new entrant positions outside their national markets.

6.2.3 GVF

The Global VSAT Forum (GVF) brings together organisations of the global satellite communications industry engaged in the delivery of advanced broadband and narrowband satellite services to consumers, and commercial and government enterprises worldwide. GVF is an independent, non-partisan and non-profit organisation with 200+ members from every major region of the world. The broad-based membership represents every sector of the satellite industry, including fixed and mobile satellite operators, satellite network operators, teleports, satellite earth station manufacturers, system

integrators, value added and enhanced service providers, telecom carriers, consultants, law firms, and users.

6.2.4 Eurospace

Eurospace is the trade association of the European Space Industry. It is a non-profit European organisation created in 1961. Eurospace member companies today represent 90% of the total turnover of the European Space Industry. Eurospace fosters the development of space activities in Europe and promotes a better understanding of space industry related issues and problems.

6.3 National Associations and Technology Platforms

In addition to ETPs, national technology platforms and other industrial associations in European countries constitute an important way for dissemination towards industrial actors. Some of these associations, which will be considered as potential targets in CoRaSat, are described in the following:

- *UKISC*: The United Kingdom Industrial Space Committee (UKISC) is a principal trade association of the UK space industry. It represents the interests of its member companies (which total about 20), providing a forum for policy and supporting the UK government on space issues. UKISC works with the British National Space Centre, briefing government officials on space matters, and providing support to the Parliamentary Space Committee.
- *Space SIG*: The Space Special Interest Group (SIG) is aiming to connect the spectrum of activities across the Space SIG with existing KTNs to foster a Space community spanning Government, Industry and Academia in the United Kingdom.
- *Luxembourg Space Cluster:* The Luxembourg Space Cluster brings together specialised companies and public research organisations in order to develop specific technology topics as well as collaborative RDI projects. The Luxembourg Space Cluster focuses on the following thematic areas: Space telecommunications, Global Navigation Satellite System and Location based Applications, Earth observation, Maritime security and safety, Space related technologies.
- *ASAS:* The Italian Association for Space-based Applications and Services (ASAS) aims to encourage and promote the development and growth of the services sector and space applications, in the interest of business and the general economic system of national production.
- *AIPAS:* The Association of Italian Small and Medium Aerospace Enterprises (Italian: *Associazione Italiana PMI per l'Aerospazio,* AIPAS) was created with the objective to serve the needs of small and medium-sized companies operating in the space sector.
- *CNES:* The National Centre for Space Studies (French: *Centre National d'Études Spatiales*, CNES) is the French government space agency (administratively, a "public administration with industrial and commercial purpose") responsible for shaping and implementing France's space policy in Europe.
- *BELSPO:* The Belgian Federal Science Policy Office (BELSPO) is a Belgian government institution responsible for coordinating science policy at a federal level. BELSPO not only designs and implements research programmes and networks, but also manages the participation of Belgium in European and international organisations. BELSPO supervises Belgian federal scientific organisations.

7 PLAN FOR GENERAL PUBLIC DISSEMINATION

Public dissemination is aimed at informing and making aware the general public at large at European scale of CoRaSat achievements as they affect the everyday life (e.g., frequency sharing based on CR concepts leads to a large amount of spectrum being effectively available and hence to inexpensive communications and services).

Dissemination for the general public will be addressed by means of:

- Awareness papers in relevant conferences.
- Trade press releases to try to capture the national press' attention, thus leading to general articles in the national press.
- Public project website.

A project coordinated image will be defined and dissemination materials will be prepared, including the final project logo, a coordinated set of project tools for reports and presentation of the project results and a set of general documents (brochure, flyer and white paper) to be used in different dissemination occasions.

Moreover, a public website of the CoRaSat project (http://www.ict-corasat.eu/) has been launched. The website features an introduction to the project and overview of the project objectives, partners' profile and relative contact details, work package structure, news, events, links to relevant projects, institutions and fora, calendar, dissemination documents. These public pages will be used as a showcase of the project results that can be disseminated (scientific papers, white papers, public project deliverables) and will include updates on news and relevant events. A detailed description of the project website is available in [11].

8 INITIAL 3-YEAR ROADMAP

An initial roadmap of dissemination activities for the duration of CoRaSat is detailed in the following.

8.1 Initial roadmap for the first year

- Leaflet/press release on CoRaSat in October 2012 to be widely distributed and create awareness.
- Preparation of project brochure, flyer and a white paper.
- Organisation of workshops with other projects.
- Concertation meetings.
- Submission of a magazine article to IEEE Communications Magazine (or similar) in 2013 in order to raise awareness of the problems addressed by CoRaSat.
- Submission of first conference papers. The potential conference targets for these submissions are:
  - International Conference on Personal Satellite Services (PSATS).
  - Future Networks and Mobile Summit (FuNeMS).
  - International Conference on Advances in Satellite and Space Communications (SPACOMM).
  - IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN).
- Presentations to regulators at the international and national levels in the period May-June 2013.
- Presentation to operators (Eutelsat/Inmarsat/Avanti) during the period May-June 2013.
- Presentation to ESA.

8.2 Initial roadmap for the second year

- Submission of conference papers. The potential conference targets for these submissions are:
  - Satellite conferences (main targets are pointed out with *):
    - *Advanced Satellite Multimedia Systems Conference (ASMS) - possibly with workshop.
    - *Ka and Broadband Communications, Navigation and Earth Observation Conference.
    - *International Communications Satellite Systems Conference (ICSSC).
    - International Conference on Personal Satellite Services (PSATS).
    - International Conference on Advances in Satellite and Space Communications (SPACOMM).
    - International IEEE-AESS conference in Europe about Space and Satellite Communications (ESTEL).
  - Terrestrial conferences (main targets are pointed out with *):
    - *Future Networks and Mobile Summit (FuNeMS).
    - IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC).
    - IEEE Vehicular Technology Conference (VTC).

- IEEE International Conference on Communications (ICC).
- IEEE Global Communications Conference (GLOBECOM).

- Another Magazine (or similar) article.
- Special issue of International Journal of Satellite Communications and Networking (or in year 3).
- Further update meetings with regulators and operators.
- Inputs to standards bodies.
- National Press - to target science writers on the spectrum issue.

8.3 Initial roadmap for the third year

- Submission of conference papers. The potential conference targets for these submissions are:
    - Satellite (main targets are pointed out with *):
        - *Ka and Broadband Communications, Navigation and Earth Observation Conference.
        - *International Communications Satellite Systems Conference (ICSSC).
        - International IEEE-AESS conference in Europe about Space and Satellite Communications (ESTEL).
    - Terrestrial (main targets are pointed out with *):
        - *Future Networks and Mobile Summit (FuNeMS).
        - IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC).
        - IEEE Vehicular Technology Conference (VTC).
        - IEEE International Conference on Communications (ICC).
        - IEEE Global Communications Conference (GLOBECOM).
    - Cognitive radio:
        - IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN).
        - International Conference on Cognitive Radio Oriented Wireless Networks (CROWNCOM).
- Third workshop together with CRS-i at a terrestrial conference.
- Test bed Demo - possibly to external bodies.
- Events and meetings with ETPs and industry groups (see Sections 6.1 and 6.2).
- Final magazine (or similar) article.
- Journal articles reporting main project results.
- Further update meetings with regulators and operators.
- Inputs to standards bodies.
- National Press - to target science writers on the spectrum issue.

9 CONCLUSIONS

This deliverable has presented a detailed plan for the dissemination of the ideas, technical results and outcomes of the CoRaSat project in order to raise awareness about the added value and potential of CoRaSat technologies for relevant stakeholders, including regulators, satellite and terrestrial operators as well as scientific community and general public. A key objective of CoRaSat is to raise awareness of the specific satellite perspective and link conditions in the context of CR scenarios and present workable and practical ways to apply CR techniques for spectrum sharing purposes. Detailed plans have been outlined for various relevant ways to disseminate CoRaSat achievements, including journal/conference publications, workshops, tutorials, white papers, panel discussions, contribution to regulation and standardisation initiatives, dissemination activities towards industry-related audiences as well as the general public. An initial roadmap of dissemination activities for the duration of CoRaSat has also been outlined.

10 REFERENCES

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[4] CORASAT Project, Deliverable D2.2B, Technology framework (work in progress).

[5] CORASAT Project, Deliverable D2.3, Scenarios definition and selection (work in progress).

[6] European Commission, Commission Decision establishing a Radio Spectrum Policy Group (2002/622/EC), July 2002.

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11 DEFINITION, SYMBOLS AND ABBREVIATIONS

AGCOM	*Autorità per le Garanzie nelle Comunicazioni*
AIPAS	*Associazione Italiana PMI per l'Aerospazio*
ANFR	*Agence Nationale des FRéquences*
ARCEP	*Autorité de Régulation des Communications Électroniques et des Postes*
ASAS	Association for Space-based Applications and Services
BELSPO	Belgian Federal Science Policy Office
BEREC	Body of European Regulators of Electronic Communications
BNetzA	*Bundesnetzagentur*
CEPT	*Conférence européenne des administrations des postes et des Telecommunications*
CERP	*Comité européen des régulateurs postaux*
CNES	*Centre National d'Études Spatiales*
CR	Cognitive Radio
CUS	Collective Use of Spectrum
DYSPAN	Dynamic Spectrum Access Network
ECC	Electronic Communications Committee
ECO	European Communications Office
ERC	European Radiocommunications Committee
ESOA	European Satellite Operators' Association
ETNO	European Telecommunications Network Operators'
ETP	European Technology Platform
ETSI	European Telecommunications Standards Institute
FM	Frequency Management
FP7	Seventh Framework Programme
GVF	Global VSAT Forum
IBPT	*Institut Belge des services Postaux et des Télécommunications*
ICT	Information and Communications Technologies
IEEE	Institute of Electrical and Electronics Engineers
ILR	*Institut Luxembourgeois de Régulation*
ISI	Integral SatCom Initiative
LSA	Licensed Shared Access
NEM	Networked & Electronic Media
ITU	International Telecommunication Union
Ofcom	Office of Communications
RDI	Research Development and Innovation
RRS	Reconfigurable Radio Systems
RSC	Radio Spectrum Committee
RSPG	Radio Spectrum Policy Group
RSPP	Radio Spectrum Policy Program

SatCom	Satellite Communications
SE	Spectrum Engineering
SIG	Special Interest Group
SME	Small and Medium Enterprise
STREP	Specific Targeted Research Project
UKISC	United Kingdom Industrial Space Committee
WG	Working Group
WRC	World Radiocommunication Conference

12 DOCUMENT HISTORY

Rel.	version	Date	Change Status	Author
0	0	8/11/2012	Document Creation	UniS
0	1	14/12/2012	First draft version	UniS
0	2	12/03/2012	Updated with comments from SES, UL and UniBo.	UniS
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