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FISI

D.5.3.1 Report on produced ISI Newsletters – 1st year

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Abstract

This deliverable contains the report on the activities that have been conducted in order to produce and publish ISI newsletters during the first period of FISI (M5-M12)

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Executive summary

This deliverable contains the report on the activities related to the production and publication of ISI newsletters. During this period (M5-M12) FISI has produced and published issues number 7 and 8 of the ISI newsletter. The production of the issue number 9 has also been initiated.

Each one of these issues has been distributed to all ISI members and key external stakeholders, as well as made available in the ISI website.

This deliverable briefly presents the main details associated to this activity.

List of authors

Company	Author
ROSE	Julián Seseña, Ruben S Niño, David S Rodriguez, Javier S Palomar (Rose Vision)

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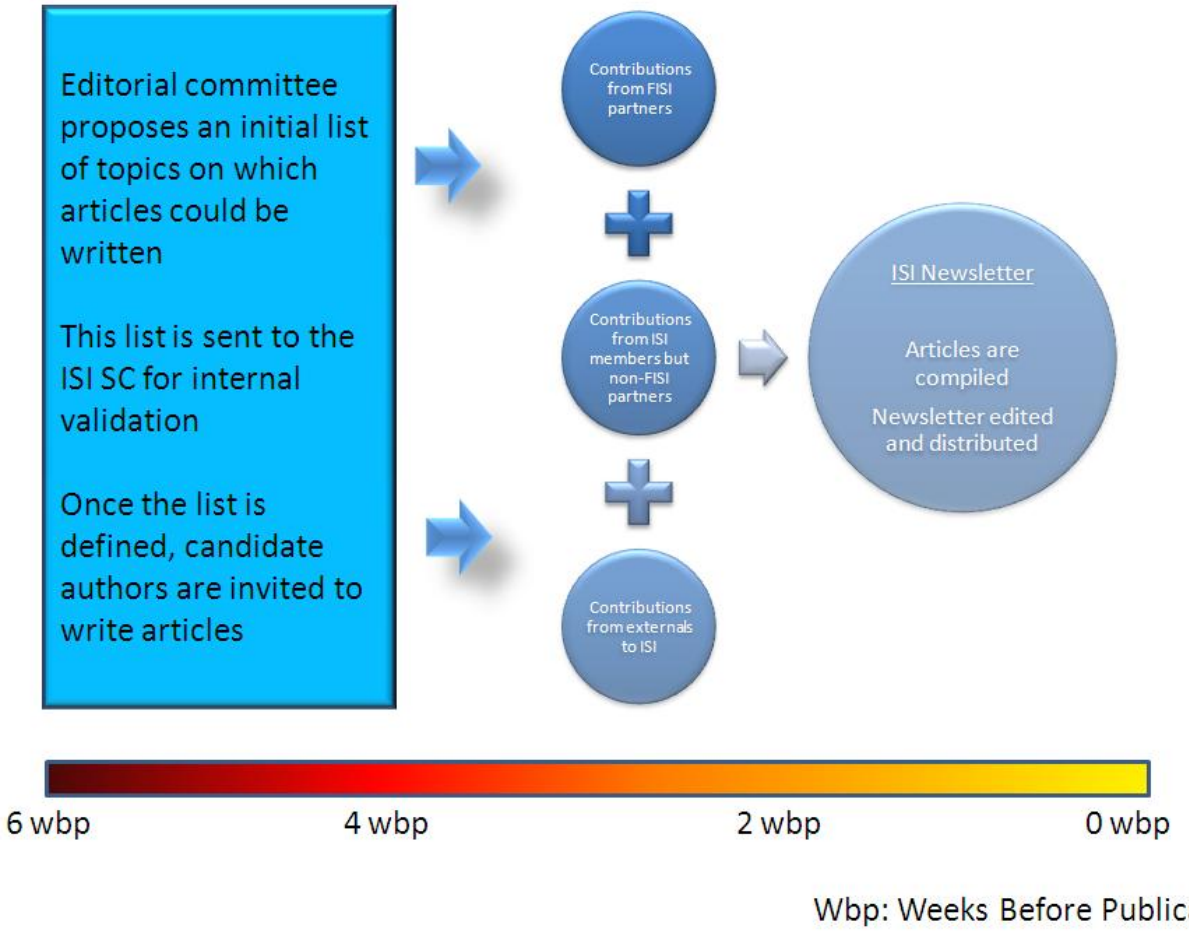
1 Marketing support: ISI newsletters

The ISI newsletter ('ISI Informs') was launched by the previous ISI support action sISI as one of the main ways of maintaining ISI community updated and make also that other European and international stakeholders could be informed on main ISI issues and activities.

ISI Informs is also intended to keep informed European Space (including Satellite Communications) Industry with the most outstanding news, articles and relevant events in the SatCom field, as well as ISI activities.

During this period (M5-M12) FISI has produced and published issues number 7 and 8 of the ISI newsletter. The production of the issue number 9 has also been initiated. Each one of these issues has been distributed to all ISI members and key external stakeholders, as well as made available in the ISI website.

The process for producing the newsletter is described in the following picture and table:



ROSE has undertaken the whole process from the initial draft list of potential articles to the design, production, compilation and elaboration of the ISI Newsletters "ISI Informs". The following table presents with more detail which are the activities undertaken in the production of each ISI newsletter:

Week	Phase/activity	Description
-6	Design and initial draft of topics	In this phase the editorial team receives a first proposal of article topics for the newsletter elaborated by ROSE. The editorial team (composed mainly by the ISI SC and WG Leaders) validates the initial proposal and contributes to it with additional topics and modifications to the initial

		proposals. This phase is concluded as soon as the ISI SC approves the list of topics and the potential authors of each article are contacted.
-4	Authors writing contributions	This phase starts with the communication from ROSE to the potential authors. The duration of this phase is variable but generally it lasts between 2 and 3 weeks. The phase ends as soon as enough articles are received and the deadline for receiving articles is reached. It is quite common that not all the authors meet the proposed deadline or are available to write the proposed article. This is why the initial list of proposed articles must include at least 3-5 additional topics than it would be necessary in order to manage the risk of authors not meeting the deadline.
-2	Editorial and production phase	Once enough articles have been received and the deadline has been reached, the editorial and production phase is initiated. In this phase articles are arranged in the document, pictures are inserted, aesthetics are decided and other minor details are closed. Each time major modifications are made to the document an electronic dummy version is sent to the ISI SC for validation and approval or new suggestions for improving it. This phase ends once the ISI SC approves the final version of the ISI newsletter in electronic format.
0	Publication and dissemination	In this phase the ISI newsletter is distributed in electronic format. Make available through the website and sent to ISI members through e-mail. Printed copies are distributed in key events if it is considered necessary.

The level of distribution of the ISI newsletter is already well stabilized which indicates how the publication is regularly read by its target public. As it can be checked in the ISI website:

ISI Informs	**Number of downloads from ISI website**	**Printed copies distributed**
Issue 7	158	1000 copies
Issue 8	115	1000 copies

During this period (M5-M12) two newsletters have been produced, and it is already expected that **during 2011, two more issue will be produced.**

Most of the content included in the newsletters has been prepared thanks to the contributions of FISI partners and ISI members, although other external contributions have also been requested and included (EC, ESA, GVF, etc.).

Hereafter, a brief summary of the content included in the newsletters produced by FISI:

Issue nº7:

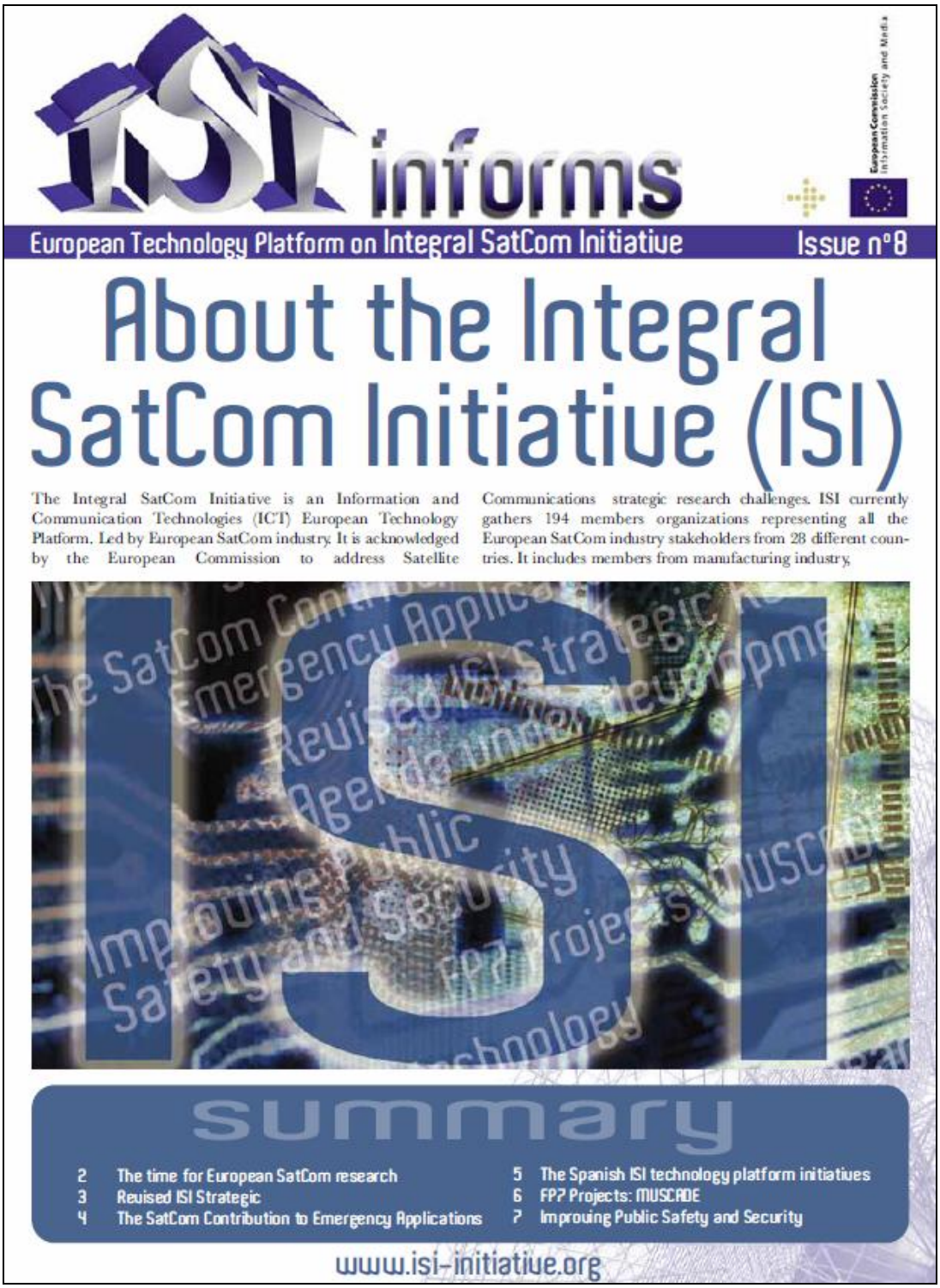
Example of the first page of the ISI Informs newsletter no 7.

Index of contents and contributors included in the 7th issue:

- ISI 12th General Assembly meets with the European Parliament
  - Nicolas Chuberre, Thales Alenia Space - France
- FP7 Call8: an opportunity for SatCom
  - Pertti Jauhiainen, European Commission, DG INFSO
- European Parliament visit ISI SatCom day: Funding scheme options for SatCom serving EU policies
  - Mrs. Edit Herczog, Member of the European Parliament

- The SatCom Regulatory landscape (L band debates)
    - Dr. Julián Seseña, ROSE Vision
- Satellite imagery as a tool in consular protection and assistance
    - Mr. Giorgio Porzio, EU Situation Centre
- ISI: a very active European Technology Platform Working Groups re-structuring
    - Dr. Julián Seseña / Sara Muñoz / Antonio Alfaro, ROSE Vision
- ESOA Vision on SatCom/Digigal Agenda
    - Aarti Holla, ESOA
- Financing R&D and innovation in the next EU financial framework
    - Antonio Alfaro, Rose Vision
- Events

Issue nº8:



Example of the first page of the ISI Informs newsletter no 8.

Index of contents and contributors included in the 8th issue:

- The time for European SatCom research
  - Luis Rodríguez-Roselló, Head of Unit "Future Networks",DG-Information Society and Media – European Commission
- Revised ISI Strategic
  - Pertti Jauhiainen, DG-Information Society and Media – European Commission

- The SatCom Contribution to Emergency Applications
  - Maurizio Casoni, University of Modena and Reggio Emilia
- The Spanish ISI technology platform initiatives
  - Dr. Julián Seseña, ROSE Vision
- FP7 Projects: MUSCADE
  - Guillaume Berenger, Astrium EADS
- Improving Public Safety and Security
  - Melanie Monier
- Events

Some examples of articles included in the newsletter are included in the following figures:

The time for European SatCom research

The European Commission has recently approved a communication on a revamped European Space strategy under the title "Towards a Space strategy for the European Union that benefits its citizens". In addition to the "traditional" pillars (satellite navigation, monitoring the environment, security and space exploration), there is a full chapter devoted to competitiveness, making a clear case for space industry policy as an integral part of the Europe 2020 strategy.

In this context, Satellite Communications (SatCom) is considered a key area for industrial competitiveness, as it generates the largest share of revenues in the space industry, as well as a key innovation enabler, since it provides access to a broad range of economic and social services. These range from high speed Internet and broadcasting to specific crucial public services, such as those related to safety. For example "eCalls" –on vehicle emergency calls- can automatically provide the vehicle location, and can therefore be instrumental in saving lives, by bringing faster assistance. SatCom is also an enabler of many innovative future services, such as those using positioning systems and earth observation data. There is also a potential commercial value, as SatCom could play an important role as content distributor for TV in the Internet infrastructure.

The goals of the Digital Agenda for Europe, to provide access to basic broadband to all Europeans by 2013 and 30 Mbps access by 2020, provide an opportunity for satellite communications to play a specific role. SatCom has the potential to provide wider broadband access to rural and sparsely populated areas, where it will complement the use of terrestrial-based solutions, and add to coverage and capacities in urban and suburban areas.

It is estimated that at the moment, basic broadband is still not available to about 10 million European households, mainly located in rural areas. Satellite communications, is an indispensable complement to terrestrial solutions to meet the target of 100% access to basic broadband by 2013. Current satellite technology enables access rates in the 2 to 10 Mb/s range. This would already be compatible with the first Broadband objective of the Digital Agenda for Europe.

In the longer term, satisfying the second objective for Broadband access at 30 Mb/s would require a new generation of very high throughput satellites. Industry is currently working on this new generation of SatCom. As this is a longer term issue, options should be explored for supporting industry in this endeavour through future R&D and innovation funding and support.

Some resources for research in these areas are already available through the FP7 ICT work programme 2011-12. The next Call for Proposals (Call 8) foresees support to industry for the design of very high capacity satellite systems. In particular there is an objective addressing "Flexible, resilient, broadband satellite communication" with the aim to develop innovative system and service architectures and technologies for ultra high capacity satellite communication systems with seamless integration capabilities. They should enable resilient and flexible infrastructures to support institutional missions and should integrate navigation systems and sensor networks. Success in these seamless integration capabilities will allow satellite industry to position itself within an overall end-to-end service approach.

ISI has already started the process for the definition of a strategic research agenda giving details of industry plans to develop these capabilities in the longer run. There are already some specific challenges we can identify today, such as increasing the two-way capacities in a cost-effective manner, leading to a new generation of satellites with a 1000 GB/s throughput and integrating seamlessly terrestrial and satellite applications and services as mentioned above. These will require integrated network and spectrum management capabilities, optimising network resources and Quality of Service whilst minimising costs and energy consumption. The integration of all the above mentioned systems is necessary if we are to provide critical services which require integrated solutions, which is particularly critical for security and safety applications, where the role of satellites is essential.

I am fully aware that ISI is working hard in the above lines so as to ensure the future provision of essential services as described in the European Commission recent communication on Space strategy. Time is ripe now to explore the avenues for the deployment of future infrastructures capable to meet the requirements of basic public services, and ensuring a competitive European industry. I do hope that this Call for Proposals is just a starting point for more ambitious actions in line with the targets set out in Europe 2020.

The strategic nature of the public areas supported by satellite applications and the important role played by SatCom in the required service infrastructure raise the need for Europe to own a solid technological base on satellite communications and therefore excellence in research in this field is a must for a future competitive space industry. Contributions from the ISI stakeholders will be very welcome in this undertaking.

Luis Rodríguez-Roselló
Head of Unit "Future Networks", DG-Information Society and Media – European Commission

FP7 Projects: MUSCADE

The last decade has seen a revolution in the distribution of motion content: from analogue to digital and then from SDTV to HDTV. Both the delivery and the content creation industries exploited these advances, for the final benefit of consumers. Today, 3DTV is widely considered as the next step forward in home entertainment.

MUSCADE (Multimedia Scalable 3D for Europe) is a 3-year Collaborative Project led by Astrium which investigates future 3DTV systems beyond stereoscopic 3D. The project is co-funded by the European Commission under the 7th Framework Programme (FP7). It combines the strengths of twelve European partners, consisting of a balanced mix between academics (University of Surrey, Fraunhofer HHI), public organizations (EBU), SMEs (Holografika, KUK Filmproduktion, Trinnov Audio) and large industries (Astrium, Disney Research, RAI, SES ASTRA, Technicolor, Telecom Italia).

The MUSCADE project aims at developing a technically efficient and commercially successful 3DTV broadcast system by generating major innovations in 3DTV capturing, data representation, compression, transmission and rendering. The MUSCADE reference system architecture is shown in Figure 1.

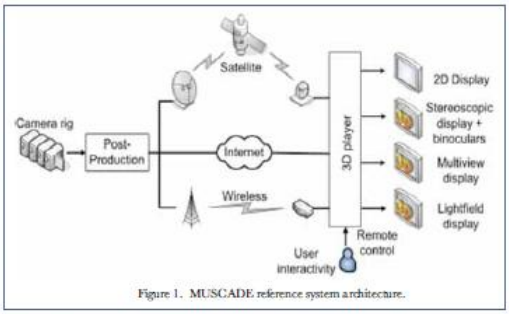


Figure 1. MUSCADE reference system architecture.

Figure 2 MUSCADE display agnostic video representation format (MVD4, Multi-view video plus depth 4), data from the first MUSCADE shooting

At the production side, multi-view camera rigs and microphone arrays are used to record 3D video and spatial sound, generating a generic and display agnostic 3DTV representation format as shown in figure 2. Then audio-visual data are post-processed, either offline during post-production or in real-time for live broadcasting. In a further postproduction process the captured and post-processed audio-visual 3D scenes can be mixed with computer generated 3D content or archived 3D material.

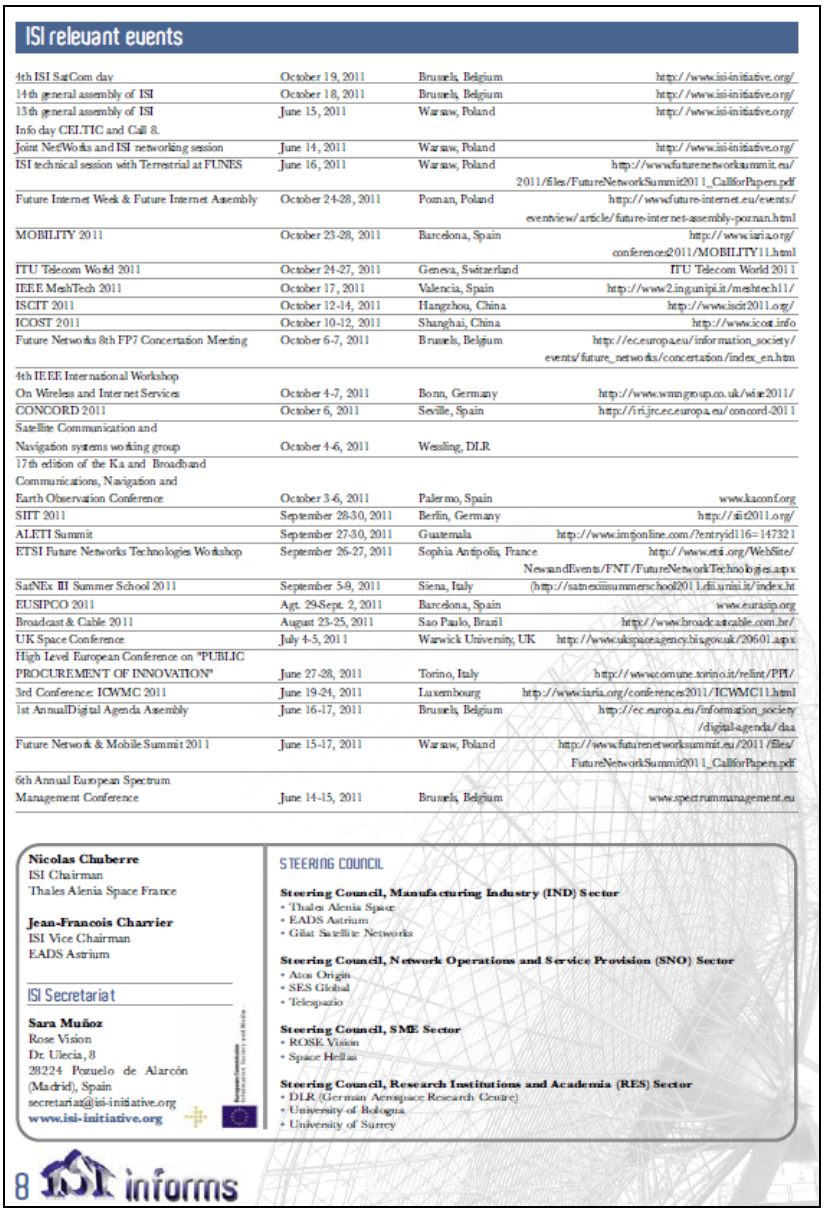
After postproduction, the processed audio-visual 3D data is compressed and encapsulated into a suitable transmission format. The streams are then fed into the transmission channels investigated in the project i.e. wireline (ADSL, FTTH), wireless (DVB-T2, WLAN, WiMAX) and satellite (DVB-S2) using both emulated and actual links. At the receiving side, the audio and video signals have to be decoded and rendered according to the requirements of the display and sound system. As far as video is concerned, 2D displays, stereoscopic displays with glasses and several types of autostereoscopic displays will be supported, while for audio, different multichannel reproduction systems such as binaural, stereo, 5.1, 7.1 and wave field synthesis will be used.

In parallel of the development of the 3DTV prototype system, activities focusing on the user experience evaluation are conducted in order to ensure the production of 3D content meeting today's consumers' expectations. The results of the project in terms of audio/video coding, content production, transmission protocols and display adaptation are also provided as inputs to the relevant standardization bodies.

The project is currently in its first phase, consisting in the development of a non real-time prototype of the system. The final objective of MUSCADE, which is running until the end of 2012, is to demonstrate a complete multiview 3DTV live chain over wireline, wireless and satellite networks.

Guillaume Berenger
Astrium EADS

6 ist informs



ISI releuant euents

4th ISI SatCom day	October 19, 2011	Brussels, Belgium	http://www.isi-initiative.org/
14th general assembly of ISI	October 18, 2011	Brussels, Belgium	http://www.isi-initiative.org/
13th general assembly of ISI	June 15, 2011	Warsaw, Poland	http://www.isi-initiative.org/
Info day CELTIC and Call 8.			
Joint NetWorks and ISI networking session	June 14, 2011	Warsaw, Poland	http://www.isi-initiative.org/
ISI technical session with Terrestrial at FUNES	June 16, 2011	Warsaw, Poland	http://www.futurenetworksummit.eu/2011/files/FutureNetworkSummit2011_CallforPapers.pdf
Future Internet Week & Future Internet Assembly	October 24-28, 2011	Poznan, Poland	http://www.future-internet.eu/events/eventview/article/future-internet-assembly-poznan.html
MOBILITY 2011	October 23-28, 2011	Barcelona, Spain	http://www.iaria.org/conferences2011/MOBILITY11.html
ITU Telecom World 2011	October 24-27, 2011	Geneva, Switzerland	ITU Telecom World 2011
IEEE MeshTech 2011	October 17, 2011	Valencia, Spain	http://www2.ing.unipi.it/meshtech11/
ISCIT 2011	October 12-14, 2011	Hangzhou, China	http://www.iscit2011.org/
ICOST 2011	October 10-12, 2011	Shanghai, China	http://www.icost.info
Future Networks 8th FP7 Concertation Meeting	October 6-7, 2011	Brussels, Belgium	http://ec.europa.eu/information_society/events/future_networks/concertation/index_en.htm
4th IEEE International Workshop On Wireless and Internet Services	October 4-7, 2011	Bonn, Germany	http://www.wmngroup.co.uk/wise2011/
CONCORD 2011	October 6, 2011	Seville, Spain	http://iri.jrc.ec.europa.eu/concord-2011
Satellite Communication and Navigation systems working group	October 4-6, 2011	Wessling, DLR	
17th edition of the Ka and Broadband Communications, Navigation and Earth Observation Conference	October 3-6, 2011	Palermo, Spain	www.kaconf.org
SIIT 2011	September 28-30, 2011	Berlin, Germany	http://siit2011.org/
ALETI Summit	September 27-30, 2011	Guatemala	http://www.imtjonline.com/?entryid116=147321
ETSI Future Networks Technologies Workshop	September 26-27, 2011	Sophia Antipolis, France	http://www.etsi.org/WebSite/NewsandEvents/FNT/FutureNetworkTechnologies.aspx
SatNEx III Summer School 2011	September 5-9, 2011	Siena, Italy	(http://satnexiiisummerschool2011.dii.unisi.it/index.ht
EUSIPCO 2011	Agt. 29-Sept. 2, 2011	Barcelona, Spain	www.eurasip.org
Broadcast & Cable 2011	August 23-25, 2011	Sao Paulo, Brazil	http://www.broadcastcable.com.br/
UK Space Conference	July 4-5, 2011	Warwick University, UK	http://www.ukspaceagency.bis.gov.uk/20601.aspx
High Level European Conference on "PUBLIC PROCUREMENT OF INNOVATION"	June 27-28, 2011	Torino, Italy	http://www.comune.torino.it/relint/PPI/
3rd Conference: ICWMC 2011	June 19-24, 2011	Luxembourg	http://www.iaria.org/conferences2011/ICWMC11.html
1st AnnualDigital Agenda Assembly	June 16-17, 2011	Brussels, Belgium	http://ec.europa.eu/information_society/digital-agenda/daa
Future Network & Mobile Summit 2011	June 15-17, 2011	Warsaw, Poland	http://www.futurenetworksummit.eu/2011/files/FutureNetworkSummit2011_CallforPapers.pdf
6th Annual European Spectrum Management Conference	June 14-15, 2011	Brussels, Belgium	www.spectrummanagement.eu

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STEERING COUNCIL

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- University of Bologna
- University of Surrey

8 ISI informs

The ISI newsletter has been distributed to the ISI community and a list of key external stakeholders that have been considered of interest for ISI.

Thanks to FISI this important ISI publication has been consolidated and confirmed as the main communication tool for both internal and external purposes.

2 Conclusions and future plans

Since the launch of the ISI newsletter, this periodic publication has reached an important impact inside the ISI community exceeding all the initial expectations, confirming the consolidation of this publication. Now as part of FISI, the objective is to expand the impact of the ISI newsletter beyond the ISI borders.

In order to reach this ambitious goal the following actions have been proposed and put in place:

- Elaborate a list of key external stakeholders. This action has already been initiated although it will be permanently updated.
- Disseminate the ISI newsletter in key external events.
- Include at least one article in each newsletter from one key external community, organization, expert, etc.
- Liaise with international projects in order to increase the distribution channels for the newsletter.

3 Annexes

3.1 ISI Informs issue 7

3.2 ISI Informs issue 8

3.3 Mailing list used for dissemination

ISI informs
European Technology Platform on Integral SatCom Initiative
Issue n°7

About the Integral SatCom Initiative (ISI)

The Integral SatCom Initiative is an Information and Communication Technologies (ICT) European Technology Platform. Led by European SatCom industry. It is acknowledged by the European Commission to address Satellite Communications strategic research challenges.

summary

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Funding scheme options for SatCom serving EU policies
4 The SatCom Regulatory landscape (L band debates)
5 Satellite imagery as a tool in consular protection and assistance
6 ISI: a very active European Technology Platform Working Groups re-structuring
8 ESOA Vision on SatCom/Digigal Agenda
9 Financing R&D and innovation in the next EU financial framework
10 Events

www.isi-initiative.org

ISI 12th General Assembly meets with the European Parliament

12th ISI General assembly was held on the 30th of November at DG INFSO premises in Brussels. A dinner sponsored by SES was organised in the evening at the European Parliament premises. The dinner gathered more than 90 participants including Members of the European Parliament, representatives from European institutions and ESA.

Considering the importance for Europe of its Satellite Communication (SatCom) industry and in line with the objectives and measures in the article 189 of the Lisbon Treaty , ISI encourages the European Commission and European Parliament to provide its support with:

- The explicit ***inclusion of Satellite Communications in the overall space policy*** and in particular inclusion of specific SatCom objectives in the future research and technology development framework programme 8 (FP8 ICT);
- The implementation of appropriate ***demand aggregation, spectrum allocation and pre procurement schemes*** (involving public institution financial support) to foster the development of future high tech satellite communication infrastructures addressing the EU Digital Agenda objectives and enhanced service offer, at optimised costs, to institutional users in the security domain. This approach will optimize the usage of the public/private investments already invested in the space communication infrastructure;
- The ***foundation of a specific and ambitious European Satellite Communications Programme***, addressing key European challenges identified in the EU2020 Strategy including the security of EU citizens and the emergency communications in case of crises.

3rd EU SatCom Day: Held on December the 1st 2011, also in Brussels gathered more than 70 participants including: Mrs Edit Herczog, Member of the European Parliament, Mr Ken Ducatel head of the Digital Agenda policy coordination at the DG INFSO and Mr Giorgio Porzio Head of Unit at the EU Situation Centre, as well as representatives from the European satellite communications industry. The panel discussions enabled a clear understanding on the contribution of satellite communication systems to achieve current and future European Societal challenges to be understood:

- Inclusive growth thanks to cost effective deployment of broadband access in un-served and under served areas.
- Improvement of security for people and goods thanks to responsive global, reliable and secured telecommunication means.

It was recognised that SatCom is undoubtedly a topic to be handled at European level as it is an essential enabler to fulfil the European Digital Agenda and Security policy objectives. Demand aggregation and harmonised regulatory framework at a pan-European level when needed would enable optimisation of investments on future satellite communication technologies and infrastructures addressing these policy objectives. Moreover the Lisbon Treaty now includes Space as a EU issue and therefore is expected to provide a new impetus to support ambitious innovative space programs including SatCom particularly in the broadband and security areas. . This will contribute to sustain the competitiveness of the European SatCom industry and constitute a key factor for a sustainable European space industry.

Nicolas Chuberre
Thales Alenia Space. France.
ISI Chairman.

Mr. Chuberre speech in the European Parliament

On behalf of the ISI delegates, let me first thank Mr Elmar Brok Member of Parliament hosting us in this historic place and clearly at the heart of Europe.

I would like also to thank Mr Romain Bausch, CEO of SES, who sponsors this dinner. Last, I need to address my special thanks to Nima Azarmgin from SES who actively contributed to the success of this dinner.

It is a great opportunity for our Satellite Communication industry sector to draw the attention of European policy makers and public institution representatives on our challenges.

I would like to recall the Strategic importance of Satellite Communications (SatComs) for Europe

- it accounts for about 2/3 of the European satellite industry turnover;
- it is an ***essential element of any global network;***
- it is the ***driving force for technologies development, applicable to all industrial sectors*** among which High performance and reliable electronic devices in harsh environment.

Today EC spend less than 0.5% of its FP7 ICT budget on SatCom research. ***This support is clearly insufficient to sustain the future development of the European satellite communications industry*** and indirectly sustain the Europe space industry and the strategic independent access to space.

The Integral SatCom Initiative is an ICT European Technology Platform specialized on research and innovation

Pictures of the ISI Dinner at the European Parliament Member's Restaurant sponsored by SES in November 30th 2010

for Satellite Communication systems. It gathers approx 200 stakeholders of the European Satellite communication industry. As you see nearly half of the members are represented here.

ISI aims at harmonising and prioritising the research topics to develop future SatCom architectures and solutions and maintain Europe's technological edge and competitiveness.

ISI focuses mainly on applications with high societal implications

- ***Broadband for all***: in line with the Digital Agenda Policy;
- ***Security***: in line with the European Security and Defence Policy;
- ***Smart infrastructures*** enabling a more sustainable and efficient economy.

ISI encourages the European Commission to provide its support with

- The ***explicit inclusion of Satellite Communications in the overall space policy***. In particular in the FP8 ICT program;
- The ***implementation of appropriate demand aggregation, spectrum allocation and procurement schemes (involving public institution financial support) to foster the deployment of future satellite communication infrastructures*** addressing the ***broadband for all*** and ***security*** domain;
- The ***foundation of a specific and ambitious European Satellite Telecommunication Research and Innovation framework program*** for Research & Development, up to large scale pre operational experimentation in the domain of security;
- The ***set-up of adequate funding policy preventing excessive fragmentation of the financial support*** given that space manufacturing competitiveness requires a critical mass to handle large and complex programs with high technical and financial risks associated to important investment in costly technologies and facilities.

FP7 Call 8: an opportunity for SatCom

The next call in FP7 will be a good opportunity for satellite communications projects to apply for funding. In the Work Programme 2011/12 and call 8 concerning Future Networks, research projects are foreseen to address mainly the integration of satellite and terrestrial networks. Aiming to improve the integration of high-capacity, flexible and cost-effective satellite networks as part of the next-generation networks and Internet, and also to integrate further satellite communication with the GMES and Galileo systems for new value-added services.

The EU research in the space area during the FP7 period has focussed on the Galileo and GMES systems as they are the prioritised areas. Research concerning satellite communications has been in a tough competition with terrestrial technologies in the area of Future Networks.

However, a lot of good progress in terms of the capacities and flexibilities in coverage has been made in recent years. The launches of the small geostationary satellite Hylas targeting rural areas, and the high-capacity broadband satellite Ka-SAT, are two good examples of this.

The progress needs though to continue. We are more and more dependent of the Internet as a critical infrastructure with increasing data traffic and new capacity-hungry integrated applications. It is expected that satellite communications technologies will be an important part of this critical infrastructure providing ubiquitous access and coverage to services like broadband Internet, television and radio broadcasting, transport, radio spatial location, data for environmental protection, and user applications linked to public safety and emergency services, health and home assistance.

In the objectives set for the Digital Agenda for Europe (DAE), and then notably to the closing of the broadband gap, there are goals of 100% broadband coverage by 2013 and partly the objectives of providing capacities of 30Mbps to the entire EU population by 2020 and further towards 100 Mps.

These DAE broadband objectives are challenging, but they (and other important objectives) are targeted in the research roadmap of ISI as future satellite communications challenges to be overcome. ISI has also outlined the large-scale initiative ISICOM (Integrated Space Infrastructure for global Communications) to complement Galileo and GMES by adding important value-added services and functionalities.

The FP7 call 8 is in line with challenges as outlined by ISI and we certainly hope that ISI members and the overall community will be very successful with selected innovative projects that will push the frontiers towards the many challenges ahead.

The planning for the FP8, 2014-2020, has started, and the Green Paper on a 'Common Strategic framework for future EU Research and Innovation' is open for consultation until May 20, 2011. This is further an opportunity not to be missed to give input concerning the future satellite communications needs.

Pertti Jauhiainen
European Commission, DG INFSO

European Parliament visits ISI SatCom day

Funding scheme options for SatCom serving EU policies

The **EU budget** is of crucial importance at least for space matters: As the EU is the second European public **financial contributor** after **ESA**, mainly on dedicated space programs devoted to serve the different EU policies - transport, environment, climate change with the two flagships: Galileo and GMES.

The purpose is to have the budget in place to start the process of the order to the industry to avoid manufacturing interruption.

BUT today, taking into consideration the **huge budget** constraints resulting from the crisis all these "big-projects-financing-issues" became crucial at political level in the EU.

We have seen **EU's big research projects** jeopardised by the crisis, even though this is the time for us to make sacrifices for our leading role in technology and innovation.

The **continuous flow of resources** is needed during the financial framework starting in 2014, for the satellites to be functional by 2018. This is particularly urgent and sensitive given the likely requirements for additional financing within the current financial perspective necessary to complete the full deployment.

There is a **tough competition** in the deployment of different satellite based Earth-observation systems, but Europe may drop behind if a decision is not made quickly about the financing of its space program.

Not just a strategic question, whether the EU attains the first place in the field of space research, but a step taken forward in the appropriate time can directly earn profit for the actors of the economy.

WHY FOR SPACE?

1. **Science**: Space exploration improves our knowledge of the solar system, increases our understanding of the Earth as a global system (e.g. with reference to the climate change), and contributes to the knowledge of the origin of life;

2. **Economics**: it pushes a wide range of technologies and brings innovation in a variety of areas, boosts highly qualified employment and investments in high-tech domains;

3. **Politics**: it is a driver for the European Union on the international scene and European leadership in a global space exploration programme is a leverage for the European international policy;

4. **Societal**: contributing as Europe to a global space exploration endeavour, as opposed to single nations, will strengthen our identity, having ahead of us a clear set of objectives to be achieved together.

It is the right time for Europe to assert at political level its ambition, vision and plans in space exploration so as to keep up with the international momentum!

Room for innovation, room for growth for the European economies:

- More financial support for ICT and satellite R&D;
- Civil protection = "space red cross";
- To have real competition = "sat neutrality";
- "Space internal market" - European infrastructure.

Mrs. Edit Herczog
Member of the European Parliament

The SatCom Regulatory landscape

(L band debates)

The European Communications Committee (the governing body of the CEPT) did launch, through its Working Group on Frequency Management (WG FM) channelled by its specialized task force FM 45, the preparation of a generic inventory of candidate applications for the 1452 – 1492 MHz band. This should include the pros and cons for each application and in particular examine the benefits of economy of scale.

Considerations on the possible implications on the current regulatory agreements (Maastricht Agreement and ECC/DEC/(03)02) are to be dealt with to the end of this action.

ISI Working Group REGULATORY (WG REG) has been following the views of the broadcasters, satellite Operators, European industries and does monitor the outcome of this process.

Some of the views

Dr. Julián Seseña
Chair WG REG, ISI
President ROSE Vision

expressed regarding the band 1452-1492 GHz have been made known to ISI. Here is a summary of some of the thinking of the industrial SatCom community.

Downlink multimedia services are developing with the growth of consumption of interactive multimedia service combined with the trend towards mobility using a variety of mobile devices such as wireless enabled laptops, smart phones, wireless game stations, eReaders, imaging devices (e.g. camcorders).

The L-band offers the combination of significant capacity (40MHz) and adequate propagation properties in order to support value added services related to the delivery of downlink multimedia services.

The success of such multimedia services relies on adequate technology and economies of scale in order to reduce the cost of the terminals and make the service available to the widest audience possible. This

could be achieved through the development of a harmonised technology band plan for downlink multimedia which could accommodate both broadcasting and broadband downlink technologies and respond to consumers' demand for convergent services.

The adoption of a harmonised downlink spectrum band plan for the introduction of technologies supporting the delivery of multimedia services in 1452-1492MHz is crucial in order to allow the development of Satellite Broadcasting, through remaining compatible with the existing Maastricht special arrangement.

Satellite imagery as a tool
in consular protection and assistance

Over the past fifteen years, consular crises of different sorts and intensities have increased worldwide. In a move to strengthen the idea of European citizenship, which exists alongside but does not replace the national one, EU Member States have adopted a raft of instruments whose goal is to drive home two essential ideas: first, when a citizen of an EU Member State is in a third country where his or her Member State of origin is not represented, that citizen can ask the consular or diplomatic authorities of another Member State, present in that third country, for assistance. In other words, no one is abandoned to their own fate simply because they are not represented. Second, no Member State, wealthy or powerful as it may be, can go it alone during major crises.

Recent examples of major consular crises involving EU citizen have been the tsunami in the Indian Ocean, the evacuation of Lebanon, the earthquakes in Haiti, Argentina and Chile, the floods in India and other parts of the world, and very recently, the turmoil in Egypt. I mention these in particular –there have been others, perhaps smaller because of the numbers involved, but very intense politically, such as the Mumbai attacks– because they have systematically made use of satellite imagery.

European consular crisis response is organized around structures within the EU Situation Centre –SITCEN– that has always been part of the High Representative's Cabinet and is now, in the framework of the European External Action Service (EEAS), reporting directly to Cathy Ashton. On many occasions, SITCEN has worked hand in hand with the Commission Crisis Room, and both have often relied on satellite images and simulations provided respectively by the EU Satellite Centre (EUSC) –based near Madrid, in Torrejón, and with which it has a direct, high speed, high throughput link– and by the EU Joint Research Centre (JRC) based in Ispra, Italy. Images have been uploaded to web pages accessible i.a. to the crisis units in Member States, the EU Military Staff, and even some like-minded countries and historical allies, notably the US, Canada, Norway, Iceland, Switzerland…

However, SITCEN has stressed its interest in making the most out of satellite based information, mostly images, also by participating in a number of workshops and seminars, and, perhaps more importantly, in a crisis management exercise code-named TANGO (Telecommunications Advanced Networks for GMES Operations), organized by EUSC and involving a number of outside partners such as EADS Astrium, the French Centre National d'Etudes Spatiales (CNES), Infoterra France, Avanti and Charles University from the Czech Republic.

That exercise allowed participants to use, in an almost real life situation, ruggedized equipment capable of using satellite images, Google software and special overlays to combine static images with real time "ground truth". This same equipment was used some time later in a real catastrophic situation, in Haiti, where we know that the Spanish Military Emergencies Unit (UME) deployed it.

Whereas we are all used to watch satellite weather forecast images, moving dynamically on the screen, every evening on TV, we are still far from having the same capability when it comes to reporting from crisis areas. The reasons for this are mostly obvious: weather satellites are placed in fixed spots and do not need to be moved. Sunshine or hurricane, they just have to sit there and report what they see. During crises, however, satellites may not be placed in the right spot, or weather may be such that real time images cannot be obtained. And, let's face it, radar images are not as user-friendly, even if they can prove to be just as useful in some cases.

That is why, for now, in consular crisis response and situation awareness, deployable teams that can make use of the images and add to them what they can gather on the ground, is the best we can do. A further need that has been identified is that equipment must be able to withstand considerable physical stress. Crisis environments are by definition rather unfriendly. Sometimes is nature, other times fellow humans, and sometimes both.

SITCEN will be soon putting in a bid for this sort of equipment. We already have deployable computers, cell-phones, GPS receivers, encryption devices. But what we still lack is the possibility of putting the information we gather on an image, send it back home and making things clear for the decision-makers. And as we all know, one image is better than a thousand words.

Mr. Giorgio Porzio
Head of Unit
EU Situation Centre

ISI: a very active European Technology Platform Working Groups re-structuring

ISI meetings mainly include:

- ISI General Assembly (GA) meetings.
- ISI Steering Council (SC) meetings and conferences calls.
- ISI Working Groups (WGs) meetings and conference calls.
- ISI special Task Forces (TFs) meetings and conference calls.

ISI Secretariat, in coordination with the ISI Chairman or the correspondent body, proposes to ISI Steering Council the draft agenda for the conference calls in advance to the conference call date. The SatCom day on 1st December, gathered close to 100 participants.

The following ISI conference calls and meetings have been organised during 2010:

Name	Date	ISI Secretariat activities
ISI SC Conf call	February-10th 2010	Conf call set up and minutes
ISI SC Conf call	March-4th 2010	Conf call set up and minutes
ISI SC Conf call	March-18th 2010	Conf call set up and minutes
ISI SC meeting	April-7th 2010	Meeting set up and minutes
ISI General Assembly	April- 7th – 8th 2010	Meeting set up and minutes
ISI SC Conf call	April-27th 2010	Conf call set up and minutes
ISI TASK FORCE Conf call	April-29th 2010	Conf call set up and minutes
ISI SC Conf call	June-8th 2010	Conf call set up and minutes
ISI TASK FORCE Conf call	June-24th 2010	Conf call set up and minutes
ISI SC Conf call	July-6th 2010	Conf call set up and minutes
ISI TASK FORCE Conf call	July-13th 2010	Conf call set up and minutes
ISI SC Conf call	September-21st 2010	Conf call set up and minutes
ISI SC Conf call	October 19th 2010	Conf call set up and minutes
ISI SC Conf call	November 18th 2010	Conf call set up and minutes
ISI General Assembly	November 30th 2010	Meeting set up and minutes
ISI SatCom Day	December 1st 2010	Meeting set up and minutes
ISI SC Conf call	December 10th 2010	Conf call set up and minutes

The detailed ISI participant list is reported in the following table:

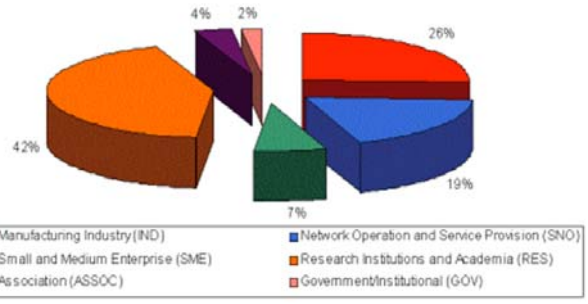
ISI Participant	Country
ACORDE	Spain
Adianta	Spain
Aersat	Italy
Aetheric Engineering Ltd	United Kingdom
Agilent	Belgium
Alcatel Alenia Space	France
Ansur Technologies	Norway
ANTY Foundation	Belgium
Aratos Technologies	Greece
Arcus Novus	Lithuania
Ascom (Switzerland) Ltd.	Switzerland
ASI - Agenzia Spaziale Italiana	Italy
ASMS-TF	European Union
ASRI Asher Space Research Institute	Israel
Athens University of Economics and Business - Research Centre / Mobile Multimedia Laboratory	Greece
ATOS ORIGIN	Spain
Avanti Communications	United Kingdom
AWE Communications	Germany
BITNET CCSS	Romania
Budapest University of Technology and Economics	Hungary
Bulgaria Academy of Science	Bulgaria
CEA-LETI	France
CEDETEL	Spain
Clyde Space	United Kingdom
CNES	France
CNIT	Italy
CNR-ISTI	Italy
CompTIA	Belgium
Consen	Spain
CREATE-NET	Italy
Critical Software	Portuga
CTTC	Spain

ISI Participant	Country
MoSSA	European Union
Mott MacDonald	United Kingdom
Moviquity	Spain
NCSR "Demokritos"	Greece
ND SatCom AG	Germany
NEMATRIX RESEARCH	Italy
Nera	Norway
Newtec	Belgium
NTUA-MobileRadioLab	Greece
OHB-System	Germany
ONERA	France
Open Sky srl	Italy
Optima VoIP & SATCONXION	Spain
Oracle IASG	Belgium
Paris-Lodron-University Salzburg	Austria
Politecnico di Bari	Italy
Politecnico di Torino	Italy
Portech	Portugal
Promospace srl	Italy
Qascom	Italy
QinetiQ Ltd	United Kingdom
Quobis Networks	Spain
Rose Vision	Spain
Rotel	Poland
SATDATA Telecom	Spain
SatNEx	European Union
SciSys Ltd	United Kingdom
SES Global	Luxembourg
Siberian State University of Telecommunications and Information Sciences	Russia
Sigma Orionis	France
Sinseprud LLP	United Kingdo
Sirius Satellite Radio	USA

ISI Participant	Country
Czech Technical University in Prague	Czech Republic
Das Photonics	Spain
DEIMOS Space	Spain
DLR	Germany
e2E Services Limited	United Kingdom
EADS ASTRIUM	France
Edosoft Factory S.L.	Spain
Elsacom	Italy
EMS SATCOM	United Kingdom
Enteos	Italy
ERA Technology	United Kingdom
ERTICO	Belgium
ESOA	Belgium
ESPACI	Spain
ESYS plc	United Kingdom
ETRI	South Korea
ETSI	Int
Euroma	United Kingdom
European Commission	Int
European Space Agency	Int
Eutelsat	France
Finmeccanica	Italy
Fraunhofer IIS	Germany
Gilat Ltd	Israel
Global Communication & Services GmbH	Austria
Global VSAT Forum	United Kingdom
GMV Aerospace&Defence	Spain
Gradiant (Galician Research and Development Center in Advanced Telecommunications)	Spain
Graz University of Technology	Austria
HISPASAT	Spain
Hollycroft Associates	United Kingdom
Horama	Belgium

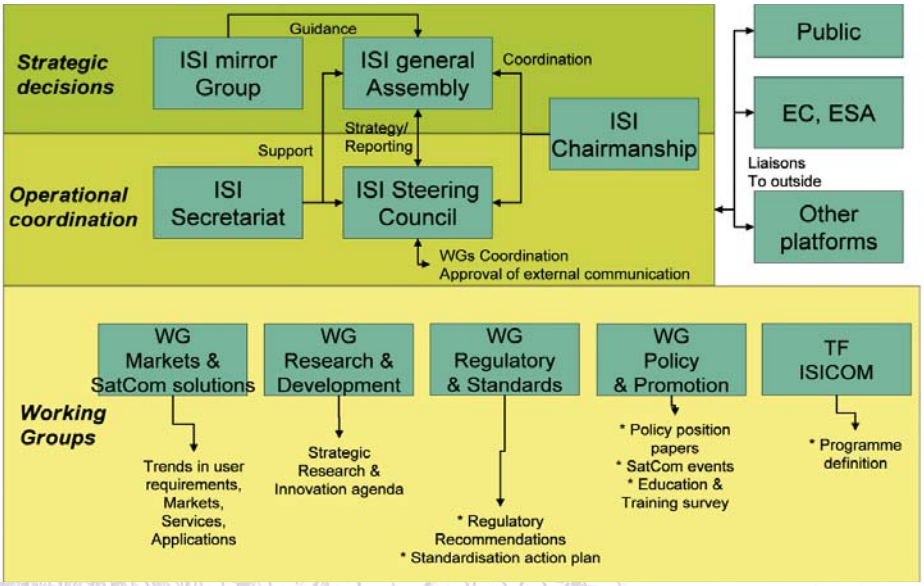
ISI GA held in December 1st 2010

ISI participation by organization type



In addition, two General Assemblies have been organised during 2010

- 11th ISI General Assembly: 7th to 8th April 2010 in Toulouse, France. 25 people attended the General Assembly.
- 12th ISI General Assembly: 30th November 2010 in Brussels, Belgium. 45 people attended the General Assembly.



The November 2010 ISI General Assembly decided on a new WG reorganisation.

ISI Secretariat has already sent the invitation to participate in the election process of Working Group leaders.

Dr. Julián Seseña,
Eng. Sara Muñoz,
Eng Antonio Alfaro
ROSE Vision
ISI Secretariat team

ISI Participant	Country
SnT - University of Luxembourg	Luxembourg
Space Engineering	Italy
Space Hellas	Greece
STMi	Norway
SUPAERO	France
Tampere University of Technology	Finland
Technical University of Cartagena	Spain
Technical University of Cluj-Napoca	Romania
Technical University of Valencia	Spain
TEIEP – MicTel Lab	Greece
Tekes, Finnish Funding Agency for Technology and Innovation	Finland
Tekever	Portugal
Telecompare S.A.	Greece
Telefonica I+D	Spain
Telenor	Norway
Telespazio	Italy
TELETEL S.A.	Greece
Telindus S.A.	Luxembourg
Telscom AG	Switzerland
TeSa	France
Thales	France
Thales Alenia Space - E	Spain
Thales Alenia Space - F	France
Thales Alenia Space - I	Italy
Transport Technology Systems Network (FAV)	Germany
TriaGnoSys	Germany
TSSG Telecommunications Systems and Software Group	Ireland
TTI	Spain
Unicampus	Italy
Universidad de Alcalà	Spain
Universidad Politecnica de Madrid	Spain
Universitat Autonoma de Barcelona	Spain

ISI Participant	Country
IASA	Greece
ICCS	Greece
ICO	United Kingdom
IDATE	France
IMST	Germany
Indra Espacio	Spain
Inmarsat	United Kingdom
INRIA	France
Instituto de Telecomunicações	Portugal
Integrasys	Spain
Interactive Technologies	Bulgaria
INTRACOM	Greece
ISARS - National Observatory of Athens	Greece
Isdefe	Spain
ITELNET CONSULTING	Spain
ITS news	Italy
JAST Sarl	Switzerland
Joanneum Research	Austria
Jozef Stefan Institute	Slovenia
Julius-Maximilians-University Wuerzburg Institute Informatics VII: Robotics and Telematics	Germany
K.S.C.	Netherlands
Keletron	Greece
Kell	Italy
LAAS-CNRS	France
Liberologico	Italy
LogicaCMG	United Kingdom
LOIS Space Centre	Sweden
Lymes-Consulting Ltd	Bulgaria
M.B.I. Mediterranean Broadband Infrastructure	Italy
Mavigex	Italy
METASYS Co	Greece
Meteorological and Environmental Earth Observation (MEEO)	Italy
Metodos y Tecnologia	Spain

ISI Participant	Country
Modesat Communications	Estonia
Universitat Politecnica de Catalunya	Spain
Universitat Pompeu Fabra	Spain
University "Mediterranea" of Reggio Calabria	Italy
University of Aberdeen	United Kingdom
University of Bologna	Italy
University of Bradford	United Kingdom
University of Brighton	United Kingdom
University of Cagliari	Italy
University of Calabria	Italy
University of Cantabria	Spain
University of Firenze	Italy
University of Genoa	Italy
University of Lancaster CS dept.	United Kingdom
University of Modena and Reggio Emilia	Italy
University of OULU - CWC	Finland
University of Oviedo	Spain
University of Parma	Italy
University of Patras, COMES	Greece
University of Pavia	Italy
University of Piraeus	Greece
University of Pisa	Italy
University of Rome La Sapienza	Italy
University of Rome Tor Vergata	Italy
University of Siena	Italy
University of Surrey	United Kingdom
University of the Aegean	Greece
University of the Negev, Ben-Gurion	Israel
University of Thessaloniki	Greece
University of Trento	Italy
University of Valladolid	Spain
University of Vigo	Spain
University of York	United Kingdom
Vitrociset	Belgium
Wiser	Italy

ESOA Vision on SatCom/Digital Agenda

INTRODUCTION

Did you know that citizens anywhere in Europe can connect to broadband Internet NOW thanks to satellite? For satellite, it makes no difference whether they live on mountains, in protected natural countryside or in sparsely populated areas; connectivity is available anywhere.

The EU still suffers from a digital divide. According to the Broadband Coverage in Europe Report, commissioned by DG INFSO in 2009, at least 10 million households are not covered by any terrestrial broadband solution. In addition, some reports claim there may in fact be a further 20 million users who have unsatisfactory connections today. Satellite broadband presents a viable solution for these users, in that it serves first and foremost areas where it is commercially unattractive for terrestrial operators to go.

THE DIGITAL AGENDA

The Commission's Digital Agenda makes various assumptions:

- That Europe can have total broadband coverage by 2013 or at least by 2020;
- That Europe needs ultra-fast broadband access of at least 30Mbps for all and 100Mbps for 50% of the population by 2020;
- That National Broadband Plans should take care of delivering these speeds;
- That Spectrum Allocation & specifically the digital dividend is essential to meeting these targets.

These objectives ignore certain realities:

- Users themselves and intended applications more often than not can be delivered with far lower speeds, demonstrating that the EC's targets are in fact arbitrary;
- The target speeds can only be achieved with certain technologies therefore the policy implies a technology push, rather than a demand-driven approach;
- National broadband plans typically start from the urban areas outwards (along the lines of expanding or laying new fibre networks);
- A successful broadband strategy depends on the balance of key variables: low cost, wide coverage & capacity to deliver high speeds. Even if a single operator were given all of the available spectrum in an existing band, they would still be unable to deliver cost-effective, high-speed, rural coverage! Only a mix of technologies achieves the objective of effective and total broadband access. Spectrum is neither the problem, nor the answer to rural broadband access;
- … and by the way some territories in Europe simply cannot be wired!.

THE 2013 TARGET OF BROADBAND FOR ALL

The European Commission's target of 100% broadband coverage by 2013 ***focuses on equal access and inclusion for all citizens and as such, should be regardless of data rates offered***. The environment exists and even calls for good progress to be made towards achieving this objective thanks to satellite:

- New satellite capacity dedicated to broadband based on the investments of satellite operators in Europe will enable around 2 million households to be connected within the next two years;
- End-user satellite ground equipment (dish & terminal) is eligible for public funding;
- Committing on satellite projects makes effective use of available EU funds & avoids the risk for numerous Member States, especially the new Member States, of "de-commitment" (loss of allocated regional (structural) funds that have not been spent within the given deadline);
- Satellite monthly subscription costs are meanwhile comparable with those offered by terrestrial operators.

If the environment is per se favourable as described above, then why are we not seeing a major breakthrough in overcoming the digital divide?

First it should be noted that the digital divide in Europe spans diverse topologies across Member States – marshlands in Poland, mountains in Italy, Greek islands and so on, therefore the challenge of connecting these areas is huge, even for satellite, which today can help resolve only a fraction of the problem. But the more basic problem, surprising as it might seem, is a political one. The Commission has imposed a minimum speed on broadband for all of 30Mbps by 2020 – a notion that is difficult to grasp, not to mention, to date unjustified in terms of user requirements. Most importantly however, it puts Member States in the centre of a dichotomy: Do I connect my have-nots now regardless of speed or do I invest in a solution that will deliver the speeds but which will delay real connectivity by years (in reality far beyond 2020)! As well-intended as it might be, the imposition of 30Mbps as a minimum broadband for All speed is a direct indication to Member States to opt for the second solution, the net effect of which is no more, than to prolong the European digital divide and against to the Commission's own first objective!

NGA

The Commission's definition of NGA essentially suggests that next generation networks are wired networks capable of delivering symmetrical services. The latest broadband satellites, although not capable of delivering symmetrical services, are nevertheless able to offer data rates of up to 12Mbps download and 4-6Mbps upload. Compared with today's reality of what most users actually receive in terms of data rates & performance, this satellite offering is already within the range perceived by end users and local authorities as super-fast broadband. When coupled with its unique advantage of total coverage, satellite winds up being a solution that undoubtedly has an essential, if not central role to play, at least for under-served or under-populated areas. So policy-makers who still believe that their have-nots may never have more than 2Mbps, should wake up to the latest innovative solutions and realize that such beliefs are outdated.

CONCLUSION

A sensible and balanced approach to delivering effective high-speed access to all EU citizens should be demand-driven, along the lines of 'demand creates supply' where the creation of new applications or exploitation of existing applications drives the market (public and private sector) to respond to the opportunity by investing in new infrastructure. With this approach, each technology is invited to play to its strengths and satellites find their natural role in delivering there where other networks end providing the essential & direct link to the Internet backbone. Satellite is therefore part of the mix required to resolve the total coverage issue and better political recognition will help leverage more private investment to maximize the contributions of this sector and help achieve the EU objectives.

Aarti Holla
ESOA

Financing R&D and innovation in the next EU financial framework

It has been recently published the green paper "*From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation funding*" where the European Commission launches a public debate on the key issues to be taken into account for future EU research and innovation funding programmes.

In this communication it is particularly relevant to highlight the proposal of creation of a **Common Strategic Framework** that would cover some of the currently available EU instruments for research and innovation (FP7, CIP, EIT and Cohesion policy). Through this unification process some of the most critical aspects of the current EU R&D and innovation framework could be addressed. Among them it is worth to mention:

- Europe is underperforming when it comes to turn knowledge into innovation and market opportunities.
- Standardisation activities are not properly covered in current R&D projects.
- Insufficient involvement of SMEs in the R&D and innovation processes.

We have the opportunity now for creating a new framework that really offers the key characteristics needed to enhance European competitiveness and respond to societal challenges that Europe is facing. Some of these key characteristics that the new framework shall offer are:

- Major flexibility to adapt to an extremely dynamic environment.
- Much shorter time to grant, particularly for innovation to market activities.
- Able to mobilize more private investment.
- More focus on innovation and societal challenges instead of R&D and specific technologies.

The European Experts Panel on SME and Research (Supported by the MAPEER-SME project) has undertaken a creative exercise process trying to imagine how R&D and innovation projects funding could look like in such a common strategic framework. This article is a brief overview of some of the main outcomes of that process.

In order to illustrate more clearly the main characteristics of the future R&D and innovation projects, a reference model has been proposed. This reference model is named the Full Cycle Project (FCP) and it pretends to be a tentative response to the above mentioned challenges and desired characteristics. In the following figure a scheme of project structure, phases and main features is shown:

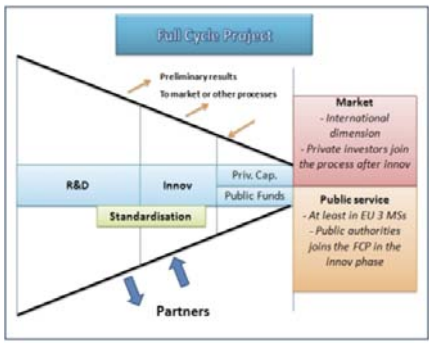


Figure 1: Full Cycle Project scheme

Projects in the new financial period should cover the different phases from the initial R&D to the market, facilitating in this way that even initial R&D activities have a clear focus on the target outcome. This desired target outcome should be concrete services or applications addressing European social challenges and market. In consequence this shall be the focus of the project, and project coordinators should be more frequently those entities interested in providing the services and exploiting the results of the project.

Although the project work plan structure shall follow the traditional chain from basic R&D to market (*Figure 1*), the internal project assessment should periodically consider the different phases in order to bear in mind which project focus and goals are from the very initial project stages and through all the necessary phases.

This basic characteristic gives us another key recommendation for the future R&D and innovation projects. Final users are essential for the FCP model and should be included in projects since its very initial phases.

In consequence, entities interested in the commercial exploitation of the project outcomes and final users are two key profiles that should be leading the process in future R&D and innovation projects.

In the figure 2 a traditional spiral process for internal project assessment is proposed.

Some of the advantages that this FCP model would offer are:

- Includes the **standardisation** process within the project life.
- **Time to grant** for the innovation-to-market phase is zero, since it is already considered as part of the project.
- Tremendous **flexibility**, facilitating the implementation of the open innovation model in this new financial framework. This flexibility shall allow including among others:

  • **Partners**: The model makes possible that partners with more focus on the R&D phase could enter and exit the project when their activities are concluded. On the other hand it also allows new partners with more focus on innovation or later phases to enter the project in mid stages.

  • **Technological breakthroughs**: As the project advances, new technologies will be developed, and its exploitation or utilization will not be restricted to this project. In the same way technologies developed by external stakeholders could be utilized in the project.

- The project structure will enhance the **access to private capital** after the innovation phase. Currently European innovators have tremendous difficulties in finding this private support to create start-up high-tech companies, and it is indeed general that these funds are sought in the US. With the proposed FCP model it will be facilitated the access to private funds for financing the exit to market of commercial services and applications.
- In the same way as explained before, but applied to public services, the FCP project must also consider the public utility of the services and applications developed. Therefore, at least 3 European Member States or Regions should be involved in the project in order to assume the deployment of public services based on project developments using **cohesion funds** for that purpose.

In sum, it can be said that the process recently initiated by the European Commission with the green paper has opened a debate that is critical for the future competitiveness of Europe. It is up to us all to define our future framework for R&D and innovation activities, and to do it in a way that will really maximize European strengths and help to overcome our weaknesses.

Antonio Alfaro
On behalf of the European Mapeer SME project (DG Research)
Director of Innovation at Rose Vision

ISI releuant euents

4th ISI SatCom day	October 19, 2011	Brussels, Belgium	http://www.isi-initiative.org/
14th general assembly of ISI	October 18, 2011	Brussels, Belgium	http://www.isi-initiative.org/
ISI technical session on Satcom and Terrestrial	June 16th, 2011	Warsaw, Poland	http://www.isi-initiative.org/
13th general assembly of ISI	June 15, 2011	Warsaw, Poland	http://www.isi-initiative.org/
ISI technical session on Satcom and Terrestrial	June 16th, 2011	Warsaw, Poland	http://www.isi-initiative.org/
Future Network & Mobile Summit 2011	June 15-17, 2011	Warsaw, Poland	http://www.futurenetworksummit.eu/2011/files/FutureNetworkSummit2011_CallforPapers.pdf
6th Annual European Spectrum Management Conference	June 14-15, 2011	Brussels, Belgium	www.spectrummanagement.eu
First PSCE 2011 conference	June 7-8, 2011	Brussels, Belgium	
2nd European Summit on the Future Internet	June 6-7, 2011	Luxembourg	http://www.future-internet.eu/events/eventview/article/2nd-european-summit-on-the-future-internet-future-internet-summit-award.html
ICT proposer's day	May 19-20, 2011	Budapest, Hungary	http://ec.europa.eu/information_society/newsroom/cf/itemdetail.cfm?item_id=6121&language=default
European Maritime Day	May 19-20, 2011	Gdańsk, Poland	http://ec.europa.eu/maritimeaffairs/maritimeday/index_en.html
2011 IEEE 73rd Vehicular Technology Conference 2011	May 15-18, 2011	Budapest, Hungary	http://www.ieeevtc.org/vtc2011spring/
eHealth2011 – Health Informatics meets eHealth	May 6-7, 2011	Vienna, Austria	http://www.ehealth2011.at/archiv/eHealth2010/index_en.html
IST-Africa 2011	May 4-6, 2011	Gaborone, Botswana	http://www.ist-africa.org/Conference2011/
FET11 Conference & Exhibition	May 4-6, 2011	Budapest, Hungary	http://ec.europa.eu/information_society/newsroom/cf/itemshortdetail.cfm?item_id=6450
Med-e-Tel 2011	April 6-8, 2011	Luxembourg	http://www.medetel.eu/index.php?rub=educational_program&page=call_for_abstracts
SATELLITE 2011	March 14-17, 2011	Washington D.C. , USA	http://www.satellitetoday.com/satellite2011/

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- University of Bologna
- University of Surrey

ISI informs
European Technology Platform on Integral SatCom Initiative
Issue nº8

About the Integral SatCom Initiative (ISI)

The Integral SatCom Initiative is an Information and Communication Technologies (ICT) European Technology Platform. Led by European SatCom industry. It is acknowledged by the European Commission to address Satellite Communications strategic research challenges. ISI currently gathers 194 members organizations representing all the European SatCom industry stakeholders from 28 different countries. It includes members from manufacturing industry,

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6 FP7 Projects: MUSCADE
7 Improving Public Safety and Security

The time for European SatCom research

The European Commission has recently approved a communication on a revamped European Space strategy under the title "Towards a Space strategy for the European Union that benefits its citizens". In addition to the "traditional" pillars (satellite navigation, monitoring the environment, security and space exploration), there is a full chapter devoted to competitiveness, making a clear case for space industry policy as an integral part of the Europe 2020 strategy.

In this context, Satellite Communications (SatCom) is considered a key area for industrial competitiveness, as it generates the largest share of revenues in the space industry, as well as a key innovation enabler, since it provides access to a broad range of economic and social services. These range from high speed Internet and broadcasting to specific crucial public services, such as those related to safety. For example "eCalls" –on vehicle emergency calls- can automatically provide the vehicle location, and can therefore be instrumental in saving lives, by bringing faster assistance. SatCom is also an enabler of many innovative future services, such as those using positioning systems and earth observation data. There is also a potential commercial value, as SatCom could play an important role as content distributor for TV in the Internet infrastructure.

The goals of the Digital Agenda for Europe, to provide access to basic broadband to all Europeans by 2013 and 30 Mbps access by 2020, provide an opportunity for satellite communications to play a specific role. SatCom has the potential to provide wider broadband access to rural and sparsely populated areas, where it will complement the use of terrestrial-based solutions, and add to coverage and capacities in urban and suburban areas.

It is estimated that at the moment, basic broadband is still not available to about 10 million European households, mainly located in rural areas. Satellite communications, is an indispensable complement to terrestrial solutions to meet the target of 100% access to basic broadband by 2013. Current satellite technology enables access rates in the 2 to 10 Mb/s range. This would already be compatible with the first Broadband objective of the Digital Agenda for Europe.
In the longer term, satisfying the second objective for Broadband access at 30 Mb/s would require a new generation of very high throughput satellites. Industry is currently working on this new generation of SatCom. As this is a longer term issue, options should be explored for supporting industry in this endeavour through future R&D and innovation funding and support.

Some resources for research in these areas are already available through the FP7 ICT work programme 2011-12. The next Call for Proposals (Call 8) foresees support to industry for the design of very high capacity satellite systems. In particular there is an objective addressing "Flexible, resilient, broadband satellite communication" with the aim to develop innovative system and service architectures and technologies for ultra high capacity satellite communication systems with seamless integration capabilities. They should enable resilient and flexible infrastructures to support institutional missions and should integrate navigation systems and sensor networks. Success in these seamless integration capabilities will allow satellite industry to position itself within an overall end-to-end service approach.

ISI has already started the process for the definition of a strategic research agenda giving details of industry plans to develop these capabilities in the longer run. There are already some specific challenges we can identify today, such as increasing the two-way capacities in a cost-effective manner, leading to a new generation of satellites with a 1000 GB/s throughput and integrating seamlessly terrestrial and satellite applications and services as mentioned above. These will require integrated network and spectrum management capabilities, optimising network resources and Quality of Service whilst minimising costs and energy consumption. The integration of all the above mentioned systems is necessary if we are to provide critical services which require integrated solutions, which is particularly critical for security and safety applications, where the role of satellites is essential.
I am fully aware that ISI is working hard in the above lines so as to ensure the future provision of essential services as described in the European Commission recent communication on Space strategy. Time is ripe now to explore the avenues for the deployment of future infrastructures capable to meet the requirements of basic public services, and ensuring a competitive European industry. I do hope that this Call for Proposals is just a starting point for more ambitious actions in line with the targets set out in Europe 2020.

The strategic nature of the public areas supported by satellite applications and the important role played by SatCom in the required service infrastructure raise the need for Europe to own a solid technological base on satellite communications and therefore excellence in research in this field is a must for a future competitive space industry. Contributions from the ISI stakeholders will be very welcome in this undertaking.

Luis Rodríguez-Roselló
Head of Unit "Future Networks", DG-Information Society and Media – European Commission

Revised ISI Strategic Research Agenda under development

Pertti Jauhiainen
European Commission

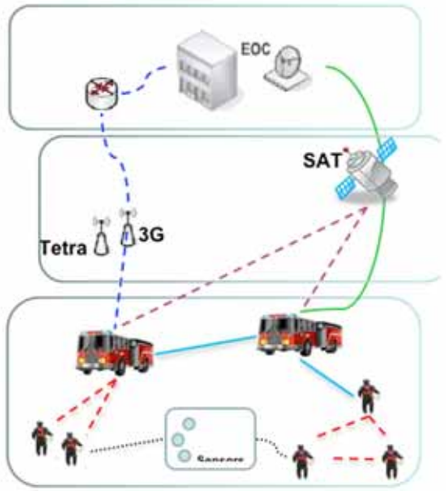
The SatCom Contribution to Emergency Applications

Wireless communication technology is becoming a critical component of any emergency communications infrastructure, not only because of its portability, but equally due to low cost and capability to operate independently from fixed and potentially vulnerable wire line-based infrastructure.

Communication is a vital part of the First Responders' (FRs) operation as it connects him/her with the operations center at all times providing the valuable information that is necessary for the crew's well being as well as a useful tool for the overall performance enhancement.

In the EU FP7 Large Scale Integrated Project "A holistic approach towards the development of the first responder of the future", funded under grant agreement n. 242411 within the call SEC-2009.4.2.1: "First Response of the future", which started on July 1st 2010 and whose duration is four years, satellite communications play a vital part since they are the backbone communications that facilitate the availability of local awareness (from the operation theatres) to any given and remotely-located Emergency Operation Centre (EOC).

Satellite communications are therefore of paramount importance, given the ability of the satellite signal to reach even the most isolated of regions (especially where other communication infrastructure is not present), so that they are crucial in ensuring the continuous monitoring of first response operations.



The Emergency Network.

Effective and real-time on-scene data transmission, video and voice communications, FRs locations are made feasible and available at all times with the use of satellites.

At the same time, an emergency network has to employ a secure telecommunications infrastructure. Therefore, this large scale IP project has to tackle many important issues of communication security as well.

The overall system architecture for an emergency network should be flexible, scalable, reliable and interoperable.

A communication infrastructure to support such an architecture can be implemented through the functional and physical decomposition in several subsystems with different features, following a hierarchical approach (Figure 1).

The envisioned architecture shows that data from the FRs is sent in real-time to the locally operating Mobile EOC and then filtered, grouped and relayed to the remote-located EOC.

Maintaining the link between the dispersed FRs and the EOC is made feasible through the use of satellite communications at all times, given the fact that FRs normally act either in remotely located areas with limited communication infrastructure or in sites where existing communications might be crippled by the occurred disaster. A reliable, which means resilient and robust, communication infrastructure has to be set up and operated and this involves effective cooperative communications. Therefore, once again, satellite communications represent a fundamental element of any ad-hoc, reliable emergency network.

Maurizio Casoni,
University of Modena and Reggio Emilia – Italy

ISI Community: much interest on the upcoming Call 8

ISI technology platform did organize a ISI Networking Meeting in Budapest, on May 18-19, 2011, benefiting from the celebration of Future Internet Conference, Fuuture Internet Assembly and ICT proposers day.

Organized by Alessandro Vanelli-Coralli, University of Bologna, and Sandro Scalise, DLR, with the support of *FP7 – ICT - FISI Support Action.*

The ISI Networking Session has been held at Budapest University of Technology and Economics. The meeting was kindly hosted by Prof. Istvan Frigyes. 20 experts from the SatCom research community attended the event.

On May 18, 2011 afternoon, the Proposers presented their ideas according to the schedule reported in the meeting Agenda.

On May 19, 2011 morning, three round tables were organized in order to coordinate proposals addressing similar topics. The tables were organized according to the following three main areas:

- Broadband Satellite Communications.

- Institutional Applications using SatComs.

- SatCom and Future Internet.

Dr. Julián Seseña
ROSE Vision, Secretariat ISI

The Spanish ISI technology platform initiatives

At its last General Assembly of the Spanish eISI technology platform a renewal of the Chairman and Vicechairman was made: Mr. Carlos Belmonte (Indra), Mr. Teodoro Borja (Isdefe), Mr. Angel Alvaro (Thales Alenia Space España) and Mrs Patricia Iñigo (EADS-Casa) are now the new leaders of the Spanish initiatives. In this effort, the activities of the European ISI are observed and taken as the guide for the Spanish Activities.

Several national projects have been carried out during last years thanks to the priority given by the Spanish Ministry of Industry to highly tech and ambitious projects. Among others, those indicated in the table.

PROJECT		LEADER	PARTICIPANTS	BUDGET
	The main goal of SESAMO is the indutrial research of relevant technologies in the field of satellite communications linked with the mobility concept	THALES ALENIA SPACE ESPAÑA	16	7.666.732 €
	MOVISAT has the main objectives of research and technology development in the fields of infrastructures for broadcast, sound and television, in the new environment of multi-standard and convergence of services	THALES ALENIA SPACE ESPAÑA	12	6.790.880 €
WIMSAT	The main target of WIMSAT is to achieve the suitability of broadband technologies based on DVB-RCS and Wimax take relevant part in the new generation networks and, in particular, IMS	Grupo ERICSSON	11	8.898.369 €
39 participants + 23M€				

The Spanish eISI was created in 2006 and it includes today more than 160 organizations (25 new members joined in 2010), with the following profile structure

For the Call 8 of the FP7 and CELTIC PLUS CALL 2, the eISI has prepared a full dossier of initiatives and project proposals, which can be downloaded at http://www.ametic.es/idi

Dr. Julián Seseña
ROSE Vision, Secretariat ISI

FP7 Projects: MUSCADE

The last decade has seen a revolution in the distribution of motion content: from analogue to digital and then from SDTV to HDTV. Both the delivery and the content creation industries exploited these advances, for the final benefit of consumers. Today, 3DTV is widely considered as the next step forward in home entertainment.

MUSCADE (Multimedia Scalable 3D for Europe) is a 3-year Collaborative Project led by Astrium which investigates future 3DTV systems beyond stereoscopic 3D. The project is co-funded by the European Commission under the 7th Framework Programme (FP7). It combines the strengths of twelve European partners, consisting of a balanced mix between academics (University of Surrey, Fraunhofer HHI), public organizations (EBU), SMEs (Holografika, KUK Filmproduktion, Trinnov Audio) and large industries (Astrium, Disney Research, RAI, SES ASTRA, Technicolor, Telecom Italia).

The MUSCADE project aims at developing a technically efficient and commercially successful 3DTV broadcast system by generating major innovations in 3DTV capturing, data representation, compression, transmission and rendering. The MUSCADE reference system architecture is shown in Figure 1.

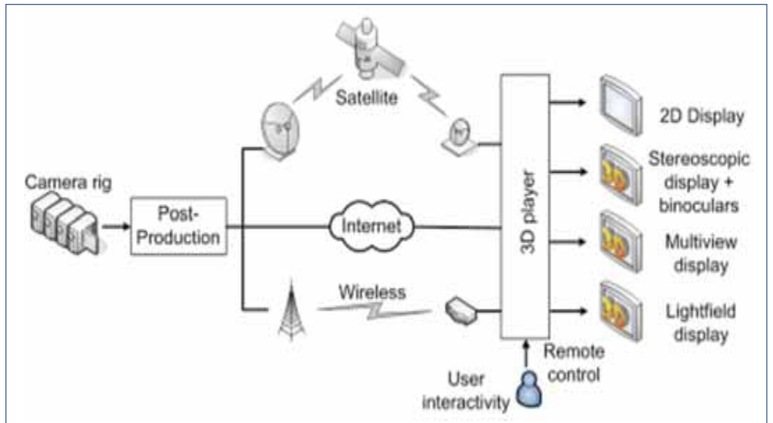


Figure 1. MUSCADE reference system architecture.

Figure 2 MUSCADE display agnostic video representation format (MVD4, Multi-view video plus depth 4), data from the first MUSCADE shooting

At the production side, multi-view camera rigs and microphone arrays are used to record 3D video and spatial sound, generating a generic and display agnostic 3DTV representation format as shown in figure 2. Then audio-visual data are post-processed, either offline during post-production or in real-time for live broadcasting. In a further postproduction process the captured and post-processed audio-visual 3D scenes can be mixed with computer generated 3D content or archived 3D material.

After postproduction, the processed audio-visual 3D data is compressed and encapsulated into a suitable transmission format. The streams are then fed into the transmission channels investigated in the project i.e. wireline (ADSL, FTTH), wireless (DVB-T2, WLAN, WiMAX) and satellite (DVB-S2) using both emulated and actual links.
At the receiving side, the audio and video signals have to be decoded and rendered according to the requirements of the display and sound system. As far as video is concerned, 2D displays, stereoscopic displays with glasses and several types of autostereoscopic displays will be supported, while for audio, different multichannel reproduction systems such as binaural, stereo, 5.1, 7.1 and wave field synthesis will be used.

In parallel of the development of the 3DTV prototype system, activities focusing on the user experience evaluation are conducted in order to ensure the production of 3D content meeting today's consumers' expectations. The results of the project in terms of audio/video coding, content production, transmission protocols and display adaptation are also provided as inputs to the relevant standardization bodies.

The project is currently in its first phase, consisting in the development of a non real-time prototype of the system. The final objective of MUSCADE, which is running until the end of 2012, is to demonstrate a complete multiview 3DTV live chain over wireline, wireless and satellite networks.

Guillaume Berenger
Astrium EADS

Improving Public Safety and Security

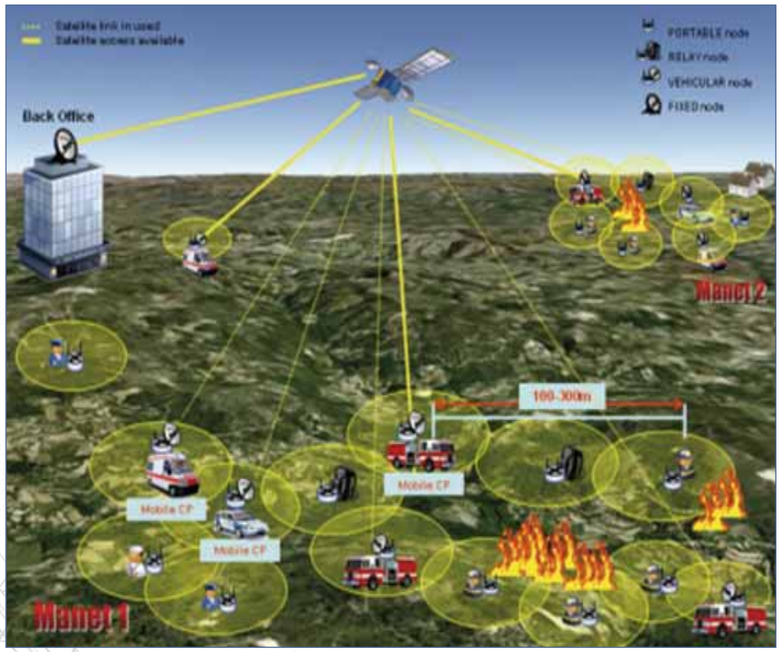
communications thanks to hybrid MANET-Satellite networks

Mobile wireless Ad hoc Networks (MANET) can improve significantly the communication capability of Public Safety forces deployed in a mobile, unknown and dynamic environment. The benefits of such networks come from their capacity to provide connectivity without any infrastructure, their rapidity of deployment and their flexibility to topology changes.

However, if MANET can provide intra communication between deployed Public Safety forces, they are not designed to ensure remote connectivity. Public Safety forces often operate in areas where terrestrial infrastructures have been damaged, destroyed or are non existent or congested. Therefore a combination of satellite communications and MANET appears as the best option to fulfil the complete communication needs, covering both local and long distance connectivity. Furthermore, satellite systems can easily deal with mobility, can provide inter-MANET connectivity and can also take benefit from their inherent broadcast capability over a large area.

The current trend, in the military communication domain, so called Network Centric Operation, aims at providing seamless connectivity to the forces, through different networks. Applied to the Public Safety and Security domain, this concept would foster a single integrated system composed of two segments, one satellite and one MANET, instead of two separated networks be considered. This integration raises a certain number of challenges in order to ensure the best level of communication capability and the end-users confidence in the future integrated systems.

In the frame of the FP7 programme, the European Commission supports a Collaborative research project called MONET to address the technical network challenges linked to such a hybrid system.
This project, coordinated by Tekever, involves end-users and experts from different Public Safety bodies like ISDEFE and the Administration of the Republic of Slovenia for Civil Protection and Disaster Relief (URSZR). Tekever and Astrium as industrial partners and the Universities of Rome and of Surrey bring their technical expertise in both MANET and satellite segments, as well as their system engineering knowledge.



The objective is to optimise the integration of the satellite links in the MANET network, to optimise network resources and link availability, to provide Quality of Service (QoS) and Quality of Experience (QoE) and to minimize costs and energy.

This project is on-going, and after a first phase of end-users requirements assessment, the consortium is now working on the most promising optimisations identified, essentially focusing on routing protocols, bandwidth and network efficiency techniques, optimised QoS mechanisms and real time services adaptations. Routing protocols include energy aware and QoS oriented protocols, geo-localised protocols and load-balancing optimisations.

Laboratory tests and demonstration in real field will allow to validate and to demonstrate, at the end of the 30 month project, the added value of the proposed optimisations.

Melanie Monier

ISI relevant events

4th ISI SatCom day	October 19, 2011	Brussels, Belgium	http://www.isi-initiative.org/
14th general assembly of ISI	October 18, 2011	Brussels, Belgium	http://www.isi-initiative.org/
13th general assembly of ISI Info day CELTIC and Call 8.	June 15, 2011	Warsaw, Poland	http://www.isi-initiative.org/
Joint Net!Works and ISI networking session	June 14, 2011	Warsaw, Poland	http://www.isi-initiative.org/
ISI technical session with Terrestrial at FUNES	June 16, 2011	Warsaw, Poland	http://www.futurenetworksummit.eu/2011/files/FutureNetworkSummit2011_CallforPapers.pdf
Future Internet Week & Future Internet Assembly	October 24-28, 2011	Poznan, Poland	http://www.future-internet.eu/events/eventview/article/future-internet-assembly-poznan.html
MOBILITY 2011	October 23-28, 2011	Barcelona, Spain	http://www.iaria.org/conferences2011/MOBILITY11.html
ITU Telecom World 2011	October 24-27, 2011	Geneva, Switzerland	ITU Telecom World 2011
IEEE MeshTech 2011	October 17, 2011	Valencia, Spain	http://www2.ing.unipi.it/meshtech11/
ISCIT 2011	October 12-14, 2011	Hangzhou, China	http://www.iscit2011.org/
ICOST 2011	October 10-12, 2011	Shanghai, China	http://www.icost.info
Future Networks 8th FP7 Concertation Meeting	October 6-7, 2011	Brussels, Belgium	http://ec.europa.eu/information_society/events/future_networks/concertation/index_en.htm
4th IEEE International Workshop On Wireless and Internet Services	October 4-7, 2011	Bonn, Germany	http://www.wmngroup.co.uk/wise2011/
CONCORD 2011	October 6, 2011	Seville, Spain	http://iri.jrc.ec.europa.eu/concord-2011
Satellite Communication and Navigation systems working group	October 4-6, 2011	Wessling, DLR	
17th edition of the Ka and Broadband Communications, Navigation and Earth Observation Conference	October 3-6, 2011	Palermo, Spain	www.kaconf.org
SIIT 2011	September 28-30, 2011	Berlin, Germany	http://siit2011.org/
ALETI Summit	September 27-30, 2011	Guatemala	http://www.imtjonline.com/?entryid116=147321
ETSI Future Networks Technologies Workshop	September 26-27, 2011	Sophia Antipolis, France	http://www.etsi.org/WebSite/NewsandEvents/FNT/FutureNetworkTechnologies.aspx
SatNEx III Summer School 2011	September 5-9, 2011	Siena, Italy	(http://satnexiiisummerschool2011.dii.unisi.it/index.ht
EUSIPCO 2011	Agt. 29-Sept. 2, 2011	Barcelona, Spain	www.eurasip.org
Broadcast & Cable 2011	August 23-25, 2011	Sao Paulo, Brazil	http://www.broadcastcable.com.br/
UK Space Conference	July 4-5, 2011	Warwick University, UK	http://www.ukspaceagency.bis.gov.uk/20601.aspx
High Level European Conference on "PUBLIC PROCUREMENT OF INNOVATION"	June 27-28, 2011	Torino, Italy	http://www.comune.torino.it/relint/PPI/
3rd Conference: ICWMC 2011	June 19-24, 2011	Luxembourg	http://www.iaria.org/conferences2011/ICWMC11.html
1st AnnualDigital Agenda Assembly	June 16-17, 2011	Brussels, Belgium	http://ec.europa.eu/information_society/digital-agenda/daa
Future Network & Mobile Summit 2011	June 15-17, 2011	Warsaw, Poland	http://www.futurenetworksummit.eu/2011/files/FutureNetworkSummit2011_CallforPapers.pdf
6th Annual European Spectrum Management Conference	June 14-15, 2011	Brussels, Belgium	www.spectrummanagement.eu

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