ISICOM mapping in the European framework

Draft

FISI - WP3
Grant Agreement n° 257118

D3.3.1

Reference: FISI_WP3_D3.3.1_00

Number of pages:

File: FISI_WP3_D3.3.1_00

Classification: Public

Contract: EU FP7 Grant Agreement n° 257118

Prepared by:	TPZ
Version:	V02
Date:	Project Month 18

List of Authors/Contributors

Company	Authors/Contributors
TPZ	Vincenzo Fogliati Fabio Annibali
Astrium	Philippe Boutry (4th Satcom Day Panel- 5th Satcom Day Workshop)
TAS	Nicolas Chuberre (5th Satcom Day Workshop)

Change Records

Issue	Date	Changes	Authors
V01	Project Month 18	Draft	Vincenzo Fogliati Fabio Annibali

Table of Contents

1. EXECUTIVE SUMMARY

The analysis and synthesis of the European Union Framework relevant for the ISICOM Initiative definition and development is reported in this document, highlighting the parts of the European Framework on which the ISICOM Initiative can have a direct impact, through the provision of a substantial contribution to the European assets and resources which will permit to reach the EU policy objectives in the identified domains.

Research, innovation, space, security, civil protection, external action and transport safety are the identified parts of the EU framework which are considered in the following, underlining for each of them the full coherence of the ISICOM Initiative with the EU identified policies and highlighting the potential contribution that can be provided by the ISICOM Initiative in the considered domains.

Ad-hoc European Panels and Workshops are also being organised by FISI in order to help establish and maintain a dialogue with Institutions, organisations and other space sector Stakeholders and Users on the ISICOM Initiative definition, its mapping into the European framework and its possible implementation steps: this document also reports on the results of the first Panel and the preparation of the next Workshop.

The FISI WP3 work will continue during the next 6 FISI project months, permitting to precisely map the ISICOM Initiative in the European Framework. The results of this activity will then be reported in the Final Version of this document.

2. SYNTHESIS OF THE EU FRAMEWORK RELEVANT FOR THE ISICOM INITIATIVE

2.1. THE EU POLICY AND PROGRAMMES IN THE R&I DOMAIN (HORIZON 2020)

The current (seventh) EU research and innovation framework programme and related funding schemes will end in 2013. The European Commission (EC) has recently presented and proposed an €80 billion package of measures to boost research, innovation and competitiveness in Europe. This new framework programme has been named **Horizon 2020** and is shown the hereafter structure (figure 1).
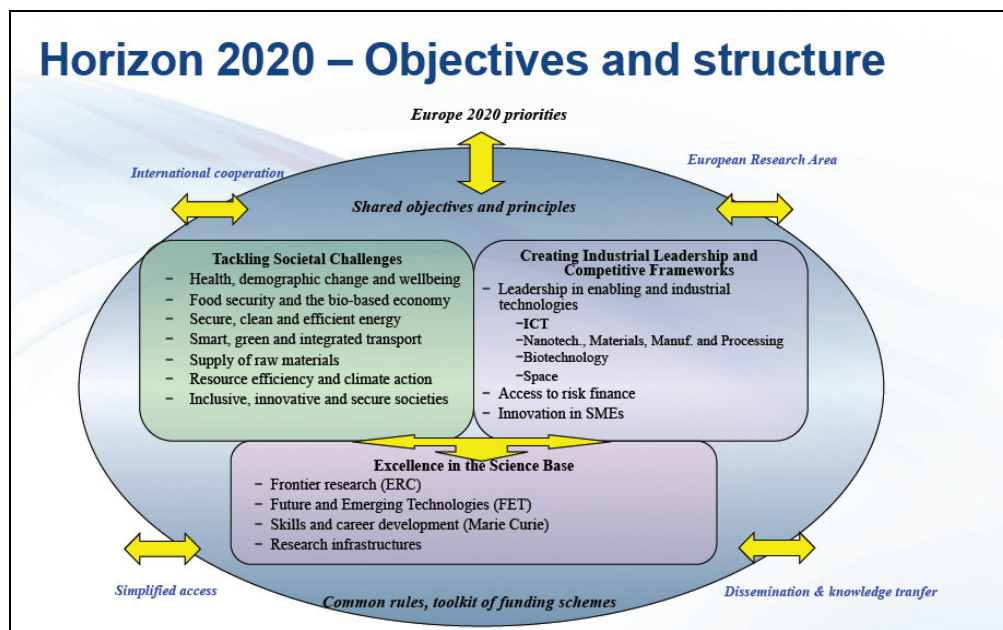

figure 1

Based on the policy priorities set up within the Europe 2020 strategy, which focuses on "smart growth" objectives, even in the time of financial cutbacks and austerity measures, the new EC proposal for EU budget (2014-2020) matches the EU goals with plans for a sharp increase in funding (46%). The current budget of €55 billion provided during the 2007–2013 Seventh Programme for research and innovation will increase to €80 billion for the period 2014–20. This substantial funding increase can be considered a vote of EC confidence for research and innovation, especially as budgets in other areas will shrink or remain flat.

Investment in R&D is part of the solution to exit from the economic crises, as shown in figure 2 hereafter where an increase in investment in R&D matches an increase in gross domestic product.
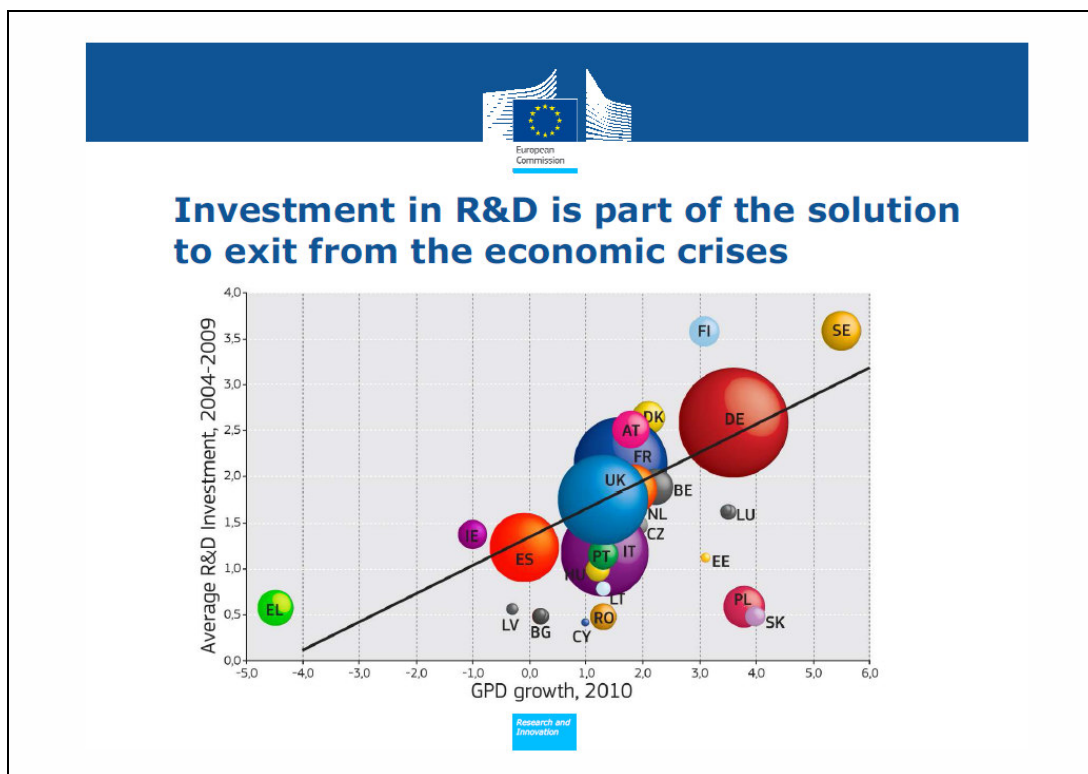

figure 2

Horizon 2020 will focus funds on **three key objectives** (figure 3). It will support the EU's position as a world **excellence in the science base** with a dedicated budget of €24.6 billion, including an increase in funding of 77% for the European Research Council (ERC). It will help secure **industrial leadership** in innovation with a budget of €17.9 billion. This includes a major investment of €13.7 billion in key technologies, as well as greater access to capital and support for SMEs.

EU REGULATION (2014-2020)			EUR million
I	**Excellent science,** *of which:*		24 598
	1.	The European Research Council	13 268
	2.	Future and Emerging Technologies	3100
	3.	Marie Curie actions on skills, training and career development	5752
	4.	European research infrastructures (including eInfrastructures)	2478
II	**Industrial leadership,** *of which:*		17 938
	1.	Leadership in enabling and industrial technologies*	13 781 of which 436 for EIT
	2.	Access to risk finance**	3538
	3.	Innovation in SMEs	619
III	**Societal challenges,** *of which*		31 748
	1.	Health, demographic change and wellbeing;	8033 of which 254 for EIT
	2.	Food security, sustainable agriculture, marine and maritime research and the bio- economy;	4152 of which 131 for EIT
	3.	Secure, clean and efficient energy	5782 of which 183 for EIT
	4.	Smart, green and integrated transport	6802 of which 215 for EIT
	5.	Climate action, resource efficiency and raw materials	3160 of which 100 for EIT
	6.	Inclusive, innovative and secure societies	3819 of which 121 for EIT
European Institute of Innovation and Technology (EIT)			1360 + 1440***
Non-nuclear direct actions of the Joint Research Centre			1962
		TOTAL EU REGULATION	*77 606*
EURATOM REGULATION (2014-2018)			
I.	**Indirect actions**		1009
	This includes:		
	- Fusion research and development		
	- Nuclear fission, safety and radiation protection		
II.	**Direct actions of the Joint Research Centre**		656
		TOTAL EURATOM REGULATION	*1665*
		TOTAL HORIZON 2020	*79 271****

*Including EUR 7939 million for Information and Communication Technologies (ICT) of which EUR 1588 million for photonics and micro-and nanoelectronics, EUR 3797 million for nanotechnologies, advanced materials and advanced manufacturing and processing, EUR 509 million for biotechnology and EUR 1536 million for space. As a result, EUR 5894 million will be available to support Key Enabling Technologies.

figure 3

Finally, €31.7 billion will go towards addressing major **societal challenges** shared by all Europeans, across six key themes: Health, demographic change and well-being; Food security, sustainable agriculture, marine and maritime research and the bio-economy; Secure, clean and efficient energy; Smart, green and integrated transport; Climate action, resource efficiency and raw materials; and Inclusive, innovative and secure societies.

Horizon 2020 will be the main financial instrument implementing the Innovation Union, one of the Europe 2020 flagship initiatives aimed at securing Europe's global competitiveness. Horizon 2020 contributes directly to tackling the major societal challenges identified in Europe 2020 and its flagship initiatives. It will contribute equally to creating industrial leadership in Europe. It will also increase excellence in the science base, essential for the sustainability and long term prosperity and wellbeing of Europe. To achieve these aims, the EC proposals include a full range of support that is integrated across the research and innovation cycle. Horizon 2020 therefore brings together and strengthens activities currently funded under the 7th Framework Programme for research, the innovation parts of the Competitiveness and Innovation Framework Programme, and the European Institute of Innovation and Technology. In this way, the proposals are also designed to realise a substantial simplification for participants.

Funding provided by Horizon 2020 will be easier to access thanks to this simpler programme architecture, a single set of rules and less waiting time due to bureaucratic procedures. In this sense, within Horizon 2020 other important new aspects are present: drastically simplified reimbursement procedures by introducing a single flat rate for indirect costs and only two funding rates for research and for close to market activities respectively; a single point of access for participants; less paperwork in preparing proposals; and no unnecessary controls and audits. One key goal is to reduce the time until funding is received following a grant application (100 days on average), meaning projects can start more quickly.

Horizon 2020 will go beyond 7th Framework Programme for research in scope and ambition. However, FP7 is already tackling many of the challenges that Horizon 2020 will, and the themes it focuses on will be integrated into the Horizon 2020 programmes.

Industrial Leadership is one of the three priorities under Horizon 2020 and aims to make Europe a more attractive location for businesses (large and small) to invest and implement their research and innovation agenda. The Leadership in enabling and industrial technologies will support the development of technologies underpinning innovation across a range of sectors, **including ICT and Space**.

The evolution of the ICT technology and market scenario is moving towards **interoperability of satellite communication systems with the terrestrial communication networks:** without satellite communications there will be no successful development of the Global Communication Networks of the Future.

EU investments in ICTs are due to increase by 46% under Horizon 2020 compared to the current EU research programmes (FP7). This is in line with the Commission's proposed increase in funding across all themes. This EU investment will support the riskier ICT research and innovation that can deliver new business breakthroughs, often on the basis of emerging technologies. In particular, Horizon 2020 will support the development of:

> - A new generation of components and systems including Micro / nano-electronics and photonics technologies, components and embedded systems engineering.
> - Next generation computing, Advanced computing systems and technologies.
> - Infrastructures, technologies and services for the future Internet.
> - Content technologies and information management, including ICT for digital content and creativity.
> - Advanced interfaces and robots and Robotics and smart spaces.

Europe is playing a leading role in **space research and in the development of space technologies**, and has developed its own space infrastructures (e.g. Galileo). Besides

GMES, which will provide Europe with an Observation integrated capacity, and Galileo, which will offer to Europe its own global navigation satellite system, Space Research and Development activities should further expand and contribute one step further for the enhancement of EU capacities. One example of that are the **Satellite Communications research and development activities**, which are fundamental for the European competitiveness in the Space domain. The ISICOM Initiative, including an R&I roadmap focused on the design of an advanced satellite communications system fully integrated with the terrestrial Next Generation Networks and with Galileo and GMES, is fully in line with the EU strategy that resulted in the Horizon 2020 proposals.

Important challenges to face position are the fragmented character of the European space markets and related research institutions, competition from major space powers benefitting from large domestic markets, and so far **limited systematic investments in space research and technology development and capacity building in Europe**. The development of a research-base by providing continuity in space research programmes is important: this will allow Europe to further develop its industrial base and space RTD community, thereby contributing to its non-dependence from imports of critical technologies.

European level initiatives, like ISICOM, should be supported, considering the growing difficulties to collect financial resources for the implementation of innovative space infrastructures at national level, and also taking into account the possible cost duplication/multiplication that can occur when similar initiatives are dealt with at national level (in several Member States) and not at EU level (even if the user needs/requirements are pan-European).

A number of challenges in space technologies have parallels to terrestrial challenges, for example in the fields of energy, telecommunications, natural resource exploration, robotics, security and health.

Development of new European space infrastructures and full exploitation of existing European space infrastructure should be stimulated by promoting development of innovative products and services based on the integration of space communication, remote sensing and geo-positioning systems. Europe should furthermore reinforce the incipient development of an entrepreneurial space sector by well targeted measures.

The objective is to ensure the capability to access space and to design and operate space systems to the benefit of European society in the next decades.

The ability to access space and to maintain and operate European or international space systems in earth orbit and beyond, are vital to the future of European society. The necessary capabilities require constant investments in a multitude of space technologies (e.g. launchers, satellites, ground stations, instruments and devices), and in operational concepts from idea to demonstration in space. Europe is currently one of the three leading space powers, but compared to the level of investment in space R&D in the United States of America, the European level of investment in future space technologies is quite low.

The research and innovation roadmap of the ISICOM Initiative (aiming at the development of an innovative global space communication infrastructure integrated with terrestrial networks and with Galileo and GMES, and addressing security, emergency and mobility/transport applications) is fully in line with the principles and structure of Horizon 2020 and is able to substantially contribute to the themes **"ICT" and "Space"** (inserted in the **Industrial Competitiveness** priorities) and also to the themes **"Inclusive, innovative and secure societies"** and **"Smart, green and integrated transport"** (inserted in the **Societal Challenges priorities).**

In line with the above reported considerations, in the following table a number of possible ISICOM related R&I activities are reported, sub-divided among the related Horizon 2020 priorities/themes.

Horizon 2020 priorities/themes	ISICOM possible Research and Innovation activities
Leadership in enabling and industrial technologies	
ICT	Interoperability of the hybrid satellite-terrestrial architecture solution with professional and public communication networks used by Public Safety users; Integration with sensor networks (wireless sensors, satellite sensors, aerial sensors); Ground Segment level: low cost terminals, flexible gateways; cognitive radio and interference mitigation techniques. Mesh networks with automatic traffic routing. Cloud computing applications for the ground segment and mission/control centers Low cost terminals: small form factor terminals, regenerative processors, SDR-based terminals, low profile tracking antennas
SPACE	Optimised global coverage architecture (constellation, smart antenna systems, ISL, GEO fixed and mobile satellites) Advanced satellite and ground segments of an integrated and dedicated Satcom Global Public Safety networks. Integration with Earth Observation Missions ground segments (both EU - GMES - and national ones).
Societal challenges	
Smart, green and integrated transport	Integration with navigation systems (GPS, GALILEO) for secure and safe mobility/transport applications; Advanced mobility management including hand-over, NGN, delay-tolerant and opportunistic networking to cope with intermittent connectivity in mobile environment.
Inclusive innovative and secure societies	Security aspects (e.g. encryption techniques, authentication, confidentiality) and resiliency issues (e.g. mesh topology, auto-configurability, alternative paths).

Table 1

The ISICOM possible Research and Innovation thematics reported in the previous Table 1 are proposed to be included in the Horizon 2020 Activity Lines, through the insertion of these thematics in the future Work Programmes of the four relevant Horizon 2020 Activity Lines ("ICT", "Space", "Inclusive, innovative and secure societies" and "Smart, green and integrated transport").

It can also be highlighted that the satellite communication systems offer full coverage across their designated service area from day one. This reduces the cost of the terrestrial infrastructure for services which need to be available everywhere, including security, emergency and transport applications. In the latter case, no other solutions are able to ensure service continuity over maritime and air routes.

The European Union, its citizens and its international partners are confronted with a range of security threats like crime, terrorism and mass emergencies due to man-made or natural disasters. These threats can span across borders and aim at physical targets or the cyberspace.

In order to anticipate, prevent and manage these threats, it is necessary to develop and apply innovative technologies, solutions, foresight tools and knowledge, stimulate cooperation between providers and users, find civil security solutions, improve the competitiveness of the European security. Space-based services can offer large added value and critical capabilities to security-related applications, an example of that being the ISICOM Initiative, able to provide enhanced security and actively support emergency management European activities at worldwide level.

2.2. THE EU SPACE POLICY

In the Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions "TOWARDS A SPACE STRATEGY FOR THE EUROPEAN UNION THAT BENEFITS ITS CITIZENS", the EU defines the basic elements of its Space Policy, highlighting how much Space activities and applications are vital to our society's growth and development, since they often have a direct impact on citizens' daily lives.

Article 189 of the Treaty on the Functioning of the European Union (TFEU), conferring on the Union a shared space competence which it pursues alongside that of the Member States, needs to be seen in this context. The Union thus has a specific mandate to draw up a European space policy, and, to this end, it may promote joint initiatives, support research and technological development and coordinate the efforts needed for the exploration and exploitation of space. For this purpose, the Parliament and the Council shall establish the necessary measures, which may take the form of a European space programme.

The EU space policy, whose principles and priorities are to be based on Article 189 of the TFEU, is defined as an instrument serving the Union's internal and external policies and responding to three types of need:

– social: the citizens' well-being depends on space policy in areas such as the environment, combating climate change, **public and civil security, humanitarian and development aid, transport and the information society**;
– economic: space generates knowledge, new products and new forms of industrial cooperation, it is therefore a **driving force for innovation and contributes to competitiveness, growth and job creation**; and
– strategic: space serves to cement the **EU's position as a major player on the international stage and contributes to the Union's economic and political independence**.

In this regard, the space sector directly contributes to achieving the objectives of the Europe 2020 Strategy, namely smart, sustainable and inclusive growth. Space policy thus forms an integral part of the "Industrial Policy" flagship initiative.

The fifth Space Council meeting identified, besides Galileo and GMES Flagship Initiatives, further priorities in the space domain: **Security is one of these priorities**, together with climate change, industrial competitiveness and space exploration.

As regards security, space infrastructure acts as both an instrument and an asset. As an instrument it can **serve the European Union's security and defence interests**; as an asset it requires protection.

The seventh meeting of the Space Council in November 2010 recommended that "within the GMES programme, additional consideration should be given on how to meet the specific needs of security policies and the services dedicated notably to maritime surveillance, border control and support for EU external actions". The S (Security) component of the GMES programme must therefore be enhanced.

Discussions are taking place to analyse how new developments affecting space technologies can contribute to effective solutions for areas such as monitoring borders, **support for the European Union's external action, maritime surveillance, complex emergencies, humanitarian aid and civil protection.**

As far as the **Security Dimension of Space Policy** is concerned, the seventh meeting of the Space Council acknowledged "the reinforced EU engagement in security and defence matters embedded in the Lisbon Treaty and the setting-up of the European External Action Service". It invited the European Commission, the EU Council, assisted by the European Defence Agency (EDA), together with Member States and the ESA "to explore ways to

support current and future capability needs for crisis management through cost-effective access to robust, secure and reactive space assets and services […] taking full advantage of dual-use synergies as appropriate." It also invited "the European Commission and the EU Council to propose policy solutions where necessary".

In addition to the Security dimension of GMES, the Galileo PRS service is another key asset enabling the provision of security services and applications to support the protection of people and infrastructures in Europe and worldwide.

The EU Communication on the European Space Strategy explicitly say that, in the spirit of the Common Security and Defence Policy, the EU's security needs may be met either by deploying national resources in a coordinated manner or by **implementing shared resources: to meet the crisis management and external action needs, the EU could also take part in the development of new infrastructures.**

In this context, **the ISICOM initiative, proposing the definition and development of shared satellite communication European resources, complementary to and fully integrated with GMES and Galileo, with the aim of providing enhanced security services and applications, is fully in line with the spirit and principles of the European Union Space Strategy.**

Under Article 189 of the TFEU, the Union "shall draw up a European space policy" with a view to promoting, inter alia, industrial competitiveness. In this respect, the EC Communications on the European Space Strategy underlines that **Satellite Communications (SATCOM) form a significant part of this market** and that it is vital to quickly draw up, in close cooperation with the ESA and the Member States, a space industry policy that consider the needs and capabilities of the Satcom assets.

The EC communications also recognise that telecommunications satellites also facilitate the development of public services for the citizens, including public safety and emergency-

response services. These Satcom related developments will parallel the implementation of the GMES and Galileo programmes.

Again, it can be underlined that this EC statements are fully in line with the ISICOM concept and its proposed objectives and architecture.

2.3. THE EU CIVIL PROTECTION MECHANISM AND SECURITY STRATEGY

The aim of the **Civil Protection Mechanism** proposed by EU is to support, coordinate and supplement the actions of the Member States in the field of civil protection, through the improving of the effectiveness of systems for preventing, preparing for and responding to natural and man-made disasters of all kinds within and outside the Union.

Specific objectives are summarized in the following:

- to achieve a high level of protection against disasters by preventing or reducing their effects and by fostering a culture of prevention;
- to enhance the Union's state of preparedness to respond to disasters;
- to facilitate rapid and efficient emergency response interventions in the event of major disaster.

The new EC proposal *("Proposal for a Decision of the European Parliament and of the Council on a Union Civil Protection System"*, building on the 2010 Commission Communication "*Towards a stronger European disaster response: the role of civil protection and humanitarian assistance*" and the 2009 Communication on "*A Community approach on the prevention of natural and man-made disasters*") contributes to Europe's 2020 objectives and to increasing the security of EU citizens and building resilience to natural and man-made disasters as an important part of the Stockholm Programme and the EU Internal Security Strategy. Furthermore, by supporting and promoting measures to prevent disasters, EU Civil Protection policy would reduce the costs to the EU economy from disasters and therefore obstacles to growth. The higher level of protection of citizens, material assets and the environment would minimise the adverse social, economic and environmental impact of disasters likely to affect the most vulnerable regions and people and thus contribute to a more sustainable and inclusive growth.

The Union intervention enhances prevention, preparedness and response capacity of Member States to face major disasters minimising human and material loss. The objective cannot be sufficiently achieved by Member States operating alone and can be better achieved at Union level by reason of the scale or effects of the proposed action.

The ISICOM Initiative, being a European level initiative specifically targeted to enhance the European Security and Civil Protection assets and capabilities, is fully in line with these EU policies and instruments, and is able to substantially contribute to the objective of the Union Civil Protection System, through the provision on a worldwide scale of satellite communications services ad-hoc designed to meet the requirements of security and civil protection institutions and bodies.

In parallel to the setting-up and operation of the EU Civil Protection Mechanism, the EU has also defined its own **"Security Strategy",** in the frame of its **"Security and Defence Policy"** and **"Foreign and Security Policy"**.

As said in the Communication from the Commission to the European Parliament and the Council *"The EU Internal Security Strategy in Action: Five steps towards a more secure Europe",* the EU Internal security has a **global perspective**.

Internal security cannot be achieved in isolation from the rest of the world, and it is therefore important to ensure coherence and complementarity between the **internal and external aspects of EU security.**

The EU commitment to promoting human rights, democracy, peace and stability in our neighbourhood and beyond, are an integral component of the approach laid down in the European Security Strategy.

In particular, internal security-related priorities should feature in political dialogues with third countries and regional organisations where appropriate and relevant for combating multiple threats.

In this context, the ISICOM initiative, targeted at serving security requirements at worldwide level (both within and outside EU borders), can offer a significant contribution to the European and global dimension of the EU Security Strategy.

In particular, the ISICOM Initiative can offer a support to the missions under the responsibility of the European External Action Service, whose activities integrate further actions and expertise using the skills and knowledge of Member States, the Council and the Commission.

It has to be underlined that, in recent years, we have seen an increase in the frequency and scale of natural and man-made disasters in Europe and in its neighbourhood. This has demonstrated the need for a **stronger, more coherent and better integrated European crisis and disaster response capacity** as well as for the implementation of existing disaster prevention policies and legislation. Satellite Communications systems can offer effective operational solutions to the management of risk and disaster situation, within and outside Europe. Some examples of SatCom capabilities made available to Civil Protection and other emergency management bodies are already existing, mainly at national level (e.g. in Italy, where the "Dorsale Satellitare" – National Emergency Satellite Backbone - engineered and operated by Telespazio, applies a federated approach involving all the Institutions, including the Civil Protection, dealing with emergency events, both at central and regional levels). In parallel to the national efforts, European initiatives (like ISICOM) are also needed to increase cooperation among Member States, enhance system performance, reduce vulnerability, increase security and reduce costs at European level.

Increasing the **Security of the Transports Infrastructures and their users** is one of the further objectives set by the EU Security Strategy: aviation, maritime, rail and road

transports can be made more secure through the use of innovative systems, and a significant contribution in this respect can be offered by space technologies and services too (through the use of integrated Satellite Earth Observation, Navigation and Communications systems). Mobile Satellite Communications systems, and the mobile segment of the ISICOM architecture in particular, can offer operational support for the security of the passengers and the transport infrastructures.

3. ORGANIZATION OF WORKSHOP/PANELS RELATED TO ISICOM

In order to help establish and maintain a dialogue with Institutions, Organisations and other Space sector Stakeholders and Users on the ISICOM Initiative definition, its mapping into the European framework and its possible implementation steps, the FISI WP3 has conceived and is organising ad-hoc European Panels/Workshops, in order to produce/trigger fruitful exchanges of ideas among different actors, feedbacks on the ISICOM concept from Institutions and discussions about possible implementation options and related roadmaps.

In the following paragraph 2.1, the synthesis of the debate and conclusions of the already held first Event is reported (the ISI & EU Security Panel *"How to strengthen the European Disaster Response: The role of satellite"*, organised in Brussels during the ISI 4th Satcom Day, on October 19th, 2011).

In the subsequent paragraph 2.2, a summary of the actions in progress for the preparation of the second Event is reported (the Workshop *"Satcom to address the EU security and emergency strategy"*, to be held in Brussels during the ISI 5th Satcom Day, on April 11, 2012).

3.1. SYNTHESIS OF THE ISI & EU SECURITY PANEL "HOW TO STRENGTHEN THE EUROPEAN DISASTER RESPONSE: THE ROLE OF SATELLITE"

"There is no long-term security without development. There is no development without security"

This statement from Kofi Annan quoted by Marianne Donven during the round table discussion illustrates the importance of security aspects debated during the ISI Satcom day. The round table discussion was introduced by a key note speech from Mr Karl von Wogau on space and security. Member of the European Parliament from 1979 to 2009, Mr von Wogau was chairman of a subcommittee on Defence, and is now Secretary General of the Kangaroo group.

Mr von Wogau started his speech by recalling the role of the Kangaroo group founded 30 years ago. The group main objective is to foster the European integration around common promising European projects. This encompasses Common Security and Defence Policy for instance and on how to better spending the member states money on security & defence. He pointed out that expenditure in security in the EU is divided in 27 investments, and all summed up together represent less than 50% of total investment in security in USA.

He then focused its speech on Space. For him, space projects are big project/very expensive and more **and more beyond individual EU member states reach.**

Therefore, it is very important to **find common synergies to enable investments to be more efficiently spent. Space is one of the areas where coordination among EU member states would be more desired and would bring more benefits.**

It is worth mentioning that the ISICOM Initiative is fully in line with these considerations, being it a European level initiative benefitting all of the Members States and increasing European synergies and collaborations in the European Space and Security domain.

Mr von Wogau also said that Security encompasses a wide range of missions: from tsunami to protection of civilian in civil wars, giving some example of recent EU missions such as election protection in Congo, deployment of observers in Georgia and recalled the importance of border and maritime surveillance. The efficiency of these operations is largely depending on access to satellite communication, navigation and observation services.

He concluded his speech by giving some orders of magnitude of future EU investment on Space and Security: the financial framework for seven years foresees 1.2 bn for Security Research, about 3 bn for Galileo and 1 bn for GMES.

After the key note speech, each of the round table participants presented her/his views on the current and future use of Satcom for security related missions. Mr Peter Billing, head of the European MIC (Mission Information Center) introduced the role of the DG ECHO, confronted with the increasing number of disasters worldwide (climate change, demographic change). Europe has an obligation to support people in distress. That's why DG ECHO is active.

Satellite technologies play an increasing role in DG ECHO's day to day work.

He recalled that space-based tools must be affordable, accessible, user-friendly (to be used by non specialists) and robust (work in all conditions). He mentioned the importance of quick responsiveness. Tools have to be able to be deployed on short term basis. Satellite imagery is delivered much quicker today than a few years ago but there is still room for improvement.

There is also an increase of demand for satcom on reliability, on bandwidth availability. During disasters, satellite communication channels are more often used by medias than available for emergency response teams. Security and safety shall be considered in broader terms with the need for secure satellite communications (encryption) and the need of tracking systems to locate the first responder teams.

He concluded by giving some feedback from recent disasters and mentioned that three to four days were needed to re-establish communication in Haiti.

Then from the Luxemburg Ministry of Foreign Affairs' Humanitarian Assistance Desk shared with the assembly her experience from recent humanitarian operations.

The population increase and the urban densification contributed to increase the number and consequences of these types of crises. On the use of communication for first

responders, she recalled that humanitarian actors need high communication standards, 24/7 communication and secure comms. She mentioned about the solution emergency.lu, developed jointly by SES and Hitech, in close collaboration with the World Food Programme, in its role of Emergency Telecommunications Cluster lead. The International Committee of the Red Cross reknown for its high security standards has expressed interest in this solution. The objective of emergency.lu is to improve the humanitarian assistance through better communication and coordination in disaster situations.

Mrs Mariane Donven also said that no confusion shall be made between « humanitarian assistance» and «politically driven external security mission» even if the service requirements are similar.

Then Mr Rodolphe Paris, in charge of Satcom at the European Defence Agency (EDA), recalled the role of the agency on defence matters but also its involvement in other security related missions. He explained his aim to establish a pilot cell within EDA to centralise commercial satcom procurement by pooling national MoD needs and presented the Secure Telecom by Satellite (SECTELSAT) initiative. He said that it is the right period time to move from pure national military satellites to inter-governmental satellites. This approach can involve **several nations, but can start in a progressive way with an initial agreement by 3/4 nations for instance**. The need to launch activities in 2012 is important to prepare a decision by 2015. SECTELSAT could be a future priority of European Space Policy, and he invited the panellists to give their feedback.

Mr Jérôme Bequignon, from the Brussels ESA bureau, concluded the panellist presentations by highlighting the need to have a more coordinated approach on crisis management, and to use the existing satcoms capacity better by reserving capacity for emergency response. He mentioned also the importance to integrate satcoms with terrestrial communications and with the overall logistical chain. ESA as an R&D agency is already looking at the next generation constellation with different options to assess.

After these short presentations, a debate started around several questions raised by the moderators and by the audience. Several subjects have been addressed during the discussion.

- A debate around the SECTELSAT initiative and different points of view were expressed on the interest to have an inter-governmental initiative. Mr Paris will create a forum (extranet) to continue the panel discussion between EDA, EC, ESA and the industry. He insisted on the need to **develop a resilient SatCom infrastructure for Europe**.

- The requirements to be applied on future satellites according to the type of missions have been debated. Focus was given on enough flexibility to be ready for unexpected types of crises and on the need of secure communications for all kind of actors.

- A discussion also was raised on standardisation, but concluded that the primary need is really to aggregate the demand.

At the end of the debates, each of the participants concluded with some conclusive words and then Philippe Boutry, after having thanked the roundtable participants, closed the panel.

Participants in the" ISI and security" panel.

Mr Rodolphe PARIS, EDA Communication & Information Systems
Mr Peter BILLING, DG ECHO Unit responsible – head of the MIC (Mission Information Center)
Mr Jérôme BEQUIGNON, ESA Bureau of Brussels
Mr Karl von WOGAU, Secretary of the Kangaroo group, Honorary member of the European parliament
Mr Nicolas CHUBERRE (ISI Chairman – not part of the panel)
Mr Philippe BOUTRY, Astrium Satellites - panel moderator
Mrs Marianne DONVEN, Ministry of Foreign Affairs of Luxembourg, Directorate for Development
Cooperation, Humanitarian Assistance Desk
Mr Vincenzo FOGLIATI, Telespazio - panel moderator

3.2. ACTIVITIES IN PROGRESS FOR THE WORKSHOP "SATCOM TO ADDRESS THE EU SECURITY AND EMERGENCY STRATEGY"

The structure and agenda of the next Workshop has been elaborated, in parallel with the identification of the general objectives of the Event.

Objectives, structure and agenda are reported herebelow.

European Workshop
"SatCom to address the EU security and emergency strategy"
ISI 5th SatCom day, 11th April 2012

Conseil Central de l'Economie (CCE) – Room 1, 17-21,
avenue de la Joyeuse entrée, Brussels

Workshop organised and supported by FISI.

Workshop Moderators: Vincenzo Fogliati and Philippe Boutry, support from Nicolas Chuberre

Workshop objective

This workshop is an opportunity to discuss with European Institutions representatives on the relevance to set-up a programmatic roadmap and provide financial support for the development and deployment of innovative satellite assets/resources, addressed to institutional and public services domain, in the fields of Security and Emergency Management.

The workshop shall be informative but allow interaction among the participants and should trigger a decision process among policy makers as well as business stakeholders.

Agenda

3h30 duration workshop

- *09h30: Workshop opening: Key note speech by a representative of European Institutions*
- 09h00: 1st Focused presentation: "**The European policy context and EU security needs"**
- 09h30: 1st Panel discussion with questions triggered by a moderator
- *10h00: Coffee break (30 minutes for networking)*
- 10h30: 2nd focused presentation: "**ISICOM architectural and programmatic options**"
- 11h00: 2nd Panel discussion with questions triggered by a moderator
- 11h30: 3rd focused presentation: "**A possible ISICOM financing framework for R&D activities and infrastructure deployment**"
- 12h00: 3rd Panel discussion with questions triggered by a moderator
- 12h30: Wrap-up
- *13h00: End of workshop*

The Panel is invited to discuss/comment on presentations made by an ISI Team, elaborated and prepared thanks to the support of the FISI project.

Panel participants: EC (DGs External Action, ECHO, HOME, Enterprise, INFSO), EP, EDA, ESA, Member States

REFERENCE DOCUMENTS

COM (2011) 808 – Communication from the Commission – Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020):
http://ec.europa.eu/research/horizon2020/pdf/proposals/com%282011%29_808_final.pdf

COM (2011) 809 – Proposal for a Regulation of the European Parliament and of the Council establishing Horizon 2020 – The Framework Programme for Research and Innovation (2014-2020):
http://ec.europa.eu/research/horizon2020/pdf/proposals/com%282011%29_809_final.pdf

COM (2011) 810 – Proposal for a Regulation of the European Parliament and the Council laying down the rules for the participation and dissemination in Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020):
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0810:FIN:en:PDF

COM (2011) 811 – Proposal for a Council Regulation establishing the specific programme implementing Horizon 2020 – The Framework Programme for Research and Innovation (2014-2020):
http://ec.europa.eu/research/horizon2020/pdf/proposals/com%282011%29_811_final.pdf

COM (2011) 812 – Proposal for a Council Regulation on the Research and Training Programme of the European Atomic Energy Community (2014-2918) complementing the Horizon 2020 - The Framework Programme for Research and Innovation
http://ec.europa.eu/research/horizon2020/pdf/proposals/com%282011%29_812_final.pdf

COM (2011) 152 - Communication from the Commission – Towards a Space Strategy for the European Union that benefits its citizens:
http://ec.europa.eu/enterprise/policies/space/files/policy/comm_native_com_2011_0152_6_communication_en.pdf

COM (2011) 934 – Proposal for a Decision of the European Parliament and of the Council on a Union Civil Protection System:
http://ec.europa.eu/echo/files/about/COM_2011_proposal-decision-CPMechanism_en.pdf

COM (2010) 2020 – Communication from the Commission – Europe 2020 – A strategy for smart, sustainable and inclusive growth:
http://eunec.vlor.be/detail_bestanden/doc014%20Europe%202020.pdf

Note form the Council of the European Union (5842/2/10 REV 2) - Draft Internal Security Strategy for the European Union: "Towards a European Security Model":
http://register.consilium.europa.eu/pdf/en/10/st05/st05842-re02.en10.pdf

COM (2010) 673 – Communication from the Commission - The EU Internal Security Strategy in Action: Five steps towards a more secure Europe:
http://ec.europa.eu/commission_2010-2014/malmstrom/archive/internal_security_strategy_in_action_en.pdf