

The Building of European Policies for the Security of Space Activities

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The General Policy Context

In Europe, the security of space activities has gradually emerged as a sine-qua-non condition of the “Space and Security” picture



Most recent and concrete example:
the November 2008 agreement of 18 ESA Member States
to explore a “Space Situational Awareness” capability



A collective space surveillance capability naturally fits
into the “Space and Security” picture

The General Policy Context

A bit of history:

“Space and Security” has become a key concept starting from the end of the nineties;

It has been reinforced after 2001 as an element of the “security of the European citizen” policy (notably in 2003 under the EU Greek Presidency – See the report of the Group of Personalities published in 2004)

The General Policy Context

“Space and Security” has quickly presented an « efficient mix » for European politics



- Idea of a political maturity: Europe must assume its political identity through collective security projects

- Based on the traditional engine of the European construction, i.e. R&D (CERN, Euratom tradition)



Space as a provider of soft power in a context where a common ESDP remains difficult

The General Policy Context

For each Security-related projects, Europe had to consider having :

- Sufficiently homogenised end-user needs
- Structuring Architectures at the European level



Space has been perceived as a good candidate :

- existing expertise, programmes and capabilities
- Technical proximity as a federative tool



Space has become (and has been recognized as) an element of the « Security of the European Citizen »

The General Policy Context

National and European space programmes with security potential exist



- Franco Italian Pléiades-Cosmo
- TerraSar X –TaNDEM
- Spot Satellites
- Topsat
- Surrey DMC
- ...



Galileo, GMES

Existing assets +
projects

+ others (satcoms)

Flagship programmes: Galileo

1st « European » program (EC-ESA-Eurocontrol)

- EGNOS 1994
- Civil aviation (DGAC in France)
- Europeanization linked to the civilian character of the program (Registered in the 6th Framework Program)

Lead to a real « dual-purpose » program :

- No military-civilian frontier : only different level of services according to the type of users (PRS : safety of life, Security, military, etc → different from GPS)
- Not defined as « dual-use » as the Defense ministries have remained reluctant to budget for

- Implies new relationships between Defense establishments and space security oriented technology

Flagship Programmes: GMES

- « Baveno Manifest » (05/19/1998) : Linked to Kyoto (1997)
- From « Environmental Security » to « Environment and Security » (07/12/1999)

“ environmental problems can lead to such serious difficulties that they may, firstly, endanger the security of both individuals and nations and, secondly, lead to international conflict ”.

GMES :

5 Security issues clearly identified 7 years ago:

- Prevention of technological and environmental crisis and rapid reaction
- Humanitarian cooperation
- Prevention of the conflicts (including treaty monitoring)
- Support for the Petersberg missions
- Surveillance of the European borders

GMES Dual aspects challenges are typical for Europe :

- Complexity of an Environment/Security/Defense (?) program of programs
- Level of confidence of the military community regarding this complexity
- Issue of the security against malevolent use of data (security)

The General Policy Context

Starting from there, different initial values attached in Europe to “security” space programs

- US: highly strategic → vital interest → militarized protection
- Europe: comparatively less military investment → more based on civilian cooperative strategic programs as a political cooperation provider → call for more security (confidence building, code of conduct ?) rather than for more military
- Emerging countries : space as a development provider, mixed status (China, India , etc ?) → call for strict limitations in “space control” (to what levels)

Middle-of –road approach ?

Agreement in Europe on the fact that, on a 30-40 years timescale, some main trends must be taken into account:

- Space applications more and more devoted to societal security issues
- The space landscape will be deeply transformed
 - More and more traffic with new orbital management techniques (constellations, formation flying, etc)
 - More and more diverse players and stakeholders



This makes space surveillance capabilities become a logical prerequisite for future investments in space

A natural interest for a collective security of space activities

European experience of multilateral security thinking can prove inspirational for this collective endeavour

- Europe is used to think in cooperative terms
- Allows collating national competences at the regional level via several procedures
 - Multinational experience already at hand
 - ESA has a specific experience in pooling resources coming from different national backgrounds

Example of multinational experience and competence in a relevant field for the security of space activities

- Graves Radar fully operational since 2005
 - One of the main effort : better cataloguing capabilities
- FGAN/TIRA Radar
- British radar capabilities
- ...

Formed the base for recent ESA studies conducted about the design of a European Space Surveillance System

European opportunity:

- Cooperative technical solutions or strategies would pay off very quickly here by offering participating states improved data collection, which in turn can provide better space management capabilities or even better security assessments.
- Given the increased space activity expected for the years to come, interest of having a cooperative system on the regional scale that can contribute to SSA on a world scale once monitoring assets and cataloguing capabilities are fully operational.



Institutional Context

- Main issue: Finding a European concept of security
 - Many documents
 - Institutional concurrence
 - Governmental sensitivities
 - Roles of agencies

- Recent political advances on “space and security”
 - ESDP and Space, EU Council, 16 Nov. 2004
 - Resolution on the European Space Policy, European Commission, May 2007
 - Resolution on Space and Security, European parliament, 10 July 2008

Institutional Context

Some significant moves initiated in 2003/2004

1/ EU multilateral approach (2nd Pillar)

- « On 09 December 2003, the Political-Security Committee reiterated its position that further and regular interpillar reflection is needed to ensure that the security and defence aspects of CFSP and ESDP are taken into account during the deliberations on an EU Space Policy and its associated programmes ». (reaffirmed in « European Space Policy: "ESDP and Space", Council of the European Union, 16 Nov. 2004)
- Space has been taken into account by the European defense Agency for EU future strategic planning
- Corpus of existing converging documents (Green Book , White Book (2003), SPASEC document)

All these documents have derived from intergovernmental initiatives started as soon as 2001

- BOC (2001): « Besoin Opérationnel Commun » destined to prepare common requirements for a multilateral/European a space-based observation system for defense and Security purposes: (Belgium, France, Germany, Greece, Italy, and Spain)
- MUSIS (MULTinational Space-based Imaging System) → new generation system at 2014-2018 timeframe

Institutional Context

2/ EU «Communitary» Approach (1st pillar)

Communication from the European Commission to the Council and the European parliament (26 april 2007).

- Jointly written with ESA, in consultation with 29 Member States UE + ESA).
- Underline the strategic importance of Space for Europe, by demonstrating its independance and its political will to assume global responsibilities
- recognition of the role of Space to answer the needs of the European citizen (flagship programmes Galileo et GMES).
- For Defense and Security, this communication underlines the need for « dual-usage » synergies (including the need for military users to be able to use Galileo and GMES if needed)
- Underscores the link between ESP and ESDP



Confirmed by a Joint EC-ESA Resolution adopted on 22 may 2007

Institutional Context

3/ Parliamentary action: European Parliament resolution of 10 July 2008 on Space and security

A few Excerpts...

“Notes the importance of the space dimension to the security of the European Union and the need for a common approach necessary for defending European interests in space (...)

(...) Encourages the Member States of the European Union , the European Space Agency and the various stakeholders to make greater and better use of the existing national and multinational space systems and to foster their complementarity (...)

(...) Applauds the efforts of the International Academy of Astronautics and the International Association for the Advancement of Space Safety to promote remediation, understanding and measures in respect of space debris; (...)

(...) Supports the creation of a European space surveillance system leading to space situational awareness (including, for example, GRAVES and TIRA) to monitor the space infrastructure, space debris and, possibly, other threats; (...)

(...) Supports the possibility of funding the future European space situational awareness system from the EU budget;

2/ Parliamentary Action : European Parliament resolution of 10 July 2008 on Space and security

More specific...

43. Reiterates the importance of the principle of the use of space for peaceful purposes expressed in the above-mentioned 1967 Outer Space Treaty; is therefore concerned by the possible future weaponisation of space;
44. Urges that under no circumstances should European space policy contribute to the overall militarisation and weaponisation of space;
45. Calls for the international legal regime to be strengthened so as to regulate and protect non-aggressive space uses and for the strengthening of TCBMs, within the framework of the drafting by the UN Committee on the Peaceful Uses of Outer Space (COPUOS) of space debris mitigation guidelines consistent with those of the Inter-Agency Debris Coordination Committee as well as the development by the UN Conference on Disarmament of a multilateral agreement on the prevention of an Arms Race in Outer Space; furthermore, asks the EU Presidency to represent the EU proactively in COPUOS; calls on the EU institutions to promote a conference to review the Outer Space Treaty, with the aim of strengthening it and expanding its scope to prohibit all weapons in space;
46. Calls on all international actors to refrain from using offensive equipment in space; expresses its particular concern about the use of destructive force against satellites, such as the Chinese anti-satellite system tested in January 2007, and the consequences of the massive increase in debris for space security; recommends, therefore, the adoption of legally binding international instruments focusing on banning the use of weapons against space assets and the stationing of weapons in space;
47. Calls on all space users to register their satellites, including military satellites, by way of a space security confidence-building measure promoting transparency; supports the Council's pursuit of a comprehensive EU Code of Conduct on Space Objects; demands that this Code be transformed into a legally binding instrument;
48. Urges the United Nations and the European Union to engage in the active diminution of, and protection from, space debris harmful to satellites;

Institutional Context

Today, EU Intergovernmental, Community and Parliamentary actions certainly require better harmonization

- About sorting out and prioritizing issues : « Space security » is polysemic today in Europe (from environmental security to humanitarian disasters and Space Situational Awareness)
- About preferred political and legal instruments to enforce EU Policy:

Materializing efforts:

One recent EU Initiative for the Security of Space Activities

- European Union « Code of Conduct » proposal

- Initial proposal by the Ambassador of Italy at Geneva Disarmament Conference
- Council of the European union in 2007 under the German Presidency
- « Food for Thought » presented at the UNGA in Septembre 2008
- version circulated to the US, Russia, China during the fall 2008(in the context of a « competing » project for a space disarmament treaty)

• International context : In line with the COPUOS recent efforts promoting « Best practices »

• European Context : Official go-ahead for a Space Situational Awareness » programme (ESA)

- Governance –related and system studies from 2005 to 2008 Etudes systèmes et gouvernance 2005-2008
- Decision of the ESA ministerial council in November 2008