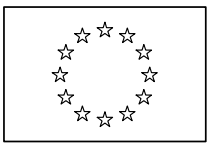

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EUROPEAN SPACE POLICY PROGRESS REPORT

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1. INTRODUCTION

Following the adoption of the Space Council Resolution in May 2007, this Report provides an overview on the main progress achieved in the first year of the implementation of the European Space Policy (ESP), as elaborated jointly by the European Commission and the Director General of the European Space Agency (COM(2007)212). The need to establish a European Space Policy has also been endorsed by EU Heads of State and Government. The Member States of the EU and ESA highlighted that the further implementation of the GALILEO and GMES programmes, the development of a Strategy on International Relations in Space and the need to develop adequate instruments and funding schemes for Community actions in the space domain should be first priorities, followed by improved coordination and synergies between defence and civilian space programmes and technologies, in a user-driven approach. This report describes both the important steps forward made since May 2007 and the further actions which are priorities in the coming period.

2. SPACE APPLICATIONS

2.1. Satellite radio navigation programmes: GALILEO / EGNOS

GALILEO and EGNOS[1] are **European investments in essential European infrastructure** for crucial applications such as border control, transport management and logistics, financial operations and the surveillance of critical energy and communications infrastructures. In late 2007, the Council of the EU reached conclusions on the **re-profiling** and on the future development of the European satellite radio navigation programmes, including governance and procurement aspects, based on a **full public, EU funding of the deployment phase**.

Governance

Public governance of the programmes shall be based on the principle of a strict division of responsibilities between the European Commission, the European GNSS Supervisory Authority (GSA) and ESA. The European Commission will be responsible for the overall management of the programmes as the European GNSS Programme Manager. ESA will act as procurement agent for the GALILEO Full Operational Capability (FOC), and as design agent for the programmes. The GSA, in accordance with guidelines issued by the Commission, will accomplish specific tasks related to the programmes. Furthermore, a new GALILEO Inter-institutional Panel (GIP) with representatives of the Council, the European Parliament and the Commission will be set up to follow the programmes.

Programme implementation

Important technical progress has been achieved in the development and in-orbit validation phase of the GALILEO programme. GIOVE-B, the second GALILEO experimental satellite, has been successfully launched on 27 April 2008. It will work in conjunction with the first GALILEO experimental satellite, GIOVE-A, carrying critical new technologies to be tested in

[1] European Geostationary Navigation Overlay Service

space and needed for the performances of the GALILEO systems, notably the most accurate atomic clock ever put into orbit.

The additional Community funds[2] allocated to the implementation of the GALILEO and EGNOS programmes are 3405 M€ for the period from 1 January 2007 to 31 December 2013. The first four operational GALILEO satellites will be launched in 2010, by which time the related ground control infrastructure will also be established.

In line with the revised European GNSS Regulation[3], the Commission and ESA launched the tender for the procurement of the remaining 26 satellites and ground control infrastructure on 1 July 2008. The full operational capability of GALILEO (30 satellites + ground stations) is targeted for 2013.

At the same time, the EGNOS infrastructure is progressively being phased into operation. EGNOS is monitoring and correcting signals emitted from existing global satellite navigation systems to make them suitable for safety critical navigation applications. The transfer of EGNOS assets from ESA to the European Community is due to take place in early 2009.

International cooperation

The European Commission and ESA have established international cooperation to ensure proper access to resources (frequencies, technologies, hosting of ground stations) necessary to the building up of EGNOS and GALILEO infrastructures.

Key issues ahead:

- Completion of the in-orbit validation phase through the preparation and launch of the first four operational GALILEO satellites in 2010;
- Implementation of the 2007 Council conclusions on the GALILEO re-profiling, including the governance arrangements and the relevant agreements with ESA;
- Completion of the tender for the procurement of the remaining 26 GALILEO operational satellites and associated ground control infrastructure;
- Accompanying regulatory and policy measures in view of factors such as third party liability and export control, Public Regulated Service access, and the handling of the programme exploitation phase.
- Continue to promote applications that take full advantage of EGNOS and, in the future, of GALILEO services including in intelligent transport systems. Commission to propose a relevant Action Plan and European Radio Navigation Plan, following the publication in December 2006 of the Green Paper on satellite navigation applications.

2.2. Earth Observation: GMES

GMES - the European initiative for **Global Monitoring for Environment and Security** - is being built up in a phased approach, aiming at targeted Earth observation services to cover the

[2] Financing arrangements for the development and IOV phases are in place from TEN-T funding.

[3] 683/2008; OJ L196 of 24 July 2008

needs of European citizens in the areas of environment, security, emergency response and climate change.

Services

GMES requires the integration of data from space-based and in-situ Earth observation capacities into operational European application services. Three user-based GMES services in the areas of *Emergency Response, Land and Marine Monitoring* will be pre-operational by the end of 2008. Work was also launched on identifying user requirements for *security services*, on the development of an additional *Atmosphere Pilot Service*, as well as on the potential contribution of GMES to addressing *climate change*.

Tackling climate change and other environmental challenges depends on further research into understanding these phenomena and on the assessment of reliable data from a variety of sources, notably satellites. The continuous and sustained provision and analysis of high-quality satellite data on essential climate variables (ECVs) is supported by relevant programmes of EUMETSAT and ESA. An ESA Climate Change Initiative is under preparation, in view of the November 2008 ESA Ministerial Council, targeting a consolidation and preservation of its archives of 30 years of Earth observation data to support the re-analysis processes by climate research centres.

During the GMES pre-operational phase 2008-2010, the coordinated data provision for GMES services in this period has been guaranteed through a 48 M€ EC grant to ESA. EUMETSAT has also decided that all data and products from its operational satellites and archives shall be made freely available to GMES services during this period.

Overall, for the setting-up of GMES services, from 2002 to 2009, 100 M€ have been dedicated to the ESA GMES Service Element (GSE). The FP7 Space theme has devoted 35 M€ in 2007 and 70 M€ in 2008 for the further development and consolidation of GMES services.

Programmatic and institutional framework

The May 2007 Space Council recognised that, after ten years of R&D financing, GMES now needs to move firmly towards an operational basis in order to ensure its long-term availability.

The sustainability of GMES requires an adequate management and institutional framework. GMES is based on several interlinked components (service component, space component, in-situ component) which produce data and information for users and for the further processing by the downstream service sector. The Commission plans to propose appropriate governance and financial schemes in a Communication to the EU Council and European Parliament in autumn 2008.

The GMES in-situ infrastructure is an asset of Member States and of their local or regional authorities. Commitments will therefore be sought from these authorities to continue data availability. An In-Situ Observation Working Group composed of Member State representatives, and supported by the European Environment Agency (EEA), has been set up to address issues related to European infrastructure coordination and harmonisation of data exchange.

Progress on the space component

ESA is responsible for the coordination of all European contributions to the GMES Space Component (GSC), in line with user needs. It will implement the development of a set of satellites (the Sentinels) and their related ground segment through the ESA GSC Programme.

The Community contribution to the ESA GSC Programme is implemented through an EC-ESA agreement starting with 419 M€ for the 1320 M€ GSC 'Segment 1'. An amendment to the Agreement is expected to be concluded to cover the envisaged Community contribution of another 205 M€ for GSC 'Segment 2', which will be submitted for approval to the November ESA Ministerial Council.

International cooperation

The meteorological field has already shown that, to ensure access to a wide range of data at global level, Europe needs to find the right balance between an autonomous Earth observation capacity and engaging in cooperation with third countries, in particular on the coordination of Earth observation infrastructure and the exchange of data. At multilateral level, Europe is already strongly engaged in the GEOSS process[4], and GMES is defined as the main European contribution to this international endeavour.

In December 2007, the "Lisbon Process on GMES and Africa" was launched, responding to African Union requests to integrate African user requirements in the GMES services.

Key issues ahead:

- Maintain a firm link between establishing user requirements and securing the further development of services and infrastructure, in a cost-efficient manner;
- Strengthen coordination and the joint commitment by all stakeholders, especially that of Member States to the in-situ infrastructure;
- Obtain the commitment of ESA Member States and European Community to the funding of the GSC 'Segment 2';
- Further develop the future programmatic, financial and institutional framework (governance) for GMES as a whole and for its services, space and in-situ components. This framework will provide a basis for its operational sustainability.

2.3. Security and Defence

European space capacities have become **critical information tools** in addressing a diversity of **environmental, economic and security challenges** of a global or regional scale. Autonomous access to information derived from space is thus **a strategic EU asset**. The EU will need to further strengthen its ability to respond to these challenges, **including in the security and defence domains**, both through improved coordination and through the development of own capacities.

The importance of European space capacities as strategic assets has been highlighted by the 2008 report from the High Representative and the European Commission on the **impact of**

[4] Global Earth Observation System of Systems

climate change on international security. At the same time, space programmes like GMES and GALILEO have a **multiple-use capacity** and may, along with their **civil security** capabilities, also have **military users**.

Within the framework of existing EU principles and institutional competencies, the European Commission and the EU Council General Secretariat are currently working on the identification of relevant user requirements for ***GMES security services***, involving potential users and policy makers, as well as providers and developers of data. Following a workshop organised by the Institute for Security Studies in June 2007 in Paris, the following key areas have been identified as worthwhile to be explored: *Border Surveillance*[5], *Maritime Surveillance*, and *Support to EU External Action*. A horizontal action on *Security of Information* is being pursued in order to prepare the implementation plan for data exchange in the security domain.

In order to address the complex capacities and skills required for the provision of security related data and services a number of test and pilot projects have already been implemented or launched under Community Research Programmes and the ESA GSE, with participation of the EU Satellite Centre. An example is the LIMES Maritime Surveillance project[6], which also responds to EU Maritime Policy requirements.

In view of an improved coordination between civil, security and defence related space activities, the services of the European Commission and the EU Council General Secretariat have set-up a **structured dialogue**, involving also the European Defence Agency (EDA) and the EU Satellite Centre. The objective is to exchange information and optimise the synergies between the various actors' activities and programmes, in the context of ESDP and other EU Policies.

Key issues ahead:

- Pursue the structured dialogue between relevant EU services and agencies in view of creating synergies between the various actors' activities and programmes;
- Continue identification of user requirements for GMES security services, involving potential users, policy makers, providers of data and system developers, accompanied by further test and pilot projects under the relevant programmes.

3. SPACE FOUNDATIONS

3.1. Science and Technology

The EU, ESA and their Member States recognised the **need to continue to invest** strongly to maintain leadership **in space-related S&T**. This is reflected in the relevant ESA programmes as well as in the EU's research programme (FP7).

5 Responding also to the creation of a European Border Surveillance System (EUROSUR)

6 Land and Sea Integrated Monitoring for Environment and Security

Strengthening the foundations of space science and technology has been specifically included in the EU's FP7. Coordination between the EU's FP7 and ESA's technology programme has been substantially strengthened during the past year.

Europe continues to be ambitious in terms of innovation, identifying critical technologies and guaranteeing their funding, while closely monitoring technology transfers, both for security and commercial reasons. The European Commission, ESA and EDA are closely cooperating in this endeavour. A joint event to raise political awareness for the definition of a harmonised Europe-wide approach on Critical Technology for European Non-Dependence in space is scheduled for 9 September 2008. ESA will propose to its Ministerial Council in November 2008 a programme element related to critical space technologies, European strategic non-dependence and industrial competitiveness.

The ESA mandatory Science Programme will complete its first 20 year Long-Term Plan, started in 1984 under the name "Horizon 2000", with the dual launch in early 2009 of the "Herschel" Space Observatory and the "Planck" spacecraft by an Ariane-5 launcher. A wealth of scientific satellites and space telescopes has been launched under the Plan, such as NEWTON and INTEGRAL[7].

Key issues ahead:

- Maintain commitment and investment in space-related science and technology;
- Define a harmonised Europe-wide approach on Critical Technology for European non-dependence in space technology. ESA is to submit a related programme proposal to its 2008 Ministerial Council.

3.2. Access to Space

An independent, reliable and cost-effective access to space is of vital importance for the implementation of the ESP.

Progressively, a flexible range of launchers will be made available through a single operator from the Guiana Space Centre, with the ESA-developed Vega launcher and the Russian Soyuz launcher joining Ariane 5. In addition, several medium-size European satellites are launched on Russian launchers from the space port of Baikonour.

In 2006-2007, Arianespace placed a total of 22 telecommunication satellites in orbit through eleven successful Ariane 5 launches, carrying 80% of all commercial satellites in 2007. Seven launches are planned for 2008.

Key issues ahead:

- For Ariane to remain the reference commercial launch service on the market against the current unfavourable US Dollar/Euro exchange rates is a major challenge for Europe. This must be addressed during 2008;

[7] Aimed in particular at collecting evidence of the objects responsible for producing the antimatter and the first detection of the long sought 'cosmic web'

- ESA is to prepare scenarios for the next generation of launchers.

3.3. Exploration of the Solar System, International Space Station and Human Space Flight

ESA and a number of Member States have been playing a key role in the definition of an international Global Space Exploration Strategy and in preparing the framework for international coordination of space faring nations through the International Space Exploration Coordination Group (ISECG). A number of important European missions have been launched or are being prepared.

ESA's ExoMars mission has significantly evolved to a high performance Mars exploration mission[8]. Cooperation agreements have been established between ESA and NASA in order to enhance the mission's robustness and its scientific value. In parallel, an agreement has also been concluded with the Russian Federal Space Agency for cooperation with the Russian sample return mission from Phobos, a moon of Mars.

The International Space Station (ISS) Programme is proceeding towards the 'Assembly Complete' stage by 2010, with a 6-person crew planned for May 2009. The facility offers unique opportunities for fundamental and applied research. European participation with the successful launch of Node2[9] in October 2007, the Columbus laboratory in February 2008, the Automated Transfer Vehicle (ATV-1) "Jules Verne" in March 2008, as well as the presence of European crew, secures a visible European role in this endeavour. These successes have confirmed Europe's ability to make significant contributions to global space exploration, and indeed to expand its role beyond its level of 8 per cent participation in the ISS. Time has now come for reaping the benefits of long-term investments for scientific progress and for preparing exploration of the Solar System. However, space exploration requires very substantial resources and therefore has to be an international endeavour.

Key issues ahead:

- The important resources necessary for space exploration call for a strong commitment from Europe to define its contribution and pool its resources to offer a coherent and efficient European contribution to this global initiative;
- The European Commission intends to conduct a political debate to assess the potential EU contribution to this endeavour.

4. A COMPETITIVE EUROPEAN SPACE INDUSTRY

The **commercial space market** has created a significant value chain in derived services, but also produced socio-economic and indirect benefits. **Public commitments** are however required to create a critical mass stimulating further public and private investment. The European **GALILEO and GMES** initiatives **will create significant opportunities** for user-

[8] 1st mission in ESA's Aurora Exploration Programme.

[9] It provided the interconnection point between the US Destiny, ESA Columbus and Japanese Kibo laboratories and has hence been named 'Harmony'

driven applications and services and contribute to the emergence of new **European downstream markets**.

The evolution of European user needs requires the development of integrated space systems, seamlessly linking satellite and terrestrial telecommunications, positioning and monitoring in areas of strategic, economic and/or societal value. The development of GMES and GALILEO services as well as their integration with satellite communications has been supported under the EC framework programmes for RTD. ESA is developing a proposal for an Integrated Applications Promotion (IAP) programme, designed to systematically foster the use of integrated space technologies, in a wide range of operational services.

The ESP underlined the need for an industrial policy taking into account the specificities of the space sector. The regulatory framework is a crucial element of any industrial policy. The European Commission has initiated a consultation process with industry to identify its needs for regulatory and/or deregulatory action in the space domain. In addition, it has mandated the European Committee for Standardization (CEN) to conduct an assessment of future standardisation needs of the space sector and to establish a standardisation programme proposal for space. As a start, a feasibility study, presented in June 2008, identified those specific sectors for which a detailed needs analysis will be performed.

Given the established track record of the satellite communications sector, ESA is increasingly successful in introducing public-private partnerships into its development programmes, including tenders for relevant mission payloads from interested private Satellite Operators.

Key issues ahead:

- Promote the further integration of satellite-based as well as terrestrial observation, navigation and communication services to strengthen European downstream markets for applications and services;
- Further develop an industrial policy taking into account the specificities of the space sector and stimulating innovation and competition while supporting industry to manage highly cyclical variations in demand, to invest in technology and to ensure the maintenance of critical technologies.
- Complete ongoing needs analysis for regulatory and/or deregulatory action in the space domain, as well as future standardisation requirements. Prepare a standardisation programme.

5. GOVERNANCE

5.1. Institutional and financial framework

The Framework Agreement between the European Community and ESA entered into force in 2004 and has been extended in 2008 for a further four years until 2012. Its effectiveness will be kept under review.

This institutional framework for space should continue to encompass activities in which Member States would participate optionally under intergovernmental arrangements, while, in

addition, drawing on resources from research and, as appropriate, operational Community budgets.

The European Commission launched a call for tender for an expert study to analyse the framework conditions affecting the European space sector. This analysis will in particular focus on financing instruments and schemes required for long-term space activities in Europe and key regulatory issues affecting the European space sector.

Key issues ahead:

- EU and ESA to pursue closer and more efficient cooperation, based on the Framework Agreement, while exploring the need and mechanisms for future adaptations;
- Address the future programmatic, financial and institutional framework (governance) for European space activities;
- Tackle the need to ensure sustainable services through operational Community funding for space applications.

5.2. European Space Programme

First elements of a European Space Programme, that should encompass all important European and national programmatic activities, were submitted by the European Commission and ESA in association with the ESP in April 2007.

The European Space Programme is the practical implementation of the ESP whose success relies on a European coordinated approach to space activities. The European Space Programme will be further developed in 2009, through the High Level Space Policy Group, based on recommendations from a dedicated *ad hoc* working group composed of Member State representatives.

5.3. International Relations

With the main initial objective to improve transparency and coordination among ESP stakeholders, the EC-ESA Joint Secretariat, in collaboration with Member States and EUMETSAT, has developed ***'Elements for a European Strategy for International Relations in Space'*** (**annexed**).

This document emphasises the need and desire of European stakeholders involved in space to **speak with one voice on the international scene**. It aims to set common principles while providing a tool to enable ESP stakeholders to **share and exchange information** on their activities and relevant priorities and **coordinate their actions**. The document stipulates that international cooperation in space must be **coherent with the EU's external policy priorities**, e.g. through using the potential of space systems for sustainable development, in particular in Africa. International cooperation must furthermore contribute to the practical implementation of European space programmes.

Key issues ahead:

- Further develop transparency, information exchange and coordination on the space related International cooperation activities of EU, ESA, their Member States and EUMETSAT, in line with the 'Elements for an International Relations Strategy';
- Continue work on the future elaboration of a fully fledged ESP International Relations Strategy, including specific strategies for GMES and GALILEO.
- Further strengthen coherence between ESP, international cooperation in space and EU external policies.

6. EMERGING ISSUES

6.1. UN Code of Conduct on outer-space activities

In view of the global nature of space activities and in the interest of sustainability of space activities and infrastructure, the EU has been preparing a draft code of conduct / guidelines on outer-space activities for the consideration of the relevant UN bodies, based on the principles of free access to space for its peaceful exploration and use; preservation of security and integrity of satellites in orbit and the right to legitimate self defence by states.

Key issues ahead:

- Pursue EU efforts to strengthen the basis for sustainability of space activities and objects within the UN.

6.2. Security of space infrastructure and Space Situational Awareness

Any disruption in the availability and functioning of space-based systems could today have significant consequences on security, safety and economic activities. It is thus crucial to understand and to monitor the population of space objects, the environment of space itself, and the potential of existing threats and risks to space systems, known collectively as Space Situational Awareness (SSA). Up to now Europe does not have its own independent capacity and is partly dependent on US data to monitor the population of space objects.

As a result, ESA is currently preparing a programme proposal with a view to creating a European SSA capacity. Guidance on the needs and requirements for such a system has been provided by a user group representing user communities (civil, military, operators, insurance companies, scientific community, and other institutions). The EDA has created a project team tasked to define ESDP-related SSA requirements by 2009.

The current ESA proposal provides for such a system to be based on the federation of existing European ground assets and cooperation of available space segments, supplemented by new ground infrastructure deployment, data centres and space-based precursor services. ESA is discussing with its Member States the results of a study on 'SSA Governance and data policy'. The EU Council General Secretariat, the European Commission and EU Member States will be involved in this discussion, including international implications, in view of finding a commonly acceptable solution.

Key issues ahead:

- ESA and the European Commission will continue to identify potential threats to the functioning of space-based-systems and the way to monitor these, leading potentially

to the creation of a European Space Situational Awareness capacity, based on an ESA programme proposal.

ANNEX

Elements for a European Strategy for International Relations in Space

I. BACKGROUND

Europe must remain a leader in space systems and an indispensable international partner providing first class contributions to global initiatives and exerting leadership in selected domains in accordance with European interests and values.

The European Space Policy has identified that, in order for Europe to respond to global challenges and to play a global role, the strategic mission of space activities in Europe must be to seek:

– to develop and exploit space applications serving Europe's public policy objectives and the needs of European enterprises and citizens, including in the field of environment, development and global climate change;

– to meet Europe's security and defence needs as regards space;

– to ensure a strong and competitive space industry which fosters innovation, growth and the development and delivery of sustainable, high quality, cost-effective services;

– to contribute to the knowledge-based society by investing strongly in space-based science, and playing a significant role in the international exploration endeavour; and

– to secure unrestricted access to new and critical technologies, systems and capabilities in order to ensure independent European space applications.

The impact assessment done by the European Commission [10] for the European Space Policy concluded that cooperation with key international partners is indispensable to the delivery of many of these objectives. Further refinement of the International Strategy will make use of the analyses performed annually by ESA on the global space sector and on the European space sector in the global context.

Optimal results in such cooperation can be achieved through an improved coordination of international cooperation activities across Europe and the sharing of resources in the best way.

International cooperation, embedded in the EU's external relations, can also serve as a market-opener for the promotion of European technology and services in the space field and in this way reinforce this strategic industrial sector. In addition, it can support the promotion of the values as they have developed for Europe through projects focused on environmental protection, climate change, sustainable development, education, access to knowledge/data for support of the infrastructure of developing countries, and humanitarian actions.

The May 2007 Space Council Resolution on the European Space Policy, invited '*…the European Commission, the ESA Director General and the Member States to develop and*

[10] SEC (2007) 506 / supported by an external expert study.

pursue a joint strategy and establish a coordination mechanism on international relations. This strategy should be consistent with Member State activities and is aimed at strengthening Europe's role in the global space field and at benefiting from international cooperation, notably with respect to issues listed in Annex 3 [to the Resolution].'

The present European Strategy for International Relations in Space shall provide for a tool to enable stakeholders under the European Space Policy to coordinate actions and share information and resources and to define their relevant priorities in terms of actions and international partners and their respective roles.

II. PRINCIPLES

- International cooperation on space is not a goal in itself. The fundamental principle underlying cooperation is that it must **serve the interests of** Europe while enabling it to **contribute to global initiatives**. It must contribute to the implementation of European Policy objectives, for example in the areas of environment, transport and agriculture, in coherence with European values.

- It must equally **contribute to** the practical implementation of **European space programmes**, through the optimisation of the available technical and financial resources.

- It needs to be **coherent with and support the implementation of the EU external and trade policy** priorities through greater systematic integration of space based applications and services into European foreign policies, whether at EU level, or nationally in coordination.

- It must seek to enhance the **European space industry competitiveness** in order to give the EU autonomous and independent decision making and policy implementation capabilities. Depending on the specific objective, and given the availability of European resources and capacities, a **right balance** has to be found in each case between cooperation and the **sharing of resources** among international partners, on the one side, and the creation and enhancement of **autonomous European capacities**, on the other side, through the **development** of European **space based and space related assets** and infrastructure, including technologies.

- Europe can cooperate in a substantial way with a limited number of parties. While dialogue and exchange of information could involve all partners with a substantial interest in space, practical international **cooperation at a European level** has **to follow priorities** set on the basis of the principle of **mutual benefit** and driven by **political, programmatic and budgetary considerations.**

- In pursuing international cooperation objectives and activities, European stakeholders are committed to fully comply with UN Treaties and Conventions, specifically those designed to address activities in outer space.

III. OBJECTIVES

The priority objectives of the European Strategy for International Relations in Space are to:

- Create synergies and complementarities between European services (notably **GMES** and **GALILEO**), their **international dimension**, and key strategic policy objectives and demands of the European Union. Ensure EU autonomous capacity as well as interoperability, cooperation and exchange with global, regional and national services run by relevant international partners.

- Reinforce the **contribution** of Europe **to global initiatives**, such as through the development of GMES as European contribution to worldwide efforts in establishing a **Global Earth Observation System of Systems** (GEOSS), as well as through the Global Exploration Strategy (GES) Group. Make full use of the potential of European space systems for the relevant EU policies on addressing **Global challenges**, notably **sustainable development, humanitarian aid** and **climate change**.

- Define a coherent European **data policy** in view of cooperation with international partners on the use of space based applications and services and relevant data exchange, to maximise the public interest.

- Contribute to **innovation** through international cooperation in **space science**, space related research, space based applications and **space exploration**, including enabling Europe to participate in ambitious programmes the cost of which is too great for any one space power. Seek to create synergies and coherence between different technology and research programs.

IV. METHODOLOGY

Coordination mechanism

- The European Commission, ESA, EUMETSAT and Member States will **exchange information** and consult each other on ongoing and planned major international cooperation activities related to space. The High-level Space Policy Group (HSPG) is to give general guidance on the coordination of international relations.

- The EC-ESA **Joint Secretariat** will provide for the necessary practical coordination, annual update, and access to the provided information, including through the setting-up of an **e-information-network for international relations**[11]. All stakeholders will inform partners through the Joint Secretariat / e-network about their major cooperation activities (e.g. conclusion or revision of important cooperation agreements or projects). Member States will receive regular progress reports at HSPG or Space Policy Expert Group meetings.

- In full coherence with the general targets set by this strategy, the European Commission and ESA will undertake a regular analysis in order to define their

[11] Consisting of a network of e-mail contact points coordinated by the Joint Secretariat.

individual programmatic needs for concrete international cooperation actions, based also on relevant existing and planned specific strategy and programme documents.

- The coordination mechanism will rely on the existing structures for international relations within EU and ESA, notably the relevant geographical or thematic EU Council groups and the ESA International Relations Committee (IRC) with their established responsibilities. Established competencies of the EU Council and Presidency in representing and coordinating EU positions in international relations in general, together with the European Commission, will be fully respected.

- Europe will be in a better position to achieve its jointly formulated objectives when **coordinating** actions and **speaking with one voice** on the international scene. The coordination of **dialogue and cooperation** on space **with international partners** will be based on an agreed set of priorities in terms of partners and activities, and the respective roles. The EU will take the lead in the overall representation of applications programmes for its policies (in particular GALILEO / EGNOS, GMES and joint EU-Africa Partnership on Science, Information Society and Space[12]), while the European Space Agency will take the lead in the overall representation of Europe on programmes in the areas of science, exploration, launchers, technology and human spaceflight, each in consultation with the other and with Member States and, as appropriate, other relevant European partners such as EUMETSAT.

Coordination in a multilateral context

- EU and ESA Member States will increase their coordination in the framework of **international organisations** and **multilateral space cooperation**, including the relevant **UN** bodies. Together with the ESA Executive and the European Commission, they aim at an improved and consistent coordination of their positions prior to international meetings. The ESA Executive and the European Commission will propose those topics for which a common European position could be envisaged. Key thematic areas for such coordination could include:

  – The peaceful use of outer space.
  – The mitigation of space debris, the protection of space infrastructure and potential hazards from space.
  – nuclear power sources
  – disaster management
  – GNSS
  – International space law

  Prior to United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) meetings, ESA and the European Commission will organise a coordination session with participating ESA and EU Member States to decide on such common positions.

[12] endorsed by the December 2007 EU-Africa Summit in Lisbon in the framework of the EU-Africa Joint Strategy and Action Plan

- Where appropriate, the European Commission and the EU Council Secretariat will consult ESA on EU initiatives on space related issues within the UN framework, notably the **General Assembly and its First Committee** (Disarmament and International Security).

Coordinated Space Dialogue with international partners

- The European Commission and the European Space Agency will **jointly represent** Europe in a **structured space dialogue and cooperation** with the **strategic partners, U.S.** and **Russia**. They will ensure a shared co-leadership on the different topics, in line with their political, programmatic and financial responsibilities. They will be accompanied by EUMETSAT where appropriate. Dialogues with other international partners could be envisaged, following a proper assessment of needs and benefits, notably in terms of the development of a mutually beneficial cooperation, and the identification of other potential strategic partners.

- The European Commission and ESA will **coordinate** their **dialogue and cooperation** activities on space **with other established and emerging space powers**, and provide regular information to each other, and to the HSPG. Particular attention should be paid to countries covered by the European Neighbourhood Policy.

- The implementation of the **joint EU-Africa Partnership on Science, Information Society and Space** will require the establishment of a Space Applications Working Group to be set up by the EC and the African Union Commission, with ESA and EUMETSAT participation. Priority actions and projects will be based on requirements laid down by African stakeholders, through the African Union Commission. The first such priority identified in the Lisbon Declaration of December 2007 is the preparation of an **Action Plan on GMES and Africa.** EU and ESA Member states will be invited to play an active role, including through their national policy instruments.