

European GNSS Agency

34th meeting of the Administrative Board

Prague, 8 November 2012

Annual Work Programme 2013

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NOT FOR PUBLICATION

ADMINISTRATIVE BOARD DECISION

of 8 November 2012

concerning the adoption of the 2013 Work Programme, serving as a financing decision

GSA-AB-34-12-11-08-02

THE EUROPEAN GNSS AGENCY,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 912/2010 of the European Parliament and of the Council of 22 September 2010 setting up the European GNSS Agency, repealing Council Regulation (EC) No 1321/2004 on the establishment of structures for the management of the European satellite radio navigation programmes and amending Regulation (EC) No 683/2008 of the European Parliament and of the Council (hereinafter referred to as the "GSA Regulation")¹, and in particular Article 6(b) thereof,

Having regard to Regulation (EC) No 683/2008 of the European Parliament and of the Council of 9 July 2008 on the further implementation of the European satellite navigation programmes (EGNOS and Galileo) (hereinafter referred to as the "GNSS Regulation")², and in particular Article 16 thereof,

Having regard to GSA Financial Regulation (GSA-AB-08-11-18-02) and in particular Article 60 thereof;

Having regard to Regulation (EU, EURATOM) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002³, and in particular Article 84 thereof,

Having regard to Commission Delegated Regulation (EU) No 1268/2012 of 29 October 2012 on the rules of application of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council on the financial rules applicable to the general budget of the Union⁴, and in particular Article 94 and 190(1) thereof,

Whereas:

- (1) This Decision should allow for the award of grants and procurement contracts for the reasons and amounts set out in the Work Programme.
- (2) This Decision should allow for the payment of interest due for late payment on the basis of Article 69 of the GSA Financial Regulation.⁵

¹ OJ L 276, 20.10.2010, p. 11.

² OJ L 196, 24.7.2008, p.1.

³ OJ L 298, 26.10.2012, p. 1–96.

⁴ OJ L 362, 31.12.2012, p. 1–111.

⁵ Article 83 of Regulation (EC, Euratom) No 1605/2002 and Article 106(5) of Regulation (EC, Euratom) No 2342/2002.

- (3) For the application of this Decision, it is appropriate to define the term 'substantial change' within the meaning of Article 94(4) of Commission Delegated Regulation (EU) No 1268/2012.

HAS DECIDED AS FOLLOWS:

Article 1

The 2013 Work Programme for the implementation of the GNSS Regulation and GSA Regulation (hereinafter "Work Programme"), as set out in the Annex, is adopted. It constitutes a financing decision in the meaning of Article 60 of the GSA Financial Regulation.

Article 2

The maximum contribution for the 2013 work programme is set at EUR 12.734.000. Activities financed through external assigned revenue arising from delegation agreements signed between the GSA and the European Commission⁶ are included in the work programme for information

These appropriations shall cover interest due for late payment.

The implementation of this Decision is subject to the availability of the appropriations provided for in the draft budget for 2013 after the adoption of the budget by the budgetary authority or provided for in the provisional twelfths. Only if the annual budget has not yet been adopted at the time the financing decision is to be adopted.

Article 3

Grants and procurement contracts, if foreseen in the Annex, may be awarded in accordance with the conditions and for the amounts set out in the Annex.

Done at Prague, on 21 March 2013.



For the GSA Administrative Board
Ms Sabine Dannelke

⁶ Delegation Agreement Between the European Union and the European GNSS Agency on the Implementation of TASKS Related to the Preparation of the Exploitation Phase of the European GNSS Programmes and the Support to the Commission Application Plan, signed in Brussels on 15 May 2012 (hereinafter referred to as the "2012 Delegation Agreement"); Delegation Agreement Between the European Union and the European GNSS Agency on the Development of a Standalone First Generation PRS Receiver Within the Frame of the PRS Pilot Project and the Implementation of Preparatory Activities Related to the Setting Up of the Galileo Security Monitoring Centre signed in Brussels on 9 September 2011 (hereinafter referred to as the "PRS Delegation Agreement"); Delegation Agreement on Implementation of the Specific Programme "Cooperation", theme No.7 "Transport including aeronautics", sub-theme Galileo, by the European GNSS Agency, signed in Brussels on 1st April 2011

ANNEX

Regulation (EU) No 912/2010 of the European Parliament and of the Council of 22 September 2010
- **Work Programme for 2013**

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1. INTRODUCTION

This Work Programme contains implementing measures for the European GNSS Agency (GSA) for the year 2013 on the basis of the tasks outlined in the GNSS Regulation, the GSA Regulation, and the relevant framework documents and guidelines.

Certain of the activities foreseen in this work programme are, based on the assumption that the Commission Proposals for a new GNSS Regulation and for a revision of the GSA Regulation, currently pending before the EU legislator are adopted without substantial changes.

It should be noted that the term 'Galileo', as used in this document, refers to the Galileo Programme and the satellite navigation system established under the Galileo Programme.

, the budget breakdown and main actions needing Financing Decision are as follows:

For grants (8.1)
There are no new grants planned in 2013

For grants implemented under delegation from the European Commission* (8.2)
There are no new grants under delegation planned in 2013
<i>* As delegated to the Agency by the European Commission.</i>

For procurement* (8.3)		
Activity	Main Actions	Budget
Security (8.3.1)	- Provision of support to the GSA in the Security Accreditation activities – Specific Contract	€1,350,000.00
	- Provision of support to the GSA in the Security Accreditation activities – Specific Contract	
	- Security Accreditation activities: Direct support to Member States participants	
	- Provision of support to the GSA in the PRS and GSMC activities – Specific Contract (GSMC)	€850,000.00
Market Development (8.3.2)	- EGNOS user development in aviation	€500,000.00
	- EGNOS and Galileo user development in road transport	
General Administration, IT and Logistics (8.3.3)	- Quality certification of the GSA – “Consultancy services for ISO certification procedures (ISO standards 2700x and 900x”	€100,000.00
Communication (8.3.4)	- Communications Events	€260,000.00
	- Website maintenance and content	
Total		€3,060,000.00

** Implemented under GSA operational budget.*

For procurement implemented under delegation from the European Commission* (8.4)		
Activity	Main Actions	Budget
Security (8.4.1)	- Provision of support to the GSA in the PRS and GSMC activities – Specific Contract (PRS)	€700,000.00 (delegated)
Support to the GNSS Application Action Plan (APPAP) (8.4.2)	- Contribution to implementation of EC Application Action Plan, concentrating on priority markets	€1,700,000.00 (delegated)
	- Monitoring the status of APPAP execution	
	- Support to EC activities targeting SMEs	
	- Market analysis and customer support for initial services provided by Galileo	
Preparatory Tasks for the Exploitation of EGNOS and Galileo (8.4.3)	- Support in the field of aviation	
	- Engineering support for exploitation preparation	€1,000,000.00 (delegated)
	- Engineering support for EGNOS in Africa	€0.00**
	- 2014 EGNOS exploitation for signal provider contract	€25,300,000.00 (delegated)
Communication [in the framework of EC APPAP]	- European Space Expo Project	€330,000.00 (delegated)
	- New website development and content for EGNOS and	



support] (8.4.4)	Galileo - Publications, Advertising and Video	
Total		€28,730,000.00

** On-going implementation – Carried forward from 2012.

For other actions (8.5)

There are no other actions planned in 2013

For other actions implemented under delegation from the European Commission* (8.6)

Activity	Main Actions	Budget
Research and Development	- Administration of the FP7 funds; - Organisation of liaison workshops.	€0.00**

* As delegated to the Agency by the European Commission, but not falling under Grants and/or Procurement category.

** On-going implementation – Carried forward from 2012.

2. LEGAL REFERENCES FOR THE WORK PROGRAMME 2013

According to Article 6(b) GSA Regulation, the Administrative Board shall adopt the Work Programme 2013 of the Agency by 15 November 2012, after receiving the opinion of the European Commission. A Provisional Work Programme 2013 shall be forwarded by the Administrative Board to the European Commission, together with the draft Statement of Estimates, by March 31st 2012 (Article 13.6 GSA Regulation).

The Work Programme 2013 reflects the tasks that are entrusted to the Agency in light of the GSA Regulation and the GNSS Regulation. Furthermore, it takes into account (1) the European GNSS Strategic Framework⁷ and (2) the guidelines issued by the Commission in accordance with Article 16 GNSS Regulation⁸, including the Working Arrangement for the execution of security related tasks of the European GNSS programmes between the European Commission and the European GNSS Agency⁹, the PRS Delegation Agreement 2011¹⁰, the PRS Decision.¹¹

3. MISSION AND TASKS OF THE GSA

The overall mission of the Agency is laid down in the GNSS Regulation. Article 2 GSA Regulation, which defines the tasks conferred to the Agency, refers to Article 16 GNSS Regulation which reads:

"Subject to the provisions of Article 12 [GNSS Regulation] and the respect of the Commission's role as manager of the programmes, the Agency shall accomplish the following tasks within the programmes in accordance with guidelines to be issued by the Commission:

- (1) with regard to the security of the programmes, and without prejudice to Articles 13 and 14 [GNSS Regulation], it shall ensure:
 - (a) security accreditation¹²; to that effect it shall initiate and monitor the implementation of security procedures and perform system security audits;
 - (b) the operation of the Galileo security centre, implemented in accordance with decisions taken pursuant to Article 13 [GNSS Regulation] and the instructions provided under Joint Action 2004/552/CFSP;

⁷ Approved by the European GNSS Programmes Committee in September 2008

⁸ "Commission guidelines to the European GNSS Supervisory Authority," C (2009)1153 final, 25 February 2009

⁹ Agreement in the form of Exchange of Letters on a Working Arrangement for the execution of security related tasks of the European GNSS programmes between the European Commission and the European GNSS Agency, Ref. ENTR/GP2 AN/am Ares (2010)1087450 dated 28 January 2011.

¹⁰ Delegation Agreement between the European Union and the European GNSS Agency on the development of a Standalone First Generation PRS Receiver within the frame of the PRS Pilot Project and the implementation of preparatory activities related to the setting up of the Galileo Security Monitoring Centre, signed 09/09/2011.

¹¹ Decision No 1104/2011/EU of the European Parliament and of the Council of 25 October 2011 on the rules for access to the public regulated service provided by the global navigation satellite system established under the Galileo programme

¹² Article 3 of GNSS Agency Regulation creates the Security Accreditation Board as a body of the Agency.



- (2) it shall contribute to the preparation of the commercialisation of the systems, including the necessary market analysis;
- (3) it shall also accomplish other tasks that may be entrusted to it by the Commission, in accordance with Article 54(2)(b) of the Financial Regulation, addressing specific issues linked to the programmes, such as:
 - (a) promoting applications and services in the satellite navigation market;
 - (b) ensuring that the components of the systems are certified by the appropriate, duly authorised, certification bodies"

A number of other tasks are included in this Work Programme for 2013, such as exploitation tasks for EGNOS and Galileo, implementation of FP7 related tasks and implementation of PRS pilot project. These tasks are delegated to the Agency through specific delegation agreements from the Commission¹³. The tasks, when mentioned later in the document, are marked as 'Delegated Tasks'.

Other potential areas for delegations are given in recital n°8 of the GSA Regulation. Such activities could, for example, include: following-up the development of coordination and consultation procedures on security related matters, carrying out research of benefit to the development and promotion of the programmes and providing support in the development and implementation of the Public Regulated Service (PRS) pilot project.

4. LONG-TERM VISION AND STRATEGIC OBJECTIVES

The vision and strategy that constitute the background of the 2013 GSA Work Programme based on the Commission's European GNSS Strategic Framework, the Agency's experience of the programmes and knowledge of the forward-looking positions of the Council, European Parliament and Commission.

Vision

After the successful launches of the first four IOV satellites (October 2011 and October 2012), the Galileo Program is now facing the start of "early service provision" (OS, SAR, PRS and CS demonstration) actually foreseen for 2014.

Such a milestone is key, because it determines the window market of opportunity for Galileo which is tight due to the concurrent advent of GPS III and GLONASS CDMA (and COMPASS). In this context, the recent GNSS Regulation proposed by the Commission in November 2011 introduces the need to properly prepare the exploitation phase and brings the European GNSS Agency back to the centre of the program, having main responsibilities for operation and service provision as of January 2014 for EGNOS and (January 2016) for Galileo. Given this evolution, the European GNSS Agency has a challenging future ahead since it needs to develop, within a short period (four years), a knowledge basis and an operating structure which currently do not exist in the Agency today. This is essential if Galileo is to truly become the first worldwide civil GNSS service provider of (safety) critical service with high standards for professional performances and quality management.

The following elements will also guide the long-term vision of the Agency:

- GNSS enable applications that can profoundly improve mobility and security of goods across all transportation modes, enhance personal mobility and productivity.
- GNSS are more and more configuring themselves as a 'multi-constellation' system, of which Galileo will be a key element. This evolution will also drive the provision of the future EGNOS SBAS services, enhancing their performance and coverage area.
- Galileo will allow Europe to realise its objective of autonomy in GNSS, a strategic and crucial technology. Within European Member States, the effective implementation of government policy and regulations, and widespread reliance on satellite navigation services, cannot be ensured if users are completely dependent on a single system outside of European control.

¹³ 2012 Delegation Agreement, *Ibid*.

- As the universal system driven by Europe, Galileo aims at adding value to users vs. current systems on the market, enabling (with EGNOS) important public benefits (EUR billion 40-60 cumulative 2010-2027), contributing to the EU return on investment, and ensuring that European industry and European users benefit substantially from these new applications.
- Users and stakeholders for localisation, navigation and timing applications are increasingly aware of the strategic importance of Global Navigation Satellite Systems. The services provided by these new systems are already deeply integrated into many of the critical infrastructures which provide the foundations to our modern societies, essential areas such as transport,, energy, telecommunications, trade and banking, to name a few. The system established under the Galileo Programme is built specifically to meet these needs and corresponding markets as closely as possible, providing appropriate service guarantees and performance.
- The Agency will help the EU reap the benefits of EGNOS and Galileo by preparing, promoting the services, launching initiatives to develop new applications and enter the market. In particular, the successful 2009-2011 EGNOS market entry demonstrates the EU's ability to market a new satellite navigation infrastructure.
- Building EGNOS and Galileo market penetration requires constant update of market knowledge on users and key players in the value chain, which is only achievable via concrete on-going interaction in the marketplace. The Agency will contribute to building and updating market knowledge for the European GNSS programmes.
- The public sector across the EU is key in fostering European GNSS adoption since, in most market segments; it acts as a customer or as a key stakeholder. A targeted action plan will have a multiplier effect on market penetration of EGNOS and Galileo.
- EU Member States and institutions will have to satisfy security injunctions induced by this strategic dimension of the system established under the Galileo Programme, which is therefore considered to be a model for developing an EU Internal and Space Security Policy.
- The Agency is a key stakeholder for the overall security of the systems by accrediting of the different elements thereof and operating the GSMC.
- PRS is for use by government authorised users. This represents a unique opportunity to PRS end-users in the civil sectors, including domestic security and police forces, transport operators, critical infrastructure and many others.
- Effective control of access and the potential to deny services in certain situations has to be ensured. The PRS has been developed to support EU Member States and the institutions of the Union.
- The Agency may be the PRS Service Provider, promoting the service and ensuring its utilisation in accordance with the access policy established by the Council and the European Parliament¹⁴.
- The Agency will contribute to develop the PRS user segment with the objective to maximise PRS adoption.

Strategic objectives

2013 will be a transition year for the Agency in view of the key milestones to be met first for EGNOS and then for Galileo. The 2013 GSA Work Programme has been designed to reflect the activities that need to be carried out in 2013 towards the achievement of the following main strategic objectives:¹⁵

¹⁴ Decision No 1104/2011/EU of the European Parliament and of the Council of 25 October 2011 on the rules for access to the public regulated service provided by the global navigation satellite system established under the Galileo programme

¹⁵ The strategic objectives are mid/long-term objectives aiming at the full operational capability and exploitation of the European GNSS.



- To develop efficient, flexible and effective working arrangements with ESA and the European Commission for the management of the EGNOS and Galileo Exploitation phases, based on mutual trust, shared objectives and clear/effective division of responsibilities;
- To realise a smooth deployment of the Agency's operational teams to the GSMC sites;
- To find stability in terms of operating structure and functional processes, following the Agency relocation to Prague and the transfer of the operational teams to the GSMC sites;
- Gradually achieve an efficient, continuous, stable accreditation process at the service of the Security Accreditation Board in view of the challenging system deployment;
- Under a delegation by the European Commission, to:
 - a. Develop the Galileo service provision Invitation To tender;
 - b. Develop, through the existing pilot project and an active involvement of Member States, a consolidated PRS user segment;
 - c. Set the basis for an effective management of H2020¹⁶ with the aim to foster application and service, user segment technologies instrumental to a true value creation by EU industrial sector;
- Structure user demand and provide answers through a diversified service offering;
- Fine-tune market understanding with the final aim to interpret user needs and translate them into mission evolution;
- Ensure that all prerequisites for secure systems operation are in place in time to protect the Galileo assets and to guarantee the confidentiality¹⁷, integrity and availability of the services provided;
- Ensure, through an accreditation process, that the risks affecting the security of the system are appropriately mitigated and the residual vulnerabilities reduced;
- In coordination with the EC, to ensure that all prerequisites for efficient operation and extensive utilisation of the systems are in place in time for the exploitation phase;
- Ensure a thorough knowledge and understanding of the GNSS market, i.e. the users and actors of the value chain; this will enable to steer service definition, to stimulate successful market uptake and to support the European GNSS programme with authoritative information;
- Facilitate and in some cases drive the development of innovative and critical applications to stimulate the GNSS market; foster GNSS related business creation by encouraging business planning within R&D projects and by engaging SMEs; and
- Promote the services of the European GNSS systems, with the focus on EGNOS as the forerunner of Galileo, also monitoring satisfaction of identified customer needs, aiming at steering service levels accordingly.

5. MAIN ASSUMPTIONS OF THE WORK PROGRAMME 2013

The Work Programme 2013 is drafted based on the following assumptions:

5.1 Galileo:

- Launch 3 – September 2013
- Launch 4 – December 2013
- Galileo Security Facility (GSF) CDR Board – October 2012

¹⁶ Horizon 2020, http://ec.europa.eu/research/horizon2020/index_en.cfm

¹⁷ "Confidentiality" in the present context means the need to protect against unwarranted disclosure of information associated to the service.

- GSF Start of Deployment – November 2013
- GSF Acceptance Review – June 2015
- GSA Budget in line with financial needs for relocation of GSMC Team to GSMC sites at the latest on 1 September 2013
- FR and/or UK GSMC sites delivered in time (May 2013 at the latest) and with appropriate support for authorising the relocation of the GSMC Team
- GSMC HR Needs satisfied, including posts for SNEs published in 2012
- The Agency is not supposed to rebuild an expertise on the definition, development and maintenance of a European GNSS Technology Control Regime.¹⁸

5.2 EGNOS:

- A system risk analysis will be conducted by EC in 2012/13 and should be concluded by the definition of System-specific Security Requirements Statement (SSRS) and the establishment of the associated costs into the EGNOS Programme.
- An accreditation process could be started in 2013, in line with implementation of EGNOS SSRS.

5.3 FP7:

- FP7 activities in the Agency will be closed after completion of contracts awarded in the third Galileo Call (expected in 2014 and 2015).
-

5.4 PRS Pilot Project:

- The Agency provides support on the P3RS projects I and II (P3RS1 and P3RS2).
- P3RS1 is a framework contract supporting the definition and development of the PRS Pilot Projects, to be awarded by the EC in 2012.
- P3RS2 includes purchasing of 20 PRS pre-operational receivers and firm price commitment for optional purchase of further batches of receivers. Development and delivery of the initial 20 PRS pre-operational receivers is foreseen no later than end of 2015 (within 30 months from the kick off meeting).
- P3RS2 – pre-selection of candidates (end Phase I) – July 2012
- P3RS2 – evaluation of initial offers (end Phase II) – December 2012
- P3RS2 – signature of contract (end Phase III) – Q2/2013

6. PRIORITIES IN 2013

SECURITY ACCREDITATION	
Security endorsement for the start of the IOV and the first launches and operations of IOC spacecrafts	
GSMC	
GSMC Nucleus providing early security monitoring and reaction capabilities	
GSMC Organisational Design	

¹⁸ The Task Force chaired by the GSA issued in 2010 two recommendations that have been approved by the GNSS SB under silence procedure launched on 21 October 2010 and successfully ended on 8 November 2010. The two recommendations are to set up (1) contractual mechanisms to enforce control on the potential export of Galileo-related items, as well as (2) a mechanism triggering a consultation process when a request for an export licence of a Galileo-related item is being examined. No further tasks have been requested in 2011 and 2012, conducting to the closure of this activity and to the loss of related expertise within the Agency.



Contribution to Operational Equipment Developments
Hosting Infrastructure Agreement
SUPPORT TO PRS
PRS Pilot Projects
7th Framework Programme
PRS User Segment
MARKET DEVELOPMENT
Foster and support the progress of European GNSS systems
Understanding the potential and main trends of the GNSS market
Contributing to the development of the market with specific actions
RESEARCH AND DEVELOPMENT
Keeping the projects in line with the strategic objectives
Maximising the projects' results
Producing an effective communication action for each project
PREPARATORY TASKS FOR THE EXPLOITATION OF EGNOS AND GALILEO
Prepare for the exploitation of Galileo from mid-2015 onwards
Prepare for the exploitation of EGNOS from 1 January 2014 onwards
Prepare the Agency corporate structure for the exploitation phases
Ensure provision of Galileo pre-exploitation operations
SUPPORT TO THE GNSS APPLICATION ACTION PLAN (APPAP)
Implementation of APPAP in priority user segments
Monitoring the status of APPAP execution
Support to EC activities targeting SMEs
Market analysis and customer support for initial services provided by the system established under the Galileo Programme
Awareness building: events and website management
Support in the field of aviation
RELOCATION OF GSMC OPS TO ST-GERMAIN-EN-LAYE AND SWANWICK
Finalize all the contracts and agreements required to operate the GSMC sites
Deploy the necessary ICT and Logistics infrastructure in both sites
Establish efficient communication with the Agency HQ in Prague from both sites
GENERAL ADMINISTRATION, IT AND LOGISTICS
Stabilize the new ICT and Logistics infrastructure in Prague
Establish efficient communication with the GSMC in France and UK
Implement the external part of PRS DMS (service for the Member States)
Start the implementation of a Quality Management System (E.g.: ISO, TÜV)

Enhancing and upgrading the new Administrative Platform
COMMUNICATIONS
Continued EGNOS Market Communication and Promotion
Strengthening of PRS Awareness-building
Strengthening GSA Corporate Communications
Supporting Galileo Exploitation-related Communications

7. WORK PROGRAMME IMPLEMENTATION 2013

The following section describes the activities the Agency expects to perform in 2013 under the supervision of the Administrative Board and consistent with the Commission guidelines as complemented by the working arrangement between the Agency and the Commission.

The Work Programme 2013 is based on the resources that the Agency expects to have in 2013, as presented in the draft Budget¹⁹ and Establishment Plan 2013 submitted to the Administrative Board together with this Work Programme. If the expected resources fail to materialise and/or the specific guidelines issued by the Commission entail significant increases of effort, the extent and priorities of the Work Programme 2013 will have to be adjusted accordingly. Concerning the security area, the security priorities n° 1 (security accreditation) and n° 2 (GSMC) shall be achieved in the first place.

As stated in chapter 3 of this document, Article 16 of the GNSS Regulation is divided into three tasks: (1) security of the programmes; (2) preparation of the exploitation of the systems; (3) other tasks entrusted by the Commission.

This Work Programme is divided in five areas of activity that can be allocated to one of the three tasks.

The first two areas of activity, i.e. Security and Market Development, refer to the tasks (1) and (2) of the above quoted Article 16.

The third area of Research and Development is delegated by the Commission to the Agency under Article 54(b) of the Financial Regulation (see chapter 7.3.1).

The fourth area of activity (Preparatory Tasks for the Exploitation of EGNOS and Galileo) and the fifth area (Support to the GNSS Application Action Plan) are part of task (3) of Article 16 of GNSS Regulation and are based on the 2012 Delegation Agreement²⁰.

A sixth and seventh areas of activity cover separately the general administration of the Agency, IT and logistics as well as the activities related to the relocation of the GSMC OPS to Saint-Germain-en-Laye and Swanwick. The eight area of activity is dedicated to communications and information.

¹⁹ It has to be noted that as regards Security, the operational budget (Title 3) originally requested for 2013 was €3.06M for expertise external support, including €1.35M on Security Accreditation, €0.85M on GSMC and €0.86M on Market Development and Communication.

²⁰ 2012 Delegation Agreement, *Ibid*.

7.1. SECURITY

Main Objectives Overview - 2013

- 1. Security Accreditation: IOV start endorsement, IOC satellites Authorisation to Launch and preparation of the interim approval to operate the system configuration providing OS and PRS early services in 2014 and IOC services in 2015**
- 2. GSMC: provide GSMC-N early security monitoring and reaction capabilities and prepare the GSA to play its role of GSMC operator in 2015.**
- 3. Support to PRS: prepare PRS pilot projects, support PRS R&D and the implementation of CMS, ensure the availability of PRS pre-operational receivers (P3RS2 project) at the IOC milestone.**
- 4. General Support to the European Commission on Security**

7.1.1. Objectives and Priorities

The main objectives and tasks on Security for 2013 are related to the progressive security accreditation of the European GNSS (Galileo and EGNOS) closely linked to the scheduling of their deployment and operations, the preparation of the GSMC operations and the support provided to the European Commission on the development of the PRS Service and User Segment. All these activities should conduct, among others, to the following mid-term core results:

- **Security Accreditation:** interim approval to operate the system configuration providing OS and PRS early services in 2014 and IOC services in 2015;
- **GSMC:** Availability of the GSMC **security monitoring and reaction capabilities for the early services in 2014** and contribute to the preparation of the GSMC Acceptance Review and start full operations (24/7) of the GSMC in 2015, before IOC milestone;
- **PRS:** ensure the availability of PRS pre-operational receivers (P3RS2 project) at the IOC milestone.

7.1.1.1. Security Accreditation

The SAB is the European GNSS Security Accreditation Authority (SAA): all the security accreditation decisions related to the system established under the Galileo Programme are the sole responsibility of the SAB set up inside the Agency as a special body.

The GSA Accreditation Team²¹ plays an important management and coordination role in the framework of the Security Accreditation Panel for European GNSS Systems ("the Panel" or GSAP²² for "GNSS Security Accreditation Panel") and of the European GNSS Crypto Distribution Authority (CDA). Also, the interaction with the SAB shall be taken into account and managed.

The GSAP acts as a technical body to assist the European GNSS Security Accreditation Authority in all aspects related to the accreditation of the system established under the Galileo Programme.

The CDA is a new body which has been created by the SAB in 2011 with a mandate to be refined in the first half of 2013 and fully implemented in 2013.

In this context, the GSA Accreditation Team is required to perform different technical tasks at different levels²³:

²¹ GSA Accreditation Team refers in this context to the GSA staff reporting to the GSA Executive Director according to Article 8 (i) GSA Regulation.

²² The GSAP for "Galileo Security Accreditation Panel" was created by the GSA on 26 June 2008, to support the accreditation tasks required by the Regulation 1321/2004. The new GSAP for "GNSS Security Accreditation Panel" mentioned in this document will be formally created by the SAB in the beginning of 2011, after enforcement of the GSA Regulation 912/2010 repealing Regulation 1321/2004.

²³ It is anticipated that new tasks will be undertaken by the GSA Accreditation Team, for example the security accreditation of the EGNOS system.



- System level: to perform system design review and system audits to verify that the Galileo System-specific Security Requirements (SSRS) are met.
- Local sites level: to support audits and on-site inspections to ensure that local security requirements, national security rules and regulations, as well as the Galileo Programme Security Instructions (PSI), are being met by the sites hosting Galileo stations.
- Security components level: to review the security requirements (security targets) of system components implementing security functions and to follow the component evaluation and certification process.
- PRS User Segment level: define and implement the Galileo PRS receiver certification, evaluation and accreditation process, as well as for the Galileo PRS manufacturers accreditation process.
- GSAP management tasks: including chairmanship, technical secretariat and organizational secretariat.
- CDA management: including chairmanship, technical secretariat, organizational secretariat and organisation of FKC activities for each launch campaign, as well as standardization, regulatory and reporting COMSEC activities.
- SAB management tasks: including organizational secretariat, coordination and preparation of relevant files for accreditation decisions.

7.1.1.2. GSMC

The Agency has a broad mission to prepare itself in becoming capable to deliver all of its IOC GSMC missions. Four types of activities will contribute to that end:

- GSMC Nucleus: only in the interim period until fully operational, provide early security monitoring and reaction capabilities. The capabilities of the GSMC nucleus will be implemented as a phased approach, with incremental increases in the capabilities provided.
- GSMC Organisational Design: ramp-up its organisation size and capabilities, designing its organisation, processes, and getting operational validation/accreditation.
- Contribution to Operational Equipment Developments: as future user of Galileo IT operational equipment, contributing to design specifications and review in order to ensure that the GSMC equipment (and the information it can get from or modify into the rest of the system) is appropriate for the long term missions.
- Hosting Infrastructure Agreement: ensure the building infrastructure that will be provided by FR/UK is appropriate for the long term missions and establish the long term relationship agreements to that end.

All such activities will need to be performed in close collaboration with the Commission, ESA, FR/UK governments and their contractors. Supporting project management tasks will be performed.

7.1.1.3. Support to PRS

The missions of the Agency concerning PRS are of different nature:

- Market preparation
- Security accreditation of PRS user segment
- Tasks are defined in accordance with those set out in Article 16 of Regulation (EC) No 683/2008, including the possibility for the Agency to accomplish other activities that may be entrusted to it by the Commission"
- Preparation of the exploitation of the PRS service, in particular through the PRS Pilot Project
- Operational PRS-related tasks of the GSMC.

In addition to the regulation, the following Reference Documents assign to the Agency specific roles in the frame of PRS:

- Security Working Arrangement²⁴, including from January 2011 to January 2014:
 - PRS Pilot Project
 - GNSS Security Board and associated Working Groups
 - PRS User Segment
- Delegation Agreement for PRS receivers²⁵, completing the Security Working Arrangement here above and including on PRS from September 2011 to September 2016:
 - Development of a stand-alone first generation PRS receiver
- Delegation Agreement on the preparation of the exploitation phase of the European GNSS Programmes²⁶, to be signed in 2012 for a duration of 24 months (TBC), completing on PRS the two agreements mentioned here above:
 - PRS user segment support
- Delegation Agreement for FP7²⁷, including for 2013 the following projects of the third Galileo Call that are related to PRS:
 - ULTRA
 - PREMISE
 - ARMOURS
 - PRS4PMR
- Galileo PRS Implementation Plan²⁸

7.1.1.4. General Support to the EC on Security

The Agency will continue to provide support to the European Commission in security-related areas as specified in the EC-GSA Working Arrangement on GNSS Security Board and associated Working Groups.

7.1.2. Summary of Main Tasks in 2013

Main Tasks in 2013 Security	
A. SECURITY ACCREDITATION	
TASK 1.1: SYSTEM LEVEL ACCREDITATION TASKS	
The Galileo Accreditation process is strongly linked to the Galileo design, development and deployment process. For each specific Galileo technical milestone, the GSA Accreditation team is required to examine the security features of the system (according to the predefined scopes of each milestone) in order to verify the compliance to the security requirements and whether the system is sufficiently secure to allow protectively marked data to be processed by it. This, in practice, means that a decision must be taken to determine if the system is	

²⁴ Agreement in the form of Exchange of Letters on a Working Arrangement for the execution of security related tasks of the European GNSS programmes between the European Commission and the European GNSS Agency, ENTR/GP2 AN/am Ares (2010)1087450, 28 Jan. 2011

²⁵ Delegation agreement between the European Union and the European GNSS Agency on the development of a standalone first generation PRS receiver within the frame of the PRS Pilot Project and the implementation of preparatory activities related to the setting up of the Galileo Security Monitoring Centre, ENTR/GPI/Ares 808130, 9 Sept. 2011

²⁶ Delegation Agreement between the European Union and the European GNSS Agency on the implementation of tasks related to the preparation of the exploitation phase of the European GNSS Programmes and the support to the Commission Application Plan.

²⁷ Implementation of the Specific Programme "Cooperation", theme No. 7 "Transport including aeronautics", sub-theme Galileo, by the European GNSS Agency – Delegation Agreement, 21 July 2010

²⁸ Galileo Public Regulated Service Implementation Plan, EC-PRSIP-2011 Issue 1.1, 18 September 2012

sufficiently secure for Galileo operations.

In order to achieve this objective, the Agency is required to:

- perform periodic reviews of the system-level documentation;
- perform independent security vulnerability analysis and security tests on the system;
- manage the residual security risks of the system through a suitable security risk management process

This task is broken down into the following sub-tasks:

Task	Indicators	Timing
Task 1.1.1 System reviews, including IOV TRR, IOV-R and OSRR1		Second half 2013
Task 1.1.2 Segment and element reviews, including GMS AR1 (V1.2), GCS QAR2, GSC V1, SAR Ground and Operations		Second half 2013

TASK 1.2: LOCAL SITES ACCREDITATION TASKS

Each Galileo site is subject to a specific security accreditation process. The LSAA (Local Security Accreditation Authority) is the centre of the Local Security Accreditation Process as it will perform the liaison at security level between GSA/ESA and the Hosting Entity.

For the case of European Sites, the LSAA will be the relevant National Security Authority (NSA), or any other representative authority officially appointed by the NSA, for the country where the Site is located.

In the case of non-European Sites, the LSAA performing the Site Accreditation Inspections will be the Agency.

The local site security accreditation process requires two different types of activities in two different steps:

- the review of the local site security documentation;
- the inspection of the site

The information gathered in each local site accreditation process is used to evaluate the security risks affecting the system and will feed the system-level residual security risk register.

Based on the results of the site accreditation process, the SAA releases the authorisation to operate the specific site.

This task is broken down into the following sub-task:

Task	Indicators	Timing
Task 1.2.1 Sites certificates for ATL3 (OHB Bremen, OHB ESTEC, OHB SATMAN, Canary/Azores Madeira, Falklands, St Pierre Miquelon, Asia embassy, Kiruna GSS, Kourou Launch site)		As required for L3

TASK 1.3: SECURITY COMPONENT LEVEL ACCREDITATION TASKS

Components implementing security functions in the system are subject to specific evaluation and certification processes (Crypto evaluation, TEMPEST evaluation, Common Criteria Evaluation and Certification). Although this type of activities is performed by specific and accredited national centres, the Agency has an important role as well.

The documentation defining the security requirement (Security Targets) for these components shall be reviewed and linked to the system-level security objectives.

Also, the evaluation and certification process shall be followed. Information shall be shared with the national centres performing the evaluation of the components in order to align the security objectives to the system security needs.

The information gathered in each component evaluation and certification process is used to evaluate the security risks affecting the system and will feed the system-level residual security risk register.

The Agency has also the task of following the second evaluation activities.

This task is broken down into the following sub-tasks:

Task	Indicators	Timing
Task 1.3.1 Component certificates for ATL3 (including CSU on OHB satellite)		As required for L3

Task 1.3.2 Review of component first and second evaluation (mainly CSU on OHB satellite, GRCP, HSM adaptation for GSMC and POCP, GSMC & POCP CUs)	As required	
TASK 1.4: USER SEGMENT ACCREDITATION TASKS		
The accreditation tasks related to the User Segment are to be defined, in particular on the basis of the PRS Access Policy set out by the Council, in a related Security Accreditation Strategy.		
The Security Accreditation Strategy for the PRS User Segment (US SAS) has been initially drafted by the Agency in 2012 and will be submitted to the approval process in 2013 through GSAP and SAB, after integration of inputs expected from the CMS in April 2013. It shall include:		
<ul style="list-style-type: none">▪ Definition of the User Segment Accreditation process;▪ Definition of receiver evaluation and certification process;▪ Definition of the accreditation process for manufacturers producing receivers including PRS technology.		
As a second step, the whole accreditation framework for the User Segment shall be implemented according to the identified tasks. The GSA Accreditation Team will carry out the tasks under its responsibility according to the US SAS. This task is broken down into the following sub-task:		
Task	Indicators	Timing
Task 1.4.1 Full implementation of PRS User Segment Accreditation process, PRS receiver evaluation and certification process, PRS Manufacturers accreditation process, in line with Common Minimum Standards enforced by the Commission	Maintain the US SAS	End 2013
	Inspect, with LSAA, the deployment of POCP within CPAs	
	Support audit and inspection of PRS manufacturer by EC and Member State	
	Support audit and inspection of Competent PRS Authorities by EC and Member State	
TASK 1.5: GSAP MANAGEMENT TASKS		
The primary mission of the GNSS Security Accreditation Panel (GSAP) is to elaborate comprehensive Galileo Security Accreditation Reports (SARs) to be submitted for examination and assessment before accreditation statements are issued and approved by the Security Accreditation Authority.		
The Panel shall prepare the Galileo Security Accreditation Reports on the basis of the outcomes of the specific Security Accreditation Tasks described hereafter and shall instruct any specific demand of the SAA and perform the relevant security analysis.		
The Panel is composed by the following experts:		
<ul style="list-style-type: none">▪ National Experts from the EU Member States, as Members,▪ European GNSS Agency experts to deal with all the relevant matters related to the accreditation process at technical and operational level, including the day-by-day activities, as Observers,▪ Representatives from European Commission as the project management authority of the Galileo program, as Observers,▪ ESA experts, as Observers,▪ General Secretariat of the Council (GSC) experts to advice on security issues arising from the implementation of the Joint Action 2004/552/CFSP, the establishment of security agreements, and for accreditation matters, as Observers,▪ National Experts from ESA Member States (that have a suitable agreement with the European Union²⁹) hosting Galileo ground elements or producing components subject to accreditation, as Observers.		
In order to guarantee continuity of work with the previous GSAP setup and the most suitable and efficient way of performing the accreditation tasks, the GSAP is divided into the following specific formations ³⁰ :		
<ul style="list-style-type: none">▪ GSAP Formation 1 (GF1): involved in all system-level technical accreditation tasks;▪ GSAP Formation 2 (GF2): involved in all site-level technical accreditation tasks;		

²⁹ Including a security agreement for the protection of EUCI

³⁰ GF4 and GF5 will be formally established in 2012 after formal endorsement by the SAB of the new GSAP ToR.

- GSAP Formation 3 (GF3): involved in security component-level technical accreditation tasks as well as crypto matters;
- GSAP Formation 4 (GF4): involved in PRS-related accreditation tasks;
- GSAP Formation 5 (GF5): involved in EGNOS security.

In addition, a Plenary Formation will gather all Participants (Members and Observers) and the Panel for this is chaired by the European GNSS Agency, which also provides secretariat support.

This structure enables more flexibility and responsiveness to project needs, involving only the most competent people on each specific matter and ensuring at the same time the need-to-know principle. GSAP Formation 2, 3 and 4 provide inputs to Formation 1. The coordination among the different formations is guaranteed by the chairman and secretariat roles played by the Agency.

It is evident, however, that flexibility and high responsiveness requires an important effort in terms of management needed to organize the technical work (most of which is performed off-line), coordination with the GSAP Members (EC, ESA, GSC, MS), organization of the meetings and preparation of the relevant files.

This task is broken down into the following sub-task:

Task	Indicators	Timing
Task 1.5.1 Chairmanship, technical secretariat and organisational secretariat	10 GSAP meetings in the year 2013	As required

TASK 1.6: CDA/FKC MANAGEMENT TASKS³¹

The setup of the Crypto Distribution Authority (CDA) is a new task for the Agency under the accreditation activities. The CDA has been set up in 2011 by the SAB, as defined in the CDA Terms of Reference. The Flight Key Cell (FKC) activities represent a part of the set of activities to be performed by the CDA into a specific formation, limited to the satellite launch campaigns.

The CDA will be responsible, when fully established, under the authority of the SAB and in accordance with its instructions, for the management and the accounting of European GNSS COMSEC material, ensuring its secure transfer to or from users, through the enforcement of the appropriate procedures and the use of established channels.

The scope of the CDA covers all tasks, in order to supervise or perform the accounting, the secure handling, the storage and the distribution of all the European GNSS COMSEC material in the frame of the Galileo development and validation, deployment and operational phases.

The CDA will be progressively responsible for COMSEC material concerning the EGNOS and GALILEO programmes at Space segment, Ground segment and User segment³². Currently ESA is currently accountable for the COMSEC material related to the GNSS programme (e.g.: KMF, GRC-P, BBKME) and will be a subordinate account for the CDA.

The CDA will serve also as principal authority for routine GSA COMSEC matters (e.g.: secure transmission used by the Agency) as well as responsible of standardization, regulatory and reporting COMSEC activities.

During the transition period from 2011 to 2013, leading to its full operability status, foreseen mid-2013, the CDA is giving priority to the COMSEC activities related to FKC activities.

It should be noted that the establishment of the CDA/FKC and the performance of the related tasks imply two different levels of activities: management and operational. Operational activities are from 2012, after recruitment of appropriate staff, under the responsibility of the GSMC.

This task is broken down into the following sub-task:

Task	Indicators	Timing
Task 1.6.1 Chairmanship, technical secretariat and organisational secretariat	5 CDA/FKC meetings in the year 2013	As required
Task 1.6.2 Definition of crypto maintenance policy	No policy exists as of October 2012 on the management of crypto material in normal operation, i.e. crypto period and	Mid-2013

³¹ Operational Tasks are described in the chapter dedicated to the GSMC

³² The CDA shall only assume responsibility for this COMSEC material and only in so far as it has signed a register of accountability for the specific COMSEC material.

	the maintenance of the PRS Tree. The scope of this activity, carried out with the technical support of GSMC staff is to draft a policy that would find a balance between the security needs and the operational costs	
Task 1.6.3 General management tasks of the CDA	Issue permanent executive standards, for GNSS COMSEC handling	All 2013
	Issue regulations on the maintenance and repairs of cryptographic means	
	Conduct unannounced Spot Checks with the support of local security authorities	
	Support accreditation entities (SAA, GSAP) for all aspects related to COMSEC material	
	Report to the SAA all COMSEC events and up to date COMSEC status	
	Review of CDA ToR, new version approved	Approved in February 2013
	CDA Annual Management Plan 2013 including the FKC Annual Work Plan 2013	February 2013

TASK 1.7: SAB MANAGEMENT TASKS

Interactions between the GSAP and the SAB are guaranteed by the GSAP chairman periodical reports.

When specific accreditation milestone decisions are at stake, specific accreditation reports are prepared by the GSAP and submitted to the SAB for their evaluation and endorsement. This process must be carefully followed and managed. Decisions taken by the SAB may be different from what the GSAP might have recommended in the first instance. This is because the GSAP participants will make recommendations on the basis of technical evidences related to the security risks affecting the system. Different considerations might be made at SAB level whereas other constraints might be taken into account (e.g. program budget and schedule) that might require different decisions to be taken.

This means that the GSA Accreditation Team has to support not only the technical security accreditation tasks in the framework of the GSAP, but also provide the necessary support to bodies like the SAB in its role of SAA.

This, in turn, implies the need of a general planning and schedule of the entire accreditation process involving several entities. The GSAP shall adapt its work plan to the technical milestones organized by ESA. On the other hand the SAB shall be organized in a consistent way to attain the security accreditation decisions in line with the general program schedule.

This task is broken down into the following sub-tasks:

Task	Indicators	Timing
Task 1.7.1 Security endorsement for the first launch and operation of IOC spacecraft	Authorisation To Launch3 – ATL3	August 2013 (L3 September 2013)
Task 1.7.2 Security endorsement for the second launch and operation of IOC spacecraft	Authorisation To Launch4 – ATL4	November 2013 (L4 December 2013)
Task 1.7.3 Security endorsement for the third launch and operation of IOC spacecraft	Authorisation To Launch4 – ATL5	TBD
Task 1.7.4 Technical secretariat and organizational secretariat of SAB meetings	5 SAB meetings in the year 2013	TBD

TASK 1.8: EC-GSA WORKING ARRANGEMENT ON SECURITY ACCREDITATION³³

In order to ensure the performance of these activities and optimize the interaction with the European Commission, the following tasks fall within the responsibilities of the Agency under this working arrangement:

Task 1.8.1, Task 1.8.2, Task 1.8.3, Task 1.8.4.

In addition to the above the Agency can provide technical assistance to the European Commission with the following tasks: **Task 1.8.5, Task 1.8.6, Task 1.8.7, Task 1.8.8, Task 1.8.9, Task 1.8.10, Task 1.8.11.**

³³ As defined in the "Agreement in the form of Exchange of Letters on a Working Arrangement for the execution of security related tasks of the European GNSS programmes between the European Commission and the European GNSS Agency", Ref. ENTR/GP2 AN/am Ares (2010)1087450 dated 28 January 2011.

This task is broken down into the following sub-tasks:		
Task	Indicators	Timing
Task 1.8.1 Participation in accreditation reviews under the IOV and FOC contracts		All 2013
Task 1.8.2 Participation in Security Accreditation Quarterly Meetings convened by the CPM involving the Agency, ESA and industry as relevant, as a means to prepare and coordinate for the security accreditation of the system and operations		All 2013
Task 1.8.3 Consultation of the CPM, in the frame of the preparation of the Security Accreditation Board meetings, on the agenda and the roadmap of the SAB and list those decisions items that may have an impact on the program as early as possible, before the actual meetings with a view to facilitate the program impact assessment in time for the EC representative to be able to present such impact to the SAB		All 2013
Task 1.8.4 Participation as observer to the Program Change Control Board, the Program Management Meetings and, depending on the agenda, to the Quarterly Project Meetings		All 2013
Task 1.8.5 Maintain the SSRS and other security requirements under a DOORS database for security accreditation purposes		All 2013
Task 1.8.6 Support the EC in updating the Galileo SSRS and other security requirements, as required		All 2013
Task 1.8.7 Support the EC in updating the GNSS (Galileo and EGNOS) security threats and vulnerabilities analysis and risk assessment		All 2013
Task 1.8.8 Support the EC in establishing any relevant EGNOS security-related requirements		All 2013
Task 1.8.9 Update the security accreditation risk register, as required by events		All 2013
Task 1.8.10 Update the plan of needed program decisions to facilitate security accreditation decision, as required by events		All 2013
Task 1.8.11 Report to the CPM of the main issues/findings after each review		All 2013
TASK 1.9: SUPPORT TO THE EUROPEAN COMMISSION		
This task is broken down into the following sub-tasks:		
Task	Indicators	Timing
Task 1.9.1 Proposal for evolution of the SSRS3.9, based on an update of the Galileo Threat and Vulnerabilities study		End 2013
Task 1.9.2 First audit and inspection of PRS Manufacturer and Competent PRS Authorities		End 2013
B. GSMC		
TASK 2.1: GSMC NUCLEUS ACTIVITIES		
<p>As of the first launch of the operational satellites the partial implementation of GSMC functionality has been considered necessary by the SAB. In this context the Agency has established the GSMC nucleus which is expected to guarantee some GSMC functions, with reduced scope and objectives, until GSMCs are deployed and fully operational.</p> <p>The Agency will need to ensure that it continues to fulfil and strengthen this role with respect to the operation of the GSMC Nucleus in line with Galileo security requirements and arrangements agreed in the second half of 2011 with the Commission, ESA, EEAS and Member States to provide Galileo security monitoring in advance of the completion of the GSMC.</p> <p>Further, the GSMC Nucleus, with the support of the GSA CDA, will need to manage access to PRS Keys to PRS pilot Member States who wish to access the signal in space during the IOV programme phase, in accordance to the PRS Service Implementation Plan.</p>		

In addition, the GMSC security monitoring and reaction capabilities for the early services in 2014 shall be prepared.

2013 will finally be the year for finalising the transfer of CDA and FKC operational activities in the GSMC (first GSMC Nucleus). (See **Task 2.1.10**)

The FKC is a specific body within the CDA established by the SAB of the European GNSS Agency and is involved only in matters related to Flight Keys. The FKC represents the governmental confidence of the Member States for the adequate handling of the Galileo Flight Keys and crypto initialisation parameters. For this purpose, the CDA coordinates the activities of the FKC.

The FKC shall control³⁴ or perform each activity involving the handling of Flight Keys³⁵ and other related initialisation parameters, including but not limited to:

- Flight Keys generation/allocation³⁶ at the GCCs,
- Storage and transport of Flight Keys during the Launch campaign,
- Flight Keys loading at Kourou,
- Seals management during the Launch campaign and,
- Deletion of all the cryptographic keys (if needed).

With regard to key generation and key loading the above mentioned activities are currently in the period 2011-2012 executed by ESA and its subcontractors with the FKC restricted to supervising operator's work. It is planned that for some activities agreed with ESA, the FKC will progressively from 2012 to 2013 evolve the ability to perform specific tasks by itself within the limit of information provided by ESA. The Specific tasks of the FKC during each Launch Campaign are specified under the following tasks below: **Task 2.1.10**.

This task is broken down into the following sub-tasks:

Task	Indicators	Timing
Task 2.1.1 Continue the operation of the GSMC Nucleus with year round 24/7 on call roster and ensure its continuity despite the move to Saint Germain en Laye – permanent with a level of unavailability lower than 5% on the overall year		All 2013
Task 2.1.2 Prepare the GMSC security monitoring and reaction capabilities for the early services in 2014		All 2013
Task 2.1.3 Provide, with the support of the CDA, access to PRS keys for PRS Pilot Member States who wish to access the PRS signal in space during the IOV programme phase		As required in 2013
Task 2.1.4 FKC support to preparation of L3, L4 and L5, including Flight Keys generation/allocation at the GCCs, storage and transport of Flight Keys during the Launch campaign, Flight Keys loading at Kourou, seals management during the Launch campaign and deletion of all the cryptographic keys (if needed)		As required (L3: 9 April 2013, L4: August 2013, L5: December 2013)
Task 2.1.5 COMSEC account identified by the relevant COMSEC body within the EU and the Member States		Mid 2013
Task 2.1.6 Centralized accounting and shipment tracking (system, receivers, components) of GNSS COMSEC material		Mid 2013
Task 2.1.7 Support the EC in the progressive reinforcement of the IOV Security Chain of Command, including validation and implementation of a Simulation Plan, development, testing and qualification of related procedures, validation of a Development Plan for the chain of command up to final configuration		Mid 2013
Task 2.1.8 Update GSMC CONOPS		End 2013
Task 2.1.9 Technical support in the definition of crypto maintenance policy	No policy exists as of October 2012 on the management of crypto material in normal operation, i.e. crypto period and the maintenance of the PRS Tree. The scope of this activity is to provide technical support to the CDA team in drafting a policy that would find a balance between the security needs and the operational costs	Mid 2013
Task 2.1.10	Create a GNSS COMSEC technical channel	All 2013

³⁴ Controls means here that everything occurs in conformity with the plan adopted, instruction issued and principals established.

³⁵ Flight Keys and initialisation parameters, as defined in Section 5.2, are present in the Hardware Security Modules (HSM) of the Galileo Control Centres (GCC KMF) and the Security Units (SU) of the Satellites

³⁶ Allocation consists here in the allocation before launch of a set of Flight Keys to a specific spacecraft and not to another one.

General operational tasks of the CDA	Create a COMSEC account identified by the relevant COMSEC body within the EU and the Member States	All 2013
	Control and safeguard COMSEC material held by the Agency	All 2013
	Establish and periodically test general procedures and emergency plans	All 2013
	Define the first immediate actions to be performed in case of an unexpected event that could affect crypto/CCI security	All 2013
	Coordinate FKC tasks	All 2013
	Centralize the accounting of GNSS COMSEC material	All 2013
	Centralize shipment tracking of GNSS COMSEC material (system, receivers, components)	All 2013
	Perform periodical security briefings to guarantee the constant appropriate use of the GNSS cryptographic systems	All 2013
	Prepare the draft CDA Annual Management Plan including the FKC Annual Work Plan	All 2013
Task 2.1.11 Specific operational tasks of the FKC during each Launch Campaign	Seeds loading - FKC-Step 1	During each launch campaign in 2013
	Key generation ² in GCC - FKC-Step 2	
	Key loading in BBKME - FKC-Step 3	
	Transport to Launch site - FKC-Step 4	
	Fill device storage in Launch site - FKC-Step 5	
	Transport to integration Area - FKC-Step 6	
	Flight Keys loading in Spacecraft - FKC-Step 7	
	Flight Keys verification test from the GCC - FKC-Step 8	
	(Flight Keys loading failure - FKC-Step 9) if needed	
	Seal verification - FKC-Step 10	
	(Debris recovery FKC - Step 10') if needed	
Return of Fill device to GCC - FKC-Step 11		
TASK 2.2: INITIAL SITE HOSTING OPERATIONS		
After an initial site acceptance and security accreditation foreseen mid-2013, the Agency will start using the site infrastructure while the operational equipment and the GSA Admin and GRUE equipment will be installed, tested and accredited. This will be a step towards the full site acceptance and accreditation. At this stage, the Agency might already do some level 1 maintenance on behalf of FR/UK and under their control. The Agency and FR/UK might need to adapt the hosting agreement based on this initial period.		
TASK 2.3: GSMC ORGANISATIONAL DESIGN		
Building the GSMC organisation will be the primary task (in effort and importance) throughout the 2012-2014 horizons. Activities will gradually ramp-up in parallel with the expected delivery time frame of the building infrastructure (Q2 2013) and of the operational equipment (end 2013-2014).		
As an operational centre, the GSMC will need to be managed on a day to day level taking into account the features which distinguishes it from the Agency headquarters, (which is essentially an office environment). In particular the following areas need to be addressed:		
<ul style="list-style-type: none">▪ Shift patterns. The GSMC will operated on a 24/7 basis and will therefore require staff to operate a shift system. At present the Agency does not have rules and procedures to cover shift working, shift allowances, on call procedures etc.▪ Emergency procedures. The GSMC will need to be able to institute emergency recovery procedures on a much faster timescale to the Agency headquarters. The Agency will need to update its business continuity plan to take into account the operational nature of the GSMCs.▪ Emergency costs related to backup, business continuity plans and disaster recovery plan processes. GSMC staff need to be able to redeploy between the GSMCs with no advance notice on a 24/7 basis. Current GSA procedures related to the procurement of travel, mission planning and the movement of staff might need adaptation.		
Operational teams procedures design		
The Agency as the operator of the GSMC will need to undertake a number of operations engineering activities to prepare the necessary operational documentation for conducting GSMC operations. The Agency will develop procedures and approaches in multiple milestone steps. Such activity will primarily cover the 'Operational' teams that are envisaged for the target organisation, i.e. covering the teams of people working on shift and		

providing PRS Access, permanent security watch and operational risks analysis.

The design of these will have to be synchronized with the operational design of the Galileo system operator (WP6 under control of ESA), and agreed with Member States and the SitCen (each only regarding their respective interfaces with the GSMC). To a lesser extent (as a user) this will need to interact with WP2 provider (under control of ESA).

Technical teams procedures design

A similar team and procedures design will be needed for the technical team of the GSMC.

The design of these will have to be synchronized with the WP2 provider (under control of ESA) and to a lesser extent with the Galileo system operator (WP6 under control of ESA).

First line maintenance: The Agency will need to develop the necessary maintenance procedures for (1) GSA administrative equipment in the GSMCs (e.g. IT infrastructure), (2) the building infrastructure (under responsibility of the hosting states FR/UK and (3) the operational equipment (under responsibility of ESA and tasked to WP2 provider).

Administrative teams procedures design

A similar team and procedures design will be needed for the administrative team and general management of the GSMC.

This team will support the operational and technical team and liaise with Agency headquarters for all general matters (such as human resources, financial management).

GSMC administration equipment deployment

This work covers the administrative work necessary to setup two centres of the GSMC, a master and a backup.

It includes the procurement and configuration of the necessary IT infrastructure to allow GSMC staff to be connected to the administrative IT networks of the Agency as well as contribution to accreditation.

Support to the preparation of PRS service provision

In order to offer to potential users all facilities and added value services for taking full benefits from the PRS, a specific mission of PRS Service Support shall be put in place in the GSMC.

Main tasks in the short term (i.e. first two years) will be provision of technical support to the PRS team, on :

- GSA Exploitation activities in the definition of the GSMC contribution to the mission of PRS Service Provider
- PRS user segment development, validation and operation of tools (e.g. PROPHET) and interfaces with the system (i.e. POCP).

GSMC Deployment

These tasks are broken down into the following sub-tasks:

Task	Indicators	Timing
Task 2.3.1 Move of GSMC staff from Brussels (Belgium) to Saint Germain en Laye (France)		September 2013
Task 2.3.2 Design of the operational, technical and administrative procedures	All GSMC operational, technical and administrative procedures necessary for contributing, as requested by the Programme, to the integration and testing of GSMC equipment in place and operators trained on these procedures	September 2013
	All specific CDA operating procedures defined, tested and qualified	September 2013
	Draft rules and procedures to cover shift working, shift allowances and on call procedures	End 2013
	Draft emergency recovery procedures	End 2013
	Update GSMC Business Continuity Plan	End 2013
Task 2.3.3 Management of GSMC project	Overall GSMC project coordination	Monthly coordination meetings with all stakeholders involved
	Update of GSMC Recruitment Plan (2014-2017)	End 2013

	Update GSMC Risk Register	as required in 2013
Task 2.3.4 Support to the GSA PRS team on the preparation of PRS service provision	Support to the PRS pilot Project, including the PRS receivers development and the definition of PRS service	End 2013
	Support to the definition of Joint-Action implementation concepts in case of international crisis situations, as described in 2004/552/CFSP	
	Provision of Technical assistance to Competent PRS authorities requesting the support of the Agency in order to perform their task	As requested
	Maintenance, exploitation, validation and update of PROPHET simulator as an off-line expertise tool of the GSMC supporting PRS access.	As requested
TASK 2.4: EC-GSA WORKING ARRANGEMENT ON GSMC³⁷		
<p>In order to ensure the performance of these activities and optimize the interaction with the European Commission, the following tasks fall within the responsibilities of the Agency under this working arrangement: Task 2.4.1, Task 2.4.2.</p> <p>In addition to the above the Agency can provide technical assistance to the European Commission with the following tasks: Task 2.4.3, Task 2.4.4, Task 2.4.5, Task 2.4.6, Task 2.4.7, Task 2.4.8, Task 2.4.9.</p> <p>This task is broken down into the following sub-tasks:</p>		
Task	Indicators	Timing
Task 2.4.1 Responding in time to any EC request, for review of documentation produced by the Galileo Programme under the IOV, IOC and FOC phases linked to the GSF		All 2013
Task 2.4.2 Participation as observer to the Program Change Control Board, Program Management Meetings and, depending on the agenda, to the Quarterly Project Meetings		All 2013
Task 2.4.3 Support the definition and update the GSMC development plan under the responsibility of the EC, as required by events		All 2013
Task 2.4.4 Support the definition and update of the GSMC risk register under the responsibility of the EC, as required by events		All 2013
Task 2.4.5 Support the definition and update of the plan of needed program decisions under the responsibility of the EC, to facilitate operation hand-over to the Agency, as required by events		All 2013
Task 2.4.6 Provide a report to the CPM of the main issues/findings after each review		All 2013
Task 2.4.7 Participate in the monitoring of the GSF (GSMC & POC-P) infrastructure development and deployment in order to prepare the recruitment, training and deployment on sites of the staff in charge of operating the Galileo Security Centre. For the POC-P to be deployed in Member States, the Agency will contribute to develop guidelines and, if needed, to develop training		All 2013
Task 2.4.8 Follow-up the GSF technical definition and procurement undertaken by ESA in order to develop the knowledge and expertise associated to its future role of operator for the Galileo Security Monitoring Centre and for contributing to the qualification of the GSF when requested by the Galileo Programme		All 2013
Task 2.4.9 Develop the GSMC operational concept (CONOPS) and the corresponding operational procedures, especially taking into account the management of the GSMC interfaces, for approval by the Commission		All 2013
Task 2.4.10 Contribute in the specification and validation of the "Man-Machine Interface" and develop tools, such as PROPHET, with the close cooperation of ESA for the validation of the simulations, to anticipate the installation of GSMC & POC-P and to optimize the use of the system. Some of the tools will be MS oriented		All 2013
TASK 2.5: CONTRIBUTION TO OPERATIONAL EQUIPMENT DEVELOPMENTS		

³⁷ As defined in the "Agreement in the form of Exchange of Letters on a Working Arrangement for the execution of security related tasks of the European GNSS programmes between the European Commission and the European GNSS Agency", Ref. ENTR/GP2 AN/am Ares (2010)1087450 dated 28 January 2011.

This task is broken down into the following sub-tasks:		
Task	Indicators	Timing
Task 2.5.1 Responding in time to any EC request, for review of documentation produced by the Galileo Programme linked to the GSF		As required in 2013
Task 2.5.2 Participation as Member to the Programme Change Control Board (PCCB)		As required in 2013
TASK 2.6: HOSTING INFRASTRUCTURE AGREEMENT		
This task is broken down into the following sub-tasks:		
Task	Indicators	Timing
Task 2.6.1 GSMC sites (Saint Germain en Laye and Swanwick) secured and accredited by the SAA		August 2013
C. GSA SECURITY INFRASTRUCTURE MANAGEMENT		
Task 3.1 GSA Admin and GRUE equipment installed, tested and accredited		End 2013
Task 3.2 Accreditation of the RUE network connecting GSA DMS server to MS' remote servers		All 2013
D. SUPPORT TO PRS		
TASK 4.1: PRS PILOT PROJECTS		
<p>Activities to be performed by the agency on PRS Pilot project support have been defined in the EC-GSA Working Arrangement on PRS Pilot Project³⁸ and the 2011 Delegation agreement on PRS³⁹.</p> <p>As detailed in the 2011 Delegation agreement on PRS, the Security Department of the Agency will manage the fundamental first step of the PRS Pilot Project, i.e. the PIONEER2 (or P3RS2) project for the procurement of a set of pre-operatives PRS receivers. For the purpose of this activity the Agency is launching in 2012 a contract to procure at least 20 PRS pre-operational user receivers to be used in the frame of the PRS Pilot Projects no later than end of 2014/early 2015. The procurement and field testing of these pre-operational PRS receivers will indeed contribute to the preparation of future generations of PRS Receivers and Security Modules. For the case of delays of the procurement of the receivers, and in order to avoid jeopardizing the smooth progress of the PRS pilot Project, alternative solutions will be evaluated as back-up as arrangement established with ESA to use TUR-P receivers</p> <p>The allocated budget for this procurement, coming from the Delegation Agreement for PRS is 11 M€. The contract will be challenging for the Security Department, for the complexity of the procurement (two sources of SM are requested by the Commission) and for the technical challenges of this activity. The contract will be signed within Q1 of 2013, for a duration of three years. High level requirements to be met, as agreed with the EC are the following:</p> <ul style="list-style-type: none"> ▪ Initial production batch of 20 PRS full receivers. ▪ Firm price commitment for optional recurrent receivers. ▪ Maximum duration of total development of the receivers: 30 months. ▪ Finalization of the initial standards specifications made under the PROGRESS study. ▪ Capability to process Secondary Channels⁴⁰ (Its functionalities will allow it to be connected to a PMR (Professional Mobile Radio) terminal so as to evaluate and test the security of the whole PRS-PRM). 		

³⁸ As defined in the "Agreement in the form of Exchange of Letters on a Working Arrangement for the execution of security related tasks of the European GNSS programmes between the European Commission and the European GNSS Agency", Ref. ENTR/GP2 AN/am Ares (2010)1087450 dated 28 January 2011.

³⁹ Delegation agreement between the European Union and the European GNSS Agency on the development of a standalone first generation PRS receiver within the frame of the PRS Pilot Project and the implementation of preparatory activities related to the setting up of the Galileo Security Monitoring Centre, ENTR/GPI/Ares 808130, 9 Sept. 2011

⁴⁰ Terrestrial communication links backwards to the Galileo ground infrastructure

- Demonstrate and quantify the added value of the PRS module (gain of performance) compared to GPS receivers.
- The engineering and design plan shall be able to take into account evolutions of the Signal In Space definition, for example on evolution of the Integrity Flags broadcast.
- The receivers shall be provided with one Security Module and shall also allow the possibility of using a second source of Security Module, according to a standard to be defined in the tender. The activity will help to consolidate the roadmap⁴¹ for the production of the security modules (price, production capacity, development and production plan for 2014-2020...).
- The receivers shall be UNCLASSIFIED when keyed, by virtue of the security measures adopted for the SM.
- The receivers shall be dual frequency (L1 and E6), according to the frequency plan of Galileo PRS, and shall also allow the use of dual frequency Galileo/OS and GPS/SPS (Interoperability with GPS is encouraged by Regulation 683/2008).
- The capability to have a coupling with MEMs (very low cost gyros and accelerometers) is an option (Design Objective), which shall stay under 3% of the cost of the receiver development.
- The level of assurance of the Security Module will be EAL4-1-. This figure could be modified by the SAB even during the Tender;
- The receiver shall be compliant to geo-denial enforcement, at least as a design option.

At the moment, only for what concerns PIONEER 2 the responsibilities of the Agency have been clarified and related tasks delegated. Anyhow, it is reasonably likely that the Agency could also be in asked to contribute to the other PIONEER programs, to be confirmed by the Commission, in particular:

- PIONEER 1 (2012-2016): this program represents the Central Support, including coordination, PRS awareness and support to the user's segment roadmap.

Additionally to the task directly related to the performance of the P3RS2 delegated budget implementation task, Further to the EC-GSA Working Arrangement on PRS Pilot Project i the following tasks fall within the responsibilities of the Agency: **Task 4.1.3, 4.1.4, Task 4.1.5, Task 4.1.6, Task 4.1.7, and Task 4.1.8.**

In addition to the above the Agency can provide technical assistance to the European Commission for the following tasks: **Task 4.1.9, Task 4.1.10, Task 4.1.11, Task 4.1.12.**

These tasks are broken down into the following sub-tasks:

Task	Indicators	Timing
Task 4.1.1 P3RS2 project kicked-off		February 2013
Task 4.1.2 P3RS2 project and technical management		All 2013
Task 4.1.3 Technical, secretarial and logistical support to the WG-PRS on PRS Pilot Projects, including minutes of the WG-PRS meetings 2013		As required
Task 4.1.4 Support the preparation of calls for tenders, selection, negotiation and award of contracts related to the implementation of the PRS Pilot Project, notably the P3RS1		As required
Task 4.1.5 Perform the budget implementation tasks that may be delegated by the Commission to the Agency		As required
Task 4.1.6 Interact on a day to day basis with industry and manage the contracts of the PRS Pilot Project starting at the kick-off of the contract and ending at the final review and advises the Commission on the approval of the main documents		As required
Task 4.1.7 Provide expertise and support to the GNSS Security Board Working Group PRS (WG-PRS), especially regarding the definition of guidelines, common minimum standards and rules for the management of PRS in EU Member States and the definition and implementation of the PRS implementation plan		As required
Task 4.1.8 Participates to the WG-PRS and report on the progress of the PRS pilot projects contracts		As required

⁴¹ An hypothesis of production of 10 000 to 30 000 a year, with steps of 5000 will be analysed and justified, in particular for the cost of development and the recurrent cost of different types of PRS receivers

Task 4.1.9 Propose an assessment of the main performance criteria of the contracts to the EC for the main contract reviews	As required
Task 4.1.10 Provide its secured zone and Administrative security capacity to manage the security of the contracts as well as to store or test any material or immaterial outputs of the contracts which would be classified	As required
Task 4.1.11 Support the evaluation of the proposals and ensure the secretariat of the evaluation panels, in cooperation with the EC	As required
Task 4.1.12 Prepare documents in the form of minutes, technical notes, analysis, draft Statement of works, draft contracts or draft Document Change Notices, as required, depending on the topics	As required
TASK 4.2: PRS USER SEGMENT	
<u>EC-GSA Working Arrangement on PRS User Segment</u> The EC-GSA Working Arrangement on PRS User Segment ⁴² includes the following tasks within the responsibilities of the Agency under this working arrangement: Task 4.2.1, Task 4.2.2. in order to support the Programme objective of having a European industrialization capacity to produce 10000 low-cost and unclassified receivers when keyed in the 2016-2020 timeframe In addition to the above the Agency can provide technical assistance to the European Commission for the following tasks: Task 4.2.3, Task 4.2.4, Task 4.2.5, Task 4.2.6, Task 4.2.7	
<u>EC-GSA Delegation Agreement on the preparation of the exploitation phase of the European GNSS⁴³</u> The technical annex to Delegation Agreement on the preparation of the exploitation phase of the European GNSS Programmes ⁴⁴ specify following activities: <ul style="list-style-type: none"> - Preparatory tasks for the exploitation of EGNOS and Galileo 2012-2013 - Activities related to developing the PRS and related security Activities Which have impact on the Agency's PRS user segment activities in 2013. In particular, the following tasks fall within the responsibilities of the Agency: Task 4.2.8, Task 4.2.9, Task 4.2.10, Task 4.2.11, Task 4.2.11. Additionally the PRS Implementation plan ⁴⁵ and PRS Decision 1104/2011 ⁴⁶ enforced in November 2011 may require new tasks from the Agency with the PRS User Segment, Competent PRS Authorities and End Users. This may include in particular: <ul style="list-style-type: none"> ▪ Conclude an administrative agreement with the Commission for being recognised, if necessary, as a PRS Participant (Articles 3.4); ▪ Acting as Competent PRS Authority in accordance with appropriate arrangements for, and if designated by, the Council, the Commission and the EEAS (Article 5.1(b)); ▪ Acting as Competent PRS Authority in accordance with the provisions of the agreements referred to in Article 3(4) and (5), for and if designated by Union agencies and international organisations (Article 5.1(c)); ▪ Consequently ensure, when the Agency is designated as Competent PRS Authority by the Council, the Commission, the EEAS, Union Agencies and international organisations, that their use of the PRS is in compliance with Article 847, more specifically with point 1 of the Annex of the PRS Decision 1104/2011 and with specific requirements mentioned in Article 4: <ul style="list-style-type: none"> a) <i>PRS users are grouped for the management of the PRS with the GSMC;</i> 	

⁴² As defined in the "Agreement in the form of Exchange of Letters on a Working Arrangement for the execution of security related tasks of the European GNSS programmes between the European Commission and the European GNSS Agency", Ref. ENTR/GP2 AN/am Ares (2010)1087450 dated 28 January 2011.

⁴³ Part relevant for PRS, see also chapter on GSMC

⁴⁴ Delegation Agreement between the European Union and the European GNSS Agency on the implementation of tasks related to the preparation of the exploitation phase of the European GNSS Programmes and the support to the Commission Application Plan.

⁴⁵ Galileo Public Regulated Service Implementation Plan, EC-PRSIP Issue 1.1, 18 September 2012

⁴⁶ Decision No 1104/2011/EU of the European Parliament and of the Council of 25 October 2011 on the rules for access to the public regulated service provided by the global navigation satellite system established under the Galileo programme, 1104/2011 (enforced on 5/11/2011), 25 October 2011



- b) the PRS access rights for each group or user are determined and managed;
- c) the PRS keys and other related classified information are obtained from the GSMC;
- d) the PRS keys and other related classified information are distributed to the users;
- e) the security of the receivers and associated classified technology and information are managed and the risks assessed;
- f) a point of contact is established for assisting as necessary in the reporting of detected potentially harmful electromagnetic interference affecting the PRS

- Provide technical assistance to competent PRS authorities requesting the support of the Agency, in order to perform its tasks, subject to specific arrangements (Article 5.9) and ensure that the costs of this support of the Agency to competent PRS authority shall be borne by the PRS participants who have designated it (Article 1.2);

Additionally, the PRS decision requires new tasks from the Agency, in particular:

- Review every three years the compliance with the common minimum standards of competent PRS authorities (Article 5.10), in particular by carrying out audits or inspections (Article 8.6);
- Support the Commission every three years for reporting to the European Parliament and the Council on the compliance by the competent PRS authorities with the common minimum standards, as well as in any cases of serious violation of those standards (Article 5.11).

However, Commission have still not received any request from member States and other specific PRS participants on these specific tasks (**Task 4.2.14, Task 4.2.15, Task 4.2.16, Task 4.2.17**) and no concrete decision has been taken on this issue. Likely these kind of activities will become Agency tasks in the medium term rather than affecting 2013 WP.

These tasks are broken down into the following sub-tasks:

Task	Indicators	Timing
EC-GSA WORKING ARRANGEMENT ON PRS USER SEGMENT		
Task 4.2.1 Performance of budget implementation tasks that may be delegated by the Commission to the Agency in 2011 in accordance with Article 54 (2) (b) of the Financial Regulation, on PRS-related contracts	P3RS2	All 2013
Task 4.2.2 Participation to the WG-PRS	Report on the progress of PRS User Segment implementation tasks, including in particular the PRS FP7 projects contracts and the Agency expertise support contracts	As required
Task 4.2.3 Develop the concept study of a low cost PRS receiver	The concept should be validated with the EC and contribute to the development of low cost PRS receivers	Mid 2013
Task 4.2.4 Develop cost studies, taking into account the cost of management of PRS receivers	The objective of such studies will be in particular to optimize the overall cost of PRS receivers (taking into account the price of human resources, the key management, maintenance, etc. on the duration of life of receivers)	
Task 4.2.5 Support the development of demonstrators of PRS receivers, in particular adequate for the purpose of trials foreseen in the PRS Pilot Project		
Task 4.2.6 Develop roadmaps, trials, development of facilities and other documents		
Task 4.2.7 Prepare documents in the form of minutes, technical notes, analysis, draft Statement of works, draft contracts or draft Document Changes Minimum notices, as required, depending on the topics		
EC-GSA DELEGATION AGREEMENT ON THE PREPARATION OF THE EXPLOITATION PHASE OF THE EUROPEAN GNSS		
Task 4.2.8 Support to PRS Exploitation preparation	Definition of Galileo Exploitation programme proposal (for what concerns PRS) including definition of: operational concepts, initial service provision concepts and subsequent specification through service level agreement, Service implementation plans, establishment of relationship with ESA and other parties on exploitation Activities related to the definition, development and deployment of services provided by the system established under the Galileo Programme (for what concerns PRS)	As required

	Interface with PRS users and industry	
Task 4.2.9 Engineering Activities related to the development of PRS, in order to ensure that the requirements coming from the potential market stakeholders are kept by the PRS system and PRS receivers	Activities related to the standardization of PRS receivers, carrying forward the activities of PROGRESS and other relevant activities	As required
	Anticipation of the future of PMR network and promotion of PRS as an integral part of PMR long term Evolution	From Q2 2013
	Activities related to the evolution and maintenance of existing simulation tools (e.g. PROPHET)	All 2013
	Maintenance and Update of the Technological Roadmap	Q4 2013
	Production and update of SWOT analysis of PRS	Q2 2013
Task 4.2.10 Contribution to the definition of the Mission of a PRS Service provider	Definition of concept of offered services, associated service levels, and business model to be pursued	All 2013
	Complete the PRS document Tree	All 2013
	Manage the PRS user segment documentation	All 2013
Task 4.2.11 Development of Recommendations to the EC for the definition of PRS guidelines and Policies	Definition of Access rules for PRS baseline Documents	Q1 2013
	Definition of joint Action implementation concepts as defined in 2004/552/CFSP and other possible NAVWAR concepts	Mid 2013
	Support to the Commission on the maintenance of Common Minimum Standards and on the definition of policies	All 2013
	Supporting European policy regarding the use of PRS for Critical infrastructure	Mid 2013
Task 4.2.12 Study of Approaches for countering RFI threats on GNSS services	Record Database and build statistical analysis of RFI incidents, including monitoring of products, that can be considered a threat to the EU GNSS exploitation	All 2013
Task 4.2.13 Deployment and accreditation of the GSA DMS server authorising remote and secure access to PRS documentation for Member States up to RUE level	Analyse risks on the interconnection of member states to RUE GSA DMS Server	December 2013
	Update GRUE SECOPS Document as required by events	
	Update GRUE SSRS Document as required by events	
	Perform Penetration Testing of the RUE GSA DMS server through interconnection	
<u>PRS IMPLEMENTATION PLAN AND PRS DECISION 1104/2001</u>		
Task 4.2.14 Being recognised as a PRS Participant	Administrative agreement enforced with the Commission	If requested by the EC
Task 4.2.15 Acting as Competent PRS authority	Appropriate arrangements in place if designated by, the Council, the Commission and the EEAS and also by other union agencies and international organization	If requested by the Council, the Commission and the EEAS and also by other union agencies and international organization
Task 4.2.16 Provide technical Assistance to Competent PRS authorities	Provide assistance to CPA if needed to perform their tasks, subject to specific arrangements	If requested by the CPAs
Task 4.2.17 CMS assistance to the EC	Ensure that CPA comply with CMS, in particular by carrying out audit and inspections	If CMS in place before end of 2013
<u>TASK 3.3: 7th FRAMEWORK PROGRAMME</u>		
The two last FP7 2nd call contracts still active on security and PRS will be closed in 2012: <ul style="list-style-type: none">▪ Demonstrator of anti-tampering technologies at receiver level (FORTRESS);▪ PRS management simulation tool to support the PRS pre-operational phase (PROPHET). Concerning FP7 3rd call, which was published on 20 July 2010 with a budget of €38 million (covering also calls for tenders and evaluation costs). it was evaluated and projects selected in the course of 2011. All projects have		



been launched in the beginning of 2012, after conclusion of contracts' negotiation. Regarding PRS, the Security Department of the Agency, in particular the PRS Team, will manage four projects of FP7 3rd call, i.e. one tender (PRS4PMR) and three collaborative projects (ARMOURS, PREMISE, ULTRA), as detailed hereunder.

PRS4PMR

It is the only tender in FP7 3rd Call dedicated to PRS, and has originated by the Call for tenders entitled "Integrated PMR (Professional Mobile Radio) and Galileo PRS receiver architecture."

The Commission expects that a large part of Governmental users of the Galileo PRS would be interested to have it embedded into their Professional Mobile Radio (PMR) set, as it is already the case for the GPS SPS. The potential targeted market is currently several million units across Europe, including PMR terminals currently in operation and used for example in peace-keeping operations.

The objectives of the contract PRS4PMR (i.e., PRS for PMR) are as follows:

- Demonstrate practicality of PRS-PMR Integration
- Raise Awareness of Beneficial Possibilities of PRS-PMR Integration
- Prepare a cost benefit analysis for PRS-PMR
- Demonstrate benefits of PRS for PMR Applications
- Validate PRS-PMR Phase-A Study managed by the Agency
- Demonstrate PMR contribution to PRS
- Define Secondary Channel Specifications for PRS-PMR
- Show that the PRS and PMR security objectives can be achieved
- Prepare Standardisation Activities for PRS-PMR.

The PRS4PMR tender was published on 28th June 2011. Following a two-steps evaluation process, the contract will be likely signed in Q2 2012, for a duration of 18 months and an allocated budget of 900 K€.

ARMOURS

ARMOURS (Antenna and Front-end Modules for Public Regulated Service applications) is a Collaborative Project originated by the Call FP7-GALILEO-2011-GSA-1-a.

The ARMOURS contract aims at the development of novel technologies for the implementation of future multi-frequency PRS receivers, filling some of the technological gaps to enable affordable and robust solutions for future demanding applications relying on the continuous availability of the PRS service.

Target segments are Low-End and Medium-End PRS receiver implementations, with the widest potential market in the PRS application domain. The developments that will be addressed in the frame of the project aim to give a tangible response to the problem of low-cost implementation of multi-frequency radio modules for professional applications. More precisely, ARMOURS will design, develop and integrate compact multi-frequency antenna and FE modules for PRS applications relying on advances beyond the state-of-the-art in the fields of broadband multi-frequency, GNSS FE ASIC, MEMS RF filtering for GNSS applications, and smart wearable as well as ultra-miniaturized antennas at multiple GNSS frequencies.

ARMOURS consortium is composed by Acorde Technologies S.A. (Coordinator, ES), Ecole Polytechnique Fédérale de Lausanne (CH), University of Edinburgh (UK) and Interuniversitair Micro-Electronica Centrum vzw (BE).

The duration of the contract is 24 months, and the overall requested EC contribution is 832 k€.

PREMISE

PREMISE (PRs receivers with EMbedded hardware Intrinsic Security Enhancements) is a Collaborative Project originated by the Call FP7-GALILEO-2011-GSA-1-a.

The PREMISE project aims to embed Physically Unclonable Function (PUF) technology in Galileo's Public Regulated Service receiver Security Module in order to achieve low cost of silicon security and higher tamper resistance.

Security is a vital part of PRS receivers as they handle sensitive data in uncontrolled environments. PRS receivers combine a challenging set of requirements including low-cost, security and tamper-resistance.

PREMISE will research and derive the advantages which can be obtained by introducing PUF technology into PRS design, focusing on both the end product itself as well as the manufacturing process. The project will analyze PRS constraints and requirements and combine these with the intrinsic PUF security and cost benefits to obtain architectural building blocks that will serve as a basis for prototyping but also as reference to analyze potential side-channel attacks and countermeasures to protect against these. Major achievements expected are protection against tampering and counterfeiting, higher security at an acceptable cost and robust secure authentication.

The work will integrate results from ongoing PUF technology work in the FP7 FET (Future Emerging Technology) scheme. Integrated circuits containing the physical part of the silicon PUFs will be used and integrated to build

an FPGA based PREMISE prototype.

PREMISE consortium is composed by Technikon Forschungsgesellschaft mbH (Coordinator, AT), Intrinsic-ID (NL), Thales Communications S.A. (FR) and Université Catholique de Louvain (BE).

The duration of the contract is 24 months, and the overall requested EC contribution is 1461 k€..

ULTRA

ULTRA stands for "Ultra Low Cost PRS Receiver"; it is a Collaborative Project originated by the Call FP7-GALILEO-2011-GSA-1-a.

The projects starts from the analysis showing that the overall addressable market for the Galileo PRS is dominated by the low-end applications, accounting for 80% of the market. The focus of the ULTRA proposal is to develop an ultra-low cost PRS receiver capable of addressing the low-end applications.

The ULTRA project has been proposed as an accelerator to provide stimulus to the support and uptake of PRS across a range of users and applications. This shall be achieved by developing and integrating key technologies that result in a significant reduction in the costs of PRS receivers and making them affordable to a larger customer base that have an interest in PRS for low-end applications, for instance tracking of containers, supplies, assets, equipment, goods, valuables, cargoes, personnel. The concept of ULTRA is that the receiver does not compute its position and the receiver has no need to be aware of its exact position. In the case of these tracking applications, only the secure control centre requires knowledge of the position of the receiver, for integration into the end-application.

The ULTRA project will analyse, design and develop new technologies for PRS receivers which will result in the generation of new IP, thus enabling the partners to strengthen their businesses and build new opportunities through the outputs of the project.

A clear goal is to identify and quantify the real commercial potential for low-end PRS receivers and to assemble the right business model to enter the market and secure early adopters who would be prepared the take the technology to a pilot following the conclusion of the ULTRA project.

The ULTRA consortium is composed by M3 Systems Belgique (Coordinator, BE), M3 Systems France (FR), Nottingham Scientific Ltd (UK) and Teletel (GR).

The duration of the contract is 20 months, and the overall requested EC contribution is 550 k€.

This tasks is broken down into the following sub-task:

Task	Indicators	Timing
Task 3.3.1 Management of FP7 Galileo 3rd Call contracts on PRS and Security, kicked-off in 2012: ARMOURS, PREMISE, ULTRA, PRS4PMR		All 2013

E. GENERAL SUPPORT TO THE EC ON SECURITY

TASK 5.1: EC-GSA WORKING ARRANGEMENT ON GNSS SECURITY BOARD AND ASSOCIATED WORKING GROUPS

In order to ensure the performance of these activities and optimize the interaction with the European Commission, the following tasks fall within the responsibilities of the Agency under the EC-GSA Working Arrangement⁴⁸ on GNSS Security Board and associated Working Groups: **Task 5.1.1**.

In addition to the above the Agency can provide technical assistance to the European Commission for the following tasks: **Task 5.1.2, Task 5.1.3, Task 5.1.4, Task 5.1.5, Task 5.1.6**.

These tasks are broken down into the following sub-tasks:

Task	Indicators	Timing
Task 5.1.1 Participate to the meetings of the GNSS Security Board and its working groups , contribute to the reporting associated to the WG-PRS, the WG-NET, the WG-PCI, the TF-Control, and the TF-Launch, or any ad hoc group created under the GNSS Security Board roadmap as requested by the EC	Minutes of the WG-PRS meetings in 2013	As required

⁴⁸ As defined in the "Agreement in the form of Exchange of Letters on a Working Arrangement for the execution of security related tasks of the European GNSS programmes between the European Commission and the European GNSS Agency", Ref. ENTR/GP2 AN/am Ares (2010)1087450 dated 28 January 2011.

Task 5.1.2 Provision of technical, secretarial and logistical support to the WG-PRS and its four task forces (TF-A/B/C/D)	As required
Task 5.1.3 Chairing and providing of technical, secretarial and logistical support to the TF-Control	As required
Task 5.1.4 Preparing documents in the form of minutes, technical notes analysis or draft DCNs, as required, depending on the topics	As required
Task 5.1.5 Implementation and maintenance of a Document Management System ensuring a coordination and update of the GNSS Security Board documentation, the Systems Security Accreditation documentation and of the PRS User Segment documentation	Implementation April 2013, maintenance as required
Task 5.1.6 Generating and distributing Chiasmus keys needed by the GNSS Security Board related groups of participants	As required

7.1.3. Budget relating to activities of the Security Accreditation Board

Article 11 of the GSA Regulation has established the Security Accreditation Board for European GNSS systems (hereinafter the 'Security Accreditation Board' or SAB) within the Agency. According to Article 11(10), the SAB shall have access to all the human and material resources required to provide appropriate administrative support functions and to enable it to perform its tasks independently.

According to Article 11(11), the SAB has set up special subordinate bodies, acting on its instructions, to deal with specific issues. The following subordinate bodies have been set-up:

- Galileo Security Accreditation Panel (GSAP), a panel to conduct security analysis reviews and tests to produce the relevant risk reports in order to assist it in preparing its decisions,
- A Crypto Distribution Authority (CDA) to assist the Security Accreditation Board in particular with regard to questions related to flight keys – flight key cell (FKC).

Article 13(2) of the GSA Regulation stipulates that the expenditure of the Agency shall cover staff, administrative and infrastructure expenditure, operating costs and expenditure associated with the functioning of the Security Accreditation Board, including the bodies referred to in Article 11(11), and the contracts and agreements concluded by the Agency in order to accomplish the tasks entrusted to it.

In terms of budget terminology in this document, "SAB related actions" include four types of specific activities: SAB costs - costs linked to the Security Accreditation Board activities, FKC, CDA and GSAP costs.

Following a Decision taken by the Executive Director in July 2011, budget line *3300 SAB Expenditure* has been created to appropriately reflect external SAB costs on Title 3 and to allow adequate tracking and separation of SAB related actions. Operational expenditure will cover all SAB external expenditure, such as experts, Member States support, external contractors, reimbursement of meeting costs, and so on.

Regular reporting of SAB related expenditure for titles 1 and 2 (staff and administrative expenditure, including overheads) is normally reported to the SAB on the basis of human resources working on SAB activities applying a full time equivalent (FTE) in relation to the entire agency FTEs.

Overview of the 2013 Draft SAB Budget for outsourced and external costs

Title 3 - Operational expenditure			
3300	Security Accreditation		1,350,000
3300.11	SAB		67,000
	3300.11.1	MISSIONS	22,000
	3300.11.2	MEETINGS	45,000
	3300.11.3	STUDIES/SERVICES	0
	3300.11.4	TRAINING	0



3300.12		GSAP		1,020,000
	3300.12.1		MISSIONS	25,000
	3300.12.2		MEETINGS	55,000
	3300.12.3		STUDIES/SERVICES	940,000
	3300.12.4		TRAINING	0
3300.13		FKC		243,000
	3300.13.1		MISSIONS	230,000
	3300.13.2		MEETINGS	13,000
	3300.13.3		STUDIES/SERVICES	0
	3300.13.4		TRAINING	0
3300.14		CDA		20,000
	3300.14.1		MISSIONS	0
	3300.14.2		MEETINGS	20,000
	3300.14.3		STUDIES/SERVICES	0
	3300.14.4		TRAINING	0
Total for external SAB expenditure			0	1,350,000

7.2. RELOCATION OF GSMC OPS TO SAINT-GERMAIN-EN-LAYE AND SWANWICK

Main Objectives Overview – 2013

1. Finalize all the contracts and agreements required to operate the GSMC sites
2. Deploy the necessary ICT and Logistics infrastructure in both sites
3. Establish efficient communication with the Agency HQ in Prague from both sites

See Appendix II for a summary of all actions implementing these objectives.

7.2.1. Objectives and Priorities

After the relocation of the Agency headquarters to Prague in 2012 the Agency shall complete its relocation from Brussels by completing the preparations of the two GSMC sites in France and the UK from the contractual, technical and logistical point of view and relocate the remaining staff to the two sites.

In order to accomplish these objectives, the Agency shall:

1. Finalise all the contracts and agreements required to operate the GSMC sites
2. Deploy the necessary ICT and Logistics infrastructure in both sites
3. Establish efficient communication with the Agency HQ in Prague from both sites

7.2.2. Summary of Main Tasks in 2013

Main Tasks in 2013		
Relocation of GSMC OPS to Saint-Germain-en-Laye and Swanwick		
TASK 1: FINALISE ALL THE CONTRACTS AND AGREEMENTS REQUIRED TO OPERATE THE GSMC SITES		
Requires analysing the hosting/lease agreements reached with FR and UK authorities, identify the elements under the Agency's responsibility, prepare a procurement plan and organize the appropriate procedures to cover the remaining services or needs for equipment. This task is broken down into the following sub-tasks:		
Task	Indicators	Timing
Task 1.1 Implement the hosting/lease agreements with Camp Des Loges and NATS	Harmonized partnership	09/2013
Task 1.2 Procure the elements not covered by those agreements	Contracts signed	End 2013
TASK 2: DEPLOY THE NECESSARY ICT AND LOGISTICS INFRASTRUCTURE IN BOTH SITES		
Requires the preparation of a detailed technical project, its adaptation to the actual budgetary situation and the operational requirements of the GSMC and then procurement of the equipment and the subsequent engineering work. This task is broken down into the following sub-tasks:		
Task	Indicators	Timing
Task 2.1 Procure, install, configure and deploy the new infrastructure for the GSMC (support to operations, administrative network, GRUE network)	Infrastructure in place	09/2013
Task 2.2 Ensure the successful accreditation of all systems (extensions of systems deployed previously in the Prague HQ)	Accreditation decision – Approval to operate or Interim approval to operate	End 2013
TASK 3: ESTABLISH EFFICIENT COMMUNICATION WITH THE AGENCY HQ IN PRAGUE FROM BOTH SITES		



Following the setup of the ICT infrastructure in the GSMC we will need to establish secure and reliable communication channels with the Prague HQ and with the other GSA sites. This task is broken down into the following sub-tasks:

Task	Indicators	Timing
Task 3.1 Establish connectivity with Agency HQ in Prague via GRUE WAN up to Restreint UE (voice, video, data)	Link operational	09/2013
Task 3.2 Establish connectivity with Agency HQ via SINA up to Secret UE (voice, video, data)	Link operational	09/2013

7.3. MARKET DEVELOPMENT

Main Objectives Overview – 2013

1. Foster and support the progress of European GNSS systems
2. Understanding the potential and main trends of the GNSS market
3. Contributing to the development of the market with specific actions

7.3.1. Objectives and Priorities

Important benefits of the European GNSS programmes will come from the market place, as underlined by the Commission in its communication to the European Parliament and the Council⁴⁹.

Following the entry into force of the GNSS Regulation, the Agency has been assigned the task of contributing to the market take-up of the GNSS systems in order to reap the maximum benefit from the systems.

The Agency will pursue the following objectives in 2013 in order to respond to the above priorities:

2. Foster and support the progress of European GNSS systems:

- EGNOS, which reached full operational capability through the declaration of availability of the EGNOS Open Service on 1 October 2009 and the declaration of SOL service on March 2 2011;
- Galileo, whose market entry needs to be prepared

2. Understanding the potential and main trends of the GNSS market, i.e. assessing the environment in which satellite navigation applications can develop, including downstream markets, assessing the various options for improving the dynamics of the market (leveraging insights from market monitoring, providing information and assistance tools for potential users and developers), and making suitable recommendations to the Commission.

3. Contributing to the development of the market with actions to encourage the take-up of European GNSS services, leveraging on FP7 application projects with a particular focus on supporting SMEs.

7.3.2. Summary of Main Tasks in 2013

Main Tasks in 2013 Market Development

TASK 1: EGNOS USER DEVELOPMENT IN AVIATION

The Agency has developed an Action plan for EGNOS adoption in Aviation, targeting procedure publications, avionics installation and certification and pilot qualification. This task will focus on implementation of this plan.

Getting EGNOS on-board aircrafts:

- **General aviation:** The roadblock in GA adoption is the slow and cumbersome administrative process to get the installed receiver approved for Vertical guidance approaches by EASA. The marketing strategy for general aviation is focused on awareness building and partnerships with receiver OEMs and user groups. It also includes promotion of EGNOS at flight schools and a European road show with EASA to explain benefits and how-to to pilots/aircraft owners.
- **Business aviation:** most business aircraft are already equipped with SBAS capability, and therefore are the very early adopters, Market development initiatives in this field cover 1) support to business airfields and regulators to implement EGNOS procedures in difficult environments, and facilitate exchange of best practices between countries, 2) partnership with business aircraft OEMs to promote EGNOS.
- **Helicopters:** the marketing strategy envisages support to operators and helicopter manufacturers to cooperate on research into approaches to places which cannot install traditional navigation aids such as

⁴⁹ COM (2007) 534 final, 19 September 2007

hospitals and oil rigs (Point in Space or PinS procedures and SOAP procedures)

- **Commercial aviation:** support to countries interested in phasing out traditional nav aids, and implement EGNOS, and use of EGNOS in small or niche operations where ILS is not feasible. Accelerating procedures publication

Implementing EGNOS procedures:

The action plan defines the activities to undertake in order to accelerate the adoption of ICAO recommendation of achieving 100% APV coverage in Europe by 2016. A desktop analysis has already been performed by the Agency to identify the potential for EGNOS uptake for all airports in Europe, in order to give guidance when contacting decision makers. The desktop analysis helps to achieve the 2 main objectives for procedure roll-out acceleration:

1. The 1st procedure in each country is essential for learning purposes and for clearing all admin obstacles with regards to the publication thereof
2. The total number of procedures is important to convince operators and private pilots to invest in an SBAS equipage on board their aircraft

The action plan defines the planned activities on country level, and collaboration with key stakeholders. In most European countries, airports do not decide on the procedures available to them, so it is important to focus on the ANSPs in these countries. There are a few exceptions, especially in the UK, where most airports are their own ANSP and can decide on the procedure they want to provide. Sweden has a similar decentralized legal framework. In these countries, ground work needs to be done to improve awareness and educate individual airports.

This task is broken down into the following sub-task:

Task	Indicators	Timing
Task 1.1 Implementation of Action plan for EGNOS adoption in aviation	Evaluation of specific KPI: procedures published, ANSPs with EGNOS deployment plan, airports with procedures (non ILS / ILS), CA Airlines with EGNOS receivers, GA operators with EGNOS receivers.	Q1-Q4 2013

TASK 2: E-GNSS USER DEVELOPMENT IN ROAD TRANSPORT

In 2012 the Agency implemented actions to increase the adoption of EGNOS in Road Pricing, following the market entry plan defined in 2010-2011. In particular, a roadmap for long term adoption of European GNSS has been developed with main stakeholders. At the same time, the Agency defined a prioritisation and market entry plan for other ITS sub-segments, such as safety systems and assistance to the driver and specialised logistics. In 2013 the Agency will continue to implement the EGNOS market entry plan for Road Pricing and will implement the market entry plan for E-GNSS in other ITS applications, focusing on e-call and Advanced Driver Assistance Systems / connected navigation.

This task is broken down into the following sub-tasks:

Task	Indicators	Timing
Task 2.1 Implementation of Roadmap for long term adoption of E-GNSS in Road Pricing	First priority action of the roadmap implemented in cooperation with main stakeholders. Increased awareness of public authorities, road operators and service providers who acknowledge EGNSS value added.	Q1-Q4 2013
Task 2.2 Implementation of entry plan related to e-call (task force LOC finalisation, other actions on standardisation and awareness)	Adoption by European e-call implementation platform of technical document describing the use of GNSS in eCall and how to leverage EU GNSS. Inclusion in the overall e-call guidelines. Engagement of leading manufacturers to present their Galileo-EGNOS products to the European e-call implementation platform.	
Task 2.3 Implementation of entry plan on Advanced Driver Assistance Systems and future connected navigation; the focus will be on creation of a Roadmap for adoption of E-GNSS in vehicles in cooperation with car makers association.	Engagement of vehicles and tier1 manufacturers in a roadmap for E-GNSS adoption in Advanced Driver Assistance System and future connected navigation, leveraging FP7 projects results.	

7.4. RESEARCH AND DEVELOPMENT

Main Objectives Overview – 2013

1. Keeping the projects in line with the strategic objectives
2. Maximising the projects' results
3. Producing an effective communication action for each project

7.4.1. Objectives and Priorities

As outlined in the Commission guidelines, FP7 projects on applications and security R&D will be managed by the GNSS Agency in accordance with the terms of the Delegation made under Article 54(2) (b) of the Financial Regulation and with the working arrangements agreed with the Commission in relation to the PRS applications and to the security related R&D activities.

7.4.2. Summary of Main Tasks in 2013

The task will focus on management and follow-up of FP7 projects related to GNSS, including attendance to meetings, deliverable review, management of external reviewers and administrative aspects.

The following projects will be managed in 2013:

PROJECTS IN AREA OF EDUCATION AND INNOVATION
1. GNSS EDUCATION NETWORK FOR UNIVERSITIES AND INDUSTRIES (GENIUS)
2. SUPPORTING EDUCATION AND TRAINING IN GNSS (G-TRAIN)
3. STRENGTHENING USER NETWORKS FOR REQUIREMENT INVESTIGATION AND SUPPORTING ENTREPRENEURSHIP (SUNRISE)
4. GNSS USER FORUM ON NAVIGATION BASED INNOVATION FOR FARMERS (UNIFARM)
PROJECTS IN AREA OF INTERNATIONAL ACTIVITIES
5. AWARENESS IN AFRICA: DISSEMINATING KNOWLEDGE ON EGNOS AND GALILEO IN AFRICA TO FOSTER LOCAL AND REGIONAL DEVELOPMENT (AIA)
6. EGNOS EXTENSION TO EASTERN EUROPE: APPLICATIONS (EEGS2)
7. GNSS FOR ASIA – SUPPORT ON INTERNATIONAL ACTIVITIES (G5ASIA)
8. GROWING NAVIS (G-NAVIS)
9. COUNTERING GNSS HIGH ACCURACY APPLICATIONS LIMITATIONS DUE TO IONOSPHERIC DISTURBANCES IN BRAZIL (CALIBRA)
10. SBAS AWARENESS AND TRAINING FOR SOUTH AFRICA (SATSA)
PROJECTS IN AREA OF LBS
11. LOW COST AND LOW ENERGY GNSS-BASED WIRELESS TAG FOR ASSET TRACKING AND MONITORING (CEWITT)
12. EGNOS AND EDAS ENHANCED TRACKING OF ANIMAL MOVEMENT AND BEHAVIOUR (E-TRACK)
13. GALILEO SIGNAL PRIORITY (GSP)
14. SETTING THE PATH FOR MASS MARKET USE OF INDOOR GALILEO OPERATIONS (I-GOING)
15. LOW COST GNSS ATTITUDE AND NAVIGATION SYSTEM WITH INERTIAL MEMS AIDING (LOGAM)
16. PERVERSIVE ADOPTION OF GNSS TECHNOLOGIES IN SECURITY APPLICATION (PANTERA)
17. WALKEGNOS: A SOCIAL WEB 2.0 MAPPING SOLUTION GENERATING AND LEVERAGING ON THE BRAND "EGNOS POWERED" (WALKEGNOS)
PROJECTS IN PROFESSIONAL AND SCIENTIFIC APPLICATIONS



18. GPS-EGNOS BASED PRECISION AGRICULTURE USING UNMANNED AERIAL VEHICLES (FIELDCOPTER)
19. GALILEO FOR GRAVITY (GAL)
20. GNSS-BASED PLANNING SYSTEM FOR AGRICULTURAL LOGISTICS (GEOPAL)
21. HANDHELD DEVICE WITH INNOVATIVE COMPACT ANTENNA FOR PROFESSIONAL GNSS APPLICATIONS (HANDHELD)
22. POSITION-BASED SERVICES FOR UTILITIES MAINTENANCE TEAMS (POSSUM)
PROJECTS IN MARITIME APPLICATIONS
23. MARINE PARK ENHANCED APPLICATIONS BASED ON USE OF INTEGRATED GNSS SERVICES (MEDUSE)
24. COOPERATIVE SATELLITE NAVIGATION FOR METEO-MARINE MODELLING AND SERVICES (COSMEMOS)
PROJECTS IN ROAD APPLICATIONS
25. DEVELOPMENT OF A QUALIFICATION PROCEDURE FOR THE USAGE OF GALILEO SATELLITE RECEIVERS FOR SAFETY RELEVANT APPLICATIONS (QUALISAR)
26. TRUSTED MULTIAPPLICATION RECEIVER FOR TRUCKS (TACOT)
27. DETECTION, EVALUATION AND CHARACTERISATION OF THREATS TO ROAD APPLICATIONS (DETECTOR)
28. OPENCARDATA (OCD)
29. JOINT GALILEO OPTIMIZATION AND VANET ENHANCEMENT (GLOVE)
30. A NEW TAXI APPLICATION GUIDED BY SATELLITE (TAXISAT)
31. ENHANCED (EGNOS/EDAS) ACCURACY SYSTEM WITH GNSS OUTAGE BRIDGING UNIT (EASY-OBU)
32. GALILEO FOR INTERACTIVE DRIVING (GAIN)
PROJECTS IN AVIATION
33. "FILLING THE GAP" IN GNSS ADVANCED PROCEDURES AND OPERATIONS (FILLGAP)
34. HELICOPTER DEPLOY GNSS IN EUROPE - NEXT (HEDGE NEXT)
35. ACCELERATING EGNOS ADOPTION IN AVIATION (ACCEPTA)
36. SUPPORT AD-HOC TO EASTERN REGION WITH PRE-OPERATIONAL ACTIONS ON GNSS (SHERPA)
PROJECTS IN RAIL
37. GALILEO LOCALIZATION FOR RAILWAY OPERATION INNOVATION (GALOROI)
38. GNSS-BASED ATP SYSTEM FOR RAILWAY LOW DENSITY LINES (GRAIL-2)
39. SATELLITE BASED OPERATION AND MANAGEMENT OF LOCAL LOW TRAFFIC LINES (SATLOC)
PROJECTS IN PRS APPLICATIONS AND SECURITY
40. INTEGRATED PMR AND GALILEO PRS RECEIVER ARCHITECTURE (PRS4PMR)
41. ANTENNA AND FRONT-END MODULES FOR PRS APPLICATIONS (ARMOURS)
42. PRS RECEIVERS WITH EMBEDDED HARDWARE INTRINSIC SECURITY ENHANCEMENTS (PREMISE)
43. ULTRA LOW COST PRS RECEIVER (ULTRA)
44. SECURITY TECHNOLOGIES BASED ON LOCATION (STON)

7.5. PREPARATORY TASKS FOR THE EXPLOITATION OF EGNOS AND GALILEO

Main Objectives Overview – 2013

1. Prepare for the exploitation of Galileo from mid-2015 onwards
2. Prepare for the exploitation of EGNOS from 1 January 2014 onwards
3. Prepare the Agency corporate structure for the exploitation phases
4. Ensure provision of Galileo pre-exploitation operations

7.5.1. Objectives and Priorities

This chapter addresses the preparation of the exploitation phase (operations and service provision) activities for EGNOS and Galileo to be undertaken by the Agency as the entity in charge of the exploitation of EGNOS and Galileo from 2014 as proposed by the new GNSS Regulation adopted by the College in November 2011.

This includes preparatory tasks for the exploitation management hand-over from the Commission to the Agency to support the new GNSS Regulation. The implementation of a part of these activities depends on the availability of appropriate additional Agency Human Resourcing in 2013 and is therefore subject to the approval of an amending budget. These activities are expected to be continued and further developed into the execution of the exploitation activities delegated to the Agency for the period 2014-2020, again subject to the availability of appropriate additional Agency Human Resourcing.

The tasks are presently delegated for 2013 and will be performed under the direct supervision of the Agency's EGNOS and Galileo Exploitation programme managers, working closely with the Agency's Security Department, with its Market Development Department, and with the Commission. The activities of the preparation of the exploitation of EGNOS and Galileo are split into the following main tasks for 2013:

A. Non-operational:

- Galileo: "Prepare for the exploitation of Galileo by the Agency from mid-2015 onwards, including definition of a new operations and services provider contract and possible EC to GSA handover of deployment phase";
- EGNOS: "Prepare for the exploitation of EGNOS by the Agency from 1 January 2014 onwards, including the new operations and services provider contract";
- GSA Corporate: "Establishment of the appropriate management tools for the exploitation phase.

B. Operational:

- Galileo: 'Galileo pre-exploitation operations'.

The following breakdown of tasks is based on the Delegation Agreement of 15 May 2012.

7.5.2. Summary of Main Tasks in 2013

Main Tasks in 2013	
Preparatory Tasks for the Exploitation of EGNOS and Galileo	
A. NON-OPERATIONAL: GALILEO	
TASK 1.1: GALILEO EXPLOITATION PREPARATION	
The Galileo programme is currently in its deployment phase and is being managed by the Commission, which delegates the Galileo design, development, deployment and operations (except GSMC) activities to the European Space Agency (ESA). Progressively, starting in 2012-2013, the Commission will delegate to the Agency the Galileo exploitation phase management preparation to support the Galileo exploitation phase which is expected to start in mid-2015.	



This initial activity consists in preparing the exploitation of the Galileo infrastructure, focussing on the preparation of the service provision, and in particular aiming at delivering initial services from end of 2014 onwards. The tasks will be performed with the support of ESA and EC staff as specified in the Galileo Services Preparation Task Force Terms of Reference (ToR).

For the completion of the activities support by the Task Force resources and in the second half of 2013 the support by GSA exploitation staff, to be recruited in 2013, is assumed.

This task is broken down into the following sub-tasks:

Task	Indicators	Timing
Task 1.1.1 Galileo exploitation strategy: definition of the Galileo exploitation programme proposal	Preparation of FOC1 service implementation (FOC1 Service Implementation Plans, Service entry strategy) Analysis, assessment and implementation of the Galileo programme transition from the deployment phase to the exploitation phase and, further on, the management of the exploitation phase (i.e. operations and service provision)	From Q1 2013 onwards
	Evaluation of the best organisational setup in terms of “make or buy” options for the public sector	
	Implementation of the identified solutions, defining specific tendering phases whenever appropriate	
	Definition of the Galileo operational concepts	
	Definition of the Galileo initial service provision concept and subsequent specifications through service level agreements, including security aspects	
	Definition of the Galileo Service Implementation plans	
	Definition, specification and verification of the hand-over of operation and service provision activities	
	Establishment, working with the Commission, of the necessary relationships with ESA and other parties to enable the Galileo exploitation strategy	
	Task 1.1.2 Galileo exploitation procurement: preparation, evaluation and negotiation of the Galileo operations and/or service provision legal instruments. Contribution to the monitoring and control of the execution of the Galileo operations activities.	
Support EC and ESA to implement the change at industrial level		
Support EC and ESA to monitor the implementation of the changes related to the early service implementation		
Definition of initial operation and service provision contract specifications, including ad hoc key performance indicators (KPIs) and management requirements		
Evaluation of tenderers’ offers, including identification of negotiation items and contributing to the evaluation analyses and reports		
TASK 1.2: ACTIVITIES RELATED TO THE DEFINITION, DEVELOPMENT AND DEPLOYMENT OF GALILEO SERVICE CENTRES AND SERVICES		
The Agency shall contribute to the following activities:		
Task	Indicators	Timing
Task 1.2.1 Galileo performance monitoring centre, Timing Service Provider and Geodetic Service Provider: Support the EC in the definition of specification and exploitation concept		From Q1 2013 onwards
Task 1.2.2 Search And Rescue (SAR) service: follow up of SAR data service provider procurement		
Task 1.2.3 Commercial Service (CS): Support the EC in the assessment of CS feasibility and definition study, and development of CS demonstrator		



Task 1.2.4 Open Service (OS) Service Centre Nucleus: Support the EC in the definition and exploitation concept of OS Service Centre nucleus, including but not limited to 'help desk' support and OS SIS ICD licensing		
Task 1.2.5 GSMC Nucleus expansion: Support the EC in the definition and exploitation concept of expanded GSMC Nucleus, including but not limited to 'help desk' support and pre-GSMC key management, including full support to Member State PRS Pilot Projects		
TASK 1.3: ACTIVITIES RELATED TO GALILEO INFRASTRUCTURE ACCEPTANCE AND SYSTEM R&D ACTIVITIES		
The Agency shall contribute to activities related to the Galileo infrastructure acceptance and system R&D, which includes but is not limited to:		
Task	Indicators	Timing
Participation in Programme CCBs, Galileo QPMs, Galileo system reviews, Galileo project CCBs and WP6 (operations) progress meetings.		From Q2 2013 onwards
B. NON-OPERATIONAL: EGNOS		
TASK 2.1: EGNOS EXPLOITATION PREPARATION		
EGNOS is already in the exploitation phase, with service provision currently managed by the Commission, including a contract for operational activities to an EGNOS operator and to satellite operators, and a delegation for system upgrade management to the ESA. Progressively, starting in 2012-2013, the Commission will delegate to the Agency the EGNOS exploitation phase management preparation to support the continued provision of EGNOS services from 2014 onwards. This task is broken down into the following sub-tasks:		
Task	Indicators	Timing
Task 2.1.1 Prepare the EGNOS Exploitation Phase Programme Proposal <i>This activity consists in preparing the programme proposal for the EGNOS exploitation phase over the period 2014-2020. This programme proposal shall define the EGNOS exploitation objectives for the 2014-2020 period, the overall EGNOS exploitation programme management organisation, the technical activities to be performed, the procurement approach, the planned schedule and the associated funding needs.</i>	Analysis, assessment and implementation of the EGNOS programme transition from the current to the new exploitation governance scheme	From Q1 2013 onwards
	Identification of implementation solutions, defining specific tendering phases whenever appropriate	
	Definition of a service provision roadmap, including security aspects	
	Definition of the necessary relationships with ESA, EOIG, EASA, National Safety Agencies and other parties to enable the EGNOS exploitation	
	Propose a roadmap to the Commission assessing the market possibilities (including implementation of a pricing policy) of a future EDAS service provision.	
	Elaboration of the EGNOS 2014-20 exploitation phase programme definition, in consultation with EC and ESA, and aiming at specifying the subject of a future EC-GSA delegation agreement.	
Task 2.1.2 Procure the 2014-2020 EGNOS service provision activities <i>This activity consists in managing the procurement procedure and concludes the EGNOS operations and/or service provision legal instruments.</i>	Prepare the EGNOS Service Provision Tender and contract specifications, including ad hoc key performance indicators (KPIs) and management requirements	From Q1 2013 onwards
	Evaluate the tender proposals, negotiate and award the contract'	
	Monitor and control the execution by the selected ESP contractor of the hand-over from the current ESSP service provision contract (terminating on 31 st Dec. 2013) to the new ESP service provision contract (which shall ensure service continuity from 1 st January 2014). This activity is pending the availability of additional staff resources at GSA.	
TASK 2.2: ACTIVITIES RELATED TO EGNOS INFRASTRUCTURE ACCEPTANCE		
This task is broken down into the following sub-tasks:		



Task	Indicators	Timing
Task 2.2.1 The Agency shall contribute to the activities related to the acceptance of the EGNOS infrastructure from ESA being developed, deployed, qualified and accepted (e.g. Ranging and Integrity Monitoring Stations (RIMS), geotransponders etc). It shall participate in particular to Programme CCBs, EGNOS QPMs, EGNOS system reviews, EGNOS project CCBs and ESSP (operations) progress meetings.		From Q2 2013 onwards
Task 2.2.2 It shall also participate in the monitoring of evolution activities related to EGNOS system R&D activities, mainly those undertaken by ESA. This activity may be carried out where possible and required through co-location with ESA in Toulouse.		
TASK 2.3: ACTIVITIES RELATED TO EGNOS DATA ACCESS SERVICE (EDAS)		
The Agency shall propose to the Commission a roadmap assessing the market possibilities (including implementation of a pricing policy) of a future EDAS service provision as from 2014.		
TASK 2.4: ACTIVITIES RELATED TO EGNOS IN AFRICA/SOUTH AFRICA STUDIES⁵⁰		
The Agency shall contribute to activities in the engineering and procurement steps necessary to procure a study phase for infrastructure and services in exploitation over Africa and South Africa.		
C. NON-OPERATIONAL: ESTABLISHMENT OF THE APPROPRIATE MANAGEMENT TOOLS FOR THE EXPLOITATION PHASE		
TASK 3 : EXPLOITATION MANAGEMENT PROCESSES AND TOOLS		
The Agency shall establish within the GSA the exploitation management processes and tools needed for the future exploitation of the programmes. This includes, but is not limited to:		
Task	Indicators	Timing
Task 3.1 Establishment, configuration, maintenance and delivery of the EGNOS and Galileo exploitation programme schedule (Microsoft project data base or equivalent)		From Q1 2013 onwards
Task 3.2 Establishment, configuration, maintenance and delivery of an EGNOS and Galileo exploitation cost model data base		
Task 3.3 Establishment, configuration, maintenance and delivery of the EGNOS and Galileo exploitation programme risks registers (Microsoft excel data base or equivalent)		
Task 3.4 Definition, configuration, maintenance and delivery of the EGNOS and Galileo exploitation programme metrics (schedule, costs, risks, configuration changes, actions, documentation)		
D. OPERATIONAL: GALILEO		
TASK 4: GALILEO PRE-EXPLOITATION OPERATIONS		
The Agency shall implement the pre-exploitation operations of:		
<ul style="list-style-type: none">▪ The open signal interface with users and industry, including, but not limited to 'help desk' support and OS SIS ICD licensing process, through the OS Service Centre Nucleus;▪ The interface with users regarding testing tools, equipment and processes, mainly through the GSTI platform.▪ The interface with PRS users and industry, including, but not limited to 'help desk' support and pre-GSMC key management, through the GSMC Nucleus⁵¹, including full support to Member State PRS Pilot Projects.		

⁵⁰ The Agency takes note that the United Kingdom suggested to delete this task at the 32nd meeting of the Administrative Board on 22 March 2012.

⁵¹ In addition to ongoing Security Monitoring tasks of GSMC Nucleus, which are a core GSA activity and are therefore not part of a Commission-GSA delegation

7.6. SUPPORT TO THE GNSS APPLICATION ACTION PLAN (APPAP)

Main Objectives Overview – 2013

1. Implementation of APPAP in priority user segments
2. Monitoring the status of APPAP execution
3. Support to EC activities targeting SMEs
4. Market analysis and customer support for initial services provided by Galileo
5. Awareness building: events and website management
6. Support in the field of aviation

7.6.1. Objectives and Priorities

The European Commission issued, on 14 June 2010, an Action Plan on GNSS Applications (APPAP) encompassing 24 measures focusing on the 2010-2013 period. This plan aims at increasing the EU share of the satellite navigation (GNSS) global market (currently 20%, but with the objective of reaching 33%, like in other high-tech sectors) and at improving the EU's independency in this field (currently 6-7% of EU GDP relies on the American GPS).

The tasks and actions described in this chapter, delegated for 2012-2013, will focus on providing support to the European Commission in execution of the GNSS APPAP and measuring its results. They will be performed by the GSA Market Development Department and GSA Communication Department in close coordination with the EC counterparts.

7.6.2. Summary of Main Tasks in 2013

Main Tasks in 2013 Support to the GNSS Application Action Plan (APPAP)		
TASK 1. IMPLEMENTATION OF APPAP IN PRIORITY USER SEGMENTS		
Implementation of GNSS APPAP in support to EC will focus on EGNOS and Galileo user segment development through awareness-raising activities in priority segments such as aviation, road transport, agriculture, mapping, and maritime. The Agency shall in particular participate in relevant events.		
This task is broken down into the following sub-task:		
Task	Indicators	Timing
Task 1.1 Adoption roadmaps per market	Development and implementation of EUGNSS adoption roadmap by the Market Development department in cooperation with contractors and involvement of key stakeholders from each industry.	Q1-Q4 2013
TASK 2. MONITORING THE STATUS OF APPAP EXECUTION		
The Agency shall monitor the status of GNSS APPAP execution on regular basis. This supporting task to EC will be managed by Market Development department in cooperation with market research contractor and under supervision of EC.		
TASK 2.1: EU SHARE ON GLOBAL GNSS APPLICATION		
The Agency's first GNSS Market Monitoring Report (2010) valued the global Core GNSS market in 2008 at €41 billion, and the Enabled GNSS market at €83 billion. The total global GNSS market was therefore valued at €124 billion, and was expected to grow at 11% compound annual growth rate to 2020.		
Whilst the market is currently driven by basic positioning and timing signal functionality, the new systems (such as GALILEO) will offer authentication, integrity and encryption of signals and EU independence, which is expected to drive expansion and growth in the market.		
According to the Impact Assessment of the European Commission's Action Plan on Global Navigation Satellite System (GNSS) Applications, "experts envisage that 75% of this market be provided by products and services linked to mobile telecommunications and personal handsets, 20% for intelligent transport systems for road and		



the remaining 5% for other domains of application.”

So the GNSS applications market is lucrative and rapidly growing, but despite Europe’s significant investment in EGNOS and GALILEO, Europe risks missing out on the growth and job creation opportunities on offer from GNSS applications. The reason is that Europe’s share of the global GNSS market is well below that which it enjoys in other high-technology markets.

Based on a limited analysis of the turnover of the top 15 of companies involved in GNSS by companies’ origin, the Agency estimated the EU’s market share to be just 20% in 2009.⁵² This compares to a share in the region of one third that Europe enjoys in other high technology markets (e.g. 38% in telecoms).

In order to monitor the success of the action plan, measured by progress towards the objective of an increased European market share of the GNSS applications market, it is necessary to have an accurate and regularly updated estimate of the European GNSS market share. Furthermore, to allow refinement of the action plan, it is important to have estimates of the European GNSS market shares for specific sectors.

This task is broken down into the following sub-tasks:

Task	Indicators	Timing
Task 2.1.1 Monitoring of progress of increased European market share of the GNSS application market	Accurate and regularly updated estimate of the European GNSS market share; estimates of the European GNSS market shares for specific sectors.	Q1 2013
TASK 2.2: KEY PERFORMANCE INDICATORS (KPIs)		
Current list agreed with EC contains the following KPIs:		

⁵² European GNSS Supervisory Authority (GSA) (2010) *GNSS Market Report: Issue 1*. Available at: <http://www.gsa.europa.eu/go/GSA-releases-GNSS-market-report>.



	Number of published EGNOS-based LPV procedures in EU airports	
	Number of EGNOS Working Agreements signed	
	Is EGNOS certified for aviation SOL applications?	
	Number of EGNOS-enabled aircrafts (incl. helicopters), retro- & forward fitted	
	Percentage of EU-27 area that meets EGNOS OS specifications	
	Percentage of ECAC area that meets EGNOS SOL LPV200 and APV specifications	
	Percentage of Top-10 chipsets manufacturers offering Galileo products	
	Percentage of Top-10 chipsets manufacturers offering EGNOS products	
	Annual shipments of Galileo enabled receivers per year	
	Annual shipments of EGNOS enabled receivers per year	
	Penetration of Galileo	
	Penetration of EGNOS	
	Penetration of EGNOS in agriculture	
	Number of "certified" EGNOS products (EGNOS brand)	
	Is Galileo and/or EGNOS use certified for road safety-critical applications ?	
	Is Galileo use certified for maritime safety-critical applications ?	
	Number of ships equipped with a Galileo-enabled receiver (SOLAS ships)	
	Number of fisheries vessel equipped with a Galileo-enabled receiver	
	Number of MEOLUTS installed (cumulative)	
	Number of EGNOS-based road charging systems in the EU	
	Number of cars and trucks using EGNOS in the EU for road tolling purposes	
	Number of tolling service / technology providers who announced EGNOS adoption (cumulative)	
	Number of cars and trucks equipped with EGNOS-enabled receivers for navigation purposes	
	Number of cars and trucks using EGNOS in the EU for ADAS/safety purposes	
	Number of cars and trucks using EGNOS in the EU for fleet management and logistic purposes	
	Number of trucks in the EU equipped with EGNOS-enabled digital tachograph	
	Number of EGNOS-enabled tractors	
	Percentage of CAP certified receiver models that are EGNOS enabled	
	Shipments of EGNOS-enabled CAP certified receivers	
	Number of EU directives in OJ mentioning GNSS or satellite navigation (cumulative number)	
	Legal acts and standards of EU-wide applicability referring to GNSS	
	Average cost of an EGNOS chipset for the mass market ordered by batches of 100 000	
	Average cost of a Galileo E1 chipset for the mass market ordered by batches of 100 000	
	Average cost of a Galileo E1/E5 chipset for the professional market	
	Number of FP proposals combining Galileo + either GMES, GEOSS, or SatCom applications (cumulative)	
	Number of permanent networks in the EU using Galileo enabled receivers	
	Number of receivers using EGNOS for mapping purposes	
	Number of smartphones toolkits downloaded on the EGNOS portal	
	Number of messages posted on EU GNSS websites forums	
	Number of articles published on EU GNSS websites (non -cumulative)	
	Number of SMEs using the voucher scheme	
	Number of SMEs active in EC monitored activities (FP, ESNC, vouchers,...) (non-cumulative)	
	Percentage of SMEs active in EC monitored activities that obtain follow-on funding through ESA or EBB	
	Venture capital attracted by SMEs producing GNSS applications	
	Number of attendees to Galileo specific forum (dedicated forum organized by EC)	
	Number of regions involved in the Galileo international prize	
	Number of applications per year to the Galileo international prize	
	Number of proposals for FP6/ FP7 calls overtime	
	Number of FP6 / 7 R&D projects to reach commercialisation stage (cumulative)	
	Number of FP6 / 7 R&D projects to reach pre-commercialisation stage (cumulative)	
This task is broken down into the following sub-task:		
Task	Indicators	Timing
Task 2.2.1 Reach Key Performance Indicators (KPIs) according to the list developed together with EC	KPIs results	Q1 2013
TASK 2.3: ASSESSING THE RESULTS OF R&D WITHIN APPAP		



The FP7 R&D programme for GNSS is an essential instrument to increase Europe's market share in GNSS applications and ensure long term competitiveness of the European GNSS industry. Under delegation from EC, the Agency has supervised a portfolio of more than 70 projects with a budget over €80million. In view of the preparation for Horizon2020 and of the 2013 revision of the GNSS Application action Plan, the Agency will perform an assessment of the results of the FP7 calls in terms of economic, environmental and social impact of the programmes.

In particular, this task will focus on the following sub-tasks:

Task	Indicators	Timing
Task 2.3.1 Assess the impact of the FP7 GNSS R&D programme to date Task 2.3.2 Assess the impact of the FP7 R&D programme towards EU policy objectives Task 2.3.3 Assess efficiency, achievement and impact of results, relevance and process quality Task 2.3.4 Analyse options and make a recommendation for the areas of focus and innovation funding for H2020 Task 2.3.5 Suggest areas for improvement and specific recommendations for the management of H2020	Corresponding KPIs from the list agreed with EC as described in Task 2.2	Q2 2013

TASK 2.4: REPORTING AND IMPACT ASSESSMENT

This task is broken down into the following sub-task:

Task	Indicators	Timing
Task 2.4.1 Preparation of reports and integration with APPAP impact assessment	This task will be specified in cooperation with EC in Q1 2013.	Q2-Q3 2013

TASK 2.5: RECEIVER TECHNOLOGY MONITORING IN INTERACTION WITH RECEIVER AND CHIPSET MANUFACTURERS

The Agency is already devoting significant resources in analysing GNSS markets and the focus to date have been on business aspects. For this task the Agency has stated its intention to take a more technology oriented approach and better understand the technological trends that are driving these markets and gather insights to secure Galileo adoption. Once these trends have been identified and analysed, they would allow the development of a plan for systematic monitoring to influence the supply chain. The Agency has adopted a strategy of identifying GNSS champions in each market with whom they can work to a) better understand market drivers and b) directly influence EGNOS/Galileo uptake. This strategy has been followed to good effect already in road and ITS in applications such as road user charging and eCall.

Whilst a market specific approach is necessary, it is important to realise that the vast proportion of the consumer and vehicular market is controlled by an ever decreasing number of chipset manufacturers and suppliers. This also extends to some professional markets where traditional GNSS brands are outsourcing chipset production. This is the result of much consolidation over the last three years driven by increasing development and production costs.

This task is broken down into the following sub-tasks:

Task	Indicators	Timing
Task 2.5.1 Technology monitoring – GNSS receiver technology and product roadmaps of GNSS chipset manufacturers and suppliers	This first phase of technology monitoring will focus upon GNSS receiver technology and the product roadmaps of GNSS chipset manufacturers and suppliers. This will by necessity address both GNSS and non-GNSS technology elements. As a result of this study, the Agency should aim to directly influence the supply chain between chipset manufacturers and their customers, and thereby accelerate Galileo and EGNOS uptake through an improved understanding of market attitudes and awareness of improved performance	Q1-Q4 2013

	<p>and reduced costs. If this can be achieved with just a small number of customers in the mass market, then a 'domino effect' could be expected with strong uptake before or in time for IOC.</p> <p>As a result of better understanding the attitudes of these strategic stakeholders and their technology roadmaps, the Agency can identify who might form potential EGNOS/Galileo champions, including both a) chipset manufacturers keen to innovate with EGNOS/Galileo and customers in each market segment that could be influenced in terms of requirements. This work is therefore expected to inform parallel activities in each specific market segment.</p>	
Task 2.5.2 Technology Monitoring – Dual frequency technology	Assessment of the opportunity for a mass market dual frequency receiver, with the aim to establish a clear case for investment to receiver manufacturers and unlock a unique opportunity for future uptake of Galileo.	
Task 2.5.3 Validation of technology monitoring results	This task will facilitate the exchange of facts and opinions through the establishment of market specific forums with key industry players and validate assumptions and results of the technology monitoring process.	
Task 2.5.4 Technology monitoring cockpit and digest	This task will introduce systematic monitoring of the technology monitoring process and help keep the Agency up-to-date on the latest developments affecting EGNOS and Galileo uptake and indeed the strategy to promote their continued increase.	
TASK 2.6: AD-HOC ANALYSES		
This task is broken down into the following sub-task:		
Task	Indicators	Timing
Task 2.6.1 Delivering ad-hoc analyses upon request of EC		All 2013, as requested
TASK 3. ANALYSIS OF EU ACTIVITIES TARGETING SMES		
<p>The Agency shall analyse the operational and strategic aspects of SME support programmes, such as the European Mobile and Mobility Industries Alliance (EMMIA), in order to provide information on GNSS and foster adoption of the systems.</p> <p>This task is broken down into the following sub-task:</p>		
Task	Indicators	Timing
Task 3.1 Analysis of operational and strategic aspects of SME support programmes	Corresponding KPIs from the list agreed with EC as described in Task 2.2	Upon request
	Analysis of programme and project reports	
	Participation in related events and conferences	
	Proposal of potential possibilities of reusing these programmes' outcomes specifically from a GNSS perspective	
TASK 4. MARKET ANALYSIS AND CUSTOMER SUPPORT FOR INITIAL SERVICES PROVIDED BY GALILEO		
<p>This supporting task to EC will focus on providing market-related input into the definition of services (such as Commercial Service and PRS), based on desk market research, user feedback, and expert focus groups. The Agency's Market Development Department shall contribute in the early Galileo OS services and customer support activities with the objective of creating user communities. Another key task will be to coordinate the set-up of a web-portal for the Galileo IOV.</p>		
TASK 4.1: PROVISION OF MARKET-RELATED INPUTS TO THE DEFINITION OF EARLY SERVICES		
Deliverables in this task may be, depending on requirements, a selection of the following:		



Task	Indicators	Timing	
Task 4.1.1 Detailed technical and marketing definition of services (e.g. SAR, CS)	Timely development of the technical documents	Q1-Q4 2013	
Task 4.1.2 Business plan for exploitation of such new services			
Task 4.1.3 Technical analysis of competitive/alternative technologies and services			
Task 4.1.4 Technical and market analysis of applications, assessment of their development status and R&D needs			
Task 4.1.5 Technical analysis of standardisation needs			
Task 4.1.6 Cost-benefit analysis			
Task 4.1.7 Definition of industrial policy			
Task 4.1.8 Definition and implementation of marketing tools for services			
Task 4.1.9 Analysis of price policies and business models			
Task 4.1.10 Stakeholders consultation and analysis of the feedbacks	Experts interviews and timely development of the technical documents		
Task 4.1.11 Analysis of upstream and downstream value chain, producing specific reports on related industries			
Task 4.1.12 Market dimensioning and assessment			
Task 4.1.13 Impact assessment	Corresponding KPIs from the list agreed with EC as described in Task 2.2		
Task 4.1.14 IPR policy assessment	Experts interviews and timely development of the technical documents		
TASK 4.2: USER SEGMENT DEVELOPMENT FOR GALILEO PRS SERVICE			
Deliverables in this task will be market, economic and technical analysis and tools, that could include the following sub-tasks:			
Task	Indicators	Timing	
Task 4.2.1 Consultation of stakeholders and finalisation of the users requirements survey	Experts interviews and timely development of the technical documents	Q1-Q4 2013	
Task 4.2.2 Update of market analysis of main PRS applications			
Task 4.2.3 Analysis of upstream and downstream value chain and contribution to industrial policy			
Task 4.2.4 Design and implementation of awareness tools content	Timely development of the technical documents and software		
TASK 4.3: SUPPORT TO OS ICD LICENSE AGREEMENT PROCESS SET-UP			
The present European GNSS (Galileo) Open Service Signal In Space Interface Control Document (OS SIS ICD) Issue 1 contains the publicly available information on the Galileo Signal In Space. It is intended for use by the			

Galileo user community and it specifies the interface between the Galileo Space Segment, and the Galileo User Segment.		
This task will focus on the following activities:		
Task	Indicators	Timing
Task 4.3.1 Analysis and evaluation of current ICD license agreement content and implementation of improvements	Adapted new processes and procedures timely implemented	Q1-Q4 2013
Task 4.3.2 ICD administration: management of requests and licenses following implemented improvements	Evaluation of specifications, including performance indicators, user satisfaction KPIs and other management requirements	Q1-Q4 2013
Task 4.3.3 Set-up and management of involved stakeholder interfaces (e.g. EC, ESA, industry players)		
Task 4.3.4 Support to ICD help desk operations		
Task 4.3.5 Design and implementation of awareness campaign		
Task 4.3.6 User support for other services	Experts interviews and participation in related events and programmes	
TASK 4.4: OS CUSTOMER MARKETING AND SUPPORT		
With the first Galileo satellites in orbit the user community (scientific and industry) begins to implement the Galileo signals in their products. This will entail technical question on Galileo covering a vast possible range of topics.		
The GNSS Service Centre (GSC) in Madrid will be the first point of contact as for the initial service provision of Galileo. The activities in this area will include:		
Task 4.4.1 Collecting technical information on Galileo OS	Research and updating of database and relevant technical documents	Q1-Q4 2013
Task 4.4.2 Analysis of information need by EGNSS users and implementation of info-repertoire		
Task 4.4.3 Database management		
Task 4.4.4 Creation and maintenance of Galileo information website	Development of relevant technical documents	
Task 4.5.5 Design and maintenance of electronic ticketing system for user requests	Communication of current constellation status	
Task 4.5.6 Monitoring of security and capacity requirements	Timely handling and dispatching of user request	
Task 4.5.7 Definition of service levels and KPI tracking	Continuous monitoring of security and capacity requirements	
Task 4.5.8 Analysis of service quality and user satisfaction survey	Evaluation of service specifications, including performance indicators, user satisfaction KPIs and other management requirements	
Task 4.5.9 Performing regular statistics of user requests and providing recommendations		
Task 4.5.10 Coordination activities between involved stakeholders	Experts interviews and timely development of the technical and procedural documents	
TASK 4.6: SUPPORT FOR EGNOS AND GALILEO MARKET COMMUNICATION		



The GNSS Service Centre (GSC) to be located in Madrid will be the hub for handling user requests. Apart from these inbound services, the GSC shall also conduct outbound communication activities towards the different user segments, analyse the results and provide recommendations to continuously match user requirements and system performance. The activities in this area will include:

Task	Indicators	Timing
Task 4.6.1 Set-up of target user list database	Timely development of the technical documents	Q1-Q4 2013
Task 4.6.2 Launch and analysis of user surveys		
Task 4.6.3 Conduct expert interviews an set-up of user group workshops	Experts interviews and timely development of the technical documents	
Task 4.6.4 Maintain database of European and national funding opportunities	Research and updating of database and relevant technical documents	
Task 4.6.5 Coordination activities between involved stakeholders	Experts interviews and participation in related events and programmes	

TASK 5. AWARENESS BUILDING: EVENTS AND WEBSITE MANAGEMENT

Awareness raising activities in the context of APPAP are included in Chapter 7.8 "Communication".

TASK 6. IMPLEMENTATION TASKS IN THE FIELD OF AVIATION

TASK 6.1: PROMOTION AND FOSTERING OF USE OF EGNOS (IN THE SHORT TERM) AND GALILEO (IN THE MID/LONG TERM) IN ECAC IN COORDINATION WITH GSA AND THE EGNOS SERVICE PROVIDER

The declaration of EGNOS service availability to aviation and the publication of first LPV procedures in Europe show that all enablers are available to start the operational implementation of EGNOS. The RAISG (former RATF) is a EUROCONTROL group reporting to the NSG that is supporting harmonised implementation of RNAV approaches (including LPVs) in ECAC gathering all involved stakeholders (e.g. ANSPs, NSAs, Aircraft operators, EASA, GSA, ESSP, EC.....) EUROCONTROL will keep coordination with those of the ICAO Paris APV group and the ICAO PBN Go Team.

Lessons learned from RAISG and ICAO meetings, 7th FP projects (e.g. ACCEPTA, Hedge, GIANT 2,..) and the 3 EUROCONTROL projects co funded by TEN-T, show the need for EUROCONTROL to continue to interface with the GSA and promote and foster the operational use of EGNOS in ECAC.

The following sub-tasks are proposed:

Task	Indicators	Timing
Task 6.1.1 Technical support in the management and review of FP7 projects (e.g. ACCEPTA, Fillgap)	Timely assessment of project milestones and deliverables	Q1-Q4 2013
Task 6.1.2 Support in potential new procurements/grants aiming at supporting the use of EGNOS in aviation	Setting objectives, preparation of tender/call documentation, evaluation of proposals and negotiation with contractors	
Task 6.1.3 Proactive ad-hoc support to States/ANSPs and aircraft operators in EGNOS operational implementation	a) Support in the application of the existing guidance material produced by EUROCONTROL to determine first where and to whom EGNOS will bring benefits and then to develop further steps. b) Organisation of dedicated Workshops for States/ANSPs and aircraft operators that are not participating regularly to RAISG.	
	c) Development of education material. d) Organise a training course for procedure designers. Lack of procedure designers with adequate training on PANS-OPS criteria for LPVs is one of the identified obstacles for EGNOS implementation in several ANSPs of ECAC.	

	e) Support safety assessment at user level, interfacing between GNSS system safety and the implementation of aviation applications using GNSS, providing safety information to the aviation community to promote adoption and to manage the outcomes of user safety assessments to improve the service.	
Task 6.1.4 Assignment of SBAS channels to LPV procedures for ECAC in coordination with FAA and ICAO	The potential request to develop a tool for ICAO for this purpose will be discussed by the EC with FAA and ICAO.	
Task 6.1.5 Developing interactive maps for LPVs to be posted at the EUROCONTROL website	Timely development and update of the technical documents and software	
Task 6.1.6 Enhanced cooperation with FAA to apply lessons learned on WAAS to the EGNOS operational introduction	There are more than 2000 LPV procedures published in the US and the FAA experience in the SBAS operational implementation is very valuable to Europe. Development of joint actions with the FAA (co funding of SBAS related avionics) could be explored as part of this cooperation.	
Task 6.1.7 Communication and awareness	Participation in aviation events (ATC global and others) to support the use of EGNOS by means of having a stand, presentations, brochures,...in coordination with GSA and ESSP	
TASK 6.2: DEFINITION OF REQUIREMENTS FOR AERONAUTICAL NOTAM SERVICES FOR EGNOS AND GALILEO AND ASSESSMENT OF SERVICE		
EUROCONTROL developed an EGNOS NOTAM tool that has been transferred to EC and is now operated by the EGNOS Service Provider (ESSP). It is proposed to undertake the following tasks in coordination with AIM Units for AIS related activities, and coordinated with the ESSP for EGNOS related matters.		
Task	Indicators	Timing
Task 6.2.1 Evaluation of the EGNOS NOTAM tool operated by ESSP	Distribution flow to NOF offices Assess quality of the predictions (false alarms and missed detections of the prediction module) comparing NOTAM proposals with actual EGNOS performance (e.g. observed in EDCN) a posteriori	Q1-Q4 2013
Task 6.2.2 "Definition and maintenance of the NOTAM Service Operation needs" based on actual behaviour of EGNOS NOTAM tool and operational experience	This would be formulated by updating requirements for GNSS NOTAM (including formatting) and web based service	
Task 6.2.3 Preparation of WPs to ICAO on NOTAMS service performance and new requirements based on operational experience on GNSS based operations	Timely development of the technical documents	
Task 6.2.4 Running the EGNOS module of AUGUR	This includes providing ESSP with input data for the EGNOS NOTAM service and display of EGNOS NOTAM on the AUGUR interface	
TASK 6.3: AVIATION SERVICE LEVELS FOR EGNOS AND GALILEO BASED ON THE EDCN NETWORK		
In 2010, EUROCONTROL contracted Pildo labs the deployment of EDCN enhancements (e.g. MOPS receivers, new GPS L5/Galileo receivers) and EDCN operations until December 2012. Following a letter sent by EUROCONTROL to EC, the EC contracted with Pildo Labs some complementary EDCN activities (e.g. procurement of additional receivers). The PEGASUS tool will need to be upgraded (and re-validated) in order to process new GNSS signals and data that will be coming from the EDCN stations. For example signals coming from GPS L5/Galileo/SBAS receivers in the short term, new potential SBAS messages (e.g. if type MSG 28 is to be broadcast by EGNOS) in the mid-term, or potentially EGNOS multi-constellation augmentation signal in the long term. It is expected that PEGASUS development for new signals/services would rely on the existence of stabilized user receiver standards so that the SW is representative enough. This may be available in 2013.		
Task	Indicators	Timing
Task 6.3.1 Performance monitoring of aviation service levels for EGNOS and Galileo based on the	Evaluation of service level specifications, including performance indicators, user satisfaction KPIs and other management requirements	Q1-Q4 2013



EDCN network		
TASK 6.4: EVOLUTION OF STANDARDS (ICAO, RTCA EUROCAE)		
GNSS provides PVT (Positioning, Velocity and Time) information for many CNS applications. The GNSS performances required will highly depend on the safety criticality of the operation. EGNOS and Galileo will provide an alternative to GPS but will also together with GPS support more demanding applications. A number of CNS Implementing rules have been or are being drafted, all of them requiring the use of a GNSS equipment on board. Data link and ADS-B regulations are already approved. They include forward fit and retrofit considerations for GNSS equipment. The airspace user's obligations in terms of GNSS equipment shall meet all regulations needs. Optimisation of GNSS equipment strategy would be useful notably for the airspace users. Furthermore in view of the future EGNOS and Galileo standards (developed at ICAO, RTCA and EUROCAE) the need for a GNSS equipment strategy has been identified.		
Task	Indicators	Timing
Task 6.4.1 Support for evolution of Standards (ICAO, RTCA EUROCAE) and its technical consistency with the preparation of equipment mandates for GNSS equipment	European GNSS equipment regulatory context assessment Experts interviews and timely development of the technical documents Regulatory amendments proposals	Q1-Q4 2013
TASK 6.5: CONTRIBUTION TO THE DEFINITION OF SECURITY FRAMEWORK FOR EGNOS BASED ON AVIATION NEEDS AND ON THE TOPIC OF GNSS INTERFERENCE ISSUES		
The following sub-tasks are proposed:		
Task	Indicators	Timing
Task 6.5.1 Conduct a security threat, risk and vulnerability assessment	BIA: Business Impact Analysis: Coordination within aviation stakeholders to harmonise views	Q1-Q4 2013
	Scope; critical assets identification	
	Assessment of identified vulnerabilities (e.g. Ewan, internet server)	
	Propose corrective measures, i.e. Formulate security requirements at mission and system level following ATM security approach.	
Task 6.5.2 Support analysis on GNSS interferences issues at regulatory levels	Experts interviews and timely development of the technical documents	
TASK 6.6: CONTRIBUTION TO THE RE-PROFILING OF THE GALILEO SAFETY OF LIFE SERVICE		
This task will focus on following activities:		
Task	Indicators	Timing
Task 6.6.1 Support to update the Galileo SoL roadmap taking into account aviation plans for introduction of CNS applications based on GNSS in a timeline perspective	Roadmap on horizontal positioning to support to en route and TMA applications (e.g. A-RNP), introduction of approaches.	Q1-Q4 2013
Task 6.6.2 Participate on system level discussions between EC and ESA about options for re-profiling Galileo SoL service and related studies/projects (EGNOS v3, evolutions of current RAIM and A-RAIM)	Provision of viation perspective on different integrity concepts and schemes to re-allocate the integrity burden between space, ground and user segments	
Task 6.6.3 Support to EC on international discussions on interoperability of different integrity schemes (WG C with US/FAA, ICG, RTCA, ICAO...)	Experts interviews and participation in related events and programmes	
Task 6.6.4 Support to EC to prepare and review updates to the Galileo MRD	Timely development of the technical documents	



Task 6.6.5 Consolidate aviation stakeholder's views on this subject within EUROCONTROL working arrangements (e.g. NSG) and in coordination with standardisation bodies	Experts interviews, participation in related events and programmes, and timely report on findings	
TASK 6.7: ESTABLISH AD-HOC WORKING RELATIONS		
This task will focus on following activities:		
Task	Indicators	Timing
Task 6.7.1 Establish the necessary working relations, including the organisation of progress meetings on an ad-hoc basis, with the appropriate competent organisations in order to coordinate the technical implementation of work	Experts interviews and participation in related events	Q1-Q4 2013
	Timely development of the technical documents	

7.7. GENERAL ADMINISTRATION, IT AND LOGISTICS

Main Objectives Overview – 2013

1. Stabilize the new ICT and Logistics infrastructure in Prague
2. Establish efficient communication with the GSMC in France and UK
3. Implement the external part of PRS DMS (service for the Member States)
4. Start the implementation of a Quality Management System (E.g.: ISO, TÜV)
5. Enhancing and upgrading the new Administrative Platform

7.7.1. Objectives and Priorities

A substantial part of the Agency resources and efforts will continue to be invested in financial, legal and human resources tasks that underpin the core activities related to the security and commercialisation of the European satellite navigation services, the proper functioning of the Agency as an EU body with legal personality and the work of the Administrative Board.

The procurement and contract management for the day-to-day business of the Agency as well as for the project related tasks will continue to be a very demanding challenge with the need for adequate resources matching the project necessities.

The following tasks were already included in the Work Programme 2012 but are expected to continue in the course of 2013:

- Support to the work of the SAB;
- Finalisation of the development, accreditation and start of exploitation of the DMS for RESTREINT UE information – to support PRS and Accreditation activities and to distribute the documentation to the Member States.

On the administrative side, the Agency intends to pay more attention to staff, processes and services. 2013 will be a year of consolidation of the basic elements in the definition of enhanced administrative support units in addition to continued planning and anticipation to cope with the implications posed by the Agency's future layout as a multiple location entity.

Supporting this initiative of enhancing and upgrading the technical profile of the administrative support units, the Agency will hire external consultants in order to cover the following tasks:

1. **Analysing key GSA work processes:** Identify potential improvements. Draw key processes work flows. Consider the impact of multiple locations in the Agency's key processes. Support in continuously improving the basis for a digital administration with a view to provide remote administrative services to remote internal users.
2. **Developing mid-term strategy:** Strategic review of the Agency's starting position in 2012 and spell out the major strategic guidelines for its mid-term strategy assessment. Consultants will carry out a broad analysis of the evolution of the Agency within the European Commission's Galileo and EGNOS Programs in order to help the Agency understand what the broad strategic options in the mid-term are. The consultants will also address which are the major implications of each of them. The assessment is envisaged to be participative and stimulating and will therefore include various sessions with internal teams and external specialists.
3. **Implementation of Quality Certification (and related Management System – ISO, TÜV or similar):** The Agency intends to apply for Quality Certification (QC) in relation to at least key technical functions for 2013/14. In 2013 the Agency will carry out preparatory work in relation to QC, attempting to address key risk processes, recommend improvements and define the overall approach and route map to be pursued by the Agency to be able to succeed in securing its QC in the following year or so. In view of the Agency role as the exploitation entity for EGNOS and Galileo we believe that it is necessary to implement such relevant Quality Management System to make sure that the Agency meets the needs and expectations of its stakeholders. The importance of that is underlined e.g. by

the operations of Safety-of-Life services as of 01/01/2014. As a first step, the Agency needs to fulfil the requirements as described in ISO. Some preparatory work started already in 2012 namely in the information systems area (leading to ISO 27000 compliance in 2013, as above).

These above projects are horizontal in nature and as such will affect all the units within the administrative functions of the Agency, key Operational departments and the connections among them. These actions will be coordinated by the Planning and Control Officer (Office of the Executive Director). The preparatory work already started in 2012.

The ICT and Logistics team will continue to provide the staff with the most efficient and the best available tools in order to optimize their daily work improve collaboration and save time spent on routine tasks. All projects shall be traceable and auditable and managed properly using Prince 2.

The Agency will need to ensure that the two GSMC are fully operational from the IT and Logistics point of view. This task will include the need to procure and install office equipment, general services and supplies, communication lines, IT infrastructure and prepare part of the Agency staff for the relocation.

The other objectives of the ICT and Logistics Department include:

1. Stabilising the new ICT and Logistics infrastructure in Prague
2. Establishing efficient communication with the GSMC in France and UK
3. Implementing the external part of PRS DMS (service for the Member states)

Based on the roadmap created in 2011, the Agency foresees the need to launch a procedure for a 2013 budget adjustment once the exact content of the hosting agreements with the UK and France is finalized, or to modify the roadmap subject to the actual budgetary situation at the given moment of time.

7.7.2. Summary of Main Tasks in 2013

Main Tasks in 2013 General Administration, IT and Logistics		
TASK 1: GENERAL FINANCIAL, LEGAL AND HUMAN RESOURCES SUPPORT		
Task	Indicators	Timing
Task 1.1 Legal and financial reporting	Timely review and submission of all Agency framework documents	All 2013
Task 1.2 Financial support	Timely execution of financial transactions	All 2013
Task 1.3 Administrative support	Timely support to all departments on mission logistics and the day-to-day running of the Agency.	All 2013
Task 1.4 Human Resources activities	Ensure the recruitment of additional staff according to the new tasks entrusted to the agency, support to staff with relocation, training plans implementation	All 2013
Task 1.5 Legal counselling and Board support	Provision of timely and accurate legal notes and opinions General support to the Administrative Board meetings	All 2013
Task 1.6 Procurement and contract management	Timely management of all procurement and contractual processes	All 2013
Task 1.7 Analysing key GSA processes	Identification of areas of potential improvements; development of key processes work flows; etc.	All 2013
Task 1.8 Developing mid-term administrative strategy	Development of a strategic report	All 2013
Task 1.9 Implementation of Quality Management System	Application to obtain Quality Certification in relation to key technical functions	End 2013
TASK 2: ICT & LOGISTICS ACTIVITIES		



Task	Indicators	Timing
Task 2.1 Delivery of a service aiming at providing staff with the most efficient tools to allow them to optimise their work		All 2013
Task 2.2 Provision of traceable and auditable projects using Prince 2 methodology		All 2013
Task 2.3 Full implementation of Business Continuity		All 2013
Task 2.4 Improvements in the use of collaborative tools like SharePoint and Project management software in order to improve the internal collaboration and higher transparency of all Agency administrative processes		All 2013
Task 2.5 Ensure that the two GSMC are fully operational from the IT and Logistics point of view	Procuring and installing office equipment, general services and supplies, communication lines, IT infrastructure and preparing part of the Agency staff for the relocation	All 2013
Task 2.6 Stabilising the new ICT and Logistics infrastructure in Prague	Ensuring the smooth operations and compliance with the operational requirements of the Agency stakeholders for the ICT infrastructure in the Prague HQ	All 2013
	Testing and debugging the Business Continuity Plan and the ICT Disaster Recovery plan	06/2013
	Performing an independent penetration test of the ICT infrastructure	08/2013
	Verifying all existing system documentation and develop the missing parts	06/2013
	Obtain full ISO 27000 certification	End 2013
Task 2.7 Establishing efficient communication with the GSMC in France and UK	Putting in place secure voice and videoconference calls up to RESTREINT UE via the GRUE WAN	End 2013
	Putting in place secure e-mail and document management up to RESTREINT UE via the GRUE WAN	End 2013
	Putting in place secure communications up to Secret UE using SINA devices in Prague and the GSMC	End 2013
Task 2.8 Implementing the external part of PRS DMS (service for the Member states)	Organising a procurement procedure for the supply of the external segment of PRS DMS, manage the resulting contract and deliver the product by the year end	End 2013

7.8. COMMUNICATION

Main Objectives Overview – 2013

- 1. Continued EGNOS Market Communication and Promotion**
- 2. Strengthening of PRS Awareness-building**
- 3. Strengthening GSA Corporate Communications**
- 4. Supporting Galileo Exploitation-related Communications**

7.8.1. Objectives and Priorities

In 2013 the Agency Communication activities will fall into four main categories:

1. Corporate Communications actions that aim to reposition and rebuild a solid image for the Agency especially given its new responsibilities, new regulation and new headquarters in Prague.
2. EGNOS Market Communications actions that aim to build on the positive steps taken to date in this domain and focus on building greater awareness and confidence leading to more uptake of EGNOS amongst more users and new sectors.
3. Continue to implement PRS awareness-building communications actions that help to explain and demonstrate the system and help support the process of preparing the market and the industry to be able to positively exploit the service when it becomes available.
4. Activities that support awareness and confidence-building of the Galileo exploitation phase, in cooperation with the European Commission.

These activities and actions will aim at achieving the following main objectives in 2013:

1. EGNOS Market Communication and Promotion

General objectives – in support of the achievement of the overall objectives of the EGNOS Programmes as defined in EC Regulation 683/2008 on the further implementation of the European satellite navigation programmes (EGNOS & Galileo):

- Raise the overall positive awareness of the existence and high performance of EGNOS and its benefits as a confidence-building measure for European GNSS in general. Position EGNOS as a successful step in the evolution of European GNSS.
- Increase the awareness and understanding of EGNOS as a useful feature/enabling technology for application developers requiring more precise and reliable PNT information.
- Raise awareness of the results of EU GNSS Framework Programme Research and how it supports the growth of GNSS-powered business in Europe in general, and target industry sectors in particular.

Sector-specific objectives – in support of the Agency EGNOS Market Entry Strategy, as defined by the European Commission's Action Plan on GNSS Applications, issued on 14/6/2010:

- **Aviation:** To increase the awareness, credibility, support and acceptance of the benefits that EGNOS has for aviation in Europe, encouraging its uptake by the community.
- **Road:** Increase awareness of and interest in what EGNOS can bring to road applications to support adoption in the sector. (focus on Road User Charging (RUC), eCall, Advanced Driver Assistance Services (ADAS), Pay Per Use Insurance (PPUI))
- **High Precision:** Increase awareness of and encourage adoption of EGNOS, as well as EDAS, by organisations relying on high precision information (focus on precision agriculture, mapping, GIS).

- Maritime: Begin to raise awareness of EGNOS in the sector as well as introduce and explore the potential benefits it can offer initial segments of the market (focus on commercial and leisure coastal and inland waterway navigation).

2. PRS Awareness-building

- Stimulate interest and enhance knowledge of PRS and PRS pilot projects among potential participants.
- Increase understanding of the future PRS service, how it will work, and why it is needed.
- Raise awareness of why and how potential users, as well as related industry, should start preparing now for PRS.

3. GSA Corporate Communications

- Define and clarify the role and responsibilities of the 'new' European GNSS Agency'.
- Raise positive awareness of the Agency, its activities and achievements.

4. Galileo Exploitation-related Communications

- Support the European Commission in raising awareness and confidence of the exploitation phase of Galileo, in support of the initial steps being taken in 2013.

7.8.2. Summary of Main Tasks in 2013

Main Tasks in 2013 Communication		
1. EGNOS MARKET COMMUNICATION AND PROMOTION		
TASK 1.1: IDENTITY AND BRANDING		
Task	Indicators	Timing
Task 1.1.1 Continue to expand the EGNOS communications sector messages, branding and identity, using the 'EGNOS. It's there, use it.' Campaign umbrella.	Branding used on all materials	Throughout 2013
TASK 1.2: PUBLICATIONS, ADVERTISING AND VIDEO		
Task	Indicators	Timing
Task 1.2.1 Update/reprint EGNOS sector leaflets as required	2 revisions & reprints	End 2013
Task 1.2.3 Develop/print a new 2 new 'EGNOS' sector-specific leaflets. (in EN)	2 new sector leaflets & campaign messages	
Task 1.2.3 Update EGNOS sectoral advertising as necessary and run in trade magazines associated with EGNOS event sponsorship packages.	8 EGNOS target specific ad insertions	
Task 1.2.4 Create a new video showing the benefits that EGNOS offers for maritime applications that can be shown at relevant conferences, events and meetings a distributed via Internet channels	1 new EGNOS sector video (long & short version)	
Task 1.2.5 Update existing EGNOS sector videos as needed	2 updates	



Task 1.2.5 Leverage 'video-friendly' EGNOS milestones, such as flight trials and new application demonstrations by producing and distributing small videos of the achievements to relevant target user sectors	Film 4-5 new video-friendly demos	
TASK 1.3: INTERNET		
Task	Indicators	Timing
Task 1.3.1 Cover EGNOS sector-focused success stories, project results and milestones as regular and timely news stories on the EGNOS Portal	4-6 new news stories per month	End 2013
Task 1.3.2 Add, update and refine new relevant information, tools and helpful features on the EGNOS Portal	8-10 updates per month	
TASK 1.4: NEWSLETTERS/DIRECT MARKETING		
Task	Indicators	Timing
Task 1.4.1 Publish regular electronic newsletters 'European GNSS Market News' and the 'EGNOS Portal Newsletter'	Quarterly newsletters	End 2013
Task 1.4.2 Leverage event participation lists to send targeted communications on EGNOS to key potential users and influencers	3 event-focus mailings	
TASK 1.5: MEDIA RELATIONS		
Task	Indicators	Timing
Task 1.5.1 Raise awareness of key sector-related EGNOS success stories, results, milestones, FP7 project results and demonstrations, GSA ESNC EGNOS prize winning applications, etc. amongst relevant media via on-going press releases, web stories and event contacts	5-6 targeted press releases	End 2013
Task 1.5.2 Leverage event participation and advertising placement to negotiate positive coverage of EGNOS and EGNOS applications in associated sector-focused media channels	<ul style="list-style-type: none">▪ Ongoing leverage of EGNOS Portal news stories▪ Related event coverage in 4-5 event media channels	
TASK 1.6: EVENTS		
Task	Indicators	Timing
Task 1.6.1 In 2013, the Agency plans to promote EGNOS with exhibition stands and other promotional initiatives at a range of key events	Support of 9-10 EGNOS sector specific events	End 2013
TASK 1.7: THE EUROPEAN SATELLITE NAVIGATION COMPETITION (GALILEO MASTERS)		
Task	Indicators	Timing
Task 1.7.1 Continue support of this communications	Agency sponsorship of 2013 contest and giving of special EGNOS Prize	10/2013



and networking tool and continue awarding the prize for the most promising EGNOS Application		
TASK 1.8: THE EUROPEAN SPACE EXPO (ESE)		
Task	Indicators	Timing
Task 1.8.1 Leverage the creation and placement of the ESE. (in cooperation with DG Enterprise)	Update existing and create 2 new application kiosks as well as the placement of the ESEat key locations	End 2013
2. PRS AWARENESS-BUILDING		
TASK 2.1: PUBLICATIONS & VIDEO		
Task	Indicators	Timing
Task 2.1.1 Revise and reprint the PRS flyer promotional flyer that describes the service, its applications and next steps	New flyer complete and in distribution	End 2013
Task 2.1.2 Create a short video promoting the future benefits and applications of the PRS service	Production of 5-7 minute video in EN	
TASK 2.2: INTERNET		
Task	Indicators	Timing
Task 2.2.1 Make available PRS developments and information on the security tab of the Agency web site	2-4 updates per month	End 2013
TASK 2.3: NEWSLETTERS/DIRECT MARKETING		
Task	Indicators	Timing
Task 2.3.1 Create and distribute an e-newsletter to key PRS potential users, providing status report on the development, milestones, etc. to keep them information and interested in the service	Creation/distribution 2-3 newsletters	End 2013
TASK 2.4: EVENTS		
Task	Indicators	Timing
Task 2.4.1 In 2013, the Agency plans to increase awareness of the PRS at select target events	Support 2-3 related events in 2013	End 2013
3. GSA CORPORATE COMMUNICATIONS		
TASK 3.1: IDENTITY & BRANDING		
Task	Indicators	Timing
Task 3.1.1 Updated graphic look/chart for the 'new' European GNSS Agency incorporated on all on and off-line	New look/refined logo for the Agency	End 2013



agency communications		
Task 3.1.2 Update Agency documents, signage & presentation templates		
TASK 3.2: INSTITUTIONAL RELATIONS		
Task	Indicators	Timing
Task 3.2.1 Regular direct contact with key institutional stakeholders to present and explain who the Agency is, and what it does	Preparation and distribution of GSA fact file	End 2013
Task 3.2.2 Preparation of a GSA Information/Presentation File for institutional partners		
TASK 3.3: INTERNET		
Task	Indicators	Timing
Task 3.3.1 Continue update and to publish regular news and information on GSA activities on the Agency website	1 GSA-related news story and 4 – 6 info updates per month	End 2013
TASK 3.4: PUBLICATIONS		
Task	Indicators	Timing
Task 3.4.1 Update Information Leaflet on the Agency	Revised brochure	End 2013
Task 3.4.2 Leverage the Agency's Annual Activity Report to communicate the new focus, aims, structure, 'look', etc. of the Agency	Text and graphic design contribution to Agency Annual report	
TASK 3.5: NEWSLETTERS/DIRECT MARKETING		
Task	Indicators	Timing
Task 3.5.1 Develop and regularly distribute an electronic news bulletin on Agency activities and updates to key Agency stakeholders (i.e. GSA Member State bodies, relevant MEPs, EC partners, etc.)	Text, layout and distribution of 3 newsletters	End 2013
TASK 3.6: MEDIA RELATIONS		
Task	Indicators	Timing
Task 3.6.1 Seize opportunities with relevant media – via press releases, meetings and contacts, and 'web 2.0' tools – to reintroduce the	3-4 GSA related press releases	End 2013



Agency, its new role, the activities it is involved in, and the results it is achieving		
TASK 3.7: EVENTS		
Task	Indicators	Timing
Task 3.7.1 In 2013, the Agency plans to increase its visibility at a range of events	Agency promotion at GSA managed communication events	End 2013

8. IMPLEMENTING MEASURES FOR 2013

8.1. GRANTS

There are no new grants planned in 2013.

8.2. GRANTS IMPLEMENTED UNDER DELEGATION FROM THE EUROPEAN COMMISSION

There are no new grants under delegation planned in 2013.

8.3. PROCUREMENT

The overall budgetary allocation reserved for operational procurement contracts in 2013 amounts to €31,790,000.00, out of which €3,060,000.00 under the Agency's own budget and €28,730,000.00 under delegation by the European Commission.

8.3.1. Security

8.3.1.1. Provision of support to the GSA in the Security Accreditation activities

LEGAL BASIS

- . GSA Regulation 912/2012 (Art. 2)
- . GNSS Regulation 683/2008 (Art. 16)

BUDGET LINE

Title 3, Budget line 3300.12.3

Indicative number and type of contracts envisaged

Framework contract already signed on 20 October 2010 for a maximum duration of 4 years.
2 specific contracts envisaged in 2013.

Subject of the contracts envisaged (if possible)

- a) Support to the management of all the technical/operational security accreditation aspects; liaising with all the entities involved in the process with a view to adequately assess the residual risk involved;
- b) Support to the review and maintenance of the system security accreditation strategy;
- c) Support to the review of the system and segment Security Accreditation and Certification Plans and to the implementation of specific actions therein specified which are under the competence of the Agency;
- d) Support to the definition of guidelines related specific aspects of the security accreditation process;
- e) Support to the analysis of potential security accreditation issues with respect to third countries;
- f) Support to the management and performance of security audits and inspections;
- g) Support to the review of the system security design documentation and the implementation of the security requirements at system and segment level;
- h) Support to the review and analysis of all the security evidences required for system security accreditation;
- i) Support to the definition, review and maintenance of a system security risk management system aiming at adequately assess and manage the residual risks;
- j) Support to the review of the security operating procedures (SecOPs);
- k) Support to the review of local security accreditation strategies;
- l) Support to the review of local security requirements (local SSRS, SISRS, local Security Plans, local SecOPs);
- m) Support to the analysis of service-specific and local security accreditation statements for ground sites (including launch sites);
- n) Support to the review of components' security requirements (Security Targets);
- o) Support to the review and analysis of all the security evidences required for security accreditation at component level and the potential impacts at system level;
- p) Support to the analysis of security accreditation statements for components;
- q) Support to the definition and provision of common security standards and guidance, with respect to mutual recognition of cryptographic certifications;
- r) Support to the provision of advice and guidance to the system project management authority, to the operating company on all security aspects related to security accreditation and re-accreditation;
- s) Support to the definition and review of security accreditation reports;



t) Support to the definition of system security accreditation statements; u) Support to the review of the need for system post-accreditation or reaccreditation.
Implementation
Direct implementation by the Agency
Indicative timeframe for launching the procurement procedure
Framework contract GSA/OP/04/09 already signed from 20 October 2010
Request for proposal about specific contract SC6 to be released in February 2013
Request for proposal about specific contract SC7 to be released in September 2013
Indicative amount of the call for tenders [not mandatory]
Maximum amount foreseen for the full duration (4 years) of the framework contract GSA/OP/04/09 is 4.500.000,00 €
Specific contract [if applicable]
Framework contract GSA/OP/04/09
Specific contract SC6 to be signed in March 2013, for an estimated amount of 440.000,00 €
Specific contract SC7 to be signed in October 2013, for an estimated amount of 500.000,00 €

8.3.1.2. Provision of support to the GSA in the PRS and GSMC activities (GSMC)

LEGAL BASIS

- . GSA Regulation 912/2012 (Art. 2)
- . GNSS Regulation 683/2008 (Art. 16)

BUDGET LINE

Title 3, Budget line 3100 (+ delegated budget, see below "Specific contract")

Indicative number and type of contracts envisaged

Framework contract to be signed in the course of 2012 for a maximum duration of 4 years.
2 specific contracts envisaged in 2013.

Subject of the contracts envisaged (if possible)

Contractor reporting and interaction with GSA

Task 1: Contractor's own project management and reporting

PRS Specific Support

Task 2.1: Supporting of market development of PRS

Task 2.2: Supporting of engineering tasks for the development of PRS User Segment

Task 2.3: Definition of the mission of the PRS Service Provider

Task 2.4: Development of guidelines and support in the definition of policies

GSMC Specific Support

Operational Engineering:

Task 3.1: GSMC CONOPS / Procedure preparation

Task 3.2: POCP CONOPS / Procedure preparation

Task 3.3: General Operational Management Engineering

Technical, Security and Administrative Engineering

Task 3.4: GSMC Technical Reviews

Task 3.5: GSMC Procurement and Logistics Support

Task 3.6: GSMC Local Establishment Support

Transversal Enabler Support

Task 4.1: Promotion of a new approach for countering RFI threats on GNSS services

Task 4.2: Preparation and maintenance of accreditation

Task 4.3: Drafting of Validation Plans

Task 4.4: Security Infrastructure and Organisation

Task 4.5: Training and Knowledge management

Task 4.6: Documentation and Information Management support

Task 4.7: Security Projects Management and Administration

Task 4.8: Legal and Fiscal Support

Task 4.9: Staffing/Organisation Advisor and Agent

Task 4.10: Procurement Advisor and Agent

Task 4.11: Software Development / Configuration / Setup

Task 4.12: IT Security

Task 4.13: Physical Security

Task 4.14: Business Continuity Plan

Task 4.15: Security consultancy

Implementation

<i>Direct implementation (GSMC support)</i>
Indicative timeframe for launching the procurement procedure
<i>Call for tender for the framework contract to be launched Q2 2012</i>
<i>Request for proposal about specific contract SC4 to be released in April 2013</i>
Indicative amount of the call for tenders [not mandatory]
<i>Maximum amount foreseen for the full duration (4 years) of the framework contract GSA/OP/04/12 is between 1 to 6 M€ on Lot 2 (GSMC).</i>
Specific contract [if applicable]
<i>Framework contract GSA/OP/04/12 (ref. to be defined)</i>
<i>Separate specific contracts SC4 (Lot 2 – GSMC) to be signed in June 2013, for an estimated amount of 1,500,000.00 € including 800,000.00 € Title 3-2013 and 800,000.00 € DA 2012.</i>

8.3.2. Relocation of GSMC OPS to Saint-Germain-en-Laye and Swanwick

8.3.2.1. Relocation and deployment for GSMC
LEGAL BASIS
<i>. GSA Regulation 912/2010 (Art. 2)</i>
<i>. GNSS Regulation (Art. 16)</i>
BUDGET LINE
<i>Title 2 (not reported in Appendix II as it doesn't need financing decision)</i>
Indicative number and type of contracts envisaged
<i>Multiple Service Level Agreements, Lease agreement, negotiated procedures, framework contracts</i>
subject of the contracts envisaged (if possible)
<i>Procurement of elements and services not covered by the hosting/lease agreements with FR and UK. Purchase of computer hardware and software, development of software for GSMC operations support, purchase of security furniture and standard furniture, telecommunication services.</i>
Implementation
<i>Implemented by the Agency's ICT&L Department</i>
Indicative timeframe for launching the procurement procedure
<i>January 2013</i>
Indicative budget
<i>€ 874,000.00</i>
<i>(Not including staff costs). Amount subject to change depending on final outcome of negotiations between the European Commission and UK and France for the setup of host agreements.</i>
Specific contract [if applicable]

8.3.3. Market Development

8.3.3.1. EGNOS user development in aviation
LEGAL BASIS
<i>. GSA Regulation 912/2012 (Art. 2)</i>
<i>. GNSS Regulation 683/2008 (Art. 16)</i>
BUDGET LINE
<i>Title 3 (3100)</i>
Indicative number and type of contracts envisaged
<i>2 specific contracts</i>
subject of the contracts envisaged (if possible)
<i>Promotion of the utilisation of the EGNOS open-signal and safety-of-life service, actions according to the EGNOS market entry strategy.</i>
Implementation
<i>Implemented by Market Development Dept.</i>
Indicative timeframe for launching the procurement procedure
<i>Specific contracts signed in Q1 2013</i>
Indicative budget
<i>€300,000.00</i>

Specific contract [if applicable]
Specific contracts will be signed under the existing framework contract GSA-OP-01-10-LOT 3

8.3.3.2. EGNOS user development in road transport
LEGAL BASIS
. GSA Regulation 912/2012 (Art. 2)
. GNSS Regulation 683/2008 (Art. 16)
BUDGET LINE
Title 3 (3100)
Indicative number and type of contracts envisaged
2 specific contracts
subject of the contracts envisaged (if possible)
Accelerate the adoption of EGNOS in road transport in Road User Charging schemes. ITS solutions and ADAS will be managed via outsourcing activities whenever possible, within available financial resources, on best effort basis.
Implementation
Implemented by Market Development Dept.
Indicative timeframe for launching the procurement procedure
Specific contracts signed in Q1 2013
Indicative budget
€200,000.00
Specific contract [if applicable]
Specific contracts will be signed under the existing framework contract GSA-OP-01-10-LOT 3

8.3.4. General Administration, IT and Logistics

Two significant projects are underlined in this chapter, which does not mention all on-going administrative procurement required by the Agency and generally committed in Titles 1 and 2 of the GSA's budget.

8.3.4.1. PRS DMS External Segment
LEGAL BASIS
. GSA Regulation 912/2012 (Art. 2)
. GNSS Regulation 683/2008 (Art. 16)
BUDGET LINE
Title 3 or operational delegated budget
Indicative number and type of contracts envisaged
Specific contract under the GSMC & PRS Security Support contract
subject of the contracts envisaged (if possible)
Contract for the supply of the external segment of PRS DMS (service for the Member States).
Implementation
Implemented by the Agency's ICT&L Department
Indicative timeframe for launching the procurement procedure
January 2013
Indicative budget
€ 100,000.00
Specific contract [if applicable]

8.3.4.2. Consultancy services for ISO certification procedures (ISO standards 2700x and 900x)
LEGAL BASIS
. GSA Regulation 912/2012 (Art. 2)
. GNSS Regulation 683/2008 (Art. 16)
BUDGET LINE
3100

Indicative number and type of contracts envisaged
<i>Call for tenders</i>
subject of the contracts envisaged (if possible)
<i>In view of the Agency role as the exploitation entity for EGNOS and Galileo the Agency believes that it is necessary to implement a relevant Quality Management System to make sure that the needs and expectations of the stakeholders are met appropriately. The importance of that is underlined e.g. by the operations of Safety-of-Life services as of 01/01/2014. As a first step, the Agency needs to fulfil the requirements as described in ISO 9001. This project is horizontal in nature and will affect all business processes including the organisational structure of the Agency. Some preparatory work started already in 2012 namely in the information systems area (leading to ISO 27000 compliance in 2013, as above).</i>
Implementation
<i>Implemented by the Agency's Strategic Planning Officer</i>
Indicative timeframe for launching the procurement procedure
<i>January 2013</i>
Indicative budget
<i>€ 100,000.00</i>
Specific contract [if applicable]

8.3.5. Communication

8.3.5.1. Communications events and website maintenance
LEGAL BASIS
<i>. GSA Regulation 912/2012 (Art. 2)</i> <i>. GNSS Regulation 683/2008 (Art. 16)</i>
BUDGET LINE
<i>Title 3</i>
Indicative number and type of contracts envisaged
subject of the contracts envisaged (if possible)
<i>Attendance and presence in key communication events and basic website maintenance.</i>
Implementation
<i>Implemented by the Agency's Communication unit.</i>
Indicative timeframe for launching the procurement procedure
<i>Events will take place throughout the year.</i>
Indicative budget
<i>€260,000.00</i>
Specific contract [if applicable]
<i>GSA event participation will be procured using specific contracts for the following framework contracts:</i>
<ul style="list-style-type: none"> <i>. OIB event and signage Framework contract (with the company 'Creaset')</i> <i>. GSA Conference and event participation Framework Contract (Lot 1)</i>

8.4. PROCUREMENT IMPLEMENTED UNDER DELEGATION FROM THE EUROPEAN COMMISSION

The overall budgetary allocation reserved for procurement contracts implemented under delegation from the European Commission in 2013 amounts to €28,730,000.00.

8.4.1. Security

8.4.1.1. Provision of support to the GSA in the PRS and GSMC activities (PRS)
LEGAL BASIS
<i>. GSA Regulation 912/2012 (Art. 2)</i> <i>. GNSS Regulation 683/2008 (Art. 16)</i>
BUDGET LINE
<i>Delegated Budget</i>



Indicative number and type of contracts envisaged
Framework contract to be signed in the course of 2012 for a maximum duration of 4 years. 2 specific contracts envisaged in 2013.
Subject of the contracts envisaged (if possible)
Contractor reporting and interaction with GSA Task 1: Contractor's own project management and reporting
PRS Specific Support Task 2.1: Supporting of market development of PRS Task 2.2: Supporting of engineering tasks for the development of PRS User Segment Task 2.3: Definition of the mission of the PRS Service Provider Task 2.4: Development of guidelines and support in the definition of policies
GSMC Specific Support Operational Engineering: Task 3.1: GSMC CONOPS / Procedure preparation Task 3.2: POCP CONOPS / Procedure preparation Task 3.3: General Operational Management Engineering Technical, Security and Administrative Engineering Task 3.4: GSMC Technical Reviews Task 3.5: GSMC Procurement and Logistics Support Task 3.6: GSMC Local Establishment Support
Transversal Enabler Support Task 4.1: Promotion of a new approach for countering RFI threats on GNSS services Task 4.2: Preparation and maintenance of accreditation Task 4.3: Drafting of Validation Plans Task 4.4: Security Infrastructure and Organisation Task 4.5: Training and Knowledge management Task 4.6: Documentation and Information Management support Task 4.7: Security Projects Management and Administration Task 4.8: Legal and Fiscal Support Task 4.9: Staffing/Organisation Advisor and Agent Task 4.10: Procurement Advisor and Agent Task 4.11: Software Development / Configuration / Setup Task 4.12: IT Security Task 4.13: Physical Security Task 4.14: Business Continuity Plan Task 4.15: Security consultancy
Implementation
Delegation from DG ENTR (PRS support)
Indicative timeframe for launching the procurement procedure
Call for tender for the framework contract to be launched Q2 2012 Request for proposal about specific contract SC3 to be released in April 2013
Indicative amount of the call for tenders [not mandatory]
Maximum amount foreseen for the full duration (4 years) of the framework contract GSA/OP/04/12 is between 1 to 4 M€ on Lot 1 (PRS)
Specific contract [if applicable]
Framework contract GSA/OP/04/12 (ref. to be defined)
Specific contract SC3 (Lot 1 – PRS) to be signed in June 2013, for an amount of 700.000,00 €

8.4.2. Support to the GNSS Application Action Plan (APPAP)

8.4.2.1. Contribution to implementation of EC Application Action Plan, concentrating on priority markets

LEGAL BASIS

- . GSA Regulation 912/2012 (Art. 2)
- . GNSS Regulation 683/2008 (Art. 16)

BUDGET LINE

Delegated Budget, Sub-section 3, Task 1

Indicative number and type of contracts envisaged

4 specific contracts



subject of the contracts envisaged (if possible)
<i>Implementation of GNSS APPAP in support to EC will focus on EGNOS and Galileo user segment development in priority segments such as aviation, road transport, agriculture and mapping. Rail and maritime segments will be approached via outsourcing activities whenever possible, within available financial resources, on best effort basis.</i>
Implementation
<i>Implemented by Market Development Dept.</i>
Indicative timeframe for launching the procurement procedure
<i>Specific contracts signature in Q1 2013</i>
Indicative budget
<i>€210,000.00</i>
Specific contract [if applicable]
<i>Specific contracts will be signed under the existing framework contract GSA-OP-01-10-LOT 3 and new framework contract signed in Q3 2012</i>

8.4.2.2. Monitoring the status of APPAP execution

LEGAL BASIS
<i>. GSA Regulation 912/2012 (Art. 2) . GNSS Regulation 683/2008 (Art. 16)</i>
BUDGET LINE
<i>Delegated Budget, Sub-section 3, Task 2</i>
Indicative number and type of contracts envisaged
<i>6-7 specific contracts</i>
subject of the contracts envisaged (if possible)
<i>Market studies in support to EC will be launched in order to monitor the status of GNSS APPAP execution, focusing in particular on: - Calculation of the EU share on global GNSS application - Collecting Key Performance Indicators (KPIs) according to the list developed together with EC - Preparation of reports and integration with APPAP impact assessment; - Assessment of the APPAP results in terms of economic, environmental and social impact of the programmes; - Delivering ad-hoc analyses upon request of EC. Receiver technology monitoring will be approached via outsourcing activities whenever possible, within available financial resources, on best effort basis.</i>
Implementation
<i>Implemented by Market Development Dept.</i>
Indicative timeframe for launching the procurement procedure
<i>Specific contracts signature in Q1 2013</i>
Indicative budget
<i>€510,000.00</i>
Specific contract [if applicable]
<i>Specific contracts will be signed under the existing framework contract GSA-OP-01-10 (LOT 1,2,3) and new framework contract signed in Q3 2012</i>

8.4.2.3. Support to EC activities targeting SMEs

LEGAL BASIS
<i>. GSA Regulation 912/2012 (Art. 2) . GNSS Regulation 683/2008 (Art. 16)</i>
BUDGET LINE
<i>Delegated Budget, Sub-section 3, Task 3 (no budget allocated for 2013)</i>
Indicative number and type of contracts envisaged
<i>n/a</i>
subject of the contracts envisaged (if possible)
<i>The Agency will be involved in the operational and strategic aspects of a SMEs support programme in order to provide information on GNSS and foster adoption of the systems.</i>
Implementation
<i>Implemented by Market Development Dept.</i>
Indicative timeframe for launching the procurement procedure
<i>n/a</i>
Indicative budget
<i>Best effort basis, no budget allocated for 2013</i>



Specific contract [if applicable]
n/a

8.4.2.4. Market analysis and customer support for initial services provided by Galileo

LEGAL BASIS
. GSA Regulation 912/2012 (Art. 2)
. GNSS Regulation 683/2008 (Art. 16)
BUDGET LINE
Delegated Budget, Sub-section 3, Task 4
Indicative number and type of contracts envisaged
4-5 specific contracts
subject of the contracts envisaged (if possible)
<i>This supporting task to EC will focus on providing market-related input into the definition of services (such as Commercial Service and PRS), based on desk market research, user feedback, and expert focus groups. Market Development Department will be involved in the early Galileo OS services and customer support activities will be managed via outsourcing activities whenever possible, within available financial resources, on best effort basis. Objective is to create user communities, complemented by the set-up of a web-portal for the Galileo IOV and the coordination of a functional in-box for technical Galileo-related questions from industry.</i>
Implementation
Implemented by Market Development Dept.
Indicative timeframe for launching the procurement procedure
Specific contracts signed in Q2 2013
Indicative budget
€480,000.00
Specific contract [if applicable]
Specific contracts will be signed under the new framework contract signed in Q3 2012

8.4.2.5. Support in the field of aviation

LEGAL BASIS
. GSA Regulation 912/2012 (Art. 2)
. GNSS Regulation 683/2008 (Art. 16)
BUDGET LINE
Delegated Budget, Sub-section 3, Task 6
Indicative number and type of contracts envisaged
2-3 specific contracts
subject of the contracts envisaged (if possible)
<ul style="list-style-type: none"> ▪ Promotion and fostering of use of EGNOS (in the short term) and Galileo (in the mid/long term) in ECAC in coordination with GSA and the EGNOS service provider; ▪ Definition of requirements for aeronautical NOTAM services for EGNOS and Galileo and assessment of service; ▪ Performance monitoring of aviation service levels for EGNOS and Galileo based on the EDCN network; ▪ Support for evolution of Standards (ICAO, RTCA EUROCAE) and its technical consistency with the preparation of equipment mandates for GNSS equipment; ▪ Support on definition of security framework for EGNOS based on aviation needs. Support on the topic of GNSS interference issues; ▪ Support to the re-profiling of the GALILEO Safety of Life service. ▪ GSA will establish the necessary working relations, including the organisation of progress meetings on an ad-hoc basis, with the appropriate competent organisations in order to coordinate the technical implementation of work.
Implementation
Implemented by Market Development Dept.
Indicative timeframe for launching the procurement procedure
Specific contracts signed in Q2 2013
Indicative budget
€500,000.00
Specific contract [if applicable]
Specific contracts will be signed under the new framework contract signed in Q3 2013

8.4.3. Preparatory Tasks for the Exploitation of EGNOS and Galileo

8.4.3.1. Engineering support for EGNOS in Africa

LEGAL BASIS

- . GSA Regulation 912/2012 (Art. 2)
- . GNSS Regulation 683/2008 (Art. 16)

BUDGET LINE

Delegated Budget

Indicative number and type of contracts envisaged

1 Specific Contract

subject of the contracts envisaged (if possible)

Implementation

Implemented by the Agency's Exploitation Department

Indicative timeframe for launching the procurement procedure

Indicative budget

€0.00 (an amount of €300,000.00 is to be carried forward from 2012)

Specific contract [if applicable]

Specific Contract planned to be awarded to RHEA in the frame of the Engineering support framework contract.

8.4.3.2. Engineering support for exploitation preparation

LEGAL BASIS

- . GSA Regulation 912/2012 (Art. 2)
- . GNSS Regulation 683/2008 (Art. 16)

BUDGET LINE

Delegated Budget

Indicative number and type of contracts envisaged

1 Specific Contract

subject of the contracts envisaged (if possible)

Implementation

Implemented by the Agency's Exploitation Department

Indicative timeframe for launching the procurement procedure

Indicative budget

€700,000.00

Specific contract [if applicable]

Specific Contract planned to be awarded to RHEA in the frame of the Engineering support framework contract.

8.4.3.3. 2014 EGNOS service provision contract

LEGAL BASIS

- . GSA Regulation 912/2012 (Art. 2)
- . GNSS Regulation 683/2008 (Art. 16)

BUDGET LINE

Delegated Budget

Indicative number and type of contracts envisaged

subject of the contracts envisaged (if possible)

Implementation

Implemented by the Agency's Exploitation Department

Indicative timeframe for launching the procurement procedure



Indicative budget
€25,300,000.00
Specific contract [if applicable]
Specific Contract planned to be awarded to RHEA in the frame of the Engineering support framework contract.

8.4.4. Communication

8.4.4.1. European Space Expo Project

LEGAL BASIS

- . GSA Regulation 912/2012 (Art. 2)
- . GNSS Regulation 683/2008 (Art. 16)

BUDGET LINE

Delegated Budget

Indicative number and type of contracts envisaged

2 Specific Contracts

subject of the contracts envisaged (if possible)

Implementation

Implemented by the Agency's Communication unit.

Indicative timeframe for launching the procurement procedure

1st Qtr 2013, 3rd Qtr 2013

Indicative budget

€100,000.00

Specific contract [if applicable]

Graphic design and print work will be procured using the GSA Communications Framework Contract (LOT 2) covering web, publications, advertising, graphic design, and video.

Exhibition materials will be procured using specific contracts for the following framework contracts:

- OIB event and signage Framework contract (with the company 'Creaset')
- GSA Conference and event participation Framework Contract (Lot 1)

8.4.4.2. New website development and content for EGNOS and Galileo

LEGAL BASIS

- . GSA Regulation 912/2012 (Art. 2)
- . GNSS Regulation 683/2008 (Art. 16)

BUDGET LINE

Delegated Budget

Indicative number and type of contracts envisaged

2 Specific Contracts

subject of the contracts envisaged (if possible)

Implementation

Implemented by the Agency's Communication unit.

Indicative timeframe for launching the procurement procedure

2nd Qtr. 2013

Indicative budget

€100,000.00

Specific contract [if applicable]

Web site work will be procured using the GSA Communications Framework Contract (LOT 2) covering web, publications, advertising, graphic design, and video.

8.4.4.3. Publications, Advertising and Video

LEGAL BASIS

- . GSA Regulation 912/2012 (Art. 2)
- . GNSS Regulation 683/2008 (Art. 16)



BUDGET LINE
<i>Delegated Budget</i>
Indicative number and type of contracts envisaged
<i>1 Specific Contracts</i>
subject of the contracts envisaged (if possible)
<i>New print and on-line publications- development, publication revision, printing, advertising creation and placement and video production.</i>
Implementation
<i>Implemented by the Agency's Communication unit.</i>
Indicative timeframe for launching the procurement procedure
<i>1st Qtr. 2013</i>
Indicative budget
<i>€130,000.00</i>
Specific contract (if applicable)
<i>Activities in this area will be procured using the new GSA Communications Framework Contract (LOT 2) covering web, publications, advertising, graphic design, and video.</i>

8.5. OTHER ACTIONS IMPLEMENTED UNDER DELEGATION FROM THE EUROPEAN COMMISSION

The following actions are delegated to the Agency by the European Commission, but are not covered under Grants and/or Procurement (see Sections above).

8.5.1. Research and Development

8.5.1.1. Administration of the FP7 funds

LEGAL BASIS

- . GSA Regulation 912/2012 (Art. 2)
- . GNSS Regulation 683/2008 (Art. 16)

BUDGET LINE

3917

Amount

€0 (No budget allocated for 2013, implemented by Market Development Department)

Description and objective of the implementing measure

Management of FP7 calls, including the payment of the grants, amendments and exceptions to the grant agreements, management of reviewers and reporting.

8.5.1.2. Organisation of liaison workshops

LEGAL BASIS

- . GSA Regulation 912/2012 (Art. 2)
- . GNSS Regulation 683/2008 (Art. 16)

BUDGET LINE

n/a

Amount

€0 (No budget allocated for 2013, implemented by Market Development Department)

Description and objective of the implementing measure

Connecting industry with the FP7 project teams in order to share innovative solutions and new developments.

8.6. OTHER ACTIONS

There are no other actions planned in 2013.

Appendix I – Definitions & Acronyms

CDA	Crypto Distribution Authority
CDR	Critical Design Review
Commission	European Commission
CONOPS	Concept of Operations
DCN	Document Change Notice
DMS	Document Management System
DOORS	Dynamical Object-Oriented Requirements Systems
EDAS	EGNOS Data Access System
EGNOS	European Geostationary Navigation Overlay Service
ESA	European Space Agency
EUROCONTROL	European Organisation for the Safety of Air Navigation
FKC	Flight Key Cell
FOC	Full Operational Capability
FP7	Seventh Framework Programme for Research and Development of the European Union
FTE	Full Time Equivalent
GCC	Galileo Control Centre
GCS	Ground Control Segment
GKMF	GNSS Knowledge Management Facility
GMS	Ground Mission Segment
GNSS	Global Navigation Satellite System
GNSS Agency Regulation	Regulation (EU) No 912/2010 of the European Parliament and of the Council of 22 September 2010 setting up the European GNSS Agency, repealing Council Regulation (EC) No 1321/2004 on the establishment of structures for the management of the European satellite radio-navigation programmes and amending Regulation (EC) No. 683/2008 of the European Parliament and of the Council
GNSS APPAP	GNSS Application Action Plan
GNSS Regulation	Regulation (EC) No. 683/2008 of the European Parliament and of the Council of 9 July 2008 on the further implementation of the European satellite navigation programmes (EGNOS and Galileo)
GSA	European GNSS Agency
GSA Regulation	Council Regulation (EC) No. 1321/2004 of 12 July 2004 on the establishment of structures for the management of the European satellite radio-navigation programmes, as amended by Council Regulation (EC) No. 1942/2006 of 12 December 2006
GSAC	Galileo Security Accreditation Committee
GSAP	Galileo Security Accreditation Panel
GSB	Galileo Security Board
GSC	GNSS Security Centre
GSF PDR	Galileo Security Facility Preliminary Design Review
GSMC	Galileo Security Monitoring Centre (part of the GSC dedicated to Galileo)
GSMC-N	GSMC Nucleus
IATO	Initial Approval To Operate
IOC	Initial Operational Capability
IOV	In-Orbit Validation
Joint Action	Council Joint Action 2004/552/CFSP of 12 July 2004 on aspects of the operation of the European satellite radio-navigation system affecting the



	security of the European Union
LBS	Locations Based Service
POCP	Point of Contact Platform
PRS	Public Regulated Service
SAB	Security Accreditation Board
SAR	Search and Rescue
SESAR	Single European Sky ATM Research
SME	Small and Medium-sized Enterprise
SOP	Standard Operating Procedures
SSRS	System specific Security Requirements Statements

Appendix II – List of planned actions for 2013

Financing source: GSA own budget, Title 3

N°	Title of the action	Type of Action	Tentative Budget line	Indicative timeframe of procedure launch	Indicative amount €
SECURITY					
1	Provision of support to the GSA in the Security Accreditation activities – Specific Contract	Procurement	03.3300.12.3	January 2013	440,000.00
2	Provision of support to the GSA in the Security Accreditation activities – Specific Contract	Procurement	03.3300.12.3	September 2013	500,000.00
3	Direct support and reimbursements to Member States for the participation in Security Accreditation activities	Direct Reimbursement	03.3300	All 2013	410,000.00
4	Provision of support to the GSA in the PRS and GSMC activities – Specific Contract (GSMC)	Procurement	03.3100	March 2013	850,000.00
Sub-total for SECURITY					2,200,000.00
MARKET DEVELOPMENT					
5	EGNOS user development in aviation	Procurement	03.3100	January 2013	300,000.00
6	EGNOS and Galileo user development in road transport	Procurement	03.3100	January 2013	200,000.00
Sub-total for MARKET DEVELOPMENT					500,000.00
GENERAL ADMINISTRATION, IT AND LOGISTICS					
7	Consultancy services for ISO certification procedures (ISO standards 2700x and 900x)	Procurement	03.3100	January 2013	100,000.00
Sub-total for GENERAL ADMINISTRATION, IT AND LOGISTICS					100,000.00
COMMUNICATION					
8	Communications Events	Procurement	03.3100	All 2013	200,000.00
9	Website maintenance and content	Procurement	03.3100	Q1 2013	60,000.00
Sub-total for COMMUNICATION					260,000.00
TOTAL					3,060,000.00

Financing source: Delegation agreement signed on 15 May 2012

N°	Title of the action	Type of Action	Tentative Budget line	Indicative timeframe of procedure launch	Indicative amount €
SECURITY					
10	Provision of support to the GSA in the PRS and GSMC activities – Specific Contract	Procurement	EC DEL	October 2013	700,000.00
11	Provision of support to the GSA in the PRS and GSMC activities – Specific Contract	Procurement	EC DEL	March 2013	0.00 / 800,000.00 carried forward from 2012 or early commitment in 2013
Sub-total for SECURITY					1,500,000.00
SUPPORT TO THE GNSS APPLICATION ACTION PLAN (APPAP)					
12	Contribution to implementation of EC Application Action Plan, concentrating on priority markets	Procurement	EC DEL	January 2013	210,000.00
13	Monitoring the status of APPAP execution	Procurement	EC DEL	January 2013	510,000.00
14	Market analysis and customer support for initial services provided by Galileo	Procurement	EC DEL	March 2013	480,000.00
15	Support in the field of aviation	Procurement	EC DEL	March 2013	500,000.00
Sub-total for SUPPORT TO THE GNSS APPLICATION ACTION PLAN (APPAP)					1,700,000.00
PREPARATORY TASKS FOR THE EXPLOITATION OF EGNOS AND GALILEO					
16	Engineering support for EGNOS in Africa	Procurement	EC DEL		0.00 / 300,000.00 carried forward from 2012 or early commitment in 2013
17	Engineering and project management support exploitation preparation	Procurement	EC DEL		700,000.00
18	2014 EGNOS service provision contract	Procurement	EC DEL		25,300,000
Sub-total for PREPARATORY TASKS FOR THE EXPLOIT. OF EGNOS AND GALILEO					26,000,000.00
COMMUNICATION					
19	European Space Expo Project	Procurement	EC DEL	All 2013	100,000.00
20	New website development and content for EGNOS and Galileo	Procurement	EC DEL	2 Qtr. 2013	100,000.00
21	Publications, Advertising and Video	Procurement	EC DEL	2 Qtr. 2013	130,000.00
Sub-total for COMMUNICATION					330,000.00
TOTAL					28,730,000.00

Financing source: Committed projects in 2012 and carried forward from the General delegation agreement signed on 15 May 2012

N°	Title of the action	Type of Action	Amount €	
22	Engineering and project management support exploitation preparation	Procurement	1,300,000.00	Carried forward amounts
23	Support in PRS and GSMC activities	Procurement	1,500,000.00	Carried forward amounts
24	Extension of EGNOS to Africa	Procurement	300,000.00	Carried forward amounts
25	Communication on EGNOS and Galileo – London event	Procurement	399,992.50	Carried forward amounts
26	Quality and safety certification	Procurement	110,000.00	Carried forward amounts
27	Support to EC in APAPP and other exploitation activities	Procurement	2,084,007.5	Carried forward amounts

Financing source: Existing delegation agreements signed in 2011 and earlier

N°	Title of the action	Type of Action	Amount €	
28	PIONEER-2 project resulting in the procurement of a batch of 20 PRS Receivers (EP1)	Procurement	11,000,000.00	Carried forward amounts
29	GSMC OPS preparation	Procurement	600,000.00	Carried forward amounts
30	FP7 1st and 2 nd calls: remaining grants under implementation during 2013	Grants	11,292,818.76	Carried forward amounts
31	FP7 3rd Call: On-going grant agreements signed in 2012	Grants	31,200,000.00	Carried forward amounts

