



European
Global Navigation
Satellite Systems
Agency

European GNSS Agency Programming Document

Years 2017 – 2020

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Foreword

Before looking ahead at the upcoming years, it is worth considering how far the Agency has come in the past few years. Since 2014, the Commission delegated the exploitation of the EGNOS and Galileo programmes to the Agency. For the EGNOS programme, the Agency ensured the continuity of the expected EGNOS services through the procurement process for an EGNOS service provider. We are closely managing this provider and intend to continue our work in this regard under the auspices of this delegation agreement. For the Galileo programme, the Agency is undertaking the major procurement of the Galileo Service Operator. This is one of the largest procurement procedures that the European Union has run and we are confident in our abilities to manage this process in the best possible way. We have also coordinated the preparation of activities required for the declaration of Initial Services on 15 December 2016.

Work in these two fields has increased our level of cooperation with the European Space Agency (ESA) with two working arrangements signed to cover both EGNOS and Galileo activities.

We are confident that the upcoming mid-term review as preparation for the next GNSS Regulation, which the Commission will lead, will find us even more ready to deliver the EGNOS and Galileo programmes as confirmed in a recent assessment related to the increase of the Galileo delegated activities since end of 2016.

Over the years to come, the Agency will continue its efforts to deliver European GNSS services and to ensure their security by strengthening itself as a service orientated organisation, in particular with the start of the Galileo Initial Services in the last quarter of 2016.

The Agency's Security Accreditation Board has continued to work tirelessly to ensure the authorisation for satellite launches to continue the rollout of the Galileo constellation and its operation. We have also increased our credibility in the Public Regulated Service user segment, showing the high level of professionalism that we have in this field.

As a service orientated organisation, we have worked to stimulate the market and can already see the results of these efforts. Receiver manufacturers invest heavily in creating devices that use these European GNSS programmes. In aviation, road usage and other fields, these are being successfully used. This effort is coupled with Agency work in research and development where we are now

completing activities under the European Union's 7th framework programme and are managing more and more space applications activities under the Horizon 2020 programme.

In summary, 2017 – 2020 promise to be the years when the Agency takes on a fuller role and cements itself as the end to end service provider for the European satellite navigation programmes, working closely with the Commission and the European Space Agency.

When reading the Single Programming Document, you will note that it relates to the tasks attributed to the Agency in Article 2 of Regulation (EU) No 912/2010 and Article 14(1) of Regulation (EU) No 1285/2013 of the European Parliament and the Council, and that any information regarding the tasks delegated to it in accordance with Article 14(2) of Regulation (EU) No 1285/2013 is, in accordance with Article 8a(1) and (2) of Regulation (EU) No 912/2010, only included for information purposes.



List of Acronyms

Acronym	Definition
AA	Appointing Authority
AD	Administrator
ARTS	Anomaly Report Tracking System
AST	Assistant
CA	Contract Agent
CBA	Cost Benefit Analysis
CDA	Crypto Distribution Authority
CEOS	Conditions of Employment of Other Servants (of the EU)
CID	Continuous Improvement Database
CMS	Common Minimum Standards
COMSEC	Communications Security
CPA	Competent PRS Authority
CS	Commercial Service
DUER	Document Unique d'Evaluation des Risques professionnels
ECA	European Court of Auditors
EEAS	European External Action Service
EFTA	European Free Trade Agreement
EGNOS	European Geostationary Navigation Overlay System
EGNSS	European GNSS
ERTMS	European Rail Traffic Management System
EMC	Enhanced Minimum Configuration
ESA	European Space Agency
EU	European Union
EUCI	EU Classified Information
FKC	Flight Key Cell
FP-7	Seventh Framework Programme for Research and Development
GCC	Galileo Control Centre
GNSS	Global Navigation Satellite Systems
GRC	Galileo Research Centre
GSA	European GNSS Agency
GSAP	GNSS Security Accreditation Panel
GSC	GNSS Service Centre
GSF	Galileo Secure Facility
GSMC	Galileo Security Monitoring Centre
H2020	Horizon 2020
HR	Human Resources
IATO	Initial Authorisation to Operate
ICC	Internal Control Coordinator
IMS	Integrated Management System
IPR	Intellectual Property Rights
ISO	International Standards Organisation
IT	Information Technology
ITS	Intelligent Transport System
KPI	Key Performance Indicator
KVM	Keyboard, Video and Mouse
LBS	Location Based Service
LPV	Localiser Performance with Vertical guidance



Acronym	Definition
LSAA	Local Security Accreditation Authority
M2M	Machine to Machine
MASPP	Multi-Annual Staff Policy and Plan
MMAP	Multi-Modal Action Plan
NSA	National Security Authority
ORR	Operational Readiness Review
OS	Open Service
OSRR	Operational Service Readiness Review
OVRR	Operational Validation Readiness Review
POC-P	Point of Contact Platform
PMR	PRS for Mobile Radio
PNT	Positioning, Navigation and Timing
PRS	Public Regulated Service
RAMS	Reliability, Availability, Maintainability and Safety
RM	Risk Management
R-UE	Restricted UE
SAA	Security Accreditation Authority
SAB	Security Accreditation Board
SAR	Search and Rescue
SATO	System Authorisation To Operate
SBAS	Satellite Based Augmentation System
SecOps	Security Operating Procedures
SIS	Signal in space
SME	Small and Medium Enterprises
SOIF	Security Operational and Intelligence Facility
SPD	Single Programming Document
SSRS	System-specific Security Requirements Statement
T&S	Timing and Synchronisation
TA	Temporary Agent
TBD	To be Determined
VAT	Value Added Tax
WBS	Work Breakdown Structure
WPD	Work Package Description
WG	Working Group

Mission Statement for the Agency

The Agency's mission is to support European Union objectives and achieve the highest return on European Global Navigation Satellite Systems (GNSS) investment, in terms of benefits to users and economic growth and competitiveness, by:

- Designing and enabling services that fully respond to user needs, while continuously improving the European GNSS services and infrastructure;
- Managing the provision of quality services that ensure user satisfaction in the most cost-efficient manner;
- Engaging market stakeholders to develop innovative and effective applications, value-added services and user technologies that promote the achievement of full European GNSS adoption;
- Ensuring that European GNSS services and operations are thoroughly secure, safe and accessible.

Satellite navigation has made major inroads in many realms of society. Business, public services and consumer behaviour have all been increasingly impacted by this. Along with delivering economic benefits to innovative service providers and related businesses, satellite navigation devices, now integrated within a wide variety of vehicles and transport systems, have changed how we manage the mobility, safety and security of people and goods in fundamental ways.

For users in the general public, the next logical development will be the integration of accurate positioning devices into every mobile telephone or similar handheld device, making possible a deep transformation of the way society deals with the dimensions of time and space.

By developing a new generation of GNSS, Europe is laying the foundations for new high-technology industry development, job creation and economic growth. With Europe in the driving seat, independent and self-sustaining, Galileo has the potential to become a key part of the global navigation positioning system of the future.

Mission Statement for the Security Accreditation Board

The Security Accreditation Board (SAB) is the European Global Navigation Satellite Systems (GNSS) Security Accreditation Authority. It is established within the Agency as an autonomous body pursuant to Article 3 of the GSA Regulation and takes its decisions independently and objectively, including with regard to the Commission and other bodies responsible for the implementation of the programmes and for service provision, as well as with regard to the Executive Director and the Administrative Board of the Agency. All the security accreditation decisions related to the GNSS systems are of its sole competence.

Security accreditation decisions adopted by the SAB entail inter alia the following:

- the approval of satellite launches;
- the authorisation to operate the systems in their different configurations and for the various services up to and including the signal in space;
- the authorisation to operate the ground stations;
- the authorisation of bodies to develop and manufacture Public Regulated Service (PRS) receivers or PRS security modules, taking into account the advice provided by national entities competent in security matters and the overall security risks.

The Agency conducts security accreditation activities defined in chapter III of the Regulation, ensuring the technical and administrative secretariat to the SAB. This provides the underlying security assurance to enable the SAB to take proportionate, appropriate and cost effective security accreditation decisions at the Programme milestones.

The Agency also plays an important management and coordination role for the SAB subordinate bodies, the European GNSS Security Accreditation Panel and the SAB Crypto Distribution Authority (CDA) Task Force. According to Article 11(10) of the Regulation, the Agency provides the appropriate human and material resources required to the SAB to enable it and its sub-ordinate bodies to perform their tasks independently.

Section I – General Context

The European GNSS programmes, Galileo and EGNOS, have now entered a new phase and have taken major steps towards their final objectives - the delivery of services. In particular, EGNOS has provided the Safety of Life service since 2011 and Galileo has declared its initial services during the last quarter of 2016. This has only been possible with the continuing progress made in the deployment of the Galileo system infrastructure, including both ground and space segments, highlighted by the launches of pairs of Galileo satellites in 2011, 2012, 2014, three launches in 2015 and further launches in 2016.

The provision of the EGNOS and Galileo services and the deployment and operations of the systems required to provide the services represents one part of the activities undertaken by the programme. Another part has seen major efforts devoted to facilitate and promote the market uptake of EGNOS and Galileo services, including in particular the European GNSS Applications Action Plan, and actions to ensure that end user needs are understood and used to inform programme decisions. Activities have been undertaken to support the development of the user segment, in particular with respect to the PRS. A further set of activities has seen significant steps taken to ensure that there can be confidence in the security and safety of the systems and their operations, and ultimately the services which they provide.

Shaping the new service provision and user-driven phase of the GNSS programmes, a governance framework comprising the GNSS Regulation 1285/2013 and the revised GSA Regulation 512/2014 were put in place. This sets a clear direction for the GNSS programmes, which started with the hand-over of the main EGNOS exploitation activities on 1 January 2014 from the Commission to the Agency, including the development of future system releases with the European Space Agency (ESA), and to be followed by the hand-over of Galileo exploitation activities in 2017.

The programmes are facing significant challenges to take the European satellite navigation systems forward. The key priorities for the Galileo and EGNOS programmes in the coming years are:

1. Completing the Galileo deployment phase: further satellites will be launched in order to complete the full Galileo constellation of by 2020 (plus additional spare satellites in orbit by 2020) as well as the corresponding ground infrastructure. and transition to the exploitation phase;

2. Starting the Galileo exploitation phase: Galileo started offering initial services on 15 December 2016 so that European citizens can start making use of Europe's GNSS.
3. Move forward the Galileo exploitation towards full services in 2020, including the Commercial Service.
4. Maintain EGNOS services by ensuring that obsolescence does not lead to any discontinuation or interruption of services.
5. Enhance EGNOS coverage to cover the 28 EU Member States territories
6. Leverage and augment the Galileo signal as part of EGNOS as soon as possible.

I.01 Role of the European GNSS Agency

In order to achieve the above mentioned priorities, the GNSS regulation clearly assigns roles to the involved entities such as the Commission, the European Space Agency and the European GNSS Agency (GSA). For the following areas, the GSA has the main responsibility:

1. Security Accreditation. The SAB, is the sole security accreditation authority for the European GNSS. The Agency's security accreditation activities enable the SAB to take informed decisions notably on the authorisation to operate the systems in their different configurations and for the various services. The Agency will pursue security accreditation activities to ensure the Galileo system complies continuously with the applicable security requirements, to identify possible new risks and to ensure that the system security plan is complemented where appropriate. These activities, which focus on the infrastructure in the development phase, are progressively moving to focus on the services to anticipate the exploitation phase. The Agency will progressively extend these security accreditation activities to EGNOS.
2. Operation of the Galileo Security Monitoring Centre (GSMC): The GSMC will firstly deliver services related to the monitoring of the security health of Galileo, and secondly related to the provision of access to the PRS. Due to the strategic nature of Galileo, European legislation has established a framework to address threats to the Galileo infrastructure and signals, as well as to protect against unauthorised use of the navigation signals, thus enabling the Union to maintain full control of the system at all times.
3. Market Development: The Agency contributes to promote and market the Galileo and EGNOS services:
 1. The Agency carries out market analysis, by establishing contact with users and potential users of the system, with a view to collecting information on their needs by

following developments in navigation downstream markets and by fostering uptake of services in the user community. The Agency complements the Commission's activities in the field of applications including legislative initiatives.

2. In the context of the European Union's Horizon 2020 research programme, the Agency manages GNSS related research projects under delegation from the European Commission.
3. Funds have also been allocated to the development of Fundamental Elements such as Galileo enabled chipsets and receivers. The Agency promotes such development through various activities with the relevant manufacturers.
4. EGNOS Exploitation: the Agency took over the main tasks of EGNOS Exploitation on 1 January 2014. It is responsible for managing the service provider contract and the technological evolution of the system including changes in the infrastructure. EGNOS exploitation will focus on ensuring the continuity of services, the extension of the geographical coverage of the system, and an improvement of services provision based on lessons learned. The Agency performs these activities under delegation from the Commission through an agreement signed in April 2014.
5. Galileo Exploitation: the Agency is to become the entity responsible for exploitation with a handover scheduled for 2017 based upon an agreed handover plan. The Galileo exploitation phase will be undertaken by the Agency when the Galileo Service Operator is in the operations phase which is planned for mid-2017, following a complex procurement process that started in January 2015. The handover to the Agency will also include tasks related to the ground segment and system support, previously handled by ESA. The Agency performs these activities under delegation from the Commission; the agreement was signed in July 2014 and revised in December 2015.

I.02 Mid-Term Review

In accordance with article 34 of GNSS Regulation (EU) No 1285/2013, the Commission will present an evaluation report to the Parliament and Council that will evaluate the progress of the EGNOS and Galileo programmes to see if they have achieved their objectives, if there is an effective use of resources, and to assess European added value.

In this report, the Commission will evaluate the Agency concerning, in particular, its impact, effectiveness, smooth running, working methods, requirements and use of the resources entrusted to

it. The evaluation shall include an assessment of any change in the scope or nature of the Agency's tasks and the financial impact thereof. It shall address the application of the Agency's policy on conflicts of interest and it shall also reflect any circumstances that may have impaired the independence and autonomy of the Security Accreditation Board.

I.03 Main Assumptions

The Agency has drafted this programming document based on the following assumptions, which are correct as of time of writing:

- The Agency assumes that there will be one launch during 2017.
- The Agency assumes that the deployment of the space segment will continue at an accelerated rate with between four and six Galileo satellites per year during this period.
- The Agency assumes that a System-specific Security Requirements Statement (SSRS) for EGNOS will be realised with ESA support. At programme level, the SSRS is authorised by the Mission Security Engineering Board¹ and a phased implementation of the security requirements will be introduced into the EGNOS Programme.

¹ This Board is chaired by the Commission and consists of ESA and the GSA.

Section II - Multi-annual programming 2017 – 2020

The Agency is required to provide a multi-annual work programme by Article 8 of the GSA Regulation. This multi-annual work programme was meant to cover the period 2014-2020. The Agency is delayed in producing this document due to uncertainties that the programme faced in 2014-2015, notably concerning infrastructure deployment and the consequently moving Initial Services milestone.

This Single Programming Document is also meant to contain a multi-annual work programme, as stipulated in Article 32 of the GSA Financial Regulations. This is meant to cover years 2017-2019.

The Agency is collecting both these requirements into this document to ensure all relevant programming information is available in a single document. Consequently, this section is a multi-annual programme for the Agency for 2017-2020 and fulfils the requirements of Article 8.

II.01. Multi-annual objectives (2017 –2020)

The medium term strategic objectives of the Agency are based on the definition of tasks assigned to the Agency by virtue of Article 14 of the Regulation (EU) 1285/2013 on the implementation and exploitation of European satellite navigation systems (“GNSS Regulation”).

	Objective	How is it monitored
14 1(a) (i)	The Agency shall ensure, through its Security Accreditation Board, the security accreditation in accordance with Chapter III of Regulation (EU) No 912/2010 (“GSA Regulation”).	The Agency will monitor the implementation of security procedures and will perform system security assessments, audits, tests and inspections.
14 1(a) (ii)	The Agency shall ensure the operation of the Galileo Security Monitoring Centre, as referred to in Article 6(d) of the GSA Regulation.	The Agency will adhere to the standards and requirements referred to in Article 13 of the GNSS regulation, and to the instructions pursuant to Joint Council Decision 2014/496/CFSP. ²
14 1 (b)	The Agency shall perform the tasks provided for in Article 5 of Decision No 1104/2011/EU (“Rules for access to the Public Regulated Service (PRS)”), and assist the Commission in accordance with Article 8(6) of that Decision.	The Agency will comply with provisions of Article 5, in particular to support the Commission as described in Article 8(6). The Agency will also comply with the provision of the Arrangement concluded between the European Commission and the European GNSS Agency pursuant to Article 14(c) of the Decision.
14 1 (c)	The Agency shall contribute, in the context of the deployment and exploitation phases of the Galileo programme and the exploitation phase of the EGNOS	The Agency will: <ul style="list-style-type: none"> • Provide a bi-annual market report for applications and services.

² The references to “Joint Action”, while still in the regulation, are no longer correct. They should now refer to Council Decision (2014/496/CFSP)



Objective	How is it monitored
programme, to the promotion and marketing of the services referred to in Article 2(4) and (5) of the GSA Regulation.	<ul style="list-style-type: none">• Establish close contacts with users and potential users of the systems to collect information on their needs.• Follow developments in downstream markets• Draw up an action plan for the uptake by user community of the services referred to in Article 2(4) and (5) of the GNSS Regulation, comprising in particular relevant actions relating to standardisation and certification.

Furthermore, the Agency will also perform tasks entrusted to it by the Commission through delegation agreements. These tasks are related to the implementation of the EGNOS and Galileo programmes and research and development tasks under the Horizon 2020 programme. Information about the individual delegation agreements which are applicable in the programming period is in Annex XI – Tasks Delegated to the European GNSS Agency.

II.02. Multi-annual Programme

II.02.01 SECURITY ACCREDITATION (WBS 2.04, WBS 2.05, WBS 2.06)

In accordance with point (b) of Article 11(4) of the GSA regulation, the Security Accreditation Board (SAB) prepared section II.02.01. It is incorporated into this programming document without any change.

The European GNSS Agency hosts the Security Accreditation Board (SAB) as an independent body pursuant to Article 3 of the GSA Regulation, which takes its decisions independently and objectively, including with regard to the Commission and other bodies responsible for the implementation of the programmes and for service provision, as well as with regard to the Executive Director and the Administrative Board of the Agency. All the security accreditation decisions related to the GNSS systems are of its sole competence.

As far as Galileo is concerned, the Board has so far focused on the accreditation of the infrastructure, issuing accreditation statements for all Galileo launches and Galileo ground stations. The Board issued for the first time a limited Initial Authorisation to Operate (IATO) the Galileo system at risk in June 2014, which was extended in December 2014, renewed in June 2015 and December 2015 under certain conditions. In the coming years up to 2020, the SAB will focus on:

- The accreditation of the Galileo Security Monitoring Centre (GSMC) configurations along the development of the GSMC infrastructure (GSMC-Enhanced Minimum Configuration, GSMC P2.0.1, GSMC P2.2, etc. see section II.02.02 GNSS Security Monitoring Centre for details).
- The re-accreditation of the 32 existing Galileo ground stations and the accreditation of a limited number of new ground stations complementing the existing infrastructure.
- The authorisation of all forthcoming Galileo launches with a particular attention to the first launches with Ariane 5.
- The accreditation of services, starting with the accreditation of Initial Services at the end of 2016.
- The accreditation of an increasingly growing Public Regulated Service (PRS) user segment, with the re-authorisation of the European companies holding interim authorisations to undertake research and development of PRS receivers and security modules, and the authorisation of those companies undertaking the manufacturing of these PRS equipment for the mass market.

As far as EGNOS is concerned, EGNOS v2 is currently in operation but is not yet accredited. The SAB has nevertheless engaged in a number of advisory activities to help the Programme improve the security of the existing versions in operations. In the coming years, the SAB will ramp-up preparatory activities in view of the accreditation of EGNOS v3, which it expects to take place after 2019.

The Agency conducts security accreditation activities defined in chapter III of the Regulation, ensuring the technical and administrative secretariat to the SAB, providing the underlying security assurance to enable the SAB to take proportionate, appropriate and cost effective security accreditation decisions at the Programme milestones.

The Agency also plays an important management and coordination role for the SAB subordinate bodies, the European GNSS Security Accreditation Panel and the SAB Crypto Distribution Authority (CDA) Task Force. According to Article 11(10) of the GSA Regulation, the Agency provides the appropriate human and material resources required to the SAB to enable it and its sub-ordinate bodies to perform their tasks independently.

II.02.01.01 Tasks till 2020

	Tasks	Objective	KPI	Year ³
1	Approvals to launch	Conduct security assurance activities and administer corresponding accreditation decisions for satellite launches	<ul style="list-style-type: none"> • Accreditation statement for all launches • Provide the draft documents on time for consultation/adoption • Ensure decisions in accordance with the rules of procedure 	2014 – 2020
2	Authorisations to operate the systems in their various configurations and for the various services.	Conduct system operations/services security assurance activities and administer corresponding accreditation decisions (currently for Galileo; progressive development until 2020 for EGNOS)	<ul style="list-style-type: none"> • Accreditation statement for all system configurations/systems operated • Provide the draft documents/decisions on time for consultation/adoption • Ensure decisions in accordance with the rules of procedure 	2014 – 2020
3	Authorisations to operate sites	Conduct site security assurance activities and administer corresponding accreditation decisions (currently for Galileo; progressive development until 2020 for EGNOS)	<ul style="list-style-type: none"> • Accreditation statement for all sites • Provide the draft documents on time for consultation/adoption • Ensure decisions in accordance with the rules of procedure 	2014 – 2020
4	Galileo PRS Manufacturers Authorisations	Conduct PRS User Segment security assurance activities and administer corresponding decisions (currently for Galileo research and development only; progressive development to manufacturing)	<ul style="list-style-type: none"> • Authorisation statement for all companies involved • Provide the draft documents on time for consultation/adoption • Ensure decisions in accordance with the rules of procedure 	2014 – 2020
5	SAB Secretariat	<ul style="list-style-type: none"> • Ensure the secretariat of the Security Accreditation Board; • Ensure general support to the SAB chair and deputy chair in discharging their regulatory responsibilities 	<ul style="list-style-type: none"> • Prepare and administer all SAB decisions in compliance with the Rules of Procedure 	2014 – 2020

³ The year indicates when the Agency expects to perform that action. These dates are correct as of time of writing and are based on the current plans.

	Tasks	Objective	KPI	Year ³
6	SAB Subordinate panel (and related groups of experts)	Elaborate comprehensive Security Accreditation Reports for the SAB. The Panel is divided into a number of expert groups and is, for the interim, chaired by Agency, which also provides secretariat support.	<ul style="list-style-type: none"> • Implementation of the SAB decisions/actions attributed to the Panel • Provide the reports on time for consultation/adoption 	2014 – 2020
7	Communications Security (COMSEC) management – SAB subordinate CDA	The Agency chairs the SAB CDA and this is managed in order to assess the conduct of European Commission COMSEC policy throughout the EGNOS & Galileo Programmes. It shall continue to achieve this through the authoritative assessment of the COMSEC experts from the Member States (NDAs) of evidence supplied to it by the EU GNSS Distribution Authority (DA) regarding COMSEC activities within the EGNOS & Galileo Programmes. The SAB CDA shall then provide COMSEC assurance to SAB communicated as a COMSEC risk assessment in order to facilitate successful accreditation.	<ul style="list-style-type: none"> • SAB feedback • EU GNSS DA COMSEC governance and service is improved by interaction with SAB CDA. • Accreditation milestones do not fail due to lack of COMSEC assurance (negative or positive). • SAB CDA attendance and interest from Member States is high. 	2014 – 2020
8	COMSEC management – Flight Key Cell (FKC)	To ensure the security of flight keys during EU GNSS programme launch campaigns. The FKC is an independent sub-cell of the SAB CDA, organised and managed by the Agency but consisting of COMSEC experts from the Member States formed for the duration of launch campaigns. It answers to the EU GNSS DA for its operational role and to SAB CDA in the provision of assurance of flight key COMSEC activities within the Programme.	<ul style="list-style-type: none"> • COMSEC compliant launches. • EU GNSS DA review per launch. • SAB CDA review per launch. 	2014 – 2020
9	New SAB regulatory responsibilities	Implementation of the new responsibilities entrusted to SAB by Regulation (EU) No 512/2014 and laid down in Article 11 thereof, in particular paragraph 3 points (c) to (l) and paragraph 4.	<ul style="list-style-type: none"> • Statement of Compliance to the Regulation. 	2015 – 2020

II.02.02 GNSS SECURITY MONITORING CENTRE (WBS 4.06)

The European GNSS Agency undertakes the operation of the Galileo Security Monitoring Centre (GSMC). The Centre shall manage the Galileo system security during the operational phase. It also provides the operational interface between the Galileo Control Centres on the one hand and the Member States' competent PRS authorities, the European Council and the High Representative of the Union for Foreign Affairs and Security Policy, acting under Council Decision 2014/496/CFSP. It must inform the Commission of any event that may affect the smooth running of the PRS.

The GSMC started 24/7 operations on 13 July 2016. This is a major accomplishment and led the GSMC to be declared ready for service delivery on the 14 December 2016, the day before the declaration of Galileo Initial Services, with the aim of progressively implementing the following missions through the period 2016-2020:

- Galileo security and system status monitoring: The GSMC is ensured by one master centre and one backup centre on a remote site, with data replicated across a network link. This mission includes the Galileo Security System Monitoring to process system security raw events and other security status information from different stakeholders to provide an overall view of the security status of Galileo and to resolve timely all security incidents related to Galileo operations.
- Management of PRS access: The GSMC provides the PRS Access Service to Competent PRS Authorities (CPAs) in accordance with the PRS Service Definition Document and the system security requirements. It does this by providing a secure method for Competent PRS Authorities (CPAs) to manage access to the PRS. It provides assurance to CPAs that sensitive information relating to their use of Galileo is suitably managed and protected, and ensures that sensitive information related to CPAs is not exposed to the rest of the Galileo System.
- Implementation of Council Decision (2014/496/CFSP) instructions: The GSMC Operator ensures the implementation of Council Decision (2014/496/CFSP) instructions coming from the Council or from the High Representative. The GSMC is the single point of entry of these instructions which impact Galileo and shall be able to instruct changes affecting the whole system, such as changes in the Galileo operating modes.
- PRS and Galileo security expertise and analysis on request: As part of the PRS or Security expertise provision on request and in line with article 5 of Decision 1104/2011/EU and the provisions of the arrangement referred to in Article 14 of Decision No 1104/2011/EU, the GSMC will provide technical assistance to CPAs. The details of the topics and design of this service are under

development at the GSA. As set out by article 3(2) of the Council Decision 2014/496/CFSP the Agency's GSMC will provide advice to the Council of the EU (when invited to do so under that decision) and technical expertise to Commission under the provisions of article 14(5) of Regulation 1285/2013.

This progressive deployment is aligned with the delivery of various configurations of the GSMC equipment:

1. GSMC Enhanced Minimum Configuration (EMC): capability to perform network security trend analysis and event correlation and alerting, related Security Monitoring Service procedures, forensic analysis and increased awareness of potential cyber-attacks on the Galileo system.
2. Galileo Security Facility (GSF) P2.0.1: extends GSMC capability to automated PRS management with the Galileo Control Centres (GCCs) and to manual⁴ distribution of PRS keys to CPAs, and enables operations from either the French (main) or UK (back up) site;
3. Galileo Security Facility (GSF) P2.2: reinforcing the availability of GSMC operations and services delivering greater functionality at both the France (main) and UK (back up) sites.

The Agency will carry out these activities while respecting its obligations under the relevant agreements. The main operation milestones planned for the GSMC within the next 4 years are the following:

Phases	GSMC Use of VAL (FR) Operations support		GSMC Use of OPE (FR) Operations		GSMC Use of VAL (UK) OPS Engineering		GSMC use of OPE (UK) Operations backup	
GSMC EMC	N/A	N/A	23 May 2016	02 Mar 2017	N/A	N/A	N/A	N/A
GSF P2.0.1	02 March 2017	16 Aug 2017	30 Mar 2017	22 Nov 2017	01 Sep 2016	02 Feb 2017	02 Mar 2017	16 Aug 2017
GSF P2.2 + SOIF1	22 Nov 2017	03 Mar 2019	20 Dec 2017	09 Jun 2019	10 May 2017	11 Oct 2017	22 Nov 2017	03 Mar 2019
GSF P2.3 + SOIF2	09 Jun 2019	03 Jun 2020	07 Jul 2019	09 Sep 2020	25 Nov 2018	28 Apr 2019	09 Jun 2019	03 Jun 2020
GSF P3.0 + SOIF3	09 Sep 2020		07 Oct 2020		26 Feb 2020	29 Jul 2020	09 Sep 2020	

⁴ Automated release of PRS keys to CPAs depends on the availability of related secure network and "Point of Contact Platforms" (POCPs) that will be delivered by the Galileo Programme from 2018 (The Agency notes this date is not confirmed)

II.02.02.01 Tasks till 2020⁵

	Activity	Objective	KPI	Year ⁶
1	GSF Operations reviews	Complete the following reviews: <ul style="list-style-type: none"> • Operations Validation Readiness Review • Operations Readiness Review • Service Readiness Review 	<ul style="list-style-type: none"> • Reviews achieved in line with the Programme Schedule 	2016
2	Accreditation of both GSMC sites	<ul style="list-style-type: none"> • Acceptance of both GSMC sites as suitable for deployment of the GSF equipment. • Connection of the GSMC equipment to the Galileo operations chain in both sites. 	<ul style="list-style-type: none"> • Site accreditation review for GSMC UK and Site Accreditation Milestones for both sites successfully passed in line with the Programme Schedule 	2016
3	GSF Equipment Anomaly Reporting	The GSMC will be responsible for reporting all anomalies on the GSF equipment in line with its operational procedures to ensure that these are patched or that they are corrected in future evolutions. The role of GSMC also includes ensuring the resolution of anomalies reported by Competent PRS Authorities (CPA) regarding their use of the PRS Service.	<ul style="list-style-type: none"> • Establishment of a GSMC anomaly reporting regime 	2016
			<ul style="list-style-type: none"> • All CPA anomalies tracked and passed to appropriate resolution entity 	2016 - 2020
4	GSF Operations	As of the GSF Operations Service Readiness Review (OSRR), the GSMC will need to ensure the continuous availability of GSMC operations that meet the KPIs applicable to the GSMC.	<ul style="list-style-type: none"> • Meeting of KPIs that will be defined in the Operations Validation Readiness Review. • From GSF OSRR all GSMC Operators are certified within a set period of time from arrival • From GSF OSRR, all GSMC Operators recertified annually. 	2016 - 2020

⁵ All these tasks and objectives related to the first configuration of the GSMC equipment ("GSMC EMC") in GSMC (France) were achieved in 2016. The GSMC (UK) will start to be covered in 2017.

⁶ The year indicates when the Agency expects to perform that action. These dates are correct as of time of writing and are based on the current plans.

II.02.03 THE PUBLIC REGULATED SERVICE (WBS 2.03)

The PRS Decision No 1104/2011/EU specifies certain tasks that the Agency should carry out, in addition to those related to the Security Accreditation Board and the PRS related operations of the GSMC:

- Assist the Commission in the report due every three years to the Council and the Parliament on the Competent PRS Authority (CPA) compliance with the Common Minimum Standards (CMS) (article 5 (11))
- Assist the Commission in ensuring that the CPAs comply with the CMS (article 8(6))

With the entry into force of the PRS CMS at the start of 2016 these activities, to be prepared in 2016, will start to be performed by the Agency from 2017. This will include also the continuation of the organisation of regular meetings (at least once a year) with CPAs in order to assist them to build up their capabilities and to meet compliance with the CMS.

Furthermore Decision No 1104/2011/EU allows for certain tasks to be potentially entrusted to the Agency, such as:

- Being designated as a Competent PRS Authority for the Council, the Commission and the European External Action Service (EEAS) (Article 5(1)-b)
- Being designated as a Competent PRS Authority for Union Agencies and International Organisations (Article 5(1)-c)
- Being requested to provide technical assistance to CPAs to perform the task entrusted to it (Article 5(9))

While the cost of functioning of a CPA shall be borne by the PRS participant who has designated it, the Agency needs to be prepared to perform such tasks (in terms of organisation, tools and resources – both human and financial) and a CPA set-up needs to be prepared, maintained⁷ and updated as more requests from the Commission, the Member States, Union Agencies or International Organisations materialise.

⁷ The preparation of the CPA set-up should include the definition of the framework for the provision of technical assistance to CPAs and the set-up of the Agency's CPA by elaborating also the draft administrative arrangement for discussion with CPAs and the draft arrangement specifying the management and operating rule of the Agency acting as a CPA

Additionally, access to PRS technology and ownership or use of PRS receivers needed by the Agency to accomplish the task referred to in article 14(1) (a) of Regulation (EU) No. 1285/2013 as well as any other task related to PRS which the Agency performs, is subject to the compliance with the principles set out in Article 8 of Decision 1104/2011/EU and the related PRS Common Minimum Standards and shall comply with the conditions defined in the Specific Arrangement concluded between the European Commission and the European GNSS Agency pursuant to article 14(c) of Decision 104/2011/EU.

II.02.03.01 Tasks till 2020

	Activity	Objective	KPI	Year ⁸
1	PRS management Plan	Define the organisational structure and the rules for implementing the management of PRS items and PRS information	PRS management plan updated yearly and available 1 month (TBD ⁹) before the following year	2016 - 2020
2	PRS entities database	Ensure that the database of entities authorised by CPAs and by the Security Accreditation Board to carry out PRS activities is constantly updated	Bi-monthly availability (updated) of database	2016 - 2020
3	The Agency's CPA CMS compliance report	Create a document based on the inputs received by CPAs summarising elements concerning their compliance with the CMS	Report sent to Commission every 3 years	2018
4	CMS audit and inspections report	Create an Agency audit and inspection report on CMS compliance (Upon request by the Commission)	Report delivered to the Commission 1 month (TBD ¹⁰) after the completion of the audit or inspection.	2016 - 2020
5	PRS article 14 implementation report	Create a report summarising all movements, requests and security breaches associated with the PRS items/PRS information under the responsibility of the Agency	Report sent to the Commission 15 days after the reporting quarter, every quarter.	2016 - 2020
6	PRS article 14 inspections	Perform regular audit or inspection of the Agency's handling of PRS information	Yearly (TBD ¹¹) report on inspections	2016 - 2020
7	Risk Assessment	Regular and robust risk assessment of the PRS activities to ensure that they do not pose a risk to the security of the System, the Member States and the Union	Yearly update of the PRS risk assessment or security plan	2016 - 2020

⁸ The year indicates when the Agency expects to perform that action. These dates are correct as of time of writing and are based on the current plans.

⁹ These are activities identified in the Decision 1104/2011 and are not yet defined with the Commission. This document will be updated once the information is available.

¹⁰ idem

¹¹ idem

II.02.04 PROMOTION AND MARKETING OF THE SERVICES (WBS 5.02, 5.03, 1.03.01)

The Agency's role concerning the promotion and the marketing of the services is based on a systematic integrated approach in every vertical market segment. Furthermore, since the period 2017-2020 leads to the crucial Full Operational Capability milestone of the Galileo programme, the market development activities shall keep pushing three main areas, by market segment:

- Market and user knowledge: market and technology monitoring, including the analysis of user needs, requirements and monitoring of user satisfaction which enables the understanding of future market and technology trends and the place GNSS (and especially EGNSS) will have in applications using positioning, navigation and timing.
- Demand support: design and systematic implementation of the adoption roadmap by market segment to ensure the market readiness of EGNSS in all application areas, this includes cooperating with chipset and receiver manufacturers, system integrators and application developers.
- Offer creation (which is a delegated task): support to development of innovative solutions using EGNSS, performed via dedicated funding under Horizon 2020 and Fundamental Elements programmes. The Commission delegates research and development activities to the Agency to leverage market adoption in all market segments as an integral part of the market strategy.

II.02.04.01 Tasks till 2020

Activity	Objective	KPI	Year ¹²	
1	Market and technology monitoring, including cooperation with receiver manufacturers	Be a recognised source of knowledge in GNSS market trends and technological developments	<ul style="list-style-type: none"> • Bi-annual publication of GNSS market report 	2015, 2017, 2019
		Support chipset and receiver manufacturers in implementation of E-GNSS	<ul style="list-style-type: none"> • List of receiver manufacturers with Galileo and EGNOS capability • List of NDA agreements with receiver manufacturers 	2014 - 2020
2	User satisfaction monitoring process and customer assistance	Build user experience and satisfaction, implement user feedback in the evolution of E-GNSS	<ul style="list-style-type: none"> • Report from user satisfaction survey • User inputs to Mission Requirements Document evolution • EGNOS user support improvement plan based on feedback from downstream user sectors and their value chains. • Galileo GSC support improvement plan based on feedback from downstream user sectors and their value chains. 	2014 - 2020
3	Market development by user segment (Aviation, Road, LBS, Agriculture, Maritime, Rail, Surveying)	Maximise adoption of E-GNSS by value chain and its availability for users	Measurements of E-GNSS implementation and its use in GNSS applications per market segment (e.g. the number of approach procedures in aviation)	2014 - 2020
4	Market development supporting initial services of Galileo: Open Service, Search and Rescue, PRS (in 2016) and Commercial Service (in 2018).	Maximise adoption of E-GNSS by value chain.	<ul style="list-style-type: none"> • Measurements of E-GNSS implementation and its use in GNSS applications per market segment 	2014 - 2020
		For PRS: support of the promotion and marketing of the services referred to in Article 2(4) of Regulation 1285.	<ul style="list-style-type: none"> • For PRS: Action plan agreed with Member States with CPAs 	2017

¹² The year indicates when the Agency expects to perform that action. These dates are correct as of time of writing and are based on the current plans.

II.03. Human and Financial Resource Outlook (2017 – 2020)

II.03.01 OVERVIEW OF THE PAST AND CURRENT SITUATION

- In 2015, the Agency employed 23 new staff, mainly as replacements for departing staff, but also for newly established posts. The Agency keeps facing difficulties in attracting and retaining qualified staff. The year 2015 ended with 3% vacancy rate in the Temporary Agent (TA) category of staff. In the first half of 2016 3 TA resignations were received. A lack of a wider pool of highly qualified candidates for higher graded posts means that many recruitment procedures result in selection of internal candidates, consequently doubling the efforts necessary to fill posts.
- The overall expenditure on Title 1 (staff-related costs) was lower than forecast, due mainly to recruiting difficulties and staff leaving the Agency. This increased the reliance on external staff such as interims and trainees. The Agency created a dedicated budget line for such external staff in 2015.
- Due to budgetary savings on Title 1 and on budget line 2000 (Buildings), additional investment was instead made in Title 2, particularly in the area of Information Technology, for which the 2017 budget will not be sufficient to meet all needs. The Agency also signed contracts for support for Risk Advisory Services, an impact assessment of service provision models and business plan for the exploitation of Galileo and EGNOS services by the Agency from 2020 onwards. Expenditure on the Buildings budget line 2000 was lower than forecast due to lower than expected consumption in the Prague Headquarters. It had been difficult to accurately predict what the costs would be once the whole of the building was taken over by the Agency as of 1 January 2016.
- Expenditure on other budget lines under Title 2 in 2015 was close to that initially forecast.
- All planned activities under Title 3 in 2015 were contracted for a total value of 8 609 589.48 EUR.

II.03.02 RESOURCE PROGRAMMING (2017-2020)

II.03.02.01 Financial Resources

The Agency requested an EU contribution of 27 847 000 EUR for 2017, which reflects the maximum ceiling stipulated in the Commission Communication to establish a programming of human and financial resources for decentralised agencies 2014-2020 (COM(2013)519 of 10 July 2013).

The EFTA contribution is 620 648 EUR, based on the 2016 EFTA contribution percentage of 2.34% of the EU contribution.

The Agency is expected to grow with 3 more Temporary Agents in 2017 in order to ensure sufficient staffing to undertake the efficient management and implementation of all tasks both core and delegated. Overall, staff costs are expected to increase by approximately 8.8%. Salary assumptions are based on existing real costs per grade and staff. Current correction coefficients for the place of living have been applied for the staff located in the Czech Republic, France and the United Kingdom (73.4%, 114.6% and 166.9% respectively). Part of the staff costs are linked to the installation and one-off costs for all new staff, in accordance with the Staff Regulations of Officials of the European Communities and Conditions of Employment of other Servants of the European Communities.

The Agency estimates that recruitment costs will be significantly lower in 2017 compared to 2016 due to the slower pace of increase in establishment plan posts (only 3 new posts in 2017 in comparison with 11 in 2016). Multilingual tuition costs for children increase in proportion to the number of staff and are estimated based on a thorough analysis and extrapolation of present-day costs.

It should be noted that mission costs remain relatively stable, despite increasing staff figures and an increasing level of delegated activities for which no mission budget is allocated. This is possible due to increasingly efficient mission management with videoconferencing being utilised wherever appropriate and due to effective advance planning of missions.

The Agency's training costs are reduced in 2017 as a result of the overall lower budget ceiling available. The Agency has continuously sought effective and financially efficient training methods, such as grouping training sessions for staff where appropriate and holding training on-site in order to avoid mission costs and taking advantage wherever possible of "in-house" training, passing on knowledge effectively between staff members.

The Agency introduced social welfare into its 2016 budget for the first time by means of an amending budget and this will be continued in 2017. The Agency's Administrative Board agreed on this need as a result of falling interest in vacant posts and difficulty in both recruiting new staff and maintaining current staff levels. This is attributed to a large extent to the perceived low attractiveness of moving to the Czech Republic combined with a continuing decrease in the correction coefficient for the Czech Republic.

In January 2015 the Agency took over the entire building in Prague which it previously shared with the Czech Ministry of Finance. The actual rent was set at a symbolic 1 EUR annually for the first five years

of the lease agreement, with the Agency obliged to pay 25% of the market rate as of September 2017. Following an expert analysis, the estimated amount for the 4 months ending in December 2017 is 50 000 EUR. Utility consumption costs were slightly lower than expected in 2015 and only a minor increase is expected in future years. Facility management, reception, hosting services and security services for all sites are indexed and so will also increase to a minor extent.

Where movable property is concerned, the Agency made major investments in previous years in an effort to equip all the Agency's sites. Needs for 2017 are therefore minimal, mainly reflecting a need for maintenance or replacement of the current furniture and equipment.

The fact that the Agency currently has three separate locations places a necessary budgetary burden upon the Agency in terms of administrative costs, however new IT applications and videoconferencing have been set up by the Agency in order to limit rising costs. These investments and their maintenance costs are reflected in the Data Processing and in the Telecommunications budgets.

In compliance with the global EU effort to reduce costs, a 1% reduction in the regular administrative costs of the Agency has already been applied for 2017 in the revised financial statement annexed to the GSA Regulation.

Title 3 operational core budget covers the core tasks of the Agency as stipulated in the GNSS Regulation 1285/2013.

Market development tasks in 2017 will concentrate primarily on increasing Galileo and EGNOS penetration in all market segments, monitoring the market and technology and implementing User Relationship Management ensuring EGNSS user satisfaction. Market development applications, contribution to the commercialisation and awareness of Galileo and EGNOS, communication and promotion activities are in total expected to require a budget of 2 215 000 EUR in 2017.

The SAB budget of 1 050 000 EUR will be used for accreditation support contracts to perform technical activities linked to the security accreditation process and, in particular, to the on-going preparation of the upcoming major Galileo system accreditation milestones e.g. Authorisations to Launch. These support contracts are essential in order to provide the expected level of support to the Security Accreditation Board, as stipulated by the current GSA Regulation 912/2010 amended by 512/2014.

For the operation of the Galileo Security Monitoring Centre (GSMCs), operational support contracts will be required in 2017 for an estimated amount of 2 600 000 EUR. These support contracts will be crucial in ensuring operational, technical and security activities supporting GSMC services in 2017 for both GSMC sites (France and the United Kingdom).

The budget for the years 2018 – 2020 is expected to be approximately 13 500 000 EUR for each year with stable expenditure on each individual budget line with the exception of staff salaries and buildings cost. For a more detailed breakdown per budget line please refer to Annex II. Where staff salaries are concerned, there will be some increase due to the minor increase in Establishment Plan posts per year and taking into account indexation of salaries and reclassification of staff. Where building costs are concerned, the increase will be to take into account inflation and indexation on contracts but also the full 12 month charge of rent on the Prague building which is estimated at 200 000 EUR.

II.03.02.02 Human Resources

The number of staff requested for 2017-2020 respects the ceiling proposed in the Commission Communication on the programming of human and financial resources for decentralised agencies for 2014 – 2020. The Agency concluded the year 2015 with 99 out of 102 available posts filled (which translates into 97% fulfilment of the establishment plan). An additional 11 new posts were allocated in 2016 to the following action areas: 5 to Galileo Exploitation, 2 to Security, 3 to Legal and Procurement and 1 in Project Control & Quality. This was done in line with the nature, volume and timelines of the delegated tasks. For the period 2017 - 2020 the Agency has been allocated 7 new posts (3 in 2017, 2 in 2018 and 1 each in 2019 and 2020).

The Agency has carefully analysed its available resources with a view to identifying posts and staff that need to be transferred from the headquarters in Prague to other sites based on imminent and operationally justified needs.

Furthermore, the Agency feels that an urgent reassessment of its establishment plan is required due to the major sets of new activities critical to the success of the Galileo and EGNOS programmes which were not included in the initial resource estimate developed by the Commission in 2012. These include the delegated Horizon 2020 activities and the Fundamental Elements programme.

New tasks and growth of existing tasks

The Agency is categorised as a “New tasks” agency. The major tasks and activities listed above require appropriate staffing for the Agency, in particular from a programme exploitation and security team perspective, but also from an associated support perspective.

The delegation agreements signed in 2014 for EGNOS Exploitation, Galileo Exploitation and Horizon 2020 have expanded the Agency’s responsibilities in the previous years. The Galileo delegation agreement and EGNOS delegation agreement have both been revised in 2016, showing a further significant increase in new tasks assigned to the Agency. The growth of existing tasks will also be conditioned by the eventual shape that the GSA-ESA Galileo Working Arrangement will take. Both Galileo and EGNOS working arrangement have been signed before the end of 2016.

It is important to recall that the Agency is classified as a “new tasks” agency. A cut of 3 posts (= 5% of 2013 staff engaged in existing tasks, target committed to by the Agency) had been explicitly included in the Legislative Financial Statement of the GSA Regulation 512/2014. In addition, 5 more posts (second/double 5% cut) were taken away by the Commission Communication 2014-2020 (COM(2013)519).

Efficiency gains

Efficiency gains are expected on a qualitative level from the following:

- The achievement of the ISO 9001 certification: the framework for the Integrated Management System was established and all processes documented, including processes for continual improvement, which will enhance the Agency’s services, development of efficient processes, better management of public funds, increased performance and a stronger stakeholder focus.
- Compliance with the applicable management standards, ISO 9001 requirements and the Internal Control Standards of the European Commission.
- Prioritisation of activities, Annual Work Programme and strategic planning.
- Stable costs related to general administrative expenditure despite the growing number of staff.
- As mentioned in section II.03.02.01 “Financial Resources”, efficient mission management with videoconferencing is being utilised wherever appropriate and due to effective advance planning of missions.
- As mentioned in section II.03.02.01 “Financial Resources”, training costs for staff remain relatively stable as effective and financially efficient training methods have been continuously sought by the

Agency, such as grouping training sessions, where appropriate; holding training on-site in order to avoid mission costs and taking advantage when possible of “in-house” training, passing on knowledge effectively between staff members.

- The current set-up of the Agency in multiple sites has a non-negligible cost. The Agency is committed to avoid redundancy and increase of costs, especially related to administrative functions, as well as to guarantee a common standard of support in the corporate services for all sites. For example, the Agency decided to deploy one corporate service officer for the GSMC site to handle all administrative functions and to liaise with all administrative departments in the Headquarters. Moreover, support functions are shared among departments when possible.
- Efficiency gains through more automated work (e.g. introduction of HR e-tool for applications to selection procedures, objectives and appraisal exercise; IT e-ticketing system; introduction of budget management tool to facilitate budgetary planning and execution, implementation of a fully-fledged Document Management System, paperless financial validation tool).
- Level of administration / operation ratio kept on 20/80 as target

Negative priorities/Decrease of existing tasks

The existing tasks of the Agency are being maintained. The Agency reviews its priorities on an annual basis in order to best focus its energies.

Redeployment of resources in view of budgetary constraints

The number of staff requested for 2017-2020 respects the ceiling proposed in the Commission Communication on the programming of human and financial resources for decentralised agencies for 2014-2020, including the 5% staff cuts within the period 2014-2018.

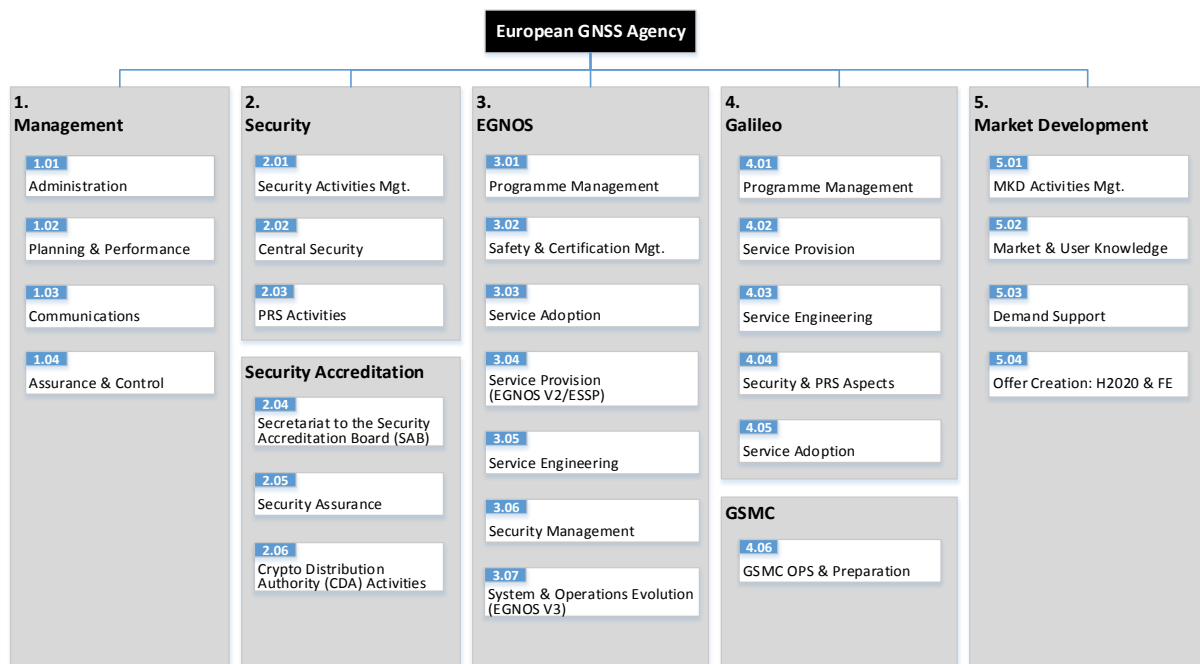
The Agency plans to regularly carry out an analysis on the allocation of posts in view of optimising the use of existing resources, including staff redeployments.

Section III - Work Programme 2017

This section is the equivalent of a financing decision in accordance with Article 68 of the GSA Financial Regulation.¹³ Further, article 32(3) specifies that this document should contain the following items:

- A description of all activities that require financing (in this section)
- An indication of the amount of financial and human resource allocated to each activity (Included as a specific section for each activity listed in section III.02)
- An indication of which tasks have been added, changed or deleted in comparison with the previous financial year (included in the tables for each objective linked to each activity)

All activities are mapped in the Agency's Work Breakdown Structure (WBS). Each objective is shown here with the appropriate GSA WBS number as a reference to show how the Agency's activities are structured.



¹³ Ref: GSA-AB-WP-32



III.01. Executive summary

The Agency's work in 2017 will focus on the objectives listed below.

Security Accreditation	Ensure the secretariat for the Security Accreditation Board
	Support to SAB Management
	Approvals to Launch
	Authorisations to operate the systems in their different configurations and for the various services, including up to and including the signal in space.
	Authorisations to operate the ground stations
	Authorisations of bodies to develop and manufacture PRS receivers or PRS security modules
	Ensure the chairmanship of the Panel, its technical and organisational secretariat
	System level accreditation tasks
	Ground stations level accreditation tasks
	Component level accreditation tasks
	User segment accreditation tasks
	COMSEC assurance - SAB subordinate CDA
	COMSEC assurance – Flight Key Cell (FKC)
	Implement the new SAB regulatory responsibilities
Accreditation Panel of Internal Systems	
PRS Activities	European Parliament and Council reporting on CPA's CMS compliance
	CMS audit and inspection
	CPA arrangements
	The Agency's CPA implementation
	Technical Assistance to CPAs
	Article 14 Arrangement Implementation management
GSMC Ops & Prep'n	PRS entities database
	Operations processes
	Operations engineering processes
	Hosting services processes
	Management processes
Promotion and Marketing of the Services	Administrative processes
	EGNSS Market development in Aviation
	EGNSS Market development in Road
	EGNSS Market development in Maritime
	EGNSS Market development in Rail
	EGNSS Market development in High Precision Market Agriculture and Surveying
	EGNSS Market development in LBS, Machine-to-machine (M2M) and other Mass Market
	EGNSS Market development in Timing and Synchronisation
	EGNSS Market development in Governmental Markets
Services, Applications and R&D Communications	
Agency Management	Legal, Procurement, Grants and Contract Management
	People and Talent Management
	Finance and Budget Management
	Information and Communication Technology
	Facility Management and Logistics
	Administrative Board Management
	Configuration and Document Management
	Strategic Planning
	Quality and IMS



	Internal Control and Risk Management
	Corporate Communications
	Internal Communications
	Stakeholder Liaison and Communications
	Agency transversal security

III.02. Activities

III.02.01 SECURITY ACCREDITATION (WBS 2.04, 2.05, 2.06)

In accordance with point (b) of Article 11(4) of the GSA regulation, the Security Accreditation Board (SAB) prepared section III.02.01. It is being incorporated into this work programme, without any change.

III.02.01.01 Overview of the Activity

The Security Accreditation Board, an independent body within the Agency, is the sole security accreditation authority for the European GNSS.

The Agency's security accreditation activities enable the SAB to take informed security accreditation decisions notably on the approval to launch, the authorisation to operate the systems in their different configurations and for the various services and the authorisation to manufacture PRS receivers and security modules. They include:

- SAB secretariat: includes organising a secretariat by staff allocated to the SAB to, coordinate, facilitate and prepare the relevant files for security accreditation decisions. SAB meetings should be planned in order to allow a timely decision for each programme milestone, after due consultation of the relevant expert groups (GSAP/CDA). Specific documents should be prepared and submitted to the SAB to support the decision-making. The SAB secretariat maintains and retains all security accreditation decisions taken by the SAB.
- Support to SAB: including managing and drafting the work programme, the budget, the staff establishment plan, day-to-day management of the Security Accreditation resources (staff and resources).
- Security Accreditation Panel management: the staff allocated to the SAB guarantees the chair and secretariat of the panel in order to coordinate and prepare of the relevant files for security accreditation recommendations. The primary mission of the GNSS SAP is to assess the security

risks in order to recommend security accreditation decisions to be taken by the SAB. These recommendations are drafted on the basis of the outcomes of the specific Security Accreditation Tasks described hereafter, taking into account any specific demand of the SAA and the result of the relevant security analysis.

- SAB CDA management: the staff allocated to the SAB guarantees the chair and secretariat of the SAB CDA Task Force (group of Member States COMSEC experts who provide oversight of Programme COMSEC activities), secretariat, and organisation of Flight Key Cell (FKC) activities for each launch campaign, as well as standardisation, regulatory and reporting of COMSEC activities.
- Flight Key Cell activities: represent a vital part of the set of activities performed by a dedicated formation of the SAB CDA, constituted of staff allocated to the SAB and EU MS representatives, responsible for the assurance of the security of COMSEC items during satellite launch campaigns.
- System level activities: system design reviews and, where agreed by the SAB, system security audits and assessments to verify that the Galileo System-specific Security Requirements (SSRS) and other applicable security requirements are met. The GNSS Accreditation process is strongly linked to the GNSS design, development and deployment process. For each specific Galileo or EGNOS technical milestone, staff allocated to the SAB 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 EU Classified Information to be processed by it. This includes the performance of independent security assessments.
- Ground station level activities: security audits and assessment visits to EU GNSS Sites to verify the EU GNSS Security Requirements. Each Galileo ground station is subject to a local security accreditation process under the responsibility of the LSAA (Local Security Accreditation Authority).
- PRS manufacturer authorisation activities: optimise and maintain the SAB authorisation process for PRS receiver and security module manufactures. Support to the EU Member States when requesting PRS manufacture authorisation in the SAP and SAB process. Maintain the database of all SAB provided authorisations.
- Support to the accreditation reviews of internal Agency systems/areas.

III.02.01.02 Objectives, Indicators, expected outcomes and outputs

Objective 1	Ensure the secretariat for the Security Accreditation Board (WBS 2.04.01)		
Expected Results	<ul style="list-style-type: none"> • Reports to SAB chairman • Propose SAB meeting plan • Distribution of working papers in due time before each meeting • Establishment of minutes in due time after each meeting • Administer written procedures as necessary • Record and transmit all SAB decisions 		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
SAB meetings organised	6	4	SAB meeting plan
Written procedures administered	100%	100%	SAB written procedures register
SAB decisions administered	100%	100%	SAB decision list

Outputs relating to the multi-annual work programme objectives:

- Approvals to launch
- Authorisations to operate the systems in their different configurations and for the various services, including up to and including the signal in space
- Authorisation to operate the ground stations
- Authorisation of bodies to develop and manufacture PRS receivers or PRS security modules
- Other SAB decisions

Other outputs:

- Security Accreditation Reports
- Recommendations to the SAB / SAB chairman

Objective 2	Support to SAB Management (WBS 2.04.02)		
Expected Results	<ul style="list-style-type: none"> • Draft the SAB Work Programme 2018, taking into account the inputs from the GSAP and CDA • Draft the SAB Budget 2018, taking into account the inputs from the panel and CDA • Report on the SAB Budget 2017 • Draft/update the SAB Staff Establishment Plan 		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Work Programme adopted	Yes	Yes	Administrative Board decision / Yearly
Budget adopted	Yes	Yes	Administrative Board decision / Yearly
Establishment plan adopted	Yes	Yes	Administrative Board decision / Yearly

Outputs relating to the multi-annual work programme objectives:

- Work Programme adopted
- Budget adopted
- Establishment plan adopted

Other outputs:

- Security Accreditation Reports
- Recommendations to the SAB / SAB chairman

	Define and Approve Security Accreditation Statements (WBS 2.04.04):		
Objective 3	<ul style="list-style-type: none"> • Approvals to Launch 		
Objective 4	<ul style="list-style-type: none"> • Authorisations to operate the systems in their different configurations and for the various services, including up to and including the signal in space. 		
Objective 5	<ul style="list-style-type: none"> • Authorisations to operate the ground stations 		
Objective 6	<ul style="list-style-type: none"> • Authorisations of bodies to develop and manufacture PRS receivers or PRS security modules 		
Expected Results	<ul style="list-style-type: none"> • Security accreditation statements • Changes to existing security accreditation statements • Re-accreditation statements 		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Approvals to Launch	2	1	SAB decision list
Authorisations to operate the Galileo system in their different configurations and Galileo services.	2	2	SAB decision list
Authorisation to operate the ground stations	10	12	SAB decision list
% of processed requests of authorisation of bodies to develop and manufacture PRS receivers or PRS security modules	100%	100%	SAB decision list

Outputs relating to the multi-annual work programme objectives:

- Approval to Launch
- Authorisations to operate the Galileo system in their different configurations and Galileo services
- Authorisation to operate the ground stations
- Authorisation of bodies to develop and manufacture PRS receivers or PRS security modules

Objective 7	Ensure the chairmanship of the Panel, its technical and organisational secretariat (WBS 2.05.05)		
Expected Results	<ul style="list-style-type: none"> Propose panel meeting plan Draft reports in order to prepare panel reviews Organise 5 panel meetings in the year Deliver accreditation reports and recommendations to SAB 		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
• Panel meetings	7	4	SAB meeting plan
• Security Accreditation reports	5	10	Panel document register
• Panel recommendations	10	8	Panel Reports

Outputs relating to the multi-annual work programme objectives:

- Security Accreditation Reports
- Recommendations to the SAB and/or the SAB chairman

Objective 8	System level accreditation tasks (WBS 2.05.01)		
Expected Results	<ul style="list-style-type: none"> Review existing strategies to ensure consistency with the regulation/the programme and propose enhancements as appropriate Carry out independent security assessments and report to panel/SAB accordingly Participate in security sensitive programme reviews at system level and where necessary ad hoc participation in segment reviews Under SAB authorisation, carry out independent security vulnerability analysis and system security assessments and report to panel/SAB accordingly Monitor risks, treatment plans and report to panel/SAB accordingly 		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Number of independent reviews carried out	N/A	(*)	Security Accreditation Reports

* Depends on the milestones planned for the year

Outputs relating to the multi-annual work programme objectives:

- Security Accreditation Reports
- Recommendations to the SAB and/or the SAB Chair

Objective 9	Ground stations level accreditation tasks (WBS 2.05.02)		
Expected Results	Plan activities to verify the GNSS ground stations meet the EU GNSS security requirements.		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Operational sites accredited or covered by a recommendation to the SAB	100%	100%	SAB SATO dashboard

Outputs relating to the multi-annual work programme objectives:

- Site Accreditation Report
- Recommendations to the SAB and/or the SAB Chair.
- Authorisation to operate the ground stations

Objective 10	PRS manufacture authorisation activities (WBS 2.05.04)		
Expected Results	Authorisation of bodies to develop and manufacture PRS receivers or PRS security modules		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Requests for PRS manufacturer authorisation processed	100%	100%	SABAP2M database

Outputs relating to the multi-annual work programme objectives:

- Recommendations to the SAB and/or the SAB Chair.
- Authorisation of bodies to develop and manufacture PRS receivers or PRS security modules.
- Maintain the SAB PRS manufacture authorisations

Objective 11	COMSEC assurance - SAB subordinate CDA (WBS 2.06.01)		
Expected Results	Assess the conduct of EC COMSEC policy throughout the EGNOS & Galileo Programmes. It shall continue to achieve this through the authoritative assessment of the COMSEC experts from the Member States (NDAs) of evidence supplied to it by the European GNSS Distribution Authority regarding COMSEC activities within the EGNOS & Galileo Programmes. The SAB CDA shall then provide COMSEC assurance to SAB communicated as a COMSEC risk assessment in order to facilitate successful accreditation.		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Task force meetings	4	5	SAB meeting plan
Contribute to Panel Security Accreditation reports	2	*	Panel document register
SAB CDA recommendations	4	*	CDA reports

* Depends on the number of milestones for the year

Outputs relating to the multi-annual work programme objectives:

- COMSEC report to SAB

- Recommendations to the SAB and/or the SAB Chair.
- Identified COMSEC risks reflected in the System Security Plan

Objective 12	COMSEC assurance – Flight Key Cell (FKC) (WBS 2.06.02/ WBS 2.06.04)		
Expected Results	To assure the security of flight keys during European GNSS programme launch campaigns through specification of the necessary security procedures to assure launch security and subsequent implementation of those procedures culminating in an assessment of launch compliance that can be used by the SAB to derive assurance that the launch was conducted securely.		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
FKC launch campaigns	3	1	FKC launch campaign report
FKC Launch Key Management Operational Plans	1	1	FKC Key Management Operational Plans

Outputs relating to the multi-annual work programme objectives:

- Contribution to SAB CDA COMSEC Reporting and Risk Identification
- Recommendations to the SAB / SAB chairman

Objective 13	Implement the new SAB regulatory responsibilities (WBS 2.04.03)
Expected Results	<p>Implementation of the new responsibilities entrusted to SAB by Regulation (EU) No 512/2014 and laid down in Article 11 thereof, in particular paragraph 3 points (c) to (l):</p> <ul style="list-style-type: none"> • examining and, except as regards documents which the Commission is to adopt under Article 13 of Regulation (EU) No 1285/2013 and Article 8 of Decision No 1104/2011/EU, approving all documentation relating to security accreditation; • advising, within its field of competence, the Commission in the elaboration of draft texts for acts referred to in Article 13 of Regulation (EU) No 1285/2013 and Article 8 of Decision No 1104/2011/EU, including for the establishment of security operating procedures (SecOps), and providing a statement with its concluding position; • examining and approving the security risk assessment developed in accordance with the monitoring process referred to in Article 10(h), taking into account compliance with the documents referred to in point (c) of this paragraph and those developed in accordance with Article 13 of Regulation (EU) No 1285/2013 and Article 8 of Decision No 1104/2011/EU; cooperating with the Commission to define risk mitigation measures; • checking the implementation of security measures in relation to the security accreditation of the European GNSS systems by undertaking or sponsoring security assessments, inspections or reviews, in accordance with Article 12(b) of this Regulation; • endorsing the selection of approved products and measures which protect against electronic eavesdropping (TEMPEST) and of approved cryptographic products used to provide security for the European GNSS systems; • approving or, where relevant, participating in the joint approval of, together with the relevant entity competent in security matters, the interconnection of the European GNSS systems with other systems;



	<ul style="list-style-type: none"> • agreeing with the relevant Member State the template for access control referred to in Article 12(c); • on the basis of the risk reports referred to in paragraph 11 of this Article, informing the Commission of its risk assessment and providing advice to the Commission on residual risk treatment options for a given security accreditation decision; • assisting, in close liaison with the Commission, the Council in the implementation of Joint Action 2004/552/CFSP upon a specific request of the Council; • Carrying out the consultations which are necessary to perform its tasks.
Status	New objective
Indicators	Result 2015 Target 2017 Means & frequency of verification
All new responsibilities entrusted to SAB are implemented	N/A 100% Independent assessment

Outputs relating to the multi-annual work programme objectives:

- Revised Security Accreditation Strategy
- Revised Terms of reference for subordinate bodies
- SAB decisions

III.02.01.03 Resources

Human Resources

	2016	2017	2018	2019	2020
TA	10	10	10	10	10
CA, SNE	1	1	1	1	1
Total	11	11	11	11	11

Financial Resources

The operational costs devoted to the security accreditation activities will increase marginally to cover the preparation of EGNOS accreditation.

With regard to Galileo security accreditation activities, 350 000 EUR foreseen to support Member States via reimbursements of missions and meetings related to Security Accreditation, Flight Key Cell (FKC) and SAB Crypto Distribution Authority actions. This budget may change annually in proportion to FKC participation in Programme launch campaigns as this is the highest part of this expenditure. This is an administrative cost and is not related to Title 3.

For EGNOS, the budget will be used for accreditation support contracts to perform technical activities linked to the security accreditation process. The remaining budget will be used for the on-going preparation of the upcoming Galileo system accreditation milestones, e.g. Authorisations to Launch.

This includes:

- Review of technical security documentation
- Analysis of system security risks and risk treatment plans
- Analysis of the compliance to system security requirements
- Contribution to the drafting of accreditation documents and reports
- Development of independent security test plans and procedures
- Performance of independent IT security tests on the European GNSS infrastructure
- Support for site accreditation
- Access to independent experts for in-depth technical reviews
- Support to the setting of new tasks of the SAB associated with the modification of the GSA regulation
- Monitoring of the security perception and performance of the European GNSS in the public domain and user communities.

These support activities are essential in order to provide the expected level of support to the SAB, as stipulated by the GSA Regulation.

Type of Action	Budget line	Indicative amount 2017	Indicative amount 2018	Indicative amount 2019
Procurement/Agreement	03.3300	1 050 000	1 050 000	1 050 000
Administrative costs	02.2600	350 000	350 000	350 000
Total		1 400 000	1 400 000	1 400 000

III.02.02 PUBLIC REGULATED SERVICE (PRS) ACTIVITIES (WBS 2.03)

III.02.02.01 Overview of the Activity

The Agency will start to carry out the PRS activities entrusted to it by the PRS Decision 1104/2011/EU. It is worth noting that before 2017 no objectives related to tasks entrusted by this decision were undertaken through the core budget and the main challenges will be for the Agency to be ready to perform those tasks and to ensure the full compliance of its activities with the Arrangement concluded between the Commission and the Agency pursuant to article 14(c) of Decision 1104/2011/EU.

These tasks include:

- Support Common Minimum Standards' (CMS) compliance reporting including gathering and analysing the relevant inputs from the CPAs, preparing the associated reports to be sent to the Commission and assisting the Commission in the preparation of the report due every three years to the Council and the Parliament on the CPA compliance to the CMS (article 5 (11) of PRS decision 1104/2011/EU). This will include support to the secretariat, coordination and preparation of the (at least) yearly CPA meeting.
- Support CMS compliance assurance including supporting the organisation and performance of the audit and inspections, and any other task required to assist the Commission in ensuring that CPAs comply with the CMS (article 8(6) of the PRS decision).
- Implementation of the Arrangement concluded between the Commission and the Agency pursuant to article 14(c) of Decision 1104/2011/EU. This includes the implementation and maintenance of all tasks (e.g. PRS information and PRS companies' database, risk analysis, internal auditing, etc.) the Agency is required to perform¹⁴ to ensure compliance with the PRS framework.
- Implementation and maintenance of the Agency's CPA functionality including the set-up of the relevant arrangements, the development of relevant processes and tools, the maintenance of the required infrastructure (e.g. tools) in order to enable the Agency to perform those tasks (CPA functionality or CPA technical assistance) which can be entrusted to it by virtue of article 5 of the PRS decision.¹⁵

¹⁴ The requirements set out in the Arrangement concluded between the Commission and the Agency pursuant to article 14(c) of Decision 104/2011/EU need to be enforced for both core operations (e.g. Accreditation, GSMC) and any delegated activity related to the PRS.

¹⁵ The cost of functioning is not part of the Agency's expenses.

III.02.02.02 Objectives, Indicators, expected outcomes and outputs

Objective 1	European Parliament and Council reporting on CPA's CMS compliance (WBS 2.03.01)		
Expected Results	<ul style="list-style-type: none"> • Support the organisation of the yearly CPA meeting • Review and assessment of the CPA's CMS compliance reports • Elaboration of an individual CPA's CMS compliance report • Aggregation of an overall report on CPA's compliance on CMS • Delivery of the report to the Commission 		
Status	New objective		
Indicators	Result 2015	Target 2017	Means & frequency of verification
CPA yearly meeting organisation	N/A	1	Meeting Invitation, Meeting Agenda, Meeting Report/MoM
GSA's CPAs compliance analysis	N/A	100%	CPAs CMS compliance report

Outputs relating to the multi-annual work programme objectives:

- Input to the three-yearly report to Parliament and Council by the Commission (in 2018)
- Report on CPA CMS compliance (based on input received from each CPA pursuant to article 10 of PRS decision)
- Yearly CPA meeting

Objective 2	CMS audit and inspection (WBS 2.03.02)		
Expected Results	This objective includes activities related to the provision of support to the Commission on the performance of checks to ensure that the CPAs comply with the CMS. Assumption: Details of the activities to be performed and expected results will be agreed with the Commission and the CPA in the course of 2016		
Status	New Objective		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Audit and inspections implementation	N/A	100%	As requested by the Commission

Outputs relating to the multi-annual work programme objectives:

- Report on CMS audit and inspection



Objective 3	CPA arrangements (WBS 2.03.03)			
Expected Results	<ul style="list-style-type: none"> • Analysis of the activities which the Agency may need to perform if it is requested to perform CPA (own and third parties) tasks and/or provide technical assistance to CPAs to perform their task • Organisational structure for the Agency to support CPA task implementation • Impact assessment of the Agency's implementation of CPA tasks • Cost and Financial models • Preparation of the draft arrangement defining the rules and operations to be performed by the Agency for those cases in which it can be designated a CPA • Development/acquisition/maintenance of the relevant tools (including those required to perform technical assistance) 			
Status	New Objective			
Indicators	Result 2015	Target 2017	Means & frequency of verification	
CPA Organisational Model(s) , processes, and tools	N/A	1	Availability of model for performing CPA for third parties	

Outputs relating to the multi-annual work programme objectives:

- The Agency's CPA organisation and set-up (if required)
- Draft arrangement for the Agency to act as CPA for third parties

Objective 4	The Agency's CPA implementation (WBS 2.03.04)			
Expected Results	<p>These are all activities related to the implementation of the Agency's CPA functionalities in case such a need arises. This covers both the Agency's performance acting as a CPA for its own activities (if needed) and its performance acting as a CPA for third parties.</p> <ul style="list-style-type: none"> • Establishment of the agreement to become a PRS participant (if needed) • Tailoring of the draft agreement developed under Objective 3 for the entity requesting the Agency to be its CPA • Approval of the agreement by the Commission • Establishment of the agreement for the setting up of the Agency as CPA of the involved entity • Start performing the task required by the CMS for that CPA 			
Status	New objective			
Indicators	Result 2015	Target 2017	Means & frequency of verification	
Implementation of CPAs task to be performed in accordance with the CMS and the agreement	N/A	1	Annual CPA activity report	

Outputs relating to the multi-annual work programme objectives:

- Agreements between the Agency and third parties to perform CPA tasks (for approval)
- Notification to the Commission of the signature of an Agreement to act as a CPA and the start of activities



Objective 5	Technical Assistance to CPAs (WBS 2.03.05)		
Expected Results	This objective includes all activities related to the implementation of article 5(9) of the PRS decision, according to which a CPA may request technical assistance from the Agency in order to perform its tasks.		
	<ul style="list-style-type: none"> • Drafting a generic template (including administrative and technical details) for the provision of technical assistance to a CPA • Interface with the requesting CPA on the tailoring of the technical assistance arrangement • Ensure the elaboration of a specific arrangement with each CPA requesting assistance for its approval from the Commission • Sign the agreement • Implement the technical assistance task as specified in the agreement 		
Status	New objective		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Draft technical assistance agreement (both admin and technical)	N/A	100%	Commission Approval
Implementation of tasks detailed in each agreement	N/A	1	If requested by a CPA

Outputs relating to the multi-annual work programme objectives:

- Draft (generic) technical assistance agreement
- Specific Agreement between the Agency and CPA for performance of technical assistance (for approval)

Objective 6	Article 14 Arrangement Implementation management (WBS 2.03.06)		
Expected Results	This objective includes all activities related to the management of the implementation of the Article 14 arrangement, in particular regarding the different reporting streams, compliance checks, and associated risk assessment. This objective also implements the provisions related to the Agency's access to PRS information		
	<p>This activity includes:</p> <ul style="list-style-type: none"> • Preparation and Maintenance of the PRS management plan defining the organisational structure and the rules for implementing the management of PRS items and PRS information • Review of the Article 14 Arrangement (if required) • Preparation of the Article 14 quarterly implementation report, and its subsequent delivery to the Commission. • Carry out regular inspections of the departments within the agency dealing with PRS items and PRS classified information • Perform regular risk assessment • Maintenance of a PRS items and PRS information database and elaboration a report summarising all movements, requests and security breaches associated to the PRS items/PRS information under the responsibility of the Agency 		
Status	New objective		
Indicators	Result 2015	Target 2017	Means & frequency of verification
PRS management plan	N/A	100%	Yearly maintenance
Risk assessment	N/A	100%	Yearly update of the risk analysis
PRS items and information database	N/A	4	Existence of database

Internal Article 14 audit	N/A	1	Independent audit report
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Outputs relating to the multi-annual work programme objectives:

- Article 14 Quarterly implementation report sent to the Commission
- Quarterly report on PRS items and PRS information movement/requests/incidents

Objective 7	PRS entities database (WBS 2.03.07)		
Expected Results	This includes all activities related to the implementation of article 6 of the Article 14 arrangement in the management of a database of entities authorised to carry out PRS activities. This database, the structure of which needs to be approved by the Commission, need to be constantly updated and shall include: <ul style="list-style-type: none"> • A complete list of the PRS entities • The scope of the activities pursued by those entities (unless the Member State objects) • The date of authorisation and the expiry date It is important to note that this activity is independent from the activities carried out by the SAB of similar nature and is performed on behalf of the Commission.		
	Status	New objective	
Indicators	Result 2015	Target 2017	Means & frequency of verification
PRS entities database	N/A	100%	Continuous update/maintenance of the database
Request from the Commission on PRS entity	N/A	100%	<ul style="list-style-type: none"> • All requests for information processed within 5 days. • PRS entities database

Outputs relating to the multi-annual work programme objectives:

- PRS entities database

III.02.02.03 Resources

Human Resources

	2016	2017	2018	2019	2020
TA	5	5	5	6	7
CA, SNE	5	5	5	5	5
Total	10	10	10	11	12

Financial Resources

Approximately 50 000 EUR is foreseen to support Member States via reimbursements of missions and meetings related to implementation of PRS core activities (e.g. cost for attendance to CPA workshop, attendance to audits, etc.). This budget may change annually in proportion to Member States' and

other PRS participant attendance (the number of CPAs is expected to increase as FOC PRS is approaching) and the number of activities (e.g. audits) to be performed.

III.02.03 GSMC OPERATIONS & PREPARATION (WBS 4.06)

III.02.03.01 Overview of the Activity

2017 should demonstrate the Agency's GSMC capability to increase service provision on Galileo Security Monitoring and PRS Access Management. This will be based on the Galileo Security Facility (GSF) and on the Security Operational Intelligence Facility (SOIF) mentioned in section II.02.02, and in line with Key Performance Indicators agreed. During this year the Agency will upgrade the GSMC service capability twice, first in April (first dual site capacity) and then in December, based on system capability associated with GSF P2.0.1 and GSF P2. 2 / SOIF1 programme deliveries.

In 2018-2020, the main challenges will be the SOIF 2 deployment, the long term building extension in France to ensure the GSMC Master Site capability to host new racks to be deployed by the Programme in this period¹⁶, the full CR12 implementation and KPIs for security monitoring and for PRS operations.

The main operation milestones planned in order to achieve these two objectives, as mentioned in chapter II.02.02 are the following:

Phases	GSMC Use of VAL (FR) Operations support		GSMC Use of OPE (FR) Operations		GSMC Use of VAL (UK) OPS Engineering		GSMC use of OPE (UK) Operations backup	
GSMC EMC	N/A	N/A	23 May 2016	02 Mar 2017	N/A	N/A	N/A	N/A
GSF P2.0.1	02 March 2017	16 Aug 2017	30 Mar 2017	22 Nov 2017	01 Sep 2016	02 Feb 2017	02 Mar 2017	16 Aug 2017
GSF P2.2 + SOIF1	22 Nov 2017	03 Mar 2019	20 Dec 2017	09 Jun 2019	10 May 2017	11 Oct 2017	22 Nov 2017	03 Mar 2019
GSF P2.3 + SOIF2	09 Jun 2019	03 Jun 2020	07 Jul 2019	09 Sep 2020	25 Nov 2018	28 Apr 2019	09 Jun 2019	03 Jun 2020
GSF P3.0 + SOIF3	09 Sep 2020		07 Oct 2020		26 Feb 2020	29 Jul 2020	09 Sep 2020	

¹⁶ The GSMC capabilities in France and the UK for hosting racks within the Faraday Cages are respectively 16 and 33 (24 + 9 if a meeting room is converted). At the beginning of 2017, only 1 rack slot is available in the GSMC in France (up to 22 in the GSMC in the UK) and at the beginning of 2020, at least 14 rack slots will be missing in the GSMC in France and 2 will still be available in the GSMC in the UK. This status is due to future deployment of local redundancies for all racks to ensure the 99.5 % availability of operations required in both sites, the POCP, the Galileo SOIF as a major new system capacity within the GSMC, and the PRS SIS Security Monitoring capability.

III.02.03.02 Objectives, Indicators, expected outcomes and outputs

The Agency has organised its GSMC operations activities, through the WBS, into five major processes described in this chapter:

- Operations,
- Operations engineering,
- Hosting services,
- Management,
- Administration.

The Agency notes that some targets can only be defined at a later stage when the GSMC has the results of 2016 in hand, and when operations start. These corresponding tables will be updated once this information is to hand.

Objective 1	Operations Processes (WBS 4.06.01)		
Expected Results	Operations, Expertise and Analysis		
	<ul style="list-style-type: none"> • Security and System Status Monitoring: Monitor security and health status of the system, react to all security incidents and technological surveillance. <ul style="list-style-type: none"> ○ Galileo System Incident Management ○ Galileo System Vulnerabilities Assessment • PRS access management: Grant access to PRS for authorised stakeholders in compliance with the PRS access rules (including the Common Minimum Standards) within the limit of the system design. Manage the lifecycle of access to the PRS in order to assure the service continuity, including through service support and secure communication interfaces (POCP). 		
Status	Crisis Management		
	<ul style="list-style-type: none"> • Specific activities and configuration of the GSMC needed to respond to the needs & requirements of a crisis affecting the Galileo system, including supporting the Council decision (Joint action) process. This process will be activated only under specific conditions • Preparation and testing of operations processes, including crisis management - in close cooperation with EEAS (when in CD 496 framework). 		
Status	All operational activities continue from the last financial year.		
Indicators¹⁷	Result 2015	Target 2017	Means & frequency of verification
System Status and Security Monitoring: <ul style="list-style-type: none"> • Time to start treating an incident • Time to notify stakeholders PRS Access Management: <ul style="list-style-type: none"> • Time to answer CPA requests 	N/A	Service Level Targets (R-UE)	<ul style="list-style-type: none"> • Reporting on a monthly basis internally and to the European Commission + EEAS (in CD 496 framework) • Implementation and follow up in progress in close cooperation

¹⁷ A more exhaustive and detailed description of the indicators is provided into the GSMC Service Level Management document



<ul style="list-style-type: none"> • Number of interfaces activations • Accuracy and timeline for reporting 			with EEAS (when in CD 496 framework)
<p>Crisis Management:</p> <ul style="list-style-type: none"> • Time to provide expertise and analysis of the impact of a Council Decision (Joint Action) instruction • Time to transmit Council Decision (Joint Action) instruction to the GCC 	N/A		<ul style="list-style-type: none"> • Reporting on a monthly basis internally and to the European Commission + EEAS (in CD 496 framework) • Implementation and follow up in progress in close cooperation with EEAS

Outputs relating to the multi-annual work programme objectives:

- System status and security monitoring: Incident handling, Resolution of the security incident, Vulnerabilities assessment and recommendations.
- PRS Access Management: Availability of PRS access.
- Operations, expertise and analysis: The agreement on associated budget, term and conditions, and the updated annual work programme.
- Crisis management: Escalation to Member States or to Council Decision (Joint Action).

Objective 2	Operations engineering processes (WBS 4.06.02)		
Expected Results	Engineering and requirement management		
	<ul style="list-style-type: none"> • Requirement management: <ul style="list-style-type: none"> ○ Identification, analysis and flow-down of the requirements that could impact the GSMC and the maintenance of the applicable baseline ○ Ensure and report GSMC compliancy to the Programme requirements over time • Operations engineering: Design the operations, Identify activities and all documents necessary for operations, training and maintenance, validate the concept of operations and all of the operations procedures in order to satisfy operations requirements • Technical Engineering: <ul style="list-style-type: none"> ○ Identify and define the processes, methods, tools and the logic of the system development activities including maintenance and support capabilities for the two sites. ○ Manage the technical processes lifecycle that lead to the in-production setting of new technical supporting assets and processes. 		
Status	All operational activities continue from the last financial year.		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Review milestones on time	10 reports	12 reports	Monthly report

Outputs relating to the multi-annual work programme objectives:



- Requirement management: Service Level Management.
- Operations engineering: GSMC Operations Engineering Plan, Validation Plan, Validation report, support documentation for the process (change analysis, test case, test case results, test schedule, etc.).
- Technical engineering:
 - Long term GSMC technical evolution roadmap and requirements, and related technical integration analysis (hosting and IT assets).
 - Participation and contributions to program related milestones as well as coordination with providers (mostly WP2-WP2X).
 - Technical projects documentation and contribution to projects portfolio.
 - Building extensions (Short-& long-term).

Objective 3	Hosting services processes (WBS 4.06.03)
Expected Results	<p>Local Security: Ensure and maintain local security operations support, to provide the protection of EU classified information present on the GSMC site and protect its assets.</p> <ul style="list-style-type: none"> • Site and System Security Accreditations: Apply and implement the security requirements to the GSMC, determine the security design and contribute to the security accreditation of the systems. • Registry Control Management: Manage all exchanged and produced EU classified information (documents, items, etc.). • Local Security Office: Ensure the physical security including people, properties, facilities, activities, information, and prevent the compromise of classified or crypto information (compromising of staff, malicious acts, etc.). • COMSEC & Crypto Management And Operations: <ul style="list-style-type: none"> ○ Manage GSMC COMSEC materials, ensure its secure transfer to or from users or other parties, through the enforcement of the appropriate procedures and the use of approved channels. ○ Provide access to authorised users/stakeholders to classified cryptographic devices or keys. ○ Operate the ongoing configuration of cryptographic equipment in order to enable technical services that rely on such equipment. <p>Hosting And Configuration Management: Provide a continuity of hosting services through building maintenance, and extra request management related to the evolution of the facilities and IT</p> <ul style="list-style-type: none"> • Facilities Management (Hosting Services FR and UK) • Supporting IT Systems (Technical Operations General) • GSF equipment support (Operational Systems First Line Maintenance) <ul style="list-style-type: none"> ○ Perform system administration. ○ Perform first line maintenance of GSMC Operational systems which includes the planning for and the preventive maintenance basic preventive initial repair (and escalation to Level 2/Level 3) maintenance. ○ Ensure (with L2 delivery) availability of spare parts and logistical flows of spare part as well as configuration management of installed items in the operational systems and monitor operational systems operational status, and perform



	relevant technical level 1 configurations and status checks to ensure availability of such systems.		
Status	All operational activities continue from the last financial year.		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Site and System Security Accreditation:			
<ul style="list-style-type: none"> Number of accreditation certificates in valid standing. 	On going	N/A	Contribution to reporting on a (bi) monthly basis internally and to the Commission. Implementation and follow up in progress.
<ul style="list-style-type: none"> Number of accreditation requests in progress. 	On going		
<ul style="list-style-type: none"> Percentage of data-packs released timely for accreditation requests (new or renewals) against annual plan baseline schedule. 	On-going		
<ul style="list-style-type: none"> Overall for GSMC: number of incidents raised and number of incidents still under investigation. 	COMSEC: 7 LSO: 10		
Registry Control Management ¹⁸ :			
<ul style="list-style-type: none"> Total Number of EUCI documents under management. Number of incoming and/or outgoing data packages released (with related number of files handled). 	On-going		Contribution to reporting on a (bi) monthly basis internally and to the European Commission. Implementation and follow up in progress
Local Security Office:			
<ul style="list-style-type: none"> Total number of personnel having permanent badge holder. 	70		Contribution to reporting on a (bi) monthly basis internally and to the Commission.
<ul style="list-style-type: none"> Number of accesses request/authorisation handled. 	745 ¹⁹		
COMSEC & crypto account management:			
<ul style="list-style-type: none"> Number of transportation plans. 	17	N/A	Contribution to reporting on a (bi) monthly basis internally and to the Commission.
<ul style="list-style-type: none"> Number of crypto procedures run/total. 	20/32	32/32	
Hosting			
<ul style="list-style-type: none"> Overall GSF OPE chain availability % composed of <ul style="list-style-type: none"> [Facilities management]: Availability of hosting services OPE chain % (with electrical and cooling). GSF OPE chain: Availability % (assuming hosting available) (with details on causes of non-availability). 		Service Level targets (R-UE)	Quarterly reporting with monthly snapshots

¹⁸ KPI only regarding CONFIDENTIEL UE/EU CONFIDENTIAL or SECRET UE/EU SECRET.

¹⁹ Covered the period from September to December 2015, in line with the new GSMC access policy

Outputs relating to the multi-annual work programme objectives:

- Registry control management:
 - Up to date registry²⁰ (and successful audited) destruction of classified documents when necessary.
 - Audit Report(s).
 - Contribution to bi-monthly security report.
- COMSEC & crypto account management:
 - Up-to-date procedures (These shall be updated annually), GSMC Crypto Account audit, audit report(s), procedures update (once a year).
 - Release of the audit report, incident reported, COMSEC SecOPS, execution of the transportation plan, destruction of crypto material, crypto item delivered/safeguarded.
 - Contribution to bi-monthly security report.
- Site and system security accreditation: Authorisation to deploy, operate, SAA accreditation, Accreditation strategy, security needs and Business Impact Analysis approved by the SAA, the Software Integration Plan and SecOPS approved by the SAA, ATO/ATD/Accreditation certificate issued by the SAA (contribution to bi-monthly security report).
- Local security office:
 - Access control managed continuously, access control reports summaries (once a year), access control list maintained (contribution to bi-monthly security report).
 - Monthly reports of guarding support services contractors.
- Hosting:
 - Facility Maintenance Support contract, monthly reports from facilities management providers.
 - Records of GSF maintenance.

²⁰ Regarding CONFIDENTIEL UE/EU CONFIDENTIAL or SECRET UE/EU SECRET.



Objective 4	Management processes (WBS 4.06.04)		
Expected Results	<p>Management of the organisation & communication:</p> <ul style="list-style-type: none"> • Define the GSMC strategy and the objective/s to be implemented by the GSMC. • Prepare and implement the GSMC operations by scheduling the milestones and their main activities in order to provide a long-term global overview to steer the GSMC activities. • Coordinate the activities within the teams and between teams through regular team meetings and follow-up of actions. • Provide an overview of the GSMC internal communication (top-down and bottom-up approaches) and how the teams are organised and interact together. • Ensure the development and ongoing implementation of project management processes, methodologies, tools and reporting <p>Integrated Management System:</p> <ul style="list-style-type: none"> • Monitor the integrated Management System. • Ensure the GSMC meets the standard requirements and the processes are documented, monitored and audited • Ensure that the documents are drawn up and managed in accordance with the principles of the Integrated Management System. <p>Risk and business continuity and disaster management:</p> <ul style="list-style-type: none"> • Risk Management: identify potential risks that could impact the proper functioning of the Galileo Programme and undertake the relevant actions in order to mitigate them. • Business continuity and disaster: Ensure the GSMC services availability and continuity event in a reduced functionality mode, in case of a service breach. <p>Health and safety management: Define and describe the GSMC responsibilities and polices in the matter of Health and Safety at work, provide and maintain a safe work environment for GSMC staff members, visitors and contractors.</p> <p>Resolution & continuous improvement management:</p> <ul style="list-style-type: none"> • System improvement (hosting + GSF): Development of GSMC systems in line with the Galileo evolutions and ESA. • Resolution management: Identify and deal with potential events that could impact the proper functioning of the GSMC and undertake the relevant actions in order to correct and/or prevent them through Anomaly Review Boards. • Service Improvement: Development of GSMC services in line with the evolution of the service description document and the service implementation plan. 		
	Status	All operational activities continue from the last financial year.	
Indicators	Result 2015	Target 2017	Means & frequency of verification
Management Of The Organisation & Communication			
• % Milestones Achievement start	N/A	100%	Reporting on a monthly basis to GSMC management and on a quarterly basis to Agency management.
• Number of tasks opened/completed	204/280	N/A	
• Number of projects in portfolio, with how many new and how many completed ones in reporting period.	N/A	N/A	
Integrated Management System:			
• No. of performed audit/planned	100%	100%	Reporting on a quarterly basis to GSA Quality Management
• ISO 9001 compliance status	ISO 9001 certified	ISO 9001 certified	
Health & Safety Management			

• Update of the DUER	Once during the year	Once during the year	Reporting on a monthly basis to Agency management
• % Plan de prevention with key contractors	100%	100%	
Risk And Business Continuity And Disaster Management			<ul style="list-style-type: none"> Reporting on a monthly basis to GSMC Management Implementation and follow up in progress
• Number of risks under management.	18	In Progress	
• Average criticality score	12		
• % completed actions	N/A		
Resolution & Continuous Improvement Management			
• Time to resolve an incident	Not started	In Progress	
• Response time to incidents and anomalies at GSMC	Not started		
• Average time to close anomalies and evolutions	128 days		

Outputs relating to the multi-annual work programme objectives:

- Management of the organisation & communication: Reporting on the progress of the GSMC activities (achievement of milestones), periodically report on local security operations and engineering processes status, Action/Task completion and closure.
- Integrated management system: ISO 9001 certification.
- Health & safety management: Document Unique d'Évaluations des Risques professionnels, Plan de prévention (according to the French regulation).
- Risk & business continuity disaster management:
 - Risks are monitored and controlled.
 - A first overall GSMC Business Continuity Plan and organisation setup in by Q2 2017 (based on GSF P2.0).
 - Annual audit/review of the Business Continuity Plan.
- Resolution and continuous improvement: Resolution of the reported anomaly/incident, proposal for changes to the GSMC service baseline, evolution roadmap.

Objective 5	Administrative processes (WBS 4.06.05)
Expected Results	<ul style="list-style-type: none"> • Human Resources Management <ul style="list-style-type: none"> ○ Core Training (GSA) ○ Standby Officer Management ○ Certification Management: Ensure the appropriate certification of the staff (PRS Access Officer, Security Incident Handler, etc.) on time



	<ul style="list-style-type: none"> ○ GSMC specific training: Ensure that GSMC staff is well-trained on the specific fields ● Financial and Cost Management ● Legal Management ● Procurement Management <p>The Agency has a number of administrative processes that support the workings of its GSMC. Most of these are common for the entire Agency but some are GSMC specific.</p>
Status	All operational activities continue from the last financial year.
Indicators	Result 2015 Target 2017 Means & frequency of verification
Human Resources Management: % success rate of training (certification)	N/A TBD Monthly report

Outputs relating to the multi-annual work programme objectives:

- Human resources management: Operators' Certificates.

III.02.03.03 Resources

Human Resources

	2016	2017	2018	2019	2020
TA	19	22	22	22	22
CA, SNE	13	13	13	13	13
Total	32	35	35	35	35

Financial Resources

The GSMC has been allocated around 3 500 000 EUR per year for its operational core budget till 2018.

The main evolutions from previous years are:

- GSMC operational core budget is reduced in 2017, following a negotiation with the Commission to agree which part of it may be considered as covering delegated tasks (and which will therefore be funded with delegated budget). The result of this iteration was a transfer of 300 000 EUR from the GSMC core budget to GSMC delegated budget 2017, in relation to GSMC engineering activities supporting the preliminary design of GSF evolutions;
- The GSMC Operations Engineering processes should remain stable at a level of around 3 200 000 EUR per year. This will support the progressive deployment of GSMC capabilities which



are currently planned up to 2020. In particular in 2017, the GSMC will face the integration into operations of two major releases of GSMC equipment²¹

- The GSMC Operations processes will evolve significantly in 2019 in the perspective of the end of the Galileo FOC deployment and service delivery enforcement, to reinforce the support needed for the monitoring of the security and health status of the Galileo system, including the capability to react to all security incidents and associated technological surveillance;

The GSMC Management processes require a permanent and strong support on Quality Management for the GSMC which should be stable²² from 2017 at around 420 000 EUR per year.

Further detailed budget breakdown is available in Annex II.

III.02.04 PROMOTION AND MARKETING OF THE SERVICES (WBS 5.02, 5.03, 1.03.01)

III.02.04.01 Overview of the Activity

The Agency will intensify its efforts to stimulate the demand for Galileo in the user communities following the declaration of Galileo Initial Services in 2016. In this respect, the Agency will continue to engage the entire value chain and the main user communities to keep them committed to roadmaps towards Galileo adoption.

Some specific market segments, such as road, rail and maritime, will require a specific effort especially due to milestones expected to be reached in 2017-2020, e.g. the launch of eCall operations, the launch of the return link service of SAR and updated safety requirements for GNSS use in rail.

The main areas of activities are:

- In every vertical market segment (i.e. aviation, road, rail, maritime, etc.):
 1. Engage with users and decision makers, progressing with the implementation of E-GNSS adoption roadmaps.
 2. Engage with key actors in the value chain.
 3. Support the Commission with the on-going E-GNSS related regulatory applications and new upcoming legislative initiatives.

²¹ GSF (Galileo Security Facility) in versions P2.0 and P2.1.

²² Without indexation of 2% increase considered for the following years

4. Maintain and improve the support provided to stakeholders and users in priority markets to ensure continuous growth of EGNOS adoption.
- Horizontally:
 1. Continue to translate user needs into requirements and inputs for Galileo and EGNOS service development with careful monitoring of the user communities and emerging trends in complementary and substitute technologies.
 2. Manage, in cooperation with the Commission, the User Consultation Groups by application area.
 3. Continue to provide market and technology monitoring, including socio-economic benefits and cost benefit analysis as main tools to drive strategic decisions.
 4. Support the integration of EGNSS in receivers in key market segments.
 5. Conduct a user satisfaction survey for EGNOS and implement a similar process for Galileo, enabling the improvement of the user service experience.
 6. Leverage the GNSS Service Centre (GSC), which is being developed and managed under delegation, as a key user interface and Galileo differentiator.
 7. Provide support to WG Evolution, representing the perspective of users and industry.



III.02.04.02 Objectives, Indicators, expected outcomes and outputs

Objective 1	EGNSS Market development in Aviation (WBS 5.02.03 and 5.03.03)		
Expected Results	<ul style="list-style-type: none"> • Market monitoring analysis and forecasting • Technology monitoring • Segment user relationship management, including user needs definition and update • Technical support and feasibility assessment to airports/heliports and Air Navigation Service Providers on LPV/LPV 200 implementation, with priority on those affected by the future performance based navigation implementation in the European Air-Traffic Management Network regulation • Operational framework for EGNOS based operations introduction in rotorcraft defined. • EGNOS/Galileo added value for surveillance and roadmap for adoption defined • EGNOS/Galileo added value for drones and roadmap for adoption defined • Beacon manufacturers ready to introduce Galileo SAR • EGNOS user satisfaction survey completed 		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Use of Market Report (Aviation)	20 000	25 000 downloads	Annual number of downloads of market report including specific segments chapters.
Availability of updated information on penetration of Galileo and EGNOS in receiver models available globally	100%	100%	Annual report on penetration.
User needs consulted with the respective user fora	N/A	100%	Annual organised session on user needs by sub-segment
EGNOS based approaches designed	350	450	Number of approaches designed
Demonstration of the added value of EGNSS for Unmanned Aerial Vehicles	N/A	50%	Progress of report
Entry plan for EGNSS adoption in surveillance	N/A	100 %	Entry plan for EGNSS adoption in surveillance delivered
Galileo Return Link Service introduced in aviation SAR beacons	N/A	20%	% of completion of the development of the first aviation SAR beacon that includes the Galileo Return Link Service.
Annual EGNOS User Satisfaction survey	Survey results available	100%	Annual report on survey

Outputs relating to the multi-annual work programme objectives:

- Market Report – Aviation chapter
- Report on Galileo and EGNOS penetration in avionics
- User requirements' update – limited to the report by the User Consultation Platform (UCP)
- EGNOS approach procedures

- SAR beacon including Galileo RLS partially developed
- Results of User Satisfaction surveys

Objective 2	EGNSS Market development in Road (WBS 5.02.04 and 5.03.04)		
Expected Results	<ul style="list-style-type: none"> • Market monitoring analysis and forecasting in the area of road transportation • Technology monitoring in the area of road transportation • Segment user relationship management, including user needs definition and update • Technical support (including standards and pre-testing) to eCall industry for EGNSS adoption, in cooperation with the Joint Research Centre • Initiation of the Commission's Cooperative-Intelligent Transport System (ITS) Master plan²³, implementing the parts related to EGNSS • Analysis of the standardisation/certification process implementation for EGNSS in Autonomous Vehicles. • Initiation of the market uptake of EGNSS in "Mobility as a Service" (MaaS) applications 		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Use of Market Report (Road)	20 000	25 000 downloads	Annual number of downloads of market report including specific segments chapters.
Availability of updated information on penetration of Galileo and EGNOS in available receiver models globally	100 %	100%	Annual report on penetration.
User needs consulted within the respective user forum	N/A	100%	Annual organised session on user needs by sub-segment.
eCall receiver models tested	N/A	4	Number of receiver models tested.
Galileo adoption in Road receivers	N/A	55%	% of models with Galileo capability
Roadmap for adoption in Cooperative-ITS	N/A	50%	% of actions within the roadmap designed
Roadmap for EGNSS standardisation and certification process in Autonomous Vehicles	N/A	100%	Roadmap designed
Entry plan for EGNSS adoption in "Mobility as a Service" (MaaS) applications	N/A	50%	% of entry plan designed
Design a test plan for Digital Tachograph	N/A	50%	% of test methods agreed with JRC

Outputs relating to the multi-annual work programme objectives:

- Market report – Road chapter

²³ The master plan can be found online on the Commission's website at: http://ec.europa.eu/smart-regulation/roadmaps/docs/2016_move_040_cooperative_intelligent_transport_en.pdf

- Report on Galileo penetration in receivers and chipsets models in Road
- Updated user requirements – limited to the report by the User Consultation Platform (UCP)
- Analysis of results of the testing campaigns
- Adoption roadmaps
- Entry plan

Objective 3	EGNSS Market development in Maritime (WBS 5.02.05 and 5.03.05)		
Expected Results	<ul style="list-style-type: none"> • Market monitoring analysis and forecasting in the area of Maritime • Technology monitoring in the area of Maritime • Segment user relationship management, including user needs definition and update • Submission to the International Maritime Organisation of the request for the recognition of EGNOS as part of the Worldwide Radio Navigation System • Main beacon manufacturers implementing the SAR return link 		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Use of Market Report (Maritime)	20 000	25 000 downloads	Annual number of downloads of market report including specific segments chapters.
Availability of updated info of penetration of Galileo and EGNOS in available receiver models globally	100 %	100%	Annual report on penetration.
User needs consulted within User Forum	3 forums organised	100%	Organised session on user needs, annual
Request for agenda item in the International Maritime Organisation biannual plan 2018-2019 for the recognition of EGNOS as part of the Worldwide Radio Navigation System.	N/A	100%	Agenda item requested
Galileo Return Link Service introduced in maritime SAR beacons	N/A	30%	% of completion of the development of the first maritime SAR beacon including Galileo RLS.

Outputs relating to the multi-annual work programme objectives:

- Market Report – Maritime chapter.
- Report on Galileo and EGNOS penetration in receivers and chipsets in Maritime.
- Updated user requirements – limited to the report by the User Consultation Platform (UCP)
- Materials from International Maritime Organisation meetings.
- Results of receiver manufacturer/ beacon manufacture survey.
- SAR beacon including Galileo Return Link Service partially developed.



Objective 4	EGNSS Market development in Rail (WBS 5.02.06 and 5.03.06)		
Expected Results	<ul style="list-style-type: none"> • Market monitoring analysis and forecasting in the area of Rail. • Technology monitoring in the area of Rail. • Segment user relationship management, including user needs definition and update. • Definition of final user requirements for EGNSS safety relevant applications. • Implementation of the rail certification roadmap. 		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Use of Market Report (Rail chapter)	20 000	25 000 downloads	Annual number of downloads of market report including specific segments chapters.
Availability of updated info of penetration of Galileo and EGNOS in available receiver models globally	100%	100%	Annual report on penetration.
User needs consulted within User Forum	N/A	100%	Annual organised session on user needs.
Results of EGNOS performance tests endorsed by majority of European rail signalling supplier community	N/A	40%	Share of rail signalling suppliers endorsing EGNOS tests.
Implementation of certification roadmap	N/A	10%	% of actions completed.

Outputs relating to the multi-annual work programme objectives:

- Market Report – Rail chapter
- Report on Galileo and EGNOS penetration in receivers and chipsets in Rail
- Partially implemented roadmap.
- Updated user requirements – limited to the report by the User Consultation Platform (UCP)
- Performance tests report



Objective 5	EGNSS Market development in High Precision Market Agriculture and Surveying (WBS 5.02.01, 5.03.01, 5.02.02 and 5.03.02)		
Expected Results	<ul style="list-style-type: none"> • Market monitoring analysis and forecasting in the area of Agriculture • Technology monitoring in the area of High Precision Market Agriculture/Surveying • High Precision, Agriculture and Surveying market segment relevant actions implementation • Segment user relationship management, including user needs definition and update • Increased Galileo and EGNOS penetration in the Agriculture professional receivers and chipsets • Support the EGNSS adoption by dedicated awards for innovative ways of EGNSS integration in High Precision, Agriculture/Surveying applications • Analysis of synergies with Copernicus • Initialise the procedure to implement the Commercial Service provision approach • Define and implement mechanisms to support the Galileo upgrade in private and public reference networks 		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Use of Market Report (High Precision Agriculture/Surveying chapter)	20 000	25 000 downloads	Annual number of downloads of market report including specific segments chapters.
Availability of updated info of penetration of E-GNSS in number of receiver models available globally	100%	100%	Annual report on penetration.
Conduct regular user fora	100%	100%	Annual report on user fora.
Galileo adoption in High Precision Agriculture/Surveying professional receivers and chipsets	44%	50%	Annual percentage of models with Galileo capability.
Dedicated awards for E-GNSS adoption by innovative contributions to integration of E-GNSS in High Precision Agriculture/Surveying applications and/or devices	100%	100%	Report on prize awarding ceremony to sector-specific winner
Analysis of E-GNSS-Copernicus synergies	0%	100%	Annual report on E-GNSS-Copernicus synergies
Selection of the CS service provider	0%	30%	% of completion of selection procedure.
Definition and implementation plan to support the Galileo upgrade based on private and public reference networks	0	3	Upgraded reference network.

Outputs relating to the multi-annual work programme objectives:

- Market Report (Agriculture & Surveying chapters)
- Report on Galileo and EGNOS penetration in receivers and chipsets in Agriculture & Surveying
- Updated user requirements – limited to the report by the User Consultation Platform (UCP)

- Adoption roadmap implementation status
- Materials from awarded prizes
- Report analysing the synergies with Copernicus, including recommended actions
- Consolidated roadmap for the service provision approach
- Implementation plan for Galileo update in the reference networks

Objective 6	EGNSS Market development in Location Based Services (LBS), Machine-to-machine (M2M) and other Mass Market (WBS 5.02.07 and 5.03.07)		
Expected Results	<ul style="list-style-type: none"> • Market monitoring analysis and forecasting in the area of LBS • Technology monitoring in the area of LBS • Segment user relationship management, including user needs definition and update • Increased Galileo penetration in mass market chipsets and consumer devices 		
Status	Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Use of Market Report (LBS chapter)	20 000	25 000 downloads	Annual number of downloads of market report including specific segments chapters.
Availability of updated info about penetration of Galileo and EGNOS in receiver models available globally	100%	100%	Annual report on penetration.
User needs consulted within User Consultation Group	N/A	100%	Annual report on user needs approved by the UCG.
Galileo adoption in mass market chipsets	40%	50%	Annual report of percentage of models with Galileo capability
Number of Galileo-ready smartphones	0	5	Annual report on penetration

Outputs relating to the multi-annual work programme objectives:

- Market Report LBS chapter
- Report on Galileo and EGNOS penetration in receivers and chipsets in mass market
- Updated user requirements – limited to the report by the User Consultation Platform (UCP)
- Adoption roadmap implementation status

Objective 7	EGNSS Market development in Timing and Synchronisation (T&S) (WBS 5.02.08 and 5.03.08)		
Expected Results	<ul style="list-style-type: none"> • Market monitoring analysis and forecasting in the area of Timing and Synchronisation • Technology monitoring in the area of Timing and Synchronisation • Segment user relationship management, including user needs definition and update • Support the Commission in the regulatory action for Galileo adoption in critical infrastructures 		

Status		Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification	
Use of Market Report (Timing and Synchronisation chapter)	20 000	25 000 downloads	Annual number of downloads of market report including specific segments chapters.	
Availability of updated info of penetration of Galileo and EGNOS in number of receiver models available globally	100%	100%	Annual report on penetration.	
User needs consulted within User Consultation Group	N/A	100%	Annual report on user needs approved by UCG.	
Availability of necessary information and dissemination to support the Commission decision	0%	50%	% of actions completed.	

Outputs relating to the multi-annual work programme objectives:

- Market Report (Timing and Synchronisation chapter)
- Report on Galileo and EGNOS penetration in receivers and chipsets in Timing and Synchronisation
- Updated user requirements – limited to the report by the User Consultation Platform (UCP)
- Supporting materials delivered to EC with regards to Galileo in Timing and Synchronisation

Objective 8		EGNSS Market development in Governmental (WBS 5.02.09 and 5.03.09)		
Expected Results	<ul style="list-style-type: none"> • Market monitoring analysis and forecasting in the area of Governmental use • Technology monitoring in the area of Governmental use • Delivery of necessary information in support of the Member States in the promotion of Galileo PRS Initial Services in their users communities and promotion of Galileo PRS following CPAs consultations 			
Status		Objective continues from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification	
Availability of updated info of potential penetration of Galileo PRS.	100%	100%	Annual report on penetration.	
Conclusion of the consultations and aggregate report communicated to CPAs	Consultations were on-going	100%	Aggregate report communicated to CPAs	
Implemented action from CPAs consultation	N/A	10%	% of action plan completed.	

Outputs relating to the multi-annual work programme objectives:

- Report on Galileo and EGNOS penetration in receivers and chipsets in Governmental

- Materials from CPA consultations, agreed plan and list of actions

Objective 9	Services, Applications and R&D Communications (WBS 1.03.01)		
Expected Results	<p>Communications activities related to EGNOS and Galileo services, applications and related to research and development comprise the following items:</p> <ul style="list-style-type: none"> • Increased awareness of EGNOS, its high performance and many benefits. • EGNOS positioned as a successful step in the evolution of European GNSS and as a confidence builder for Galileo. • Increased awareness and understanding of EGNOS and Galileo as a useful feature and enabling technology for application developers, in particular those requiring more precise and reliable PNT information. • Strengthened communications with user networks and communities. • Increased awareness amongst innovative enterprises, with a focus on SMEs, who can benefit from leveraging EGNOS and Galileo in their application product/service or can increase the functionality within their existing applications by enabling it with EGNSS functionality • Increased awareness of the Galileo programme, its role within the global multi-constellation satellite navigation system, and the benefits of “Galileo Initial Services” when available. 		
Status	Objectives evolve and continue from last financial year		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Implementation of the Annual Communications Plan	100%	100%	Quarterly Report

Outputs relating to the multi-annual work programme objectives:

- Website creation, maintenance and management
- Social media campaigns
- Production of publications
- Video production of the final product
- Event creation, participation and management (exhibition creation, advertising, promotion and presentation)
- Media, public relations and stakeholder initiatives
- Newsletter production and distribution
- Feedback surveys and studies



III.02.04.03 Resources

Human Resources

Area of activity	2016	2017	2018	2019	2020
TA	6	6	6	6	6
CA, SNE	4	4	4	4	4
Total	10	10	10	10	10

Financial Resources

Tasks	2017 BUDGET (EUR)	Ref. Objective(s)
EGNSS user segment and market development in Transport (Aviation, Road, Rail, Maritime)	600 000	1, 2, 3, 4
E EGNSS user segment and market development in high precision (Agriculture, Surveying, Timing and Governmental users)	400 000	5, 7, 8
EGNSS user segment and market development in mass market	200 000	6
Market monitoring, user management and technology monitoring, including cooperation with receiver manufacturers	640 000	1 to 8
Web site content and management	375 000	9
Total	2 215 000	

III.02.05 AGENCY MANAGEMENT (WBS 1)

The Agency finances support services out of Title 1 or Title 2 of the Agency's budget; these therefore do not need a separate financing decision as they are covered by administrative autonomy. This part of section III is not part of the Agency's financing decision.

III.02.05.01 Overview of the Activity

This activity supports the Agency's core (and delegated) mission by providing state-of-the-art services to all operations in the areas of legal, procurement, grants, contracts, finance and budget, human resources management, IT and logistics.

III.02.05.02 Objectives, Indicators, expected outcomes and outputs

The specific objectives for this activity are transversal support to the Agency's core and delegated activities to enable higher level strategic and multiannual objectives to be reached.

Objective 1	Legal, Procurement, Grants and Contract Management (WBS 1.01.02)		
Expected Results	<ul style="list-style-type: none"> • Procurement management— planning, preparation, execution of procurement file up to the signature of legal commitment • Grant management — planning, preparation, execution of grant file up to the signature of legal commitment • Legal commitments management – drafting, negotiation, signature, amendment, assignment and other support throughout the lifetime of a legal commitment • Legal advisory services – identification, verification, assessment and provision of legal opinions 		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Procurement and contract award: % of contracts in place on time (i.e. avoiding gaps on needs, generating a lack in the continuation of activities)	N/A	90 %	Monthly report
Legal advice: Internal customer satisfaction	N/A	No objective value is foreseen	Customer feedback during yearly meetings (assessment of performance will be based on qualitative feedback from stakeholders)
Contract management: % of exceptions compared to total number of contracts signed in a year	N/A	To reach less than 5%	Customer feedback (yearly meetings)

Other outputs:

- Legal opinions

- Administrative Board related documentation (incl. decisions)
- Security Accreditation Board documentation (incl. decisions)
- Executive Director documentation (incl. decisions, letters, guidelines)
- Policies
- Court case related documents
- Procurements / call for proposals related documentation
- Legal commitments (contracts, agreements, confidentiality agreements, IPR licences, memoranda of understanding, etc.)
- Institutional agreements (delegation agreements, working arrangements, regulatory documents)
- Reporting (on procurement, grants, contracts on core and delegated tasks)

Objective 2	People and Talent Management (WBS 1.01.03)		
Expected Results	<ul style="list-style-type: none"> • Selection, Recruitment and on-boarding: selection, recruitment and on-boarding of the most suitable candidate for each vacant post in accordance with applicable requirements and staff regulations. • Welcome/work-life balance features • Staff administration and services: establishment of individual rights ensuring that each staff member has a complete formal record and receives the correct entitlements due to him/her. • Staff performance • Learning and staff development • Human resources management 		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2017	Means & frequency of verification
% execution of the Establishment Plan	98%	95%	Regular recording and monitoring
Average throughput time of the recruitment process	4 months	<=5 months	Regular recording and calculation
% of timely submitted PMO forms	100%	100%	Payroll
Staff Absenteeism	3.5%	<=4%	Regular recording and calculation
Average rating of quality of training	9.5	>8	Feedback request forms
% of appraisal exercises that are timely executed	51.8%	90%	Report

Other outputs:

- Agency's social events
- Proposal and communication of action plans for specific, non-regular exercises
- Provision of quality advice to individual inquiries

Objective 3	Finance and Budget Management (WBS 1.01.04)		
Expected Results	<p>Budgeting and regular financial management: budgeting, monitoring and reporting on budget execution levels to all internal and external clients; daily management of financial transactions for the Agency; reporting to the European Commission on the financial management of Delegation Agreements (quarterly and annually) and cash management of all Delegation Agreements; cash flow status (twice a year) and cash management of the EU subsidy; management of the VAT exemption for all Agency sites and personal VAT reimbursement for Prague-based staff; general finance and VAT specific training on EU specific financial procedures; management of Paperless tool.</p> <p>Grants administration and control: support in call preparation, management of grant agreements, amendments and payments, reporting; detailed ex-ante verification of all grants payments in line with European Court of Auditors' recommendations; management of external experts in relation to evaluation of grants calls and supervision and review of deliverables produced by beneficiaries of EU grants that the Agency manages; drafting of policies on ex-ante and ex-post checks for grants and on expert rules; ex-post controls of grant payments; reporting to the Commission and to internal clients on grants execution and cash flow needs.</p>		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2017	Means & frequency of verification
End-of-year commitment rate	100%	95% - 100%	
Rate of carry-over on Title II	42%	35%	
Payments on time	95%	95%	Monthly reports
Amount of late payment interest	21 872 EUR	< 25 000 EUR	Monthly reports
Number of transfers > 10%	0	Max 1	

Other outputs:

- Monthly financial reporting;
- Draft budget document;
- Official budget documents and their amendments for publication in the Official Journal;
- Annual Budget Implementation Report;
- VAT exemption certificates and reimbursement claims;
- Quarterly and annual financial reports for delegated budget.

Objective 4	Information and Communication Technology (WBS 1.01.05)		
Expected Results	<p>The Agency's Information and Communication Technology (ICT) needs are split along three fundamental lines:</p> <ul style="list-style-type: none"> • Systems Management to ensure that all ICT systems operate within optimal parameters, are reliable and available to Agency users as required. • User Management to ensure the appropriate provision of technical assistance and support related to ICT. • Project Management of all internal IT projects according to the Agency's needs. 		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2017	Means & frequency of verification

Tickets completed under 24h	N/A	90% ²⁴	Quarterly quality compliance reports. Current statistics can be checked in real-time in the ticketing tool.
Tickets completed 1-5 days	N/A	10%	Quarterly quality compliance reports. Current statistics can be checked in real-time in the ticketing tool.

There are no outputs relating to multi-annual work programme objectives.

Other outputs:

- Implementation of requested changes (systems management)
- Execution and control of IT projects (following PRINCE2 project management methodology)
- Agency staff's exit management processed by Helpdesk in Staff Movement List
- Confirmation of receipt of Agency equipment (after exit of staff)
- Closure of tickets

Objective 5	Facility Management and Logistics (WBS 1.01.06)
Expected Results	All activities related to facility management and logistics are on-going year after year. The Agency does not foresee any specific activity for 2017. <ul style="list-style-type: none"> • Timely facility management and logistical support to internal customers • Accurate asset and inventory management • Timely building management.
Status	This activity continues from the last financial year.

There are no specific indicators for this objective, nor are there outputs that relate to multi-annual work programme objectives.

Other outputs:

- Activity report for building maintenance
- Execution report for supervisor for services such as cleaning services

²⁴ This target is indicative as of time of writing and these numbers are just for reference. Actual data will be analysed for around 6-9 months and new realistic targets will be implemented. These will be documented in the final Single Programming Document later in 2016.

- Specific feedback to the requesting party as part of the escalation procedure for reception services, building management, etc.
- Updated records of solutions found, or information provided to internal customers, to procurement officers or to contract managers
- Monthly report based on the ticketing tool outputs
- Yearly Facility Management satisfaction survey
- Monthly cleaning quality report for supplier's internal control.
- Updated inventory system based upon movement and inventory checks.

Objective 6	Administrative Board Management (WBS 1.01.07)		
Expected Results	In line with the Agency's regulation and the Rules of Procedure for the Administrative Board, the Agency intends to hold a minimum of two scheduled meetings for its Administrative Board in 2017. The Agency will also provide the necessary secretariat to the Board over the course of the year.		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Organised Board meetings	3	2	Calendar of Board meetings
Completed written procedures	27	N/A	Workload monitoring

There are no outputs relating to multi-annual work programme objectives.

Other outputs:

- Agenda and minutes of each meeting
- Board Decisions, including written procedures.

Objective 7	Configuration and Document Management (WBS 1.01.08)		
Expected Results	Continued smooth implementation of an Enterprise Content Management system that supports the Agency, particularly in the field of configuration management related to engineering functions.		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Enterprise Content Management System	N/A	95 %	Periodic reporting to the Document Management Board
Policies, processes and procedures	N/A	100 %	All policies, processes and procedures

For this activity, there are no outputs that relate to multi-annual work programme objectives.

Other outputs:

- Enterprise Content Management System
- Relevant policies, processes and procedures
- Training materials

Objective 8	Strategic Planning (WBS 1.02.01)		
Expected Results	The Agency's strategic planning function is a combination of several activities that are required to support the management team and, indirectly, the Administrative Board. In particular, this focuses on the management of delegation agreements and working arrangements between the Agency and the Commission or the European Space Agency respectively; implementing its Administrative Board's decisions; preparing the relevant programming documents and their corresponding reporting; ensuring that the appropriate resources are provided to the SAB, and implementing the relevant internal controls to protect the Union's financial interests		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Management of delegation agreements and working arrangements	N/A	Ongoing	Reporting to Administrative Board
Implementation of Board decisions	As per schedule	Ongoing	Reporting to Administrative Board

Other outputs:

- Administrative Board decisions
- Single Programming Document
- Annual Activity Report
- Internal Audit Report

Objective 9	Quality and IMS (WBS 1.02.02)		
Expected Results	Appropriate Quality Management and the related ISO 9001 certification of the Agency, the development of an Integrated Management System (IMS) for other standards that the Agency intends to be certified against in future, and the development of Product Assurance and Quality Assurance Reliability, Availability, Maintainability and Safety (RAMS) activities within the Galileo Operations.		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Progress of Quality Audit implementation	100%	90%	% of audit reports available as per audit plan, monthly tracking
Closure rate of actions in the Continuous Improvement database	60%	70%	Open, closed and overdue items, monthly tracking

Outputs relating to the multi-annual work programme objectives:



- Annual Quality Audit Plan & Quality Audit Reports
- Quality Management Review
- Continuous Improvement Database, including suggestions for improvements & non-conformances
- Quality Indicator Reports, training materials
- IMS document libraries (including policies, processes, procedures & work instructions)
- Product Assurance and Quality Assurance RAMS requirements & follow-up

Other outputs:

- Best-practice approaches (WBS, WPD, Business Process Management)
- Staff training sessions related to Quality & IMS

Objective 10	Internal Control and Risk Management (WBS 1.04.02)		
Expected Results	The Agency's Internal Control Coordination activities and its risk management activities are on-going tasks which help it fulfil its statutory obligations. These include:		
	<ul style="list-style-type: none"> • Liaising with, and reporting to, the Internal Audit Service and with internal and external stakeholders on internal control issues. • Evaluating the compliance and effectiveness of the internal control strategy and related systems of the organisation by assessing the implementation of the 16 internal control standards • Issuing an annual report for the Administrative Board on the follow up of all open recommendations and action plans (from the Internal Audit Service, the Court of Auditors and the Parliament's discharge) • Coordinating the Agency's Internal Audit Capability in the preparation, execution, reporting and monitoring related to audit activities. • Managing and reporting on all actions related to the Gifts and Hospitality Policy, including the gifts registry. • Managing all actions in relation to the Agency's Anti-Fraud Strategy • Assessing the requirements for the development of, and implementing, a Conflict of Interest policy. • Execute a Business Continuity gap analysis • Proposing and developing a complementary risk management function at corporate level. 		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2017	Means & frequency of verification
Conflict of Interest cases timely handled, documented and monitored.	N/A	100%	Continuous activity (end of year)
Key elements of the Anti-Fraud strategy defined and implemented.	N/A	75%	Continuous activity (end of year)
Risk Management framework defined and implemented	N/A	100%	Implementation report on Risk Management framework



Other outputs:

- Internal Audit Capability audit report
- Internal Audit Service audit report
- Declarations of Assurance
- Internal Control Standards compliance report
- Gifts and Conflict of Interest Registries
- Risk Management policy and registry
- Business Continuity Plan

Objective 11	Corporate Communications (WBS 1.03.02)		
Expected Results	<ul style="list-style-type: none"> • Strengthened and recognised 'corporate' identity for the Agency • Enhanced awareness of the Agency and understanding of its mission, vision and values • Increased awareness of the Agency Work Programme and achievements • Consolidated and strengthened relationships with key European and international players in the Space sector in general, and key GNSS user communities in particular • Strategic partnerships built/strengthened • Increased awareness and appreciation for the Agency's work within Member States 		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2016	Means & frequency of verification
Implementation of Annual Communications Plan	100%	100%	Quarterly Report

Other outputs

- Website creation, maintenance and management
- Social media campaigns
- Production and dissemination of publications
- Video production and dissemination
- Event creation, participation and management (exhibition creation, advertising, promotion and presentation)
- Media, public and stakeholder relations initiatives
- Newsletters production and distribution
- Feedback surveys and studies

Objective 12	Internal Communications (WBS 1.03.03)
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Expected Results	<p>The Agency uses internal communications to empower its staff and to ensure that everyone can stay 'on message'. This objective is meant to:</p> <ul style="list-style-type: none"> • Foster a culture of positive team spirit and customer service • Promote better staff understanding and awareness of the Agency's mission, the team and objectives • Enable the staff to project a correct and consistent message to the outside world to promote the awareness of the Agency's key messages • Enable staff to serve as "Communication Ambassadors" • Improve the working environment by increasing communication flow across departments and by enhancing information sharing 		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2016	Means & frequency of verification
Implementation of Annual Communications Plan	100%	100 %	Quarterly Report

Other outputs

- Event creation, participation and management
- Newsletters production and distribution
- Feedback surveys and studies

Objective 13	Stakeholder Liaison and Communications (WBS 1.03.04)		
Expected Results	<p>The Agency dedicates resources to maintaining and improving stakeholder liaison and communications. In 2017, it will:</p> <ul style="list-style-type: none"> • Increase dialogue and strategic partnerships that fulfil goals it shares with these key stakeholders • Enhance positive and open working relationships, information exchange, communications and liaison • Increase its visibility, and increase appreciation for its work and its role in the European GNSS Programmes • Build trust and engage stakeholders as partners who can multiply and feedback key information, participating actively in the work and success of the Agency • Better awareness amongst key stakeholders of the Agency's vision, mission and what is need to fully accomplish its aims • Increase understanding and appreciation for the work and needs of the Agency, especially amongst the European Commission, DG GROW colleagues, members of the Administrative Board and relevant members of the Parliament. 		
Status	This activity continues from the last financial year.		
Indicators	Result 2015	Target 2016	Means & frequency of verification
Implementation of the Annual Communications Plan	100%	100%	Quarterly Report

Outputs

- Website creation, maintenance and management

- Social media campaigns
- Production and dissemination of publications
- Video production and dissemination
- Event creation, participation and management (exhibition creation, advertising, promotion and presentation)
- Media and public relations initiatives
- Newsletters production and distribution
- Feedback surveys and studies

Objective 14	Agency transversal security (WBS 2.02.01)			
Expected Results	<ul style="list-style-type: none"> • Management of authorisations to access EU Confidential Information (EUCI) • Management and maintenance of COMSEC accounts held by the Agency • Issuing Security Incident reports • Maintenance of records of entries/exits to Secured Areas • Issuing of Security Intervention Reports • EUCI data pack delivery • Accreditation Statements for internal systems to be signed by the System Accreditation Authority 			
Status	New objective ²⁵			
Indicators	Result 2015	Target 2017	Means & frequency of verification	
Compliance to Commission Decisions 2015/444 and 2015/443	N/A	100%	Yearly basis Ad-hoc external inspections and audits	

Outputs:

- Authorisations to access EUCI
- Security Incident reports
- Records of entries/exits to Secured Areas
- Security Intervention Reports
- EUCI data pack delivery
- COMSEC transfers and transportations
- Policy governance and authorisation of GSMC Operational COMSEC activities as defined in GSMC Operations and Preparation Objective 3.

²⁵ This objective used to be performed as a Security task that was financed under Title 3 up till 2016. Now that the activity is an administrative one, it is financed under title 2. The reference to the objective being “New” refers to this change in funding.

- Internal System Accreditation Statements to be signed by the System Accreditation Authority

Objective 15	Accreditation Panel of Internal Systems (WBS 2.05.06)		
Expected Results	To organise the accreditation review of internal Agency systems/areas and report to the Agency's SAA accordingly		
Status	New objective		
Indicators	Latest Result	Target 2017	Means & frequency of verification
Number of internal accreditation reviews	11	8	Internal Accreditation Control List

Outputs relating to the multi-annual work programme objectives:

- Security Accreditation Report
- Recommendations to the SAA
- SAA decision / Authorisation to operate Agency areas/systems

III.02.03.03 Resources

Human Resources

For this activity, the Agency notes a distinction between its management and its support staff.

Area of activity	2016	2017	2018	2019	2020
Agency Management					
TA	7	7	7	7	7
CA, SNE	7	7	7	7	7
Total	14	14	14	14	14
General Administration					
TA	9	9	9	9	9
CA, SNE	13	13	13	13	13
Total	22	22	22	22	22

Financial Resources

The Agency does not finance this activity out of Title 3 of the Agency's budget. Further information about Titles 1 and 2 of the budget is available in Annex II, Table 1.

Annexes

Annex I: Resource allocation per Activity (2017 – 2020)

The Agency's activities are complemented by a large number of tasks delegated by the Commission. The table below shows the staff allocated to the Agency's core tasks and to the delegated tasks.

	Area of activity	2016	2017	2018	2019	2020
Core Tasks	Security accreditation					
	TA	10	10	10	10	10
	CA, SNE	1	1	1	1	1
	Total	11	11	11	11	11
	Security and PRS activities					
	TA	5	5	5	6	7
	CA, SNE	5	5	5	5	5
	Total	10	10	10	11	12
	GSMC operations					
	TA	19	22	22	22	22
	CA, SNE	13	13	13	13	15
	Total	32	35	35	35	37
	Promotion and marketing of the services					
	TA	6	6	6	6	6
	CA, SNE	4	4	4	4	4
	Total	10	10	10	10	10
	Agency Management					
	TA	7	7	7	7	7
	CA, SNE	7	7	7	7	7
Total	14	14	14	14	14	
General Administration						
TA	9	9	9	9	9	
CA, SNE	13	13	13	13	13	
Total	22	22	22	22	22	
Delegated tasks	EGNOS Exploitation					
	TA	15	15	15	15	15
	CA, SNE	4	4	4	4	5
	Total	19	19	19	19	20
	Galileo Exploitation					
	TA	38	38	40	40	40
	CA, SNE	5	5	5	5	6
	Total	43	43	45	45	46
	Research & Development (Horizon 2020)					
	TA	4	4	4	4	4
	CA, SNE	5	5	5	5	5
Total	9	9	9	9	9	
	Total TA	113	116	118	119	120
	Total CA, SNE	47	57	57	57	57
	Total Structured Service Providers	35	45	45	45	45
	Total	195	218	220	221	226

Annex II: Financial Resources 2017 – 2020

All figures in this section are in EUR.

TABLE 1 – EXPENDITURE

	2016		2017		2018		2019		2020	
	Commitment Appropriations	Payment Appropriations	Commitment Appropriations	Payment Appropriations	Commitment Appropriations	Payment Appropriations	Commitment Appropriations	Payment Appropriations	Commitment Appropriations	Payment Appropriations
Title 1	14,952,000	14,952,000	16,267,161	16,267,161	17,582,000	17,582,000	17,737,000	17,737,000	17,985,389	17,985,389
Title 2	5,171,204	5,171,204	5,800,487	5,800,487	6,430,387	6,430,387	6,446,061	6,446,061	6,446,061	6,446,061
Title 3	8,963,123	8,963,123	6,400,000	6,400,000	7,650,000	7,650,000	7,350,000	7,350,000	7,350,000	7,350,000
Total	29,086,327	29,086,327	28,467,648	28,467,648	31,662,387	31,662,387	31,533,061	31,533,061	31,781,450	31,781,450

Commitment Appropriations

	Executed Budget 2015	Budget 2016	Draft Budget 2017 (Agency Request)	Draft Budget 2017 (Budget Forecast)	VAR 2017/2016	Envisaged in 2018	Envisaged in 2019	Envisaged in 2020
Title 1 – Staff Expenditure								
11 - Salaries and Allowances	10,969,218.28	12,100,000.00	14,185,161.00		+13.48%	14,600,000.00	14,850,000.00	15,098,389
Of which establishment plan posts	9,123,881.28	9,963,027.00	11,186,161.00		+12.28%	11,592,003.00	11,832,979.00	12,074,182
Of which external personnel	1,845,337.00	2,536,973.00	2,999,000.00		+18.21%	3,007,997.00	3,017,021.00	3,024,207
12 Expenditure relating to Staff Recruitment	85,000.00	130,000.00	50,000.00		-61.54%	50,000.00	50,000.00	50,000
1210 Medical Expenses	18,000.00	60,000.00	30,000.00		-50%	30,000.00	30,000.00	30,000
1300 Missions	1,165,830.90	1,440,000.00	1,100,000.00		-23.61%	1,400,000.00	1,300,000.00	1,300,000
14 Training	212,000.00	220,000.00	100,000.00		-55%	150,000.00	150,000.00	150,000
1500 Social Welfare		400,000.00	500,000.00			850,000.00	8550,000.00	855,000
16 External Services	510,186.45	600,000.00	300,000.00		-50%	500,000.00	500,000.00	500,000
17 Receptions and events	1,251.55	2,000.00	2,000.00		0%	2,000.00	2,000.00	2,000
Title 2 – Infrastructure and operating expenditure								
20 Rental of buildings and associated costs	2,444,994.88	3,040,000.00	2,835,000.00		-6.74%	3,220,000.00	3,260,000.00	3,260,000
21 Information and communication technology	1,992,369.58	916,204.00	1,385,487.00		+51.22%	1,584,387.00	1,520,061.00	1,520,061
22 Movable property and associated costs	183,987.38	100,000.00	30,000.00		-70%	30,000.00	70,000.00	70,000
23 Current administrative expenditure	1,040,500.00	800,000.00	760,000.00		-5%	800,000.00	800,000.00	800,000
24 Postage / Telecommunications	318,485.50	250,000.00	385,000.00		+54%	386,000.00	386,000.00	386,000
25 Meeting Expenses	55,000.00	65,000.00	55,000.00		-15.38%	60,000.00	60,000.00	60,000
26 Running costs in connection with operational activities			350,000.00			350,000.00	350,000.00	350,000
27 Information and publishing								
28 Studies								
Title 3 – Operational Expenditure								
Operational Expenditure	8,609,589.48	8,963,123.00	6,400,000.00		-28.6%	7,650,000.00	7,350,000.00	7,350,000
3100 Expenditure on Studies	7,209,589.48	7,913,123.00	5,350,000.00		-45.5	6,600,000.00	6,300,000.00	6,300,000
3300 SAB expenditure	1,400,000	1,050,000.00	1,050,000.00		-25%	1,050,000.00	1,050,000.00	1,050,000
Total Expenditure	27,606,414.00	29,086,327.00	28,467,648		-2.13%	31,662,387.00	31,533,061.00	31,781,450

Payment Appropriations

	Executed Budget 2015	Budget 2016	Draft Budget 2017 (Agency Request)	Draft Budget 2017 (Budget Forecast)	VAR 2017/2016	Envisaged in 2018	Envisaged in 2019	Envisaged in 2020
Title 1 – Staff Expenditure								
11 - Salaries and Allowances	10,969,218.28	12,500,000.00	14,185,161.00		+13.48%	14,600,000.00	14,850,000.00	15,098,389
Of which establishment plan posts	9,123,881.28	9,963,027.00	11,186,161.00		+1.3%	10,440,000.00	10,762,122.00	12,074,182
Of which external personnel	1,845,337.00	2,536,973.00	2,999,000.00		-7.48%	2,799,387.00	2,828,939.00	3,024,207
12 Expenditure relating to Staff Recruitment	85,000.00	130,000.00	50,000.00		-61.54%	50,000.00	50,000.00	50,000
121 Medical Expenses	18,000.00	60,000.00	30,000.00		-50%	30,000.00	30,000.00	30,000
13 Missions	1,165,830.90	1,440,000.00	1,100,000.00		-23.61%	1,400,000.00	1,300,000.00	1,300,000
14 Training	212,000.00	220,000.00	100,000.00		-55%	150,000.00	150,000.00	150,000
15 Social Measures			500,000.00					855,000
16 External Services			300,000.00		-50%	850,000.00	855,000.00	500,000
17 Receptions and events	510,186.45	600,000.00	2,000.00		0%	500,000.00	500,000.00	2,000
Title 2 – Infrastructure and operating expenditure								
20 Rental of buildings and associated costs	2,444,994.88	3,040,000.00	2,835,000.00		-6.74%	3,220,000.00	3,260,000.00	3,260,000
21 Information and communication technology	1,992,369.58	916,204.00	1,385,487.00		+51.22%	1,584,387.00	1,520,061.00	1,520,061
22 Movable property and associated costs	183,987.38	100,000.00	30,000.00		-70%	30,000.00	70,000.00	70,000
23 Current administrative expenditure	1,040,500.00	800,000.00	760,000.00		-5%	800,000.00	800,000.00	800,000
24 Postage / Telecommunications	318,485.50	250,000.00	385,000.00		+54%	386,000.00	386,000.00	386,000
25 Meeting Expenses	55,000.00	65,000.00	55,000.00		-15.38%	60,000.00	60,000.00	60,000
26 Running costs in connection with operational activities			350,000.00			350,000.00	350,000.00	350,000
27 Information and publishing								
28 Studies								
Title 3 – Operational Expenditure								
Operational Expenditure	3,788,221.48	8,963,123.00	6,400,000.00		-28.6%	7,650,000.00	7,350,000.00	7,350,000
3100 Expenditure on studies	2,710,409.48		5,350,000.00		-45.5%	6,600,000.00	6,300,000.00	6,300,000
3300 SAB expenditure	1,077,812.00		1,050,000.00		-25%	1,050,000.00	1,050,000.00	1,050,000
Total Expenditure	22,868,614.48	29,086,327.00	28,467,648		-2.13%	31,662,387.00	31,533,061.00	31,781,450

TABLE 2 – REVENUE

Revenues	2016 Revenues estimated by the agency	2017 Budget Forecast
EU contribution	28,350,073	27,847,000
Other revenue	736,254	620,648
Total revenues	29,086,327	28,467,648

Revenues	2015 Executed Budget	2016 Revenues estimated by the agency	2017 Budget as requested by the Agency	2017 Budget Forecast	VAR 2018 /2017	Envisaged 2018	Envisaged 2019	Envisaged 2020
1 Revenue From Fees And Charges								
2. EU Contribution	26,840,192	28,350,073	27,847,000		-1.77%	30,848,000	30,722,000	30,964,000
Of Which Administrative (Title 1 And Title 2)	18,469,565	19,614,087	20,686,050					
Of Which Operational (Title 3)	8,370,627	8,735,986	7,160,950					
Of Which Assigned Revenues Deriving From Previous Years' Surpluses	49,191.54	461,673						
3 Third Countries Contribution (Incl. EFTA and Candidate Countries)	766,223	736,254	620,648		-15.7%	814,387	811,061	817,450
Of Which EFTA	766,223	736,254	620,648		-15.7%	814,387	811,061	817,450
Of Which Candidate Countries								
4 Other Contributions								
Of Which Delegation Agreement, Ad Hoc Grants	115,410,872	967,791,215	642,809,444			238,006,800	123,515,600	278,804,709
5 Administrative Operations								
6 Revenues From Services Rendered Against Payment								
7 Correction Of Budgetary Imbalances								
Total Revenues	143,017,287	996,877,542	671,277,092			269,669,187	155,048,661	310,586,159

TABLE 3 – BUDGET OUTFURN AND CANCELLATION OF APPROPRIATIONS

Budget Outturn	2013	2014	2015
Revenue actually received	53,697,268.49	358,165,207.16	360,510,233.28
Payments made	(23,557,895.38)	(147,122,354.28)	(202,664,997.66)
Carry-over of appropriations	(49,404,071.66)	(256,679,212.88)	(403,727,197.28)
Cancellation of appropriations carried over	71,952.03	228,504.76	1,028,320.34
Adjustment for carry-over of assigned revenue appropriations from previous year	19,264,701.08	46,713,326.93	247,372,610.67
Exchange rate differences	(22,763.02)	(3,695.96)	(34,110.13)
Adjustment for negative balance from previous year	0.00	0.00	0.00
Total:	49,191.54	1,301,775.73	2,484,859.22

Annex III: Human Resources

TABLE 1 – STAFF POPULATION AND ITS EVOLUTION; OVERVIEW OF ALL CATEGORIES OF STAFF

Staff population		Actually filled as of 31 Dec 2014	Authorised under EU budget 2015	Actually filled as of 31 Dec 2015	Authorised under EU budget for 2016	Actually filled as of 31 Dec 2016	Draft budget for 2017	Envisaged		
								2018	2019	2020
Officials	Administrators (AD)									
	Assistants (AST)									
	AST/ SC									
Temporary Agents	AD	91	97	94	108		111	113	114	115
	AST	5	5	5	5		5	5	5	5
	AST/ SC									
Total		96	102	99	113		116	118	119	120
Contract Agents	Function Group IV	22	25	25	31		44	44	44	46
	Function Group III	8	8	7	6		5	5	5	5
	Function Group II	3	2	4	3		4	4	4	4
	Function Group I									
Total Contract Agents		33	35	36	43		53	53	53	55
Seconded National Experts		2	2	4	4		4	4	4	6
Structured Service Providers		15	25	35	35		45	45	45	45
Total		131	139	174	195		218	220	221	226
External Staff for occasional replacement				8	9		8	8	8	8

TABLE 2 – MULTI -ANNUAL STAFF POLICY PLAN (2017 – 2019)

Category and grade	Establishment plan in EU budget 2015		Filled as of 31 Dec 2015		Modifications in 2015 in application of flexibility rule		Establishment plan in voted EU Budget 2016		Modifications in 2016 in application of flexibility rule		Establishment plan in Draft EU Budget 2017		Establishment plan 2018		Establishment plan 2019		Establishment plan 2020	
	Officials	TA	Officials	TA	Officials	TA	Officials	TA	Officials	TA	Officials	TA	Officials	TA	Officials	TA	Officials	TA
AD 16																		
AD 15																		
AD 14		1		1				1				1		1		1		1
AD 13		1		0		-1		1				2		2		2		2
AD 12		4		3		-1		5		-2		5		5		5		5
AD 11		5		2		-3		5		-4		6		6		6		6
AD 10		11		7		-4		12		-3		13		14		14		14
AD 9		10		10				12		+4		12		13		14		14
AD 8		25		22		-3		30		-5		30		30		30		30
AD 7		32		38		+6		34		+7		34		34		34		34
AD 6		6		9				8				8		8		8		8
AD 5		2		2		+3		0		+3		0		0		0		0
Total AD		97		94				108				111		113		114		115
AST 11																		
AST 10																		
AST 9																		
AST 8																		
AST 7																		
AST 6		1		0		-1		1		-1		2		2		2		2
AST 5		2		1		-1		2				1		2		2		2
AST 4		1		1				1				1						
AST 3				2		+2				+1				1		1		1
AST 2		1						1		-1		1						
AST 1				1						+1								
Total AST		5		5				5				5		5		5		5



Category and grade	Establishment plan in EU budget 2015		Filled as of 31 Dec 2015		Modifications in 2015 in application of flexibility rule		Establishment plan in voted EU Budget 2016		Modifications in 2016 in application of flexibility rule		Establishment plan in Draft EU Budget 2017		Establishment plan 2018		Establishment plan 2019		Establishment plan 2020		
	Officials	TA	Officials	TA	Officials	TA	Officials	TA	Officials	TA	Officials	TA	Officials	TA	Officials	TA	Officials	TA	
AST/SC 1																			
AST/SC 2																			
AST/SC 3																			
AST/SC 4																			
AST/SC 5																			
AST/SC 6																			
Total AST/SC																			
Total		102		99				113				116		118		119		120	

Annex IV: Human Resources - Qualitative

A. RECRUITMENT POLICY

The recruitment procedures for Temporary Agents (TAs) and for Contract Agents (CAs) are governed by the Staff Regulations and the respective Implementing Rules²⁶ which are still in place until the ex-ante agreement on the CA model decision will be approved by the Commission, according to the Article 110 procedure.

The selection procedures for both TAs and CAs include the following main steps:

- The Agency publishes the vacancy notice on its website and on the European Personnel Selection Office website, distributes it to its Administrative Board, pushes it out to social networks and on other sites, stating the eligibility and selection criteria, indicating the type and the duration of the contract, recruitment grade and the main steps of the selection procedure.
- A Selection Board is set up with a minimum of three members who have the required expertise, and who have a grade level at least equal to that of the post. The panel also includes a representative of the Staff Committee.
- The Agency's HR department screens the candidates' application forms based on eligibility requirements. The Selection Board endorses this screening.
- The Selection Board further evaluates the eligible candidates based on essential and advantageous criteria.
- The HR department invites shortlisted candidates for interviews with the Board. The interview also involves a written test based on pre-determined technical and behavioural questions covering the specific competences in the area of expertise, in the areas of activities of the Agency, language and behavioural competencies.
- The Selection Board establishes a reserve list of successful candidates and sends this to the Appointing Authority (AA).

²⁶ Decision GSA-AB-43-15-10-30-05 on the procedure governing the engagement and use of temporary staff under Article 2(f) of the Conditions of Employment of Other Servants of the EU, adopted on 30 October 2015 and the decision GSA-AB-10-03-24-07 on the procedure governing the engagement and use of contract staff adopted on 29 March 2010

- The AA decides who to offer contract(s) of employment to, based on the reserve list. Prior to doing so, the AA may invite these candidates for an interview. As a general rule, the AA interviews the highest ranked 2-3 candidates who are on the reserve list.
- External consultants run an assessment centre to handle managerial positions.
- Finally, the HR department informs applicants in writing about the result of the selection procedure.

In order to improve the quality of the evaluation procedure, the Agency introduced an online business aptitude test for candidates to enhance and complement the evaluation of the candidates' behavioural aspects.

The Agency's general rule regarding the type of contract is that long-term positions should be filled with temporary agents and that short-term positions should be filled with contract agents, whenever labour market conditions allow it. Short-term expert positions are tentatively filled with seconded national experts from Member States or contract agents.

The criteria of the Agency in identifying posts of a long-term duration are that such posts cover tasks of a permanent nature resulting from its mandate and its work programme and that guarantee continuous expertise in the specific area.

Short term functions may also be temporarily filled with 'interim agents' (staff engaged by an external agency awarded a framework contract), especially

- to temporarily replace staff absent due to maternity or parental leave, sickness or other reasons;
- to cope with temporary peak periods which require additional workforce for a fixed period of time;
- to handle specific projects and/or tasks on a temporary basis, which require specific competencies, not available within the Agency;
- To temporarily assist different events, meetings, and workshops organised by the Agency.

The Agency also employs trainees and provides them with first-hand experience of the workings of the Agency in particular and of the EU institutions in general. They provide very valuable support to various departments. In 2015 13 trainees joined the Agency, in the HR, Finance, ICT, Legal,

Communications, Quality, Project Control, Market Development, EGNOS Exploitation and Galileo Exploitation departments.

Officials

The Agency does not employ officials.

Temporary agents

The established recruitment grades for the key functions of temporary agents are listed in the below table, in line with the Internal Note on Types of Post and Post Titles of 25 March 2015 (GSA/2015/HR/208150) based on EC Decision of 16 December 2013 on types of post and post titles C(2013) 8979 final:

Type of Post	Minimum Entry Recruitment Grade	Post Title
Director	AD 14	Executive Director
Adviser or equivalent	AD 13 – AD 14	Adviser; Senior Expert
Head of Division (Management Post)	AD 11- AD 12	Head of Division
Head of Department (Management Post)	AD 9 – AD 12	Head of Department
Head of Section or Deputy Head of Department	AD 6 – AD 10	Head of Section; Deputy Head of Department
Officer	AD 8 – AD 10	Senior Officer ²⁷ ; Team Leader
Officer	AD 6 – 7	Officer ²⁸ ; Team Leader
Officer	AD 5	Officer ²⁹ ; Team Leader
Assistant	AST 1 – AST 9	Assistant; Project Assistant
Secretary/Clerk (not foreseen at the moment)	SC 1 – SC 2	Secretary/Clerk

The Agency carefully evaluates all options in order not to recruit at excessive grade level. Nevertheless, in some cases, the recruitment of senior technical and specialised experts might be set above the lowest entry grades.

In fact, in order to fill in some crucial positions, the Agency must recruit senior specialised experts with a minimum of 9 years of work experience. Those profiles with specific competencies are quantitatively scarce in the labour market and the Agency competes as an employer with the attractive conditions

²⁷ The post title of an officer can be further specified in line with the respective job description (e.g. engineer, lawyer, procurement expert, HR officer, budget officer, accountant etc.)

²⁸ Ibid

²⁹ Ibid

of employment that are offered both by the private space industry and public national space authorities. Experts are requested to deal with industry and institution specialists at the same expertise level.

The Agency also employs technically qualified staff in support functions within the corporate services departments. It is of outmost importance to meet the Agency objectives by recruiting staff with broad knowledge and experience in the respective field of work.

In any case, the Agency expects recruitment of technical experts at grade AD9 – 12 to remain within the limits of 20% of recruitment per year (averaged over 5 years).

Contract agents

The Agency foresees to further rely on an increased number of CAs in comparison with the Legislative Financial Statement, but under valid justification and in consultation with the Commission.

Since the Legislative Financial Statement was concluded, the volume of tasks the Agency undertakes has significantly increased; nevertheless the overall resourcing provided has not followed a proportionate pace.

The four major areas of new activities are as follows:

1. Horizon 2020 – This Delegation Agreement was not originally planned for when resourcing was finalised.
2. Fundamental Elements
3. Galileo Ground Segment
4. Security and PRS

The effort and resources required by the Agency to fulfil the above tasks proved to be significantly greater than had been expected based on information available at the time of planning. Those activities see a considerable growth in 2016 and in the coming years which requires adjustment of resources.

Currently and on a provisional basis, the Agency is heavily relying on the CA workforce. However this approach is not sustainable. We need very specialised and experienced profiles and the Agency has to

be in the position to retain this expertise on long-term, which is only possible through an adequate contract type and grading, i.e. temporary type posts.

In order not to compromise the achievement of the Agency's most critical objectives, several imperative measures had to be considered. Crucial posts, which temporary agents would have occupied, had to be filled temporarily and provisionally by external workforce, and an internal redeployment of temporary and contractual agents was applied. Priorities have been reconsidered accordingly. In addition to the above, it has to be mentioned that the Agency has implemented working arrangements for EGNOS and Galileo with ESA in 2016, the second introducing uncertainties on the level of resources needed by the Agency to manage such arrangements.

It is important to stress that the Agency is always fully committed to efficient use of its resources. The Agency conducts a structural analysis to review its human resources planning and distribution on a yearly basis in order to regularly assess and ensure consistent optimal allocation of human resources against priority needs and assigned tasks and responsibilities, which can evolve largely and at high pace.

Seconded National Experts

The Administrative Board adopted rules on secondment to the Agency on 14 August 2012 by written procedure 24.

The Agency launched selection procedures for Seconded National Experts in 2015 to develop effective and smooth working relationships with Member States' Authorities as well as to profit from the exchange of expertise between the Agency and the seconding Administrations. As a result, 4 SNEs joined the Agency in the Security, Galileo and Market Development departments.

2 SNEs more than foreseen in the Legislative Financial Statement were contracted; in those cases the recruitment of previously foreseen CAs was cancelled.

Structural Service Providers

Outsourcing has been thoroughly considered by the Agency and implemented whenever budget has allowed. For example, the reception services, part of the Facilities, Logistics and ICT functions are managed through an external company and the Agency has several external consultants working in various departments, including Exploitation and Market Development.



Structural service providers are contracted through an open tender procedure which leads to the conclusion of framework contracts.

B. APPRAISAL OF PERFORMANCE AND RECLASSIFICATION/PROMOTIONS

Table 1 - Reclassification of temporary staff/promotion of officials

Category and grade	Staff in activity at 1 January 2014		How many staff members were reclassified in 2015		Average number of years in grade of reclassified staff members
	Officials	TA	Officials	TA	
AD 16					
AD 15					
AD 14		1			
AD 13					
AD 12		2			
AD 11		2		1	3.7
AD 10		4			
AD 9		7		1	2.1
AD 8		14		3	3.1
AD 7		25		6	2.8
AD 6		5		1	2.1
AD 5		3			
Total		63		12	
AST 11					
AST 10					
AST 9					
AST 8					
AST 7					
AST 6					
AST 5		1			
AST 4					
AST 3		4			
AST 2					
AST 1					
Total AST		5			
AST/SC 1					
AST/SC 2					
AST/SC 3					
AST/SC 4					
AST/SC 5					
AST/SC 6					
Total AST/SC					
Total		68			

Table 2 - Reclassification of contract staff

Function Group	Grade	Staff in activity on 1 January 2014	How many staff were reclassified in 2015	Average number of years in grade of reclassified staff members
CA IV	18			
	17			
	16			
	15	1	1	2.8
	14	14	2	3.2
CA III	13	4	1	3.2
	12			
	11			
	10	4	2	3.4
	9			
CA II	8	1	1	3.5
	7			
	6			
CA I	5	1		
	4	1		
	3			
	2			
	1			
Total		26	7	

Performance appraisal and reclassification assessments are performed annually according to Articles 15 and 87 of the Conditions of Employment of Other Servants of the EU (CEOS) and the respective implementing rules. All staff members are assigned individual annual objectives, aligned with the Agency's high level objectives, and are appraised on the basis of the assessment of the key performance indicators established and agreed in the previous year. The process includes also a proposal for a future career and professional development plan.

The reclassification system, in accordance with Articles 54 and 87 CEOS, applicable to Agency staff is based on consideration of the comparative merits of staff eligible for reclassification, taking into account evaluation reports, the use of languages in the execution of duties other than the language for which they have produced evidence of thorough knowledge in accordance with Article 12(e) and 82 (3e) of the CEOS and the level of responsibilities exercised by them.

C. MOBILITY POLICY

Mobility within the Agency

As the Agency is still in a growth phase, it has predominantly published vacant posts externally to attract the best-qualified applicants from broad and various backgrounds.

Nevertheless, internal publication of vacancies has been enhanced in 2015. When it is evaluated that the expertise is available in house, the post is published internally to ensure continuous personal and professional development of the staff in line with the mobility policy.

Successful candidates in internal mobility selection procedures maintain their grade and contract conditions. Mostly for this reason, calls launched for internal mobility were not successful in 2015.

In 2015, 3 internal transfers took place in the interest of the service in line with the Article 7 of Staff Regulations.

Mobility among agencies

The Agency has not made use of the Inter Agency Job Market agreement.

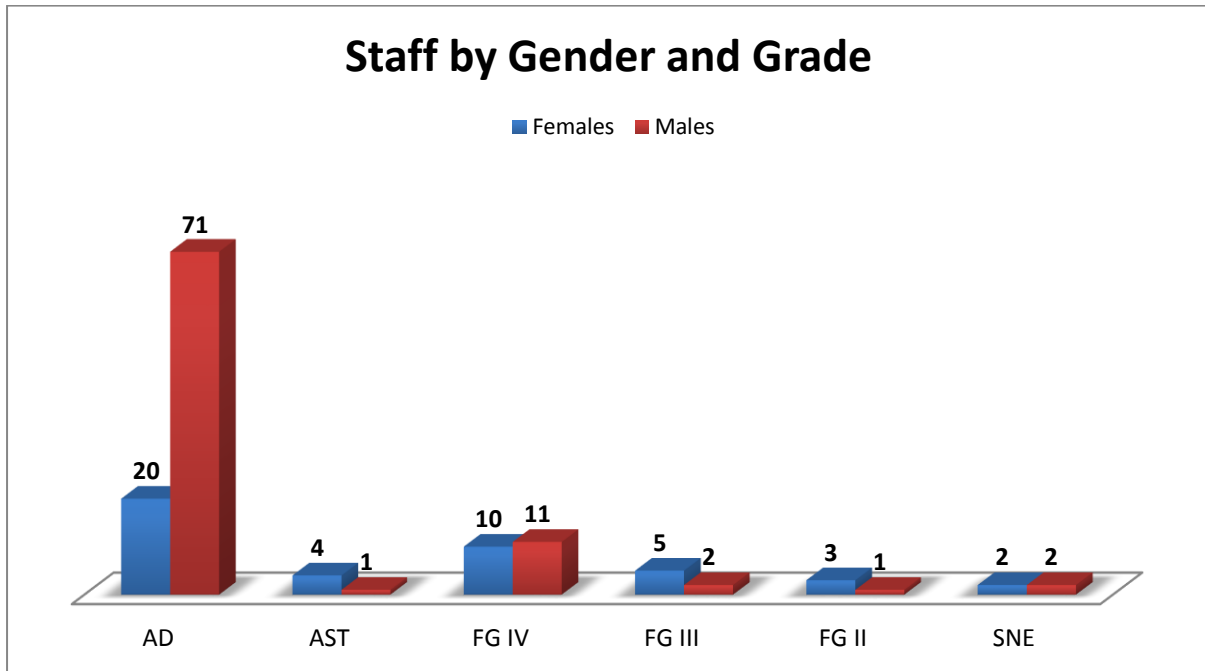
This form of mobility will be further explored taking into consideration the opportunities offered in the frame of the new Staff Regulations and TA 2f implementing rules.

The Agency employs staff previously employed by other agencies, and conversely a number of employees have left to work in other agencies.

D. GENDER AND GEOGRAPHICAL BALANCE

Gender balance

The global gender balance amongst staff is approximately 67% male and 33% female. Compared to 2014 (69% - 31%), the balance has slightly changed in favour of the female gender. The following charts show the gender distribution and the distribution of TA, CA and SNEs by gender and grades on 31/12/2015 (active staff).



The specific technical labour market in which the Agency operates presents a predominant proportion of men. This specific characteristic makes it difficult for the Agency to achieve a balanced gender distribution.

The Agency is fully committed to the provision of equality of opportunity for all the employees through its employment practices, policies and procedures.

The Agency ensures that no employee or job applicant is treated unequally due to gender, marital or parental status, age, sexual orientation, disability, citizenship or religious belief with regard to recruitment and selection, training and opportunity for career development; e.g.: All posts are advertised containing positive statements regarding the Agency's practices as equal opportunities employer; Selection Boards are drawn up ensuring gender balance; Applicants are considered only on the basis of their relevant experience and competencies; in cases of candidates presenting equal merit in a selection procedure, the Agency considers with priority the underrepresented gender or nationality. The Agency is committed to continuously raise awareness of staff and managers about the advantages a diverse workforce represents.

With regards to reconciling professional and personal life, the Agency has put a range of measures in place. These measures focus on teleworking, support to multicultural tuition, a policy to protect the dignity of the person and to prevent psychological and sexual harassment (under preparation), and

initiatives related to well-being at work. Additionally, the Agency introduced the possibility to use flexi-time.

Geographical balance

At the end of 2015 the Agency employed staff from 21 Member States, namely Belgium, Bulgaria, Czech Republic, Croatia, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden and the United Kingdom. In order to improve an even representation of EU's Member States, the Agency continuously searches for new ways to spread awareness about its vacancy notices in order to reach potential candidates from countries with no representation in the Agency hitherto.

The Agency has a balanced representation of nationalities across the group of Temporary Agents with a higher number of French, Spanish and Italian staff members. The representation of nationalities over the group of CA shows a significant number of Czech nationals (34.38%), which can be explained by the location of the headquarters.

Many of the applications received for the more technical positions come from Member States having a long tradition in the aeronautics and space industry.

The following charts show the nationality distribution and the distribution of nationalities by grades on 31/12/2015 (active staff).

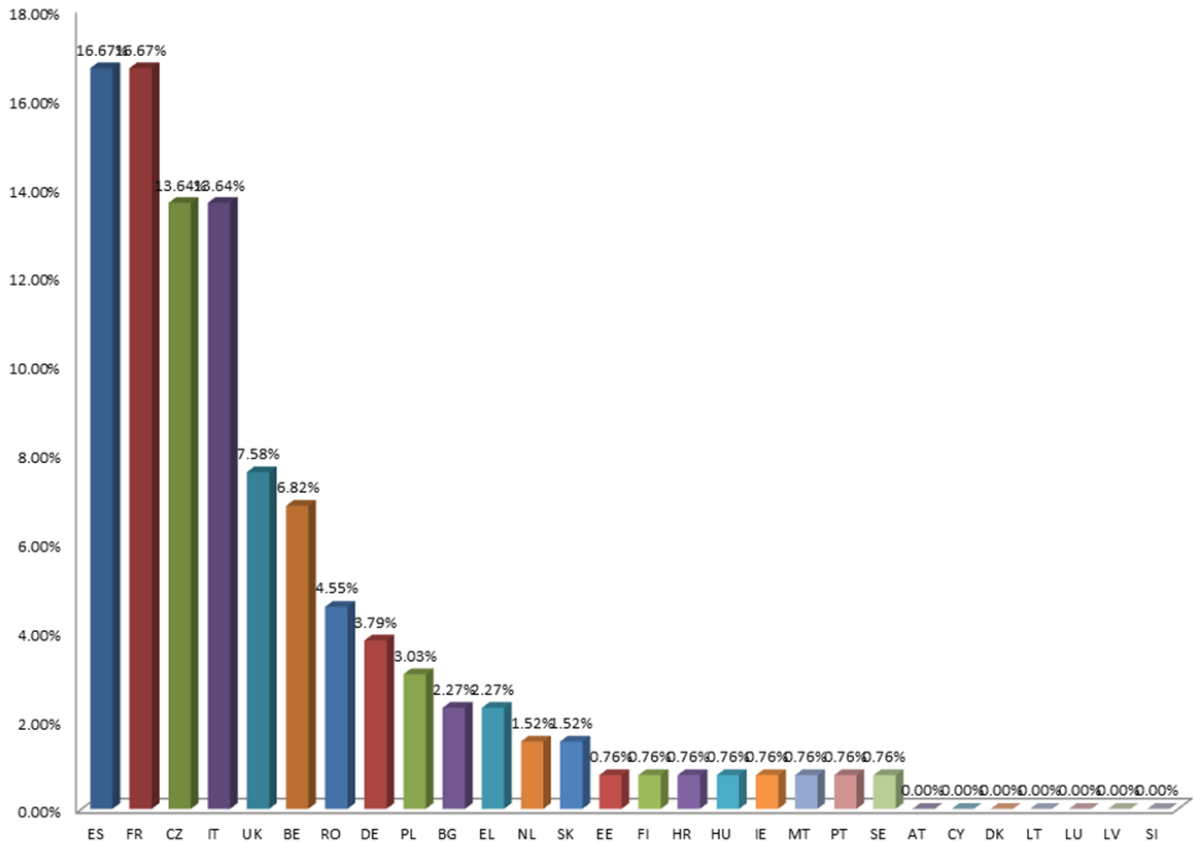
Country of nationality	Number of staff on 31/12/2015	% of total by contract and staff
Temporary Agents		
France	21	21.88%
Spain	17	17.71%
Italy	15	15.63%
United Kingdom	8	8.33%
Czech Republic	7	7.29%
Belgium	7	7.29%
Romania	3	3.13%
Germany	3	3.13%
Poland	3	3.13%
Bulgaria	2	2.08%
Netherlands	2	2.08%
Greece	1	1.04%
Slovakia	1	1.04%
Estonia	1	1.04%
Croatia	1	1.04%
Hungary	1	1.04%
Ireland	1	1.04%



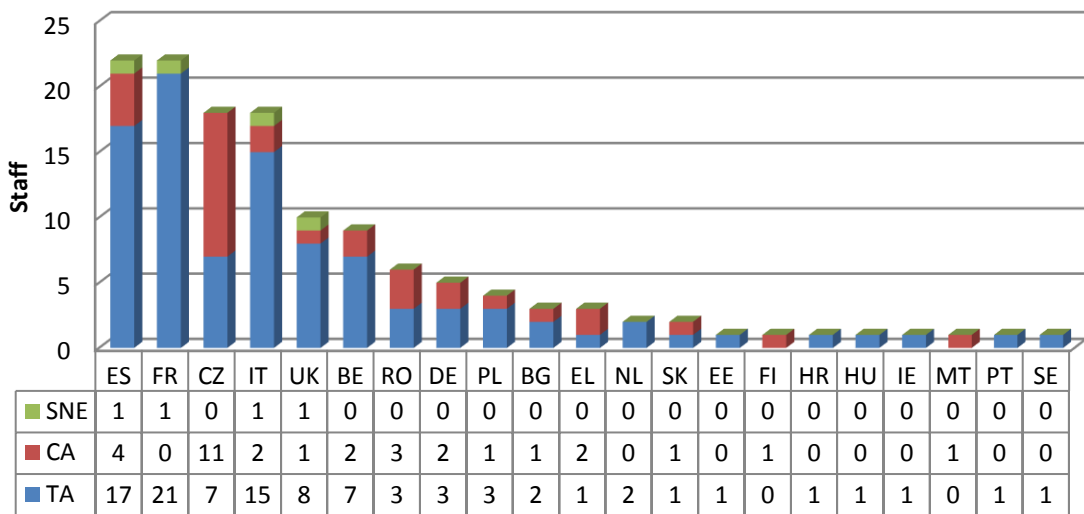
Country of nationality	Number of staff on 31/12/2015	% of total by contract and staff
Portugal	1	1.04%
Sweden	1	1.04%
TOTAL	96	100.00%
Contract Agents		
Czech Republic	11	34.38%
Spain	4	12.50%
Romania	3	9.38%
Italy	2	6.25%
Belgium	2	6.25%
Germany	2	6.25%
Greece	2	6.25%
United Kingdom	1	3.13%
Poland	1	3.13%
Bulgaria	1	3.13%
Slovakia	1	3.13%
Finland	1	3.13%
Malta	1	3.13%
TOTAL	32	100.00%
Seconded National Experts		
France	1	25.00%
Italy	1	25.00%
Spain	1	25.00%
United Kingdom	1	25.00%
TOTAL	4	100.00%



Nationality of Staff



Staff by Nationality and Grade



E. SCHOOLING

Prague does not currently offer an accredited European School, which is why the Administrative Board adopted a transitional measure for staff to support the costs of International Schools until a European School is set up in the Czech Republic. Requests have been made to the relevant Czech Authorities in order to accelerate the accreditation of any of the international Prague schools as a European School. A similar situation applies to staff located at the GSMC in France and to staff located in the UK.

To this date, the Agency has concluded 14 direct agreements with international schools in Prague including:

1. Park Lane International School a.s.
2. Riverside School
3. Czech British School s.r.o.
4. English International School of Prague s.r.o.
5. International Montessori School of Prague s.r.o.
6. International School of Prague s.r.o
7. Lycée Français de Prague
8. Německá škola v Praze s.r.o (Deutsche Schule Prag)
9. Mateřská škola b fresh s.r.o.
10. Mateřská škola Duhovka, s.r.o.
11. Soukromá základní Škola Hrou, s.r.o.
12. Bambino Pre-school in Dejvice
13. Bambino Pre-school in Kunratice
14. The Little Mole International Preschool of Prague

The Agency concluded 4 direct agreements with international schools in proximity of Saint-Germain-en-Laye including:

1. The British School of Paris
2. Ecole Montessori Bilingue de Rueil Malmaison
3. The Forest International School
4. Montessori School of Saint-Germain-en-Laye

Since the relocation of the headquarters to Prague as of 1 September 2012, 25 children were enrolled in international schools for the school year 2012-2013, 37 children in scholastic year 2013-2014, 58 in scholastic year 2014-2015 and 70 children in scholastic year 2015-2016 (This is also the number of children as of 21 January 2016).

Since the relocation to Saint-Germain-en-Laye in September 2013, 4 children were enrolled in the International schools in the school year 2013-2014, 7 children in scholastic year 2014-2015 and 7 children in scholastic year 2015-2016 (This is also the number of children as of 21 January 2016).

Annex V: Buildings

	Prague	Comments
Surface area (in square metres)	14 176.68	
Of which office space	6 114	
Of which non-office space	4 592.77	This is the area currently used by the Agency.
Technical areas (HVAC technologies)	3 469.91	This is under the responsibility of the building owner
Annual rent (EUR)	50 000 EUR (Estimate)	The maximum rent for 2018 is 250 000 EUR
Type and duration of rental contract	Indefinite	
Host country grant or support		The Agency pays 25% of commercial rent and pays for HVAC maintenance.



	France (Toulouse)	Comments
Surface area (in square metres)	54	
Of which office space	54	
Of which non-office space	0	
Annual rent (EUR)	18 752	
Type and duration of rental contract	Indefinite	The contract is renewed yearly.
Host country grant or support		

	France (Saint-Germain-en-Laye)	Comments
Surface area (in square metres)	927	
Of which office space	927	
Of which non-office space		
Annual rent (EUR)	40 000	
Type and duration of rental contract	Indefinite	

	United Kingdom (Swanwick)	Comments
Surface area (in square metres)	328.4	
Of which office space	328.4	
Of which non-office space		
Annual rent (EUR)	404 460	
Type and duration of rental contract	Ends on 31 December 2030	

There are no building projects in the planning phase at this time.

Annex VI: Privileges and Immunities

Agency privileges	Privileges granted to staff	
	Protocol of privileges and immunities/diplomatic status	Education/day care
All privileges and immunities provided for in Protocol 7, such as exemption from all direct taxes (Article 3), exemption from custom duties, prohibitions and restrictions on imports and exports (Article 4), secret of communication and correspondence (Article 5).	All privileges and immunities provided for in Protocol 7, such as: laissez-passer (Article 6), direct tax exemption, currency exchange redemptions, import/export redemptions for furniture and vehicles, exemption from immigration restrictions (Article 11).	
In addition, in the Czech Republic, the Agency enjoys VAT exemption for: local purchases higher than 4 000 CZK; for intra-Union purchases as per Directive 2006/112/EC and or intra-Union consignments of goods as per	The Executive Director enjoys, irrespective of nationality, the privileges, immunities, exemptions and facilities necessary to perform all duties and functions of his/her office.	



Agency privileges	Privileges granted to staff	
	Protocol of privileges and immunities/diplomatic status	Education/day care
2008/118/EC (Hosting Agreement with the Czech Republic, Article 9).	The Director shall be treated as a diplomatic agent of comparable rank, in accordance with the norms of international law. Any members of the Director's family shall enjoy the same privileges, immunities, exemptions and facilities.	
Exemption from contributions to social security schemes and compulsory insurance (Hosting Agreement with the Czech Republic, Article 11).	In addition, exemption from social security scheme contribution in France (Hosting Agreement with France Article 13) and Czech Republic (Hosting Agreement with Czech Republic Article 13c).	
Further, the Agency enjoys immunities from national criminal, administrative, civil jurisdiction (Hosting Agreement with Czech Republic, Article 8).	Further, in Czech Republic the Agency Staff enjoys VAT exemption: up to 100 000 CZK for local purchases higher than 4 000 CZK; for vehicle acquisition every three years Hosting Agreement with Czech Republic Articles 5 and 7).	
	Also, Agency Staff enjoys immunity from jurisdiction in France (Article 17) and the Czech Republic (Article 13).	

Annex VII: Evaluations

The Internal Control function is embedded into operational departments. Each operational department has specific staff to perform the appropriate ex-ante and ex-post controls (depending on the business object). For example, within the Market Development department, grant management is controlled by a joint venture team with the Finance department. Likewise, the Project Control Office is responsible for the control functionalities of EGNOS and Galileo.

The Agency's Internal Control Coordinator (ICC) exercises a 'coordination and reporting' role in relation to internal controls executed by operational departments and in relation to external controls from key stakeholders (like the Commission). The Administrative departments handle the relationship with the Court of Auditors directly, keeping the ICC informed.

The ICC coordinates interactions and controls through:

- The Internal Audit Capability

- The Commission's Internal Audit Service
- External auditors, hired to perform corresponding audits under Delegation Agreements for the benefit of the Commission's Directorate for Growth (DG GROW)
- DG GROWs Internal Control Coordination.

The ICC executes two types of controls: preventive and ex-posts/actual controls.

Under preventive actions, the ICC is responsible for the corporate Risk Management (RM) framework. Though the RM functionality lies within the respective departments, a corporate RM policy and register will exist on the basis of complementarity and subsidiarity in the handling of risks and will focus mostly on either horizontal risk or corporate risks. Another preventive area allocated to the ICC for design, development and implementation is the Anti-Fraud strategy.

Actual controls are executed mostly by the Internal Audit Capability, the Internal Audit Service, and external auditors (for DG GROW), under the coordination and, in some cases, close cooperation from the ICC.

Actual controls for the period 2017-2020 will mostly be executed in relation to major operations, like the important procurements to be launched and managed by EGNOS and Galileo; the funds to be allocated under Grant Management, and also in relation to typical horizontal topics of interest like those related to the various aspects under the Anti-Fraud strategy (Conflict of Interest, Gifts and Hospitality, etc.).

INFORMATION, REPORTING AND RECORDS

Information about records is available on the Agency's intranet but access is restricted on a need-to-know basis:

Several other intranet sites are usually developed (or will be developed), for specific purposes like periodic audits or in relation to several related topics with open or restricted access.

Annex VIII: Risks Year 2017

The report below is a preliminary internal assessment based on the views of the risk officers currently available in the Agency coordinated by the Internal Control Coordinator.

The key risks for 2017 are defined assuming that the Agency's main operational objectives are:



- Operate the E-GNSS systems and ensure continuity of service at a high level of performance;
- Steer the evolutions of the Ground Segment in accordance with political and market objectives;
- Continue with deployment, incorporate new satellites and ensure their successful integration into service operations;
- Ensure definition of new/extended services (in particular, Commercial Services) and supervise the upgrade of the system, the integration of GSMC (for security monitoring) and service providers (for GSC, GRC).

In this forward looking prospective and very preliminary assessment of risks, the Agency categorises risks using three major categories:

1. Operational risks;
2. Transversal risks;
3. Support function related risks

The following risks, listed in no specific order of priority, may potentially impact the achievement of the above-mentioned objectives:

OPERATIONAL RISKS

Risk 1 – Galileo is not ready for the Exploitation phase. The Galileo system comprises many inter-linked moving parts and it will be still in the build-up phase in this period. If is not stable or sustainable, it might require significant additional workload to operate a service at the expected level of performance. This situation might impact the Agency with heavy unexpected workload (These would be conditions which were not available when the current resource requirements had been estimated).

Risk 2 – Limited support to Security Accreditation activities. The lack of sufficient human resources and/or appropriate secured IT tools, has a detrimental effect on the technical and administrative support provided to the Security Accreditation Board.

Risk 3 – Uneasy or ineffective cooperation with ESA. Despite working arrangements in place and under consideration, the Agency might not be in a position to steer the evolutions of the programmes with ESA in line with its evolving political and/or market objectives.

Risk 4 – GSMC - Lack of physical space. This risk refers to a delay in the execution of the extension to be developed for GSMC premises and its impact on the operations, for example:

- In case of delay in the short term, the lack of space for class 1 technical hardware (work station, racks, etc.) would impact every evolution after 2017 (based on Galileo Security Facility (GSF) development plan);
- In case of long term delay, the lack of space for technical hardware in class 1 (work station, racks, etc.) would impact every evolution after 2019 (based on development plan of the GSF);
- Without the adaption of the France-United Kingdom Operational chain and Validation rooms, the coordination of the different operational systems would be cumbersome.

Risk 5 – GSMC - Delay on the deployment of the Security Operational Intelligence Facility, step 1, 2 & 3. This refers to the inability for the GSMC to properly execute Security Monitoring services according to expectations in relation to GSMC v3, v4 and v5 respectively (GSF P2.2, P2.3, and P2.4).

Risk 6 – GSMC - Delay on the deployment of the Signal in Space monitoring, step 1 & 2. This risk refers to the GSMC's inability to properly execute PRS Monitoring services according to expectations in relation to for GSMC v3 and v4 (GSF P2.2, P2.3).

Risk 7 – GSMC - Delay on the deployment of full redundancy at the GSMC. Without a full redundancy at GSMC level, operations cannot be committed to the Service Level Target expected by the programme.

Risk 8 – Lost synergies in the operation of both EGNOS and Galileo. Real challenges to exploring synergies for cost savings and shared facilities might be posed if increased pressure in that specific period due to the very dynamic and fluid environment that both programmes might be immersed in.

Risk 9 – Market Development objectives might not be reached. This risk might due to lack of resources that may generate insufficient market intelligence, in particular for emerging applications.

Risk 10 – Risks in relation to Fundamental Elements:

- If key documentation related to Galileo to start the preparation of the projects' specifications is missing, this might have an impact on the schedule of the whole Fundamental Elements block. In order to mitigate this risk, the Agency could reduce the scope of projects so that it could develop them with the documentation available (but possibly less interesting from the point of view of expected results for the projects) or wait for the necessary documentation to be released (but it might have a negative impact on the schedule).

- Fundamental Elements' Integration activity (which applies both to Galileo and EGNOS): This activity has strong dependencies with other Fundamental Elements' activities. The consequence of this is that the Integration Schedule might not be respected. A mitigation action would be splitting integration into several projects following the evolution of the other Fundamental Elements' activities.
- Galileo Commercial Service: There is some uncertainty induced by the lack of confirmation that some necessary works will be commissioned by the Commission and implemented by ESA. Delays of this confirmation would delay Service Declaration. It might imply missing the market window of opportunity, specifically for the High Accuracy product. The mitigation action for this would be to start considering other services that could be packed in the Galileo Commercial Service.

TRANSVERSAL RISKS

Risk 11 – The Agency might fail to play an Exploitation Authority role. The Agency might fail to play this arbitrating role due to weaknesses identified at various instances like:

- A too low profile against more consolidated E-GNSS players, namely the Commission, the ESA, and industry;
- Insufficient capacity to act due to coordination limitations with the Commission, the Commission's intervention in areas of the Agency's competence
- Unclear distribution of tasks between the Commission and the Agency, or in cooperation with ESA.

Risk 12 – Key European Space industry players do not recognise the Agency's "technical" role. This risk might materialise if the Agency failed to create and/or maintain a reputation to provide and/or be recognised able to provide relevant technical input for the development of the E-GNSS sector. The Agency might end up being seen more as an "operator" and service provider role, and not as an Agency able to contribute to the strategic definition of the future for the E-GNSS sector, e.g., if the Agency's contribution to G2G or EGNOS v3 were insufficient.

SUPPORT FUNCTION RELATED RISKS

Risk 13 – Inefficient use of resources due to a rigid organisational approach. The Agency might fail to redeploy resources in accordance with circumstances, needs and lack of focus on key areas for attention and priorities.

Risk 14 – Lack of proper allocation of human resources in line with evolving needs. Due to EU budgetary rigidity, the Agency might fail to be allocated the human resources required to fulfil its dynamic mission and/or to cope with new situations or evolving needs.

Risk 15 – Difficulty of the GSA to attract and/or retain the right talent. This risk relates to the loss of attractiveness of the Agency (in Prague) as a place for employment. The situation might also be aggravated in relation to technical posts due to the Agency's loss of competitiveness in the European Space/Security job markets for highly specialised profiles.

Annex IX: Procurement Plan 2017

The procurement plans for 2017 are provided in this section split by activity. The sequence mirrors the structure in section III. In each case, the legal basis for procurement is the GSA Regulation. Information related to delegated tasks is available in Annex XI. Please note that all launch dates and all budgetary figures are indicative.

IX.01 SECURITY ACCREDITATION (WBS 2.04, 2.05, 2.06)

Objective	Name	Launch Date	Budget (EUR)	Type of contract	Number of contracts
8,	Support services to independent reviews of security accreditation documentation	Q2-Q4	450 000	Specific Contract	2-3
8, 15	Support services to independent network security testing	Q2	250 000	Specific Contract	1-2
All	Support services to new tasks of the SAB	Q2	150 000	Specific Contract	1-2
8, 14	Security assessment and outreach services	Q1	200 000	Specific Contract	1-2
	Total		1 050 000		

IX.02 PUBLIC REGULATED SERVICE (PRS) ACTIVITIES (WBS 2.03)

There is no planned procurement for PRS activities in 2017.

IX.03 GSMC OPERATIONS & PREPARATION (WBS 4.06)

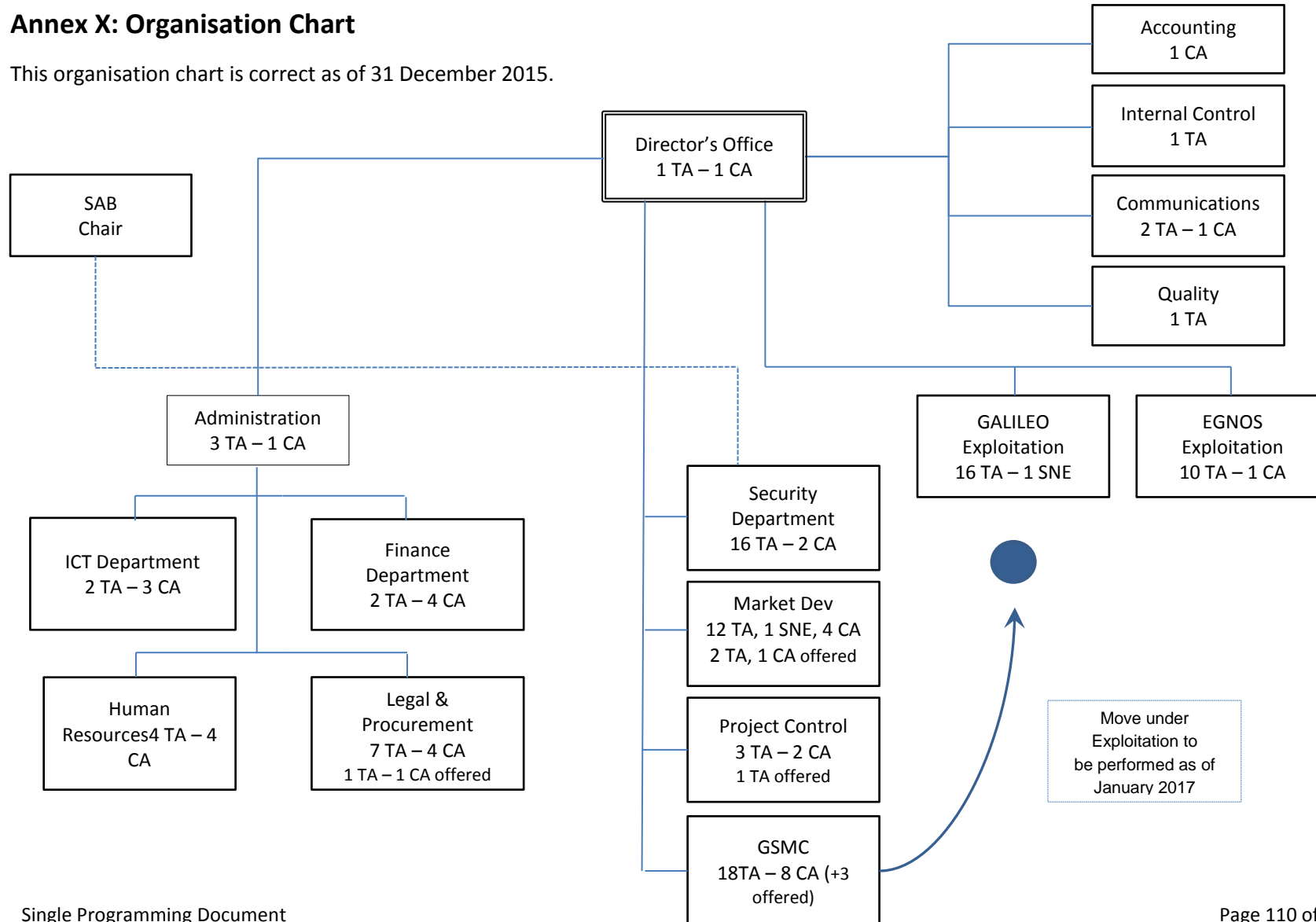
Objective	Name	Launch Date	Budget (EUR)	Type of contract	Number of contracts
1	SECTRA Network Acquisition and Maintenance	Q2	24 564	Specific Contract	1-2
4	Quality Management Support	Q1	414 824	Specific Contract	1-2
2	Engineering Support to GSMC Operations	Q1-Q3	2 510 612	Specific Contract	2-3
1	GSMC Security Monitoring Services	Q2	200 000	Specific Contract	1-2
	Total		2 600 000		

IX.04 PROMOTION AND MARKETING OF THE SERVICES (WBS 5.02, 5.03, 1.03.01)

Objective	Name	Launch Date	Budget (EUR)	Type of contract	Number of contracts
9	Web site content and management	Q1	375 000	Specific contract	1-2
1, 2, 3, 4	EGNSS user segment and market development in Transport (Aviation, Road, Rail, Maritime)	Q4	600 000	Specific contracts	4-5
5, 7, 8	E EGNSS user segment and market development in high precision (Agriculture, Surveying, Timing, Governmental users)	Q4	400 000	Specific contract	4-5
6	EGNSS user segment and market development in mass market	Q3	200 000	Specific contract	2-3
1-8	Market monitoring, user management and technology monitoring, including cooperation with receiver manufacturers	Q3	640 000	Specific contract	3-4
	Total		2 215 000		

Annex X: Organisation Chart

This organisation chart is correct as of 31 December 2015.



Annex XI: Tasks delegated to the European GNSS Agency

The Delegation Agreements between the Commission and the Agency which will be in force during 2017 are:

1. Delegation Agreement for the Public Regulated Service (PRS) (signed in September 2011)
2. Delegation Agreement for EGNOS Exploitation;
3. Delegation Agreement for Galileo Exploitation;
4. Delegation Agreement for the management of Horizon 2020 projects.

XI.1 DELEGATION AGREEMENT FOR PUBLIC REGULATED SERVICE (2011)

The Agency provides management of the European Commission PRS Pilot Project 2 (P3RS-2) that started in December 2013, delegating 11 600 000 EUR to the Agency over a five-year period. This includes the procurement of 20 PRS pre-operational receivers into two batches of 10 units, each equipped with a different Security Module.

XI.2 DELEGATION AGREEMENT FOR EGNOS EXPLOITATION

The EC-GSA EGNOS Exploitation delegation agreement was signed on 16 April 2014, delegating 1 450 000 000 EUR to the Agency to undertake EGNOS Exploitation tasks over the period 2014-2020. These include the provision of the Open Service, the Safety of Life Service and the EGNOS Data Access Service to users. This agreement defines the EC-GSA link for EGNOS Exploitation as foreseen in the GNSS Regulation. Subsequently, a GSA-ESA EGNOS Working Arrangement was signed in July 2015 as also foreseen in the GNSS Regulation. The working arrangement in particular addresses future system upgrades coming after the EGNOS V2.4.1N and V2.4.2 phase B activities that are being completed under the existing EC-ESA EGNOS Delegation Agreement, and the V3 activities. In September 2016 the EGNOS Exploitation delegation agreement was further updated to 1 552 000 000 EUR.

Planned Procurement for 2017

The following is a list of all procurement currently planned under the terms of the EGNOS Exploitation delegation agreement.

Activity	Title/Description	Type/subject of contracts envisaged (studies, technical assistance, industrial contracts...)	Type of financial instrument	Existing or new contract or agreement	Indicative number of contracts, agreements, amendments or exercising of options	Indicative timetable for publication/launch	Funds set aside (000 EUR)
EGNOS service provision customer provision (excluding GEO3)	Entry in operations of System Release 2.4.1N	Provision for identified changes to ESSP contract (foreseen options, changes due to new major/minor releases, new RIMS, GSA changes on NOTAM/EDAS/EWA upgrades, etc.)	Procurement	Existing and new contract amendments, exercising of options	1	S1-2017	6,000
Activities to be undertaken through GSA-ESA Working Arrangement	GSA-ESA V3 Phase C/D	Through the GSA-ESA EGNOS working arrangement.	Procurement	New	1	S1-2017	TBC
	GSA-ESA V2.4.2 Phase C/D	Through the GSA-ESA EGNOS working arrangement.	Procurement	New	1	S1-2017	
	GSA-ESA specific contract 3	EGNOS risk analysis maintenance, EGNOS independent penetration tests, support to the elaboration of the risk treatment plans, implementation of the risk treatment plan at design level, system & site accreditation tasks.	Procurement	New	1	S1-2017	
EGNOS Programme engineering support	New GSA support specific contract: support to be provided for EGNOS related tasks	Lot 2 and 3: engineering support for legal, security service operations.	Procurement	New	3	S1-2016	1,500
EGNOS Service Provision enablers (MMAP projects, Standardisation studies, Safety & certification studies)	Technical support for multimodal standards	Technical studies and simulations to support standardisation efforts at system-level and receiver-level in the aviation, maritime and rail domains with dedicated modules per domain and a work package for provision of ad-hoc support.	Procurement	New	TBC	S1-2017	TBC
	Support to EGNOS adoption in aviation	Operational implementation of EGNOS in aviation is a strategic goal to ensure the success of the programme. The objective of this activity is to foster EGNOS adoption in the European aviation sector, enabling on the one hand, users to equip their aircraft or rotorcraft fleet with GPS/SBAS enabled avionics and, on the other hand, Air Navigation Service Providers and airports to publish APV SBAS procedures (LPV) in Europe. The priority of the activity will be implementation in regional, business (corporate) aviation, general aviation (training, emergency services) and rotorcraft, considered the main aviation market segments for EGNOS and those maximising public benefits. The result will be a wide scale operational implementation of the EGNOS based approached throughout European airports and airspace users.	Grant	New	TBC	S2-2017	6,000
Fundamental elements	EGNOS and SoL Activities - V2 Rx Maritime Receiver Development, Test and Validation compliant with IMO Resolution A.1046	Development of EGNOS v2 Rx compliant with IMO Resolution A.1046.	Grant	New	TBC	S2-2017	1,000
	EGNOS and SoL Activities - Aviation Receiver Development, Test and Validation	Define the architecture and the specification of the new generation SBAS GPS+Galileo dual frequency receivers for aeronautical users	Grant	New	TBC	S2-2017	5,000
EGNOS GSA programme management reserve	GSA Programme Management Reserve	GSA Programme Management Reserve for 2017.	Procurement	New	12	S1-S2 2017	TBC

XI.3 DELEGATION AGREEMENT FOR GALILEO EXPLOITATION

The GALILEO Exploitation Delegation Agreement between the Commission and the Agency was signed on 2 October 2014. It was updated in December 2015 and December 2016, delegating a total of 2 400 000 000 EUR to the Agency to undertake Galileo Exploitation tasks. The agreement provides a framework and budget for the development of services and operations through 2021 and serves as an initial step towards the full Galileo Exploitation Phase.

The exploitation phase was progressively rolled out in the period 2014 – 2016, with full operability scheduled for 2020. The implementation period of the Agreement runs until 2021, with a comprehensive review of its functioning before the end of 2016.

In December 2016, an ESA-GSA working arrangement framework for 1 400 000 000 EUR was signed, the Galileo Service Operator (GSOp) framework contract for 1 500 000 000 EUR was signed and the Commission declared the Galileo Initial Services as operational.

Planned Procurement for 2017

The procurement planned for 2017 under this delegation agreement is being discussed and will be presented to the Commission in due course. The Agency shall update this section once the Commission approves the Acquisition Plan.

Activity	Title/Description	Type/subject of contracts envisaged (studies, technical assistance, industrial contracts...)	Type of financial instrument	Existing or new contract or agreement	Indicative number of contracts, agreements, amendments or exercising of options	Indicative timetable for publication/launch	Funds set aside (000 EUR)
Mission and Control Segments, including WP2, WP2X, GSF, WP3 and WP3X	Specific Contract 1 of Working Arrangement	SC1 of WA: WP2 change requests & maintenance: contract changes signed by ESA by the date of the WA are assigned to GSA from 01/01/2017 till contract end; maintenance of the system developed under WP2.	Procurement	Existing and new contract amendment	2	17S1	600,000
	Specific Contract 2 of Working Arrangement stage 2	SC2 of WA stage 2: WP3X - GCS Procurement of the future WP3X ground segment (System Build 1.6 & 2.0) with Level 2/Level 3 maintenance included.	Procurement	Existing and new contract commitment	1	17S1	
	Specific Contract 2 of Working Arrangement stage 3	SC2 of WA stage 3: WP2X - Procurement of the future GMS/GSF development (System Build 1.6 & 2.0, P2.3 / 3.0) with Level 2/Level 3 maintenance included.	Procurement	Existing and new contract commitment	1	17S2	
	GSMC evolution	GSMC GSF Evolutions: SOIF 3 / GSF v2.3: ensure entire Galileo ground segment system monitoring. GSMC OPS KVM (keyboard, video and mouse) Switch Deployment and Maintenance: objective is to develop and deploy solution to allow operator to use multiple systems by using a single system.	Procurement	New	2	17S2	
GNSS Service Centre (GSC)	GSC operations, maintenance and infrastructure	Supporting GSC-n operations: GSC-n webportal management and hosting; GSC maintenance: GSC infrastructure V1 Level 2/Level 3 maintenance; GSC Framework Contract Infrastructure V2: Framework Contract for the development of GSC V2 (post V1.2); GSC supporting tools: Graphical constellation representation, performance analysis.	Procurement	New	7	17S1-S2	2,000
GSMC Hosting	GSMC building activities	GSMC Interim Modular Construction: Option to improve the equipment of the modular construction. GSMC New Building Definition Study GSMC New Building Definition Study established through a framework contract and two specific contracts. GSMC UK security systems upgrade GSMC mission (according SSRS 3.9) requires infrastructure resiliency. Upgrade of GSMC UK security systems.	Procurement	New	3	17S2	1,000
PRS	PRS related infrastructure and associated trainings	Communication Networks and Monitoring of PRS Signal In Space (SIS) and Navigation Message; GSMC Operations interface training design and development; GSMC SSS2 Service Desk training and evolution; Procedures for GSMC Manual release of PRS Keys.	Procurement	New	9	17S2	18,500
	P3RS2 operations, maintenance and update	P3RS2 operations, maintenance and update: support P3RS2 equipment post 2016.	Procurement	New	1	17S1	
	GRC Dev, OPS & Maintenance	PRS Navigation monitoring Support from Member States	Grant	New	1	17S1	

Activity	Title/Description	Type/subject of contracts envisaged (studies, technical assistance, industrial contracts...)	Type of financial instrument	Existing or new contract or agreement	Indicative number of contracts, agreements, amendments or exercising of options	Indicative timetable for publication/launch	Funds set aside (000 EUR)
	Preparation and follow-up of PRS Signal In Space (SIS) Security Monitoring project	PRS SIS Security Monitoring project support: engineering support.	Procurement	New	1	17S2	
	EU GNSS Distribution Authority (DA)	EU GNSS DA: engineering support for Distribution Authority tasks.	Procurement	New	1	17S1	
SAR	Return Link Service Provider (RLSP)	RLSP option.	Procurement	Existing and new contract amendment	1	N/A	16,000
	SGDSP (SAR Galileo Data Service Provider)	SGDSP.	Procurement	Existing and new contract amendment	1	N/A	
	MEOLUT	4 th MEOLUT deployment.	Procurement	New	1	N/A	
Galileo Reference Centre (GRC)	GRC Support from Member States	GRC Support from Member States Specific Grant 2: Provide funding to Member States for contributing to the GRC	Grant	New	1	17S1	3,000
	V0 operations extension, hosting services and equipment	Specific Contract 7 - V0 operations extension and Hosting Services; HVAC for equipment rooms	Procurement	New	2	17S1	
Exploitation support and communication	Galileo Communication	Galileo communication events, web site, publications, video for Galileo communications.	Procurement	New	2	17S1	1,000
Fundamental Elements	Advanced RAIM Multiconstellation Receiver	Advanced RAIM Multiconstellation Receiver: Advanced (A) RAIM (Receiver Autonomous Integrity Monitoring) project intends to develop an Advanced RAIM prototype in line with ARAIM TSG to provide a global integrity service based on multiple satellite constellations.	Procurement	New	1	17S1	45,000
	Secondary Channel Technologies	Secondary Channel Technologies project intends to develop a demonstrator to assess at Member States level PRS adoption critical technologies, including secondary channel capability.	Procurement	New	2	17S2	
	PRISMA phase II	PRISMA phase II project will continue towards full rate production of low end PRS receivers including Security Modules following initial studies carried out under H2020 (PRISMA).	Procurement	New	3-4	17S2	
	Timing receiver for critical infrastructure	Timing receiver for critical infrastructure project intends to develop and test Galileo timing receivers, targeting low cost receiver with high timing accuracy in bias and drift. A demonstration campaign with real data is also included in the project.	Grant	New	1	17S1	
	MEOSAR Beacon prototyping	MEOSAR Beacon prototyping project intends to develop and test a beacon improving location accuracy, availability and Time To Fix, Return Link Service (RLS), and automatic ELT activation on indication of emergency.	Procurement	New	1	17S1	
	Advanced Interference Detection and Robustness Capabilities	Advanced Interference Detection and Robustness Capabilities project intends to identify new mechanism to detect interference at receiver level and to share this information in a crowd sourcing based network.	Grant	New	1	17S2	

Activity	Title/Description	Type/subject of contracts envisaged (studies, technical assistance, industrial contracts...)	Type of financial instrument	Existing or new contract or agreement	Indicative number of contracts, agreements, amendments or exercising of options	Indicative timetable for publication/launch	Funds set aside (000 EUR)
	Dispatch Phase II	Dispatch Phase II: objective of these procurements is to support the implementation of operational solutions based on outcome of H2020 procurement (DISPATCH)	Procurement	New	3-4	17S2	
	Integration	Integration: First Specific Contracts of the Integration Framework contract.	Procurement	New	3	17S1-S2	
	Mass market IOT receiver	Mass market IOT project intends to develop cost-efficient mass-market receiver for internet-of-things technologies	Grant	New	1	17S1	
	Consumer grade GNSS devices	Consumer grade GNSS project intends to develop enhanced consumer grade GNSS devices.	Grant	New	1	17S1	
Galileo GSA Programme Management Reserve for 2017	GSA Programme Management Reserve 2017	GSA Programme Management Reserve for 2017.	Procurement	New	10	17S1-S2	TBC

XI.4 DELEGATION AGREEMENT FOR HORIZON 2020

The European Commission delegated to the European GNSS Agency the implementation of Horizon 2020 - Framework programme for research and innovation, based on the Delegation Agreement signed in April 2014 and amended in November 2014. The indicative total maximum amount of the Union contributions to the Agency for the duration of the Agreement shall be 168 000 000 EUR. The annual maximum amount of the Union contribution for the implementation of the entrusted tasks shall be defined in the transfer of funds agreements to be concluded between the Parties.

According to the general provisions of Delegation Agreement, the Commission entrusts the Agency to implement tasks under the following part of Horizon 2020 Specific Programme: Galileo-related activities within the activity ‘Space’ of the specific objective ‘Leadership in Enabling and Industrial Technologies’ of Part II ‘Industrial leadership’ as defined in the annual Work Programmes.

The Agency’s main tasks include the management of grant award procedures for the call for proposals, as well as the grants’ awarded management without a call for proposals covered by a transfer of funds agreements such as the publication of the call³⁰. Moreover, the Agency shall manage all of the stages in the lifetime of actions supported by grants awarded under a transfer of funds agreement, using the IT tools developed for the purpose of managing Horizon 2020.

The Agency shall be responsible for monitoring the projects, making the necessary checks and recovery procedures, and for performing budget implementation tasks covering revenue and expenditure within the meaning of the Financial Regulations. The Agency shall also conclude public procurement procedures and manage the ensuing contracts - including the operations required to launch public procurement procedures - and shall also provide support to the Commission in implementation of the Galileo-related activities.

In 2017 the Agency will manage 24 projects from the first call, and 13 projects from the second call of Horizon 2020. The Agency kicked off the former in the first quarter of 2015, while the latter were

³⁰ See reference to calls: <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-galileo-2014-1.html#tab2>

kicked off at the beginning of 2016. The Agency launched a further call for proposals on 8 November 2016 with a submission deadline of 1 March 2017.

In addition to the above mentioned tasks, the Agency has also endorsed the launch and management of PRS user segment related procurements organised into two items. In 2017, all the procurement under Horizon 2020 PRS will be running and the Agency will ensure the project and technical management of all procurement actions. In total there will be 5 procurements (1 under H2020 PRS Item 1, and 4 under H2020 PRS item 2).

The list of projects that the Agency shall manage in 2017 is shown below

Acronym	Title
First H2020 Call	
SAT406M	An E-GNSS application providing an end-to-end solution based on the SAR/Galileo service and particularly using the Return-Link-Message, to improve the mobility and safety of citizens
GMCA	GNSS Monitoring for Critical Applications
mapKITE	EGNOS-GPS/Galileo based high-resolution terrestrial-aerial sensing system.
G MOTIT	Galileo-Enhanced MOTIT: an electric scooter sharing service for sustainable urban mobility
MISTRALE	Monitoring of soil moisture and water-flooded areas for agriculture and environment
MAGNIFIC	Multiplying In Africa European Global Navigation Initiatives Fostering Interlaced Cooperation
COREGAL	Combined Positioning-Reflectometry Galileo Code Receiver for Forest Management
LARA	LBS Augmented Reality Assistive System for Utilities Infrastructure Management through Galileo & EGNOS
ERSAT EAV	ERTMS on SATELLITE – Enabling Application Validation
GALENA	Galileo-based solutions for urban freight transport
DEMETRA	Demonstrator of E-GNSS Services based on Time Reference Architecture
FOSTER ITS	First Operational, Secured and Trusted Galileo receiver for ITS
e-Airport	Increase airport capacity, safety and security using European GNSS
GHOST	Galileo Enhancement as Booster of the Smart Cities
GEO VISION	GNSS driven EO and Verifiable Image and Sensor Integration for mission-critical Operational Networks
Spyglass	Galileo-based passive radar system for maritime surveillance
E-KnoT	E-GNSS Knowledge Triangle
JUPITER	Joint European Project for International ITS/E-GNSS awareness Raising
GNSS.asia2	Industrial cooperation across continents
BEYOND	Building E-GNSS capacity on EU neighbouring multimodal domains.
POSITION	Polish support to innovation and technology incubation
CaBilAvi	Capacity building for aviation stakeholders, inside and outside the EU
BELS	Building European Links toward South East Asia in the field of GNSS
5LIVES	Search, Challenge, Fight, Care, Rescue for Lives
Second H2020 Call³¹	

³¹ Please note that majority of the 2nd Call projects are in the Grant Agreement preparation process while writing this document. If the Grant Agreement is not signed, the project will not be funded.



Acronym	Title
AUDITOR	Advanced Multi-Constellation EGNSS Augmentation and Monitoring Network and its Application in Precision Agriculture
BLUEGNSS	Promoting EGNSS Operational Adoption in BLUEMED FAB
EASY Pv	EGNSS high accuracy system improving photovoltaic plants maintenance
GRICAS	Galileo MEOSAR RLS Improvement for Better Civil Aviation Security
HELIOS	Second Generation Beacon for GALILEO/EGNOS EGNSS Search And Rescue applications
INLANE	Low Cost GNSS and Computer Vision Fusion for Accurate Lane Level Navigation and Enhanced Automatic Map Generation
InDrive	Automotive EGNSS Receiver for High Integrity Applications on the Drive
LOGIMATIC	Tight integration of EGNSS and on-board sensors for port vehicle automation
MOBNET	Mobile network for people's location in natural and man-made disasters
RHINOS	Railway High Integrity Navigation Overlay System will define a GNSS-based system to support the localisation of trains respecting the challenging requirements of the railway safety standards.
SKYOPENER	Establishing new foundations for the use of Remotely-Piloted Aircraft Systems for civilian applications.
STARS	Satellite Technology for Advanced Railway Signalling
STRIKE3	Standardisation of GNSS Threat reporting and Receiver testing through International knowledge exchange, experimentation and exploitation

As part of this Delegation Agreement, the Agency will organise events and other opportunities to promote the participation in and results of the programme.

An extract of the Agency's work plan, reproducing the relevant parts of the Commission work programme, is annexed below for information purposes pursuant to Article 8a(2) of Regulation (EU) No 912/2010 of the European Parliament and of the Council, as amended.

H2020 2017 Work Plan

Call - Applications in Satellite Navigation – Galileo – 2017

H2020-GALILEO-GSA-2017

The European Global Navigation Satellite System (EGNSS) encompasses the satellite navigation system established under the Galileo programme and the European Geostationary Overlay System (EGNOS). The Galileo system will provide position, navigation and timing services and increase availability and reliability of other GNSS, while ensuring the European non-dependence from other GNSS. The EGNOS system improves the accuracy and provides information on the reliability of the GPS system, and in the future also of the Galileo system.

Satellite navigation technology is an increasingly common component of innovative applications in different market segment. Over the years satellite navigation has become more affordable and more reliable. GNSS is used all around the globe, with 2.8 billion GNSS devices in use in 2013. By 2019, this is forecasted to increase to over 7 billion – on average one device per person. This large base of satellite navigation powered devices opens a huge opportunity for innovation in terms of applications in transport, consumer and professional markets. In addition, the new generation of GNSS, such as Galileo, brings new specific features and increased performance that can trigger innovation and enable more accurate and robust applications.

Development of downstream applications is key to maximise adoption of Galileo and EGNOS and also to stimulate the EU GNSS downstream industry competitiveness, while capturing public benefits. Small and Medium Enterprises (SMEs) are key players for innovation in the sector of GNSS applications for their capacity of innovating quickly, adapting to this fast growing and changing domain. While EGNOS is already fully operational, Galileo is still in deployment phase and will gradually start to deliver services from 2016 onwards up to a full capability in 2020. The use of the available Galileo initial services and test beds³² in the course of the proposed projects is encouraged if and when necessary and beneficial for the project.

GNSS technology is advancing fast. Current trends that will influence innovation in the field of GNSS applications should be taken into account by applicants. These trends concern for example the appearance of a multi-constellation environment, leading to new multi-frequency devices that are becoming accessible also for mass market applications, as well as the increased combination of GNSS with other sensors and positioning techniques (e.g. Bluetooth beacons, localisation through Wi-Fi base stations, etc.). GNSS receivers itself are undergoing miniaturisation and are more and more "always connected".

To facilitate access to opportunities for applicants the following list includes dedicated 'Applications in Satellite Navigation – Galileo' activities in related calls and topics from the societal challenge Smart, Green and Integrated Transport, in addition to those in this call:

- Societal Challenge Smart Green and Integrated Transport:

³² List of Galileo test infrastructure is available: http://gnss-test-portal.eu/tools/list_all_in_category/3

- Automated Road Transport:
 - ART-02-2016: Automation pilots for passenger vehicles
- Mobility for Growth:
 - MG-5.2-2017: Innovative ICT solutions for future logistics operations
- SME Instrument (H2020-SMEInst-2016-2017), although not dedicated uniquely to Satellite Navigation, is particularly well suited for SMEs addressing space based applications:
 - SMEInst-04-2016-2017: Engaging SMEs in space research and development
- Applications in Satellite Navigation (H2020-GALILEO-GSA-2017)
 - Galileo 1 – 2017 – EGNSS Transport Applications;
 - Galileo 2 – 2017 – EGNSS Mass Market Applications;
 - Galileo 3 – 2017 – EGNSS Professional Applications;
 - Galileo 4 – 2017 – EGNSS Awareness raising and capacity buildings

In accordance with the Commission decision C(2014)4995 this call will be implemented by the European GNSS Agency in indirect management.

Proposals are invited against the following topic(s):

GALILEO-1-2017: EGNSS Transport applications

Specific Challenge: Transport is fundamental to our economy and society. An efficient and sustainable mobility is vital for the internal market and for the quality of life of the citizens. Transport enables economic growth and job creation. Satellite navigation application technology is an increasingly common component of modern transport systems. It contributes to a competitive, safe and resource efficient transport system and enables new challenging solutions in terms of positioning and navigation performances in aviation, road, maritime and rail, as well as in multi-modal applications. The use of EGNSS is also a key factor in many EU transport related policies, such as Intelligent Transport System, emergency call (eCall), enhanced digital tachograph, European Single Sky, European contribution to the Worldwide Maritime Radionavigation System.

The specific challenge of this topic is to develop innovative EGNSS based applications in aviation, road, maritime and rail that will make EGNOS and Galileo more available to transport users and enable new end-to-end solutions that require accurate and resilient positioning and navigation.

Scope: Proposals should aim at developing new innovative applications, with commercial impact and a clear market uptake perspective. Innovation activities within this topic should build on:

- Exploitation of the distinguishing features of EGNOS and Galileo signals and operational advantages in downstream applications;
- Implementation of EGNSS based pilot projects and end-to-end solutions, ready for use by the private or public sector;
- Standards, certification, legal and societal acceptance, which will foster EGNSS adoption; and
- Exploitation of synergies with other positioning and navigation systems and techniques, with focus in valorising EGNOS and Galileo in the frame of multi-constellation and multi-frequency environment.

EGNSS should be part and parcel of the envisaged solution(s). However, where a combination of EGNSS with other technologies is required to make the application(s) work, this is not excluded from the scope. Proposals may be submitted in any of the following four transport domains:

Aviation: The development of EGNSS solutions for navigation, surveillance and communication in all phases of flight (aircraft and rotorcraft) should be addressed, including the possibility to determine the location of aircraft in distress. In particular, GNSS based PBN (Performance Based Operations), advanced operations for approach and landing benefitting from robust vertical guidance and LPV-200/CAT1 services³³. Furthermore, surveillance applications, such as ADS-B (Automatic Dependent Surveillance Broadcast) and use of reliable PVT for signal integrity, precise positioning and orientation of remotely piloted aerial systems (RPAS) might be addressed. Synergy and complementarity with the Sesar Joint Undertaking and other initiatives shall be clearly identified. Proposals should in particular build on multi-constellation/multi-frequency, current and future EGNOS integrity features and service levels, as well as integration of multi-constellation enabling capabilities.

Road: Development of EGNSS solutions in emerging innovative domains, such as autonomous vehicles, that are safety critical and require a specific accurate and resilient positioning, timing and navigation should be addressed. Development of EGNSS solutions in policy driven applications, such as new generation of eCall, enhanced digital tachograph, dangerous goods transport, etc. might also be addressed. Proposals should in particular build on Galileo specific signal features and differentiators and new services such as authentication and high precision, as well as current and future EGNOS integrity features.

Maritime: Development of EGNSS based solutions in the different maritime and inland waterways

³³ The recent EASA Notice of Proposed Amendment 2015-01 should be taken into account.

(including the Arctic), such as vessels navigation, traffic management and surveillance, search and rescue, port operations, custom fraud control, fisheries monitoring should be addressed. Proposals should in particular build on the use of current and future EGNOS dedicated services for maritime, and the Search and Rescue service of Galileo, other Galileo differentiating features and services, such as authentication, and high precision.

Rail: Development of EGNSS based solutions in train signaling and control, contributing to the evolution and cost competitiveness of the European Rail Traffic Management System, and in non-safety-critical applications, such as passenger information system, asset management, etc. should be addressed. Synergy and complementarity with the Shift 2 Rail Joint Undertaking and other initiatives shall be clearly identified. Proposals should in particular build on the current and future EGNOS integrity services and multi-constellation, multi-frequency, and specific signal features of Galileo that improves position performances in the challenging railway environment (e.g. urban parts).

In projects to be funded under this topic participation of industry, in particular SMEs, is encouraged.

Proposals addressing PRS (Public Regulated Service) related applications are not in the scope of this action.

The Commission considers that proposals requesting a contribution from the EU of between EUR 1 and 3 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact: Activities should promote innovation in order to maximise the potential of the EGNSS and its adoption in transport. They should build on specific features and differentiators of Galileo and EGNOS, demonstrating the advantage of their use in transport. The applications shall contribute to the modern, efficient and user-friendly transport system. The activities should be complemented with a systems' approach, taking care of infrastructure and regulatory requirements, coordination of multiple actors and pilot projects to encourage market take-up.

The proposals shall have a clear intention and rationale to commercialise the products and services developed, including a business plan.

Type of Action: Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

GALILEO-2-2017: EGNSS mass market applications

Specific Challenge: The past 10 years have seen a wider and wider uptake of GNSS based user technology, initially with the Personal Navigation Devices in our cars and then with smartphones in our pockets. Nowadays this also includes tablets, laptops, cameras, fitness gears and wearable devices, etc. In addition, recent trends are showing that not only "every person" but in the future

also “everything” will be connected and equipped with a GNSS device (e.g. connected vehicles and internet of things). This is opening a new generation of Location Based Services (LBS). The development of this new generation of LBS is driven by different needs, depending on the application: mobility, productivity, safety, etc. To satisfy these needs, the key requirements for GNSS are Time-To-First-Fix (TTFF), accuracy and availability. Galileo satellites will further improve signal availability, thus enhancing continuity of service for LBS in urban or challenging environments. By contributing to multi-constellation solutions, Galileo can satisfy the need for higher accuracy and fast TTFF of demanding applications.

The specific challenge of this topic is to exploit the availability of GNSS enabled mass market devices, developing innovative EGNSS applications that will:

- Foster the adoption of EGNOS and Galileo in mass markets and ensure that the benefits will be captured by the users.
- Create applications that will make best use of EGNSS innovative features such as better multipath resistance, authentication etc.
- Contribute to the competitiveness of the European GNSS industry in the area of mobile applications, with special focus on the innovative role of SMEs.
- Maximise public benefits by supporting the development of applications that will address major societal challenges in focus areas such as health, citizen safety, mobility, smart cities, sustainable resources monitoring and management, regional growth, low- carbon energy infrastructure planning and protection, climate action.

Scope: Proposals should aim at developing new innovative applications, with commercial impact and a clear market uptake perspective. Below are some areas which are identified as especially promising for further EGNSS applications development:

Mobility as a service and Smart Cities: Development of EGNSS solutions for cross-modal mobility and new emerging “mobility as a service” approach should be addressed, in which the user does not buy a vehicle or a public transport ticket, but a service to comply with her/his mobility needs. This area may include innovative telematics applications in which the positioning, timing and navigation are used both to deliver the mobility service and to calculate a fair price based on the actual use of it. Development of EGNSS solutions for other areas of future Smart Cities are also included in the scope.

Internet of things: Development of EGNSS solutions for “internet of things” should be addressed, exploiting the interconnectivity of uniquely identifiable devices and the availability of their location. Proposals should duly reflect the fact that the internet of things is not only improving productivity and efficiency of organisations (with applications in almost every sector of the economy, from automotive to consumer electronics, healthcare or manufacturing and logistics), but that the internet of things technology is also changing our daily lives.

Commercial and social LBS: Proposals should address one of the two following application areas. 1) Applications for commercial LBS, such as: secure financial transactions; mobile workforce management, tracking solutions; augmented reality; social networking and sport. 2) Applications for social LBS, such as: safety and emergency (E112), e-health (health services more and more connected), and solutions supporting visual and mobility of impaired people.

For all the mass market areas, the development and innovation should build on:

- Galileo features that improve performances in urban environment ;
- Multi-constellation, fusion with other positioning techniques, including sensor fusion and innovative network fusion techniques;
- Authentication services that will be provided by Galileo; and
- Techniques to optimise power consumption.

Attention should be paid to socio-economic considerations such as consumer needs, consumer behaviour (including early adopters), lifestyles, as well due consideration should be given to applicable legal frameworks and ethical issues such as privacy and data protection.

EGNSS should be part and parcel of the envisaged solution(s). However, where a combination of EGNSS with other technologies is required to make the application(s) work, this is not excluded from the scope.

In projects to be funded under this topic participation of industry, in particular SMEs, is encouraged.

Proposals addressing PRS (Public Regulated Service) related applications are not in the scope of this action.

The Commission considers that one proposal requesting a contribution from the EU of between EUR 1 and 3 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact: Activities should aim at developing highly innovative and adaptive applications taking advantage of the Galileo and EGNOS added value. The proposal shall have a clear intention to commercialise the products and services developed, including a business plan. The consumer chipset and devices manufacturers (e.g. for smartphones and tablets) are mainly produced in non-European countries and the expected impact of this topic is to foster the competitiveness of European GNSS application providers that build innovation on these chipsets and devices, contributing to increase the overall EU competitiveness in the mass market. In addition, considering that the EU has a good market share of machine to machine chipset and module providers, the expected impact is also to foster applications building on this capacity.

Type of Action: Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

GALILEO-3-2017: EGNSS professional applications

Specific Challenge: Professional applications are covering different market segments. Precision agriculture, mapping and surveying have been the pioneers in the use of GNSS since the early years. The challenge is to make these applications more affordable, easy to use and integrated with other solutions and technologies, including for example earth observation, e.g. Copernicus services, in order to enable new targeted innovative solutions. EGNSS is offering additional accuracy and features, such as multiple frequencies and the high precision service in the frame of the future commercial service, contributing to enabling these innovative solutions, including in challenging environments. Power networks, telecommunication networks and financial transactions³⁴ are today synchronised, many of them using GNSS. These networks are becoming more and more distributed (e.g. distributed power generation of renewable energies), interconnected and more demanding in terms of synchronisation performances (e.g. in 4G-LTE and future internet), or requiring authenticated solutions as for the financial transaction time stamping. The specific challenge is in this case to build on the enhanced capabilities offered by Galileo that will provide high accurate timing information and authentication services, to develop a new generation of high performing, reliable and EU independent timing and synchronisation applications that can cope with these emerging and demanding needs.

Scope: Proposals should aim at developing new innovative applications, building also on the combination of EGNSS with earth observation and Copernicus services, with commercial impact or with satellite communication. Proposals should have a clear market uptake perspective. Below are some areas which are identified as especially promising for further EGNSS application development:

Agriculture: Automated machine guidance, precision farming and machine control and field boundary measurements are possible areas to be addressed.

Surveying and Mapping: Land survey, marine survey, cadastral and geodesy, and construction are possible areas to be addressed.

Timing and Synchronisation: Telecommunications, power generation and finance are possible areas to be addressed.

Other professional applications: clearly demonstrating amongst others the contribution of EGNSS differentiators, the potential of integration with earth observation data, and the future commercial potential are also invited.

³⁴ Cf. also Article 50 of Directive 2014/65/EU on Markets in Financial Instruments.

For all the professional areas, the development and innovation should build on:

- Multiple-frequencies E1, E5 and E6;
- Galileo specific signal modulation, e.g. AltBOC;
- High precision and authentication services that will be provided by Galileo, i.e. in the frame of the commercial service;
- Fusion with other data, such as from earth observation satellites or other in-situ sensors.

EGNSS should be part and parcel of the envisaged solution(s). However, where a combination of EGNSS with other technologies is required to make the application(s) work, this is not excluded from the scope.

In projects to be funded under this topic participation of industry, in particular SMEs, is encouraged.

The proposal shall have a clear intention to commercialise the products and services developed, including a business plan.

Proposals addressing PRS (Public Regulated Service) related applications are not in the scope of this action.

The Commission considers that proposals requesting a contribution from the EU of between EUR 1 and 3 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact: Activities should aim at developing highly innovative applications taking advantage of Galileo and EGNOS aiming at decreasing the barriers to access such professional applications, in term of price of the solution and easiness to use, increasing the number of users and explore new innovative use of GNSS. Specifically for agriculture the expected impact is also to improve the productivity and decrease the environmental impact. For timing and synchronisation applications, the expected impact is to contribute to cope with emerging network synchronisation needs in terms of accuracy and robustness, while contributing to improve EU dependency from other GNSS.

Type of Action: Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

GALILEO-4-2017: EGNSS awareness raising and capacity building

Specific Challenge: Awareness raising and capacity building in the field of EGNSS are essential elements in facilitating the breakthrough of EGNOS and Galileo inside and outside Europe and in increasing the number of opportunities for future collaboration between European and non-

European GNSS entities. Promotion activities should take a more active role in generating new ideas ready to spin-off and/or to go into market introduction, in providing crucial seed financing and in increasing the visibility of the EGNSS.

Scope: The proposals should aim at capacity building, increasing awareness of EGNSS solutions, providing networking opportunities of centres of excellence and other relevant actors and achieving a critical mass of EGNSS applications success stories, making it an attractive option for private investors in Europe and also globally. Activities under this topic may also contribute to the cooperation schemes, which have been established with partner countries worldwide.

Technology promotion activities can include incentive schemes in the form of financial support to third parties for innovative applications developed by companies and entrepreneurs and based on the EGNSS that will promote the uptake of satellite navigation downstream applications across Europe and beyond.

Proposals addressing PRS (Public Regulated Service) related applications are not in the scope of this action.

The Commission considers that proposals requesting a contribution from the EU of between EUR 0.5 and 1 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact: The main aim of this topic is to support building of industrial relationships by gathering private and public institutions around services offered by EGNSS and related applications. This topic should support the competitiveness of EU industry by identifying strategic partners and by developing market opportunities.

The support to incentive schemes should foster the emergence of new downstream applications based on either Galileo and/or EGNOS and therefore to support the EU GNSS industry.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

Conditions for the Call - Applications in Satellite Navigation – Galileo – 2017

Opening date(s), deadline(s), indicative budget(s):³⁵

Topics (Type of Action)	Budgets (EUR million)	Deadlines
	2017	
Opening: 08 Nov 2016		
GALILEO-1-2017 (IA)	14.50	01 Mar 2017
GALILEO-2-2017 (IA)	9.00	
GALILEO-3-2017 (IA)	8.00	
GALILEO-4-2017 (CSA)	1.50	
Overall indicative budget	33.00	

Indicative timetable for evaluation and grant agreement signature:

For single stage procedure:

- Information on the outcome of the evaluation: Maximum 5 months from the final date for submission; and
- Indicative date for the signing of grant agreements: Maximum 8 months from the final date for submission.

Eligibility and admissibility conditions: The conditions are described in General Annexes B and C of the work programme. The following exceptions apply:

³⁵ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.
All deadlines are at 17.00.00 Brussels local time.
The Director-General responsible may delay the deadline(s) by up to two months.
The budget amounts for the 2017 budget are subject to the availability of the appropriations provided for in the draft budget for 2017 after the adoption of the budget 2017 by the budgetary authority or, if the budget is not adopted, as provided for in the system of provisional twelfths.



GALILEO-1-2017, GALILEO-2-2017, GALILEO-3-2017, GALILEO-4-2017	Considering the nature and objectives of the actions, and in view of favouring wider competition and participation, the European Space Agency will not participate in consortia of proposals submitted under this call for proposals
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Evaluation criteria, scoring and threshold: The criteria, scoring and threshold are described in General Annex H of the work programme.

Evaluation Procedure: The procedure for setting a priority order for proposals with the same score is given in General Annex H of the work programme.

The full evaluation procedure is described in the relevant [guide](#) published on the Participant Portal.

Consortium agreement: Members of consortium are required to conclude a consortium agreement, in principle prior to the signature of the grant agreement.