European
Global Navigation
Satellite Systems
Agency

ADOPTED
by the GSA Administrative Board

GSA-AB-49-17-06-03

European GNSS Agency

49th meeting of the Administrative Board

Prague, 27 June 2017

adopting the annual activity report of the European GNSS Agency for year 2016

GSA-AB-49-17-06-03

DECISION OF THE ADMINISTRATIVE BOARD OF THE EUROPEAN GNSS AGENCY

of 27 June 2017

adopting the annual activity report of the European GNSS Agency for year 2016

THE ADMINISTRATIVE BOARD OF THE EUROPEAN GNSS AGENCY ('Agency' or 'GSA'),

Having regard to Regulation (EU) No 912/2010 of the European Parliament and of the Council of 22 September 2010 setting up the European GNSS Agency as amended by Regulation (EU) No 512/2014 (hereinafter referred to as the "GSA Regulation"), and in particular to Article 6(2)(h) thereof,

Having regard to Regulation (EC) No 1285/2013 of the European Parliament and of the Council of 11 December 2013 on the implementation and exploitation of European satellite navigation systems, and in particular to Article 14 thereof,

Whereas:

(1) Under Article 6(2)(h) of the GSA Regulation the Administrative Board should adopt the annual report on the activities and prospects of the Agency,

(2) This report should incorporate without any change the section drafted by the Security Accreditation Board in accordance with point (c) of Article 11(4) of the GSA Regulation,

(3) This report should be forwarded, by 1 July, to the European Parliament, the Council, the Commission and the Court of Auditors;

HAS DECIDED AS FOLLOWS:

Article 1

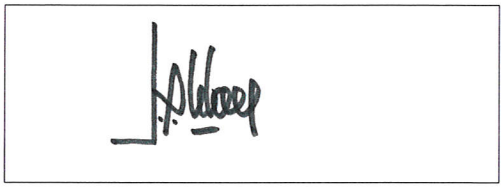
The annual activity report of the European GNSS Agency for year 2016, attached in annex, is hereby adopted.

Article 2

This decision enters into force on the day following its adoption.

Done in Prague on 27 June 2017

For the GSA Administrative Board



Jean-Yves Le Gall

Chair of the GSA Administrative Board

European
Global Navigation
Satellite Systems
Agency

GSA-AB-49-17-06-03

Consolidated Annual Activity Report of the European GNSS Agency 2016

[In pursuance to Financial Regulations 966/2012, Framework Financial Regulations No 1271/2013 and Regulation (EU) No 912/2010[1]]

[1] Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union; Regulation (EU) No 1271/2013 of 30 September 2013 on the framework financial regulation for the bodies referred to in Article 208 of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council and Regulation (EU) No 512/2014 of the European Parliament and of the Council amending Regulation (EU) 912/2010 of 22 September 2010 setting up the European GNSS Agency.

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Management analysis and assessment

Note by the Chair of the Administrative Board

2016 was a particularly prolific, decisive and successful year for Europe's Global Navigation Satellite System (GNSS) programmes, as deployment of the Galileo constellation picked up speed with the orbiting of six additional satellites, including four in a single Ariane 5 launch on 17 November.

The declaration of initial Galileo services by the European Commission on 15 December marked the transition from the deployment phase to the operational phase. This profound shift obviously sends a very positive signal to industry and users. It is also an opportunity to look ahead with a mid-term review and lay the groundwork for the regulatory framework that will govern the programmes beyond 2020. The current GNSS regulation confers an even bigger role to the European GNSS Agency (GSA), which is now in charge of operating Galileo in addition to EGNOS (operating since 2014). In this role, the GSA has both core and delegated tasks, which account for about 5 % and 95 % respectively of its activity budget.

Core tasks include monitoring programme security and security accreditation, for which the GSA is responsible through the Security Accreditation Board (SAB). The work of the SAB, which is independent from the Agency's other activities, was crucial in enabling the accreditation of Galileo Initial Services in 2016. It should also be noted that operating the Galileo Security Monitoring Centre (GSMC) is a highly strategic mission and a core task of the Agency, as this centre provides an operational interface between Competent PRS Authorities (CPAs), the European Council, the European Union (EU) High Representative and Galileo control centres. Core tasks also include market development activities, and I would like to take this opportunity to underline the Market Development department's excellent work. The GNSS User Technology Report that it published in 2016 illustrates its close involvement in developing the user segment.

The GSA also has responsibility for tasks delegated to it by the European Commission, which define a bulk of the Agency's work. These tasks cover programme exploitation, which is central to the GSA's rationale. The contractual tasks entrusted to the GSA for the 2017-2020 period represent more than 2 billion EUR. These activities cover engineering, maintenance and upgrades to the mission and control ground segments, as well as system operations. None of these could be accomplished without the expertise of the European Space Agency (ESA), for which we are most grateful. Delegated tasks also include supporting market development through the Horizon 2020 programme, along with other key elements of the GNSS programmes.

Together, all of these elements confirm the GSA's pivotal role and encourage us to look towards a future where the Agency will contribute directly to managing the programme, with a mature governance structure geared exclusively towards operations. In this respect, the very high professional standards exhibited by the GSA's teams, working under its Executive Director Carlo des Dorides, are a guarantee to this success. Lastly, I would like to sincerely thank the GSA Administrative Board for putting its faith in me and electing me Chair in 2016, with Mark Bacon as Vice-Chair. Together, we shall continue to work tirelessly to make the GSA the central agency for European GNSS programmes.

Jean-Yves Le Gall

Chair of the Administrative Board

Note by the Chair of the Security Accreditation Board

2016 has been a challenging year for the Security Accreditation Board, dominated by the critical milestone of Initial Services and the first ever Galileo Ariane launch. Nevertheless, the SAB has continued to proactively engage with the EU GNSS Programme management authorities in a demanding dialogue with the aim to continually improve the overall security management processes and to gain concrete improvements in terms of security.

The SAB authorised two Galileo launches in 2016, one of which was successfully executed in November and signalled the beginning of the Ariane launches. The Flight Key Cell (FKC) ensured full coverage of these launches and successfully oversaw the secure distribution of Galileo flight key material and satellites throughout the launch operations.

The end of 2016 saw the successful declaration of the critical system milestone that we have all awaited for, signalling the start of an operational service: **Initial Services**. In December the SAB released a "*Statement regarding the authorisation for the Programme to provide initial operation of the GALILEO System and Services up to and including the Signal in Space"*. The SAB acknowledged the efforts made by the Programme in taking concrete steps to improve the security of the Programme. The Programme assured the SAB of its commitment to sustaining progress in mitigating security risks through incremental improvements and in the further development of Galileo in accordance with Regulation 1285. It was however also recognised that the management of security risks is still evolving.

The process of re-accreditation of Galileo sites continued to be followed by the SAB; the Galileo sites in configuration hold a valid accreditation as a result of the SAB secretariat working in close cooperation with the Member States in order to maintain and ensure that the site re-accreditation process is smooth and up-to-date.

The SAB issued 107 interim authorisations for bodies to develop and manufacture Public Regulated Services (PRS) receivers and security modules, either as a first authorisation or as a change to previously granted authorisations. By the end of the year, over 100 European companies had valid SAB authorisations.

The SAB Crypto-Distribution Authority (CDA) continued to work firmly and robustly on Communication Security (COMSEC) activities, including governance, organisation, identification of COMSEC assets, distribution and further accounting of the COMSEC assets within the Programme. The SAB CDA continued to oversee the implementation of the new Programme COMSEC governance established in December. Particular highlights from 2016 include the Programme establishment of EU GNSS COMSEC Policy, Processes and Procedures in September 2016, Programme production of a Galileo Initial Services Key Managemet Plan

in November 2016 covering all classified cryptographic keys and COMSEC assets providing services to the Galileo User Segment, and ESA GNSS Security Office's establishment of a centralised overview of COMSEC transfers within the Programme by August 2016. These achievements directly address SAB CDA concerns identified in earlier years concerning COMSEC governance, management, accounting and tracking.
SAB CDA Flight Key Cell supported two launches (including one initially unplanned launch) in 2016. Changes to FKC staff, and adaptation of FKC procedures to cope with Ariane launches were implemented successfully despite the need to cope with an unscheduled launch in May 2016. All launches concluded successfully with a full complement of FKC staff (GSA + Member States).

I would like to take this opportunity to acknowledge the significant commitment of all stakeholders to the success of the EU GNSS programmes, and thank them for their efforts and co-operation whilst at the same time acknowledging that much still remains to be done within the security arena. I particularly wish to thank and publically acknowledge the support and wise counsel of my Deputy Chair Mr Bruno Vermeire as well as my colleagues from Member States who form the SAB. And I must also recognise and applaud the professional competence demonstrated and advice offered by the SAB support team who enable the SAB to take informed, yet difficult, decisions ensuring the security of this important EU asset.

Jeremy Blyth

Chair of the Security Accreditation Board of the EU GNSS

Note by the Executive Director

2016 has been a key year for the Agency specifically and for the European GNSS programme as a whole.

I think the best way to capture the scale and success of the GSA's activities is to provide a snapshot of just some of the our operational results and let them speak for themselves. Each of the activities listed below, in no particular order, was shared with the Administrative Board in January 2017:

- Galileo Service Operator (GSOp) procurement signed for 1.5 billion EUR.
- GSA-ESA Galileo Working Arrangement signed for 1.4 billion EUR .
- European Commission (EC)-GSA Galileo Exploitation Delegation agreement amended for 2.4 billion EUR.
- Galileo Initial Services accredited.
- EGNOS best ever service provision.
- GSMC 24/7 services declared.
- BQ Aquaris, the first smart phone incorporating Galileo, announced.
- Qualcomm Snapdragon chips incorporating Galileo announced.
- 1 millionth visitor welcomed to the European Space Expo.

It is also important to highlight the scale and success of the administration behind these important results, so let me share a few key statistics. In 2016, the GSA committed 1.1 billion EUR, signed 360 legal commitments, and processed 652 job applications.

At the beginning of 2016, I presented my strategy for the GSA to the Administrative Board. This strategy focuses on ensuring that the GSA fully meets its responsibilities through to 2020 via the delivery EGNOS and Galileo services and security and by ensuring that a mature organisation is in place. The strategy also addresses key considerations to ensure the GSA is ready for its role beyond 2020, with the GSA reaching cruising speed for EGNOS and Galileo and identifying a possible future role beyond European GNSS.

Above all, I would like to underline the importance that partnerships play in the GSA's activities: partnerships with the Member States, the Commission, and the ESA, to mention just a few. We build these partnerships on the foundations provided by a dedicated, professional and highly skilled GSA staff, without which none of these successes would be possible. Whilst there are many challenges ahead, I am confident that the GSA's future is bright with the team in place.

Carlo des Dorides

Executive Director

Executive summary

By developing a new generation of Global Navigation Satellite Systems, Europe is opening new doors for industrial development, job creation and economic growth. With Europe in the driver's seat, Galileo has the potential to become a cornerstone of the global radio-navigation positioning system of the future. In support of both Galileo and EGNOS, the European GNSS Agency was established as a European Union Regulatory Agency in 2004.

During 2016, the Agency was responsible for a very wide range of activities, including:

- Operating the Galileo Security Monitoring Centre which declared its Initial Services on 14 December and started operating a backup site in the United Kingdom.
- Accomplishing other tasks entrusted to it by the European Commission, such as managing the European Union (EU) research and development framework programmes for European GNSS applications; promoting satellite navigation applications and services; preparing for the successful commercialisation and exploitation of the systems; facilitating a smooth functioning, seamless service provision and high market penetration; and ensuring the certification of all systems' components.
- Fulfilling the terms of two delegation agreements related to the exploitation phases of the Galileo and EGNOS satellite programmes. The Agency has been involved in preparatory activities since 2012, under the terms of a prior agreement. In 2016, these EGNOS and Galileo delegation agreements were amended and the GSA-ESA Galileo working arrangement was signed. Furthermore, the Agency declared Galileo Initial Services on 15 December, officially moving the programme from a testing phase to the provision of live services. It also signed the Galileo Service Operator (GSOp) contract and prepared for the handover of activities previously performed by the ESA under a delegation agreement between the European Commission and the ESA. Regarding the EGNOS programme, the Agency issued a long-term roadmap for its activities and prepared the EGNOS V3 Invitation to Tender.
- Fulfilling tasks defined under a delegation agreement related to the management of projects under the Horizon 2020 (H2020) framework programme for research and innovation. In 2016, the Agency kicked-off projects from the second call and opened the third call for proposals.

1 2016 achievements

The Agency performs both core tasks under Regulation (EU) No 512/2014 amending Regulation (EU) 912/2010 and tasks under delegation from the European Commission. The delegated tasks are described separately in section 1.8.

1.1 Agency management (WBS 1)

During 2016, the Agency continued to improve its Integrated Management System (IMS) by adapting it to the increasing number of staff. It reviewed the revised requirements of ISO 9001:2015 standard and implemented the necessary activities to assure a continued adherence. In addition, it extended the scope of its existing ISO 9001 certification from “preparation” to “operation” for both Galileo Exploitation and the GSMC operational activities.

A major development was the Agency’s Work Breakdown Structure (WBS), which applies an agency-wide approach to the management and modelling of business processes. The WBS contributes to the mapping and organisation of GSA activities. It is complemented by 137 work package descriptions that contain information on inputs and outputs, task ownerships, Key Performance Indicators (KPIs), milestones, etc.

The Agency also continued to develop its Internal Audit Capability (IAC), for which a 2017 work plan has been identified.

1.1.1 Tasks

Task	Name	KPI/Deliverable	Timing	Results
1.	Continuous improvement of the GSA IMS and maintenance of ISO 9001 certification.	• Internal quality audits implemented, management review conducted, non-conformances and audit recommendations followed up and closed. • GSA Quality Officers active at department level and in working groups, Quality Management Board meetings implemented. Quality Officer and Board actions agreed, executed and documented.	Periodically throughout the year	• 21 internal quality audits implemented according to plan. • Management review completed on 3 October 2016. • 11 % of nonconformities and 25 % of suggestions for improvement not closed (target < 20 %). • Quality Officers nominated in all departments, related meetings and actions progressed nominally. • Definition of the following internal procedures for management of potential conflict of interest for the Administrative Board and delivery and audit of the Galileo and EGNOS annual implementation reports. • Internal Audit Service (IAS) and IAC audits conducted.
2.	Adaptation of IMS to higher staff numbers and multi-site operations.	• Quality Management capabilities strengthened. • Scope of ISO 9001 certification for GSMC extended. • Appropriate awareness and training materials developed.	Q1-Q2	• Quality Management support services available at GSA Headquarters and GSMC since March 2016. • Extension of ISO 9001 certification scope for GSMC to cover operations. • Quality Management induction training provided to all new internal and external staff members.
3.	Extension of IMS scope according to Agency's requirements.	• Additional certification activities (information delivery and security) supported. • Scope of ISO 9001 certification extended. • IMS documentation upgraded and made available.	Q2-Q3	• Support to business continuity planning and Information Technology Infrastructure Library (ITIL). Additional certification activities de-scoped. • ISO 9001 certification scope for Galileo Exploitation extended to cover operations from 10 to 12 October 2016. • IMS documentation upgraded and made available on the intranet.

4.	Alignment to standard ISO 9001:2015 revision.	• Implementation of revised requirements in ISO 9001:2015 standard. • Best practice examples propagated.	Q1-Q2	• Gap analysis and action plan to fulfil ISO 9001:2015 standard requirements completed. • Activities of the best practice working group completed.

1.2 Security Related Activities (WBS 2)

The Agency's 2016 security related activities, outside those falling under chapter III of the GSA Regulation, are grouped under the following two headings:

- Central Security Office (CSO)
- Tasks related to the Public Regulated Service Decision No 1104/2011/EU

1.2.1 Central Security Office (WBS 2.02)

The Central Security Office undertook the functions of the Agency's Central European Union Classified Information (EUCI) Registry, and continued its role of supporting the GSA Security Accreditation Authority in maintaining the accreditation of the internal agency infrastructure and Information Technology (IT) assets.

1.2.2 Tasks related to Decision No 1104/2011/EU (PRS Decision) (WBS 2.03)

The Agency is entrusted with the core tasks mandated under the PRS Decision. The requirements defined in this decision are detailed in the PRS Common Minimum Standards (CMS) which entered into force in January 2016. The Agency supported the European Commission with the implementation of these tasks and the specific arrangement concluded pursuant to Article 14 (c) of Decision No 1104/2011/EU. This includes:

- Preparing processes to gain assurance of Competent PRS Authorities' (CPA) compliance to CMS and reporting on this compliance.
- Supporting the European Commission in assisting CPAs in accordance with Articles 5 (9) and 8 (5) of the PRS Decision.
- Ensuring the implementation of the European Commission Article 14 (c) agreement and providing demonstration of compliance.

1.2.3 Tasks

1.2.3.1 Central Security Office (WBS 2.02)

Task	Name	KPI/Deliverable	Timing	Results
1.	Develop/amend policies and procedures for the corporate security of the Agency, including for a classified Document Management System (DMS), in line with EU rules and the quality project.	• Number of policies/procedures established/amended.	Q1-Q4	• Security management plan developed. • Four Security Operation Procedures (SecOPs) amended.
2.	Ensure the physical security of the Headquarters in liaison with the National Security Authority (including electromagnetic and electronic security protection).	• 100 % of facilities accredited/reaccredited. • 100 % of reported incidents investigated and treated.	Q1-Q4	• 100 % of the facilities accredited/re-accredited. • 100 % of the reported incidents investigated/treated.
3.	Administer personal security clearances and authorisations for Agency staff.	• 100 % of personal security clearances administrated in liaison with the Member States' National Security Authorities. • 100 % of the authorisations administered.	Q1-Q4	• 100 % of personal security clearances administrated although delays were experienced in receiving feedback from the National Security Authorities. • 100 % of authorisations administered.
4.	Administer the Agency Central EUCI Register and check decentralised registers.	• Achieve and maintain compliance with 2015/444/EC for the central and decentralised registers.	Q1-Q4	• The Central EUCI Register administered and checked accordingly.
5.	Implement the security-training plan for Agency personnel and ensure its implementation at Agency facilities.	• Checking the implementation at Agency Headquarters, GSMC and Galileo Service Centre (GSC).	Check by Q4	• Implementation of the security-training plan, starting with the introduction of several trainings to staff provided at the Headquarter (EUCI handling mostly). • Check of implementation outside the Headquarters not performed due to other priorities.
6.	Administration of keys for the various groups (GNSS Security Board, SAB, GNSS Security Accreditation Panel (GSAP), etc.).	• Timely generation, distribution and administration of keys for all groups.	Month prior to key expiration	• Administered and delivered according to requirements.

Task	Name	KPI/Deliverable	Timing	Results
7.	Maintain the Agency's secured networks accreditation by the Security Accreditation Authority and prepare for new networks accreditation.	• Decision by the Security Accreditation Authority to accredit the Agency secured network EU Restricted (RUE).	3 months after new request for new systems; no discontinuity for existing systems	• Existing systems re-accredited on a regular basis. • Two new systems accredited (12 Security Accreditation Authority (re-)accreditation decisions throughout 2016 altogether), see also objective 6 in section **Error! Reference source not found.**. • Secured network for the handling of RUE information (GRUE II) accredited.
8.	Implement the Critical National Infrastructure agreement with Czech authorities for the Agency's Prague facilities.	• Implementation of security related aspects of the Critical National Infrastructure agreement in coordination with the relevant services of the Agency and Czech authorities.	Q1-Q4	• Both military and civilian Critical National Infrastructure (that exist in Czech Republic) incorporated GSA Headquarters into their structures. • Implementation measures discussed.
9.	Ensure industrial security in line with EU rules.	• Advising on and preparing of security aspects of Agency industrial contracts. Guarantee 100 % compliance with 2006/548/EC.	Q1-Q4	• Industrial security maintained accordingly.
10.	Monitor security oversight procedures and ensure implementation at Agency facilities in compliance with 2015/444/EC.	• Checking implementation at the GSA sites as necessary. • Achieve and maintain compliance with 2015/444/EC	Check by Q4	• Compliance with relevant legislation overseen on a regular basis through the analysis of relevant procedures. Launch of a plan for the oversight of implementation at Agency facilities started.
11.	Implement, in line with ISO 27001 in cooperation with the Human Resources (HR) department and in coordination with Directore General (DG), HR and HR policies with security related content.	• Implementation plan.	Q2	• Implementation plan not prepared due to other priorities.

1.2.3.2 PRS Decision (WBS 2.03)

Task	Name	KPI/Deliverable	Timing	Results
1.	Assist the European Commission with the development of processes for establishing and reporting assurance of Competent PRS Authority compliance to the Common Minimum Standards as described in Articles 5 (10), 5 (11) and 8 (6) of the PRS Decision.	• Common Minimum Standards audit/inspection implementation plan (TBD).	Q4	• Assistance to EC in preparating and introducing the appropriate reporting measures and processes in relation to the CMS implementation. This exercise started in Q3 and Q4 through the Working Group Net, including CPAs.
2.	Submit quarterly report on the implementation of the specific Arrangement pursuant to Article 14 (c) of the PRS Decision to the European Commission.	• PRS agreement quarterly report.	Q1-Q4	• All tasks entrusted to the GSA in relation to PRS activities (including technology and PRS receivers) conducted in compliance to Art 14 of the PRS decision. • Major effort put on aligning activities, which started before the entry into force of CMS to CMS provisions of activities.PRS quarterly report provided less regularly than requested by the agreement. Statement of Compliance to the Art 14 (c) submitted in July 2016, showing difficulties in implementation.
3.	Organise up to two Competent PRS Authority workshops.	• Agenda and decisions/actions lists.	Q1-Q4	• CPA workshop organised in June 2016. • Two other workshops organised with CPAs in preparation of the the Initial Services.
4.	Finalise and maintain a guide for establishing Competent PRS Authorities.	• Competent PRS Authority guide.	Q1-Q4	• CPA guidelines developed and delivered to the European Commission in December 2016. This guide explains the topics to be covered under CPA responsibilities, vis a vis receivers manufacturers and PRS users.

Task	Name	KPI/Deliverable	Timing	Results
5.	Continue developing framework for the provision of technical assistance to Competent PRS Authorities.	• Template for generic arrangement for GSA provision of technical assistance to CPAs.	Q4	• Continuous assistance to CPAs, mostly dedicated to the prompt delivery of documentation. • Drafting of a generic arrangement template for the provision of technical assistance. As the content of the technical assistance required further discussion, especially in regards to the potential extension of the scope of assistance, this task was not completed.
6.	Support the EC defining and implementing a European Commission PRS information dissemination and awareness policy.	• PRS information dissemination and awareness policy implementation plan for the European Commission.	Q1-Q4	• Preparation of a template of PRS dissemination for the EC in the context of FRAME project[2]. • Following this, production of a template for a PRS information management plan. This plan will provide guidance to all GSA contractors needing to access and share PRS information. • Regarding the dissemination of PRS information, contribution to a new marking policy debated at the Working Group National Expert Team (WG-NET) with CPAs.
7.	Provide the GSA PRS Communications policy and process, developed in co-operation with the GSA Communication Department and approved by the European Commission in accordance with the EC-GSA PRS Article 14 (c) arrangement.	• GSA PRS Communications policy (to support PRS activities of Market Development and Communications departments in particular).	Q1	• Development of a GSA PRS Information public dissemination policy (as from Art 14 (c) provisions), which was submitted to the European Commission for approval.

[2] FRAME: Framing the definition and development of new PRS use cases based on innovative technologies

1.3 Security accreditation activities (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 prepared this section. It is incorporated into this document, without any change.

The Agency in general and the security accreditation team in particular has provided the technical and administrative secretariat support to the SAB, providing the underlying security assurance to prepare proportionate, appropriate and effective security accreditation decisions at the programme milestones.

The main objectives for 2016 recalled hereafter were achieved:

- The seventh and eight Galileo launches were approved by the SAB.
- The SAB issued the statement regarding the authorisation for the programme to provide initial operation of the GALILEO system and services up to and including the Signal in Space in December 2016. This statement was preceeded by a number of statements throught the year, providing recommendations to the Programme Manager on the actions to undertake in order to achieve a successful Initial Services milestone. In 2016, major independent security testing took place as part of the SAB network security test campaign, and contributed significantly to the security risk assessment.
- The SAB issued 6 decisions related to configuration upgrades during 2016 (e.g. related to segment upgrades such as Ground Mission Segment (GMS), Ground Control Segment (GCS), and GSMC).
- 16 Site Authorisations to operate were issued by the SAB, in order to maintain the validity of the accreditation of the sites; two of those Site Authorisations to operate were issued for the two GSMC sites. By the end of the year, 39 Site Authorisation to Operate were maintained.
- The secretariat provided reports supporting the SAB in its decision making and drafted the SAB decisions. The SAB issued 107 interim authorisations for bodies to develop and manufacture PRS receivers and security modules, either as a first authorisation or as a change to previously granted authorisations. By the end of the year, over 100 European companies had valid SAB authorisations.
- The SAB Secretariat also provided support in the management and supervision of all activities contracted out to industrial partners.
- The SAB CDA continued to work firmly on COMSEC activities, including governance, organisation, identification of COMSEC assets, distribution and further accounting of the COMSEC assets within the programme. The SAB CDA continued to oversee the implementation of the new programme COMSEC governance established in December 2015 and to provide recommendations to the programme in terms

of compliance to European Council and Commission policy on COMSEC matters. Particular highlights from 2016 include the programme establishment of EU GNSS COMSEC policy, processes and procedures in September 2016, programme production of a Galileo Initial Services key management plan in November 2016 covering all classified cryptographic keys and COMSEC assets providing services to the Galileo User Segment, and ESA GNSS Security Office's establishment of a centralised overview of COMSEC transfers within the programme by August 2016. These achievements directly address SAB CDA concerns identified in earlier years concerning COMSEC governance, management, accounting and tracking. SAB CDA continued to work in co-operation with the SAB Panel GF#3 to establish a formal list of all approved operational cryptographic COMSEC assets within the programme. Overall, the programme COMSEC state has improved considerably in 2016 and SAB CDA has established and implemented a set of criteria for measuring the programme's "COMSEC-health" that it will continue to implement for upcoming service improvements to Galileo Initial Services; noting that the same model can also be used for EGNOS.

- SAB CDA Flight Key Cell supported two launches (including one initially unplanned launch) in 2016. Changes to FKC staff, and adaptation of FKC procedures to cope with Ariane launches were implemented successfully despite the need to cope with an unscheduled launch in May 2016. All launches concluded successfully with a full complement of FKC staff (GSA + Member States).

During the reporting period, Security Accreditation activities were significantly impacted by the instability of the Galileo programme schedule, notably the dates of launches and the uncertainty of the date of the declaration of Initial Services, and the entry into force of the Commission Delegated Decision supplementing Decision No 1104/2011/EU of the European Parliament and of the Council as regards the common minimum standards to be complied with by the competent PRS authorities on (also known as the "CMS") which requires an update to the SAB Rules of Procedures (submitted to the SAB, but brought into 2017) and the conversion of SAB interim authorisations of PRS manufacturers to ensure full implementation of the CMS (which had to be delayed beyond 2016).

1.3.1 Tasks

Task	Name	KPI/Deliverable	Timing	Results
1.	SAB Secretariat.	• 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. • Administrate written procedures as necessary. • Record update and transmit all SAB decisions.	As required to ensure 5 SAB meetings in the year	• Regular reports to SAB chairman, in particular after each of the Subordinate Bodies' meetings. • Six SAB meetings were organised in 2016, i.e. one more than planned in the work programme. Each was anticipated by the distribution of the relevant accreditation datapack to support decisions. • The SAB meeting plan 2016 was approved by SAB and subsequently maintained to keep it aligned with the changes in the programme schedule. • Minutes were established after each meeting and submitted to the SAB chair for review and approval. • Decisions that could not be taken during the meetings due to lack of quorum were administered via written procedures. • All SAB decisions and actions were recorded; SAB decisions were addressed to the European Commission.

Task	Name	KPI/Deliverable	Timing	Results
2.	Support to SAB management.	• Draft the SAB Work Programme 2017, taking into account the inputs from the SAB Panel and SAB CDA. • Draft the SAB Budget 2017, taking into account the inputs from the SAB Panel and SAB CDA. • Report on the SAB Budget 2016. • Draft the SAB Staff Establishment Plan.	Q1/2016	• A draft Single Programming Document 2017-2019 for security accreditation activities was proposed, taking into account the inputs from the SAB Panel and the SAB CDA. It was adopted by the SAB in October 2016. • A draft Budget 2017 for SAB activities was prepared, taking into account the inputs from the SAB Panel and the SAB CDA. The SAB adopted it in March 2016. • Regular reports on the implementation of the SAB Budget 2016 were made. • The Agency's Staff Establishment Plan 2017 was included in the Single Programming Document 2017-2019. • A SAB accreditation team Risk Register was created and maintained in 2016; allowing the SAB to better manage accreditation team issues.
3.	Approvals to launch.	Accreditation Statement for: • Galileo Launch 7 and any subsequent launches.	T0 + 4 months[3]	• The SAB issued the Security Accreditation Statement related to the seventh Galileo launch in May 2016. • The SAB issued the Security Accreditation Statements related to the eighth Galileo launch (first Ariane launch) in November 2016. • SAB CDA FKC was authorised for deployment by SAB to launch 7 and 8. • The SAB also adopted three decisions related to the authorisations already issued or requested by the programme.

[3] T0 being the date of the accreditation request including all relevant information

Task	Name	KPI/Deliverable	Timing	Results
4.	Authorisations to operate the systems in their different configurations and for the various services, including up to and including the Signal in Space.	Accreditation Statements for: • Initial Authorisation to Operate-BC; • Initial Services.	T0 + 4 months[4]	• The SAB issued the statement regarding the authorisation for the programme to provide initial operation of the GALILEO System and Services up to and including the Signal in Space in December 2016 including the equivalent of the Initial Authorisation to Operate-BC. • The SAB issued six decisions related to configuration upgrades during 2016 (e.g. related to segment upgrades such as GMS, GCS, and GSMC).
5.	Authorisation to operate the ground stations.	Ground Station Authorisation to Operate: • Changes/re-accreditation of the existing 32 sites.	T0 + 2 months	• In 2016 the SAB issued 14 Site Authorisation To Operate (SATO) renewals for site re-accreditation. • In 2016 the SAB issued two new SATOs (for the GSMC sites).
6.	Authorisation of bodies to develop and manufacture PRS receivers or PRS security modules.	PRS Manufacturer Authorisations: • Changes to the existing 60 authorisations; • New authorisations depending on requests.	T0 + 2 months	• The SAB issued 27 new interim authorisations. • The SAB updated 80 existing interim authorisations. • Numerous consultations were carried out to assess the impact of the the Commission Delegated Decision on CMS to the SAB, and to develop the proposal for a conversion and update of the SAB interim authorisations of PRS manufacturers to a regime compliant with the CMS.

[4] ibid

Task	Name	KPI/Deliverable	Timing	Results
7.	Ensure the SAB Panel chairmanship, technical secretariat and organisational secretariat.	• Propose SAB Panel meeting plan. • Draft reports in order to prepare SAB Panel reviews. • Organise five SAB Panel meetings in the year. • Deliver accreditation reports and recommendations to SAB.	As required to ensure SAB decision making	• The SAB Panel meeting plan 2016 was proposed for SAB approval and subsequently maintained, notably to take into account the changes in the Programme schedule. • Eight SAB Panel meetings were organised in 2016, outnumbering those originally planned. • The security accreditation team ensured the chairmanship and the technical and administrative secretariat of those meetings. • Documents were issued regularly, including the Security Accreditation reports for the two approval to launch Galileo satellites and the Initial Services, SATOs and the authorisation of PRS manufacturers. • The SAB Panel issued recommendations in support of the various SAB decisions.

8.	System level accreditation tasks.	• Review existing strategies to ensure consistency with the regulation/programme and propose enhancements as appropriate. • Carry out independent system audits/reviews and report to SAB Panel/SAB accordingly. • Participate in security sensitive programme reviews at system level and where necessary ad hoc participation in segment reviews. • Carry out independent security vulnerability analysis and system security tests and report to panel/SAB accordingly. • Monitor risks, treatment plans and report to panel/SAB accordingly. • Monitor 100 % of security accreditation maintenance actions, focusing on priority actions.	As required to ensure panel/SAB decision making	• The security accreditation team (together with its contractors) carried out a number of security accreditation reviews in order to prepare the accreditation of the Galileo launches, the accreditation of system configuration upgrades' connection, and the accreditation of Initial Services. Recommendations to the SAB Panel, SAB CDA and the SAB were made accordingly. • The SAB secretariat participated in programme reviews, injecting comments as needed and reporting to SAB/SAB Panel and in related accreditation reports. These programme reviews include the Satellite Acceptance Reviews, the Delta System Critical Design Review (D-SCDR), the FOC System Qualification Review (FOC SQR), and the Initial Services Validation Campaign. • The third network security test campaign was partly executed, as per SAB priorities and instruction, partly by the Member States and partly in the context of the GSA Accreditation Framework Contract. The latter executed security vulnerabilities tests in the two Galileo Control Centres, in the Redu site, and in the GSMC UK site. • Risks and treatment plans were constantly monitored and discussed at each SAB Panel and SAB meeting, and in each accreditation report. • The SAB issued the statement regarding the authorisation for the programme to provide initial operation of the GALILEO System and Services up to and including the Signal in Space in December 2016. • The implementation of the actions related to security accreditation maintenance were monitored in preparation of each SAB meeting and subordinate body's meeting, and introduced in agenda as discussion item as needed.

Task	Name	KPI/Deliverable	Timing	Results
				• SAB Accreditation Framework Contract LOT3 Specific Contract 3 was launched to provide administrative support to SAB, SAB Panel and SAB CDA. This also allowed for the accreditation team to begin to improve the SAB document repository and architect options for collaborative workshares to exploit upcoming GSA IT infrastructure improvements.
9.	Ground stations level accreditation tasks.	• Plan activities to ensure the ground stations meet the security requirements expected for the launches and services; carry out 15-20 activities on-site and report to the panel/SAB accordingly.	As required to ensure panel/SAB decision making	• The security accreditation team coordinated with the programme to ensure the Galileo sites meet the expected security requirements in line with the system accreditation statement. • Reports were provided to the GSAP and the SAB accordingly, leading to the issuance of 16 Site Authorisation to Operate (either first authorisations for new sites deployed or changes to existing authorisation for sites already deployed). By the end of the year, 39 Site Authorisation to Operate were maintained.
10.	Component level accreditation tasks.	• Monitoring of component first/second evaluation and report to the panel/SAB accordingly.	As required to ensure panel/SAB decision making	• The security accreditation team coordinated with the programme to ensure the security components meet the security requirements expected for the launches and the Initial Authorisation to Operate the system. • Component first and second evaluation have been monitored and reports were made to the GSAP and the SAB accordingly.

Task	Name	KPI/Deliverable	Timing	Results
11.	User segment accreditation tasks.	• 100 % of requests for PRS manufacturer authorisation administrated and recommendations made to panel/SAB accordingly.	As required to ensure panel/SAB decision making	• The secretariat provided reports supporting the SAB in its decision making and drafted the SAB decisions. The SAB issued 107 interim authorisations, either as a first authorisation or as a change to previously granted authorisations. By the end of the year, over 100 European companies had valid SAB authorisations. • Numerous consultations were carried out to assess the impact of the the Commission Delegated Decision on CMS to the SAB, and to develop the proposal for a conversion and update of the SAB interim authorisations of PRS manufacturers to a regime compliant with the CMS.

12.	COMSEC management – SAB subordinate CDA.	• Assess the conduct of EC COMSEC policy throughout the EGNOS and 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 and Galileo programmes. The SAB CDA shall then provide COMSEC assurance to SAB communicated as a COMSEC risk assessment in order to facilitate successful accreditation.	As required to ensure CDA/SAB decision making	• Held four meetings in 2016 to examine and review programme COMSEC compliance and FKC launch campaign implementation. • Oversaw the implementation of the new programme COMSEC governance through scrutiny of the EU GNSS delegation agreement compliance to European Council and Commission COMSEC policy. Achieved throughout 2016. • Reviewed the programme implementation of a programme COMSEC asset database within ESA GNSS Security Office to provide a centralised view of COMSEC accounting and transfers in the Programme. Achieved August 2016. • Reviewed and checked compliance of EU GNSS delegation agreement COMSEC policy, processes and procedures to European Council and Commission COMSEC policy; including flow-down to programme entities (compliance: GSMC; compatibility: ESA, GSOp, etc). Achieved September 2016. • Requested a Galileo Initial Services Key Management Plan (IS KMP) as a pre-requisite for Galileo IS declaration. This was subsequently delivered and reviewed by SAB CDA to give confidence to the SAB that all Galileo IS COMSEC assets were identified and subject to COMSEC management. Achieved November 2016. • Worked in co-operation with SAB Panel GF#3 to establish a list of approved programme operational COMSEC assets authorised for use in the programme, and a subset of which was authorised for use with Galileo Initial Services. Achieved November 2016.

Task	Name	KPI/Deliverable	Timing	Results
				• Ensure programme business continuity planning included preservation of Galileo IS KMP implementation. Achieved December 2016. • Oversaw and verified compliance of FKC launch campaign implementation for unscheduled Soyuz launch (7) and planned Ariane launch (8) in 2016. Achieved November 2016.
13.	COMSEC management – Flight Key Cell.	• Ensure the security of flight keys during European GNSS programme launch campaigns.	As required to ensure FKC/CDA decision making	• Held three FKC meetings (Feb, June and Dec 2016) to plan and close Galileo launch campaigns. • Recruitment of new GSA FKC Officer/Supervisor by September 2016 including provision of cover from March 2016 to cover Launch 7 in May 2016. No impact on programme launch continuity experienced. • Provided full FKC team for unscheduled Soyuz launch (7) and planned Ariane launch (8) in 2016. Achieved November 2016. • Implemented two launch campaigns successfully. • Drafted new FKC Terms of Reference for review by SAB CDA and SAB. • Updated FKC operating procedures to comply to EU GNSS Delegation Agreement (DA) policy and processes and to accommodate differences between Soyuz and Ariane launches. • Identified need for and began drafting special GSA administrative rules for FKC operational deployments, covering particular needs for FKC staff relating to mission rules, health and safety, finances and reimbursements to Member States, and training.

14.	New SAB regulatory responsibilities.	Implementation of the new responsibilities entrusted to SAB by Regulation (EU) No 912/2014 and laid down in Article 11 thereof, in particular paragraph 3 points (c) to (l): c) 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; d) 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; e) 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; f) 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; g) 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; h) agreeing with the relevant Member State the template for access control referred to in Article 12(c);	Q2 2016	• The security documentation submitted to SAB in the various accreditation datapacks was examined by the SAB and/or by its subordinate bodies as per delegation. The security accreditation files submitted by the programme were examined and discussed by the subordinates bodies for each milestone. • The security risk assessment provided by the programme was regularly provided to the SAB and to the Accreditation Panel and analysed; conclusions on the risk assessment was provided to the EC for each accreditation milestone. • The implementation of security measures was regularly checked via inspections at site level, participating in reviews at programme level, undertaking accreditation reviews, and undertaking security assessment in the network security test campaign of 2016 (8 tests in 5 sites). Outcome of these checks were reported to SAB in support of its decisions. • The SAB secretariat maintains a list of approved cryptographic products under scrutiny from the SAB Panel and SAB CDA. • The SAB informed the Commission of its risk assessment for its accreditation decision and advised on residual risk treatment options for a given security accreditation decision.

Task	Name	KPI/Deliverable	Timing	Results
		i) 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; j) 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; l) carrying out the consultations which are necessary to perform its tasks.		

1.4 Galileo Security Monitoring Centre (WBS 4.06)

The European GNSS Agency ensures the operation of the Galileo Security Monitoring Centre. For the operational phase, the Agency manages the Galileo system security. The Agency provides the operational interface between the Galileo Control Centres on the one hand and the competent PRS authorities, the Council and the High Representative of the Union for Foreign Affairs and Security Policy on the other, acting under Council Decision 2014/496/CFSP. It must inform the European Commission of any event that may affect the smooth running of the PRS.

As to GSMC operations in 2016, the Agency took steps in preparation for delivering all the GSMC operations' missions. Four types of activities contributed to this:

- GSMC Operations: since 2011 a GSMC Nucleus has offered early security monitoring and reaction capabilities. This continued until GSMC operations v1.0, based on the Galileo Security Facility (GSF) Enhanced Minimum Configuration equipment, was deployed at the GSMC in France before the declaration of Galileo Initial Services. This offered an interim GSMC capability without inter-site redundancy and allowed for 24/7 GSMC services as of 2016.
- GSMC Organisational Design: ramp-up - including organisation, processes, and operational validation and accreditation - for GSMC Operations V2 based on the GSF Version P2.0.1, which was released in 2016.
- Contribution to Operational Equipment Development: as operator of a part of Galileo's operational equipment, the Agency contributed to the design specifications and reviews to ensure that GSMC equipment is appropriate for long term missions.
- Hosting Infrastructure Agreement: managed the operation and security of the two GSMC sites and ensured that the building infrastructure provided by France and the United Kingdom was appropriate for long term missions and in line with the hosting agreement established by the European Commission with the GSMC hosting states in 2013. This included optimising the use of the two GSMC sites after the start of GSMC operations in 2016.

The Agency started GSMC operations in mid-2016 in anticipation of the declaration of Galileo Initial Services, progressively implementing the following missions:

- Galileo security and system status monitoring.
- Management of PRS access.
- Implementation of joint action instruction.
- PRS and Galileo security expertise and analysis on request.

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

- 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.
- Galileo Security Facility P2.0.1: reinforcing the availability of GSMC operations and services by making a GSMC backup site and equipment in the United Kingdom operational (the main site being in France).
- GSF P2.2: extending GSMC capability to automated PRS management with the Galileo Control Centres (GCCs) and to manual distribution of PRS keys to CPAs.

1.4.1 Tasks

Task	Name	KPI/Deliverable	Timing	Results
1.	GSMC operations V1.0 (GSF Enhanced Minimum Configuration) Operational Readiness Review (ORR)[5].	• Programme acceptance of the evidence that the GSMC is able to operate the GSF equipment from the GSMC in France (single site capability only) to meet the operational requirements of the GSMC. • Start of GSMC Operations on corresponding GSF configuration. • Establishment of an associated KPIs regime.	GSMC v1.0 Operations Readiness Review successfully passed in line with the programme schedule	• Operations Readiness Review replaced by three key points: (a) ORR Key Point 1 - Data Pack delivery (30 June 2016) (b) ORR Key Point 2 – Operations presentation (7-8 July 2016) (c) ORR Key Point 3 - Accreditation presentation (8 July 2016). • GSMC Operations started on 13 July on the EMC, marking the start of the 24/7 shifts.
2.	GSMC operations V1.0 (GSF Enhanced Minimum Configuration) Service Readiness Review (OSRR).	• Validation of KPIs applicable to the GSMC operations from the GSMC in France (single site capability only). • Programme declaration that the GSMC is fully operational. • Start of GSMC Service Provision on corresponding GSF configuration.	GSMC v1.0 Operational Service Readiness Review successfully passed in line with the programme schedule	• GSMC OSRR lasted from 4 August (initial data package) to 14 October 2016 (Delta-OSRR Board).

[5] This review occurs after the validation of GSMC operations and marks the start of the Service Validation Campaign.

Task	Name	KPI/Deliverable	Timing	Results
3.	GSMC operations V2.0 (GSF P2.0) Validation Readiness Review (OVRR).	• Programme decision to start GSMC operations validation both from the GSMC in France (master site) and from the UK site (warm backup site). • Updated version of all GSF Key Point 2 documentation. • Full list of detailed procedures. • Detailed validation plan (including test cases). • Traceability between validation plan and operational review document. • Statement of compliance for the Operations Validation Readiness Review.	GSMC v2.0 Operations Validation Readiness Review successfully passed in line with Programme schedule	• Operation engineering process restarted from the ORR phase = with the EMC GSF version. • All deliverables provided for review.
4.	Site accreditation milestone/site approval to operate GSMC sites.	• This review ends with a formal authorisation of the accreditors and the programme to connect the GSMC France site to the Galileo Operations Chain with single site redundancy.	GSMC France Site Accreditation Milestone/Site Authorisation to Operate successfully passed in line with Programme schedule	All necessary accreditation certificates obtained on time.
5.	GSF equipment anomaly reporting.	• Establishment of a GSMC anomaly reporting process. • Provide Programme with report on all anomalies on GSF equipment to ensure they are patched or corrected in future evolutions. • Ensuring the resolution of anomalies reported by Competent PRS Authorities regarding their use of the PRS, in compliance with the ESA technical note on PRS and security operational scenarios and interfaces as updated for Galileo Initial Services.	GSMC v1.0 Operations Readiness Review successfully passed in line with Programme schedule	• GSMC anomaly reporting process maintained. • Anomalies infrastructure managed through the Anomaly Report Tracking System. The scope of this activity was extended to the GSF anomalies in September 2016.

Task	Name	KPI/Deliverable	Timing	Results
6.	GSMC administration and classified systems deployment and maintenance.	• Procurement and configuration of the necessary IT infrastructure so GSMC sites can connect to the Agency's administrative IT networks. • Contribution to accreditation and maintenance of GSA EU Restricted (GRUE) and GSA EU Secret (GSUE) systems for processing EU Classified Information. • Establishment of an associated KPIs Regime. • Continuous availability of administrative and classified systems that meet KPIs applicable to the GSMC.	GSMC v1.0 Operations Readiness Review successfully passed in line with Programme schedule	• All necessary certificates obtained on time. • All service levels needed for GSMC operations detailed.
7.	GSMC staff training and certification.	• Operations training needs analysis document. • Operations training plan. • Set up and maintain a Training Management System. • From GSF Operational Service Readiness Review all GSMC operators are certified within 4 months of arrival. • From GSF Operational Service Readiness Review, all GSMC operators are re-certified annually.	GSMC v1.0 Operational Service Readiness Review successfully passed in line with Programme schedule	Past milestones and activities traced in the following documentation: • GAL-TN-GSA-GSMC-112188-v01-3 GSMC Training Plan. • GAL-TN-GSA-GSMC-X-112186-v01-3 GSMC Training Needs Analysis. • Training Management System set up from end of June 2016 on the unclassified environment. • GSMC Operator Certification Board report, GSA-GAL-GSC-RPT-222060.
8.	GSMC operations.	• Perform agreed Nucleus operations from Saint-Germain-en-Laye, until GSMC operations V1.0 Operational Service Readiness Review achieved. • Perform agreed GSMC V1.0 Operations from Saint-Germain-en-Laye following achievement of GSMC V1.0 Operational Service Readiness Review.	GSMC V1.0 Operational Service Readiness Review successfully passed in line with Programme schedule	• Service KPIs reported through Agency's GSMC monthly report. • Agency performed Nucleus operations until 13 July 2016 when it started to provide the GSMC V1.0 early services. • GSMC Initial Services declared on 14 December.

1.5 Market Development (WBS 5)

The declarations of Galileo Initial Services in 2016 was a major milestone, allowing users to benefit from the Galileo Open Service (OS), Search And Rescue (SAR) service, and PRS with limited but defined performance. Achieving this essential milestone required a ramping-up of the Agency's efforts to stimulate demand for Galileo within the user community and support the development of Galileo ready products. This market development activities were crucial in ensuring the success of the Galileo programme. During 2016, 17 major brands included Galileo capability in their product, representing more than 90 % of the market. The Agency continued to involve the entire value chain (e.g. chipset and receiver manufacturers, service providers, etc.) and the main user communities (e.g. mobile operators for consumers, automotive industry for road, etc.), keeping them on the road towards Galileo adoption. In doing so, the Agency leveraged some of Galileo's key differentiators, including the intrinsic features of the Galileo signal and its high precision and authentication services.

Market development efforts within some emerging market segments, such as maritime and rail, required tailored efforts. This included, for example, the recognition of Galileo by the International Maritime Organisation (IMO) and the inclusion of EGNOS and Galileo in the roadmap for the future European Rail Traffic Management System (ERTMS).

As to PRS, in 2016, the Agency supported Member States' Competent PRS Authorities in preparing their authorised users for the adoption of the Galileo Public Regulated Service. In doing so, the Agency implemented a PRS communication policy in compliance with the EC-GSA PRS Article 14 (c) Arrangement mentioned in section 1.2.2.

To consolidate EGNOS' position in aviation, the Agency implemented a range of measures to foster its adoption, resulting in more than 100 new EGNOS procedures and 100 EGNOS-equipped aircrafts. The Agency prepared EGNOS adoption in such emerging markets as drones and surveillance, and focused on new opportunities offered by SAR.

In the Location Based Services (LBS) segment, the Agency began to systematically address the application developer community through, for example, the organisation of the first Galileo Hackathon.

Addressing the Road segment, the Agency designed and obtained the consensus of automotive stakeholders on the eCall testing specifications. It also introduced EGNOS and Galileo to the digital tachograph technical annex with the objective of bringing E-GNSS into all European cars and trucks starting in 2018 and 2019 respectively.

As for the high precision markets, agriculture and mapping/surveying, EGNOS achieved recognition as an entry technology providing benefits at low costs. With Galileo, there was an untapped potential regarding the dual frequency capacity of E1/E5 as well as regarding the usage of E6 by the Commercial Service (CS). Although the industry recognises the benefit that Galileo brings to this market sector, the future Commercial Service, which will greatly affect these segments, needs to be communicated better. To this end, a Galileo commercialisation scheme was designed.

With a focus on Galileo's differentiators, in 2016 the Agency's systematic approach continued as follows:

- In each vertical market segment (i.e. aviation, road, rail, maritime, etc.):
    - Engage with users and decision makers, including development and implementation of E-GNSS adoption roadmaps.
    - Engage with key actors in the value chain, including European GNSS (E-GNSS) application developers and service providers.
    - Support the European Commission in on-going and upcoming E-GNSS initiatives by providing technical and market expertise.
    - Maintain and improve support to stakeholders and users in priority markets to ensure continuous growth of EGNOS adoption.
- Horizontally:
    - Update the E-GNSS value proposition, capitalising on knowledge of the market and of the performance at the user level, using this as the basis for E-GNSS communication-related activities.
    - 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.
    - Continue to provide market and technology monitoring, using socio-economic benefits and cost/benefit analysis as the main tools driving strategic decisions.
    - Support the integration of Galileo into receivers in key market segments with a focus on ensuring optimised use of Galileo andvalorisation inside receivers.
    - Conduct an EGNOS user satisfaction survey and implement a similar process for Galileo, enabling the improvement of the user service experience.

- Leverage the GNSS Service Centre, which is being developed and managed under delegation, as a key user interface and Galileo differentiator.
- Contribute to the design of the commercialisation scenarios of the Galileo Commercial Service via the Commercial Service Demonstrator.

1.5.1 Tasks

Task	Name	KPI/Deliverable	Timing	Results
1.	E-GNSS user segment and market development in aviation.	• Cooperation with national air navigation service providers, Civil Aviation Authorities and other stakeholders to design technical guidelines and support the development of regulatory context fostering adoption in the targeted sub-segments (business aviation, rotorcraft, regional and general aviation).	Q4	• Specific user fora set up to introduce EGNOS based operations and meet user needs: European Business Aviation Association (EBAA)/GSA Localiser Performance with Vertical Guidance working group (business aviation), European Region Airlines Association (ERA) operations group (regional aviation), new Five Lives Advisory Group to define EGNOS helicopter operations, and International Air Transport Association Joint User Requirement Group. • Supported the EC in regulatory actions related to Performance Based Navigation (implementation in the European Air Traffic Management Network), Automatic Dependent Surveillance Broadcast (surveillance performance and interoperability requirements implementation rules), drones and general aviation.
		• Build enablers for adoption of E-GNSS based Position Velocity Time (PVT) in emerging markets and aligned with new regulatory requirements (e.g. advanced position based navigation operations, automatic dependant surveillance - Broadcast communication, ground based operations).		• Surveillance: completed cost/benefits analysis supporting the added value of Satellite Based Augmentation System (SBAS) to rationalise radar infrastructure. • Drones: Started analysis of EGNOS support for geofencing concept. Initiated concept of operations with increased accuracy requirements enabled by EGNOS.

Task	Name	KPI/Deliverable	Timing	Results
		• Design key enablers for Galileo Search And Rescue uptake.		• Galileo Return Link Service (RLS) included in latest Cospas Sarsat beacon specifications. • Worked with manufactures of emergency locator transmitters and personal locator beacons to validate requirements for introducing Galileo RLS. • Presentated concept definition of operations to remotely activate Emergency Locator Transmitter with Galileo RLS to Cospas Sarsat, the Radio Technical Commission for Aeronautics, and Eurocae.
2.	E-GNSS user segment and market development in Road.	• Analysis of results from Galileo compatibility testing and preparation of technical specifications for E-GNSS in road-related applications (in particular Digital Tachograph, eCall and other new Intelligent Transport System (ITS) applications).	Q4	• Analysed Galileo compatibility for eCall in vehicle devices and tested specifications prepared by and consolidated with stakeholders (e.g. automotive suppliers). • Introduced Galileo compatibility into technical annex of the Digital Tachograph legislation and the United Nations Economic Commission for Europe harmonised legislation proposal on emergency call devices.
		• Advise on E-GNSS benefits to new GNSS tolling schemes, maintaining systematic approach; and analyse the introduction of GNSS-based congestion charging in Europe.		• Published adoption status report to accelerate Member State adoption of E-GNSS road tolling solutions. • Performed dissemination activities on E-GNSS benefits to new GNSS tolling schemes.
		• Roadmap for the adoption of E-GNSS in emerging market of autonomous/driverless vehicles by providing support to vehicle manufacturers in testing (Galileo Signal in Space at Initial Services) and defining needed standards and certification processes.		• Implemented roadmap for autonomous vehicles and performed analysis of technical requirements and scenarios for EGNSS adoption. • Provided support to vehicle manufacturers via webinar, training and sharing technical information.
		• Support the introduction of E-GNSS differentiators in the automotive sector, focusing on E1/E5, AltBOC modulation.		• Promoted use of dual frequency and benefits of E5 for automotive and mass market promoted at Institute of Navigation 2016. This was done in cooperation with leading chipset suppliers to support the subsequent creation of an industry alliance on the topic.

Task	Name	KPI/Deliverable	Timing	Results
3.	E-GNSS user segment and market development in Maritime.	• Support the EC in the process of getting Galileo recognised by the International Maritime Organisation, including the design of the subsequent user segment for adoption.	Q4	• Supported EC in obtaining recognition of Galileo by IMO, which was achieved in May 2016. • Final papers and roadmap on IMO recognition for user adoption of EGNOS finalised in November 2016.
		• Define key enablers for Galileo SAR uptake.		• Organised Galileo SAR workshop in June 2016. The Agency presented to beacon manufaturers the status of Galileo and the benefits it offers in new generation of beacons.
		• Develop user segment for the adoption of a new navigation service based on EGNOS V2.		• Developed roadmap for adoption of EGNOS maritime service, which was validated at the European Maritime Radio-navigation Forum workshop in September 2016. The roadmap includes current Signal in Space and other means of transmission.
4.	E-GNSS user segment and market development in Rail.	• Coordinate a measurement campaign and testing activities for development of E-GNSS user requirements for railway signalling applications, in view of its introduction in the ERTMS.	Q1-Q4	• Coordinated test activities for a rail test journey using the positioning technology provided by Galileo within the ERSAT EAV (ERTMS on SATELLITE – Enabling Application Validation) project.
		• Prepare preliminary certification roadmap as key enabler for the adoption of E-GNSS enabled train-positioning systems for railway signalling applications.	Q3	• Producws and validatws preliminary certification roadmap of EGNSS for train control, which takes into account the ERA's new role.
5.	E-GNSS user segment and market development in Agriculture.	• Showcase the benefits of the Galileo Open Service together with EGNOS by key application.	Q4	• Along with the European Satellite Services Provider (ESSP), presented how the Galileo Open Service, together with EGNOS, benefits the Agriculture segment within the framework of EMA (EGNOS Multimodal Adoption) 2016.
		• Showcase the specific benefits of the Galileo Commercial Service for the high precision Agriculture sector via the demonstrator.		• Developed a demonstrator through the AALECS (Authentic and Accurate Location Experimentation for the Commercial Service) project and presented of the benefits of the Galileo Commercial Service to the high precision agriculture segment (a particular test case was performed ensuring the added value of Public Private Partnership correction distribution using CS high accuracy). Held yearly project progress meeting in Q4.

Task	Name	KPI/Deliverable	Timing	Results
		• Launch new edition of the Farming by Satellite Prize.		• New edition of the Farming by Satellite Prize launched in Q1 with the award ceremony scheduled at the beginning of 2017.
		• Explore the possibilities of providing a follow-up to the findings concerning the usage of GNSS-based journey logs from the European Commission's report on the impact of Council Regulation (EC) No 1/2005 on the protection of animals during transport.		• Performed activities and shared final report with the EC. The Agency participated in the Agri/digifood workshop in Brussels, where it provided recommendations for the use of EGNSS in Farm Management. The Agency followed the Monitoring Agricultural Resources Meeting in Lisbon in relation to the Common Agriculture Policy.
		• Consolidate EGNOS' position in Agriculture.		• Consolidated EGNOS' position in agriculture with ESSP and within the framework of EMA 2016.
6.	E-GNSS user segment and market development in Mapping and Surveying.	• Showcase the benefits of Galileo dual frequency (E1/E5) and Commercial Service (E1/E6) Signal in Space for Mapping and Surveying segment.	Q1-Q4	• Co-organised seven workshops highlighting the benefits of the Galileo E1/E5 frequencies for Mapping and Surveying (i.e. Swedish Mapping Days, Intergeo, CS Workshop in Vienna, Swedish position, navigation, and timing event, Galileo WS at Intergeo in Hamburg).
		• Showcase specific benefits leveraged by the Galileo Commercial Service Demonstrator for Surveying segment.		• Co-organised seven workshops highlighting the benefits of the Galileo CS for Mapping and Surveying.
		• Promote the benefits of upgrading to Galileo for private and public reference networks.		• Successfully reached private and public reference network providers via six out of seven workshops. • Four new reference network providers confirmed their update to Galileo, including: three public networks (Sweden, Czech Republic, Japan) and two privates networks (Denmark and Estonia).
		• Consolidate EGNOS' positioning in Mapping.		• ESSP cooperation in the context of EMA adoption plan resulted in: guidelines to use EGNOS receivers; targeted outreach to user groups during EGNOS workshop; Geospatial World Forum in Rotterdam; Intergeo fair in Hamburg. • Participated in INSPIRE (Infrastructure for Spatial InfoRmation in Europe) conference to promote EGNOS for the INSPIRE initiative and Geographical Information System (with example of EGNOS for mapping in Barcelona harbour).

Task	Name	KPI/Deliverable	Timing	Results
7.	E-GNSS user segment and market development in LBS, and other mass-market segments.	• Co-marketing actions with industry (e.g. chipset manufacturers and telecom operators) to promote champions in E-GNSS-enabled consumer devices.	Q4	• Participated in co-marketing activities with all major smartphone chipset providers, including Qualcomm and Broadcom. • First Galileo enabled smartphone was launched on the market in July. • Participated in co-marketing activities with BQ, includingorganising of common press releases and events.
		• Support the introduction of E-GNSS in LBS applications; e.g. establishing an annual award for the best mobile application that uses Galileo features.		• Organised first Galileo Hackathon at Wherecamp 2016 (3-4 November 2016 in Berlin), introducing Galileo to the Geo app developer community. Extensively promoted the use of raw GNSS measurements, available in Android 7 to achieve better location accuracy.
8	E-GNSS user segment and market development for Timing and Synchronisation of infrastructures.	• Support and promote Galileo's timing service, in view of initial operational services.	Q1-Q4	• Promoted Galileo timing service at several conferences and workshops.
		• Support EC on the design of regulatory activities and user requirements for the introduction of a Galileo synchronisation service.		• Supported EC in regulatory activities and user requirements by participating in meetings and reviewing documents.
9.	E-GNSS user segment and market development for governmental users and timing synchronisation.	• Under supervision of EC, support to Member States' Competent PRS Authorities with the adoption of Galileo PRS by their user communities.	Q1-Q4	• Supported Member States' Competent PRS Authorities, in collaboration with EC.
		• Market analysis updated in defence, public safety and security, and critical infrastructures; introduction of a new potential segment in the study.		• Updated market analysis and conducted analysis on introducing potential new user communities under FRAME project.
10.	Authentication and high precision business development.	• Showcase specific benefits to private and public users of the Galileo's high precision and authentication services, by facilitating access to test and assess the Galileo Commercial Service Demonstrator.	Q4	• Demonstrator developed through the AALECS project. • Presented the benefits for private and public users of the Galileo high precision and authentication services. • Yearly progress meeting of the project hold during Q4.
		• Support the business development of Galileo's high precision and authentication services.		• Defined commercialisation scheme and performed SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) within the framework of the European GNSS User Support project in Q4.

Task	Name	KPI/Deliverable	Timing	Results
11.	Market monitoring and forecasting process.	• Annual update of market monitoring and forecasting process.	Q2	• Market monitoring and forecasting activities performed as forseen. Database updated accordingly.
		• Publication of GNSS Market Report Issue 5.	Q2	• Published new GNSS User Technology Report, which included all the most important trends and developments,on 4 October during the H2020 info day.
		• Support EC and Member States in calculating Galileo's public benefits and socio-economic return on investement, including supporting impact assessment of policies.	Q4	• Support provided on case-by-case basis.
12.	Technology monitoring and forecasting process.	• Annual update of technology monitoring and forecasting process.	Q4	• Performed technology monitoring and forecasting activities as foreseen. Database updated accordingly.
		• Monitor and benchmark use of E-GNSS based solutions vis-à-vis other constellations and competing technologies.		• Update completed. Results included in the GSA's GNSS User technology Report, published in October.
		• Cooperate with and provide support to receivers and chipset manufacturers working on E-GNSS integration.		• Provided continuous support to receivers and chipset manufacturers.
13.	Cost/benefit analysis for evolution of E-GNSS mission.	• Analyse and quantify market benefits, trends and evolutions (including cost benefit analysis) in order to provide recommendations and to support the E-GNSS Mission Evolution (PRS is excluded from this task).	Q2	• Prepare new roadmap defining timing for market analyses.
14.	E-GNSS user satisfaction independent monitoring process.	• Annual independent EGNOS users satisfaction survey (preparation, implementation, analysis of results, recommendation for improving services).	Q4	• Completed 2016 EGNOS user satisfaction survey. • Started preparing user satisfaction improvement action plan, including recommendations obtained from the survey.
		• Annual independent GSC user satisfaction survey (preparation, implementation, analysis of results, recommendations for improving services).		• Conducted annual GSC survey between March and May 2016, which analysed the most relevant results per such areas as the survey response rate and general user perception of the GSC Service provision.

Task	Name	KPI/Deliverable	Timing	Results
15.	User relationship management, including defining user needs and requirements.	• Design user relationship management framework, including the definition and update of user needs/requirements by market segment (for three selected segments), and analysis of technology drivers.	Q4	• Completed, including analysis of technology drivers.
		• Update and implemente roadmap for collecting and understanding user requirements per market segment.		• Defined roadmaptogether with the EC (i.e. User Consultation Platform).
16.	E-GNSS user oriented strategy update taking into account local needs.	• Update E-GNSS user orientated strategy.	Q3	• Following consultation with the EC and the GSA Administrative Board members, updated user oriented strategy to reflect local specificities.
		• Analysis of administrative, legal, regulatory or standardisation barriers that limit market uptake for each priority market, as well as support the European Commission in analysing proposed actions for removing such barriers.		• Analyses performed and updated on regular basis and in accordance to new information as it became available.

1.6 Communications (WBS 1.03)

In 2016, the GSA Communications team achieved the main objectives described below.

1.6.1 E-GNSS service, applications, and R&D communications

The Agency supported the achievement of the E-GNSS Programmes' overall objectives. These objectives, defined in the European Commission Regulation on the implementation and exploitation of European satellite navigation systems adopted in 2014, include:

- Raising the overall positive awareness of the existence, high performance, and benefits of EGNOS as a confidence-building measure for European GNSS in general and; positioning EGNOS as the first successful step in the evolution of European GNSS, with Galileo ready to add another dimension of increased service for users.
- Increasing the awareness and understanding of EGNOS and Galileo as enabling technologies for application developers who require more precise and reliable Position, Navigation and Timing (PNT) information.
- Promoting participation in H2020 research; raising awareness of the results of EU GNSS Framework Programme Research; demonstrating how the programme and the projects it funds support the growth of GNSS-powered business in Europe in general, and targeted industry segments in particular.
- Raising awareness of the European GNSS Service Centre and the key role it plays in supporting E-GNSS user needs.
- Supporting the European Commission in raising awareness and confidence in Galileo Initial Services.
- Providing a PRS communication policy for approval by the European Commission and in compliance with EC-GSA PRS Article 14 (c) Arrangement, as described in section 1.2.2.

1.6.2 Segment specific objectives supporting the Agency's Market Development strategies

In 2016, the GSA continued to raise awareness of EGNOS and Galileo benefits within each market segment to ensure their adoption. In particular for:

- Aviation: the Agency increased the credibility, support and acceptance of EGNOS benefits in Europe, and encouraging further uptake.
- Road: the Agency stimulated the stakeholder interest in regards to what EGNOS brought in 2016 and what Galileo will bring in the near future, focusing on road user charging, eCall, advanced driver assistance services, and pay-per-use insurance.
- High precision: the Agency encouraged organisations relying on high precision information (precision agriculture, mapping, and surveying) to adopt EGNOS (and the EGNOS Data Access System) and Galileo.
- Maritime: the Agency focused on specific market segments such as commercial, leisure coastal and inland waterway navigation.

1.6.3 Corporate communications

The Agency defined and clarified its evolving role and responsibilities, and raised positive awareness about its activities, achievements and key staff.

1.6.4 Internal communications

The Agency increased and improved its internal communications.

1.6.5 Tasks

Task	Name	KPI/Deliverable	Timing	Results
E-GNSS service, applications and R&D communications				
1.	Continue to support and expand EGNOS branding and identity.	• Branding used on all GSA materials (including harmonisation with partners, projects and stakeholders). • Two revisions of existing leaflets and necessary reprints. • Five target-specific advert insertions in trade magazines. • One new EGNOS sector video (long and short version). • 4-6 new news stories per month published on Agency managed web sites. • 4 – 8 social media updates per month. • 5-6 targeted press releases • Support of 10-12 EGNOS and Galileo sector-specific events.	Q1-Q4	• Drafted, distributed and secured media uptake of nine GSA press releases. • Editorial support to and placement of 106 articles in the press promoting EGNSS. • Completed content and redesign/revamp of GSA website and provided ongoing maintenance and update to three GSA websites (GSA, EGNOS Portal and GSC). • Ongoing promotion of the GSA and its activities via social media tools (Facebook, Twitter, LinkedIn, YouTube and Slide Share). • Created/updated/disseminated new promotional materials. • Communicated about and promoted H2020. • Coordinated communication activities with ESSP and Eurocontrol. • Coordinated GSA participation in over 36 events, including the fourth European Space Solutions, ninth GSA ESNC Prize, first GSA Hackathon, second GSA Open Days, and the Galileo Initial Service Launch event.
2.	Update existing EGNOS-Galileo segment-specific videos as needed.	• Update.	Q4	• New videos in 2016: EGNOS in Aviation - LPV (Localizer Performance with Vertical Guidance) 200 lands in Europe; Galileo is live; first Galileo Hackathon in Berlin; GSA and Initial Services; Juncker Priorities Animations; European Space Solutions Event Wrap Up.

Task	Name	KPI/Deliverable	Timing	Results
3.	Leverage 'video-friendly' E-GNSS milestones, such as flight trials and new application demonstrations, etc. by producing and distributing video material of the achievements to relevant target user sectors and the media.	• Film 3-4 new video-friendly demos.	Q4	• Videos: EGNOS in Aviation - LPV 200 lands in Europe; first Galileo Hackathon in Berlin; European Space Solutions Event Wrap Up.
4.	Add, update and refine relevant new information, tools and helpful features on the GSA websites.	• 8-10 updates per month.	Q4	• Content and redesign/revamp of GSA website and 'face lift/reorganisation of GSC website. • Ongoing maintenance and update of three GSA websites (GSA, EGNOS Portal and GNSS Service Centre).
5.	Publish regular electronic targeted newsletters based on content from the GSA websites.	• Quarterly newsletters.	Q4	• Produced and distributed six GSA Today eNewsletters.
6.	Leverage mailing lists to send targeted communications on E-GNSS and Horizon 2020.	• Quarterly targeted mailings.	Q4	• Two mailings to list of more than 8000 subscribers.
7.	Leverage event participation to negotiate positive coverage of E-GNSS in associated sector-focused media channels.	• Leverage EGNOS Portal news stories. • Related event coverage in five event media channels.	Q4	• Editorial support and placement of 106 articles in the media promoting GSA and EGNSS.
8.	Build and maintain comprehensive user segment-specific and relevant national, Europe-wide and international media lists in order to deliver timely well-directed messages to key media multipliers.	• Full, updated sector-specific media contact list accessible via email database.	Q2	• Completed building list complete and provided ongoing updates.
9.	Leveraging the above mentioned lists, delivering segment and market-related news about EGNOS and Galileo to relevant media channels and on a regular basis.	• Eight press releases and two video news releases delivered.	Q4	• Drafted, distributed and secured media uptake of 15 GSA press releases, with video material provided when available.

Task	Name	KPI/Deliverable	Timing	Results
10.	Continue to support the European Satellite Navigation Competition (ESNC), leveraging this communications and networking tool and to continue awarding the annual GSA ESNC Special Topic Prize.	• Agency sponsorship of 2016 contest and awarding of the annual GSA Special Topic Prize.	Q4	• Implemented, promoted and leveraged 2016 ESNC GSA Special Topic Prize (GSA received highest number of submissions for all prizes).
11.	Continue to support the European Space Expo, in cooperation with the EC, leveraging its communications potential for E-GNSS.	• Update existing and create one new application kiosk, as well as support the successful placement of the Expo at key locations across Europe.	Q1-Q4	• Continued to support the European Space Expo project, including the planning, staffing and promotional support for three installations in 2016 (The Hague, Paris, Brussels).
12.	Update promotional and communications materials for the European GNSS Service Centre (GSC).	• Revision of GSC leaflet. • 6-8 web site updates per month.	Q1 Q4	• Ongoing promotion and content update. • New look/harmonisation of GNSS Service Centre website. • GNSS Service Centre User Satisfaction Survey 2016 online. • 102 web articles.
13.	Raise awareness of and communicate about Galileo Initial Services.	• On-going references from articles and content on other Agency websites. • Creation and distribution of 2-3 informational mailing lists. • Communicate Galileo Initial Services at 15-20 events during the year. • One Galileo Initial Services Video (long and short video) • Galileo Initial Services branding used on all relevant materials.	Q4	• 2016 ESNC GSA Special Topic Prize, “most promising applications for Galileo Initial Services”. • Videos: GSA and Initial Services (7256 views, highlighting the benefits and how the availability of Galileo Initial Services will benefit the general public); Galileo is live (4505 views – a brief video announcing the Declaration of Initial Services). • New ‘useGalileo.eu’ tool to find Galileo-enabled devices. • Creation/distribution of ‘useGalileo.eu’ promotional ‘wheel’ and promotional animation. • Galileo Initial Services home page takeover promotion in *GPS World magazine*. • New Initial Services section developed on GSA Website. • New Initial Services info flyer published. • Press release and web news stories: 16 December 2016- Galileo begins delivery of Initial Services.

Task	Name	KPI/Deliverable	Timing	Results
14.	Produce promotional material (print and audio-visual) on the PRS, to be approved by the EC in accordance with the GSA PRS Communication policy.	• Revise and reprint brochure. • Production of 5-7 minutes English video. • Creation and distribution of a first PRS newsletter for CPAs. • Promote the PRS at 1-2 events during the year.	Q1-Q4	• The EC decided not to communicate on PRS in 2016.
GSA Corporate communications				
15.	Publicise the Agency to key institutional stakeholders, institutional partners and the general public.	• Refined, consistent and, evolved look for the Agency. • Refinement and distribution of GSA fact file. • One GSA-related news story, and 4 – 6 info updates per month on Agency websites. • 3-5 social media updates per month. • 3-4 GSA related press releases. • Text, layout and distribution of three newsletters. • Agency promotion at GSA-managed communication events.	Q1-Q4	• Promoted 102 web articles. • Corporate comms publications produced including: — GSA Corp brochure reprint; — GSA 2015 Annual Report Summary brochure; — 2016 GSA Communications Plan. • Corporate video production: GSA and Initial Services; GSA Christmas Card animation. • Organised second 'GSA Open Days' in Prague. • Created and distributed GSA 'AB Connect' newsletter for GSA Administrative Board.
GSA Internal communications				
16.	Implement Agency Internal Communications Plan.	• GSA staff communications actions as defined in 2016 plan.	Q4	• GSA Connect weekly newsletters (45 in 2016). • Organised staff launch events. • Regular communications support to GSA staff. • Supported update of web pages for GSA departments . • Revised/reprinted GSA staff quality management brochure.

1.7 Agency administration (WBS 1.01)

1.7.1 Information and Communications Technology (WBS 1.01.05)

In 2016, the Agency focused on delivering a new IT system to allow for the exchange of classified information between GSMC Saint-Germain and Prague. The Security Accreditation Authority (SAA) signed the Initial Authorisation to Operate (IATO) on 15 December 2016.

1.7.2 Facility management and logistics (WBS 1.01.06)

Following the Agency's Headquarter takeover of the whole building from the Czech Ministry of Finance in 2015, in 2016 the Facility Management and Logistics team:

- Stabilised business processes and procedures;
- Improved the safety standards and quality of the work environment by, for example, investing in the infrastructure, introducing new technical inspections, and holding an Occupational Health and Safety (OHS) audit.

1.7.3 Human Resources (WBS 1.01.03)

The Human Resources Department contributed to achieving the Agency's goals by providing services that promote a work environment characterised by fair treatment, solid moral attitude, effectiveness, flexibility, transparency, trust, and mutual respect in line with the principles and rules of the European Union.

The main priorities for 2016 were to contribute to a corporate spirit, increase workforce retention and the attractiveness of the Agency as an employer, provide good administration and care for staff, ensure an efficient allocation of resources and promote staff and organisational development.

1.7.4 Legal and Procurement (WBS 1.01.02)

The Agency's Legal and Procurement Department was responsible for providing legal, procurement and contract management services for both the Agency's core and delegated tasks. It played an instrumental role in the development and implementation of all critical procurements, contracts, delegation agreements and working arrangements.

1.7.5 Project Control (WBS 1.01.07, WBS 1.02.01)

During 2016, the Agency's Project Control Department, alongside its main EGNOS Exploitation and Galileo Exploitation tasks, continued its work on ensuring corporate level document management and the effective management of the Administrative Board and associated programming documents, in particular the Annual Work Programme and Annual Activity Report.

1.7.6 Finance (WBS 1.01.04)

During 2016 the Agency's Finance Department has continued its responsibilities for all financial management, core budgeting, reporting and controls.

1.7.7 Tasks

1.7.7.1 Information and Communications Technology (WBS 1.01.05)

Task	Name	KPI/Deliverable	Timing	Results
1.	Improvements in IT security and information security management.	• Readiness for ISO 27001 certification.	Q4	IATO signed on 15 December 2016.

1.7.7.2 Facility Management and Logistics (WBS 1.01.06)

Task	Name	KPI/Deliverable	Timing	Results
1.	Stabilise operational procedures in Facility Management and Logistics.	• Activity / cost plan for 2017-2020.	Q4	• 2017-2020 financial planning delivered internally. • Policies and procedures on OHS drafted and delivered.

1.7.7.3 Human Resources (WBS 1.01.03)

Task	Name	KPI/Deliverable	Timing	Results
1.	Staff and organisational development.	• Learning and Development Framework 2016 drafted and implemented. • Efficiently and effectively implement Agency and department development activities, as well as personal learning and development maps. • Career path policy and staff development strategy. • Career development adviser services. • Management Academy. • Performance management. • Promote GSA spirit and one team approach.	Q1-Q4	• Identification of learning and development priorities in line with the GSA and departments' objectives and organisation of the corresponding trainings (in-house training combined with tailored individual courses and on-the-job learning). • Induction training reinforced. • Internal mobility reinforced. • Management Academy organised. • Performance management carried out. • GSA spirit promoted through various initiatives (team building, awareness of GSA values in performance management, common training activities and projects across departments). • Activity of career development adviser re-prioritised.
2.	Efficient organisation.	• Assessment of efficient and effective usage of available resources in line with Agency priorities. • Continuous alignment of the GSA HR Strategy with GSA quality management. • Streamline HR processes (HR software). • Tailored reporting for stakeholders.	Q1-Q4	• Workforce analysis and related allocation of posts carried out. • Quality management audits carried out and relevant quality management KPIs reported on a regular basis. • Existing HR tools further improved.

Task	Name	KPI/Deliverable	Timing	Results
3.	Recruiting the best candidates.	• Implement online recruitment tool. • Clear, simple and transparent communication on employment opportunities and conditions. • Behavioural testing of candidates.	Q1-Q4	• Analysis of online application for recruitments concluded and development phase launched. • Communication of vacancy notices improved. • Behavioural testing of candidates introduced and carried out (including assessment centre for managerial positions).
4.	Good administration and care for staff.	• Compliance with the regulatory framework. • Practical support to employees. • Support programmes for family members (job search support, language courses, networking, etc.). • Supporting work-life balance. • Prevention and support in managing difficult situations at the workplace. • Prevention programmes regarding occupational diseases.	Q1-Q4	• Regulatory framework respected and risk mitigations introduced (checklists, declaration forms, etc.). • Support to employees provided as needed. • Support programmes for family members initiated. • Work-life balance supported by implementing teleworking and flexi time. • Consultation and guidance provided as needed.
5.	Contract management.	• Medical adviser in Prague. • Provision of interim services in Prague. • HR consultancy services. • All contracts drafted, amended, signed and processed accurately in a timely manner.	Q1- Q4	• Medical services framework contract implemented. • Interim services provided as needed. • HR consultancy services provided as needed. • All staff contracts drafted, amended, signed and processed in a timely manner.

1.7.7.4 Legal and Procurement (WBS 1.01.02)

Task	Name	KPI/Deliverable	Timing	Results
1.	Provide legal advice and support to all Agency tasks.	• Ensure overall legal coverage.	Q1-Q4	• Overall legal coverage for all GSA activities ensured.
2.	Provide legal support to the Administrative Board.	• Effective running of Administrative Board.	Q1-Q4	• Effective running of the Administrative Board during the reporting period ensured.
3.	Substantially contribute to inter-institutional relations (EC-ESA, etc).	• Effective cooperation with other institutions.	Q1-Q4	• Continuation and furtherance of effective cooperation with other institutions.
4.	Stabilise the Agency's grant management function.	• Effective Agency-wide structure and support achieved.	Q1-Q4	• Refinement and formalisation of processes for grant award and management achieved.
5.	Achieve planned procurements and grants with flexibility for additions.	• Contracts or agreements signed and budget executed.	Q4	• The procurements-contracts-grants pipeline consisted of 307 actions at the beginning of the year. This grew 316 successfully undertaken actions.

1.7.7.5 Project Control (WBS 1.01.07, 1.02.01)

Task	Name	KPI/Deliverable	Timing	Results
1.	Prepare Administrative Board and associated programming documents in cooperation with the Legal Department.	• Effective running of Administrative Board.	Q1-Q4	• Three Admin Board meetings held, including timely provision of relevant documents for meetings and for written procedures. • Annual Activity Report 2015 adopted by the Admin Board in accordance with statutory deadline. • Single Programming Document 2017-2020 submitted to the Board with a delay of four months.

Task	Name	KPI/Deliverable	Timing	Results
2.	Embed new Agency-wide document management procedure and document management system in cooperation with the ICT Department.	• Effective document management put in place.	Q1-Q4	• Review of the Agency-wide document management policy kicked-off. • Design and development of the GSA document management system reached final stage of testing.

1.7.7.6 Finance (WBS 1.01.04)

Task	Name	KPI/Deliverable	Timing	Results
1.	Managing and processing more than 4500 transactions (commitments, payments, recovery orders, transfers, reimbursements, cash requests, etc.).	• All transactions documented properly and processed within the appropriate operational and legal deadlines.	Q1-Q4	• 4740 financial transactions processed, representing an 11 % increase over 2015. Average payment times was 14 days, well below the 30-days benchmark and 20 days target of the European Commission.
2.	External and internal budgetary and statutory reporting.	• All reports delivered on time.	Q1-Q4	• All financial reports delivered in a timely manner.
3.	Management of all administrative, financial and contractual provisions for all grants under Horizon 2020, FP-7, Fundamental Elements and other EGNOS and Galileo grant schemes.	• Grant processes handled on time and with a high degree of quality. No observations from the European Court of Auditors (ECA) or the Internal Audit Service in relation to grant management.	Q1-Q4	• Signature of the grant agreements and payments processes done in a timely manner. • No observations from the ECA in relation to grant management.
4.	Grant ex-post audits launched and concluded on time in order to provide assurance to the Agency's external auditors.	• All audit reports finalised before the Agency's financial statements closed. Grants error rate remained below the European Commission average.	Q2	• Support to the Common Audit Service in the implementation of grant ex-post audits for H2020. A sufficient number of ex-post audits were requested and launched in time to provide an appropriate level of coverage. The error rate remained below the EC average.

1.8 Delegated tasks

Various delegation agreements were in place during the reporting period to cater to specific activities. The list below shows which delegation agreements were in force:

- Delegation Agreement for the Seventh Framework Programme for Research and Development of the European Union (FP7);
- Delegation Agreement for Public Regulated Service (PRS);
- Delegation Agreement for EGNOS Exploitation;
- Delegation Agreement for Galileo Exploitation;
- Delegation Agreement for the Management of Horizon 2020 Projects.

In 2016, both the Galileo and EGNOS delegation agreements were amended.

1.8.1 Delegation Agreement for the Seventh Framework Programme for Research and Development of the European Union (FP7)

Successfully completing the 2007-2013 period, the European Union's 7th Framework Programme for Research and Innovation paved the way for its successor, the Horizon 2020 programme. The European Commission delegated to the Agency the responsibility of managing projects regarding GNSS applications and the FP7 grants allocated to this domain. The Agency managed (in three calls) 86 projects with a total funding amount of up to 66.5 million EUR.

Overall, 18 projects were funded in the first call, 29 in the second, and 39 in the third. The projects covered all key market segments, including: Aviation, Maritime, LBS, Rail, Road, Agriculture, Mapping and Surveying, PRS, Education, International Cooperation.

All FP7 proposals strongly supported the adoption of E-GNSS and brought tangible results:

- 45 commercial products,
- 80 working prototypes,
- 13 patents/trademarks registered,
- 115 trials/demos.

The FP7 Delegation Agreements were still on-going in 2016 in order to close final activities.

1.8.2 Delegation Agreement for Public Regulated Service (2011)

The Agency managed the European Commission PRS Pilot Project 2 (P3RS-2) that started in December 2013. This included the procurement of 20 PRS pre-operational receivers in two batches of 10 units, with each batch equipped with a different Security Module. The qualification and acceptance of the initial 20 PRS pre-operational (accredited) receivers should take place at a later stage. The P3RS-2 procurement activities continued during 2016.

1.8.3 Delegation Agreement for EGNOS Exploitation

The Delegation Agreement for EGNOS Exploitation was signed on 16 April 2014. The agreement includes the provision of the Open Service, Safety of Life Service and the EGNOS Data Access Service to users through 2021. In 2016, this Delegation Agreement was amended, increasing the total delegated budget by 102 million EUR to 1.552 billion EUR.

Key Agency activities undertaken in 2016 in the main areas of the programme include:

- Issued a long-term roadmap for EGNOS activities;
- Provided the best-ever EGNOS service performances over the entire service area;
- Release the EGNOS System Release V2.4.2 Invitation to Tender in February 2016; subsequently an updated Request for Proposal was provided to the ESA and a new proposal was received;
- Prepared the EGNOS V3 Invitation to Tender, to be issued by the ESA in early 2017; the Agency also under took V3 site preparation activities;
- Undertook procurement activities related to the implementation of a new GEO transponder service;
- Facilitated the evaluation of the 2015 call for proposals to foster EGNOS adoption in civil aviation and signature of the grant agreement of the projects selected for funding. 27 aviation projects received funding under the grant programme, delivering more than 100 EGNOS procedures and 100 EGNOS-equipped aircraft.

1.8.4 Delegation Agreement for Galileo Exploitation

The European Commission and the GSA signed the Delegation Agreement for Galileo Exploitation on 2 October 2014. The agreement provides a framework and budget for the development of services and operations through 2021. The Delegation Agreement was amended for a second time in December 2016, to 2.4 billion EUR to cover further procurement and grant activities, including the GSA-ESA Galileo Working Arrangement.

Key Agency activities undertaken in 2016 in the main areas of the programme include:

- Concluded Galileo Service Operator procurement in December, following three years of preparatory activities;
- Concluded GSA-ESA Working Arrangement in December, together with the first three specific contracts for Work Package 2 (Ground Mission Segment) completion, system support and ground segment development and operations management support to the GSA;
- Coordinated the Initial Services Task Force, which enabled the Declaration of Galileo Initial Services by the European Commission in December;
- Concluded a procurement for the service engineering technical activities;
- Initiated Galileo handover activities, including the transfer of Galileo to the GSA;
- Developed PRS activities, including the start of FRAME.

1.8.5 Delegation Agreement for Horizon 2020

The European Commission delegated the Agency responsibility for implementingthe Horizon 2020 - Framework Programme for Research and Innovation, based on the Delegation Agreement signed in April 2014.

In 2016, the Agency managed 40 projects from Horizon 2020's first and second calls. The former kicked off in the first quarter of 2015, while the latter kicked off at the beginning of 2016. The Agency was involved in preparing of calls foreseen for 2017-2018. The third call opened for submissions on 8 November 2016, with a 1 March 2017 deadline. The following is a list of Agency managed projects in 2016:

Acronym	Title
1st 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 (RLM), 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
PARADISE	Precise and Robust Navigation enabling Applications in Disturbed Signal Environments
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	European Rail Traffic Management System 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
ELAASTIC	European Location As A Service Targeting International Commerce
e-Airport	Increase airport capacity, safety and security using European GNSS
UKRAINE	UKraine Replication, Awareness and INnovation based on E-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
2nd call	
GRICAS	Galileo MEOSAR RLS Improvement for Better Civil Aviation Security
HELIOS	Second Generation Beacon for GALILEO/EGNOS EGNSS Search And Rescue applications
EASY Pv	EGNSS high Accuracy SYstem improving PhotoVoltaic plants maintenance
MOBNET	MOBile NETwork for people's location in natural and man-made disasters
INLANE	Low Cost GNSS and Computer Vision Fusion for Accurate Lane Level Navigation and Enhanced Automatic Map Generation
STRIKE3	Standardisation of GNSS Threat reporting and Receiver testing through International Knowledge Exchange, Experimentation and Exploitation
LOGIMATIC	Tight integration of EGNSS and on-board sensors for port vehicle automation
STARS	Satellite Technology for Advanced Railway Signalling
RHINOS	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	SKYOPENER - establishing new foundations for the use of Remotely-Piloted Aircraft Systems for civilian applications.
BLUEGNSS	Promoting EGNSS Operational Adoption in BLUEMED FAB
InDrive	Automotive EGNSS Receiver for High Integrity Applications on the Drive
AUDITOR	Advanced Multi-Constellation EGNSS Augmentation and Monitoring Network and its Application in Precision Agriculture

1.8.5.1 PRS Procurement under H2020

In addition to the above-mentioned tasks, the Agency endorsed the launch and management of PRS user segment related procurements organised into two items.

In 2016, all the projects planned under H2020 PRS were successfully procured. In total five procurements (one under H2020 PRS Item 1, four under H2020 PRS item 2) were contracted.

The following is a list of Agency managed PRS user segment procurements in 2016:

Acronym	Title	Comments
DISPATCH	Development of Innovative PRS server based TeCHnologies to support future applications	H2020- PRS Item 1. One contract
PRISMA	Development of low end operational PRS receivers including security modules architectures	H2020-PRS Item 2 Four contracts

2 Management

2.1 Management Board

The Agency has an Administrative Board that is described in section 2.1.1. It also has a separate Security Accreditation Board, which is responsible for accreditation matters, described in section 2.1.2

2.1.1 The Administrative Board

The Administrative Board brings together representatives of the Member States, EU Institutions, Norway and the European Space Agency (ESA). The Administrative Board is responsible for defining the Agency's priorities, establishing its budget and monitoring its operations.

2.1.1.1 Composition

Voting Members	EU Member States (28 representatives) and European Commission (4 representatives) A detailed list of Board Members is available on the Agency website.
Non-Voting Members	European Parliament (1 representative), Norway
Observers	Chair of the Security Accreditation Board High Representative for Foreign Affairs and the Security Policy (1 representative) European Space Agency (1 representative)
Chair	Mr Jean-Yves Le Gall (France)
Deputy Chair	Mr Mark Bacon

The Administrative Board elected Mr Jean-Yves Le Gall and Mr Mark Bacon, Chair and Deputy Chair respectively, at their June meeting. They started their terms of office the day after their respective predecessor's terms of office.

2.1.1.2 List of Administrative Board decisions

The Administrative Board met in March, June and October 2016. The three meetings, #44 through #46 respectively, made the following decisions:

Mtg	Date	Reference:	Title
44	9 March	GSA-AB-44-16-03-02	Adoption of AB43 meeting minutes
44	9 March	GSA-AB-44-16-03-03	Decision on the conclusion of the Agreement between the Kingdom of the Netherlands, the European Commission and the European GNSS Agency on the hosting of the Galileo Reference Centre
44	10 March	GSA-AB-44-16-03-05	Draft budget 2017
44	10 March	GSA-AB-44-16-03-05	Amending budget 2016 (amendment 1)
44	10 March	N/A	Appointment of reporting officers for the appraisal of the Executive Director
44	10 March	GSA-AB-44-16-03-06	Annual Work Programme 2016
45	22 June	GSA-AB-45-16-06-02	Adoption of AB44 meeting minutes
45	22 June	GSA-AB-45-16-06-02	Implementing rules of the financial regulation (version 1.1)
45	23 June	GSA-AB-45-16-06-03	Draft budget 2017 (revision)
45	23 June	GSA-AB-45-16-06-05	Annual Activity Report 2015
45	23 June	N/A	Election of a new Chair of the Board
45	23 June	N/A	Election of a new Deputy Chair of the Board
45	23 June	GSA-AB-45-16-06-06	Annual Accounts 2015
45	23 June	GSA-AB-45-16-06-07	Rules of procedure (version 1.2)
46	27 October	GSA-AB-46-16-10-01	Adoption of the AB45 meeting minutes
46	27 October	GSA-AB-46-16-10-02	GSA-ESA EGNOS Working Arrangement amendement

Additionally, the Administrative Board made the following decisions based on written procedures:

#	Date	Title
55	11 February	Amending budget 2015 (amendment 3)
56	11 February	Non automatic carry over of payment appropriations from 2015 to 2016
57	18 July	Provisional Single Programming Document 2017
58	11 October	Working time
59	11 October	Non-application of the Commission decision on the maximum duration for the recourse to non-permanent staff in the Commission services
60	30 November	Approval of the GSA-ESA Galileo Working Arrangement

2.1.2 The Security Accreditation Board

The Security Accreditation Board (SAB) is the European GNSS Security Accreditation Authority. It is established within the Agency as an autonomous body pursuant to Article 3 of the GSA Regulation.The SAB takes its decisions independently and objectively, including with regard to the Commission and other bodies responsible for the implementation of the programmes and for the 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 European GNSS systems are of its sole competence.

The SAB is responsible for the security accreditation of the European GNSS systems, i.e. to verify that they comply with the applicable security rules and regulations as established by the Council and the European Commission. Security accreditation decisions adopted by the SAB entail inter alia the following:

- Approval of satellite launches;
- Authorisation to operate the systems in their different configurations and for the various services 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, taking into account the advice provided by national entities competent in security matters and the overall security risks.

2.1.2.1 Composition

The SAB brings together representatives of the Member States, the European Commission, the High Representative for Foreign Affairs and the Security Policy,the European Space Agency and Norway.

Members	EU Member States (28 representatives) European Commission (1 representative) High Representative for Foreign Affairs and the Security Policy (1 representative)
Non-voting Members	Norway (1 representative)
Observers	European Space Agency (1 representative)

The decisions taken by the SAB are classified.

2.1.2.2 Chairmanship

The SAB chair Mr Jeremy Blyth (United Kingdom) and deputy chair Mr Bruno Vermeire (Belgium) were elected for another period of two years, showing the SAB's support of the current SAB management and its approach towards security accreditation.

2.1.2.3 Support provided by the Agency

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.

In particular, 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 plays also an important management and coordination role for the SAB subordinate bodies, the European GNSS Security Accreditation Panel and the SAB CDA Task Force.

2.2 Major developments

Throughout 2016, several programme-level and administrative developments took place in the Agency:

- GSMC declared its Initial Services on 14 December 2016 and started operating a backup site in the United Kingdom.
- The Agency , with the European Commission, updated a roadmap to collect and understand user requirements by market segment.
- The Agency organised and participated in many events promoting EGNOS and Galileo programmes, as well as the declaration of Galileo Initial Services. One highlight was the European Space Solutions conference which generated over 12.5 million social media impressions. During this event, the GSA held five workshops and participated in numerous plenary sessions, side events, and exhibitions.
- The EGNOS and Galileo delegation agreements were amended, and the GSA-ESA Galileo Working Arrangement was signed. The Agency signed the Galileo Service Operator contract, declared Galileo Initial Services on 15 December, and prepared for the handover of activities to the GSA. The Agency also issued a long-term roadmap for EGNOS activities and prepared the EGNOS V3 Invitation to Tender. During the year, EGNOS provided its best-ever service performances over its entire area.

- The Agency kicked-off the projects from the second call for proposals under the Horizon 2020 research programme and opened the third call at the end of the year.

2.3 Budgetary and financial management

The Agency's own executed budget in 2016 was 29 086 327 EUR, which represents a 100 % budget execution in terms of commitments. In addition to its core budget, the GSA continued to manage a large amount of delegated budget following the signature of EGNOS and Galileo Delegation Agreement amendments. The Galileo Exploitation Delegation Agreement amendment was signed in December 2016. It assigned a further 1.61 billion EUR to the GSA, bringing the total delegated amount under the Galileo Delegation Agreement to 2.4 billion EUR. In 2016, the EGNOS exploitation Delegation Agreement budget was increased by 102 million EUR to a total of 1.552 billion EUR. A total of 1.074 million EUR delegated budget was committed in 2016 and 111.6 million EUR made in payments.

In terms of core budget breakdown, the total expenditure on staff costs was 14 986 612.25 EUR; Other administrative costs amounted to 6 167 083.79 EUR; and expenditure on operational costs was 7 932 630.96 EUR.

Furthermore, during 2016:

- Budget execution was 100 % in commitment appropriations and 100 % in C1 payment appropriations. This takes into account the non-automatic carry-forward, which helps the Agency maintain its payment capacity on legal obligations still existing for prior year commitments.
- The GSA Administration Board approved one budget amendment on 10 March 2016. The amendment included the revised European Free Trade Association (EFTA) contribution of 736 254 EUR, reducing the 2016 initially approved budget by 74 483 EUR, and bringing it to the final amount of 29 086 327 EUR. This amendment also introduced two new budget lines into the GSA budget, one for social measures (budget line 1500) and one for SAB administrative expenditure (budget line 2600). Budget line 1500 is in line with the 2015 decision of the Administrative Board on social measures[6] . The objective of budget line 2600, created under Title 2, is to ensure the correct treatment of administrative expenditure and maintain complete transparency on the total amount of SAB related expenditure. In the past, SAB related expenditure was inscribed under the operational budget line 3300, however this included expenditure which was essentially administrative (SAB meetings, SAB Members' missions, etc.).

[6] GSAID-196-8756

- The Agency continued to manage a large amount of delegated budget under the EGNOS Exploitation, the Galileo Exploitation, and the Horizon 2020 Delegation Agreements as mentioned above.
- In quantitative terms, the GSA carried out the following transactions during 2016: 521 commitments, de-commitments and modification of commitments; 4153 payment requests; 60 recovery orders and 6 internal transfers. All in all, the GSA processed 4740 financial transactions.
- Payment appropriations for an amount of 2 521 163.85 EUR were carried over on Title 2 (automatic carry-over) from 2015 to 2016, representing 42 % of the total Title 2 budget. Payment appropriations for an amount of 2 806 212.48 EUR were carried over on Title 2 (automatic carry-over) from 2016 to 2017, representing 45.5 % of the total Title 2 budget.
- Payment appropriations for an amount of 83 568.48 EUR on Title 3 were carried over (non automatic carry over) from 2015 to 2016 to maintain the Agency's payment capacity on existing legal obligations. Payment appropriations for an amount of 1 523 713.19 EUR were carried over on Title 3 (non automatic carry over) from 2016 to 2017 for the same reason.
- The GSA improved its payment time statistics with 97.5 % of all payments done within the time limit of 30 days, 60 days or 90 days for grants and with an average payment time of 14 days.
- The Agency paid 4 133.47 EUR in late interest to suppliers - an 81 % decrease in comparison to 2015.
- There were cancellations of unused appropriations in amount of 209 768.12 EUR, representing only 0.72 % of the total 2016 budget.

For further details on the budget implementation for the reporting period, please see the Report on Budgetary and Financial Management in 2016 on the Agency's website. Statistical information is also available in Annex II of this document.

The entire Agency revenue for the reporting period comes from the EU budget and EFTA contribution. No other sources of funding were available.

2.4 Human Resources management

At the beginning of 2016, the Agency employed 99 Temporary Agents (TA), 36 Contract Agents (CA) and 4 Seconded National Experts (SNE), for a total of 139. At the end of 2016, the Agency employed 113 TAs, 43 CAs and 4 SNEs, bringing the total number of staff up to 160.

Within the establishment plan the Agency was able to recruit to fill 11 new TA posts for 2016, and had to cover three posts from the establishment plan of the previous year. Furthermore, there were five TA resignations during the year, leaving 19 TA vacancies to fill. Of these, six posts were filled by staff already

employed by the Agency, creating new vacancies elsewhere. These internal moves brought the total procedures for TAs to 26. To accommodate this, the Agency further streamlined its recruitment procedures, strengthened the timely forward planning and designed vacancies with a broader scope. These broader vacancies allowed the Agency to cover multiple profiles at the same time. Consequently, the Agency managed to fill all vacancies, hence the execution of the 2016 establishment plan was 100 %.

Regarding CAs, in 2016, the Agency received three resignations and the workforce grew by seven. The number of SNEs remained stable. Furthermore, two calls were launched. Overall, the Agency launched 24 separate recruitment procedures, processed over 650 applications, conducted 140 interviews and sent 44 job offers, out of which two were declined (5 %). In comparison with previous years, the number of offers declined decreased, understood to be a result of the Agency now providing a clearer explanation of the working conditions in its vacancy notices. In addition, the Agency hired 10 trainees for one-year traineeships.

To maintain the quality and effectiveness of selection procedures, the Agency made use of work-related personality questionnaires and assessment centres for managerial positions. The GSA analysed the job and workforce allocation to ensure a balanced distribution of tasks and resources that was relevant to the activities carried out by each department. The Agency allocated the new posts planned for 2017 according to the results of this analysis and, with further streamlining of activities and allocation of resources based on its Work Breakdown Structure expected. The WBS will also become an inherent part of the performance management.

In 2016, the Agency continued managing the contract for the provision of temporary agency workers, harmonising and regulating the use of interim agents across all departments. These interim agents supported the Agency during peak activity periods or for specific projects/events requiring specific skills or temporary assistance, as well as replaced temporarily absent staff.

The Agency's staff management services accommodated the growing number of staff in terms of comprehensive induction trainings, payroll, performance management, leave administration and other core HR functions. There was additional workload related to the planned relocation of some staff members for operational reasons. The Agency provided tailored relocation services for newcomers and expat staff and their families, in line with the requirements stemming from agreements with hosting countries. During 2016, the Agency adopted and implemented five additional implementing rules.

As part of a continuous and global effort to achieve the Agency's strategic goals and enhance individual and departmental performance and effectiveness, 49 learning and development events were organised in Prague and St. Germain-en-Laye. In addition, staff members participated in 91 external learning activities. The Agency organised social and well-being activities focusing on the following topics: staff member networking,

inter-departmental communication, creationg of a common Agency culture, and improvement of health/physical conditions.

Following the adoption of social measures by the Administrative Board, the Agency implemented them. These measures aim to re-enforce the retention of GSA human resources and to recover, in part, the GSA's attractiveness in a very competitive technical labour market. These measures are temporary in nature and the Agency will pursue other long-term structural measures.

2.5 Assessment by management

Based on the control procedures performed by the Agency, one can draw a positive conclusion on the legality and regularity of transactions. Article 30.2 of the GSA Financial Regulation 2014 defines Internal Control as a process applicable at all levels of management and designed to provide reasonable assurance of achieving the following objectives:

- Effectiveness, efficiency and economy of operations;
- Reliability of reporting;
- Safeguarding of assets and information;
- Prevention, detection, correction and follow-up of fraud and irregularities;
- Adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multiannual character of programmes, as well as the nature of the payments concerned.

The Agency's responsibilities have kept expanding due to the consolidation of its operational role on EGNOS and its rapidly evolving role with Galileo - demonstrated by the growth in delegated funding entrusted to the Agency in 2016. The Agency also reinforced its control functionality with the activation of the Internal Audit Capability (IAC), which was approved in 2015. In 2016, the IAC executed two audits, both of which will be addressed later in this report.

In 2016, the Agency further enhanced its compliance with the Commission's Internal Control Standards (ICS). The ongoing operational ramp up in the Agency, boosted by increased responsibilities in the operation of the Galileo system, implied a continuous adaptation of the Agency's effort by support functions and corresponding controls.

The Administrative Board adopted new Rules of Procedure for Article 17 (Prevention and Management of Conflicts of Interest) and its corresponding implementing tool (Declaration of Commitments, Interests and

Confidentiality) were developed. The Agency developed a more detailed assessment identifying the steps required for the full implementation of the Anti-Fraud Strategy. The GSA will gradually develop this starting in 2017.

2.5.1 Register of Exceptions

The Agency has a procedure in place for registering exceptions. Its overall objective is to establish appropriate arrangements to explain, register and report any exceptional circumstance of overriding controls or deviations from the established regulatory framework in accordance with the principle of transparency. Before any action is taken, an exception must be documented, justified and approved at the appropriate level.

There were 16 exceptions registered in 2016, none of which affected in a material way the overall sound financial management of the Agency. The Agency has shared the Register of Exceptions with external auditors and with the IAS.

2.6 Budget implementation tasks entrusted to other services and entities

Not applicable.

2.7 Assessment of audit results during the reporting year

2.7.1 Internal Audit Service (IAS) and the Agency's Internal Audit Capability (IAC)

In 2016, the Agency continued to implement the recommendations of the IAS audit on GSMC. A 2015 letter from the IAS prompted a review of 10 outstanding recommendations. The result of this analysis showed that eight recommendations were completed, with the remaining two completed in 2016.

In 2016, the IAS executed an audit of the GSA's planning, monitoring and reporting process. The audit reported no critical findings. The Agency implemented two of the five recommendations before the end of the year.

In 2016, the Internal Audit Service announced plans to execute a periodic risk assessment of the Agency in April 2017.

The Agency's Internal Audit Capability (IAC), a shared resource with the European Chemicals Agency (ECHA), executed its first two audits in 2016. In this regards, it audited the EGNOS Contract Change Management

process and the handling of the EGNOS Asset Inventory, heavily supported by the Agency. In 2016, the Agency implemented a number of the audit's eight recommendations, with the remaining to be implemented progressively. In the last quarter of 2016, the IAC also carried out a second audit on staff mission requests and reimbursements. Five recommendations were made and considered in the review of the GSA Staff Mission Guidelines.

2.7.2 European Court of Auditors

The European Court of Auditors will provide definitive findings at the end of June 2017. As of time of writing, there are no preliminary findings from the Court for the reporting period. The key open issues in relating to last year have been considered in the definition of the IAC's audit scope for 2015-16, whose audit is still ongoing.

2.8 Follow up of recommendations and action plans for audits

The general conclusions and recommendations, drawn from the evaluation by the European Commission in 2015, add to the assurance provided by the Authorising Officer. The reports by internal and external auditors give a generally positive assessment and perception of the Agency, and provide valuable feedback on the areas to be improved. For a brief overview of the Agency's analysis about the fulfilment status of all recommendations received, please see section 2.7.

2.9 Follow up of recommendations from the discharge authority

The discharge authority made no recommendations.

2.10 External evaluations

The three external audits of the Annual Implementation Reports of the EGNOS, Galileo and Horizon 2020 delegation agreements for 2016 found no major issues. Two suggestions for improvement made last year regarding EGNOS and Galileo are:

- Implement general rules as defined by the Financial Regulation into detailed internal guidelines for the Grant Award Procedure. The draft was submitted for internal review during 2016;

- Develop an IT tool to control and report on procurement, grants and financial figures. The tool should allow users to produce aggregate tables and track changes. The tool, which was developed and tested in 2016, is now being finalised.

In relation to the ongoing assessment of the Agency's annual accounts by external auditors, the Agency does not foresee any major findings.

3 Assessment of the effectiveness of the internal control systems

3.1 Risk management

Following the first steps taken to develop a corporate risk management toolset in 2015, in 2016, the Agency worked on finalising the project. As a result, at the end of the year, it adopted and made available a corporate risk management policy, procedure, and corporate risk register.

During the year, the Agency undertook risk assessment and monitoring activities at the corporate, operational, and support department levels, extending the risk management process to its operational functionalities through the GSA-ESA Working Arrangement.

The outcomes of the corporate risk assessments could be made available to the stakeholders as needed. The outcomes of operational risk assessments are shared with management and reported directly to the European Commission for information and/or further consolidation and reporting at the respective programme level.

The top 10 corporate risks at the GSA in 2016:

Risk	Title
RSK1	GSA Headquarter in the labour market
RSK2	GSA resourcing level and apportionment
RSK3	GSA credible to have exploitation as a core task
RSK4	EGNOS V3 & V242 timely implementation
RSK5	Continuity of Initial Services including GSMC
RSK6	Continuity of WP1/2/3 activities through Galileo WA
RSK7	Galileo handover including transition to GSOp
RSK8	Distribution of PRS information implementing Article 14
RSK9	Open ServicesNavigation Message Authentication (OS NMA) and Commercial Service (CS) High Accuracy risk due to loss of potential revenue and/or differentiators
RSK10	Effective market penetration (Adoption High Accuracy)

Each risk has an identified and adopted mitigation action plan. Corporate Risk Management Boards are planned on a quarterly basis.

The above-summarised Risk Management framework was successfully audited in 2016.

3.2 Compliance and effectiveness of Internal Control Standards (ICS)

The last assessment on compliance with the ICS happened in October 2015, showing that the Agency is compliant with all but one of the 16 Internal Control Standards, "#10 Business Continuity". Following this, in 2016, the Agency initiated a corporate business continuity assessment.

Improvements in the Agency's compliance to ICS continued in 2016 and focused on:

- ICS 2, *Ethical and Organisational Values*: Policies defining the Agency's Antifraud Strategy (and Conflict of Interest) were put in place in 2015, with implementation starting in 2016 with the development of a related intranet site and training materials opened to all GSA staff and contractors.
- ICS 3, *Staff Allocation and Mobility:* The Agency endured a loss of attractiveness as an employer at its GSA headquarters in Prague. Following a decision of the Administrative Board concerning staff social measures in March 2015, two of the three measures were implemented in 2016 (transport passes and vouchers).
- ICS 6, *Risk Management Process*: The Agency developed its corporate risk management framework. In 2016 the Agency developed a risk management policy and procedure, and a corporate risk register.
- ICS 11, *Document Management*: The Agency continued the development of a document management system.
- ICS 12, *Information and Communication:* The Agency continued to recruit new staff into its Security and IT departments which will enable it to finalise its Information Security Policy and Information Security Statement in 2017.

4 Management assurance

4.1 Review of the elements supporting assurance

4.1.1 Follow-up of reservations from previous years

The declaration of assurance of the Authorising Officer in the Annual Activity Report 2016 did not contain any reservations.

4.2 Reservations

There are no reservations regarding 2016.

4.3 Overall conclusions on assurance

The Agency provided assurance in 2016 to the European Commission's DG GROW on the use of the budget delegated to it by DG GROW. This provided reasonable assurance concerning the legality and regularity of the financial operations and including the sound financial management of delegated funds. No critical shortfalls or weaknesses were identified.

The Agency continued to manage a large number of delegated appropriations by the European Commission during 2016. The GSA monitored the evolution of these operations, in close cooperation with the corresponding staff at DG GROW, and reported on all advances as required by the respective Delegation Agreements. Financial resources were properly managed and key financial indicators were shared and reported to DG GROW. Auditors made no observations in this field.

The degree of implementation and effectiveness of the Internal Control Standards was assessed during the reporting period, showing that the Agency is compliant with all but one of the 16 Internal Control Standards: Business Continuity, for which a corporate business continuity assessment was initiated in 2016.

The Parliament granted the discharge to the Executive Director (as per the draft Discharge report 2015). The Council was also in favour of granting this discharge.

The Court of Auditors' preliminary observations report for 2015 provided a clean opinion with only three comments related to the amount of carry-overs, the accumulation of overheads in an EGNOS procurement

contract and the need to secure insurance coverage for fixed tangible assets. The Agency took actions in relation to the three comments above.

5 Declaration of assurance

I, the undersigned, Carlo des Dorides,

Executive Director of the European GNSS Agency,

In my capacity as Authorising Officer,

- Declare that the information contained in this report gives a true and fair view.[7]
- State that I have reasonable assurance that the resources assigned to the activities described in this report have been used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees concerning the legality and regularity of the underlying transactions.

  This reasonable assurance is based on my own judgement and on the information at my disposal, such as the results of the self-assessment, ex-post controls, the work of the internal audit capability, the observations of the Internal Audit Service and the lessons learnt from the reports of the Court of Auditors for years prior to the year of this declaration.
- Confirm that I am not aware of anything not reported here that could harm the interests of the Agency.

Prague, 27 June 2017

Carlo des Dorides

7 True and fair in this context means a reliable, complete and correct view on the state of affairs in the service.

Annexes

Annex I – Core business statistics

Section 1 lists the measurement of core business activities and related Key Performance Indicators (KPIs).

The Agency wishes to note that section 1.8 refers to tasks delegated by the European Commission; These tasks are clearly defined, together with their KPIs, in the relative Delegation Agreement.

Annex II – Statistics on financial management

II.1 - Rate and type of implementation of appropriations

Budget line	Heading	Commitment Appropriations Budgeted 2016	Commitment Appropriations			
			Executed in 2016	%	Uncommitted	%
Title 1 - Staff expenditure						
1100	Staff expenditure	11 656 427.09	11 656 427.09	*100 %*	0.00	*0 %*
1200	Recruitment costs	123 000.00	123 000.00	*100 %*	0.00	*0 %*
1210	Medical services	20 000.00	20 000.00	*100 %*	0.00	*0 %*
1300	Missions and travel	1 346 200.00	1 346 200.00	*100 %*	0.00	*0 %*
1400	Training expenditure	215 000.00	215 000.00	*100 %*	0.00	*0 %*
1500	Social measures	110 000.00	110 000.00	*100 %*	0.00	*0 %*
1600	Interims & Trainees	525 500.00	525 500.00	*100 %*	0.00	*0 %*
1700	Representation expenditure	713.93	713.93	*100 %*	0.00	*0 %*
1800	Tuition fees	989 771.23	989 771.23	*100 %*	0.00	*0 %*
	Total for title 1	14 986 612.25	14 986 612.25	*100 %*	0.00	*0 %*
Title 2 - Administrative expenditure						
2000	Rental of buildings	2 668 348.53	2 668 348.53	*100 %*	0.00	*0 %*
2100	Data processing	1 910 435.04	1 910 435.04	*100 %*	0.00	*0 %*
2200	Movable property	117 155.67	117 155.67	*100 %*	0.00	*0 %*
2300	Current administrative costs	721 479.33	721 479.33	*100 %*	0.00	*0 %*
2400	Postage and telecommunication costs	245 603.84	245 603.84	*100 %*	0.00	*0 %*
2500	Meetings	49 795.00	49 795.00	*100 %*	0.00	*0 %*

Budget line	Heading	Commitment Appropriations Budgeted 2016	Commitment Appropriations			
			Executed in 2016	%	Uncommitted	%
2600	SAB administrative expenditure	454 266.38	454 266.38	*100 %*	0.00	*0 %*
	Total for title 2	6 167 083.79	6 167 083.79	100 %	0.00	0 %
	Total for titles 1 and 2	21 153 696.04	21 153 696.04	100 %	0.00	0 %
Title 3 - Operational expenditure						
3100	Expenditure on studies	7 283 078.96	7 283 078.96	100 %	0.00	0 %
3300	SAB operational expenditure	649 552.00	649 552.00	100 %	0.00	0 %
	Total for title 3	7 932 630.96	7 932 630.96	100 %	0.00	0 %
	TOTAL T1+T2+T3	29 086 327.00	29 086 327.00	100 %	0.00	0 %

Budget line	Heading	Payment Appropriations Budgeted 2016	Payment Appropriations					
			Paid in 2016	%	Carried Forward	%	Total Executed	%
Title 1 - Staff expenditure								
1100	Staff expenditure	11 656 427.09	11 656 427.09	100 %	0.00	0 %	11 656 427.09	100 %
1200	Recruitment costs	123 000.00	79 352.84	65 %	43 647.16	35 %	123 000.00	100 %
1210	Medical services	20 000.00	8 030.46	40 %	11 969.54	60 %	20 000.00	100 %
1300	Missions and travel	1 346 200.00	1 046 259.51	78 %	299 940.49	22 %	1 346 200.00	100 %
1400	Training expenditure	215 000.00	76 227.46	35 %	138 772.54	65 %	215 000.00	100 %

Budget line	Heading	Payment Appropriations Budgeted 2016	Payment Appropriations					
			Paid in 2016	%	Carried Forward	%	Total Executed	%
1500	Social measures	110 000.00	93 981.66	85 %	16 018.34	15 %	110 000.00	100 %
1600	Interims & Trainees	525 500.00	415 773.02	79 %	109 726.98	21 %	525 500.00	100 %
1700	Representation expenditure	713.93	713.93	100 %	0.00	0 %	713.93	100 %
1800	Tuition fees	989 771.23	824 984.92	83 %	164 786.31	17 %	989 771.23	100 %
	Total for title 1	14 986 612.25	14 201 750.89	95 %	784 861.36	5 %	14 986 612.25	100 %
Title 2 - Administrative expenditure								
2000	Rental of buildings	2 668 348.53	2 032 429.26	76 %	635 919.27	24 %	2 668 348.53	100 %
2100	Data processing	1 910 435.04	411 514.27	22 %	1 498 920.77	78 %	1 910 435.04	100 %
2200	Movable property	117 155.67	24 240.00	21 %	92 915.67	79 %	117 155.67	100 %
2300	Current administrative costs	721 479.33	467 265.33	65 %	254 214.00	35 %	721 479.33	100 %
2400	Postage and telecommunication costs	245 603.84	106 730.24	43 %	138 873.60	57 %	245 603.84	100 %
2500	Meetings	49 795.00	45 595.38	92 %	4 199.62	8 %	49 795.00	100 %
2600	SAB administrative expenditure	454 266.38	273 096.83	60 %	181 169.55	40 %	454 266.38	100 %
	Total for title 2	6 167 083.79	3 360 871.31	54 %	2 806 212.48	46 %	6 167 083.79	100 %
	Total for titles 1 and 2	21 153 696.04	17 562 622.20	83 %	3 591 073.84	17 %	21 153 696.04	100 %
Title 3 - Operational expenditure								

Budget line	Heading	Payment Appropriations Budgeted 2016	Payment Appropriations					
			Paid in 2016	%	Carried Forward	%	Total Executed	%
3100	Expenditure on studies	7 283 078.96	5 897 643.22	81 %	1 385 435.74	19 %	7 283 078.96	100 %
3300	SAB operational expenditure	649 552.00	511 274.55	79 %	138 277.45	21 %	649 552.00	100 %
	Total for title 3	7 932 630.96	6 408 917.77	81 %	1 523 713.19	19 %	7 932 630.96	100 %
	TOTAL T1+T2+T3	29 086 327.00	23 971 539.97	82 %	5 114 787.03	18 %	29 086 327.00	100 %

II.2 – Information on transfers and amending budgets

One amending budget was approved during the reporting period. The objective of the amendment was to reduce commitment and payment appropriations following the reduction of the assumed EFTA contribution by 74 483 EUR to a total amount of 29 086 327 EUR. The initial budget was published in the Official Journal of the EU on 31 March 2016 and an Amending Budget no 1 was published on 24 June 2016. This amendment also introduced two new budget lines into the GSA budget, as detailed in section 2.3 of this document.

Six internal transfers were processed in 2015, all of them authorised by the Executive Director as they concerned transfers of amounts either within Titles or below 10 % between Titles.

II.3 – Information on interest charged through late payments

Interest on late payment totalling 4 133.47 EUR was paid in 2016, which represents a decrease of 81 % in comparison to 2015.

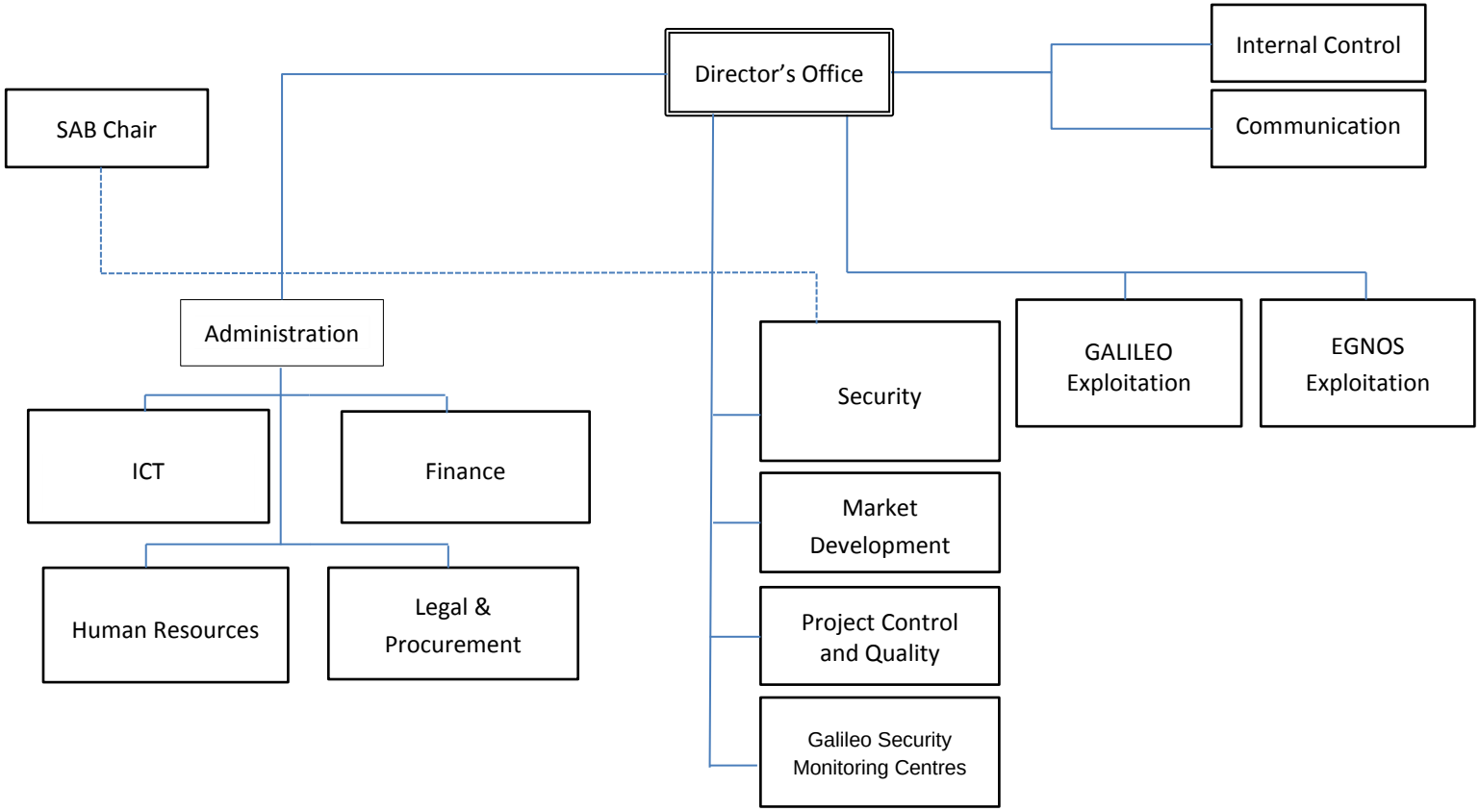
II.4 – Summary information on budgetary operations

The GSA initial Budget 2016 adopted by the Administrative Board on 30 March 2015 was set at 29 160 810 EUR for both commitment and payment appropriations. The GSA Administrative Board approved one subsequent budget amendment on 10 March 2016, which took into account the final budget allocated by the Budgetary Authority of 28 350 073 EUR and revised EFTA contribution of 736 254 EUR, reducing the 2016 overall budget by 74 483 EUR and bringing it to the final amount of 29 086 327 EUR.

Budget execution for the year was 100 % in commitment appropriations and 100 % in C1 payment appropriations when taking into account the non-automatic carry-forward in order to maintain the Agency's payment capacity on existing legal obligations. Average payment time was 14 days, well below the 30 days European Commission benchmark and 20 days target of the EC. The GSA processed 4740 financial transactions in 2016 (representing an 11 % increase over 2015).

The Agency continued to manage a large amount of delegated budget for the EGNOS, Galileo Exploitation Delegation, and the Horizon 2020 Delegation Agreements. An amendment to the Galileo Exploitation Delegation Agreement was signed in December 2016, assigning a further 1.61 billion EUR to the GSA and bringing the total delegated amount under Galileo Delegation Agreement to 2.4 billion EUR. EGNOS exploitation Delegation Agreement was increased in 2016 by 102 million EUR to a total amount of 1.552 billion EUR. A total of 1.074 million EUR delegated budget was committed in 2016 and 111.6 million EUR made in payments.

Annex III - Organisational Chart



Annex IV – Establishment Plan

The Agency's Establishment Plan for 2016 was as follows:

Category and grade	Establishment plan in EU Budget 2016		Modifications in 2016 in application of flexibility rule[8]	
	Officials	TA	Officials	TA
Administrator (AD) 16				
AD 15				
AD 14		1		1
AD 13		1		1
AD 12		5		(-2) 3
AD 11		5		(-4) 1
AD 10		12		(-3) 9
AD 9		12		(+4) 16
AD 8		30		(-5) 25
AD 7		34		(+7) 41
AD 6		8		8
AD 5		0		(+3) 3
Total AD		**108**		**108**
Assistant (AST) 11				
AST 10				
AST 9				
AST 8				
AST 7				
AST 6		1		(-1)
AST 5		2		2
AST 4		1		1
AST 3				(+1) 1
AST 2		1		(-1)
AST 1				(+1) 1
Total AST		**5**		**5**
AST/SC 6				

[8] In line with Article 32 (1) of the framework Financial Regulation, the management board may modify, under certain conditions, the establishment plan by in principle up to 10 % of posts authorised, unless the financial rules of the body concerned allows for a different percentage rate.

Category and grade	Establishment plan in EU Budget 2016		Modifications in 2016 in application of flexibility rule[8]	
	Officials	TA	Officials	TA
AST/SC5				
AST/SC4				
AST/SC3				
AST/SC2				
AST/SC1				
Total AST/SC				
TOTAL		**102**		**99**

IV.1 - Information on Entry Level Grades for Posts

The Agency has a grading policy based on the European Commission Decision on types of post and post titles (European Commission Decision of 16.12.2013 on types of post and post titles C(2013) 8979 final). The table below refers to Temporary Agents (TAs) only:

Type of Post	Minimum Entry Recruitment Grade	Highest grade possible	Post Title
Director	AD 14	AD 15	Executive Director
Adviser or equivalent	AD 13 – AD 14	AD 14	Adviser Senior Expert
Head of Division (Management Post)	AD 11- AD 12	AD 14	Head of Division
Head of Department (Management Post)	AD 9 – AD 12	AD 14	Head of Department
Head of Section	AD 7 – AD 10	AD 12	Head of Section
Deputy Head of Department	AD 6 – AD 10	AD 12	Deputy Head of Department
Officer	AD 8 – AD 10	AD 12	Senior Officer* Team Leader
Officer	AD 5 – 7	AD 12	Officer* Team Leader
Assistant	AST 1 – AST 4	AST 9	Assistant Project Assistant
Secretary/Clerk	SC 1 – SC 2	SC 6	Secretary/Clerk

The below chart shows the grading information for contract agents:

Type of Post	Minimum Entry Recruitment Grade	Highest grade possible	Post Title
Administrator, Advisor and equivalent Technical Officer	CA FG IV/16	CA FG IV/18	Senior Technical Officer* Senior Administrator Senior Project Officer Team Leader
Administrator, Advisor and equivalent Technical Officer	CA FG IV/14	CA FG IV/18	Technical Officer* Administrator Project Officer Team Leader
Administrator, Advisor and equivalent Technical Officer	CA FG IV/13	CA FG IV/18	Junior Technical Officer* Junior Administrator*
Executive and Technical Support	CA FG III/8	CA FG III/12	Executive Assistant Project Support Officer Technical Expert
Clerical and Secretarial Support	CA FG II/4	CA FG II/7	Secretary / Clerk
Basic Support	CA FG I/1	CA FG I/3	Manual and Administrative Support Service Clerk

Annex V – Human and financial resources by activity

The 2016 distribution of staff was as follows, split by areas of activity:

		Allocated on 31 Dec 2016	
		TA	CA, SNE
Core tasks	Security accreditation	10	1
	Security tasks	5	5
	GSMC operations	19	12
	Promotion and marketing of the services	6	4
	Strategic Agency management	7	5
	General administration	9	6
Delegated tasks	EGNOS Exploitation	15	3
	Galileo Exploitation	38	5
	Research & Development (H2020)	4	6
	Total	113	47

These estimated figures are currently under internal review and are subject to possible changes, with the objective of aligning available resources with new tasks delegated to the Agency in the on-going transition phase.

The financial resources, split by area of activity are:

		Amount (EUR)
Core tasks	**Security accreditation**	649,552
	Security tasks	0
	GSMC operations	3,555,420
	Promotion and marketing of the services	3,727,658.96
	General administration	21,153,696.04
Delegated	**EGNOS Exploitation**	1,306,964,729.65
	Galileo Exploitation	2,400,000,000
	Research & Development (H2020)	71,720,342.31
	Total	3,807,771,398.96

Annex VI – Specific Annexes related to part 2

VI.1 - GSA Legal Framework (as of 31 December 2015)

Document	Ref.	Issue - Date
Council Decision 2014/496/CFSP of 22 July 2014 on aspects of the deployment, operation and use of the European Global Navigation Satellite System affecting the security of the European Union and repealing Joint Action 2004/552/CFSP	2014/496	22 July 2014
Regulation (EC) No 1285/2013 of the European Parliament and of the Council of 11 December 2013 on the implementation and exploitation of European satellite navigation systems and repealing Council Regulation (EC) No 876/2002 and Regulation (EC) No 683/2008 of the European Parliament and of the Council	1285/2013	11 December 2013
REGULATION (EU) No 912/2010 setting up the European GNSS Global Navigation Satellite System Agency amended by Regulation (EU) No 512/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014.	912/2010	16 Apr 2014
Council Decision 2013/488/EU of 23 September 2013 on the security rules for protecting EU classified information	2013/488	23 September 2013
Commission Decision 2015/444 of 13 March 2015 on the security rules for protecting EU classified information	2015/444	
Decision No 1104/2011/EU of the European Parliament and of the Council of 25 October 2011 on the rules for access to the Public Regulated Service provided by the Global Navigation Satellite System established under the Galileo programme	1104/2011 (enforced on 5/11/2011)	25 Oct 2011
REGULATION (EU, EURATOM) No 2015/1929 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 28 October 2015 amending Regulation (EU, Euratom) No 966/2012 on the financial rules applicable to the general budget of the Union;	2015/1929	28 Oct 2015
Decision of the Administrative Board adopting the GSA Financial Regulation of 25 April 2014	WP32	25 April 2014
COMMISSION DELEGATED REGULATION (EU) No 1271/2013 of 30 September 2013 on the framework Financial Regulation for the bodies referred to in Article 208 of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council;	1271/2013	30 Sept 2013
COMMISSION DELEGATED REGULATION (EU) 2015/2462 of 30 October 2015 amending Delegated Regulation (EU) No 1268/2012 on the rules of application of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council on the financial rules applicable to the general budget of the Union;	2015/2462	30 Oct 2015
Decision of the Administrative Board adopting the GSA Financial Regulation Implementing Rules 2014 of 25 April 2014	WP33	25 April 2014
Regulation No 31 (EEC), 11 (EAEC), laying down the Staff Regulations of Officials and the Conditions of Employment of Other Servants of the European Economic Community and the European Atomic Energy Community	Staff Regulations	6 March 1963

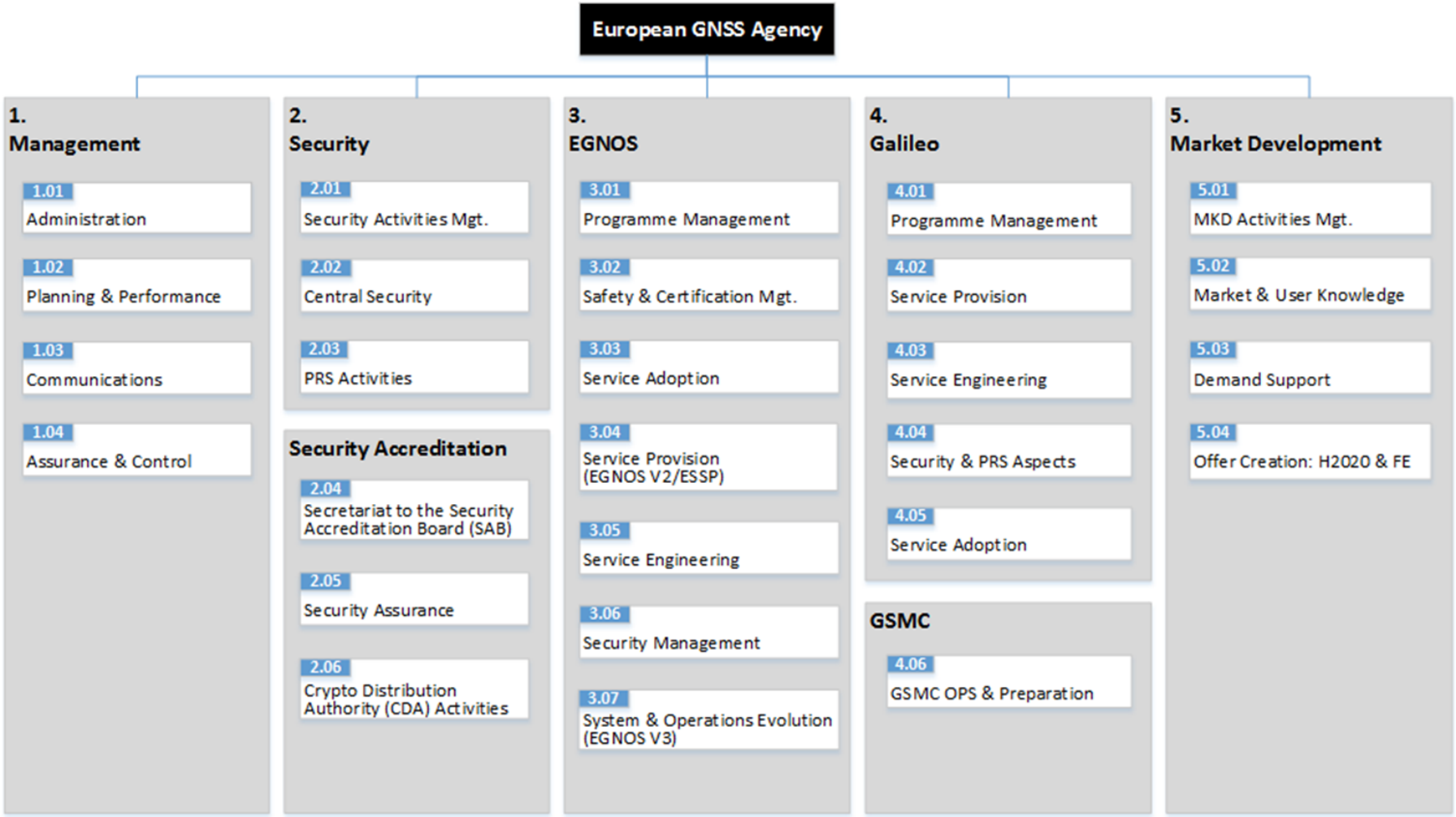
Annex VII – Specific annexes related to part 3

There are no annexes to part 3 for the reporting period.

Annex VIII - Draft Annual Accounts and Financial Reports

The Provisional Annual Accounts for the reporting period were prepared and sent to the European Commission and discharge authorities in accordance with the provisions of the Financial Regulation. Those accounts were audited in Spring 2017. After the final remarks of the Court of Auditors, the Agency will submit the 2016 Final Annual Accounts to its Administrative Board for adoption and final transmission. Once approved by the Administrative Board, the Agency will annex these to this report for reference.

Annex IX – The Work Breakdown Structure



Annex X - List of Acronyms

Abbreviation	Definition
AALECS	Authentic and Accurate Location Experimentation for the Commercial Service
AD	Administrator
AST	Assistant
CA	Civil Aviation or Contract Agent
CDA	Crypto-Distribution Authority
CFSP	Common Foreign and Security Policy
CMS	Common Minimum Standards
CPA	Competent PRS Authority
COMSEC	Communication Security
CPA	Competent PRS Authority
CS	Commercial Service
CSO	Central Security Office
DA	Delegation Agreement
DG	Directorate General
DG GROW	Directorate General Growth
DMS	Document Management System
D-SCDR	Delta System Critical Design Review
EC	European Commission
ECA	European Court of Auditors
ECHA	European Chemicals Agency
EFTA	European Free Trade Association
EGNOS	European Geostationary Navigation Overlay Service
EGNSS	European Global Navigation Satellite System
EMA	EGNOS Multimodal Adoption
EMC	Enhanced Minimum Configuration
ERA	European Railways Agency
ERSAT EAV	ERTMS on SATELLITE – Enabling Application Validation
ERTMS	European Rail Traffic Management System
ESA	European Space Agency
ESNC	European Satellite Navigation Competition
ESSP	European Satellite Services Provider
EU	European Union
EUCI	EU Classified Information
EUR	Euro
EURATOM	The European Atomic Energy Community
FKC	Flight Key Cell
FOC SQR	Full Operational Capability System Qualification Review
FP7	Seventh Framework Programme for Research and Technological Development of the European Union
FRAME	Framing the definition and development of new PRS use cases based on innovative technologies
GCC	Galileo Control Centre
GCS	Ground Control Segment
GEO	Global Earth Observation
GMS	Ground Mission Segment
GNSS	Global Navigation Satellite System

Abbreviation	Definition
GPS	Global Positioning System (USA)
GRC	Galileo Research Centre
GRUE	GSA EU Restricted Network
GSA	European GNSS Agency
GSAP	GNSS Security Accreditation Panel
GSC	GNSS Service Centre
GSF	Galileo Security Facility
GSMC	Galileo Security Monitoring Centre
GSOp	Galileo Service Operator
GSUE	GSA EU Secret Network
HR	Human Resources
H2020	Horizon 2020 programme
IAC	Internal Audit Capability
IAS	Internal Audit Service
IATO	Initial Authorisation to Operate
ICS	Internal Control Standards
ICT	Information and Communication Technology
IMO	International Maritime Organization
IMS	Integrated Management System
INSPIRE	Infrastructure for Spatial InfoRmation in Europe
IS	Initial Services
IS KMP	Initial Services Key Management Plan
ISO	International Standards Organisation
IT	Information Technology
ITIL	Information Technology Infrastructure Library
ITRE	Industry, Research and Energy (A European Parliament Committee)
ITS	Intelligent Transport Systems
IWG	Interoperability Working Group
KPI	Key Performance Indicator
LBS	Location-Based Services
LPV	Localiser Performance with Vertical Guidance
NMA	Navigation Message Authentication
OHS	Occupational Health and Safety
ORR	Operations Readiness Review
OS	Open Service
OSRR	Operations Service Readiness Review
OVRR	Operations Validation Readiness Review
PRS	Public Regulated Service
PVT	Position Velocity Time
Q	Quarter
RLS	Return Link Service
RUE	EU Restricted
SAA	Security Accreditation Authority
SAB	Security Accreditation Board
SAR	Search And Rescue
SATO	Site Authorisation To Operate
SBAS	Satellite Based Augmentation System
SecOps	Security Operation
SNE	Seconded National Expert

Abbreviation	Definition
TA	Temporary Agent
UE	European Union
UK	United Kingdom
WA	Working Arrangement
WBS	Work Breakdown Structure
WG	Working Group
WG-NET	Working Group – National Expert Team
WP	Work Package