Annual Activity Report of the European GNSS Agency

European Global Navigation Satellite Systems Agency

LINKING SPACE TO USER NEEDS

2019

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Annual Activity Report

of the European GNSS Agency

2019

In pursuance of the Financial Regulation 2018/1046,
Commission Delegated Regulation 2019/715 and
Regulation (EU) No 912/2010[1]

1 Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union; Commission Delegated Regulation (EU) 2019/715 of 18 December 2018 on the framework financial regulation for the bodies set up under the TFEU and Euratom Treaty and referred to in Article 70 of Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council; and 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.

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Note by the Chair of the Administrative Board

The year 2019 marked the 15th anniversary of the GSA and confirmed its pivotal role in assuring the success of the Galileo and EGNOS programmes. Without being exhaustive, I will mention here some of the key milestones reached during the year.

Concerning Galileo, the number of users continued growing, with now estimated more than 1 billion users worldwide. Moreover, the main highlights of 2019 include:

- four new satellites that were put in service in February;
- after the enhanced services step 1 declaration in May, Galileo is now committed to deliver positioning service to users worldwide;
- the GSMC in Madrid became part of the Galileo sites;
- the Return Link Service was tested all the way until the service accreditation, and this life-saving service of Galileo was declared in early 2020;
- the procurement of the High Accuracy Data Generator was implemented, with contract signature expected in early 2020;
- several fundamental elements activities produced concrete results, such as the first autonomous vehicle powered by Galileo;
- the MyGalileoApp competition awarded 3 new innovative usages of Galileo – supporting European start-ups and young innovators to grow their business potential.

In July, the Galileo service provision was significantly affected by an incident that resulted in a service outage. Despite multiple difficulties, the GSA demonstrated well its capacity to manage the incident and to bring the situation back to normality as fast as possible, and I want to congratulate the Agency for this.

Results achieved for EGNOS were highly satisfactory, especially for the remarkable work of the GSA in 2019 in upgrading the system. These upgrades will not only assure the long-term continuity of EGNOS services for the next decade, but also enhance their performance.

Concerning uptake of Galileo, users are ready to take maximum advantage of Galileo's differentiating features. Galileo has key assets that Europe is leveraging to become a global leader in high-quality geolocation services. This point is worth mentioning, as a review is also the opportunity to look to the future with ambition.

The EU authorities are currently drafting the regulatory provisions governing the role of the European Union Agency for the Space Programme (EUSPA) within the next Multiannual Financial Framework. These provisions, in combination with the future Financial Framework Partnership Agreement (FFPA) to be concluded between the European Commission, GSA and ESA, will be instrumental in helping GSA to accomplish effectively and in a fluid manner all of its core and delegated tasks. For that, it will need the resources to match the challenges it is going to face, and we will be working towards this goal in the months ahead.

These are challenges to be met in 2020. Buoyed by our past successes, I firmly believe we will meet them thanks to the ambition and determination of the Administrative Board and above all thanks to the talents and commitment of GSA's staff and its Acting Executive Director, Pascal Claudel.

In conclusion, I would like to express my gratitude to Carlo des Dorides for all he has achieved in his nine years as Executive Director of the GSA and almost sixteen years on the EGNSS programmes. During his mandate, the Agency has become a solid reality and a key actor in the European Union's policy. Galileo and EGNOS are now operational and their services are of strategic value for the European Union.

Jean-Yves Le Gall
Chair of the Administrative Board (until 23 June 2020)
European GNSS Agency

Note by the Chair of the Security Accreditation Board

As of 1st January 2019, the Security Accreditation Department has been created in the GSA. The evolution from a team within the Security Department to a separate Department has been implemented in order to further reinforce the concept of independence required by the GSA Regulation and is a recognition of the fundamental role that the SAB, supported by its secretariat and experts in the GSA accreditation team, is having in the overall GNSS Programmes.

With regards to Galileo in 2019:

- The SAB extended the authorisation of the initial services up to and including the signal in space. The SAB evaluated the progress of the Programme in improving the overall security risk profile and in particular in its cyber defense;
- The SAB enlarged the service authorisation at the end of 2019 to encompass also the return link for the SAR service;
- The SAB authorised the continuation to operate the Galileo Ground segment aligned with the service statements: the Interim Approval to Operate was renewed for another year and then updated at the end of 2019. Throughout the year, configuration upgrades have been authorised by the SAB;
- The SAB authorised the first two sites to be connected to the GRON network;
- The SAB analysed the file on the 2018-2019 service outages, with special attention to the July 2019 one, and issued a number of points and actions to be addressed in order to increase the robustness of the system;
- Over 2019, the SAB has authorised a total of 114 bodies developing or manufacturing PRS technology in 3 different categories. Here it is important to note that the SAB continues to work on an optimised strategy including a simplified authorisation process aligned with the Common Minimum Standards;
- The SAB has started preparatory activities for the accreditation of the Validation (VAL) system, including the Security Accreditation Strategy. It has authorised the connection of two new sites to the VAL system.

With regards to EGNOS in 2019:

- The SAB assessed the first security documentation prepared by the Programme in view of the accreditation of EGNOS v3. The Accreditation Panel worked on a Security Accreditation Strategy for EGNOS v3. A priority has been set on site accreditation activities: the overall process has been object of discussion and remains still to be finalised, while the deployment accreditation milestone for a first EGNOS core site was accomplished.

Regarding the GSA staff under the supervision of the SAB, I continue to work very closely with the GSA Executive Director to implement a robust working relationship between both sides of the Agency. The creation of the new Security Accreditation Departement brough also activities to bring this department up to full speed with the needed integration in the rest of the Agency. The staff ramp-up has developed rapidly, with four new staff members recruited during the year, adding important resources to the administrative and technical support to the SAB and its bodies. Additionally, we have been engaged in discussions on the preparation towards the new Regulation of the Agency, which is expected to further increase the accreditation activities of the department.

Security Accreditation can only be successful when there is a close collaboration with security experts of all the stakeholders involved in the Galileo and EGNOS Programmes, in particular with the Member States, the Commission, GSA and ESA but also the private sector. Moreover, the GSA Security Accreditation staff provide the fundaments to this success due to their commitment and professionalism.

Bruno Vermeire
Chair of the Security Accreditation
Board of the EU GNSS

Note by the Acting Executive Director

Building on the activities of previous years, 2019 was a very challenging and positive year – both for the Agency and the European GNSS programme.

A major challenge came from the July incident, with Galileo experiencing 6 days of service outage. As soon as the incident was declared, an Anomaly Review Board, led by the GSA, was convened and urgent recovery procedures were activated in the affected Galileo infrastructures. All the stakeholders of the programme were working on recovery actions 24/7 to restore the Galileo navigation and timing services.

A Galileo Task Force set up by the Commission and led by the GSA was absolutely key in order to ensure the recovery of operational capability, with the main goals of stabilysing the system, finalising the upgrade of the ground segment and reinforcing the robustness of the system, including the operational GSMC back-up in Spain.

The Task Force's work mode represented a good example of the governance proposed by the new regulation. An independent Inquiry Board was set up by the European Commission, to which the GSA contributed as necessary. All recommendations were analysed and their implementation is being tracked regularly.

Another major challenge for the Agency in 2019 was represented by the MyGalileoApp Competition, an innovative action to support start-ups, SMEs, young innovators and entrepreneurs which are outside of the classical "GNSS/Space club". The competition involved around 150 teams and the winner was selected in Prague after a demonstration of the 10 best apps in front of a jury.

In 2019, the Agency has experienced many successes related to all programmes, including the key milestone of reaching one billion Galileo users, in September. Another important event for the GSA was the live demonstration, in November, of the first Galileo-enabled autonomous vehicle. The GSA has put an impressive effort to be able to implement differentiators, such as Authentication, High Accuracy, Timing and Synchronisation at the end of 2021/beginning of 2022, in order to support Commission initiatives as Green Deal and Digital Age and to make the EU a leader in innovation.

Progressively, in 2019, the GSA has started to implement a strategy to favour the involvement of all Member States in its activities, fully in line with the new regulation. Indeed, it is important for us to integrate national priorities in the work of the GSA and, in future, of EUSPA, in order to create new opportunities for everybody. It is important to recall that space data is also an asset for federating European projects such as, for example, the rails project and the inland waterway (e.g. Danube). This approach we have started to implement towards Member States in 2019 is going to be one of our main focuses of 2020.

As a final point, I would like to state that the Agency's success is built on the dedication, competency and professionalism of the GSA staff, which is second to none.

Pascal Claudel
Chief Operating Officer (COO)
Acting Executive Director
(until 15 October 2020)
European GNSS Agency

Executive Summary

By developing and operating a new generation of Global Navigation Satellite Systems (GNSS), Europe is opening new doors for industry development, job creation and sustainable economic growth. With the Europan Union in the driver's seat, Galileo is now a cornerstone of the global radio-navigation positioning system. During 2019, the GSA was responsible for a range of activities, including:

- Ensuring the security accreditation of Galileo and EGNOS, through its independent Security Accreditation Board (SAB)[1]. To that effect it initiates and monitors the implementation of security procedures and performs system security audits;
- Ensuring the operation of the Galileo Security Monitoring Centre (GSMC);
- Performing certain tasks provided for in Decision No 1104/2011/EU on the rules for access to the Public Regulated Service (PRS) of Galileo;
- Contributing to the promotion and marketing of Galileo and EGNOS services, including the carrying out of the necessary market analysis, and establishing close contacts with users and potential users of the systems;

The GSA also performs other tasks relating to the implementation of the Galileo and EGNOS programmes, entrusted to it by the European Commission (EC) by means of delegation agreements, such as:

- Operational activities including systems infrastructure management, maintenance and continuous improvement of the systems, certification and standardisation operations and provision of the services;
- Development and deployment activities for the evolution and future generations of the systems, and contribution to the definition of service evolutions, including procurement.

1 The activities related to security accreditation, described in Chapter III of Regulation No 9012/2010, including the Agency staff performing them, are fully the responsibility of the Chairperson of the Security Accreditation Board.

- Promoting the development of applications and services based on the systems, as well as raising awareness of such applications and services, including identifying, connecting and coordinating the network of European centres of excellence in GNSS applications and services, drawing on public and private sector expertise, and evaluating measures relating to such promotion and awareness-raising;
- Promoting the development of Fundamental Elements, such as Galileo-enabled chipsets and receivers;
- Fulfilling defined tasks related to the management of projects under the Horizon 2020 framework programme for navigation applications research and innovation.

01

Achievements in 2019

The GSA performs core tasks under Regulation (EU) No 912/2010 of the European Parliament and of the Council on setting up the European GNSS Agency ("GSA Regulation") and a number of tasks under delegation from the EC. The delegated tasks are described in section 1.6.

All activities are mapped in the GSA's Work Breakdown Structure (WBS). Each objective is shown with its allocated WBS number to indicate how the GSA's activities are structured.

This section provides an overview of the GSA's achievements during 2019. It is structured around the five areas of work described in the Single Programming Document (SPD) 2019-2021. The achievements for 2019 are placed within the context of the multiannual goals and are reported on against the annual objectives, performance indicators and expected outputs defined in the SPD.

1.1 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 being incorporated into this document, without any change.

1.1.1 Tasks until 2021

	Tasks	Objective	Year
1	Approvals to launch	Conduct security assurance activities and administer corresponding accreditation decisions for satellites launches.	2014 - 2021
2	Authorisations to operate the systems in their various configurations and for the various services	Conduct system operations/services security assurance activities and administer corresponding accreditation decisions (currently for Galileo, progressive development until 2020 for EGNOS).	2014 - 2021
3	Authorisations to operate sites	Conduct site security assurance activities and administer corresponding accreditation decisions (currently for Galileo, with progressive development until 2020 for EGNOS).	2014 - 2021
4	Galileo PRS Manufacturers Authorisations	Conduct PRS User Segment security assurance activities and administer corresponding decisions (currently for Galileo research and development only, progressive development to manufacturing).	2014 - 2021

	Tasks	Objective	Year
5	SAB Secretariat	Ensure the secretariat of the SAB; Ensure general support to the SAB Chair and deputy Chair in discharging their regulatory responsibilities.	2014 - 2021
6	SAB Subordinate panel (and related groups of experts)	Elaborate comprehensive Security Accreditation Reports for the SAB. The Panel is divided into a number of expert groups and is, for the interim, chaired by the Agency, which also provides secretariat support.	2014 - 2021
7	Communications Security (COMSEC) assurance – SAB subordinate CDA	The Agency chairs the SAB CDA, which is managed in order to assess the conduct of European Commission (EC) COMSEC policy throughout the EGNOS and Galileo programmes. It will continue to achieve this through the authoritative assessment of COMSEC experts from the Member States Distribution Authorities of evidence supplied to it by the EU GNSS Distribution Authority (DA) regarding COMSEC activities within the EGNOS and Galileo programmes. The SAB CDA will then provide COMSEC assurance to SAB, communicated as a COMSEC risk assessment, in order to facilitate successful accreditation and/or authorisation as applicable.	2014 - 2021
8	COMSEC management – Flight Key Cell (FKC)	To ensure the security of flight keys during EU GNSS programme launch campaigns and, where necessary, their use in the Ground Segment. The FKC is a sub-cell of the SAB CDA, organised and managed by the Agency and consisting of COMSEC experts from the Member States. It is primarily formed for the duration of launch campaigns and answers to the EU GNSS DA for its operational role in operating an EU GNSS DA COMSEC Account and to SAB CDA Task Force (TF) in the provision of assurance of flight key COMSEC activities within the Programme.	2014 - 2021
9	New SAB regulatory responsibilities	Implementation of the new responsibilities entrusted to SAB by Regulation (EU) No 512/2014 and laid down in Article 11 thereof, in particular paragraph 3 points (c) to (l) and paragraph 4.	2014 - 2021

1.1.2 Highlights for 2019

The Security Accreditation Department, with the support of the rest of the Agency, provided the technical and administrative secretariat support to the SAB to reach decisions that are proportionate, appropriate and effective at the programme milestones.

The main objectives for 2019 were achieved:

- The GSA Security Accreditation Department started its activities as a separate department on January 1, 2019. During the year, activities were performed to reach full integration with the other departments of the Agency , especially those working as transversal support;
- The SAB extended in March 2019 the statement regarding the authorisation for the programme to provide initial operations of the Galileo system for the provision of Initial Services up to and including the Signal in Space, released for the first time in December 2016. The statement has been enlarged in December 2019 to cover also the authorisation for the provision of the return link for the SAR service;
- The SAB issued in March 2019 the Approval to Operate (IATO) for Galileo to be operated by GSOp, updated at the end of the year to also include the infrastructure evolutions of the year;

- The SAB analysed in depth the file provided by the Programme regarding the Galileo service outages that happened in 2018 and 2019, in particular in July 2019. The SAB issued a number of points of interests and actions for the Programme to address, with the aim to increase the robustness of the system and avoid such type of events to repeat, and monitered the feedback by the Programme on those points and actions;
- The SAB issued the authorisation for the upload and deployment of a new version of avionics software to all Galileo FOC satellites;
- The SAB continued the accreditation activities linked to the Galileo Validation system. While awaiting for the accreditation dossier by the Programme, needed to discuss the accreditation of the system, the SAB authorised the connection of two sites to the Validation system (ENOC and ETC at ESTEC) in preparation of the upcoming launch;
- The SAB issued a total of 27 Site Authorisations To Operate (of which 2 new) for the Galileo system, maintaining the validity of the accreditation of the Galileo sites. The SAB has authorised the first two sites to be connected to the GRON network;
- The SAB secretariat and its support contractors reviewed the accreditation files submitted by the Programme, in particular in preparation of the SAB and SAB subordinate bodies' meetings, and elaborated their findings;
- The SAB secretariat supported three independent security assessments on Galileo sub-systems to evaluate security robustness, either through a technical vulnerability assessment ('penetration test') or via an audit of operational procedures;
- The SAB secretariat continued to be engaged in extensive activities in cybersecurity, by conducting cybersecurity assessment helping the implementation of EU Cyber-policy;
- The SAB issued 21 new authorisations for bodies to develop and manufacture PRS receivers and security modules, and authorised 24 renewals/extensions and 101 authorisation scope updates. By the end of the year, 114 EU companies had valid SAB authorisations;
- The SAB continued to discuss the proposal submitted by the SAB secretariat on a simplified PRS authorisation process improving the alignment to the Commission Delegated Decision supplementing Decision No 1104/2011 of the European Parliament and the Council as regards the Common Minimum Standards to be complied with by the competent PRS authorities. The proposal was discussed and agreed by the Panel, and it remains to be agreed at the level of SAB;
- The SAB Crypto Distribution Authority (CDA) continued to work on COMSEC activities, including governance, organisation, and identification of COMSEC assets. The SAB CDA continued to oversee the implementation of the programme COMSEC governance and to provide recommendations to the Programme in terms of compliance to European Council and Commission policy on COMSEC matters. Three CDA Task Force meetings took place, issuing recommendations to the SAB on the COMSEC assurance for the 2019 accreditation milestones;
- The SAB secretariat involved the stakeholders in the start of the review of the CDA Flight Key Cell in order to support the next launches;
- The SAB continued the accreditation activities of the EGNOS system. A draft Security Accreditation Strategy has been discussed by the technical Panel. The discussion has in particular focused on site accreditation. The SAB developed the process for the EGNOS core site accreditation, and started to discuss the options for the accreditation of the monitoring stations (RIMS), for which the process remains to be finalised.

1.1.3 Tasks for 2019

Objective 1: Operate effective administration of the SAB so as to support timely decision making (WBS 2.04.01)	
Expected results	**2019 results**
◆ Reporting to SAB chairman; ◆ SAB meeting plan proposed; ◆ 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 and transmit all SAB decisions.	◆ Regular reports to SAB Chairman, in particular after each meeting of the technical bodies; ◆ The SAB meeting plan was established at the end of 2018 and maintained in 2019 to keep it aligned with the changes in the Programme schedule. 4 SAB meetings took place in 2019; ◆ Relevant documents were distributed in advance of each meeting, in particular in support of SAB decisions; ◆ Minutes were established after each meeting, submitted to the SAB chair for review and approval, and finally for SAB approval. All minutes were approved by SAB and archived; ◆ Decisions that could not be taken during the meetings e.g. due to lack of quorum or time constraints were administered via silence procedures (over 80); ◆ All SAB decisions and actions were recorded. SAB decisions were addressed to the European Commission.

		Targets	2019 results
Indicators	**% dossiers delivered on time**	100%	100%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Approvals to launch; ◆ Authorisations to operate the systems in their different configurations and for the various services, including up to the signal in space; ◆ Authorisation to operate the ground stations; ◆ Authorisation of bodies to develop and manufacture PRS receivers or PRS security modules; ◆ Other SAB decisions. Other outputs: ◆ Security Accreditation reports; ◆ Recommendations to the SAB / SAB Chair.	◆ No Approval to Launch was requested in 2019 (no launch took place); ◆ Authorisation for the Programme to continue to provide Initial Services for Galileo up to and including the Signal in Space; ◆ Authorisation of the SAR service to include return link messages; ◆ SAB first conclusions on the Galileo July 2019 outage, proposing a number of points and actions to the Programme in order to improve the robustness of the system; ◆ Approval to Operate (IATO) for Galileo to be operated by GSOp, maintained updated with the configuration evolution; ◆ (Pre-)authorisations to operate parts of the system (or upgrades of those parts) in the Initial Services configuration (GMS 2.2.1, GSF 2.2.1.1, RLSP 1.0); ◆ Authorisations to operate the ground stations: 2 new Site Approval To Operate (SATO), 25 SATO renewals including GCC-I, GSMC France and GSC; ◆ Authorisations to operate two GRON subscriber sites (Spain and France); ◆ First accreditation milestone for a core site in EGNOS (authorisation to deploy); ◆ Authorisations to manufacture PRS receivers or PRS security modules: 21 new authorisations; 24 reauthorisations; 101 Authorisation scope updates; for a total of 114 SAB authorised bodies; ◆ Authorisation for the upload and deployment of the new version of the avionics software (2.1) for all FOC satellites; ◆ Recommendations of technical bodies to the SAB for each decision and each meeting.

Objective 2: Support to SAB Management (WBS 2.04.02)	
Expected results	**2019 results**
◆ Work Programme adopted; ◆ Budget adopted; ◆ Establishment Plan adopted.	◆ Sections in the Single Programming Document (SPD) covering the SAB security accreditation activities were adopted by the SAB; ◆ Draft Budget for SAB activities was prepared and integrated in the approved SPD; ◆ Regular reports on the implementation of the SAB Budget were made; ◆ Agency's Staff Establishment Plan covering Security Accreditation Department maintained and related notes from SAB chairman were sent to the Executive Director of the Agency.

		Targets	2019 results
Indicators	**Timely delivery of SAB Management outputs**	Yes	Yes

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Draft 2019 SAB Work Programme, taking into account the inputs from the Panel and CDA; ◆ Draft 2019 SAB budget, taking into account input from the panel and CDA; ◆ Report on 2018 SAB budget; ◆ Draft/update SAB Staff Establishment Plan.	Outputs relating to the multi-annual work programme objectives: ◆ SPD approved; ◆ Budget included in the SPD and approved; ◆ Regular 2018 SAB budget report performed; ◆ Establishment plan maintained. 4 staff members recruited.

Objectives 3: To provide all authorisation statements needed by the Programme (GAL) and approved by SAB.

Implemented by:
Security Accreditation Statements (WBS 2.04.04)
Ground Site Security Assurance (WBS 2.05.02)
Component Security Assurance (WBS 2.05.03)
User Segment Security Assurance (WBS 2.05.04)

Expected results	2019 results
◆ Approvals to launch; ◆ Authorisations to operate systems in their different configurations and for the various services, up to and including the signal in space; ◆ Authorisations to operate the ground stations; ◆ Authorisations of bodies to develop and manufacture PRS receivers or PRS security modules; ◆ Security accreditation statements; ◆ Changes to existing security accreditation statements; ◆ Re-accreditation statements.	◆ Security Accreditation statements and needed changes to them were released by the SAB for each accreditation milestone and for each request by the Programme. This includes: • system level authorisation (IATO); • service level authorisations (Initial Services, and later amendment to cover SAR return link); • (pre-)authorisations to operate parts of the system (such as GMS 2.2.1 , GSF 2.2.1.1, RLSP 1.0). ◆ Authorisation to upload and deploy a new version of the satellite avionics software for the existing FOC satellite constellation; ◆ 29 Site Accreditation To Operate statements (mostly re-accreditation) were issued on time to cover the accreditation of all sites. The authorisation statements for the first 2 GRON sites were released; ◆ Statements for the Authorisations of bodies to develop and manufacture PRS receivers or PRS security modules were issued in conformity to the requests of the CPAs, and were submitted for approval to the SAB, covering a total of 114 bodies; ◆ All accreditation statements were kept up to date and extended/amended when needed according to their validity.

		Targets	2019 results
Indicators	**Timely authorisation statements Issued**	100%	100%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Approval to launch; ◆ Authorisations to operate the Galileo system in its different configurations and Galileo services; ◆ Authorisation to operate the ground stations; ◆ Authorisation of bodies to develop and manufacture PRS receivers or PRS security modules.	◆ Authorisation for the Programme to continue to provide Initial Services for Galileo up to and including the Signal in Space; ◆ Authorisation of the SAR service to include return link messages; ◆ SAB first conclusions on the Galileo July 2019 outage, proposing a number of points and actions to the Programmein order to improve the robustness of the system; ◆ Approval to Operate (IATO) for Galileo to be operated by GSOp, maintained updated with the configuration evolution; ◆ (Pre-)authorisations to operate parts of the system into the Initial Services configuration (GMS 2.2.1, GSF 2.2.1.1, RLSP 1.0); ◆ Authorisations to operate the ground stations: 2 new Site Approval To Operate, 25 SATO renewals including GCC-I, GSMC France and GSC; ◆ Authorisations to operate two GRON subscriber sites (Spain and France); ◆ Authorisations to manufacture PRS receivers or PRS security modules: 21 new authorisations; 24 reauthorisations; 101 Authorisation scope updates; ◆ Authorisation for the upload and deployment of the the new version of the avionic software (2.1) for all FOC satellites; ◆ Galileo Validation system: two sites connection (ENOC and ETC at ESTEC); ◆ Authorisation of connection of the Galileo Operational chain to the Integration chain for GSS observables.

Objective 4: Ensure the chairmanship of the panel, its technical and organisational secretariat (WBS 2.05.05)	
Expected results	**2019 results**
◆ Propose panel meeting plan; ◆ Draft reports in preparation for panel reviews; ◆ Organise panel meetings throughout the year; ◆ Deliver accreditation reports and recommendations to SAB;	◆ SAB meeting plan 2019, including the Panel meetings, was approved by SAB and subsequently maintained to take into account the changes in the Programme schedule; ◆ 4 SAB Panel meetings were organised in 2019. The staff of the Security Accreditation Department ensured the chairmanship and the technical and administrative secretariat of those meetings; ◆ Reports on the reviews performed by the SAB secretariat of the accreditation files submitted by the Programme in preparation of each Panel meeting, were summarised at the meetings; ◆ Minutes of the Panel meetings were approved during each meeting and provided to the SAB as timely input for decision making containing Panel recommendations for SAB decisions. Recommendations of the Panel were summarised by the Panel chairman at each SAB meeting; ◆ The SAB Panel issued recommendations as input to SAB decisions, supporting each accreditation milestone.

		Targets	2019 results
Indicators	**Successful organisation of Panel Meetings**	4	4

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Security accreditation reports; ◆ Recommendations to SAB and/or SAB chairman.	Outputs relating to the multi-annual work programme objectives: ◆ Recommendations to the SAB and/or the SAB Chairman in support of each SAB decisions; ◆ Accreditation reports were provided by the SAB secretariat for Site Approval To Operate (SATO) decisions and the Authorisations of PRS manufacturers; ◆ Requests for PRS manufactures authorisation issues by Member States were accompanied by the relevant reports; ◆ Reports on the outcome of the cyber meetings held among the SAB secretariat and the stakeholders were regularly submitted to the Panel; ◆ Independent security assessment reports were provided to the Panel.

Objective 5: Ensure independent assessment of system level security (WBS 2.05.01)	
Expected results	**2019 results**
◆ Review existing strategies to ensure consistency with the regulation/ programme and propose enhancements as appropriate; ◆ Carry out independent security assessments and system audits/reviews and report to 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 and treatment plans and report to panel/SAB accordingly.	◆ The Security Accreditation Strategy for the Validation system was drafted and discussed with Member States; it was endorsed by the Panel; ◆ The Security Accreditation Strategy for the EGNOS system was drafted and discussed with Member States; ◆ The experts of the SAB accreditation team (together with the contractors) carried out a number of security accreditation reviews in order to assess the accreditation files submitted by the Programme in support of the various accreditation requests. Recommendations to the SAB Panel, SAB CDA and the SAB were made accordingly; ◆ The experts of the SAB accreditation team participated to main Programme reviews, such as service exploitation reviews, service validation reviews, in-orbit test review #10, RLSP V1.1 Design Key Point. The SAB experts have injected comments as needed and reported to SAB and its bodies. Further, they have participated to several meetings as observers, such as meetings of Working Groups of the EU GNSS Security Board.

- Management of the SAB Accreditation Framework Contracts supporting the various accreditation reviews;
- The team conducted assessment of cyber-evidence data-packages and ESA/GSA cyber status reports:
  - assessment for system evolution: GCS v2.2, RLSP v1.1, GSC v1.2;
  - assessment for operations: GSOp Operations Remediation Plans for GCC-I and GCC-D;
  - support to cyber-meetings with the stakeholders (RLSP, GCS and cyber-ops vulnerabilities discussions).
- Coordination process established between the SAB accreditation team and the Programme to monitor progress on cyber vulnerability remediation and report the status to the SAB Panel and the SAB;
- Independent security vulnerability assessment (penetration test and audit) performed on parts of the system:
  - Pentest: MGF/ULS Robustness (delta/replay);
  - RLSP v1.1 Vulnerability assessment;
  - GMS SecOPs under GSOP @ GCC-I.
- Management of the SAB Accreditation Framework Contract LOT2 supporting the pentest and security assessment activities;
- Risks and treatment plans constantly monitored and discussed at SAB Panel and SAB meetings.

		Targets	2019 results
Indicators	**% of successful independent vulnerabilities assessments carried out**	100%	100% (assigned independent vulnerability assessments were performed (3))

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Security accreditation reports; ◆ Recommendations to SAB and/or SAB Chair.	Outputs relating to the multi-annual work programme objectives: ◆ Reports on the outcome of the cyber meetings held among the SAB secretariat and the stakeholders were regularly submitted to the Panel; ◆ Independent security assessment reports were provided to the Panel; ◆ Recommendations to the SAB and/or the SAB Chairman for each SAB decision; ◆ 4 GSAP data pack reviews.

Objective 6: Ensure the availability of the GSA SAB CDA Task Force to support the SAB (WBS 2.06.01)

Expected results	2019 results
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, to be communicated as a COMSEC risk assessment, in order to facilitate successful accreditation.	◆ 3 meetings held in 2019 to examine and review Programme COMSEC compliance. The SAB secretariat provided the chairmanship, and the technical and administrative secretariat for each meeting; ◆ Continued implementation of the new Programme COMSEC governance through scrutiny of the EU GNSS DA compliance to European Council and Commission COMSEC policy; ◆ Review of the evolution of the Galileo Key Management Plan (KMP) to sustain possible SAB decisions for services; ◆ Issued CDA TF recommendations for the SAB decisions with COMSEC aspects i.e Initial Services and PRS service migration.

		Targets	2019 results
Indicators	**Action status (closed actions from CDA meetings)**	80%	80%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ COMSEC assurance statements to SAB meetings; ◆ Recommendations to the SAB and/or SAB Chair; ◆ Identified COMSEC risks reflected in System Security Plan.	◆ COMSEC recommendations and statements from 3 SAB CDA Task Force meetings to the respective SAB meeting, to address the accreditation milestones; ◆ COMSEC risks were identified and discussed at each meeting.

Objective 7: Ensure the availability of the Flight Key Cell service to guarantee security of assets in accordance with COMSEC

Implemented by:
Flight Key Cell Management (WBS 2.06.02)
Flight Key Cell Tasks Execution (WBS 2.06.03)

Expected results	2019 results
To assure the security of flight keys during European GNSS programme launch campaigns through specification of the necessary security procedures to assure launch security and subsequent implementation of those procedures, culminating in an assessment of launch compliance that can be used by the SAB to derive assurance that the launch was conducted securely.	◆ No launch activity in 2019, hence no FKC meeting held; ◆ Proposal for revisited activities covered by FKC in future campaigns was presented to stakeholders and is under discussion; ◆ Draft new version of FKC Terms of Reference was drafted and is under discussion; ◆ Training of a FKC team inside the Security Accreditation Department (instead of a single officer); ◆ Several documents drafted in order to share knowledge of FKC know-how among the team.

		Targets	2019 results
Indicators	**Number of COMSEC incidents treated**	100%	N/A (no COMSEC incidents)

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Contribution to SAB CDA COMSEC Reporting and Risk Identification; ◆ Recommendations to SAB/SAB chairman; ◆ SAB/FKC Launch Readiness Review presentations.	◆ Recommendation to SAB chair and to FKC Member States on the FKC activity rescope.

Objective 8: Implement the new SAB regulatory responsibilities (WBS 2.04.03)	
Expected results	**2019 results**
Implement new responsibilities entrusted to SAB by Regulation (EU) No 512/2014 and laid down in Article 11 thereof, in particular paragraph 3 points (c) to (l): ◆ Examining and, except as regards documents which the EC is to adopt under Article 13 of Regulation (EU) No 1285/2013 and Article 8 of Decision No 1104/2011/EU, approving all documentation relating to security accreditation; ◆ Advising, within its field of competence, the EC in the elaboration of draft texts for acts referred to in Article 13 of Regulation (EU) No 1285/2013 and Article 8 of Decision No 1104/2011/EU, including for the establishment of security operating procedures (SecOps), and providing a statement with its concluding position; ◆ Examining and approving the security risk assessment developed in accordance with the monitoring process referred to in Article 10(h), taking into account compliance with the documents referred to in point (c) of this paragraph and those developed in accordance with Article 13 of Regulation (EU) No 1285/2013 and Article 8 of Decision No 1104/2011/EU; cooperating with the EC to define risk mitigation measures; ◆ Checking the implementation of security measures in relation to the security accreditation of the European GNSS systems by undertaking or sponsoring security assessments, inspections or reviews, in accordance with Article 12(b)of this Regulation;	◆ The Security documentation submitted to SAB as accreditation datapacks per milestone was examined by the SAB, mostly delegated to its technical bodies; ◆ Security risk assessment provided by the Programme was regularly analysed by the SAB accreditation team and the Accreditation Panel, and findings reported to the SAB. The conclusions on the risk assessment were provided to the EC for each accreditation milestone; ◆ The implementation of security measures was regularly checked via inspections and reviews performed at site level, via participation to accreditation reviews including Programme reviews, and via security assessments in the network security test campaigns. The results of these checks were reported to SAB for informed decisions; ◆ The list of approved cryptographic products under scrutiny from the Accreditaton Panel and CDA was maintained; ◆ The SAB informed the Commission about the risk assessment for each accreditation decision and advised on residual risk treatment options for a given security accreditation decision.

- Endorsing the selection of approved products and measures that protect against electronic eavesdropping (TEMPEST) and of approved cryptographic products used to provide security for the European GNSS systems;
- Approving or, where relevant, participating in the joint approval of, together with the relevant entity competent in security matters, the interconnection of the European GNSS systems with other systems;
- Agreeing with the relevant Member State the template for access control referred to in Article 12(c);
- On the basis of the risk reports referred to in paragraph 11 of this Article, informing the EC of its risk assessment and providing advice to the EC on residual risk treatment options for a given security accreditation decision;
- Assisting, in close liaison with the EC, the Council in the implementation of Joint Action 2004/552/CFSP upon a specific request of the Council;
- Carrying out the consultations necessary to perform its tasks.

		Targets	2019 results
Indicators	**All new responsibilities entrusted to SAB are implemented**	Yes	Yes

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Revised terms of reference for the SAB; ◆ Revised terms of reference for subordinate bodies; ◆ SAB decisions.	Outputs relating to the multi-annual work programme objectives: ◆ An update of the SAB Rules of Procedures was drafted by the SAB secretariat and submitted to SAB. The SAB is still discussing the update; ◆ An update for the Terms of Reference of both the Panel and the CDA Task Force were drafted but not submitted to the SAB yet (as the update of the SAB Rules of Procedures was not yet approved). The updated of the Terms of Reference for the FKC is undergoing review by the Member States; ◆ SAB decisions were provided in alignment with Programme needs.

1.2 PUBLIC REGULATED SERVICE (PRS) ACTIVITIES (WBS 2.03)

1.2.1 Tasks until 2021

	Activity	Objective	Year[2]
1	PRS management plan	Define the organisational structure and rules for implementing the management of PRS items and PRS information.	2019 - 2021
2	PRS entities database	Ensure a constant update of the database of entities authorised by CPAs and the SAB to carry out PRS activities.	2019 - 2021
3	PRS Article 14 implementation report	Create a report summarising all movements, requests, and security breaches associated with PRS items/PRS information under the responsibility of the Agency.	2019 - 2021
4	PRS Article 14 inspections	Perform regular audit or inspection of the Agency's handling of PRS information.	2019 - 2021
5	Risk assessment	Regular and robust risk assessment of PRS activities to ensure they do not pose a risk to the security of the system, Member States or the EU.	2019 - 2021
6	Support to CPAs	Provide technical support to CPAs on the basis of specific arrangements.	2019 - 2021
7	GSA CPA implementation	Implementation of the GSA Competent PRS Authority in support of entities requesting the GSA to act as their CPA (Art.5 of Decision 1104/2011/EU).	2019 - 2021

1.2.2 Highlights for 2019

The Agency carried out the PRS activities entrusted to it by the arrangement concluded between the EC and the Agency pursuant Article 14 (c) of Decision No 1104/2011/EU. In particular, the Agency worked on:

- Implementation of the arrangement concluded between the EC and the Agency pursuant to Article 14(c) of Decision 1104/2011/EU. This includes the implementation and maintenance of all tasks (e.g. PRS information handling, etc.) the Agency is required to perform[3] to ensure compliance with the PRS framework;
- The implementation and maintenance of the functionalities which would be required by the Agency for the performance of activities in support to other CPAs, including the set-up of relevant arrangements, development of relevant processes and tools and maintenance of required infrastructure (e.g. tools), in order to enable the Agency to perform those tasks (CPA functionality or CPA technical assistance) that can be entrusted to it by virtue of Article 5 of the PRS decision[4].

The study for the set-up of the relevant functionalities was initiated. This included an analysis of the required resources and relevant arrangements, the development of relevant processes and tools, and the maintenance of the required infrastructure (e.g. tools) to enable the Agency to perform tasks that can be entrusted to it by virtue of Article 5 of the PRS Decision.

2 The year indicates when the Agency expects to perform that action. These dates are correct as of time of writing and are based on the current plans.
3 The requirements set out in the arrangement concluded between the EC and the Agency pursuant to article 14(c) of Decision 104/2011/EU need to be enforced for both core operations (e.g. Accreditation, GSMC) and any delegated activity related to the PRS.
4 The cost of functioning is not part of the Agency's expenses.

1.2.3 Tasks for 2019

Objective 1: The Agency's CPA implementation (WBS 2.03.04)	
Expected results	**2019 results**
This objective includes all activities related to implementing the Agency's CPA functionalities in case such a need arises. This covers both the Agency's performance acting as a CPA for its own activities (if needed) and its performance acting as a CPA for third parties. The expected results are described as follows: Phase 1: preliminary analysis ◆ Analysis of the activities that the Agency may need to perform as a CPA and/or provide technical assistance to CPAs in performing their tasks; ◆ Organisational structure for the Agency to support CPA task implementation; ◆ Impact assessment of the Agency's implementation of CPA tasks (including resource needs); ◆ Cost and financial models. Phase 2: establishment ◆ Preparation of the draft arrangement defining the rules and operations to be performed by the Agency for those cases that it can be designated a CPA; ◆ Development/acquisition/maintenance of relevant tools (including those required to perform technical assistance).	This objective continued from the previous year, focusing on the preliminary analysis of the activities that the Agency may need to perform as a CPA. The preliminary analysis has been performed, although limited to the internal needs of the Agency and without containing cost and financial models.

		Targets	2019 results
Indicators	**% of completion of preliminary analysis**	100%	100%
	Establishment of the GSA CPA (if required)	100%	~50% main supporting documents reviewed (documents approved in January 2020)

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ The Agency's CPA organisation and set-up (if required); ◆ Draft arrangement for the Agency to act as CPA for third parties (when required) to be endorsed by the EC.	Outputs relating to the multi-annual work programme objectives: ◆ Preliminary analysis of the organisation that the Agency should set up to perform activities as a CPA.

Objective 2: Third parties CPA arrangements (WBS 2.03.03)

Expected results	2019 results
This objective includes all activities related to implementing the Agency's CPA functionalities for third parties. The expected results are described as followed: ◆ Establishment of the agreement to become a PRS participant (if needed); ◆ Tailoring draft agreement developed under Objective 3 (WBS 2.03.03) for the entity requesting the Agency to be its CPA; ◆ Approval of the agreement by the EC; ◆ Establishment of the agreement to set up the Agency as a CPA of the involved entity; ◆ Start performing the task required by the CMS for that CPA.	This objective continued from the previous year, even though no requests from third parties were received during the reporting period. Should activation be necessary to define and implement arrangements, it would require the implementation of new tasks and functions for which resources are currently not available.

		Targets	2019 results
Indicators	**Level of compliance with the CMS and the PRS agreement when performing CPA tasks for third parties (if required)**	100%	There were no requests from third parties for the Agency to act as a CPA.

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Agreement between the Agency and third parties for performing CPA tasks (for approval); ◆ Notification to the EC of the signature of an agreement to act as a CPA and of the start of activities.	Outputs relating to the multi-annual work programme objectives: N/A

Objective 3: Technical assistance to CPAs (WBS 2.03.05)

Expected results	2019 results
This objective includes all activities related to the implementation of Article 5(9) of the PRS decision, according to which a CPA may request technical assistance from the Agency in order to perform its tasks. The expected results are: ◆ Drafting a generic template (including administrative and technical details) for the provision of technical assistance to a CPA; ◆ Interface with requesting CPA on tailoring technical assistance arrangement; ◆ Elaborate specific arrangement with each CPA requesting assistance to ensure its approval from the EC; ◆ Sign agreement; ◆ Implement technical assistance tasks as specified in the agreement.	This objective continued from the previous year, even though no requests from CPAs were received in the scope of Art.5.9 of Decision 1104/2011. Should a request for technical assistance be made, it would require the GSA to provide technical support to other CPAs. However, doing so would require additional resources that are currently not available.

		Targets	2019 results
Indicators	**Timely delivery of support for technical assistance agreement (both admin and technical) – if required**	100%	During the reporting period, there were no requests from third parties for technical assistance. Nevertheless the Agency regularly provides technical assistance to CPAs in the context of the Joint Test Activities.

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Draft (generic) technical assistance agreement to be endorsed by the EC; ◆ Specific agreement between the Agency and CPA for performance of technical assistance (for approval).	Outputs relating to the multi-annual work programme objectives: N/A

Objective 4: Article 14 arrangement implementation management (WBS 2.03.06)

Expected results	2019 results
This objective includes all activities related to managing the implementation of the arrangement between the EC and the GSA pursuant Article 14 of the PRS Decision, in particular regarding the different reporting streams, compliance checks and associated risk assessment. This objective also implements the provisions related to the Agency's access to PRS information. This activity includes: ◆ Preparing and maintaining the PRS information management plan that defines the organisational structure and the rules for implementing the management of PRS items and PRS information; ◆ Reviewing Article 14 arrangement (if required); ◆ Preparing Article 14 quarterly implementation reports and delivering to the EC; ◆ Carrying out regular inspections of the departments within the agency dealing with PRS items and PRS classified information; ◆ Performing regular risk assessments (monthly); ◆ Maintaining PRS items and the PRS information database and drafting reports summarising movements, requests and security breaches associated with the PRS items/PRS information under the responsibility of the Agency.	This objective continued from the previous year. A review of the PRS management plan (and related PRS Information Management Plan and Key Management Plans) has been started with the aim of covering an enlarged set of activities related to the handling and using of PRS items by the Agency. An authorisation request to activate those functions by the Agency has been sent to the EC in compliance with the Article 14 arrangement. The level of compliance with the Article 14 arrangement has been improved throughout 2019 with respect to 2018. A process has been drafted for the performance of the regular review and update of the risk analysis related to the handling of PRS items and it has been included in the new draft of the PRS management plan. This will become applicable when the new Project Management Plan, PRS Information Management Plan and Key Management Plan are finalised and approved for the execution of new tasks after authorisation from the EC.

		Targets	2019 results
Indicators	**Timely review of PRS information management plan**	1	The Agency reviewed the PRS information management plan internally for approval.
	Level of compliance with Article 14	100%	Compliance: 94% Partial Compliance: 6% Non Compliance: 0%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Quarterly Article 14 implementation report sent to the EC.	Outputs relating to the multi-annual work programme objectives: ◆ Quarterly Article 14 implementation report sent to the EC containing quarterly report on PRS items and PRS information movement/ requests/incidents.

Objective 5: PRS entities database (WBS 2.03.07)

Expected results	2019 results
This objective includes all activities related to the implementation of Article 6 of the Article 14 arrangement for the management of a database of entities authorised to carry out PRS activities. This database, the structure of which needs to be approved by the EC, needs to be constantly updated and shall include: ◆ A complete list of the PRS entities; ◆ The scope of the activities pursued by those entities (unless the Member State objects); ◆ The date of authorisation and expiry; ◆ It is important to note how this activity, which is performed on behalf of the EC, is independent from (although linked to) the activities of a similar nature that are carried out by the SAB.	This objective continued from the previous year. The SAB-related process that this task depends on has not yet been consolidated on the basis of the Common Minimum Standards (CMS). Due to this, the Agency has streamlined the process and identified a useable workaround for the time being.

		Targets	2019 results
Indicators	**Timely update of the PRS entities database after notification**	≤ 5 days	N/A

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ PRS entities database.	Outputs relating to the multi-annual work programme objectives: ◆ PRS entities database.

1.3 GSMC OPERATIONS AND PREPARATION (WBS 4.06)

1.3.1 Tasks until 2021

	Activity	Objective	Year[1]
1	Management of the organisation and communication (Management process)	Define the GSMC strategy and objectives.	2019 - 2021
		Prepare and implement the GSMC operations[5] by scheduling milestones and main activities.	
		Report to programme stakeholders on the GSMC activities.	
		Provide an overview on the GSMC's internal communication (top-down and bottom-up approaches) and team organisation.	
		Ensure the development and implementation of project management processes, methodologies, tools, and reporting.	
2	Integrated Management System (Management Process)	Guarantee the maintenance of the GSA ISO 9001 certification, including adaptation to ISO 9001 evolutions.	2019 - 2021
		Coordinate Product Assurance (PA)/Quality Assurance (QA)/ Reliability Accessibility Maintainability and Safety (RAMS) activities related to EC-GSA Galileo Delegation Agreement and in line with GSOp, GNSS Service Center (GSC) and Galileo Reference Center (GRC) requirements.	
3	Risk and business continuity management (Management Process)	Identify potential risks that could impact the proper functioning of the EGNSS programmes and take necessary mitigation actions.	2019 - 2021
		Ensure availability and continuity of GSMC services even in a reduced functionality mode, in case of a service breach.	
4	Health & Safety management (Management Process)	Define and describe the responsibilities and polices for health and safety at work.	2019 - 2021
		Provide and maintain a safe working environment for GSA staff, visitors and contractors at GSMC sites.	
5	Resolution and continuous improvement management (Management Process)	Ensure that problems and actions for improvement are identified and handled while the delivery of business cases is solved.	2019 - 2021

5 GSMC strategy and operations will be impacted multi-annually by the staffing plan the improvement of the PRS/SECMON services, and the implementation of a cyber security policy.

	Activity	Objective	Year[1]
6	Engineering and requirement management (Core Process)	Identify, analyse and implement the requirements that could impact the GSMC and the maintenance of the applicable baseline.	2019 - 2021
		Ensure and report on GSMC's compliance with programme requirements.	
		Design, validate and deploy the operations.	
		Identify and define processes, tools and the logic of system development activities, including maintenance for the two sites.	
		Prepare the accreditation files.	
7	Operations, expertise and analysis (Core Process)	Monitor status of system security and health, react to all security incidents and provide technological surveillance.	2019 - 2021
		Enable an access to PRS to authorised stakeholders, in compliance with PRS access rules (including Common Minimum Standards) and within the limit of the system design.	
		Manage the lifecycle of access to assure service continuity, including through service support and secure communication interfaces (POC-P).	
8	Crisis management (Core Process)[6]	Specific activities and configuration of the GSMC respond to the needs and requirements of a crisis affecting the Galileo system, including supporting the Council decision (joint action) process.	2019 - 2021
9	Local security (Support Process)	Prepare for, ensure, and maintain local security operational support to protect EU classified information present on GSMC sites and its assets.	2019 - 2021
10	Hosting and configuration management[7] (Support Process)	Prepare for, ensure and maintain technical operational support for the necessary site hosting, and the Information and Communications Technology (ICT) means required for meeting the GSMC's core missions.	2019 - 2021
		Provide a continuity of hosting services through building maintenance and by managing requests related to the evolution of the facilities and ICT.	

1.3.2 Highlights for 209

The European GNSS Agency ensures the operation of the GSMC. The GSA provides the operational interface between the Galileo Control Centres (GCCs) and the Competent PRS Authorities (CPAs), the Council, and the High Representative of the Union for Foreign Affairs and Security Policy. It acts under Council Decision 2014/496/CFSP and must inform the EC of any event that may affect the smooth running of the PRS.

With respect to GSMC operations in 2019, the Agency demonstrated its capability to increase the service provision of Galileo Security Monitoring and PRS Access Management. This was based on the Galileo Security Facility Enhanced Minimum Configuration (GSF EMC), operated from the GSMC master site in France and in line with Key Performance Indicators (KPIs). The GSMC Service Performance increased during 2019 despite the Service Incident

6 This process will be activated only under specific conditions..
7 The re-organisation of the GSMC sites has not yet been assessed.

of July 2019. During this year, the GSA prepared to upgrade the GSMC service capability towards dual site capacity associated with GSMC V3.

The focus in 2019 was on the activities in view of the deployment of GSMC V3 including GSF P2.2.1.1, Security Operational and Intelligence Facility 1 (SOIF1) and the Galileo Robust Operational Network (GRON) v1 at GSMC France.

In parallel, the major objective was the preparation of the back up site in Spain in view of the migration of GSMC V3.1. The readiness of GSMC-ES was required to ensure the dual site capability of GSMC.

The main milestones achieved in 2019 were the GSMC V3.0 Operations Readiness Review close out, operators training and migration preparation for PRS, Security Monitoring (SECMON) and the start of the migration activities of the GSF P2.2.1.1 on the Operational Chain.

In addition, the GSA supported the main programme activities, including:

- The back-up site relocation to ensure dual site capability readiness: the decision on the back up site location was communicated by the EC (decision 2018/115, on 24 January 2018). Previously the GSMC backup site was located in the United Kingdom, but was re-located and established in Spain in 2018 as a result of the withdrawal of the UK from the European Union. Two building configurations, for the new site, have been planned: early and final configuration. The Agency has continued the progression on the early building configuration by finalising the main milestones such as Technical Site Acceptance Review and Security Acceptance Review and by proceeding to the accreditation requirement process. In the meantime, the activities have started regarding the final configuration, in 2019 the final configuration building civil work has been terminated and system installation of systems will be started. The hosting agreement beween Spain, the European Commission and the GSA was signed in January 2019. The GSF assets that were formerly in the UK were subsequently redeployed into the Early Configuration to prepare for dual site operations, thus completing the operational aspect of BREXIT with direct impact on the GSMC.

The GRON v1 activities have significantly progressed as well with the design and installation of the core sites and a first CPA. The network became pre-operational and other site deployments are in progress. Indeed, site deployments have continued, GSMC-FR, GSMC-ES, CPA-FR (France), CPA-IT (Italy), CPA ES (Spain), CPA-BE (Belgium) and EEAS sites are already deployed and configured.

1.3.3 Tasks for 2019

Objective 1: Operations Processes (WBS 4.06.01)	
Expected results	**2019 results**
Operations, expertise and analysis: ◆ *Security and system status monitoring:* monitor system security and health, react to all security incidents and technological surveillance, including: • Galileo System Incident Management • Galileo System Vulnerabilities Assessment ◆ *PRS access management:* enable access to PRS to authorised stakeholders, in compliance with PRS access rules (including the CMS) within the limit of the system design. Manage the lifecycle of PRS access in order to assure the service continuity, including through service support and secure communication interfaces like a Point of Contact Platform.	**Operations, expertise and analysis:** ◆ **Security and system status monitoring** The number of security incidents has varied greatly from one month to the other. However the Service Level Agreements (SLAs) were globally met demonstrating the resilience of the GSMC and dedication of the Agency staff to comply with defined KPIs. The team of analysts located at the GSMC has handled and reported the identified security incidents with due care and efficiency.

Crisis management: specific activities and configuration of the GSMC to respond to the needs and requirements of a crisis affecting the Galileo system, including supporting the Council decision (Joint Action) process. This process will be activated only under specific conditions.

- **PRS access management**

  The access to the PRS has been successfully ensured following the standard operational procedures, and in compliance with the PRS access rules. The SLAs were fully met, demonstrating the resilience of the GSMC and dedication of its staff to comply with defined KPIs.

  KPIs on the provision of reports generated externally to the GSMC were not met due to late reception of the reports at GSMC. This problem has been escalated to the EC.

- **Crisis management**

  Joint EEAS (European External Action Service)/ GSA exercise with the GSMC at the end of 2018 confirmed the implementation of the 2017 lessons learnt exercise and highlighted new areas for improvement for 2019, which will be tackled before the 2019 Category 1/ Commission Decision 496 exercise.

		Targets	2019 results
Indicators	**Incident handling / defined SLA**	RESTREINT-UE/EU RESTRICTED	Service Level Targets (R-UE/UE-R)
	PRS access service within agreed response time	RESTREINT-UE/EU RESTRICTED	Service Level Targets (R-UE/UE-R)
	Other indicators for this objective are marked as RESTREINT-UE/EU RESTRICTED and available in the GSMC monthly report	Service Level Targets (R-UE/UE-R)	Service Level Targets (R-UE/UE-R)

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ System status and security monitoring: incident handled, escalation of Member States or to Joint Action, resolution of security incident, assessment of vulnerabilities and recommendations, security reports, anomalies and requests for change/deviation/waiver, Service Level Agreement chart; ◆ PRS access management: availability of PRS access, workarounds, PRS security reports, Notification to Galileo Users, anomalies and requests for change/deviation/waiver, Service Level Agreement chart; ◆ Crisis management: Council Decision (JA) instructions implementation report, Notification, Council Decision assessment report, Acknowledgement of the cancellation of a Council Decision.	Outputs relating to the multi-annual work programme objectives: ◆ System status and security monitoring: • Security reports (Security Monthly report, ad-hoc Security Incident reports); • Standard operating procedures; • Report on Service Levels (R-UE/UE-R). ◆ PRS access management: The PRS access availability was fulfilled and the PRS service was successfully provided to the external stakeholders. Note that the PRS operations are manual for GSF EMC.

Objective 2: Operations engineering processes (WBS 4.06.02)	
Expected results	**2019 results**
Engineering and requirement management: ◆ *Requirement management:* • Identification, analysis and flow-down of requirements that could impact the GSMC and the maintenance of the applicable baseline; • Ensure and report on GSMC compliance with programme requirements over time. ◆ *Operations engineering:* design, validate and deploy the operations; ◆ *Technical engineering:* • Identify and define the processes, methods, tools and logic of system development activities, including maintenance and support capabilities for the two sites; • Manage the lifecycle of the technical processes that lead to the in-production setting of new technical supporting assets and processes.	**Requirement management** The Agency was involved in the review of programme documentation in the frame of the ESA/GSA Engineering Board and ad-hoc workshops resulting on important changes on the GSMC baseline (e.g. GSMC site Infrastructure Requirements Document, GSF and SECMON requirements, Service Facilities Requirements). These new versions are respectively applicable to GSMC-France/Spain long term extension, WP2-x Work Order #2 and WP2-x Word Order #1/3 and their implementation are followed-up by the GSA during the associated programme reviews. A flow-down of these changes started and will continue to be implemented on time for respective System Baselines (i.e. GRON V2 element, GSMC Operating Procedures V4 for SB2.0 and GSMC Operating Procedures V5 for SB2.1). Regarding the GSMC Operating Procedures V3 (based on SB1.5.1) the GSA provided the required compliancy level with programme requirements to the SA.

Operations engineering

The GSA designed, reviewed and validated a new set of operational procedures in line with SB1.5.1 to support the enhanced service milestones.

The GSMC V3 main activities have been the preparation for the migration of V3.0 and V3.1.

2019 saw the successful design and validation of GSMC v3.0 operations, that consisted of:

- Development/Update of all the GSMC Operating procedures;
- PRS, SECMON, Commission Decision 496, L1 Maintenance, Crypto/COMSEC;
- Introduction of the GRON V1 to support CD496 and PRS services;
- Validation of operations;
- Update of the GSMC Operating procedures following the validation;
- Set up of Configuration management process and Assets management process;
- Preparation of BCP plans for mono-site and dual-site configuration;
- Training materials and training delivery for certification and certification plan;
- Systems evolution
    - Review of documentation and roadmap with external stakeholders; flow-down of Concept of Operations; flow-up of OPE needs and use-cases;
- Preparation of chains in GSMC-ES (VAL & pre-OPE).

An associated set of training and maintenance activities are under preparation, and finalisation took place in view of operational migration. The migration activities have been prepared and reviewed with programme stakeholders.

The team also lead the anomaly management of the current GSF EMC, by:

- Definition and review of anomaly processes and ToR;
- Chairing of GSF ARBs and Classified Operating Procedures ARBs;
- Participation on the NRB;
- Preparation of weekly agendas and minutes of meetings;

- Attendance at different boards and forums;
- Coordination of actions and responses.

Technical engineering:

The GSA was highly involved in the project reviews of both GSMC-FR and GSMC-ES building construction, of WP2-x activities on top of preparing additional systems/tools to support Agency services, for example:

- design and management of the GRON;
- design of new processes and associated supporting tools: maintenance activities, licences and assets managements;
- preparation of the deployment of an initial PRS Signal in Space Monitoring Capability.

		Targets	2019 results
Indicators	**% review milestones on time**	100%	100%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Requirement management: service level management, statement of compliance with SSRS; ◆ Operations engineering: validation reports, new catalogue of operations procedures, anomalies, change requests; ◆ Technical engineering: new catalogue of maintenance procedures, anomalies, change requests.	Outputs relating to the multi-annual work programme objectives: **Requirement management:** GSA inputs to Galileo Service Development, Deployment and Validation Plan and GSMC service roadmap. **Operations engineering:** Engineering Process GSMC Engineering Procedure Validation Operations Readiness Review Validation Plan and report Statement of Compliance Supporting Documents: test cases, weekly status report, weekly schedule of testing, ORR Test Readiness Review report, Operations Readiness Review Kick Off Report, Operations Readiness Review Closeout Report, LEOP Validation Plan, LEOP Validation Report.

Certification (multiple)

Training Needs Analysis, Training Material, Practical and Theoretical, Exam questions, Certification Plan, Certification Board report, Operator Certificates, L-SMC training, L-SMC certification.

GSF ARB & Change Control Board (CCB)

Process definition documents, weekly agendas and minutes of meetings, Responses to actions.

Technical engineering:

Full set of documentation associated with the following:

- GRON v1: Final deployment for all the sites, 1 site postponed to Q2 2020;
- GSMC-ES Early Configuration: preparation of the accreditation process. Site Accreditation Milestone (SAM) originally planned on the 12th of August 2019 has been postponed to early 2020;
- GSMC-FR Long term extension: Preparation works in the form of working groups with French Authorities started in September 2019;
- WP2-x WO#1 and WO#2 : CDR successful; WO#3 PDR partially successful leading to a WOAR to solve OPS blocking points.

Objective 3: Hosting services processes (WBS 4.06.03)	
Expected results	**2019 results**
Local security: prepare for, ensure and maintain the local security operational support needed to protect EU classified information present on site and its assets. ◆ Site and system security accreditations: • Ensure the definition and implementation of the appropriate security accreditation activities for achieving the approval to operate communications, information systems and sites as well as the maintenance of extant accreditations; • Monitor the implementation of SECOPs for CIS and auditing the systems.	**Site and system accreditation:** existing accreditation certificates were maintained and a growing pipeline of future systems was managed: ◆ GSMC-FR Site Accreditation Milestone & Site Approval To Operate (SATO) renewal; ◆ GSMC-ES Site Accreditation Milestone; ◆ GSF, SOIF and GRON Pre-ATO; ◆ Secure Inter-Network Architecture (SINA) Mission Network, Cyber Security Incident Response Tool, GSMC Secret UE (GSUE) Network ATO renewal on both GSMC sites. **Local security management** maintained throughout the year. Procurement of guarding framework contract FR done.

- *Regis*try c*ontrol management*: handling and storage of classified documents, management of EUCI registry, ensuring the timely on site and off site EUCI backups, briefings on EUCI handling;
- *Local security management:* ensure the physical security of people, properties, facilities, activities and information; manage access control; and coordinate with guarding support, services contractors, site and local authorities;
- *COMSEC management:*
  - Provide a COMSEC Security Programme within GSMC in accordance to the Galileo Programme Security instructions, by giving guidelines and related requirements regarding the COMSEC implementation for COMSEC and non COMSEC items. With the aim of ensuring its secure transfer to or from users through the enforcement of the appropriate procedures and the use of established channels;
- *Crypto management and operations:*
  - Ensure reception, preparation and shipment of crypto items to or from crypto accounts and users, destroying crypto material, performing PKI, non-PRS keys and SINA VPN Management and operations;
- *Hosting and configuration management:* prepare for, ensure and maintain technical operations support to provide site hosting and ICT means necessary for the core missions of the GSMC and its staff. Provide a continuity of hosting services through building maintenance and extra request management related to the evolution of the facilities and ICT:
  - Facilities management (Hosting Services);
  - Supporting IT systems (Operational Systems First Line Maintenance);
  - GSF equipment management (Technical Operations General).

EUCI registry management maintained throughout the year, with delegated actions performed by GSMC operators for all actions requiring operational 24 hour reactivity.

COMSEC: key management plan agreed, and procedures developed and tested in the context of P2.2.1, early access was achieved.

- COMSEC procedures version update and validation for P2.2.1;
- P2.2.1 Key management policies submitted and approved by EU GNSS Distribution Authority;
- GSF P2.2.1 lockdown and further COMSEC operation (Public Keys Infrastructure and SINA COMSEC operations) successfully achieved;
- GSMC COMSEC transportations ensuring secure transfers of COMSEC items;
- SECTRA phones key renewal and replacement;
- L1 COMSEC maintenance of COMSEC items located on both sites in accordance with the COMSEC Maintenance Plan;
- COMSEC briefing and authorisation renewed.

Hosting and configuration management:

Facilities management (relevant hosting services)

- Spain: Following back up site location decision in Spain near Madrid, preparation and configuration activities in early and final configuaration;
- France: Resilience actions were taken and completed by the French Ministry of Defence to curb effects of floods of 2016, and to with a first tranche of electrical distribution systems modifications to correct malfunctions that affected the supply of GSF ystems end 2018 and early 2019;
- France: Installation of temporary office modules to tackle lack of office space;
- France: Participation in procurement of French Ministry of Defence to host new building for GSMC master site in Saint-Germain-en-Laye. After award by the Ministry of Defence of the construction to the SPIE group, the projected was kicked off, and the Site Design Review started (Dec 2020).

Local support for ICT systems (general technical operations)

- Admin system was nominal;
- Classified information systems GRUE migrated from version 1 to version 2.

GSF equipment support (operational systems first line maintenance)

- EMC maintained throughout the year.

Galileo Data Dissemination Network (GDDN)

- France: the dual links were maintained;
- Spain: the link was established.

	Site and System Security Accreditation:	Targets	2019 results
Indicators	**Number of accreditation certificates in valid standing**	11	14
	Number of expected accreditation requests	15	16
	Percentage of data-packs timely released for accreditation requests (new or renewals) against annual plan baseline schedule	100%	100%
	Other indicators for this objective are marked as RESTREINT-UE/EU RESTRICTED	Service Level Targets (R-UE/UE-R)	Service Level Targets (R-UE/UE-R)

Planned outputs	Actual outputs

Outputs relating to the multi-annual work programme objectives:
- Registry control management:
  • Up-to-date registry[8] (successfully audited);
  • Classified information appropriately managed, EUCI registry successfully audited, staff EUCI briefed, EUCI evacuated in case of emergency, EUCI backed up (on site and off site).
	- Registry control management:
	  • Up to date registry and destruction of classified documents when necessary according to EU Classified Information Ordinary Destruction Plan;
	  • Audits (yearly)/inspections (monthly): successfully completed;
	  • Contribution to bi-monthly security report: done;
	  • Training/certification of operators for Records Control Officer delegated role: carried out as planned.

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

- COMSEC management:
  - Transportation plan executed, COMSEC access granted, GSMC crypto accounts audited, assessment and report regarding a detected violation/ compromise incident, COMSEC evacuated in case of emergency, Key Management Plan updated.
- Crypto management and operations:
  - Crypto material delivered, safeguarded, recorded or destroyed; Key and certificates renewed.
- Site and system security accreditation:
  - Security Risk Analysis, CIS and sites security accreditation data-pack followed by Authorisation To Operate, security accreditation plan updated, SECOPs maintained, periodic audit reports, local security management;
  - Access granted or not to staff, staff security briefed, Plan Particulier de Protection (PPP), Plan de Protection Externe (PPE) updated.
- Hosting:

Maintenance activity and Technical L1 maintenance performed and recorded, service request completed, incident resolved, FMS monthly report (Rapport mensuel d'Activité).

- COMSEC & crypto account management:
  - Up-to-date procedures: Procedures related to Public Keys Infrastructure, SINA Virtual Private Network and Key Management: performed in OPE and VAL;
  - GSMC Crypto Account audit, audit report(s) and inventories every three months– done for GSMC France;
  - Release of the audit report, incident reported: COMSEC SecOps, six COMSEC authorisations, execution of the transportation plan, destruction of crypto material;
  - Contribution to bi-monthly security report.
- Site and system security accreditation:
  - Local Site SecOps produced/updated for the GSMC-ES Security Site Milestone;
  - Prepared the data pack for the GSMC-FR Site Accreditation Milestone & Site Approval To Operate (SATO) renewal;
  - Prepared the data pack for the ATO renewal for the systems deployed on the GSMC-FR site (requests, SecOps implementation reports, residual risks reports);
  - Prepared the data pack for the GRON pre-ATO (security needs, business impact assessment, security risk analysis, SecOps, security policies);
  - Prepare the data packs for the security accreditation systems deployed on the GSMC-ES site;
  - Contribution to the periodic reports.
- Local security office:
  - Access control managed continuously, access control reports summaries, access control list maintained;
  - Monthly reports of guarding support services contractors.
- Hosting:
  - France and Spain Early Configuration buildings: Facility maintenance ensured in 2019;
  - France: a tender was published for facilities management, maintenance and services (evaluation was ongoing end 2019);

	• France: Electrical incidents triggered an investigation, electrical works undertaken in 2019 and will continue in 2020; • Spain: Early Configuration accreditation process support. Final configuration: coordination for building preparation; • Records on GSF maintenance: Data restricted.

Objective 4: Management processes (WBS 4.06.04)	
Expected results	**2019 results**
Management of the organisation and communication: ◆ Organise activities to ensure the GSMC milestones are achieved on time using available resources while also ensuring the reliability of information and its timely dissemination; ◆ Lead the organisation in providing clear strategy. **Integrated Management System and Product Assurance:** ◆ Guarantee maintenance of GSA ISO 9001 certification, including adaptation to ISO 9001 evolutions; ◆ Coordinate PA/QA RAMS activities related to EC-GSA Delegation Agreements in line with GSOp, GSC and GRC requirements; ◆ Support the activities of the ARB, NRB, and CCB. **Risk and business continuity and disaster management:** ◆ Risk management: identify potential risks that could impact the proper functioning of the Galileo programme and undertake relevant actions to mitigate these risks; ◆ Business continuity and disaster: in case of service breach, ensure availability and continuity of services in a reduced functionality mode.	**Management of the organisation and communication:** A strategy has been defined to comply with objectives of the deployment of new GSMC versions according to the future enhanced services declaration. As a consequence, engineering and operations activities were reinforced to ensure the preparation and implementation of these related milestones and activities; Weekly team meetings and coordination meetings were held to coordinate activities within and between teams, and a weekly report produced to ensure communication and coordination. **Integrated Management system:** A GSMC quality system has been established to comply with the GSA IMS. The quality system was part of the successful ISO 9001 certification follow-up that was performed in January 2020(delayed from sept 2019); Anomaly Review Board (ARB), Change Control Board (CCB): 42 ARBs and 16 CCBs were performed in 2019. **Risk and business continuity and disaster management:** Ongoing: Risk management contributions into overall GSA managed risks anomaly review process.

Health and safety management:

- Define and describe responsibilities and polices relating to health and safety at work, provide and maintain a safe work environment for staff, visitors and contractors.

Resolution and continuous improvement management:

- Ensure that problems and actions for improvement are identified and handled until the business cases are delivered to the Change Approval Board for implementation and/or the non-conformance is solved.

Risk and business continuity and disaster management:

- Risk management: potential risks identified, actions to mitigate defined;
- Business continuity and disaster: Business continuity (BC) plan update in progress;
- The Business Continuity Plan was updated in 2019.

Health & Safety management:

The GSA Occupational Health & Safety Policy and the Fire Safety Policy were successfully adopted in 2019. Throughout 2019 a safe work environment for staff and visitors was assured. Staff was properly trained, newcomer training established, floor wardens for a fire safety organisation were appointed. Complete documentation was updated and dedicated SharePoint site populated with relevant documents and legislation. Improvement of HQ fire safety measures (fire stoppers complete reconstruction) were started in September 2019.

At the GSMC and other sites the Agency continued to implement actions to maintain a safe work environment for all staff members, visitors and contractors by consolidating its training and awareness for staff members, long-time contractors and visitors and standardising its safety procedures. Safety plans have also been updated.

Resolution & continuous improvement management:

The Agency ensured the chairmanship of the related ARB as well as those of the GMS and Galileo Control Segment (GCS).

		Targets	2019 results
Indicators	**Milestones achieved as planned**	3	3
	Quality: Percentage of audit performed /planned	100%	100%
	Other indicators for this objective are marked as RESTREINT-UE/EU RESTRICTED	Service Level Targets (R-UE/UE-R)	Service Level Targets (R-UE/UE-R)

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Management of the organisation and communication: planning execution, budget metrics; ◆ IMS: ISO 9001 certification; ◆ Health and safety management: Document Unique d'Evaluation des Risques professionnels, Plan de prévention (according to French regulation); ◆ Risk and business continuity disaster management: • Risks are monitored and controlled; • GSMC business continuity plan updated and tested. ◆ Resolution and continuous improvement: anomalies (problems) and NCR solved service evolution roadmap.	◆ Reporting on the progress of the GSMC activities (achievement of milestones), periodically report on local security operations and engineering processes status: ◆ quarterly report, monthly report and weekly report released. ◆ **Integrated management system:** ISO 9001 re-certification. ◆ **Health & safety management:** Document Unique d'Evaluations des Risques professionnels, Plan de prévention (according to the French regulation): • Plans De Prevention : - Securitas: 05/10/19 - Gepsa: 01 March 2017 - WP2: CGI 03/0317; TAS 13/06/19 • Document Unique d'Evaluations des Risques professionnels - Updated: 30 November 2017 - Plan de prévention : 100% implemented + autres documents (protocole sécurité ; visites préalables)… ◆ **Risk and business continuity disaster management:** • Risks are monitored and controlled; • Business continuity plans were drafted and validation simulations were completed. However, the plans are not activate yet due to a lack of a dual operational site. ◆ The continuous improvement is done through the **Operating Procedures Working Group for the GSF part and the internal GSMC CCB concerning all the improvement** proposed in term of processes or tools.

Objective 5: Administrative processes (WBS 4.06.05)

Expected results	2019 results
The Agency has a number of administrative processes that support the workings of the GSMC, for example financial and cost management, legal management, and procurement management. Although most are common for the entire Agency, some are GSMC specific. The expected results for administrative processes are as followed: **Human resources management:** ◆ Core training; ◆ Standby officer management; ◆ Certification management: ensure the appropriate and on-time certification of staff (PRS Access Officer, Security Incident Handler (SIH), etc.). **GSMC specific training:** ensure that staff are well-trained in the specific fields	◆ **Certification Management:** Ensure the appropriate certification of the staff (PRS Access Officer, SIH, etc.) on time • 4 Certification Boards **GSMC specific training:** Cyber training provided.

		Targets	2019 results
Indicators	**Human Resources Management: % success rate of training (certification)**	100%	100%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Operators' certificates	◆ Operators' certifications maintained and for some expanded (dual PRS/SECMON) 15 operators certified for SIH EMC 11 operators certified for SIH v3.0 10 operators certified for PRS v3.0

1.4 PROMOTION AND MARKETING OF THE SERVICES (WBS 5.02, 5.03, 1.03.01)

1.4.1 Tasks until 2021

	Activity	Objective	Year[9]
1	Market and technology monitoring, including cooperation with receiver manufacturers.	Be the source of competence in GNSS market and technological developments.	2019 - 2021
		Support chipset and receiver manufacturers in implementing EGNSS.	2019 - 2021
2	User satisfaction monitoring process and customer assistance.	Build user experience and satisfaction; implement user feedback in the evolution of EGNSS.	2019 - 2021
3	Market development by user segment (Aviation, Road, Location Based Services (LBS), Agriculture, Maritime, Rail, Mapping and Surveying, Timing &Syncronisation and governmental).	Identify needs and opportunities for services and applications.	2019 - 2021
		Maximise adoption of EGNSS by value chain and its availability to users.	2019 - 2021
4	Management of PR/ communication activities.	Management of active internet-based communications via websites and social media.	2019 - 2021

1.4.2 Highlights for 2019

The year 2019 marked an important period to further strengthen Galileo and EGNOS market uptake all over the Union and worldwide. In fact the important milestone of one billion users was reached in in September 2019.

Within the road segment, EGNOS and Galileo are activated in more than 40 car models from 24 car brands, powered by the EU eCall regulation, with the vast majority of automotive suppliers having solutions in the market. Besides, Galileo candidates to be the most reliable system for autonomous navigation, now being tested worldwide in more than 25 autonomous vehicle prototypes. A live demonstration of the first highlyautomated vehicle powered by Galileo was conducted by a major European car manufacturer within the GSA´s Fundamental Elements programme, which developed

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

a close-to-market positioning engine. As part of this demonstration, a car has been autonomously driven with Galileo not only on tracks but also on public roads. In commercial vehicles, road tolling is a field of application utilising EGNOS and Galileo as now 73% of EU tolled roads are GNSS-based in Germany, Slovakia, Belgium, Hungary and Czech Republic. This network is expected to further grow by another 20,000 km thanks to new Bulgarian, Greek, Polish and Lithuanian tolling schemes. In addition, every new truck sold in Europe has to be compatible with EGNOS and Galileo, thanks to the entry into force of the Smart Tachograph regulation in 2019.

Thanks also to the partnership established by GSA with leading manufacturers and via focused testing campaigns, the mass market continued to rely more and more on Galileo. With now 272 Galileo-enabled smartphones being available since the end of 2019 – an impressive 48% increase in the fourth quarter alone. Likewise, 2019 saw the ramp up of dual frequency enabled smartphones with now 41 handsets available, compared to two handsets in the year before. Leading GNSS suppliers representing more than 95% of the GNSS chipset market now produce Galileo-ready chips and IoT modules, of global manufacturers of smartphones and tablets a total of 33 have already integrated Galileo. The MyGalileoApp Competition – an important initiative for a more structured support for young innovators, entrepreneursand start-ups that are outside the classical "GNSS/space club" – successfully selected its winner out of the 10 best teams that presented their applications in front of a jury of potential investors at GSA HQ. First prize was taken by ARGEO, a mobile app based on augmented reality. The MyGalileoApp has been a successful GSA venture to support the creation of startups, piloting new initiatives in preparation of the next MFF.

Concerning aviation, the use of EGNOS has continued to grow as available operational procedures resulted in 660 in 342 airports at the end of the year, covering close to 50% of instrument runways in Europe. In the air, Commercial airlines started to bring SBAS on board. This development implies a shift in the EGNOS market from general and business aviation to larger carriers, as Air France and Lufthansa ordered new EGNOS enabled aircraft. Also in 2019, EGNOS opened new markets with GSA publishing the 'Guidelines for SBAS implementation non-instrument runways' together with EASA. Since April 2019 the use of EGNOS is required for low level helicopter routes, enabling patients to get safely to hospitals in emergency cases at any time and under all weather conditions. The emerging segment of drones now numbers 162 drone receiver models from 38 manufacturers with EGNOS and/or Galileo capabilities which are already available in the market, representing more than 30% of receiver models. On search and rescue, GSA ensured the user segment of the SAR Return Link to be ready for the service declaration with many EU manufacturers of beacons at the front line. In addition GSA demonstrated the potential use of Galileo Return Link service to activate a beacon remotely, opening the door to a potential new service for aviation users.

With regards to the rail segment, GSA focused in particular on the inclusion of European GNSS into the future evolution of the European Rail Traffic Management System (ERTMS), in line with the intentions of the Memorandum of Understanding between the European Commission, the European Union Agency for Railways (ERA) and the European rail sector associations. In accordance with the conclusions from the Space for Innovation conference organized by GSA in collaboration with ERA, Shift2Rail and the Austrian Federal Ministry for Transport, Innovation and Technology held in March 2019 to support the first step towards enabling GNSS use within ERTMS evolution after 2022. The GSA supported the European Commission with the preparation of a mission study to analyse and develop an EGNOS rail service contributing to a rationalisation of railway signalling infrastructure costs. The procurement was successfully launched in December 2019. Based on these initiatives and H2020 project results driven by the GSA, the ERTMS Users Group submitted a draft change request to the ERTMS specifications at the end of 2019, opening the door towards the inclusion of GNSS into the future ERTMS evolution.

The maritime domain made another step forward with the approval of the International Association of Lighthouse Authorities (IALA) guidelines on SBAS Maritime Service with publication last December. After Galileo's recognition as part of Worldwide Radionavigation Systems (WWRNS) in 2016, now roughly 30% of receiver models are Galileo-enabled (vs. 15% in 2018), with 19 global manufacturers providing Galileo-enabled receivers. EGNOS penetration in receiver models (recreational and regulated) reached a level of 90%, allowing benefits from an increased accuracy. GSA is working actively in the design of a new EGNOS Maritime service with the support of the European Maritime RadioNavigation Forum (EMRF) and IALA.

In the agriculture domain, the EGNSS4CAP tool was presented on November 29th at GSA Headquarters in Prague in a workshop side event to the 25th JRC MARS Conference. This Android application highlighted and demonstrated the benefits of EGNOS and Galileo for Common Agricultural Policy (CAP) monitoring processes. EGNSS and Copernicus are the core components in the digital farming ecosystem so - thanks to EGNSS4CAP - GSA demonstrated how a smartphone may simplify the subsidiaries procedures for European farmers, promoting their digitalisation and satisfying their reporting requirements under the current and post-2020 CAP reform. Around 90% of new tractors in Europe using GNSS are now equipped with EGNOS, the preferred low-cost entry technology for precision farming in Europe, while around 56% of GNSS receiver models for agriculture applications are Galileo capable. Together with the European Commission and JRC, the GSA provided the first version of the open source geo-tagged photo application, including a web console, to all funding agencies leveraging Galileo´s authentication and dual frequency capabilities for an innovative method of digitisation of CAP subsidies management.

Regarding Geomatics, even more augmentation service providers are upgrading their networks to support Galileo, with today a total of 44 networks worldwide being Galileo compatible (a 57% increase from the 28 identified the year before). In addition, over 58% of surveying and mapping receiver models are Galileo-capable with around 93% of mapping and GIS receiver models being EGNOS compatible.

As well, the annual GSA collaboration with the CLGE (Comité de Liaison des Géomètres Européens) Students' contest was successfully conducted with the award ceremony being held during Intergeo 2019 in Stuttgart. Discussions during the event resulted in an agreement to further evolve the direction of the contest under the umbrella of the GSA starting in 2020.

For the Timing and Synchronisation market, the Agency progressed with the development of a European Galileo based multi frequency receiver suitable for the critical infrastructure. Moreover, the Agency progressed with the plan for the implementation of added-value application offerings within the Galileo infrastructure leveraging the OS in the short term and then upgraded to the OS-NMA. In parallel, GSA continued working closely with the market community (users, operators, receiver manufacturers) to increase the E-GNSS market penetration looking for a first European Infrastructure operator ready to test these new T&S applications.

The Galileo differentiators progressed further in 2019. In addition to dual frequency, timing, SAR Return link, the Open Service Authentication (OS-NMA) has been prototyped in several platforms, including the first close-to-market user terminal. Major European car makers declared the intention to test the emerging Galileo High Accuracy Service and OS-NMA once available in view of the first generation of level 4-autonomous cars to be commercialised starting from 2022. Other activities were dedicated to performing a stakeholders consultation and analysis of the market outlook for the Commercial Authentication Service (CAS). The study included an analysis of the potential benefits for target identified markets and recommendations for providing a free or fee-based service. Also, a preliminary High Accuracy Service (HAS) market assessment was prepared as part of the input documents for the Galileo HAS roadmap definition.

Governmental applications and their synergies are on the rise as PRS is moving towards Initial Services and GSA preparing itself to take on GOVSATCOM. Getting prepared for this, GSA is updating its study on GNSS governmental users and applications. Likewise, GOVSATCOM preparatory activities are ramping up to network European users and define

user requirements. As an initial step, GSA has established the first Network of GOVSATCOM users composed of 12 Member States and 7 EU Agencies which is intended to be enlarged over time.

2019 was also the year of partnerships, as GSA signed an agreement with the European Investment Bank to cooperate on supporting investment in the European space-based service economy. In addition a Memorandum of Understanding was signed with the World Geospatial Industry Council, an association representing the geospatial industry.

In the area of market communications, the GSA continued to support E-GNSS market uptake and awareness via an active website and web news service, an expanding targeted social media presence, media/press information/relations activities and regular newsletter distribution. The GSA promoted Galileo and EGNOS at a wide range of user segment targeted conferences, exhibitions and workshops across Europe and produced widely distributed, targeted and timely publications, videos and animations designed to support EGNSS market development objectives.

1.4.3 Tasks for 2019

Objective 1: E-GNSS market development in Aviation (WBS 5.02.03 and 5.03.03)	
Expected results	**2019 results**
◆ Market monitoring, analysis and forecasting; ◆ Technology monitoring; ◆ Market and user oriented EGNSS market segment adoption strategy; ◆ Segment institutions and industry/user relationship management, including defining and updating user needs; ◆ Technical support and feasibility assessment to airports/heliports and Air Navigation Service Providers (ANSP) on implementing LPV/LPV 200, with priority to those affected by the future implementation of performance-based navigation in the European Air-Traffic Management Network regulation; ◆ EGNOS/Galileo added value for drones, initial roadmap for adoption defined; ◆ Beacon manufacturers ready to introduce Galileo SAR; ◆ Analysis and pursuing of synergies with Copernicus (e.g. drones); ◆ EGNOS user satisfaction survey completed.	◆ Annual market monitoring, analysis and forecasting performed. New Market report published with two new dedicated sections on drones and emergency response, focused on new solutions; ◆ Annual Technology monitoring update performed, including new sections in aviation, such as Galileo enabled products for general aviation, drones and search and rescue beacons; ◆ Adoption strategy updated with the focus on new users of GNSS: helicopter emergency medical service, surveillance, drones and general aviation community; ◆ User relationship management strengthened and user needs have been regularly collected via meetings and targeted working groups with users, especially with reginal airlines, helicopters, general aviation community. User needs and requirement document updated; ◆ Consolidated cooperation with aviation stakeholders, such as EASA, contributing to regulatory activities, SESAR Joint Undertaking on Research and Development, and Eurocontrol on adoption. In addition, an MoU with SESAR Development Manager has been established in 2019; ◆ First flight testing performed to provethe added value of EGNOS and Galileo for drone operations. Proposal for new drone operation specifications developed. White paper for drones operations published and additional future test campaign with Receiver manufacturers to prove EGNOS/Galileo under preparation;

- GSA Eurocae WG-98 RLS established to define the operational concept for Remote Aviation Beacon Activation with Galileo RLS (Return Link Service) and in cooperation with Aviation beacon manufacturers to integrate RLS into their new products. Successful pilot project to demonstrate feasibility of remote beacon activation using drones completed;
- EGNOS and Galileo user satisfaction survey was launched in 2019 and implementation of 2018 results was completed.

		Targets	2019 results
Indicators	**Annual collection of user needs for all sub segments using adequate forum and specific working groups**	100%	100%
	Number of EGNOS-based approaches being tracked	550	660
	Successful implementation of all activities in support of the introduction of SAR beacons to aviation	80%	100%
	Completion of annual EGNOS User Satisfaction survey	100%	100%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: - GNSS Market Report; - Report on Galileo and EGNOS penetration in avionics; - Updated adoption strategy; - Updated user requirements – limited to the report by the User Consultation Platform (UCP); - EGNOS approach procedures; - Aviation SAR beacon that includes Galileo partially developed RLS; - Results of user satisfaction surveys;	**Outputs relating to the multi-annual work programme objectives:** - GNSS Market Report published, including drones and new uses; - Galileo receivers for drones, general aviation and SAR updated, EGNOS penetration in aviation receivers updated; - Adoption strategy updated with new applications, such as surveillance, drones and distress tracking. Guidance material for new EGNSS users published: 1) Safety promotion material on 'GNSS based instrument flight procedures implementation for general aviation, 2) White paper on GNSS for drones - Updated user requirements published;

◆ Institutions and industry/users cooperation material; ◆ Coordination and cooperation with key public stakeholders: EASA, SESAR, SJU.	◆ Annual tracking of EGNOS approach procedures (660 by end of 2019), including helicopter operations; ◆ Two manufacturers developing ELT-DTs (Emergency Locator Transmitter – Distress Tracking) and ELTs with Galileo RLS; ◆ EGNOS and Galileo user satisfaction survey results published; ◆ Shared workplans agreed with EC (MOVE and GROW) and EASA. New working group on Helicopters (FLAG) created. New Eurocae WG-98 RLS created, with GSA as secretary.

Objective 2: EGNSS Market development in Road (WBS 5.02.04 and 5.03.04)	
Expected results	**2019 results**
◆ Market monitoring, analysis and forecasting in the area of road transportation; ◆ Technology monitoring in the area of road transport segment; ◆ Market and user oriented EGNSS market segment adoption strategy; ◆ Segment institutions and industry/user relationship management, including definition and updating user needs; ◆ Technical support (including plan and testing) to smart (digital) tachograph industry for EGNSS adoption, in cooperation with the Joint Research Centre (JRC); ◆ Recommendations provided to the EC for its Cooperative-Intelligent Transport System (ITS) Master Plan , implementing parts relating to EGNSS; ◆ Initiate standardisation/certification process implementation for EGNSS in autonomous vehicles; ◆ Complete roadmap for the market uptake of EGNSS in Mobility as a Service (MaaS) applications.	◆ Annual market monitoring, analysis and forecasting performed. New market report published; ◆ Annual Technology monitoring update performed; ◆ Adoption strategy updated; ◆ User relationship management strengthened and user needs document on Road segment updated; ◆ Technical support provided to smart (digital) tachograph industry for EGNSS adoption, in cooperation with the JRC; ◆ Recommendations provided to the Commission Delegated Regulation for the implementation of cooperative-ITS, including Core Text and Annexes; ◆ Interim review of base standards in relation to the role of location and timing in cooperative-ITS Secure Communications (CEN/ISO TS 21176), GNSS positioning (EN 16803) and Vulnerable Road Users (ETSI TS 103 300); EC project GP Start II launched to continue the development of positioning standards in CEN focusing on autonomous driving needs; liaison with the industrial HeadStart project on certification for autonomous vehicles;

	Implementation of adoption actions from the roadmap: GSA accepted as member in Mobility as a Service Alliance; four pilot demonstrations in taxi, on-demand bus, car-pooling and autonomous shuttle in the frame of the Galileo 4 Mobility project; awareness campaign in specialised media and with UITP (Union internationale des transports publics) members.

		Targets	2019 results
Indicators	**Annual collection of user needs within the respective forum**	100%	100%
	Number of smart (digital) tachograph receiver models tested	2	0[10]
	Galileo adoption in road GNSS receivers: % of models with Galileo capability	75%	74%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ GNSS Market Report; ◆ Report on Galileo and EGNOS penetration in receivers and chipsets models in road segment; ◆ Updated user requirements – limited to UCP report; ◆ Test plan and testing campaigns; ◆ Adoption roadmaps and updated strategy entry plan.	Outputs relating to the multi-annual work programme objectives: ◆ GNSS Market Report published; ◆ Report on Galileo and EGNOS penetration in receivers and chipsets models in road segment updated; ◆ Updated user requirements published; ◆ Draft test plan defined due to OS-NMA Interface Control Document publication delay; ◆ Roadmaps/Entry plans for cooperative-ITS, Mobility as a Service designed, validated and initiated; Strategy on Road and Automotive (focus on Autonomous driving) designed.

10 Due to OS-NMA Interface Control Document delay

Objective 3: EGNSS market development in Maritime (WBS 5.02.05 and 5.03.05)	
Expected results	**2019 results**
◆ Market monitoring, analysis and forecasting in the maritime segment; ◆ Technology monitoring in the maritime segment; ◆ Market and user oriented EGNSS market segment adoption strategy; ◆ Segment institutions and industry/user relationship management, including definition and updating of user needs; ◆ Galileo tested in ship-borne receivers; ◆ Main beacon manufacturers implementing SAR return link; ◆ Analysis and pursuing of synergies with Copernicus.	◆ Annual market monitoring, analysis and forecasting performed. Market monitoring and analysis showed a penetration of 90% of EGNOS and 30% of Galileo in receivers; New Market report published; ◆ Annual Technology monitoring update performed; ◆ Adoption strategy updated for the use of EGNOS and Galileo for maritime navigation and SAR positioning applications; ◆ User relationship management strengthened: 2019 edition of European Maritime Radio Navigation Forum was held with maritime and hydrographic authorities to gather final requirements for EGNOS service. User needs and requirement document on maritime and inland waterways updated; ◆ Galileo tests performed with 4 shipborne receiver manufacturers; ◆ Main beacon manufacturer included SAR return link in PLB (Personal Locator Beacon) and Emergency Position-Indicating Radio Beacon; ◆ Synergies between GNSS and Copernicus analysed for surveillance applications (with particular focus on Galileo OS-NMA).

		Targets	2019 results
Indicators	**Annual collection of user needs within the respective forum**	1	1
	Number of ship-borne receiver manufacturers engaged in Galileo testing	3	4
	% of development of the first maritime SAR beacon including Galileo RLS complete	100%	100%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ GNSS Market Report; ◆ Report on Galileo and EGNOS penetration in maritime receivers and chipsets; ◆ Adoption strategy report; ◆ Update user requirements; ◆ NDA signed by ship-borne receiver manufacturers; ◆ Maritime SAR beacon that includes Galileo RLS developed; ◆ Coordination and cooperation with key public stakeholders: EMSA (European Maritime Safety Agency), IALA (International Association of Marine Aids to Navigation and Lighthouse Authorities).	Outputs relating to the multi-annual work programme objectives: ◆ GNSS Market Report published; ◆ Report on Galileo and EGNOS penetration in maritime receivers and chipsets updated; ◆ Adoption strategy and roadmap updated; ◆ Maritime and inland waterways user needs and requirements updated; ◆ Shipborne receiver manufacturers provided the receivers for testing with no need of NDA; ◆ Maritime SAR beacons (Personal Location Beacon and Emergency Position-Indicating Radio Beacon) including Galileo RLS developed; ◆ Coordination with EMSA and EFCA (European Fisheries Control Agency) for the use of Galileo and EGNOS for maritime surveillance operations; Cooperation with IALA for the use of EGNOS in maritime.

Objective 4: EGNSS market development in Rail (WBS 5.02.06 and 5.03.06)	
Expected results	**2019 results**
◆ Market monitoring, analysis and forecasting in the area of rail; ◆ Technology monitoring in rail; ◆ Market and user oriented EGNSS market segment adoption strategy; ◆ Segment institutions and industry/user relationship management, including definition of update of user needs; ◆ Consolidation of final user requirements for safety relevant applications and analysis of their impact on EGNSS services; ◆ Analysis and pursuing of synergies with Copernicus; ◆ Implementation of the roadmap for rail certification.	◆ Annual market monitoring, analysis and forecasting performed; ◆ Annual Technology monitoring update performed; ◆ Adoption strategy updated; ◆ User relationship management strengthened. User needs and requirement document updated; ◆ Consolidation of user requirements for safety relevant applications completed and provided as input for study on modification of EGNSS services; ◆ Implementation of the roadmap for rail certification performed.

		Targets	2019 results
Indicators	**Annual collection of user needs within the respective forum**	100%	100%
	Results of EGNSS performance tests available for endorsement by European rail signalling supplier community	100%	100%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ GNSS Market Report; ◆ Report on Galileo and EGNOS penetration in rail receivers and chipsets; ◆ Adoption strategy report; ◆ Updated user requirements – limited to the UCP report; ◆ Performance tests report; ◆ Partially implemented roadmap.	Outputs relating to the multi-annual work programme objectives: ◆ GNSS Market Report published; ◆ Report on Galileo and EGNOS penetration in rail receivers and chipsets updated; ◆ Adoption strategy and roadmap updated; ◆ Updated user requirements published; ◆ Performance tests completed; ◆ Partially implemented roadmap defined.

Objective 5: EGNSS market development in high precision, agriculture and surveying market segments (WBS 5.02.01, 5.03.01, 5.02.02 and 5.03.02)

Expected results	2019 results
◆ Market monitoring, analysis and forecasting in agriculture segment; ◆ Technology monitoring in the areas of high precision, agriculture and surveying markets; ◆ Market and user oriented EGNSS market segment adoption strategy including relevant implementation actions for the high precision, agriculture and surveying market segments; ◆ Segment institutions and industry/user relationship management, including definition and update of user needs; ◆ Increased Galileo and EGNOS penetration in professional receivers and chipsets for agriculture;	◆ Annual market monitoring, analysis and forecasting performed. New market Report published including updated information; ◆ Annual Technology monitoring update performed; ◆ Market strategy roadmap documents prepared for Agriculture and Mapping and Surveying segments; ◆ User relationship management strengthened: consolidated cooperation with Agriculture, Mapping and Surveying stakeholders, paying agencies, CLGE (Council of European Geodetic Surveyors), EUPOS (European Position Determination System) etc. User needs and requirement document updated;

- Support EGNSS adoption through dedicated awards for innovative integration of EGNSS in high precision, agriculture and surveying applications;
- Analysis of synergies with Copernicus (e.g. Common Agriculture Policy);
- Initialise procedure to implement Commercial Service (CS);
- Consolidate upgrade to Galileo in private and public reference networks.

- Galileo penetration increased;
- Execution and award of the 8th edition of the CLGE Students´ Contest;
- Initial activities on analysing synergies with Copernicus in three Geomatics subsegments (mining, construction, marine surveying) performed; Demonstration on EGNSS and Copernicus synergies in the frame of agriculture subsidiary processes performed;
- Not/applicable;
- Galileo public and private reference network upgraded with to a total of 44 service providers.

		Targets	2019 results
Indicators	**Annual collection of user needs within the respective forum**	100%	100%
	Galileo adoption in professional receivers and chipsets for high precision, agriculture and surveying (annual percentage of models with Galileo capability)	62%	58%
	Award of dedicated prizes for innovative integration of EGNSS in high precision, agriculture and surveying applications and/or devices	2 (taking into account that Farming by Satellite is awarded every 18 months)	CLGE (Council of European Geodetic Surveyors) Students' Contest prize supported
	% of completion of selection procedure for the Commercial Service (CS) service provider	100%	100%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ GNSS Market Report; ◆ Report on Galileo and EGNOS penetration in receivers and chipsets in agriculture and surveying; ◆ Adoption strategy report; ◆ Updated user requirements – limited to UCP report; ◆ Materials from awarded prizes; ◆ Pursuing identified synergies with Copernicus; ◆ Consolidated roadmap for the CS service provision approach; ◆ Report on Galileo implementation in the reference networks.	Outputs relating to the multi-annual work programme objectives: ◆ GNSS Market Report published; ◆ Report on Galileo and EGNOS penetration in receivers and chipsets in agriculture and surveying updated; ◆ Adoption strategy updated; ◆ Updated user requirements published; ◆ Materials from awarded prizes published including deliverables of activities carried out; ◆ EGNSS4CAP tool presented during the 25th JRC MARS Conference; ◆ Not applicable; ◆ Report on Galileo implementation in the reference networks issued.

Objective 6: EGNSS market development in Location Based Services (LBS), Machine-to-machine (M2M) and other Mass Market segments (WBS 5.02.07 and 5.03.07)

Expected results	2019 results
◆ Market monitoring, analysis and forecasting in the LBS segment; ◆ Technology monitoring in the LBS segment; ◆ Market and user-oriented EGNSS market segment adoption strategy; ◆ Segment institutions and industry/user relationship management, including defining and updating user needs; ◆ Increased Galileo penetration in mass market chipsets and consumer devices.	◆ Annual market monitoring, analysis and forecasting performed up to 2029, and the updated information was included in the GNSS Market Report; ◆ Annual technology monitoring performed; ◆ Strategy updated reflecting the main changes in terms of adoption for Galileo and GNSS and to include main market trends; ◆ User relationship management continuously strengthened with key stakeholders by liaising with main actors of the value chain, including application developers, chipset and device vendors. User needs and requirement document updated; ◆ Galileo penetration significantly increased in mass market devices.

		Targets	2019 results
Indicators	**Annual collection of user needs within the respective forum**	100%	100%
	% of models with Galileo capability adopted in mass market applications (LBS and IoT) chipsets	57%	67%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ GNSS Market Report; ◆ Report on Galileo and EGNOS penetration in mass market receivers and chipsets; ◆ Adoption strategy report; ◆ Updated user requirements – limited to UCP report.	◆ GNSS Market report published; ◆ Report on Galileo and EGNOS penetration in Location Based Services (LBS), M2M and Mass Market receivers and chipsets updated; ◆ Elaboration of "EGNSS market uptake in Consumer Platforms" document; ◆ Updated user requirements published.

Objective 7: EGNSS market development in Timing and Synchronisation (WBS 5.02.08 and 5.03.08)

Expected results	2019 results
◆ Market monitoring, analysis and forecasting in the timing and synchronisation segment; ◆ Technology monitoring in the timing and synchronisation segment; ◆ Market and user oriented EGNSS market segment adoption strategy; ◆ Segment institutions and industry/user relationship management, including defining and updating user needs; ◆ Support EC in regulatory actions for adoptioning of Galileo in critical infrastructures.	◆ Annual market monitoring, analysis and forecasting performed. New Market Report published; ◆ Annual technology monitoring update performed; ◆ Adoption strategy updated; ◆ User relationship management strengthened: consolidated cooperation with T&S stakeholders. User needs and requirement document updated; ◆ Support to EC provided via program management support to EC projects, standardisation activity and other regulatory actions to increase the adoption of Galileo in critical infrastructure.

		Targets	2019 results
Indicators	**Updates of the adoption strategy for timing and synchronisation**	1	1
	Annual collection of user needs within the respective forum	100%	100%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ GNSS market Report; ◆ Report on Galileo and EGNOS penetration in timing and synchronisation receivers and chipsets; ◆ Adoption strategy report; ◆ Updated user requirements – limited to UCG report; ◆ Deliver supporting materials on Galileo in timing and synchronisation to Commission (on request).	◆ GNSS Market report published; ◆ Report on Galileo and EGNOS penetration in Timing and Synchronisation receivers and chipsets updated; ◆ Adoption strategy and roadmap updated; ◆ Updated User Requirements published; ◆ Inputs provided to EC when requested.

Objective 8: EGNSS market development in Governmental use (WBS 5.02.09 and 5.03.09)

Expected results	2019 results
◆ Market monitoring, analysis and forecasting in the area of governmental use; ◆ Delivery of necessary information to support Member States in promoting Galileo PRS within their user communities, following CPAs consultations.	◆ Specific contract to carry out the market analysis in the area of governmental use launched and awarded. Kick off planned in Q1 2020; ◆ A workshop was held in Sweden to disseminate the general Galileo status and in particular PRS information to relevant governmental stakeholders.

		Targets	2019 results
Indicators	**Analysis of Galileo penetration in PRS**	1	1
	% of implemented action from CPA consultations	20%	20%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Report on Galileo's potential penetration in receivers and chipsets for governmental use; ◆ Material about Galileo PRS status and supportive actions provided to CPAs.	◆ Market analysis report in support of Galileo second generation delievred; ◆ Dissemination material for PRS promotion to Member States.

Objective 9: Services, Applications and R&D Communications (WBS 1.03.01)	
Expected results	**2019 results**
Communication activities relating to EGNOS and Galileo services and applications for research and development comprise of the following items: ◆ Increased awareness of EGNOS and Galileo, their high performance and many benefits; ◆ Increased awareness and understanding of EGNOS and Galileo as a useful feature and enabling technology for application developers, in particular those requiring more precise and reliable Positioning, Navigation and Timing information; ◆ Strengthened communications with user networks and communities; ◆ Increased awareness amongst innovative enterprises, with a focus on SMEs, who can benefit from leveraging EGNOS and Galileo in their applications, products or services, or can increase the functionality within existing applications by enabling it with EGNSS functionality; ◆ Increased awareness of the Galileo programme, its role within the global multi-constellation satellite navigation system, and the benefits of Galileo initial services.	As planned

		Targets	2019 results
Indicators	**Increased positive activity across all channels utilised**	100%	100%

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Annual communications plan; ◆ Website creation, maintenance and management; ◆ Social media campaigns; ◆ Publishing of publications; ◆ Video production of final product; ◆ Event creation, participation and management (exhibition creation, advertising, promotion and presentation); ◆ Media, public relations and stakeholder initiatives; ◆ Newsletter production and distribution; ◆ Feedback surveys and studies.	Outputs relating to the multi-annual work programme objectives: ◆ **2019 Communications Plan published and implemented;** ◆ **Websites:** The GSA published over 150 web news articles that generated a pick-up of over 600 press articles in multiple languages. The Agency maintains directly both www.gsa.europa.eu and www.Usegalileo.eu, and supports and contributes to www.gsc-europa.eu and www.egnos-portal.eu; ◆ **GSA Social Media presence:** In 2019, the GSA expanded it social media presence by adding Instagram among its social media handles and thus reaching out to a new community and accumulating almost 2000 followers within a year. GSA's Twitter and Facebook channels saw a 63% increase of followers, while LinkedIn saw a 66% rise; ◆ Thanks to the accuracy matters campaign, the GSA also expanded its presence on YouTube by creating a second YouTube channel. Overall, within one year, GSA's videos (in both YouTube accounts combined) received almost 790 000 views; ◆ **Printed Publications:** Production of promotional materials for the Accuracy Matters campaign and the 1 bln campaign. Production and promotion of the 2019 GNSS Market Report Issue 6, update of the series "User Needs and Requirements, Drone white paper plus a rage of updates and reprint of various brochures for event distribution and EGNSS technical documentation; ◆ **Video Production:** In 2019, we expanded on the Accuracy matters campaign launched at the end of 2018 and launched the FlyEGNOS campaign. Production of 25 videos and animations, including: • A range of event specific info and promotional clips (ESCAPE demo and MyGalileoApp videos, among others); • Additional 10 Galileo 'Accuracy Matters' videos (in 24 languages for a total of 50 mln views);

- Outdoor Advertisement: The videos were broadcast across airports, metro stations, inside buses and trains, as well as other public spaces.

- **Event creation, participation and management:** 20 events, including but not limited to: the Mobile World Congress, World ATM Congress, METS Intergeo in collaboration with the Copernicus unit of the EC, HORIZON 2020 Space Info Day, several Hackathons and participation to the 2019 EU Space Week;
- **Media, public relations and stakeholder initiatives:** Several press initiatives including but not limited to:
  - GSA publishes its 6th GNSS Market Report;
  - GSA 15th Anniversary;
  - 1 billion Galileo enabled smartphones;
  - ESCAPE demo with the first European autonomous car using Galileo.
- **Newsletter production and distribution**: The GSA continues to publish weekly newsletter called *'Watch this Space'*. 40 issues were published in 2019 to +8 000 subscribers;
- **Feedback surveys and studies:** In 2019. the following surveys were implemented via GSA online tools – the annual EGNOS user satisfaction survey, GSC and Galileo user survey, GSA survey targeting user-driven RPAS/Drones applications.

1.5 AGENCY MANAGEMENT (WBS 1)

1.5.1 Highlights for 2019

This activity supported the Agency's core (and delegated) mission by providing state-of-the-art services to all operations in the areas of legal, procurement, grants, contracts, finance and budget, human resources management, ICT, facility management and logistics. The main 2019 achievements can be described as follows:

- Efficient undertaking and awarding of procurement processes;
- Continued ensuring effective management of the Administrative Board;
- Development and deployment of the Agency Enterprise Content Management System, which supports Configuration and Document Management activities, on the GSA's restricted network;
- Continued improvement of the IMS, and re-certification, in accordance with the latest release of the ISO 9001 standard, was achieved in December 2017;
- Continued development of risk management capability, including quarterly Corporate Risk Management Boards;
- Improved communications and interactions (managed by the Central Security Office) with the NSAs of the Member States related to the classified contracts managed by the Agency;
- Improvement of the security training plan and increased security awareness briefings. A plan for cyber security awareness has been prepared covering different levels of trainings to be delivered in 2019;
- The Accreditation Panel of Internal Systems (APIS) continued its activity as the main supportive body to the GSA Security Accreditation Authority. Throughout 2019, 18 accreditation reviews related to GSA internal systems/areas were performed;
- Continued to raise awareness to promote the Agency work via a range of communications activities targeting national and European Stakeholders, industry, user communities and cititzens;
- The Agency continued to engage and expand its internal communication efforts to help support an informed, motivated and connected GSA team located in multiple sites.

1.5.2 Tasks for 2019

Objective 1: Legal, procurement, grants and contract management (WBS 1.01.02)	
Expected results	**2019 results**
◆ Procurement management: planning, preparing and executing procurement file up to signature of legal commitment; ◆ Grant management: planning, preparing and executing grant file up to signature of legal commitment; ◆ Legal commitments management: drafting, negotiating, signing, amending, assigning and other support throughout the lifetime of a legal commitment; ◆ Legal advisory services: identification, verification, assessment and provision of legal opinions.	As planned

		Targets	2019 results
Indicators	**Procurement and contract award: % of contracts in place and on time**	90 %	100%
	Contract management: % of exceptions linked to legal department performance compared to total number of contracts signed in a year	< 5%	0,23%

Planned outputs	Actual outputs
◆ Executive Director documentation (incl. decisions, letters, guidelines); ◆ Policies; ◆ Documents relating to court decisions; ◆ Institutional agreements (delegation agreements, working arrangements, regulatory documents); ◆ Acquisition documentation (tenders, calls for proposal); ◆ Legal commitments (contracts, grant agreements, non-disclosure agreements, licenses, etc.); ◆ Reporting (on procurement, grants, contracts on core and delegated tasks).	As planned

Objective 2: People and talent management (WBS 1.01.03)	
Expected results	**2019 results**
◆ Core operational services – delivering core activities such as recruitment, remuneration, trainings, individual rights entitlements, benefits management etc. ensuring legal compliance and effectiveness and efficiency; ◆ Managing talent – get the most suitable people into critical roles. Find, develop, keep, motivate and help them to perform; ◆ Supporting a high performance organisation – supporting and promoting the right culture, supporting individual, team and organisational performance.	As planned

		Targets	2019 results
Indicators	**% execution of the Establishment Plan**	95%	99,3%
	Number of annual leave carried over	9 days	10.3 days
	Average rating of quality of training	>8	8.80

Planned outputs	Actual outputs
◆ Talent acquisition & development; ◆ Performance management; ◆ Core operational HR services; ◆ Reporting (corporate, inter-institutional, member states); ◆ Policies & procedures design, implementation and continuos improvement.	As planned

Objective 3: Effective and efficient process for certifying staff working directly on GSMC operations (primarily Security Incidents Handlers and PRS Access Officers) (WBS 4.06.05)

Expected results	2019 results
The Agency has a number of administrative processes that support the workings of the GSMC. Although most are common for the entire Agency, some are GSMC specific. The expected results for administrative processes are as follows: ◆ Provision of internal training to respective staff and organisation of tests; ◆ Certification Board meetings and administration of conclusions; ◆ Certificates obtained by the end of probationary period and clearance approved.	◆ **Certification Management:** Ensure the appropriate certification of the staff (PRS Access Officer, SIH, etc.) on time • 4 Certification Boards ◆ **GSMC specific training:** Cyber training provided.

		Targets	2019 results
Indicators	**% of success rate of operator training (certification)**	100%	100%

Planned outputs	Actual outputs
◆ Operators' certificates.	◆ Operators' certifications maintained and for some expanded (dual PRS/SECMON): • 15 operators certified for SIH EMC; • 11 operators certified for SIH v3.0; • 10 operators certified for PRS v3.0.

Objective 4: Finance and budget management (WBS 1.01.04)	
Expected results	**2019 results**
Budgeting and regular financial management: ◆ Budgeting, monitoring and reporting on level of budget execution to all internal and external clients; ◆ Daily management of Agency financial transactions; ◆ Provide Commission with report on the financial management of Delegation Agreements (quarterly and annually) and cash management of all Delegation Agreements; ◆ Cash flow status (twice a year) and cash management of the EU subsidy; ◆ Management of Value Added Tax (VAT) exemption for all Agency sites and personal VAT reimbursement for Prague-based staff; ◆ General finance and VAT specific training as they pertain to EU financial procedures ◆ Manage paperless tool. **Administration and control of grants:** ◆ Support and/or manage preparation of calls for proposals, grant agreements, amendments, payments, and reporting; ◆ Detailed ex-ante verification of all grant payments in-line with European Court of Auditors' recommendations; ◆ Management of external experts in relation to evaluation of grant calls and supervision and review of deliverables produced by beneficiaries of the EU grants under Agency management; ◆ Drafting of policies on ex-ante and ex-post checks for grants and on expert rules; ◆ Ex-post controls of grant payments; ◆ Report to the Commission and internal clients on execution of grants and cash flow needs.	As planned

		Targets	2019 results
Indicators	**Commitment rate and rate of payment within prescribed time limits**	95%	100 % commitment rate and 98.2 % payments within prescribed time limits

Planned outputs	Actual outputs
◆ Monthly financial reporting; ◆ Draft budget document; ◆ Official budget documents and amendments for publication in the Official Journal; ◆ Annual Budget Implementation Report; ◆ VAT exemption certificates and reimbursement claims; ◆ Quarterly and annual financial reports for delegated budget.	As planned

Objective 5: Information and Communication Technology (ICT) (WBS 1.01.05)

Expected results	2019 results
The GSA's ICT activities are split along four fundamental lines: ◆ User management to ensure the appropriate provision of technical assistance and support; ◆ Systems and infrastructure management to ensure all unclassified and classified systems operate within optimal parameters and are reliable and available to Agency users as required; ◆ ICT security and cyber security protection to ensure the confidentiality integrity and availability of GSA data and ICT systems; ◆ Project management of all internal ICT infrastructure or SW development projects according to the Agency's needs.	ICT services were provided in requested quality and timing and all infrastructure was managed and monitored to ensure sufficient level of security. In addition to ICT operation there were successfully accomplished these infrastructure and SW development projects: GSMC UK move to ES, Project Server Implementation, Action Tracker Tool, Firewalls replacement, Data Centre upgrade for unclassified systems and DMZ solution refresh (new design, hardware, configuration), ICT Service Catalogue and a new e-recruitment Tool.

		Targets	2019 results
Indicators	**Tickets completed in under 24h**	At least 50% of tickets[11]	68.2%
	Tickets completed within 1-5 days	Maximum 40% of tickets	16.7%
	Tickets completed within 5-10 days	Maximum 5% of tickets	14.7%
	Tickets completed after 10 days	Maximum 5% of tickets	0.0%

Planned outputs	Actual outputs
◆ Implementation of requested changes (systems management); ◆ Execution and control of core ICT projects (following approved project management methodology); ◆ All staff exits managed by ICT department and processed by Helpdesk (in Staff Movement List); ◆ Confirmation of receipt of Agency equipment (after staff exit), coupled with relevant policies; ◆ Implementation of ICT security policy following the development of the ICT Security Policy Framework; ◆ ICT Information Security Policy in relation to ISO 27001 (when Information Security Management System is developed); ◆ Core objectives of the ICT strategic plan 2017-2020: • Coherence and control of the overall ICT infrastructure, including all locations; • Rationalisation of all tools used by the GSA, based on inter-institutional tools, DIGIT contracts, inter-agency tools and commercial off-the-shelf products; • ICT governance for infrastructure, hardware, software and ICT security. ◆ The long-term objectives are to study and implement a cloud infrastructure and to launch an ADMIN/GSA Restricted EU network single access study in order to improve and facilitate the security of data information exchange.	◆ Change management, incident management and problem nanagement was succesfully implemented and continues improvement for set processes is defined and followed; ◆ All ICT projects follow project management methodology and process is governed by ICT Steering Committee; ◆ ICT related In/Out processing of GSA users is managed by ICT Helpdesk including hardware handovers with 100% efficiency; ◆ All ICT policies, guidelines and processes which were identified by IAS as missing or not mature were created and formaly approved in Q4 2019. Regarding ICT Governance and new ICT Strategy 2020-2022, these documents are goinging to be submitted to ICT Steering Committee in Q1 2020 for final approval; ◆ ICT activities related to ISO 27001 were only on the feasibility study level; ◆ Cloud migration, transistion: preparatory meetings were held as lessons learnt from other EU agencies.

11 This target is indicative as of time of writing and these numbers are just for reference. Actual data will be analysed for around 6-9 months and new realistic targets will be implemented.

Objective 6: Facility management and logistics (WBS 1.01.06)	
Expected results	**2019 results**
◆ Timely facility management and logistical support to internal customers; ◆ Accurate asset and inventory management; ◆ Timely building management; ◆ Good cooperation with the building owner and representatives.	◆ Facility management and logistical services were provided in requested quality and timing; ◆ Inventory management updated and according to policy; ◆ Cooperation with buildings owners ongoing on a good level.

		Targets	2019 results
Indicators	**Operational capability monitored (i.e. number of days building operability capability was maintained expressed as a percentage of days required)capability was maintained expressed as a percentage of days required)**	100%	100 %

Planned outputs	Actual outputs
◆ Activity report for building maintenance; ◆ Weekly activity reports to the Head of Administration; ◆ Execution report on, for example, cleaning services to Supervisor; ◆ Specific feedback to requesting party as part of the escalation procedure for reception services, building management, etc.; ◆ Updated records of solutions found or information provided to internal customers, procurement officers or contract managers; ◆ Monthly report based on ticketing tool outputs; ◆ Annual facility management satisfaction survey; ◆ Quarterly cleaning quality report for supplier's internal control; ◆ Updated inventory system based on movement and inventory checks.	◆ Monthly facility services reports provided as main support documents for management and invoicing, together with monthly operational reports and time sheets; ◆ A new Facility Management contract is in place for years 2019 – 2023; ◆ Ticketing tool records in electronic version; ◆ HQ utilities consumption records in electronic version; ◆ Facility Management satisfaction management feedback during an appraisal excercise; ◆ ABAC ASSETS database up to date; ◆ Building improvements; ◆ Frequent communication with the building owner (mails, ED letters); ◆ HQ extension project preparation phase (letters, mails, meetings); ◆ GSMC extension project planning phase (project documentation).

Objective 7: Administrative Board management (WBS 1.01.07)	
Expected results	**2019 results**
In-line with the Agency's regulation and the Rules of Procedure for the Administrative Board, during this period the Agency intends to hold a minimum of two scheduled Board meetings. The Agency will also provide the Board with the necessary secretariat over the course of the year.	As planned

		Targets	2019 results
Indicators	**Schedule of meetings announced for year are not altered**	Implemented as planned	3 out of 4 meeting implemented as planned

Planned outputs	Actual outputs
◆ Agenda and minutes of each meeting; ◆ Board decisions, including written procedures.	As planned

Objective 8: Configuration and document management (WBS 1.01.08)	
Expected results	**2019 results**
Continued smooth implementation of an Enterprise Content Management (ECM) system that supports the GSA, particularly in the field of configuration management related to engineering functions.	The ECM system got ready for GSA deployment in October 2018. By the end of the year, two teams (PC&EDQ & COM) had moved their document management activities there.

		Targets	2019 results
Indicators	**Completion status of the development and implementation of an Enterprise Content Management system**	100%	Document Management System 100% Records Management System 0%
	Number of staff, including trainees and in-house consultants trained	100%	100%

Planned outputs	Actual outputs
◆ Enterprise content management system; ◆ RIM governance: relevant policies, processes and procedures; ◆ Members of staff, trainees and in-house consultants trained.	◆ ECM to manage documents and workflows. The part managing records is not yet finalised; ◆ High level document management process as well as ECM procedures; ◆ Procedures and video tutorials.

Objective 9: Personal data protection (WBS 1.01.09)	
Expected results	**2019 results**
Full Agency compliance with data protection rules (Regulation (EU) 2018/1725)	Full compliance

		Targets	2019 results
Indicators	**% of compliance with data protection rules**	100%	Full compliance, with the exception of 2 minor data breaches which were treated in accordance with applicable rules.

Planned outputs	Actual outputs
At the Agency / departmental level there are no further outputs.	No further outputs.

Objective 10: Strategic planning and risk management (WBS 1.02.01)	
Expected results	**2019 results**
The Agency's strategic planning function is a combination of several activities that are required to support the management team and, indirectly, the Administrative Board. In particular, this function focuses on: ◆ Ensuring the development of the programme documents including the Programming Document and Annual Activity Report; ◆ Ensuring that the corporate risk management process is implemented.	As planned

		Targets	2019 results
Indicators	**Timely preparation of programming documents and corresponding reporting**	100%	100%
	Quarterly Corporate Risk Boards held	4	1

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Administrative Board decisions; ◆ Programming document; ◆ Annual activity report; ◆ Risk register.	◆ Single Programming Document; ◆ Annual Activity Report; ◆ 2019 Internal Audit report; ◆ Risk register.

Objective 11: Quality and IMS (WBS 1.02.02)	
Expected results	**2019 results**
Appropriate quality management and the related ISO 9001 certification of the Agency, the development of an IMS for other standards that the Agency intends to be certified against in future, and the development of Product Assurance (PA)/Quality Assurance (QA) Reliability, Availability, Maintainability and Safety (RAMS) activities within Galileo operations.	The GSA WBS was updated and release as Ver. 2020 in December 2019, which included a reorganisation to reflect the SADep status as a separate Department. Performance Indicators were reviewed and updated and Workpackages for SADep Management and GSMC Security were added also the ICT workpackages werer expanded. The WBS was moved to the DMS in 2019. Convergence has been established between the SPD and the WBS objectives and KPIs, which in turn was used as an input to the Annual Objectives of the Heads of Departments. The alignment of these major planning instruments will assist in assuring a consistent quality of management outputs. PA/QA RAMS activities within Galileo operations have been established as a separate team within Project Control as a delegated activity, together with Configuration and Data Management, to strengthen the related activities.

		Targets	2019 results
Indicators	**Implementation rate of actions in the continuous improvement database (open, closed and overdue items)**	70%	9% Open 6% Overdue 85% Closed

Planned outputs	Actual outputs
Outputs relating to the multi-annual work programme objectives: ◆ Annual quality audit plan and quality audit reports; ◆ Quality management review; ◆ Continuous improvement database, including suggestions for improvements on non-conformances; ◆ Quality indicator tracking and training materials; ◆ IMS document libraries (including policies, processes, procedures and work instructions); ◆ PA and QA RAMS requirements and follow-up; ◆ Best-practices (WBS, WP description, process management); ◆ Staff training on quality and IMS.	◆ Regular KPI tracking and quarterly review meetings (3 out of 4); ◆ Audit Plan released on 29 January 2019 and implemented, audit reports available; ◆ Implemented on 12 September 2019; ◆ Database regularly tracked and actions followed up; ◆ IMS document libraries maintained; ◆ PA and QA RAMS activities handed over to separate team in 2018; ◆ WBS maintained and updated; ◆ 3 training sessions, 4 departmental surveys and IMS inductions for all new staff members, 11 Quality Officers meetings.

Objective 12: Control audit management and internal control (WBS 1.04.01 and 1.04.02)

Expected results	2019 results
The Agency's internal control coordination and risk management activities are on-going tasks that help fulfil its statutory obligations. These include: ◆ Liaising with, and reporting to, the EC Internal Audit Service and with internal and external stakeholders on internal control issues; ◆ Evaluating the compliance and effectiveness of the internal control strategy and related systems of the organisation by assessing the implementation of 16 internal control principles;	◆ Throughout 2019, GSA advanced in the implementation of the IAS audit on "GSA ICT governance"; ◆ GSA assessed the implementation of the 16 EC ICS in mid 2019 for 2018 and issued a corresponding management survey report; ◆ Two audit reports from the Internal Audit Service have been released. The most important on EGNOS operations. The IAS audit plan for 2020 was reviewed and approved; ◆ We followed up on pending recommendations from the European Parliament;

- Reporting on the follow-up of all open recommendations and action plans (from the Internal Audit Service, Internal Audit Capability, external auditors, the Court of Auditors and the Parliament's discharge);
- Coordinating the Agency's Internal Audit Capability[12] in the preparation, execution, reporting and monitoring of recommendations relating to internal audit activities;
- Coordinating the Agency's external auditors, as required under Delegation Agreements in the procurement of the audit services and the preparation, execution, reporting and monitoring of recommendations related to these audits;
- Management of and reporting on all actions related to the Gifts and Hospitality Policy, including the gift registry;
- Managing all actions relating to the Agency's Anti-Fraud Strategy;
- Assessing requirements for developing and implementing the GSA Conflict of Interest Policy;
- Execute a business continuity impact analysis and develop the different elements of the GSA corporate business continuity management.
- An audit report from the Internal Audit Capability has been released jointly with a review audit report;
- Three audits on the use of EC delegated funds in 2018 were planned, procured and executed;
- The Gifts and Hospitality Policy, including the GSA gifts registry has been maintained;
- Active management of Anti-Fraud Strategy topics led to the issuing of the GSA Whistleblowing policy and Conflict of Interest Implementing Rules in 2019, the latter still pending EC approval;
- GSA's Business Continuity Strategy, Plan and Procedure have been further developed;
- GSA contributed to the coordination of the EU institutional BC network, supported by ACER and EU-LISA.

		Targets	2019 results
Indicators	**% of conflict of interest cases handled, documented and monitored**	100%	100%
	% of key elements of the Anti-Fraud Strategy defined and implemented	100%	95%

12 The GSA's Internal Audit Capability (IAC) is a resource shared with the European Chemical Agency (ECHA) under an SLA.

Planned outputs	Actual outputs
◆ GSA internal audit capability audit report; ◆ EC internal audit service audit report; ◆ External auditors audit reports for delegated funds; ◆ Declaration of assurance and management declarations under Delegation Agreements; ◆ EC Internal Control Standards compliance report; ◆ Anti-fraud internal information and support; ◆ Gifts and conflict of interest registries; ◆ Business continuity management framework documentation.	◆ An audit report from the IAC, a review audit report; ◆ Two audit reports from the IAS; ◆ There external auditors audit reports for delegated funds; ◆ Declaration of assurance and management declarations; ◆ EC ICS GSA compliance management survey report; ◆ Anti-fraud internal information and support; ◆ Gifts and conflict of interest registries; ◆ GSA corporate Business Continuity Strategy, Plan and Procedure.

Objective 13: Corporate Communications (WBS 1.03.02)	
Expected results	**2019 results**
◆ Strengthened and recognised corporate identity for the Agency; ◆ Enhanced overall awareness of the Agency and better understanding of its mission, vision and values; ◆ Increased awareness of the Agency's Work Programme and achievements; ◆ Consolidated and strengthened relationships with key European players in the space sector and key GNSS user communities; ◆ Strategic partnerships built and/or strengthened; ◆ Increased awareness of and appreciation for the Agency's work by relevant EU stakeholders in the Member States; ◆ Increased partnership and appreciation for the Agency's contribution by GSA facility host countries; ◆ Established GSA Crisis Communications procedures.	As planned

		Targets	2019 results
Indicators	**YoY increase of traffic to key event/ media/ social media/ internet touchpoints**	15% Increase	Achieved

Planned outputs	Actual outputs
◆ Annual Communications Plan; ◆ Crisis Communications Manual; ◆ Website creation, maintenance and management; ◆ Social media campaigns; ◆ Production and dissemination of publications; ◆ Production and dissemination of videos; ◆ Event creation, participation and management (exhibition creation, advertising, promotion and presentation); ◆ Media and public relations initiatives; ◆ Newsletter production and distribution; ◆ Feedback surveys and studies.	◆ **2019 Communications Plan published and implemented;** ◆ **Website creation, maintenance and management**: in 2019 there were 496,670 page views on the GSA website, 177,153 on useGalileo.eu, 287,970 on the GSC Help Desk site and 165,517 on the EGNOS portal user support site; ◆ **Social media campaigns**: on average the GSA ran 10-15 social media campaigns continuously on 5 social media networks. Followers on social media increased of more than 60%; ◆ **Production and dissemination of publications**: Reprint of GSA Corporate brochure and press folder, and production and distribution of several GSA giveaways; ◆ **Production and dissemination of videos:** Production of 'several videos including the GSA 15th Anniversary and 1 billion smartphone video. Production of 'GSA Trainees' for recruitment; ◆ **Event creation, participation and management**: 10 events, including but not limited to: the 11th Space Policy Conference, RAISG assembly, and the full organisation and implementation of the 5th GSA Open Days and the 15th anniversary of the GSA; ◆ **Media, public relations initiatives**: In addition, press initiatives including but not limited to: • GSA 15th Anniversary Press event; • 5th GSA Open Days press event; • 12 press releases have been published; • 10 interviews have been given to the major European press.

Objective 14: Internal Communications (WBS 1.03.03)	
Expected results	**2019 results**
The Agency uses internal communications to empower its staff and to ensure they remain 'on brand'. This objective is meant to: ◆ Foster a culture of positive team spirit and customer service; ◆ Promote better staff understanding and awareness of the Agency's mission, team and objectives; ◆ Enable staff to project a correct and consistent message about the Agency's key objectives to the outside world, allowing them to serve as "communication ambassadors"; ◆ Improve the working environment by increasing communication flow across departments and by enhancing information sharing.	As planned

		Targets	2019 results
Indicators	**YoY increase of traffic to key media/ social media/ internet touchpoints for internal staff**	15% Increase	Achieved
	YoY increase in positive response to internal communications strategy	15% Increase	Achieved

Planned outputs	Actual outputs
◆ Annual communications plan; ◆ Event creation, participation and management; ◆ Newsletters production and distribution; ◆ Feedback surveys and studies.	◆ Expansion and production of 45 issues of weekly GSA Internal newsletter 'CONNECT' including more than 100 articles specifically drafted for the staff and partly by the staff and a survey to receive feedback from staff on the newsletter; ◆ Support of internal communications of quality control, ISO certification, cyber security, newcomer support, etc; ◆ Staff participation in GSA Open Days; ◆ Organisation for the staff of a "Timo talk", the Director General of DG Grow, the GSA mother DG, which has been displayed on all internal networks including in the European Commission networks.

Objective 15: Stakeholder liaison and communications (WBS 1.03.04)	
Expected results	**2019 results**
The Agency maintains and improves stakeholder liaison and communications to: ◆ Increase dialogue and strategic partnerships aimed at fulfilling mutually-shared goals; ◆ Enhance positive and open working relationships, exchange information and facilitate communications and liaison; ◆ Increase the visibility of and appreciation for the Agency's work and its role within the EGNSS programmes; ◆ Build trust and engage stakeholders as partners who can act as multipliers and further share key information and actively participate in the Agency's work and success; ◆ Better awareness amongst key stakeholders of the Agency's vision, mission and what it needs to succeed; ◆ Increase understanding and appreciation for the Agency's work, especially amongst the Commission, DG GROW colleagues, members of the GSA Administrative Board and relevant members and committees in the European Parliament.	As planned

		Targets	2019 results
Indicators	**YoY increase of traffic to key media/ social media/ internet touchpoints**	15% Increase	Achieved
	YoY increase in profile and awareness by the stakeholder base across all Target Audience entities	15% Increase	Achieved

Planned outputs	Actual outputs
◆ Annual Communications Plan; ◆ Event creation, participation and management; ◆ Newsletter production and distribution; ◆ Feedback surveys and studies.	◆ 2019 Communications plan published and implemented; ◆ Organised a number of VIP visits to the Agency's headquarters, including hosting visits of EC Commissioner, EU Space Agencies (Italy, Romania, Germany), European Ministers (French, Czech, Italian); ◆ In 2019, a GSA delegation was invited to speak at a meeting of the ITRE Committee in Brussels, to participate to the Space Working Party under an invitation of the Finnish Presidency of the Council; ◆ Preparation of ad hoc briefings on space benefits for the different EU Parliament Committes; ◆ Distribution of 4 editions of a targeted newsletter to GSA Admin Board members: 'AB CONNECT'; ◆ Ongoing communications and information provision to key stakeholders as needed.

Objective 16: Agency transversal security (WBS 2.02.01)	
Expected results	**2019 results**
◆ Management of authorisations to access EU Confidential Information (EUCI); ◆ Management and maintenance of COMSEC accounts held by the GSA; ◆ Issuing security incident reports; ◆ Maintaining records of entries/exits to secured areas; ◆ Issuing security intervention reports; ◆ Delivery of EUCI data pack.	The GSA has ensured the handling of EUCI and COMSEC material in compliance with the applicable rules and regulations.

		Targets	2019 results
Indicators	**% of compliance with Commission decisions 2015/444 and 2015/443**	100%	100%

Planned outputs	Actual outputs
◆ Authorisations to access EUCI; ◆ Security incident reports; ◆ Records of entries/exits to secured areas; ◆ Security intervention reports; ◆ Delivery of EUCI data pack; ◆ COMSEC transfers and transportations; ◆ Policy governance and authorisation of GSMC Operational COMSEC activities as defined in GSMC Operations and Preparation Objective 3.	◆ 107 authorisations to access EUCI; ◆ 11 security incident reports; ◆ Records of entries/exits to secured areas (N/A); ◆ Delivery of EUCI data pack; ◆ 100% of all necessary and planned COMSEC transfers were successfully performed; ◆ No policy governance and authorisation of GSMC Operational COMSEC activities as defined in GSMC Operations and Preparation Objective 3.

Objective 17: Accreditation Panel of Internal Systems (WBS 2.05.06)

Expected results	2019 results
◆ Organisation of the accreditation review of internal Agency systems/areas and reporting accordingly to the Agency's security accreditation authority; ◆ Accreditation statements for internal systems signed by the system accreditation authority.	The Agency has ensured the maintenance of internal systems for the handling of EUCI and COMSEC material in compliance with the applicable rules and regulations, through regular review and release of valid accreditation statements.

		Targets	2019 results
Indicators	**Number of internal accreditation reviews**	6	See details numbers of actual outputs

Planned outputs	Actual outputs
◆ Security accreditation report; ◆ Recommendations to the SAA; ◆ SAA decision / authorisation to operate Agency areas/systems.	◆ Security accreditation report: 4; ◆ Recommendations to the SAA: 10; ◆ SAA decision / authorisation to operate Agency areas/systems: 11; ◆ Number of internal accreditation reviews: 12.

1.6 DELEGATED TASKS

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

- PRS delegation agreement, signed in 2011;
- EGNOS Exploitation Delegation Agreement signed in 2014;
- Galileo Exploitation Delegation Agreement signed in 2014;
- Horizon 2020 delegation agreement, signed in 2014.

1.6.1 Delegation Agreement for Public Regulated Service (2011)

The Agency managed the EC 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 each, with each batch equipped with a different security module. The P3RS-2 procurement activities were marked in 2018 by the successful certification of the first type of the security module in compliance with the Council security rules (double evaluation process). The Agency plans to deliver these receivers in 2020 to three consortia of Member State entities. These consortia had won grants from the Agency to use these receivers to perform pilot tests on the PRS.

1.6.2 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 to 2021. In 2016, this Delegation Agreement was amended, increasing the total delegated budget by EUR 102 million to EUR 1.552 billion.

Key Agency activities undertaken in 2019 in the main areas of the programme include:

- The provision of EGNOS services;
- The EGNOS V2.4.2-B Phase C/D contract signature;
- Second and third revision of the EGNOS Delegation Agreement between GSA and EC. The third revision was adopted at the end of 2019 and introduced EGNOS RIMS network extension activities in view of future service extension to the ENP South Territories with EGNOS V3;
- Progress in extension study of EV3 to Africa;
- ESR2.4.2i fully ready for deployment, with effective date of deployment planned for 6 January 2020;
- As a first important accreditation milestone with FR LSAA, the SAR NLES RAMB the 27th of November, has been declared successful;
- At end of 2019, 43/44 RIMS procurement ITTs were sent. 37 RIMS offers were received, including 13 RIMS BAFO. 11 contracts were signed or awarded;
- By the end of 2019, 660 EGNOS based procedures were implemented at 342 airports/helipads in 24 countries. In particular, there are currently 562 LPV/LPV200/PinS at 300 airports/helipads and 98 APV Baro procedures at 48 airports.Supervision of EGNOS Service Provision (ESP) operations, including on security aspects;
- Launch of GEO-3 satellite;
- Launch of major procurements including for the next EGNOS service provider, GEO-4 and V2 Maintenance follow-up.

1.6.3 Delegation Agreement for Galileo Exploitation

The EC 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 in 2018 to EUR 2.81 billion to cover further procurement and grant activities, including the GSA-ESA Galileo Working Arrangement.

In 2019, the Galileo services were provided in line with the service declaration, with exception of the July service incident. The number of Galileo users continued growing, with now estimated more than 1 billion users worldwide. And the Galileo performances continued being published in the GNSS Service Centre website.

In July, the Galileo service provision was significantly affected by a service incident that resulted in a service outage between the early hours of the 12th of July and the late hours of the 17th of July. This caused a breach of a KPI of the Open Service – Service Definition Document. Following the outage, the incident review board was set up, under GSA leadership and participation of EC, ESA, and industry, to review the circumstances of the incident and draw recommendations; also, an independent Inquiry Board was set up by the European Commission, to which the GSA contributed as necessary. All recommendations were analysed and their implementation is being tracked regularly.

Furthermore, the main highlights of 2019 include:

- four new satellites that were put in service in February;
- in April, GSA took the lead in the preparation of all accreditation files sent by the programme to the SAB;
- after the enhanced services step 1 declaration in May, Galileo is now committed to deliver positioning service to users worldwide;
- the new GSC version (v1.1.), enabling among others the testing of the transmission of high accuracy signals, became operational, together with a new, more complete version of the GRC;
- a new ground segment was put in the operations in the GCC's and GSMC's, new software started to be uploaded to the satellites (ASW 2.1), and the Galileo sites are growing considerably in preparation for the FOC 2 deployments – while the GSMC in Madrid became part of the Galileo sites;
- the Return Link Service was all the way until the service accreditation, and this life-saving service of Galileo was declared in early 2020;
- significant progress was achieved on the deployment of GRON and the procurement of PRS activities;
- the procurement of the High Accuracy Data Generator was implemented, with contract signature expected in early 2020;
- several fundamental elements activities produced concrete results, such as the first autonomous vehicle powered by Galileo;
- the MyGalileoApp competition awarded 3 new innovative usages of Galileo – and supported several European start-ups and young innovators to grow their business potential.

These highlights were sustained by regular activities in the areas of project management, project control, contract and procurement management, operations, accreditation preparation, service and security engineering, market uptake, and quality.

Also, in 2019 the deployment of the system build 1.5.1 proceeded through the year in line with the plan agreed between GSA and ESA, and the GMS 2.2.1 is under operations since 29 April. The deployment of the system build 1.5.1 was halted immediately after the incident and has since then been restarted under the activities of the task force set up by the European Commission and under leadership of the GSA. Significant progress was achieved in 2019, and the deployment of SB 1.5.1 is planned to be concluded in 2020.

Lastly, several outreach and communications activities were delivered, including the preparation of the European Space Week, the Accuracy Matters campaign, and the 1 billion users campaign.

1.6.4 Fundamental Elements

Fundamental Elements is an EU Research and Development funding mechanism supporting the development of E-GNSS-enabled chipsets, receivers and antennas and fostering the competitiveness of EU industry. The Fundamental Elements activities are included in the delegation agreements for Galileo and EGNOS exploitation, and are coordinated as an integrated activity.

In 2019, the Fundamental Elements projects related to all the E-GNSS services (excluding PRS) focused on the main market segments and, in particular:

- Agriculture and Surveying with the FANTASTIC project successfully concluded;
- Aviation with two ARAIM projects running on track;

- Aviation and Maritime with five MEOSAR projects running on track;
- Maritime with the Satellite Based Augmentation System (SBAS) shipborne receiver (MAREC project) running on track;
- Road with the ESCAPE project successfully concluded and OS-NMA user terminal (PATROL project) running and on-track;
- Timing and Synchronisation with the Galileo timing receiver for critical infrastructures projects (GIANO and GEARS) awarded and kicked-off;
- Mass Market with five projects (APOLLO, eMAPS, Galileo of Things, H-GEAR, OSCAR, PROLONG) awarded and kicked-off.

1.6.5 Delegation Agreement for Horizon 2020

The EC delegated responsibility for implementing the Horizon 2020 - Framework Programme for Research and Innovation to the Agency via the Delegation Agreement signed in April 2014.

In 2019, the Agency managed a portfolio of 70 projects from Horizon 2020's first, second, third and fourth calls. By the end of 2019:

- 1st call: all technical activities of 28 projects were closed;
- 2nd call: 9 out of 13 projects were closed from the technical point of view;
- 3rd call: all 18 projects are running;
- 4th call: all 12 projects passed Grant Agreement Preparation phase.

The following is the portfolio of projects managed by the Agency in 2019, including the projects of the 4th Call:

Proposal Acronym	Call	Status	Description
5LIVES	1	Closed	Search, Challenge, Fight, Care, Rescue for Lives. The 5-LIVES project focuses on the benefits for the rotorcraft industry through the exploitation of European Satellite Navigation services within operations performed by helicopters, and particularly in stressful or dangerous situations where life is at risk
BELS	1	Closed	Building European Links with South East Asia in the field of GNSS
BEYOND	1	Closed	Building EGNSS capacity on EU Neighbouring multimodal Domains
CaBilAvi	1	Closed	Capacity building for aviation stakeholders, within and outside the EU
COREGAL	1	Closed	Combined Positioning-Reflectometry Galileo Code Receiver for Forest Management
DEMETRA	1	Closed	Demonstrator of EGNSS Services based on Time Reference Architecture
e-Airport	1	Closed	Increase airport capacity, safety and security using European GNSS
E-KnoT	1	Closed	E-GNSS Knowledge Triangle
ELAASTIC	1	Closed	European Location As A Service Targeting International Commerce
ERSAT EAV	1	Closed	ERTMS on SATELLITE – Enabling Application Validation
FOSTER ITS	1	Closed	First Operational, Secured and Trusted galilEo Receiver for ITS
G MOTIT	1	Closed	The electric scooter sharing service for sustainable urban mobility
GALENA	1	Closed	Galileo-based solutions for urban freight transport
GEO VISION	1	Closed	GNSS driven EO and Verifiable Image and Sensor Integration for mission-critical Operational Networks
GHOST	1	Closed	Galileo EnHancement as a BoOster of the Smart CiTies

Proposal Acronym	Call	Status	Description
GMCA	1	Closed	GNSS Monitoring for Critical Applications
GNSS.asia2	1	Closed	Industrial cooperation across continents
JUPITER	1	Closed	Joint EUropean Project for International ITS/EGNSS awareness Raising
LARA	1	Closed	LBS Augmented Reality Assistive System for Utilities Infrastructure Management through Galileo and EGNOS
MAGNIFIC	1	Closed	Multiplying In Africa European Global Navigation Initiatives Fostering Interlaced Cooperation
mapKITE	1	Closed	EGNOS-GPS/GALILEO-based high-resolution terrestrial-aerial sensing system
MISTRALE	1	Closed	Monitoring of SoIl moiSture and wateR-flooded Areas for agricuLture and Environment
PARADISE	1	Closed	Precise and Robust Navigation enabling Applications in Disturbed Signal Environments
POSITION	1	Closed	POlish Support to Innovation and Technology IncubatiON
SAT406M	1	Closed	An EGNSS 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
spyGLASS	1	Closed	Galileo-based passive radar system for maritime surveillance
UKRAINE	1	Closed	UKraine Replication, Awareness and INnovation based on EGNSS
GRICAS	2	Closed	Galileo MEOSAR RLS Improvement for Better Civil Aviation Security
HELIOS	2	Running	Second Generation Beacon for GALILEO/EGNOS EGNSS Search And Rescue applications
EASY Pv	2	Closed	EGNSS high Accuracy SYstem improving PhotoVoltaic plant maintenance
MOBNET	2	Closed	MOBile NETwork for people's location in natural and man-made disasters
INLANE	2	Closed	Low Cost GNSS and Computer Vision Fusion for Accurate Lane Level Navigation and Enhanced Automatic Map Generation
STRIKE3	2	Running	Standardisation of GNSS Threat reporting and Receiver testing through International Knowledge Exchange, Experimentation and Exploitation
LOGIMATIC	2	Running	Tight integration of EGNSS and on-board sensors for port vehicle automation
STARS	2	Closed	Satellite Technology for Advanced Railway Signalling
RHINOS	2	Closed	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	2	Running	SKYOPENER - establishing new foundations for the use of Remotely-Piloted Aircraft Systems for civilian applications
BLUEGNSS	2	Closed	Promoting EGNSS Operational Adoption in BLUEMED FAB
InDrive	2	Closed	Automotive EGNSS Receiver for High Integrity Applications on the Drive
AUDITOR	2	Closed	Advanced Multi-Constellation EGNSS Augmentation and Monitoring Network and its Application in Precision Agriculture

Proposal Acronym	Call	Status	Description
GRIMASSE	3	Running	General aviation Rescue capacity IMprovement for the worldwide Adoption of a Safe Solution based on European GNSS
GAUSS	3	Running	Galileo-EGNOS as an Asset for UTM Safety and Security
PRoPART	3	Running	Precise and Robust Positioning for Automated Road Transports
TransSec	3	Running	Autonomous emergency manoeuvring and movement monitoring for road transport security
H2H	3	Running	EGNSS Hull-to-Hull
ERSAT GGC	3	Running	ERTMS on SATELLITE Galileo Game Changer
FLAMINGO	3	Running	Fulfilling enhanced Location Accuracy in the Mass-market through Initial GalileO services
GALILEO 4 Mobility	3	Running	Fostering the adoption of GALILEO for Mobility as a Service
GOEASY	3	Running	GalileO-based trustEd Applications for health and SustainabilitY
SINSIN	3	Running	Enhanced PLB, EGNSS receiver, and MEOLUT, according but beyond the standard, significantly improving the localisation in difficult conditions, paving the way to a mass market SAR/Galileo service
ENSPACE	3	Running	Enhanced Navigation in Space
GREENPA-TROL	3	Running	Galileo Enhanced Solution for Pest Detection and Control in Greenhouse Fields with Autonomous Service Robots
GIMS	3	Running	Geodetic Integrated Monitoring System
SARA	3	Running	Search And Rescue Aid and Surveillance using High EGNSS Accuracy
AIOSAT	3	Running	Autonomous Indoor Outdoor SafetyTracking system
GNSS.asia3	3	Running	LEVERAGING GNSS CAPACITY IN ASIA
BELS-PLUS	3	Running	Continuing Building European Links toward South East Asia in the field of GNSS - PLUS
SIA	3	Running	System for vehicle- infrastructure Interaction Assets health status monitoring
AMPERE	4	Running	Asset mapping platform for emerging countries electrification
ARIADNA	4	Running	Awareness Raising and capacity building Increasing ADoption of EGNSS in urbaN mobility Applications and services
CLUG	4	Running	Certifiable localisation unit with GNSS in the railway environment
DELOREAN	4	Running	Drones and Egnss for LOw aiRspacE urbAN mobility
GALIRUMI	4	Running	Galileo-assisted robot to tackle the weed Rumex obtusifolius and increase the profitability and sustainability of dairy farming
GEONAV IoT	4	Running	Galileo dual frequency, 5G, IoT devices and services for Drones, Assets Management and Elite sport
GISCAD-OV	4	Running	Galileo Improved Services for Cadastral Augmentation Development On-field Validation
GNSS.asia 4	4	Running	GNSS.asia 4 - Leveraging Asia for European GNSS
HELMET	4	Running	High integrity EGNSS Layer for Multimodal Eco-friendly Transportation
HUUVER	4	Running	Hybrid UAV-UGV for Efficient Relocation of Vessels
POINT.IoT	4	Running	Stimulating the fusion of IoT and GNSS technologies
PREPARE Ships	4	Running	PREParE SHIPS - PREdicted Positioning based on Egnss for SHIPS

1.6.5.1 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 total, five procurements (one under H2020 PRS Item 1, four under H2020 PRS item 2) were contracted in 2016 and managed between 2017 and 2019.

The DISPATCH project planned under H2020 PRS is expected to be closed in 2020.

The PRISMA project has four contracts, one of which will be closed in 2020. The other three were successfully closed.

The following is a list of PRS user segment projects managed in 2019:

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

02

Management

2.1 MANAGEMENT BOARD

The Agency has an Administrative Board that is described in section 2.1.1. It also has a separate SAB, 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 ESA. The Administrative Board is responsible for defining the Agency's priorities, establishing the budget and monitoring the Agency's operations.

2.1.1.1 Composition

Voting Members	EU Member States (28 representatives, as the United Kingdom was still part of the EU in 2019) and EC (4 representatives). A detailed list of Board Members is available on the Agency website.
Non-Voting Members	European Parliament (1 representative with 1 alternate), Norway
Observers	Chair of the SAB High Representative for Foreign Affairs and the Security Policy (1 representative) ESA (1 representative)
Chair	Mr Jean-Yves Le Gall
Deputy Chair	Mr Alberto Tuozzi

2.1.1.2 List of Administrative Board Decisions

The Administrative Board met three times in 2019: January, June and October. These meetings, numbered 55 through 57, decided upon the following items:

Mtg	Date	Decision number	Title
55	31/01/2019	55-19-01-02	Minutes of the AB 54 meeting
55	31/01/2019	55-19-01-03	Decision endorsing the draft of the GSA implementing rules on the prevention and management of conflicts of interests with regard to staff members and external workforce
55	31/01/2019	55-19-01-04	Decision endorsing the draft of the GSA implementing rules on the prevention and management of conflicts of interests with regard to staff members and external workforce
55	31/01/2019	55-19-01-05	Decision of the Administrative Board on amending budget 2019: Amendment number 1
55	31/01/2019	55-19-01-05	Decision of the Administrative Board on the draft budget 2020
55	31/01/2019	55-19-01-05	Decision endorsing the provisional European GNSS by the GSA Administrative Board Agency programming document 2020-2022
56	28/06/2019	56-19-06-02	Minutes of the AB 55 meeting
56	28/06/2019	56-19-06-03	Decision adopting the Annual Activity Report of the European GNSS Agency for year 2018
56	28/06/2019	56-19-06-04	Adoption of the Annual Accounts for 2018
56	28/06/2019	56-19-06-06	Decision on types of post and post titles in the European GNSS Agency
56	28/06/2019	56-19-06-06	Decision on laying down implementing rules on temporary occupation of management posts
56	28/06/2019	56-19-06-06	Decision on the Framework for Learning and Development
56	28/06/2019	56-19-06-06	Decision concerning the function of adviser
56	28/06/2019	56-19-06-06	Commission Decision of 29.6.2018 on outside activities and assignments and on occupational activities after leaving the Service
56	28/06/2019	56-19-06-07	Decision approving the annual work plan of the Internal Audit Capability for 2019
56	28/06/2019	56-19-06-08	Decision approving the vacancy notice for the function of the Executive Director
57	31/10/2019	57-19-10-02	Minutes of the AB 56 meeting
57	31/10/2019	57-19-10-05	Decision adopting the Single Programming Document 2020-2022
57	31/10/2019	57-19-10-06	Decision on delegation to ED on non-substantial amendments to SPD
57	31/10/2019	57-19-10-07	Decision approving IR on conditions of employment of contract staff
57	31/10/2019	57-19-10-08	GSA Request for derogation from the application by analogy of Commission's Implementing Rules of the Staff Regulations
57	31/10/2019	57-19-10-09	Decision on the Nomination of AB's Complaints Committee

The Administrative Board made the following decisions based on written procedures:

WP	Date	Reference:	Title
67	19/04/2019	GSA-AB-WP-67	Rules of Procedure of the Administrative Board Version 1.3
68	19/04/2019	GSA-AB-WP-68	Decision appointing the reporting officers for the Executive Director
69	16/08/2019	GSA -AB-WP-69	GSA Financial Regulation 2019
70	02/10/2019	GSA -AB-WP-70	Decision on GSA 2019 Budget amendment number 2
71	23/10/2019	GSA -AB-WP-71	Decision approving a Budgetary Transfer within 2019 Budget

2.1.2 The Security Accreditation Board

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

SAB objectives include verifying that the systems comply with the applicable security rules and regulations as established by the Council and the EC. They also include ensuring the GNSS systems continuously comply with applicable security requirements, identifying possible new risks and, where appropriate, complementing the system security plan. Although during the development phase security accreditation activities focused on the Galileo infrastructure, since 2016 they have progressively moved towards services in anticipation of their gradual evolution during the exploitation phase. Similar activities are foreseen for EGNOS, whose next version (v3) has to be accredited.

2.1.2.1 Composition

The SAB brings together representatives of the Member States, the EC, the High Representative for Foreign Affairs and the Security Policy, the ESA and Norway.

Members	EU Member States (28 representatives) EC (1 representative) High Representative for Foreign Affairs and the Security Policy (1 representative)
Non-Voting Members	Norway (1 representative)
Observers	ESA (1 representative)
Chair	Mr Bruno Vermeire
Deputy Chair	Mr Radovan Klima

2.1.2.2 List of Accreditation Board Decisions

The Security Accreditation Board met four times in 2019: March, July, October and December. These meetings, numbered 39 through 42, decided upon the following items:

Mtg	Date	Decision number	Title
SAB39	12-13/3/2019	SAB39-D1	Agenda
SAB39	12-13/3/2019	SAB39-D2	Adoption of Minutes
SAB39	12-13/3/2019	SAB39-D3	Decision on site accreditation logic for EGNOS core sites
SAB39	12-13/3/2019	SAB39-D4	Decision on precondition for GCS 1.2 discussion
SAB39	12-13/3/2019	SAB39-D5	Decision on SATO for RLSP site
SAB39	12-13/3/2019	SAB39-D6	Decision to maintain Pre-ATO for GMS and GSF versions
SAB39	12-13/3/2019	SAB39-D7	Decision on SATO expiration for Falklands and Ascension
SAB39	12-13/3/2019	SAB39-D8	Decision on Galileo IATO
SAB39	12-13/3/2019	SAB39-D9	Decision on authorisation for Initial Services
SAB39	12-13/3/2019	SAB39-D10	Decision on Pre-ATO for RLSP for validation purposes
SAB39	12-13/3/2019	SAB39-D11	Decision to update Pre-ATO for GRON
SAB40	2-3/7/2019	SAB40-D1	Agenda
SAB40	2-3/7/2019	SAB40-D2	Meeting calendar
SAB41	1-3/10/2019	SAB41-D1	Agenda[13]
SAB41	1-3/10/2019	SAB41-D2	Adoption of Minutes
SAB41	1-3/10/2019	SAB41-D3	Decision on autorisation to upload avionics software
SAB41	1-3/10/2019	SAB41-D4	Decision on requirements on accreditation dossiers
SAB41	1-3/10/2019	SAB41-D5	Decision regarding July service incident
SAB41	1-3/10/2019	SAB41-D6	Decision regarding July service incident
SAB41	1-3/10/2019	SAB41-D7	Decision on site accreditation logic for VAL system sites
SAB41	1-3/10/2019	SAB41-D8	Decision on OPE-INT connection
SAB41	1-3/10/2019	SAB41-D9	Decision on letter to CPAs regarding Brexit
SAB42	11-12/12/2019	SAB42-D1	Agenda
SAB42	11-12/12/2019	SAB42-D2	Adoption of Minutes
SAB42	11-12/12/2019	SAB42-D3	Decision regarding July service incident
SAB42	11-12/12/2019	SAB42-D4	Meeting calendar
SAB42	11-12/12/2019	SAB42-D5	Decision on security assessment roadmap 2020
SAB42	11-12/12/2019	SAB42-D6	Decision on SATO for RLSP site
SAB42	11-12/12/2019	SAB42-D7	Decision on ATO for RLSP
SAB42	11-12/12/2019	SAB42-D8	Decision on provision of RLSP service
SAB42	11-12/12/2019	SAB42-D9	Decision on IATO and Initial Services amendments
SAB42	11-12/12/2019	SAB42-D10	Decision on connection ENOC to VAL
SAB42	11-12/12/2019	SAB42-D11	Decision on connection ETS to VAL

13 All decisions of SAB#41 were confirmed by silence procedure (see below)

In addition, the SAB took the following decisions in 2019 via silence procedure:

Date	Decision Number	Title
23/01/2019	SAB38-D12	Decision on Rules of Procedure
17/01/2019	SAB38-D14	SAB authorisation of PRS body
17/01/2019	SAB38-D15	SAB authorisation of PRS body
17/01/2019	SAB38-D16	Amendment to SAB authorisation of PRS body
17/01/2019	SAB38-D17	Amendment to SAB authorisation of PRS body
17/01/2019	SAB38-D18	Amendment to SAB authorisation of PRS body
17/01/2019	SAB38-D19	Extension of SAB authorisation of PRS body
04/02/2019	SAB38-D20	Extension of SAB authorisation of PRS body
08/02/2019	SAB38-D21	Decision on Service Authorisation of L10 satellites
19/02/2019	SAB38-D22	Extension of SAB authorisation of PRS body
19/02/2019	SAB38-D23	Amendment to SAB authorisation of PRS body
08/03/2019	SAB38-D24	Extension of SAB authorisation of PRS bodies
05/03/2019	SAB38-D25	Amendment to SAB authorisation of PRS body
12/03/2019	SAB38-D26	SAB authorisation of PRS body
28/03/2019	SAB39-D12	SAB authorisation of PRS body
28/03/2019	SAB39-D13	Extension of SAB authorisation of PRS bodies
11/04/2019	SAB39-D14	SAB authorisation of PRS body
11/04/2019	SAB39-D15	Extension of SAB authorisation of PRS bodies
26/04/2019	SAB39-D16	SAB authorisation of PRS body
26/04/2019	SAB39-D17	SAB authorisation of PRS body
26/04/2019	SAB39-D18	SAB authorisation of PRS body
26/04/2019	SAB39-D19	SAB authorisation of PRS body
13/05/2019	SAB39-D20	Endorsement of SAB contribution to the GSA Consolidated Annual Activity Report (CAAR) for 2018
17/05/2019	SAB39-D21	SAB authorisation of PRS body
17/05/2019	SAB39-D22	Amendment to SAB authorisation of PRS body
10/05/2019	SAB39-D23	Extension of SAB authorisation of PRS body
21/05/2019	SAB39-D24	Extension of SAB authorisation of PRS bodies
12/06/2019	SAB39-D25	Decision on SATO extension for GSS Fucino
18/06/2019	SAB39-D26	SAB authorisation of PRS body
21/06/2019	SAB39-D27	Extension of SAB authorisation of PRS body
22/03/2019	SAB39-D29	Decision on authorisation for the upload of ASW 2.1
23/03/2019	SAB39-D30	Approval of SAB#39 MoM
22/03/2019	SAB39-D31	Approval of amended SAB#39 MoM
31/05/2019	SAB39-D32	Decision on SATO extension for GSMC-EMC
26/06/2019	SAB39-D33	Decision on SATO renewal (multiple sites)
03/07/2019	SAB39-D34	Decision on SATO for TGVF-X
27/06/2019	SAB39-D35	Decision on SATO for Jan Mayen
10/05/2019	SAB39-D36	Decision on SATO for GCC-I
26/06/2019	SAB39-D37	Decision on SATO for Noumea
26/06/2019	SAB39-D38	Decision on SATO for Kerguelen
26/06/2019	SAB39-D39	Decision on SATO for Papeete
26/06/2019	SAB39-D40	Decision on SATO for Kourou

Date	Decision Number	Title
26/06/2019	SAB39-D41	Decision on SATO for SATMAN IOV
17/07/2019	SAB40-D3	Decision on SATO for GSMC-FR
27/08/2019	SAB40-D4	SAB authorisation of PRS body
07/08/2019	SAB40-D5	Amendment to SAB authorisation of PRS body
09/08/2019	SAB40-D6	Extension of SAB authorisation of PRS body
23/08/2019	SAB40-D7	SAB authorisation of PRS body
02/09/2019	SAB40-D8	Decision to authorise GRON subscriber site
02/09/2019	SAB40-D9	Decision to authorise GRON subscriber site
18/09/2019	SAB40-D10	SAB authorisation of PRS body
18/09/2019	SAB40-D11	SAB authorisation of PRS body
18/09/2019	SAB40-D12	SAB authorisation of PRS body
18/09/2019	SAB40-D13	SAB authorisation of PRS body
18/09/2019	SAB40-D14	Extension of SAB authorisation of PRS body
18/09/2019	SAB40-D15	Extension of SAB authorisation of PRS body
18/09/2019	SAB40-D16	Extension of SAB authorisation of PRS body
18/09/2019	SAB40-D17	Extension of SAB authorisation of PRS body
18/09/2019	SAB40-D18	Extension of SAB authorisation of PRS body
25/09/2019	SAB40-D19	Decision on SATO renewal GSS Azores
18/09/2019	SAB40-D20	Decision on releasing text to the Inquiry Board
11/10/2019	SAB40-D21	Extension of SAB authorisation of PRS body
11/10/2019	SAB40-D22	Extension of SAB authorisation of PRS body
11/10/2019	SAB40-D23	Extension of SAB authorisation of PRS body
11/10/2019	SAB40-D24	Extension of SAB authorisation of PRS body
09/10/2019	SAB41-D10	Approval of the SAB#41 outcomes
09/10/2019	SAB41-D11	Decision on Letter regarding July 2019 service incident
10/10/2019	SAB41-D12	Decision on List of points with regards to the July 2019 service incident
11/10/2019	SAB41-D13	Decision on Brexit measures regarding PRS bodies
29/10/2019	SAB41-D14	SAB authorisation of PRS body
11/11/2019	SAB41-D15	SAB authorisation of PRS body
11/11/2019	SAB41-D16	Amendment to SAB authorisation of PRS body
31/10/2019	SAB41-D17	Extension of SAB authorisation of PRS bodies
27/11/2019	SAB41-D18	SAB authorisation of PRS body
28/11/2019	SAB41-D19	Decision on SATO renewal for the Galileo Service Center
05/12/2019	SAB41-D20	Extension of SAB authorisation of PRS body
05/12/2019	SAB41-D21	Extension of SAB authorisation of PRS body
05/12/2019	SAB41-D22	Extension of SAB authorisation of PRS body
18/12/2019	SAB41-D23	Adoption of the Single Programming Document (SPD) 2021
20/12/2019	SAB42 -D12	Decision on SATO renewal Jan Mayen
27/12/2019	SAB42-D13	Amendment to SAB authorisation of PRS body
27/12/2019	SAB42-D14	SAB authorisation of PRS body

2.1.2.3 Support provided by the Agency

According to Article 11(9) of the Regulation, the Agency provides the appropriate human and material resources required by the SAB to enable it and its subordinate bodies to perform their tasks independently.

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

2.2 MAJOR DEVELOPMENTS

Over the reporting period, several programme and administration developments took place in the Agency. These are described throughout this document, but a few of them are highlighted below:

- Over 1 Bln Galileo-enabled devices globally;
- Galileo satellites – GSAT0219, GSAT0220, GSAT0221, and GSAT0222 – commissioned for operational use;
- GSMC Spain preparations;
- Ground Mission Segment (WP2x) signature with industry;
- Ground Control Segment (WP3x) signature with industry;
- New EGNOS Safety of Life Service Definition Document;
- New EGNOS Data Access Service, Service Definition Document;
- New Galileo Open Service, Service Definition Document;
- EGNOS GEO-3 payload launch;
- ESCAPE demo: First Galileo-enabled autonomous vehicle successfully demonstrated;
- First MyGalileoApp Competition;
- GNSS Market Report issue 6 published;
- Tenth EGNOS Annual Workshop;
- Fifth GSA Open Days in Prague with over 2 000 visitors;
- 1 million views of GSA, UseGalileo.eu and GSC website;
- Accuracy Matters #UseGalileo campaign, 15 videos, 24 languages, 50 mln viewers;
- FlyEGNOS campaign 100K views, 2 mln impressions in just one week;
- Withdrawal of GSOp litigation by plaintiff.

2.3 BUDGETARY AND FINANCIAL MANAGEMENT

The Agency's own executed budget in 2019 in terms of commitment appropriations was EUR 33 589 862,79, which represents a 100% budget execution. In addition to its core budget, the GSA continued to manage a large amount of delegated budget following the signature of the EGNOS and Galileo Delegation Agreement amendments. The Galileo Exploitation Delegation Agreement amendment was signed in December 2016. In 2018 it assigned a further EUR 410 million to the GSA, bringing the total delegated amount under the Galileo Delegation Agreement to EUR 2.81 billion. In 2016, the EGNOS Exploitation Delegation Agreement budget was increased by EUR 102 million to a total of EUR 1.552 billion. A total of 290,7 million EUR was committed under delegated budget in 2019 and 523,5 million EUR made in payments.

In terms of core budget breakdown, the total expenditure on staff costs was EUR 21 738 436,40, other administrative costs amounted to EUR 5 749 993,74 and expenditure on operational costs was EUR 6 101 432,65.

Furthermore, during 2019:

- Budget execution was 100% in commitment appropriations and 100% in 2019 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 commitments made in the prior year;
- The GSA Administration Board approved two budget amendments. The GSA Administrative Board approved 2019 amending budget number 1 on 31st January 2019, reflecting the fact that GSA requested additional 23 Temporary Agent (TA) posts and, in the final 2019 budget, only additional 10 TA posts were granted. The amendment also included the revised European Free Trade Association (EFTA) contribution, reducing the 2019 initial budget by EUR 1 471 870,21 and bringing it to the final amount of EUR 33 589 862,79;

  In the second budget amendment GSA Administrative Board approved increase of overall payment appropriations to 36 018 587,24 EUR in order to be able to cover all planned payments under legal commitments of current and previous years (GSA Title 3 appropriations are differentiated);
- The Agency continued to manage a large amount of delegated budget, in particular under the EGNOS Exploitation, Galileo Exploitation, and Horizon 2020 Delegation Agreements as mentioned above;
- In quantitative terms, the GSA carried out the following transactions during 2019: 778 commitments, de-commitments and modification of commitments, 4 262 payment requests, 1 657 mission orders, 61 recovery orders and 7 budget transfers. All in all, the GSA processed 6 765 financial transactions;
- Payment appropriations totalling EUR 4 517 293,91 were carried over on Title 2 (automatic carry-over) from 2018 to 2019, representing 56 % of the total 2017 Title 2 budget. Furthermore, EUR 3 351 653,69 was carried over from 2019 to 2020, representing 58.29 % of 2019 Title 2;
- There were no payment appropriations carried over on Title 3 (non-automatic carry over) from 2018 to 2019. Payment appropriations totalling EUR 1 160 542,09 were carried over on Title 3 (non-automatic carry over) from 2019 to 2020 to maintain the Agency's payment capacity on existing legal obligations;
- According to payment time statistics 98.2% of all payments were done within the applicable time limit of 30 days, 60 days or 90 days and with an average payment time of 14.95 days;
- The Agency paid EUR 751.22 in late interest to suppliers;
- The cancellation rate of payment appropriations carried over from 2018 to 2019 was 1,7% of the amount carried over (87 476,45 EUR). This represents decrease by 32% in the amount cancelled in comparison to 2018 (127 759,15 EUR) and demonstrates an even more efficient financial management;
- Budget outturn resulted in EUR 207 189.17 in 2019[14].

14 The budget result for 2019 (EUR 207 189.17) contains the outturn for the GSA subsidy as well as income received by the agency during 2019 that was not inscribed on any budget line (EUR 126 668.98) and which will be regularized with the European Commission in the 2020 budgetary outturn exercise with no net effect on the budget of the Agency or of the European Commission.

For further details on the budget implementation for the reporting period, please see the Report on Budgetary and Financial Management in 2019 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

The Agency concluded the year 2019 with almost full execution of its establishment plan (99,3%), one post could not be filled because of a pending administrative matter. At the end of 2019, the Agency employed 138 (including 9 offers) TAs, 57 (including two offers) contract agents (CAs) and three seconded national experts (SNE), bringing the total number of staff to 198.

The Agency was allocated ten additional posts for its 2019 establishment plan in addition to the one post already foreseen in the EC communication to establish a programming of human and financial resources for decentralised agencies 2014-2020 (COM(2013)519 of 10 July 2013). The ten posts were allocated to priority areas as identified in the Agency's request for additional 46 posts in 2017. In 2019, nine TAs left the Agency, resulting in a total of 20 vacant TA positions. Some of these were filled by staff already employed by the Agency, thus creating additional new vacancies elsewhere. To accommodate this in an efficient manner, the Agency further streamlined its recruitment procedures and designed vacancies with a broader scope to cover more posts with similar profiles, from one selection procedure. Consequently, the GSA managed to fill all vacancies, hence the execution of the 2019 establishment plan was almost 100%.

Regarding the CAs, in 2019, the Agency received two resignations and recruited nine new CA staff members. The number of SNEs remained the same compared to 2018.

Overall, the Agency performed 21 selection procedures, processed over 1600 applications, conducted more than 250 interviews and sent 44 job offers, out of which six were declined (14%). In comparison to previous years, the number of declined recruitment offers remained stable. The rate of resignations of TAs slightly decreased compared to 2018. The decreased of CAs resignations was significant compared to 2018. The Agency employed 16 trainees for traineeships lasting up to one year.

To maintain the quality and effectiveness of its selection procedures, the Agency made use of competency-based interviews, and assessment centres for managerial positions.

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

The Agency successfully accommodated the growing number of staff via comprehensive induction trainings, and streamlined HR services. Relocation support services for newcomers and expats were provided to staff and their families, in line with the requirements stemming from agreements with hosting countries. One new agreement with international pre-school was concluded, in Le Port-Marly, near Saint-Germain-en-Laye, France .

During 2019, the Agency adopted and implemented five additional implementing rules to the Staff Regulations/Conditions of Employment of Other Servants of the EU.

The Agency continued providing high quality training with the average evaluation rating of 8.79 (10 being the maximum). The average number of training days per staff member was 6.51

Group training events organised in-house focused on developing competencies critical for wider groups of employees including preparatory course of Project Management Professional (PMP) certification and tailored leadership development workshops.

To enhance collaboration, internal communication and knowledge sharing among staff, the Agency continued to organise quarterly lunch time presentations on topics pertinent to the Agency's work and delivered by its own staff members or guest speakers. Continued attention was also paid to organising social and well-being activities focused on staff member networking, inter-departmental communication and Agency culture.

The Agency provided tailored awareness sessions targeting the promotion of a respectful workplace environment and protection of workforce dignity.

In 2019 the the Agency organised Cyber Security Awareness programme aiming to approach the cyber security cross-functionally. 4 shorter briefing sessions helped to raise awareness about the importance of cyber security and one annual large scale event for all staff, with simulations of the cyber security challenges.

2.5 ASSESSMENT BY MANAGEMENT

Article 30.2 of the GSA Financial Regulation 2019 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 the 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, in particular with Galileo. The Agency is upgrading its internal control capabilities periodically audited by the IAC, the IAS, DG GROW (now DEFIS) and the ECA.

In 2019, the Agency reviewed and reported on its compliance with the EC Internal Control Standards. Throughout 2019, the GSA continued with its review of its ICS with a view of adapting the EC Internal Control Framework, substituting ICS as soon as feasible.

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 10 exceptions registered in 2019, none of which materially affected the overall sound financial management of the Agency. The Agency has shared the Register of Exceptions with external auditors and with the IAS.

2.5.2 Implementation of grants

Subject to the following exceptions, the GSA complied with the time limits laid down in Article 194(2) of the Financial Regulation.

Concerning the award of the "EGNOS adoption in Aviation" Call for Proposals (GSA/GRANT/06/2017), the time limits for the evaluation were not respected due to the high number of applicants (fifteen) and exceptional circumstances attributable mainly to the applicants, specifically the need to carry out lengthy clarification rounds (twentyfive in total). Additionally and with respect to the time between the award of the grants and the signature of the grant agreements, the Financial Regulation time limits were exceeded due to the large number of co-partners in awarded consortia that resulted in a delay in the collection and submission of the supporting documents to the Declaration on Honour and the mandates.

Concerning the award of the "Multi-frequency multipurpose antenna for Galileo" Call for Proposals (GSA/GRANT/01/2018), the time limits for the evaluation were not respected due to the number of received proposals (six) and exceptional circumstances attributable mainly to the applicants, specifically the need to carry out four rounds of clarification requests). Additionally and with respect to the time between the award of the grants and the signature of the grant agreements, the Financial Regulation time limits were exceeded due to the large number of co-partners in both consortia.

Concerning the award of the "Enhanced Receiver for Autonomous Driving/Navigation" Call for Proposals (GSA/GRANT/03/2018), the time limits for the evaluation were exceeded by three weeks due to the fact that consortia consisted of many applicants which required the checking of a large number of administrative documents. Additionally and with respect to the time between the award of the grants and the signature of the grant agreements, the Financial Regulation time limits were exceeded due to the large number of co-partners in both of the awarded consortia, which required internal coordination among all the co-applicants in order to collect requested mandates.

Concerning the award of the "Development of GNSS receiver technologies for Premium and General mass market" grant (GSA/GRANT/08/2017), the time limits for the evaluation were not respected due to exceptional circumstances related to the complexity of the evaluation; specifically twelve applications were evaluated with the majority of the applications submitted by consortia consisting of multiple entities, which required a lengthy review process by the evaluation committee in order to ensure (a) correctness of administrative documentation and (b) consistency between the evaluation of the twelve applicants against the award criteria. Additionally and with respect to the time between the award of the grants and the signature of the grant agreements, the Financial Regulation time limits were exceeded for the six awarded applicants, due to the large number of members in the consortia that resulted in a delay in the collection and submission of the documentation evidencing compliance with the declaration of honour

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)

Overall, the reports by internal and external auditors provided a positive assessment and perception of the Agency and have provided valuable feedback on the areas to be improved. A brief overview of the Agency's new audit activity for the year is offered below.

GSA had agreed with Internal Audit Service that they would focus their 2019 audit on EGNOS Exploitation. Audit report was delivered in November with five important recommendations and one issued identified for consideration. No critical nor

very important recommendations were made. IAS concluded that the design and application of the management and internal control system in the Agency with regard to its mandate, role, responsibilities and tasks related to EGNOS Exploitation were effective and efficient. However, a number of issues were identified in relation to the audited processes and it was considered adequate improving the underlying procedures and operations, with five important recommendations. Namely (i) enhancing the documentation of EGNOS processes and procedures; (ii) updating the EGNOS Exploitation Management Plan; (iii) improving the timeliness of reporting on EGNOS Exploitation; (iv) mapping EGNOS resources and formalising back-up arrangements; (v) defining the role of functional coordinator for EGNOS services and engineering and streamlining their reporting and, finally (vi) considering developing a business case for a budget monitoring and reporting tool.

In the summer of 2019, the Internal Audit Service (IAS) executed audit on Audits on Human Resources Management, Ethics, and the Management of potential Conflicts of Interest in EU decentralised agencies and other bodies, including GSA.

The work plan for 2019 for Internal Audit Capability centered on the "Capacity Building of GSA's staff" process. The main objective of this audit was to assess and provide reasonable assurance on efficiency and effectiveness as well as regularity of the Capacity Building process put in place to ensure sufficient expertise at GSA. The report was not finalised in 2019 but was planned to include five main recommendations, one very important and four important.

In 2019 GSA selected BDO to perform the three customary external audits on the 2018 activity under three Delegation Agreements with DG GROW (now DEFIS), EGNOS, Galileo and H2020 grants, concluding that the funds delegated by DG DEFIS had been properly spent. Although certain clerical errors were detected, there were no material findings.

2.7.2 European Court of Auditors (ECA)

Among the "Other matter" paragraph 3.16.7. of the 2018 report, the European Court of Auditors mentioned that on 15 December 2016 the Agency signed a Framework Contract on the exploitation of the Galileo satellite system during the period 2017 to 2027, amounting to 1,5 billion euros. The contract was awarded following a public procurement procedure. One of the tenderers involved has launched legal proceedings against the Agency at the European Court of Justice, challenging the outcome of the procurement procedure. The ruling of the European Court of Justice will decide on the legality and regularity of the procurement procedure for the framework contract and all related specific contracts and future payments. The Agency disclosed and explained the matter in the 2018 financial statements, together with the information that 121 million euros (49 million euros in 2017), representing 10% of the 2018 budget including amounts received through delegation agreements, have been paid under the framework contract.

Action taken by GSA on the observation:

The case has been abandoned by Eutelsat and cancelled from the Registry of the General Court.

2.8 FOLLOW UP OF RECOMMENDATIONS AND ACTION PLANS FOR AUDITS

The status of the observations made by the European Court of Auditors in previous years was considered to be ongoing (3), completed (3) or outstanding (1) in their 2018 exercise audit report.

In relation to the comments made as a result of the 2018 audit by the IAC of DG GROW (now DEFIS) of the Annual Implementation Reports (AIR) for EC delegated funds, GSA is considering all relevant recommendations and specially: (i) improvements to be made to the presentation of information in AIRs (adding Payment Milestone descriptions) as well as developing a procedure to closely monitor and scrutinise the AIR tables before they are published; (ii) adding a section in the AIR with explanatory tables to reconcile the figures of the accounting records and the AIR; (iii) and to implement a written methodology to verify and follow-up on ESA's yearly expenditure; and (iv) improvements to be made in the presentation of financial information in the AIRs to ease reconciliation of all amounts claimed in the yearly AIRs.

In relation to prior year audits', DG GROW (now DEFIS) auditors' key pending recommendations are: (v) to establish a full ex-ante methodology for accepting the ESA's costs as well as an ex-post control strategy for the costs presented by ESA; (vi) to improve cost recognition methods in case of partial acceptance of a milestone setting a clear process on the cost recognition especially when the costs are related to the payment of a pre-financing; (vii) a close monitoring of the costs, including the control on the timesheets and that a specific procedure for the recording of costs at year end, should be issued by GSA regarding the ESA working arrangements; (viii) GSA to request that contractors develop written methodologies in order to establish the correct amount to be accrued for every contract at year-end; (xi) GSA should calculate the correct amount of the final contribution to be paid and adjust the difference with the costs already reported over the years on pro rata temporis basis using the maximum contribution of the contract; (x) GSA re-consider the development of the Budget Management Tool (BMT), or a tool similar tool, that is currently on hold.

In relation to corporate Business Continuity Management (BCM), GSA completed the drafting of the major framework documentation (Strategy, Plan and Procedure) throughout 2019, in close coordination with those departments that will play a key role in the definition of the corporate Business Continuity solution for GSA like ICT, Security and Logistics. Finalisation of BCM documentation is pending definition of certain ICT elements, based on strategic decisions.

In July 2019, the GSA Internal Audit Capability (IAC) executed a follow up audit on prior years's audit on "the Grant Award management" process. IAC pointed out that the four recommendations had been implemented.

The Action Plan for the IAS audit 2018 on "GSA ICT governance" was approved in December 2018. The implementation of this major horizontal ICT/ICT security upgrade exercise, involving GSA operational and support departments, is ongoing and is expected to be completed by mid-2020 boosting current ICT standards and service delivery while improving GSA ICT security as the main priority. The prolongation of the implementation period for this important audit was approved by IAS.

This audit contains 6 recommendations, 2 very important and 4 important. GSA started implementing those recommendations throughout 2019. In very important *recommendation no. 1*, GSA is asked to approve the ICT strategy in alignment with the strategy of GSA's mission; the Executive Director should attend the ICT Steering Committee (ICT SC) meetings, that should take place at least quarterly to avoid the ICT SC meetings being a bottleneck for urgent ICT investments; and GSA should clearly define the responsibilities of the ICT Department and GSMC. In very important *recommendation no. 2*, GSA should update its Communication Information Systems security accreditation policy and implement a set of GSA specific ICT security policies covering the ICT security domains relevant to the Agency. This set of policies should include a brief statement expressing the commitment of senior management to the task; the Executive Director should be informed about the overall situation of ICT security in the Agency at least annually; in addition to the overall ICT security policy, other more specific ICT security policies should be developed; GSA should establish and maintain an ICT asset inventory; GSA should also assign roles and responsibilities of System and Data Owners individually for each system; GSA should avoid combining roles with implementation and monitoring tasks by separating System Owner roles from the IAA role; GSA should assign the Local Informatics Security Officer (LISO) role in such a way that the LISO is not responsible for monitoring the work of his hierarchical superior.

2.9 FOLLOW UP OF RECOMMENDATIONS FROM THE DISCHARGE AUTHORITY

The discharge authority granted discharge in 2018 in the first quarter of 2020. The discharge authority approved the closure of the GSA accounts for the financial year 2018 and made no important official remarks.

2.10 EXTERNAL EVALUATIONS

No external evaluations were carried out by the Agency on its own operations.

03

Assessment of the Effectiveness of the Internal Control Systems

3.1 RISK MANAGEMENT

In 2019 the Agency undertook risk assessment and monitoring activities at the corporate, operational and support department levels. The outcomes of operational risk assessments are shared with management and reported directly to the EC for information and/or further consolidation and reporting at the respective programme level.

In 2019, the top 10 corporate risks at the GSA, in Work Breakdown Structure order rather than severity, were:

Risk ID	Title
RSK2	GSA resourcing level and apportionment
RSK4	Continuity of Initial Services
RSK5	Achievement of Enhanced Services
RSK6	Achievement of Full Services
RSK7	Galileo handover including transition to GSOp taking place with an unclear baseline, in particular concerning validation chain
RSK8	Distribution of PRS information implementing Article 14
RSK9	Implementation of Galileo differentiators
RSK11	The withdrawal of the UK from the European Union
RSK12	Business Continuity at GSA
RSK13	Internal GSA Cyber Security

Each risk has an identified and adopted mitigation action plan. Corporate Risk Management Boards take place on a quarterly basis. The above-mentioned risk management process was audited positively in 2016.

3.2 COMPLIANCE AND EFFECTIVENESS OF INTERNAL CONTROL STANDARDS (ICS)

The last 2018 assessment on compliance with the ICS was finalised in 2019. Find below an overview, in table format, of the GSA's performance in relation to EC ICS in 2018, with the foreseeable trend for 2019.

Building blocks	ICS	Description	2017	2018	Trend for compliance in 2019
Mission and Values	ICS 1	Mission	3	3	Stable
	ICS 2	Ethical and Organisational Values	2	2	Improving
Human Resources	ICS 3	Staff Allocation and Mobility	2	2	Stable
	ICS 4	Staff Evaluation and Development	3	3	Stable
Planning and Risk Management Processes	ICS 5	Objectives and Performance Indicators	3	3	Stable
	ICS 6	Risk Management Process	3	3	Stable
Operations and Control Activities	ICS 7	Operational Structure	3	2→3	Improving
	ICS 8	Processes and Procedures	3	1→2	Improving
	ICS 9	Management Supervision	3	3	Stable
	ICS 10	Business Continuity	2	2	Improving
	ICS 11	Document Management	2	2	Improving
Information and Financial Reporting	ICS 12	Information and Communication	3	3	Stable
	ICS 13	Accounting and Financial Reporting	3	3	Stable
Evaluation and Audit	ICS 14	Evaluation of Activities	NA	NA	Not Applicable
	ICS 15	Assessment of Internal Control Systems	3	3	Stable
	ICS 16	Internal Audit Capability	3	3	Stable

3 Compliant 2 Partly compliant 1 Not compliant

The level of compliance with ICS has improved steadily over the last few years. Until now, the Agency has been able to grow and change, being able to adapt its control system as it evolved.

The audits held in late 2018 and early 2019 show that GSA operations are very rapidly growing. Consequently, its support and operational processes and even support structural elements, like ICT arrangements and services, are becoming outdated and should be significantly enhanced over the next months to keep up pace with existing/known challenges. Moreover, the upcoming enhancement of the GSA operational perimeter raises concerns that we will need to start anticipating already in 2019-20.

Therefore for 2019-20, we expect significant changes to GSA managerial controls that is reflected in the ICS assessment 2018.

In relation to ICS 2, Ethical and Organisational Values, GSA is still processing two important backbone elements that will be hopefully finalised in 2020: a Code of Conduct and the Conflict of Interest's Implementing Rules, the latter still pending EC review approval, which explains the "partially compliant" rating.

With regard to ICS 3, Staff Allocation and Mobility, the GSA's assessment is of partial compliance. The organisational structure and staff allocations are carefully and regularly assessed in order to be aligned with priorities and workload. The 2018 was a year of implementation of an organisational change decided in 2017, namely introduction of a new function of the Chief Operating Officer with the aim to streamline operational activities ensure efficient and effective management of operational departments. The Agency has staff deployed in multiple locations within the EU, and notes that it faces challenges due to the correction coefficient for its HQ in Prague. The mobility between these locations and functional teams is always encouraged in order to promote career development and to build in-house expertise, enhance knowledge sharing and address priority areas. In 2018, 5 staff members were assigned to a different Agency location following the interest of the service. The Agency also successfully processed 4 internal mobility calls launched in line with Agency's priorities. Also, one female candidate, that had successfully passed an Agency internal management training programme in the past, succeeded a competition for a management post in the Agency.

ICS 7, Operational Structure lower rating than last year's shows that we will have to do some work mitigating the risk impact of the newly issued sensitive posts decision, and the implementation of IAS recommendations to clarify IT governance and a suitable delegation of powers respectively, currently under implementation, and probably to be completed in full in 2020.

The drop in the evaluation on ICS 8, Processes and Procedures, turning it into a GSA area of concern, reflects on the signals provided by several recent 2018-19 audits about weakness detected on several processes in different operational and support areas that will require that existing documentation is complemented and/or updated (EGNOS, Procurement, ICT). It is also justified by the decision of other departments like Galileo, whose management detected its weakness in this field and already initiated in 2017 a major effort to define and document its major processes. Most of this upgrading work was completed in 2019. The departure of the ICT manager in 2019 slowed down implementation of some of the ongoing improvements.

In relation to ICS 10 Business Continuity, we almost completed the drafting of the major corporate documentation (Strategy, Plan and Procedure) throughout 2019, in close coordination with those departments that will play a key role in the definition of the corporate Business Continuity solution for GSA like ICT, Security and Logistics.

In respect of ICS 11, an IT SharePoint consultant was recruited in June 2018 to resolve issues with the DMS and launch utilisation of the tool. The adoption of the DMS has been extended to the entire GSA as needed.

ICS 14, Evaluation of Activities, is a standard requirement for EC, in relation to its services that should "periodically assess performance of its results, impacts and needs that activities aim to achieve and satisfy". The GSA does not carry out such evaluations itself. We understand that, in relation to the GSA, DG Grow (now DEFIS) periodically carries out such evaluations.

04 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 2018 did not contain any reservations.

4.2 RESERVATIONS

There are no reservations regarding 2019.

4.3 OVERALL CONCLUSIONS ON ASSURANCE

The Agency provided assurance in 2019 to DG DEFIS on the use of the budget delegated to it by the EC. This provided reasonable assurance concerning the legality and regularity of the financial operations and included 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 EC during 2019. The GSA monitored the evolution of these operations, in close cooperation with the EC, 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 the EC. Auditors made no major observations in this respect.

The degree of implementation and effectiveness of the ICS will continue to be assessed. GSA is now preparing its transition to the new EC Internal Control Framework.

The Parliament granted the discharge to the Executive Director for 2018. The Council was also in favour of granting this discharge.

The ECA 2019 report (on 2018 activity) was positive.

05

Declaration of assurance

I, the undersigned,

Acting Executive Director of the European GNSS Agency,

In my capacity as Authorising Officer by delegation,

- Declare that the information contained in this report gives a true and fair view.[15]
- 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 management survey, 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 which could harm the interests of the Agency.

Prague, 18 June 2020

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

06

Annexes

ANNEX I – CORE BUSINESS STATISTICS

The measurement of core business activities and the related KPIs are listed in section 1.

The Agency wishes to note that section 1.8 refers to tasks that are delegated by the EC. 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 2019
Title 1 - Staff expenditure		
1100	Staff expenditure	17 983 143,51
1200	Recruitment costs	100 000,00
1210	Medical services	13 840,21
1300	Missions and travel	1 147 426,50
1400	Training expenditure	193 000,00
1500	Social measures	310 585,10
1600	Interims & Trainees	327 085,00
1700	Representation expenditure	952,10
1800	Tuition fees	1 662 403,98
	TOTAL FOR TITLE 1	**21 738 436,40**
Title 2 - Administrative expenditure		
2000	Rental of buildings	2 734 497,93
2100	Data processing	1 725 115,49
2200	Movable property	33 000,00
2300	Current administrative costs	939 084,28
2400	Postage and telecommunication costs	205 898,24
2500	Meetings	47 397,80
2600	SAB administrative expenditure	65 000,00
	TOTAL FOR TITLE 2	**5 749 993,74**
	TOTAL FOR TITLES 1 AND 2	**27 488 430,14**
Title 3 - Operational expenditure		
3100	Expenditure on studies	5 633 129,84
3300	SAB operational expenditure	468 302,81
	TOTAL FOR TITLE 3	**6 101 432,65**
	TOTAL TITLE 1+TITLE 2+TITLE 3	**33 589 862,79**

Commitment Appropriations			
Executed in 2019	**%**	**Uncommitted**	**%**
17 983 143,51	100%	0.00	0%
100 000,00	100%	0.00	0%
13 840,21	100%	0.00	0%
1 147 426,50	100%	0.00	0%
193 000,00	100%	0.00	0%
310 585,10	100%	0.00	0%
327 085,00	100%	0.00	0%
952,10	100%	0.00	0%
1 662 403,98	100%	0.00	0%
21 738 436,40	**100%**	**0.00**	**0%**
2 734 497,93	100%	0.00	0%
1 725 115,49	100%	0.00	0%
33 000,00	100%	0.00	0%
939 084,28	100%	0.00	0%
205 898,24	100%	0.00	0%
47 397,80	100%	0.00	0%
65 000,00	100%	0.00	0%
5 749 993,74	**100%**	**0.00**	**0%**
27 488 430,14	**100%**	**0.00**	**0%**
5 633 129,84	100%	0.00	0%
468 302,81	100%	0.00	0%
6 101 432,65	**100%**	**0.00**	**0%**
33 589 862,79	**100%**	**0.00**	**0%**

Budget line	Heading	Payment Appropriations Budgeted 2019
Title 1 - Staff expenditure		
1100	Staff expenditure	17 983 143,51
1200	Recruitment costs	100 000,00
1210	Medical services	13 840,21
1300	Missions and travel	1 147 426,50
1400	Training expenditure	193 000,00
1500	Social measures	310 585,10
1600	Interims & Trainees	327 085,00
1700	Representation expenditure	952,10
1800	Tuition fees	1 662 403,98
	TOTAL FOR TITLE 1	**21 738 436,40**
Title 2 - Administrative expenditure		
2000	Rental of buildings	2 734 497,93
2100	Data processing	1 725 115,49
2200	Movable property	33 000,00
2300	Current administrative costs	939 084,28
2400	Postage and telecommunication costs	205 898,24
2500	Meetings	47 397,80
2600	SAB administrative expenditure	65 000,00
	TOTAL FOR TITLE 2	**5 749 993,74**
	TOTAL FOR TITLES 1 AND 2	**27 488 430,14**
Title 3 - Operational expenditure		
3100	Expenditure on studies	7 661 755,67
3300	SAB operational expenditure	868 401,43
	TOTAL FOR TITLE 3	**8 530 157,10**
	TOTAL TITLE 1+TITLE 2+TITLE 3	**36 018 587,24**

Payment Appropriations					
Paid in 2019	**%**	**Carried Forward**	**%**	**Total Executed**	**%**
17 983 143,51	100%	0,00	0%	17 983 143,51	100%
51 469,78	51%	48 530,22	49%	100 000,00	100%
11 720,21	85%	2 120,00	15%	13 840,21	100%
981 036,38	85%	166 390,12	15%	1 147 426,50	100%
115 804,36	60%	77 195,64	40%	193 000,00	100%
215 588,02	69%	94 997,08	31%	310 585,10	100%
174 937,05	53%	152 147,95	47%	327 085,00	100%
855,03	90%	97,07	10%	952,10	100%
1 653 849,53	99%	8 554,45	1%	1 662 403,98	100%
21 188 403,87	**97%**	**550 032,53**	**3%**	**21 738 436,40**	**100%**
1 427 086,03	52%	1 307 411,90	48%	2 734 497,93	100%
584 539,94	34%	1 140 575,55	66%	1 725 115,49	100%
10 603,72	32%	22 396,28	68%	33 000,00	100%
226 589,68	24%	712 494,60	76%	939 084,28	100%
67 328,64	33%	138 569,60	67%	205 898,24	100%
36 360,89	77%	11 036,91	23%	47 397,80	100%
45 831,15	71%	19 168,85	29%	65 000,00	100%
2 398 340,05	**42%**	**3 351 653,69**	**58%**	**5 749 993,74**	**100%**
23 586 743,92	**86%**	**3 901 686,22**	**14%**	**27 488 430,14**	**100%**
6 501 213,58	85%	1 160 542,09	15%	7 661 755,67	100%
868 401,43	100%	0,00	0%	868 401,43	100%
7 369 615,01	**86%**	**1 160 542,09**	**14%**	**8 530 157,10**	**100%**
30 956 358,93	**86%**	**5 062 228,31**	**14%**	**36 018 587,24**	**100%**

II.2 – Information on transfers and amended budgets

The GSA draft budget 2019 was approved by the Administrative board on 31 January 2018 for a total amount of 35 061 733 EUR and became the initial 2019 budget upon adoption of 2019 EU budget by the Council and European Parliament. The GSA Administrative Board approved 2019 amending budget number 1 on 31st January 2019, reflecting the fact that GSA requested additional 23 Temporary Agent (TA) posts and, in the final 2019 budget, only additional 10 TA posts were granted. The amendment also included the revised European Free Trade Association (EFTA) contribution, reducing the 2019 initial budget by 1 471 870,21 EUR and bringing it to the final amount of 33 589 862,79 EUR.

In the second budget amendment GSA Administrative Board approved increase of overall payment appropriations to 36 018 587,24 EUR in order to be able to cover all planned payments under legal commitments of current and previous years (GSA Title 3 appropriations are differentiated).

Seven internal transfers were processed in 2019, six of them authorised by the Executive Director as they concerned transfers of amounts either within Titles or below 10% between Titles, with one authorised by the Administrative Board on 23 October 2019.

II.3 – Information on interest charged through late payments

Interest on late payment totalling EUR 751.22 was paid in 2019 representing a slight increase from 2018 (EUR 259.94).

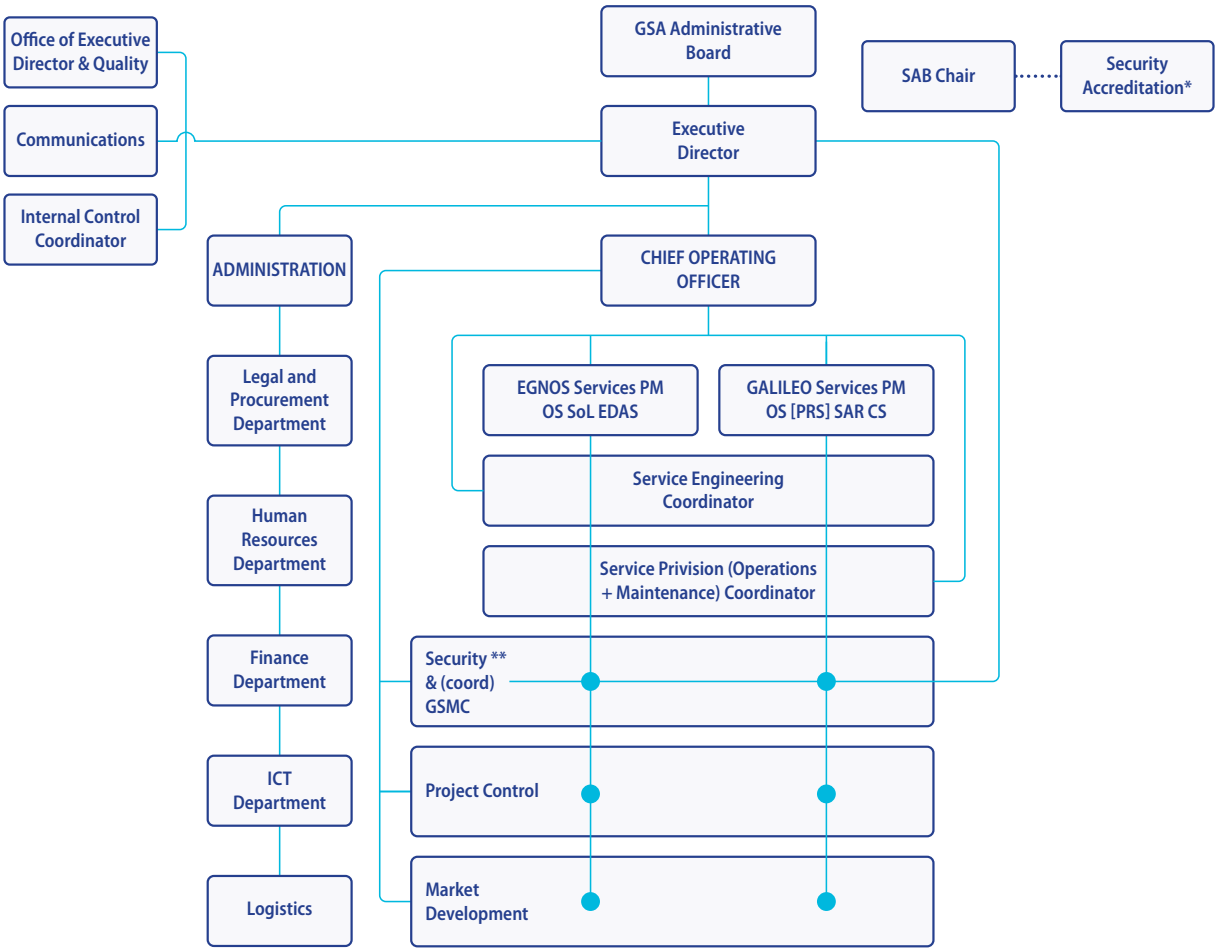
II.4 – Summary information on budgetary operations

Budget execution for the year was 100% in commitment appropriations and 100% in 2019 payment appropriations when taking into account the non-automatic carry-forward needed to maintain the Agency's payment capacity on existing legal obligations.

Average payment time was 14.95 days, well below the 30 day EC benchmark and 20 day target. It should be noted that, due to the nature of the Agency's activities, many of the Agency's contracts and grants have payment deadlines of 60 and 90 days and that the average payment time also includes these payments. The Agency processed 6 765 financial transactions, representing a 2 % increase compared to 2018.

The Agency continued to manage a large amount of delegated budget in 2019, following the signature of three new Delegation Agreements in the course of 2014 for EGNOS Exploitation, Galileo Exploitation and Horizon 2020. A total of 290,7 million EUR was committed under delegated budget in 2019 and 523,5 million EUR made in payments.

ANNEX III – ORGANISATION CHART



* in close cooperation with GSA ED in accordance with the GSA Regulation Art 8
** direct link to ED for central security office (corporate security function)

ANNEX IV – ESTABLISHMENT PLAN

The Agency's Establishment Plan for 2019 was as follows:

Category and grade	Establishment plan in EU Budget 2019		Modifications in 2019 in application of flexibility rule[16]	
	Officials	TA	Officials	TA
Administrator (AD) 16				
AD 15				
AD 14		1		
AD 13		4		-2
AD 12		7		-6
AD 11		8		-2
AD 10		17		-7
AD 9		20		-2
AD 8		42		-7
AD 7		24		+14
AD 6		6		+10
AD 5		6		+2
Total AD		**135**		
Assistant (AST) 11				
AST 10				
AST 9				
AST 8				
AST 7				
AST 6		2		-1
AST 5		1		
AST 4		1		
AST 3				+1
AST 2				
AST 1				
Total AST		**4**		
AST/SC 6				
AST/SC5				
AST/SC4				
AST/SC3				
AST/SC2				
AST/SC1				
Total AST/SC				
TOTAL				
Total AST		**4**		
AST/SC 6				
AST/SC5				
AST/SC4				
AST/SC3				
AST/SC2				
AST/SC1				
Total AST/SC				
TOTAL		**139**		

16 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.

Information on entry level grades for posts

The established recruitment grades for all selection procedures (external, inter-agency and/or internal) for the key functions of temporary agents are listed in the table below, which is based on the GSA decision of 28 June 2019 on types of post and post titles in the European GNSS Agency GSA-AB-56-19-06-06:

Type of post	Function group / Grade	Post title
Director	AD 14	Executive Director
Adviser or equivalent	AD 13 – AD 14	Adviser, Senior Expert
Head of Unit or equivalent	AD 9 – AD 14	Head of Department, Head of Task Force
Administrator	AD 5 – AD 12	Principal Administrator, Administrator
Senior Assistant	AST 10 – AST 11	Senior Assistant
Assistant	AST 1 – AST 9	Assistant, Project Assistant
Secretary/Clerk (not foreseen at the moment)	SC 1 – 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 2019 distribution of staff was as follows, split by areas of activity:

		Allocated on 31 Dec 2019[17]	
		TA	CA, SNE
Core tasks	Security accreditation	11	1
	Security and PRS tasks	3	1
	GSMC operations	21	15
	Promotion and marketing of the services	6	4
	Agency management	17	21
Delegated tasks	EGNOS Exploitation	11	4
	Galileo Exploitation	59	12
	Research & Development (H2020)	4	5
	Total	**139**	**63**

The financial resources, split by area of activity are:

		Amount (EUR)
Core tasks	Security accreditation	468 302,81
	Security and PRS tasks	-
	GSMC operations	2 367 918
	Promotion and marketing of the services	3 265 211,94
	General Administration and Agency Management	27 488 430,14
Delegated tasks	EGNOS Exploitation	137 764 319,76
	Galileo Exploitation	133 016 673,71
	Research & Development (H2020)	19 915 773,51
	Total	**324 286 629,87**

17 Including 10 accepted offers for TA positions and 1 accepted offer for CA positions.

ANNEX VI – SPECIFIC ANNEXES RELATED TO PART 2

VI.1 GSA Legal Framework (as of 31 December 2019)

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) 912/2010 of the European Parliament and of the Council of 22 September 2010 setting up the European GNSS Agency, repealing Council Regulation (EC) No 1321/2004 on the establishment of structures for the management of the European satellite radio-navigation programmes and amending Regulation (EC) No 683/2008 of the European Parliament and of the Council, as amended by Regulation 512/2014 of the European Parliament and of the Council of 16 April 2014	912/2010, 512/2014	22 Sep 2010, 16 Apr 2014
Commission Decision (EU, Euratom) 2015/444 of 13 March 2015 on the security rules for protecting EU classified information	2015/444	13 March 2015
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) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012	2018/1046	18 July 2018
Decision of the Administrative Board adopting the GSA Financial Regulation	WP 69	16 August 2019
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 as subsequently amended	Staff Regulations	14 June 1962

ANNEX VII – SPECIFIC ANNEXES RELATED TO PART 3

There are no annexes to part 3 for the reporting period, as key information is summarised in the corresponding section of this report.

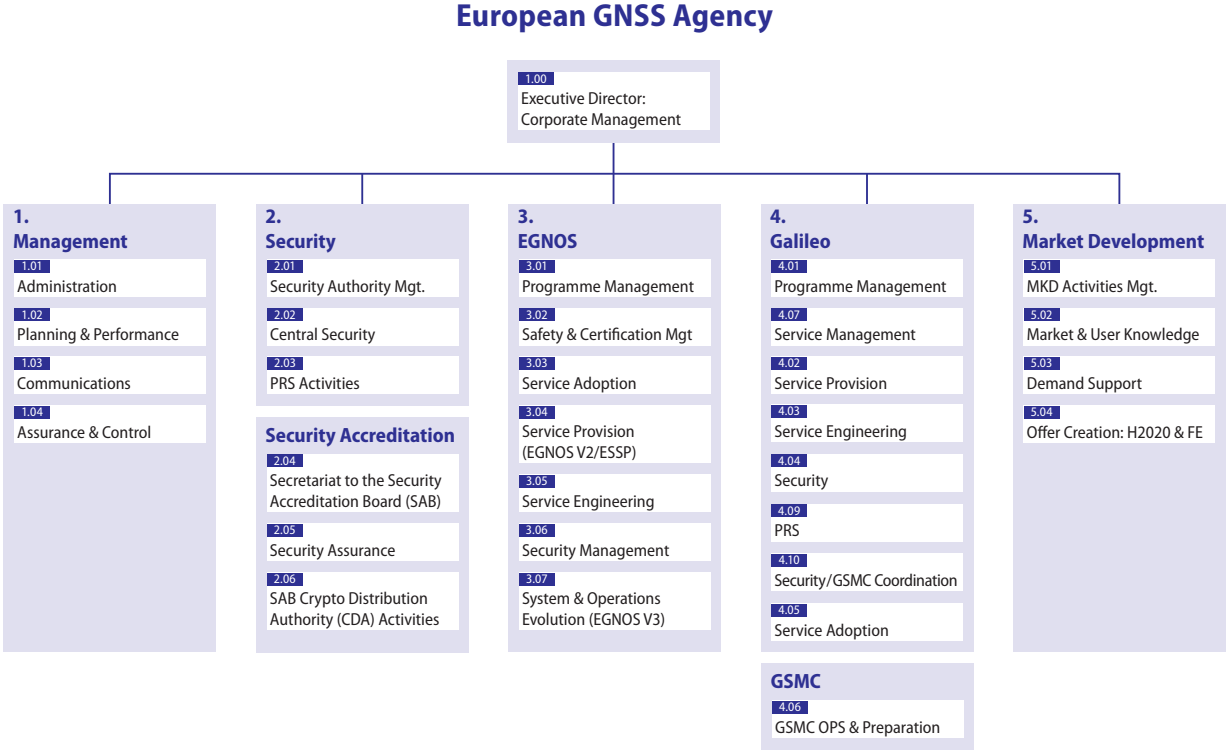
ANNEX VIII – DRAFT ANNUAL ACCOUNTS AND FINANCIAL REPORTS

The Provisional Annual Accounts for the reporting period were prepared and sent to the EC and the discharge authorities in accordance with the provisions of the Financial Regulation.

In April 2020, the Court of Auditors will audit these Accounts. After their final remarks, the Agency will submit the 2019 Final Annual Accounts to its Administrative Board for adoption. Once approved by the Administrative Board, the Agency will annex these to this report for reference.

ANNEX IX – THE WORK BREAKDOWN STRUCTURE

The WBS used as a reference for the Single Programming 2019-2021 and therefore the Consolidated Annual Activity Report 2019 is shown below. The structure was updated in the course of the year to take into account its further development and changes in the Agency's activities that will be reflected in the following programming documents.



ANNEX X – LIST OF ACRONYMS

Abbreviation	Definition
AD	Administrator
ANSP	Air Navigation Service Providers
APV	Approach Procedure with Vertical Guidance
ARB	Anomaly Review Board
AST	Assistant
ATO	pre-Approval To Operate
BC	Business Continuity
CA	Contract Agent
CCB	Change Control Board
CDA	Crypto-Distribution Authority
CFSP	Common Foreign and Security Policy
CLGE	Council of European Geodetic Surveyors
CMS	Common Minimum Standards
COMSEC	Communication Security
CPA	Competent PRS Authority
CS	Commercial Service
DG DEFIS	Directorate-General for Defence, Industry and Space
DG GROW	Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
EASA	European Aviation Safety Agency
EC	European Commission
ECA	European Court of Auditors
ECM	Enterprise Content Management
EEAS	European External Action Service
EFTA	European Free Trade Association
EGNOS	European Geostationary Navigation Overlay Service
EGNSS	European Global Navigation Satellite System
ELT	Emergency Location Transmitter
EMC	Enhanced Minimum Configuration
ESA	European Space Agency
ESTEC	European Space Research and Technology Centre
EU	European Union
EUCI	EU Classified Information
EUPOS	European Position Determination System
EURATOM	The European Atomic Energy Community
EUSPA	European Union Agency for the Space Programme
FFPA	Financial Framework Partnership Agreement
FKC	Flight Key Cell
FLAG	Five Lives Advisory Group
FOC	Full Operational Capability
GAL	Galileo
GCC	Galileo Control Centre
GCC-D	Galileo Control Centre - Germany

Abbreviation	Definition
GCC-I	Galileo Control Centre - Italy
GCS	Galileo Control Segment
GDDN	Galileo Data Dissemination Network
GEO	Global Earth Observation
GMS	Ground Mission Segment
GNSS	Global Navigation Satellite System
GPS	Global Positioning System (USA)
GRC	Galileo Reference Centre
GRON	Galileo Robust Operational Network
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
GSMC-ES	Galileo Security Monitoring Centre - Spain
GSMC-FR	Galileo Security Monitoring Centre - France
GSOp	Galileo Service Operator
GSS	Galileo Sensor Station
H2020	Horizon 2020
HAS	High Accuracy Service
HR	Human Resources
IAC	Internal Audit Capability
IALA	International Association of Lighthouses Authorities
IAS	Internal Audit Service
IATO	Approval to Operate
ICS	Internal Control Standards
ICT	Information and Communications Technology
JRC	Joint Research Centre
IMS	Integrated Management System
ISO	International Standards Organisation
IT	Information Technology
ITS	Intelligent Transport Systems
KMP	Key Management Plan
KPI	Key Performance Indicator
LBS	Location-Based Services
LEOP	Launch and Early Operation Phase
L-SMC	LEOP Security Monitoring Cell
LPV	Localiser Performance with Vertical Guidance
M2M	Machine-to-machine
MGF/ULS	Message Generation Facility / Uplink Station
OS	Open Service
OS-NMA	Open Service Message Authentication
PA	Product Assurance
PLB	Personal Locator Beacon

Abbreviation	Definition
PRS	Public Regulated Service
P3RS-2	PRS Pilot Project 2
QA	Quality Assurance
RIMS	Ranging and Integrity Monitoring Station
RLS	Return Link Service
RLSP	Return Link Service Provider
RAMS	Reliability, Availability, Maintainability and Safety
R-UE / UE-R	EU Restricted
SECMON	Security Monitoring
SecOps	Security Operating Procedures
SAA	Security Accreditation Authority
SAB	Security Accreditation Board
SAR	Search And Rescue
SATO	Site Approval To Operate
SB	System Build
SBAS	Satellite Based Augmentation System
SIH	Security Incident Handler
SINA	Secure Inter-Network Architecture
SLA	Service Level Agreement
SNE	Seconded National Expert
SOIF	Security Operational and Intelligence Facility
SPD	Single Programming Document
TA	Temporary Agent
TF	Task Force
UCP	User Consultation Platform
WBS	Work Breakdown Structure
WG	Working Group
WP	Work Package

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