



European
Global Navigation
Satellite Systems
Agency

LINKING SPACE TO USER NEEDS



Annual Activity Report of the European GNSS Agency



2018

Annual Activity Report

of the European GNSS Agency

2018

In pursuance of Financial Regulations 996/2012,
Framework Financial Regulations No 1271/2013 and
Regulation (EU) No 912/2010¹

¹ Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union; Regulation (EU) No 1271/2013 of 30 September 2013 on the framework financial regulation for the bodies referred to in Article 208 of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council and Regulation (EU) No 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.

GSA 2018 IN A NUTSHELL

GALILEO



Launch 9: for the first time GSA is responsible for Early Orbit Phase (EOP) and In-Orbit Testing (IOT)



Launch 10: successful Early Orbit Phase (EOP) and In-Orbit Testing (IOT) Phase



Ground Mission Segment and Ground Control Segment: signature with industry



GSMC Spain: the hosting agreement was agreed and signed with the Spanish authorities. The readiness of the GSMC ES Early Configuration was attained (Site Design Review, Technical and Security Acceptance Review). All assets were removed GSMC UK and redeployed in GSMC ES.

EGNOS

GSA published an updated Safety of Life Service Definition Document



EGNOS Version 3 contracts signed, 1st step towards increased capability, improved performance by augmenting both Galileo and GPS.



600 EGNOS airport landing procedures published by end of 2018



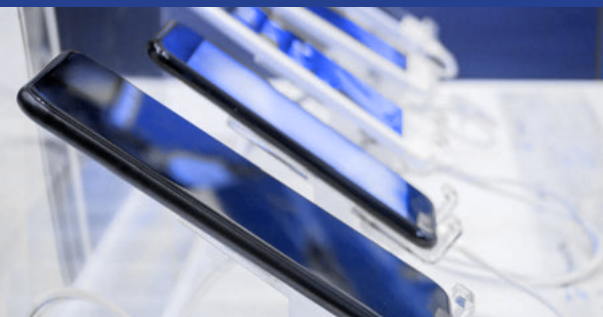
GNSS APPLICATIONS



1st eCall cars on market 4 car makers commercialized eCall model (Volvo, Honda, Skoda and Mercedes-Benz), based on Galileo/EGNOS.



136 Galileo-enabled smartphone models and 600M units in the market, by the end of 2018



Performance-Based Navigation Regulation mandates the use of EGNOS in all European airports



1st personal location beacons (PLB) to include Galileo



GNSS INTELLIGENCE & USER COMMUNITY



Second GNSS User Technology Report published



EU Space Week in Marseille with over 1,000 participants



Fourth GSA Open Days Prague with over 2,000 visitors

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MANAGEMENT ANALYSIS AND ASSESSMENT



Note by the Chair of the Administrative Board

With Galileo and EGNOS now fully in their operational phases, 2018 confirmed GSA's pivotal role in assuring the success of these programmes. Without being exhaustive, I will list here some of the key milestones reached during the year.

Concerning Galileo, besides the successful launch in 2018 of the last four satellites before batch 3, we can now affirm that Europe's satellite positioning system is here and here to stay for decades to come. GSA successfully completed contract award activities, signing industrial contracts covering finalization of the deployment of the mission (WP2x) and control (WP3x) ground segments. It is important to note that these contracts are vital prerequisites for declaring final services starting in 2020. It should also be underlined that GSA successfully relocated the back-up GSMC from the United Kingdom to Spain as the withdrawal of the UK from the European Union loomed large.

Results achieved for EGNOS were also highly satisfactory, thanks in no small measure to the remarkable work of GSA in 2018 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. It is all the more important that they be implemented following the adoption in 2018 by the European Union of its PBN (Performance Based Navigation) regulation, which mandates member states to systematically deploy by 2024 EGNOS-based landing procedures on all runways supporting Instrument Flight Rules (IFR) operations.

Concerning uptake of Galileo, there are now well over 600 million Galileo-compatible smartphones operating around the world and we are now on our way to 1 billion! The European Space Week held in Marseille in December 2018 provided the opportunity for all stakeholders working in domains related to satellite navigation to affirm their growing interest in Galileo services. This event also gave users the chance to detail their requirements. I note in particular the great expectations of users keen to take maximum advantage of Galileo's differentiating features. I am thinking especially of authentication, high precision and signal modulation. 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 GSA 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 the challenges to be met in 2019. Buoyed by our past successes, I firmly believe we will meet them thanks to the ambition and determination of the Administrative Board, of which I was honoured to be re-elected chair in 2018, and above all thanks to the talents and commitment of GSA's staff and its Executive Director, Carlo des Dorides, to whom I would like to pay a warm tribute.

Jean-Yves Le Gall

Chair of the Administrative Board, European GNSS Agency



Note by the Chair of the Security Accreditation Board

Highlighting the Security Accreditation Activities of 2018 can at best be demonstrated going through each of the SAB decision responsibilities.

With regards to Galileo:

- the SAB approved the satellite Launch 10. Additionally, the satellites from Launch 9 were SAB authorised to join the operational constellation. I would hereby like to express my sincere thanks and appreciation to the Member States that provided support to the Flight Key Cell during the launch campaigns;
- the SAB continued to accredit the systems in their different configurations. In this regard it is important to note the SAB pre-authorisation for the GMS 2.2.1/GSF P2.2.1.1. The SAB also authorised the continuation 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 using the SSP and in particular cyber, as evaluation base. The validity of the above mentioned decisions are embedded in an accreditation statement valid until the 1st of April 2019;
- the SAB also authorised the continuation to operate the Galileo Ground segment aligned with the above mentioned statement;
- the SAB has by the end of 2018 authorised a total of 110 bodies manufacturing PRS technology in 3 different categories. Here it is important to note that the SAB is working on an optimised strategy including a simplified authorisation process aligned with the Common Minimum Standards.
- Further the SAB has been appointed as the Security Accreditation Authority for the Validation Chain.

With regards to EGNOS:

- the Programme provided the first security documentation to start the SAB accreditation activities for EGNOS V3.0. The priorities provided by the Programme are the site accreditation activities.

Finally, I would like to inform you on the GSA Staff under the supervision of the SAB. I have been working very closely with the GSA Executive Director to implement a robust working relationship between both sides of the Agency. Additionally, I undertook the initiative to enforce a stronger autonomy and independence of the Chapter III Staff. As from the 1st of January 2019, the before mentioned Staff will function in a separate Department in the GSA, namely the Security Accreditation 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 in particular with the Member States, the Commission, the GSA and the ESA but also the private sector. Moreover, the GSA Security Accreditation Staff provides the fundamentals to this success due to their commitment and professionalism.

Bruno Vermeire

Chair of the Security Accreditation Board of the EU GNSS



Note by the Executive Director

Building on the activities of previous years, 2018 was a very successful year – both for the Agency and the European GNSS programme. I think the best way to highlight the Agency's achievements is to provide a snapshot of some of our 2018 operational activities as presented to the Administrative Board in January 2019:

- Around 600 million Galileo-enabled devices
- Launch 10-related activities undertaken
- 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
- EGNOS V3 signature with industry
- First eCall cars on market
- Second GNSS User Technology Report published
- EU Space Week in Marseille with over 1 000 participants
- Second Galileo User Assembly
- Ninth EGNOS Annual Workshop
- Fourth GSA Open Days Prague with over 2 000 visitors
- 1.2 million views of GSA, UseGalileo.eu and GSC website
- Launch of the first mass-market promotional campaign for Galileo

The administration behind these successes is equally impressive. For example, in 2018 the Agency committed over EUR 1,200 million, made over 400 legal commitments and offered 41 posts to selected candidates. The Agency is confident that the results achieved will be reflected in the final roles and responsibilities of the Agency in the next financial perspective.

Finally, and as in previous years, let me continue to recall that the success of the Agency and its activities is not achieved in isolation. It is the result of the way we interact and the partnerships we build – in particular with the public sector (Member States, the European Commission and the European Space Agency), and also with the private sector. Furthermore, this success is built on the dedication, competency and professionalism of the GSA staff, which is second to none.

Carlo des Dorides

Executive Director, European GNSS Agency (GSA)

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 economic growth. With Europe in the driver's seat, Galileo is now a cornerstone of the global radio-navigation positioning system. In support of Galileo and EGNOS, the European GNSS Agency (GSA) was established in 2004 as a European Union Decentralised Agency. During 2018, 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)². 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

² 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.

- Development and deployment activities for the evolution and future generations of the systems, and contribution to the definition of service evolutions, including procurement
- 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.

ACHIEVEMENTS IN 2018



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 2018. It is structured around the five areas of work described in the Single Programming Document (SPD) 2018-2020. The achievements for 2018 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 2020

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

| | Tasks | Objective | Year |
|---|---|--|-------------|
| 5 | SAB Secretariat | Ensure general support to the SAB Chair and deputy Chair in discharging their regulatory responsibilities. | 2014 - 2020 |
| 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 GSA, which also provides secretariat support. | 2014 - 2020 |
| 7 | Communications Security (COMSEC) management – SAB subordinate CDA | The GSA chairs the SAB Crypto Distribution Authority (CDA) and this is managed in order to 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 EU GNSS Distribution Authority regarding COMSEC activities within the EGNOS and Galileo programmes. The SAB CDA shall then provide COMSEC assurance to SAB communicated as a COMSEC risk assessment in order to facilitate successful accreditation. | 2014 - 2020 |
| 8 | COMSEC management – Flight Key Cell (FKC) | To ensure the security of flight keys during EU GNSS programme launch campaigns. The FKC is an independent sub-cell of the SAB CDA, organised and managed by the Agency but consisting of COMSEC experts from the Member States formed for the duration of launch campaigns. It answers to the EU GNSS DA for its operational role and to SAB CDA in the provision of assurance of flight key COMSEC activities within the programme. | 2014 - 2020 |
| 9 | New SAB regulatory responsibilities | Implementation of the new responsibilities entrusted to SAB by Regulation (EU) No 512/2014 and laid down in Article 11 thereof, in particular paragraph 3 points (c) to (l) and paragraph 4. | 2015 - 2020 |

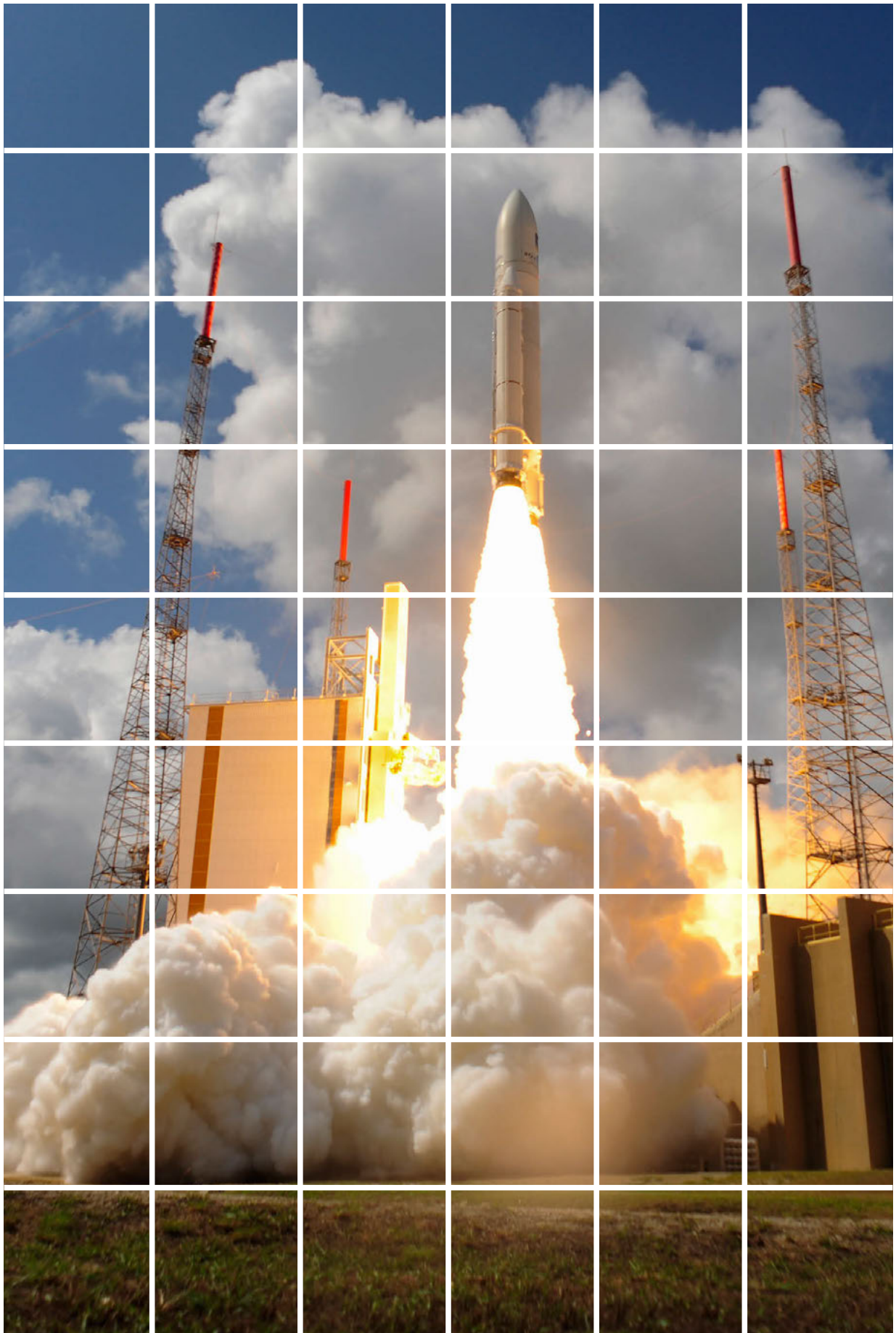
1.1.2 Highlights for 2018

The Security Accreditation Team, with the support of the rest of the Agency, provided the technical and administrative secretariat support to the SAB, providing the underlying security assurance to prepare proportionate, appropriate and effective security accreditation decisions at the programme milestones.

The main objectives for 2018 were achieved:

- The SAB approved the 10th Galileo launch following the recommendations from its technical bodies, participation of the accreditation team to launch related reviews and to the launch itself on site, and the Flight Key Cell (FKC) activities. The corresponding Approval to Launch certificate was provided to the Programme Manager.
- The SAB maintained and extended 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. This statement was periodically revisited during 2018 to allow to SAB continuing monitoring the open points and the various actions, and to extend the lifetime when expiring (March, May, December 2018).

- The SAB issued a total of 23 Site Authorisations To Operate (of which 3 new), maintaining the validity of the accreditation of the sites. Two SAR (first step accreditation) were also issued for sites: GSMC Spain and Ariane launch pad in Kourou.
- The SAB issued 14 new authorisations for bodies to develop and manufacture PRS receivers and security modules, and authorised 62 renewals/extensions and 95 authorisation scope update. By the end of the year, 110 EU companies had valid SAB authorisations. The SAB secretariat initiated a dialogue with SAB and European Commission to review the authorisation process for further 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. A proposal was drafted by the SAB secretariat and underwent review by the technical Panel, with several review iterations. It remains under Panel's review. The accreditation team of the Agency supported the SAB in conducting 4 independent security assessments on sub-systems to evaluate security robustness, both as pentest and procedures audit.
- The SAB Crypto Distribution Authority (CDA) continued to work firmly on COMSEC activities, including governance, organisation, identification of COMSEC assets, distribution and further accounting of the COMSEC assets within the programme. The SAB CDA continued to oversee the implementation of the programme COMSEC governance and to provide recommendations to the programme in terms of compliance to European Council and Commission policy on COMSEC matters. 5 CDA Task Force meetings took place, issuing recommendations to the SAB on the COMSEC assurance for the 2018 accreditation milestones.
- The SAB CDA continued to monitor and assess the Programme evolution of the Galileo Initial Services key management plan over the year covering all classified cryptographic keys and COMSEC assets providing services to the Galileo User Segment.
- The SAB CDA Flight Key Cell supported one Ariane launch in 2018. The launch concluded successfully with a full complement of FKC staff (GSA + Member States).
- A new Working Arrangement between the SAB chairman and the GSA Executive Director was signed in July 2018, defining the mutual cooperation in staff matters and other fields.
- In October the organisation of a new GSA Security Accreditation Department was released, followed by a roadmap setting the steps needed to set up the independent Department and the rules of engagement for use of GSA resources.



1.1.3 Tasks for 2018

| Objective 1: Ensure the secretariat for the Security Accreditation Board (WBS 2.04.01) | |
|---|--|
| Expected results | 2018 results |
| <ul style="list-style-type: none"> • Reports to SAB chairman; • Propose SAB meeting plan; • Distribution of working papers in due time before each meeting; • Establishment of minutes in due time after each meeting; • Administrate written procedures as necessary; • Record and transmit all SAB decisions. | <ul style="list-style-type: none"> • Regular reports to SAB Chairman, in particular after each meeting of the technical bodies; • The SAB meeting plan was established at the end of 2017 and maintained in 2018 to keep it aligned with the changes in the Programme schedule; • 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 (around 100); <p>All SAB decisions and actions were recorded; SAB decisions were addressed to the European Commission.</p> |

| | | Targets | 2018 results |
|------------|---------------------------------|---------|--------------|
| Indicators | SAB meetings organised | 4 | 5 |
| | Written procedures administered | 100% | 100% |
| | SAB decisions administered | 100% | 100% |

| Planned outputs | Actual outputs |
|--|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 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; | <ul style="list-style-type: none"> • 1 Approval To Launch (ATL 10); • 1 authorisations to operate the systems for Initial Services, and 2 related extensions); • 6 preauthorisations to operate parts of the system into the IS configuration (TSP Italy, GSC 1.1, TSP 1.0.3 Germany); |

- 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.
- Authorisations to operate the ground stations: 3 new Site Approval To Operate (TSP Oberpfaffenhoffen/ TSP Fucino/ GRSP ESOC Darmstadt), 1 SAR for GSMC Spain, 1 SAR renewal for Galileo Ariane 5 launch site, 20 SATO renewals;
 - Authorisations to manufacture PRS receivers or PRS security modules: 14 new authorisations; 62 renewals/extensions; 95 Authorisation scope updates; for a total of 275 formal documents issued (Authorisation statements, Technical annexes and Letters Programme Manager plus notes to the file).
- Other outputs:
- Recommendations of technical bodies to the SAB as normal work.

Objective 2: Support to SAB Management (WBS 2.04.02)

| Expected results | 2018 results |
|---|---|
| <ul style="list-style-type: none"> • 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; | <ul style="list-style-type: none"> • SAB activities part of the Single Programming Document (SPD) 2019 for security accreditation activities, taking into account the inputs from the SAB Panel and the SAB CDA, was adopted by the SAB; • Draft Budget 2019 for SAB activities was prepared and integrated in the SPD; • Regular reports on the implementation of the SAB Budget 2018 were made; • Agency's Staff Establishment Plan maintained. |

| | Targets | 2018 results |
|------------|----------------------------|--------------|
| Indicators | Work Programme adopted | Yes |
| | Budget adopted | Yes |
| | Establishment plan adopted | Yes |

| Planned outputs | Actual outputs |
|---|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Work Programme adopted; • Budget adopted; • Establishment plan adopted. <p>Other outputs:</p> <ul style="list-style-type: none"> • Security Accreditation Reports; • Recommendations to the SAB / SAB Chair. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • SPD approved; • Budget included in the SPD and approved; • Establishment plan maintained. |

Objectives 3 to 6: Define and Approve Security Accreditation Statements (WBS 2.04.04)

- **Objective 3:** Approvals to Launch
- **Objective 4:** Authorisations to operate the systems in their different configurations and for the various services, including up to and including the signal in space
- **Objective 5:** Authorisations to operate the ground stations
- **Objective 6:** Authorisations of bodies to develop and manufacture PRS receivers or PRS security modules

| Expected results | 2018 results |
|--|--|
| <ul style="list-style-type: none"> • Security accreditation statements; • Changes to existing security accreditation statements; • Re-accreditation statements. | <ul style="list-style-type: none"> • Security Accreditation statements and needed changes to them were released by the SAB for each accreditation milestone, such as for Approval to Launch 10, Initial Services statements, 6 (pre)authorisations to operate parts of the system; • Existing statements discussed before expiration date and extended with appropriate update of actions/conditions inside, e.g. Initial Services statement; • 23 Site Accreditation To Operate statements were issued on time to cover the accreditation of all sites, after check of relevant requirements and with continuity of service. They were mostly re-accreditation statements; • 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; • 14 new authorisations; 62 renewals/ extensions; 95 Authorisation scope updates. |

| | | Targets | 2018 results |
|------------|---|---------|--------------|
| Indicators | Approvals to Launch | 1 | 1 |
| | Authorisations to operate the Galileo system in their different configurations | 1 | 3 |
| | Authorisation to operate the ground stations | 7 | 23 |
| | % of processed requests of authorisation of bodies to develop and manufacture PRS receivers or PRS security modules | 100% | 100% |

| Planned outputs | Actual outputs |
|--|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 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. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 1 Approval To Launch (ATL 10) • 1 authorisation to operate the systems (Initial Services) and 2 renewals • 6 pre-authorisations to operate parts of the system into the IS configuration (TSP Italy, GSC 1.1, TSP 1.0.3 Germany) • 23 authorisations to operate the ground stations (of which 3 new), 1 SAR for GSMC Spain, 1 SAR renewal for Galileo Ariane 5 launch site • Authorisations to manufacture PRS receivers or PRS security modules: 14 new authorisations; 62 renewals/extensions; 95 Authorisation scope updates; for a total of 275 formal documents issued (Authorisation statements, Technical annexes and Letters Programme Manager plus notes to the file). |

Objective 7: Ensure the chairmanship of the Panel, its technical and organisational secretariat (WBS 2.05.05)

| Expected results | 2018 results |
|--|--|
| <ul style="list-style-type: none"> • Propose panel meeting plan; • Draft reports in preparation for panel reviews; • Organise panel meetings throughout the year; | <ul style="list-style-type: none"> • SAB meeting plan 2018, including the Panel meetings, was approved by SAB and subsequently maintained to take into account the changes in the Programme schedule; |

- Deliver accreditation reports and recommendations to SAB.
- 5 SAB Panel meetings organised in 2018. The Security Accreditation Team ensured the chairmanship and the technical and administrative secretariat of those 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;
- A specific Security Accreditation Report was provided by the Panel to the SAB for the the Approval to Launch of Galileo satellites;
- The SAB Panel issued recommendations in support of SAB decisions, supporting each accreditation milestone;
- Accreditation reports were provided by the SAB secretariat for Site Approval To Operate (SATO) decisions and the Authorisations of PRS manufacturers.

| | | Targets | 2018 results |
|------------|--------------------------------|---------|--|
| Indicators | Panel meetings | 4 | 5 |
| | Security Accreditation reports | 3 | 1 |
| | Panel recommendations | 10 | 38 + 23 on SATO decisions + 14 on new PRS manufacturers |

| Planned outputs | Actual outputs |
|---|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Security accreditation reports; • Recommendations to SAB and/or SAB chairman. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 1 Approval To Launch (ATL 10); • 38 Recommendations to the SAB and/or the SAB Chairman in support of each SAB decisions; • 23 recommendations on site approval to operate; • 14 recommendations on new Authorisations for PRS manufacturers. |

Objective 8: System level accreditation tasks (WBS 2.05.01)

| Expected results | 2018 results |
|---|---|
| <ul style="list-style-type: none"> • 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. | <ul style="list-style-type: none"> • Review of the Security Accreditation Strategy was kept on hold; • The Security Accreditation Team (together with its contractors) carried out a number of security accreditation reviews in order to prepare the accreditation of the Galileo launches, the accreditation of system configuration upgrades' connection, and the accreditation of Initial Services. Recommendations to the SAB Panel, SAB CDA and the SAB were made accordingly; • Participation in Programme reviews, injecting comments as needed and reporting to SAB/SAB Panel and in related accreditation reports. These Programme Reviews include the Satellite Acceptance Reviews, and the Initial Services Validation Campaign; • Management of the SAB Accreditation Framework Contract LOT1 supporting the various accreditation reviews; • Independent security vulnerability assessment (penetration test) performed on parts of the system: <ul style="list-style-type: none"> - PKI GSMC-UK VA, - MGF Robustness (delta), - GCS SecOPs under GSOP @ GCC-D and - RLSP VA - GMS SecOPs under GSOP @ GCC-I (preparation only) • 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, and in the accreditation reports. • 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. • Management for the SAB Accreditation Framework Contract LOT3 providing administrative support to SAB, SAB Panel and SAB CDA. |

| | Targets | 2018 results |
|--|---------|---|
| Indicators | | |
| Number of independent vulnerabilities assessments carried out | 2 | <ul style="list-style-type: none"> • 4 independent vulnerability assessments • 5 GSAP data pack reviews • 3 cyber status review meetings, etc. |

| Planned outputs | Actual outputs |
|--|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Security accreditation reports; • Recommendations to SAB and/or SAB Chair. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 1 Approval To Launch report (ATL 10); • Recommendations to the SAB and/or the SAB Chairman for each SAB decision; |

Objective 9: Ground stations level accreditation tasks (WBS 2.05.02)

| Expected results | 2018 results |
|--|--|
| <ul style="list-style-type: none"> • Plan activities to ensure ground stations meet the security requirements expected for the launches and services. | <ul style="list-style-type: none"> • The Security Accreditation Team coordinated with the Programme to ensure the Galileo sites meet the expected security requirements in line with the system accreditation statement; • Reports were provided to the GSAP and the SAB accordingly, leading to the issuance of 23 Site Authorisation to Operate (of which 3 new) and 2 SARs (first step for site accreditation; GSMC Spain and Ariane launch pad in Kourou). |

| | Targets | 2018 results |
|---|---------|--------------|
| Indicators | | |
| Operational sites accredited or covered by a recommendation to the SAB | 100% | 100% |

| Planned outputs | Actual outputs |
|--|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Site accreditation report; • Recommendations to SAB and/or SAB Chair; • Authorisation to operate the ground stations. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • A Site Accreditation Report was provided by the SAB secretariat for each SATO decision and endorsed by the SAB Panel; • Recommendations to the SAB and the SAB Chairman were provided for each SAB decision; • The SAB issued 23 Site Authorisation to Operate (of which 3 new) and 2 SARs. |

| Objective 10: PRS manufacture authorisation activities (WBS 2.05.04) | |
|---|--|
| Expected results | 2018 results |
| <ul style="list-style-type: none"> • Authorisation of bodies to develop and manufacture PRS receivers or PRS security modules, in compliance with the CMS. | <ul style="list-style-type: none"> • The SAB secretariat provided reports supporting the SAB in its decision making and drafted the SAB decisions; • 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: 14 new authorisations; 62 renewals/ extensions; 95 Authorisation scope updates. • By the end of the year, 110 European companies had valid SAB authorisations; • 275 formal docs issued (Authorisation statements and Technical annexes and Letters to the Programme Manager plus notes to the file); • The proposal for a new PRS authorisations' process was elaborated, to simplify and to align to the Common Minimum Standards. The draft undergone several review iterations at the Panel and remained under review. |

| | Targets | 2018 results |
|---|---------|--------------|
| Indicators Requests for PRS manufacturer authorisation processed | 100% | 100% |

| Planned outputs | Actual outputs |
|--|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Recommendations to SAB and/or SAB Chair; • Authorisation of bodies to develop and manufacture PRS receivers or PRS security modules. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 14 new authorisations to manufacture PRS receivers or PRS security modules, 62 renewals, 95 authorisation scope updates. 110 European companies with valid SAB authorisations. |

Objective 11: COMSEC assurance – SAB subordinate CDA (WBS 2.06.01)

| Expected results | 2018 results |
|---|---|
| <p>Assess the conduct of EC COMSEC policy throughout the EGNOS and Galileo programmes. COMSEC shall continue to be achieved through the authoritative assessment of the COMSEC experts from the Member States (NDAs) of evidence supplied 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.</p> | <ul style="list-style-type: none"> • 5 meetings held in 2018 to examine and review Programme COMSEC compliance and FKC launch campaign implementation; • Continued implementation of the new Programme COMSEC governance through scrutiny of the EU GNSS DA compliance to European Council and Commission COMSEC policy; • Reviewed the Programme implementation of a Programme COMSEC Asset Database within ESA GNSS Security Office and the GSA to provide a centralised view of COMSEC accounting and transfers in the Programme; • Requested updates to the Galileo Initial Services Key Management Plan (IS KMP) as a pre-requisite for Galileo IS and GSOP authorisations to operate; • Worked in co-operation with SAB Panel GF#3 to maintain a list of approved Programme Operational COMSEC assets authorised for use in the Programme, and a subset of which was authorised for use with Galileo Initial Services; • Issued CDA TF recommendations for the SAB decisions with COMSEC aspects i.e Initial Services; • Oversaw and verified compliance of FKC launch campaign implementation for the launch in 2018; • Updated CDA Terms of Reference (not yet processed at SAB level). |

| | | Targets | 2018 results |
|------------|--|---------|----------------------------------|
| Indicators | Task force meetings | 4 | 5 |
| | Contribute to Panel Security Accreditation reports | 3 | For all accreditation milestones |
| | SAB CDA recommendations | 4 | 16 |

| Planned outputs | Actual outputs |
|---|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> COMSEC assurance statements to SAB meetings; Recommendations to the SAB and/or SAB Chair; Identified COMSEC risks reflected in System Security Plan. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> COMSEC report and recommendation from SAB CDA TF#018, #19, #20, #21, and #22 to the respective SAB meeting. |

Objective 12: COMSEC assurance – Flight Key Cell (FKC) (WBS 2.06.02/ WBS 2.06.03)

| Expected results | 2018 results |
|--|--|
| <p>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.</p> | <ul style="list-style-type: none"> Held one FKC meeting (March 2018) to close Galileo Launch campaign 9 and plan Galileo launch campaign 10; Implemented one launch campaign successfully. |

| | | Targets | 2018 results |
|------------|---|---------|--------------|
| Indicators | FKC launch campaigns | 1 | 1 |
| | FKC Launch Key Management Operational Plans | 1 | 1 |

| Planned outputs | Actual outputs |
|--|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> Contribution to SAB CDA COMSEC Reporting and Risk Identification; | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> FKC reporting to SAB CDA TF meetings and SAB meetings; |

- Recommendations to SAB/SAB chairman;
- SAB/FKC Launch Readiness Review presentations.
- FKC Launch Readiness for L10 presented to SAB.

Objective 13: Implement the new SAB regulatory responsibilities (WBS 2.04.03)

| Expected results | 2018 results |
|---|---|
| <p>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):</p> <ul style="list-style-type: none"> • 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; • 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; | <ul style="list-style-type: none"> • 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 Accreditation Panel and 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 (pentest). The results of these checks were reported to SAB for informed decisions; • The list of approved cryptographic products under scrutiny from the Accreditation 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. |

- 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 | 2018 results |
|--|---------|--|
| Indicators | | |
| All new responsibilities entrusted to SAB are implemented | 100% | As required in support of the accreditation milestones |

| Planned outputs | Actual outputs |
|---|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Revised terms of reference for subordinate bodies; • SAB decisions. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • The CDA Task Force drafted and endorsed their updated terms of reference for submission to the SAB (the terms of reference for the Panel was already available). The updated terms of reference were not submitted to the SAB yet (as the revision of Security Accreditation Strategy was put on hold by the SAB); • SAB decisions were provided in alignment with Programme needs. |

1.2 Public Regulated Service (PRS) Activities (WBS 2.03)

1.2.1 Tasks until 2020

| | Tasks | Objective | Year ³ |
|---|--------------------------------------|--|-------------------|
| 1 | PRS management Plan | Define the organisational structure and rules for implementing the management of PRS items and PRS information. | 2018 - 2020 |
| 2 | PRS entities database | Ensure a constant update of the database of entities authorised by CPAs and the SAB to carry out PRS activities. | 2018 - 2020 |
| 3 | PRS article 14 implementation report | Create a report summarising all movements, requests, and security breaches associated with the PRS items/PRS information under the responsibility of the Agency. | 2018 - 2020 |
| 4 | PRS article 14 inspections | Perform regular audit or inspection of the Agency's handling of PRS information. | 2018 - 2020 |
| 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. | 2018 - 2020 |
| 6 | Support to CPAs | Provide technical support to CPAs on the basis of specific arrangements. | 2018 - 2020 |
| 7 | GSA CPA implementation | Implementation of the GSA Competent PRS Authority (CPA) in support of entities requesting the GSA to act as their CPA (Art.5 of Decision 1104/2011/EU). | 2018 - 2020 |

1.2.2 Highlights for 2018

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 perform⁴ 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 decision⁵.

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

⁴ 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.

⁵ The cost of functioning is not part of the Agency's expenses.

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.

1.2.3 Tasks for 2018

| Objective 1: The Agency's CPA implementation (WBS 2.03.04) | |
|--|--|
| Expected results | 2018 results |
| <p>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:</p> <p><u>Phase 1: preliminary analysis</u></p> <ul style="list-style-type: none"> • 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. <p><u>Phase 2: establishment</u></p> <ul style="list-style-type: none"> • 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). | <p>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.</p> |

| | | Targets | 2018 results |
|------------|--|---------|--------------|
| Indicators | % of completion of preliminary analysis | 100% | 75% |
| | Establishment of the GSA CPA (if required) | 100% | N/A |

| Planned outputs | Actual outputs |
|--|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 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. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 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 | 2018 results |
|---|--|
| <p>This objective includes all activities related to implementing the Agency's CPA functionalities for third parties. The expected results are described as followed:</p> <ul style="list-style-type: none"> • 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. | <p>This objective continued from the previous year, even though no requests from third parties were received during 2018. 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.</p> |

| | Targets | 2018 results |
|--|---------|--------------|
| Indicators Level of compliance with the CMS and the PRS agreement when performing CPA tasks for third parties (if required) | 100% | N/A |

| Planned outputs | Actual outputs |
|---|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 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; | <p>Outputs relating to the multi-annual work programme objectives:</p> <p>N/A</p> |

Objective 3: Technical assistance to CPAs (WBS 2.03.05)

| Expected results | 2018 results |
|--|---|
| <p>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:</p> <ul style="list-style-type: none"> • Drafting a generic template (including administrative and technical details) for the provision of technical assistance to a CPA; • Interface with 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. | <p>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.</p> |

| | Targets | 2018 results |
|--|---------|--------------|
| Indicators Timely delivery of support for technical assistance agreement (both admin and technical) | 100% | N/A |

| Planned outputs | Actual outputs |
|--|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 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). | <p>Outputs relating to the multi-annual work programme objectives:</p> <p>N/A</p> |

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

| Expected results | 2018 results |
|---|---|
| <p>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.</p> <p>This activity includes:</p> <ul style="list-style-type: none"> • 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. | <p>This objective continued from the previous year.</p> <p>A review of the PRS management plan (and related PRS Information Management Plan (PIMP) 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.</p> <p>The level of compliance with the Article 14 arrangement has been improved throughout 2018 with respect to 2017. 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, PIMP and Key Management Plan are finalised and approved for the execution of new tasks after authorisation from the EC.</p> |

| | | Targets | 2018 results |
|------------|--|-----------|---|
| Indicators | Timely review of PRS information management plan | 1 | 0.75 |
| | Regular update of the risk analysis | Monthly | N/A |
| | Successful maintenance of PRS items and information database | Quarterly | N/A |
| | Level of compliance with Article 14 | 100% | Compliance: 91% Partial Compliance: 8% Non Compliance: 1% |

| Planned outputs | Actual outputs |
|---|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> Quarterly Article 14 implementation report sent to the EC; Quarterly report on PRS items and PRS information movement/requests/incidents. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> 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 | 2018 results |
| <p>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:</p> <ul style="list-style-type: none"> A complete list of the PRS entities; The scope of the activities pursued by those entities (unless the Member State objects); The date of authorisation and 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. | <p>This objective continued from the previous year. However, the process could not be implemented as the SAB related process, on which it depends, had not yet been consolidated on the basis of the Common Minimum Standards (CMS).</p> |

| | Targets | 2018 results |
|------------|--|--------------|
| Indicators | Time to process requests from the EC on PRS entity | ≤ 5 days |
| | Timely update of the PRS entities database after notification from the SAB | ≤ 5 days |

| Planned outputs | Actual outputs |
|---|----------------|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> PRS entities database. | N/A |

1.3 GSMC Operations and Preparation (WBS 4.06)

1.3.1 Tasks until 2020

| Tasks | Objective | Year ⁶ |
|--|--|-------------------|
| 1 Management of the organisation and communication | <p>Define the strategy and objective(s) to be implemented by the GSMC.</p> <p>Prepare and implement the GSMC's operations⁷ by scheduling milestones and main activities in order to provide a long-term global overview used to steer activities.</p> <p>Coordinate activities within and between the teams through regular team meetings and follow ups.</p> <p>Provide an overview of GSMC's internal communication (top-down and bottom-up approaches) and how the teams are organised and interact together.</p> <p>Ensure the development and ongoing implementation of project management processes, methodologies, tools, and reporting.</p> | 2018 - 2020 |
| 2 Integrated Management System | <p>Monitor Integrated Management System (IMS).</p> <p>Ensure GSMC meets standard requirements and that all processes are documented, monitored and audited.</p> <p>Ensure documents are drawn up and managed in accordance with the principles of the IMS.</p> | 2018 - 2020 |
| 3 Risk and business continuity management | <p>Identify potential risks that could impact the proper functioning of the Galileo/EGNOS programmes and take relevant actions to mitigate them.</p> <p>Ensure availability and continuity of GSMC services even in a reduced functionality mode, in case of a service breach.</p> | 2018 - 2020 |
| 4 Health & Safety management | <p>Define and describe the responsibilities and policies for health and safety at work.</p> <p>Provide and maintain a safe working environment for GSMC staff, visitors and contractors.</p> | 2018 - 2020 |
| 5 Resolution and continuous improvement management | <p>Development of GSMC systems in-line with Galileo evolutions and the ESA.</p> <p>Identify and deal with potential events that could impair the proper functioning of the GSMC and undertake relevant actions to correct and/or prevent them through Anomaly Review Boards (ARBs).</p> <p>Development of GSMC services in-line with the evolution of the service description and service implementation plan.</p> | 2018 - 2020 |

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

⁷ GSMC strategy and operations will be impacted multi-annually by the staffing plan 2018, including for the new GSMC backup site, the improvement of the PRS/SECMON services, and the implementation of a cyber security policy.

| | Tasks | Objective | Year ⁶ |
|----|--|---|-------------------|
| 6 | Engineering and requirement management | <p>Identify, analyse and flow-down the requirements that could impact the GSMC and the maintenance of the applicable baseline.</p> <p>Ensure and report the GSMC's compliance with programme requirements over time.</p> <p>Satisfy operational requirements by designing the operations; identify activities and all necessary documentation for operations, trainings and maintenance; validate the concept of operations and associated procedures.</p> <p>Identify and define processes, methods, tools and logic of system development activities, including maintenance and support capabilities for the two sites.</p> <p>Manage the lifecycle of technical processes that lead to the in-production setting of new technical supporting assets and processes.</p> | 2018 - 2020 |
| 7 | Operations, expertise and analysis | <p>Monitor status of system security and health, react to all security incidents and technological surveillance.</p> <p>Enable an access to PRS to authorised stakeholders, in compliance with PRS access rules (including the CMS) and within the limit of the system design.</p> <p>Manage the lifecycle of PRS access in order to assure the service continuity, including through service support and secure communication interfaces.</p> | 2018 - 2020 |
| 8 | Crisis management | <p>Specific activities and configuration of the GSMC needed 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 and its achievement will be dependent on external factors e.g. the withdrawal of the UK from the European Union.</p> | 2018 - 2020 |
| 9 | Administrative processes | <p>Support the overall administration of the human resources, legal and procurement, and finance functions in accordance with Agency's policies.</p> | 2018 - 2020 |
| 10 | Local security | <p>Prepare for, ensure, and maintain local security operational support to protect EU classified information present on GSMC sites and to protect its assets.</p> | 2018 - 2020 |
| 11 | Hosting and configuration management | <p>Prepare for, ensure, and maintain technical operational support to provide the necessary site hosting and Information and Communications Technology (ICT) means required for meeting the GSMC's core missions and to support its staff.</p> <p>Provide a continuity of hosting services through building maintenance and by managing extra requests related to the evolution of the facilities and ICT.</p> | 2018 - 2020 |

1.3.2 Highlights for 2018

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 2018, 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). During this year, the GSA prepared to upgrade the GSMC service capability towards dual site capacity associated with GSMC V3.

The focus in 2018 was on the activities in view of the deployment of GSMC V3 including GSF P2.2.1, Security Operational and Intelligence Facility 1 (SOIF1) and the Galileo Robust Operational Network (GRON) v1. The main milestones achieved in 2018 were the GSMC V3 Test Readiness Review (TRR), operation validation campaign for PRS, Security Monitoring (SECMON) and Launch and Early Operation Phase (LEOP). An Operations Readiness Review (ORR) has been also performed in October 2018. Migration has been delayed because the equipment and the needed technical support was not ready as a result of the withdrawal of the UK from the European Union. The Agency has nevertheless heavily supported the readiness of this migration.

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

- The successful preparation and performance of the LEOP SECMON: LEOP activities were performed to support the launch that took place in July. On 25 July 2018 the launch was successful, and a LEOP perimeter secured. After the launch a LEOP SECMON campaign was performed to continue monitoring the mission.
- 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 early 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 progressed significantly on the early building configuration and the Site Design review, Technical Site Acceptance Review and Security Acceptance Review have been passed.
- The GRON v1 activities have 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.

1.3.3 Tasks for 2018

| Objective 1: Operations Processes (WBS 4.06.01) | |
|---|--|
| Expected results | 2018 results |
| <p>Operations, expertise and analysis:</p> <ul style="list-style-type: none"> • Security and system status monitoring: Monitor system security and health, react to all security incidents and technological surveillance, including: <ul style="list-style-type: none"> - 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. • 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. | <p>Operations, expertise and analysis:</p> <ul style="list-style-type: none"> • 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. • 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 | 2018 results |
|------------|---|--|
| Indicators | <p>The indicators for this objective are marked as RESTREINT-UE/EU RESTRICTED</p> <p>Service Level Targets (R-UE/UE-R)</p> | <p>Service level results (R-UE/EU-R)</p> |

| Planned outputs | Actual outputs |
|---|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • System status and security monitoring: Incident handling, resolution of security incidents, vulnerabilities assessment and recommendations; • PRS access management: Availability of PRS access; • Operations, expertise and analysis: The agreement on associated budget, terms and conditions, and the updated annual work programme; • Crisis management: Escalation to Member States or to Council Decision (Joint Action). | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • System status and security monitoring: <ul style="list-style-type: none"> - 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 | 2018 results |
|--|---|
| <p>Engineering and requirement management:</p> <ul style="list-style-type: none"> • Requirement management: <ul style="list-style-type: none"> - Identification, analysis and flow-down of requirements that could impact the GSMC and the maintenance of the applicable baseline; - Ensure and report on GSMC compliancy with programme requirements over time. • Operations engineering: <ul style="list-style-type: none"> - Design the operations; identify activities and all documents necessary for operations, training and maintenance; and validate the concept of operations and all operational procedures in order to satisfy operation requirements. • Technical engineering: <ul style="list-style-type: none"> - 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. | <ul style="list-style-type: none"> • 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, 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 will have to be done to be implemented on time for respective System Baselines (i.e. 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 SAB. |

- **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 Operating Procedures V3 milestones have been performed as follows: Test Readiness Reviews in August 2018, and an Operational Readiness Review in December 2018. A Pre-Approval to Operate (ATO) certificate was provided by the SAB in December 2018.

2018 saw the successful design and validation of GSMC v3.0 operations, that consisted of:

- GSMC Concept of Operations v5.1 approved (with justification to Position and Orientation Solution and SOS);
- Development/Update of all the GSMC Operating procedures;
- PRS, SECMON, Commission Decision 496, L1 Maintenance, Crypto/COMSEC;
- Validation of operations;
- Update of the GSMC Operating procedures following the validation;
- Training materials 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

An associated set of training and maintenance activities are under preparation, and finalisation will take place before operational migration (Q2 2019). The migration activities have been prepared and reviewed with programme stakeholders.

The year also saw the successful preparation, validation and execution of the L10 LEOP, that consisted of:

- Participation in the L10 LEOP preparation;
- Development and validation of all the LEOP Security Monitoring Cell (L-SMC) procedures;
- Preparation of L-SMC supporting tools;
- Preparation and validation of L-SMC operations;
- Preparation and approval of the Test Readiness Review, Site Readiness Review and Operations Readiness Review;

- Preparation of all training materials for certification;
- Certification plan for L-SMC.

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

- Definition of anomaly processes;
- Chairing of GSF ARBs and Classified Operating Procedures ARBs;
- 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 | 2018 results |
|------------|-----------------------------|---------|--------------|
| Indicators | % review milestones on time | 100% | 100% |
| | | | |

| Planned outputs | Actual outputs |
|--|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Requirement management: service level management • Operations engineering: GSMC Operations Engineering Plan, Validation Plan, Validation Report, Product Assurance (PA) Report, support documentation for the process (change analysis, test case, test case results, test schedule, etc.) | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Requirement management: GSA inputs to Galileo Service Development, Deployment and Validation Plan and GSMC service roadmap. • Operations engineering: <u>Engineering Process</u> GSMC Engineering Procedure |

- **Technical engineering:**

- Long-term GSMC technical evolution roadmap and requirements, and related technical integration analysis (hosting and IT assets).
- Participate and contribute to program-related milestones and coordinate with providers (mostly WP2- WP2-x).
- Technical project documentation and contribution to project portfolios.

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: Kick Off Meeting (December 2017), Critical Design Review (February 2018), Core system deployment (June 2018), ATO (November 2018), final deployment postponed to Q2 2019;
- GSMC-ES Early Configuration: Kick Off Meeting (April 2018), Site Design Review (August 18), Site Acceptance Review (October 2018), Security Acceptance Review (November 18);
- GSMC-FR Long term extension: Review of French Ministry of Defence Programme Invitation To Tender (October 2018);
- WP2-x WO#1 Delta-Preliminary Design Review (August 2018), N-PRS Critical Design Review (December 2018) WO#2 SECMON Preliminary Design Review (December 2018).

Objective 3: Hosting services processes (WBS 4.06.03)

| Expected results | 2018 results |
|--|---|
| <p>Local security: prepare for, ensure and maintain the local security operational support needed to protect EU classified information present on site and its assets.</p> <ul style="list-style-type: none"> • Site and system security accreditations: Apply and implement security requirements of the GSMC, determine security design and contribute to the security accreditation of the systems. • Registry control management: Manage all exchanged and produced EU classified information (documents, items, etc.). • Local security management: Ensure physical security of people, properties, facilities, activities and information, prevent the compromising of classified or encrypted information (by staff, malicious acts, etc.) and establish, maintain and execute the local security operations. • COMSEC management: <ul style="list-style-type: none"> - Manage COMSEC materials, ensure their secure transfer to or from users or other parties through the enforcement of appropriate procedures and the use of approved channels. - Provide authorised users/ stakeholders access to classified cryptographic devices or keys. - Establish, maintain and execute the COMSEC policy, in-line with instructions from the EU GNSS distribution authority. • Crypto management and operations: <ul style="list-style-type: none"> - Establish, and maintain the crypto accounts for sites in-line with applicable regulations. - Establish, maintain and execute the local security operations as required. - Operate the ongoing configuration of cryptographic equipment to enable technical services that rely on such equipment. - Ensure the physical security of people, properties, facilities, activities and information, and prevent the compromise of classified or encrypted information (compromising of staff, malicious acts, etc.). | <ul style="list-style-type: none"> • Site and system accreditation: Existing accreditation certificates were maintained and a growing pipeline of future systems was managed: <ul style="list-style-type: none"> - GSMC-FR Site Accreditation Milestone & Site Approval To Operate (SATO) renewal; - GSMC-ES SEC Site Acceptance Review; - GSF, SOIF and GRON Pre-ATO; - Secure Inter-Network Architecture (SINA) Mission Network, Cyber Security Response Team, GSMC Secret UE (GSUE) Network, GSMC Restricted EU (GRUE) version 1 ATO renewal on both GSMC sites. • Local security management Maintained throughout the year. Procurement of guarding framework contract FR in progress (award expected during Q1 2019). • 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 P2.0.1. Further review of P2.2.1 Earl Access was done. <ul style="list-style-type: none"> - COMSEC procedures version update and validation for P221; - P221 Key management policies submitted to EU GNSS Distribution Authority; - GSF EMC Public Keys Infrastructure and SINA COMSEC operations (L1 operations); - GSMC COMSEC transportations ensuring secure transfer of COMSEC items; - L1 COMSEC maintenance of COMSEC items located on both sites. • Hosting and configuration management: <u>Facilities management (relevant hosting services)</u> <ul style="list-style-type: none"> - United Kingdom: Operations ceased due to downgrading of site to prepare for the withdrawal of the UK from the European Union. |

- **Hosting and configuration management:**
 - Provide a continuity of hosting services through building maintenance and manage extra requests related to the evolution of the facilities.
 - Facilities management (relevant hosting services).
 - Local support for IT systems (general technical operations).
 - GSF equipment support (operational systems first line maintenance):
 - Perform system administration.
 - Perform first line maintenance of GSMC operational systems, including planning for and providing of preventive maintenance, basic preventive initial repair, and (escalation to Level 2/Level 3) maintenance. Ensure (with L2 delivery) availability of spare parts and logistical flows of spare parts, configuration management of installed items in the operational systems, monitor operational status of operational systems, and perform relevant technical Level 1 configurations and status checks to ensure availability of such systems.
 - Spain: Following back up site location decision in Spain near Madrid, preparation and configuration activities.
 - France: Resilience actions were taken by the French Ministry of Defence to curb effects of floods of 2016.
 - 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.
- Local support for IT 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.
 - United Kingdom: the links were decommissioned.
 - Spain: the link was established.

| | | Targets | 2018 results |
|------------|---|---------|--------------|
| Indicators | Site and System Security Accreditation: | | |
| | Number of accreditation certificates in valid standing. | 11 | 13 |
| | Number of accreditation requests in progress. | 15 | 15 |
| | Percentage of data-packs released timely for accreditation requests (new or renewals) against annual plan baseline schedule. | 100% | 100% |
| | Overall for GSMC | | |
| | Number of incidents raised and number of incidents still under investigation. | 8/1 | 3/1 |

| Planned outputs | Actual outputs |
|--|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Registry control management: <ul style="list-style-type: none"> - Up-to-date registry⁸ (successfully audited) and, when necessary, destruction of classified documents; - Audit report(s); - Contribution to bi-monthly security report. • COMSEC management: <ul style="list-style-type: none"> - Up-to-date procedures, (updated annually), audit report(s); - Release of audit report, report incident(s), COMSEC SecOps, implementation of transportation plan, destruction of crypto material, delivery and safeguarding of crypto items; - Contribution to bi-monthly security report. • Crypto management and operations: <ul style="list-style-type: none"> - Up-to-date procedures, GSMC crypto account audit, audit report(s), destruction of crypto material, delivery and safeguarding of crypto items, and contribution to the security report. • Site and system security accreditation: <ul style="list-style-type: none"> - Authorisation to deploy and operate Security Accreditation Authority (SAA) accreditation; - Accreditation strategy; - SAA approved security needs, business impact analysis, software integration plan and SecOps; - SAA issued ATO Accreditation/certificate; - Contribution to bi-monthly security report. • Local security management: <ul style="list-style-type: none"> - Ongoing management of access control, annual access control report summaries, maintain access control list, contribution to bi-monthly security report; - Monthly reports on guarding support services contractors. • Hosting: <ul style="list-style-type: none"> - Facility maintenance support contract, monthly reports from facility management providers; - Records on GSF maintenance. | <ul style="list-style-type: none"> • Registry control management: <ul style="list-style-type: none"> - 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. • COMSEC & crypto account management: <ul style="list-style-type: none"> - 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 and United Kingdom; - 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: <ul style="list-style-type: none"> - Local Site SecOps produced for the GSMC-ES Security Site Acceptance Review; - 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 (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); - Contribution to the periodic reports. • Local security office: <ul style="list-style-type: none"> - Access control managed continuously, access control reports summaries, access control list maintained; - Monthly reports of guarding support services contractors. |

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

- **Hosting:**
 - France and the United Kingdom: Facility maintenance ensured in 2018.
 - France: Electrical incidents in Q4 triggered an investigation in 2019.
 - Spain: Kick-off in Q1 with the Early Configuration Technical Site Acceptance Review and Security Site Acceptance Review achieved in Q4.
 - Records on GSF maintenance: Data restricted.

Objective 4: Management processes (WBS 4.06.04)

| Expected results | 2018 results |
|--|--|
| <ul style="list-style-type: none"> • Management of the organisation and communication: <ul style="list-style-type: none"> - Define the strategy and objective(s) to be implemented by the GSMC; - Prepare and implement operations by scheduling milestones and related activities in order to provide a long-term global overview that will steer activities; - Coordinate activities within and between teams through regular team meetings and follow-ups; - Provide an overview of internal communication strategy (top-down and bottom-up approaches) and of how the teams are organised and interact with each other; - Ensure the development and ongoing implementation of project management processes, methodologies, tools and reporting. • Integrated Management System and Product Assurance: <ul style="list-style-type: none"> - Monitor the IMS, ensure documents are drawn up and managed in accordance with IMS principles; - Ensure the GSMC meets standard requirements and that all processes are documented, monitored and audited; - Support the activities of the ARB, NRB, and CCB. | <ul style="list-style-type: none"> • Management of the organisation and communication: <ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> - A GSMC quality system has been established to comply with the GSA IMS. The quality system was part of the successful ISO 9001 certification renewal that was performed in October 2018. - Anomaly Review Board (ARB), Change Control Board (CCB): 56 ARBs and 16 CCBs were performed in 2018. • Risk and business continuity and disaster management: <ul style="list-style-type: none"> - Ongoing: Risk management contributions into overall GSA managed risks anomaly review process |

- **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 them;
 - Business continuity and disaster: in case of service breach, ensure availability and continuity of services in a reduced functionality mode.
 - **Health and safety management:**
 - Define and describe responsibilities and policies relating to health and safety at work, provide and maintain a safe work environment for staff, visitors and contractors.
 - **Resolution and continuous improvement management:**
 - System improvement (hosting + GSF): develop systems in-line with Galileo evolutions and the ESA;
 - Resolution management: identify and deal with potential events that could impact the proper functioning of the GSMC and undertake relevant actions to correct and/or prevent them through ARBs;
 - Service improvement: develop services in-line with the evolution of the service description document and the service implementation plan.
- **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 EMC Business Continuity Plan was successfully activated in June 2018.
 - **Health & Safety management:**
 - Consolidated versions of the Occupational Health & Safety Policy and the Fire Safety Policy were prepared for review and shall be adopted in 2019. However, throughout 2018 a safe work environment for staff and visitors was assured. Evaluation of work place ergonomics happened in HQ and staff were trained where necessary. Improvement of HQ fire safety measures were in progress and major changes are planned for 2019.
 - At the GSMC the Agency has implemented several 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 the GMS and Galileo Control Segment (GCS) ones.

| | | Targets | 2018 results |
|--|---|----------------------------------|---|
| Management of the organisation and communication: | | | |
| Indicators | % of milestones achieved since start | 80% | 100% |
| | Number of opened tasks completed | All tasks opened to be completed | N/A (a measurement on a tool GSMC no longer uses) |

| Targets | | 2018 results |
|------------|--|---|
| Indicators | Risks, business continuity and disaster management: | |
| | Number of risks under management | All risks considered as not acceptable 22 |
| | Average criticality score | ≤ 11 To reduce as much as possible the average criticality of the risks 12.4 |
| | Risk Management status: closed, transferred, opened | 95 % of actions completed on time 85 % |

| Planned outputs | Actual outputs |
|--|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Management of the organisation and communication: Reporting on the progress of activities (achievement of milestones), periodically report on local security operations and status of engineering processes, actions/task completed and closure. • 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: <ul style="list-style-type: none"> - Risks are monitored and controlled. - An initial, comprehensive GSMC business continuity plan and organisation setup by Q2 2017 (based on GSF P2.0). - Annual audit/review of the business continuity plan. • Resolution and continuous improvement: Resolution of the reported anomaly/incident, proposal for changes to the GSMC service baseline, evolution roadmap. | <ul style="list-style-type: none"> • 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): <ul style="list-style-type: none"> - Plans De Prevention : <ul style="list-style-type: none"> - Securitas: 6 October 2016 - Gepsa: 01 March 2017 - WP2: 15 June 2016 - Document Unique d’Evaluations des Risques professionnels <ul style="list-style-type: none"> - Updated: 30 November 2017 - Plan de prévention : 100% implemented • Risk and business continuity disaster management: <ul style="list-style-type: none"> - 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 | 2018 results |
|--|--|
| <p>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:</p> <ul style="list-style-type: none"> • Human resources management: <ul style="list-style-type: none"> - 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: <p>Ensure that staff are well-trained in the specific fields.</p> | <ul style="list-style-type: none"> • Certification Management: <p>Ensure the appropriate certification of the staff (PRS Access Officer, SIH, etc.) on time : Certification boards were held in March, April, May and June 2018.</p> • GSMC specific training: <p>Cyber training provided as of Q3 2018.</p> |

| | Targets | 2018 results |
|--|---------|---------------------------|
| Indicators Human Resources Management: % success rate of training (certification) | 100% | 86% (SIH: 100%, PRS: 72%) |

| Planned outputs | Actual outputs |
|--|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Operators' certificates | <ul style="list-style-type: none"> • Operators' certifications maintained and for some expanded (dual PRS/SECMON) • Standby Officer maintained throughout the year – interventions 2/3 on hosting, 1/3 on GSF • SIH: <ul style="list-style-type: none"> - 6/6 certified – 5/6 SIH “cross certified” as PRS Access Officers - PRS access officers - 3/6 PRS certified and “cross certified” as SIH - 2/6 SIH certified and awaiting their Personal Security Clearance |

1.4 Promotion and Marketing of the Services (WBS 5.02, 5.03, 1.03.01)

1.4.1 Tasks until 2020

| 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. | 2018 - 2020 |
| | Support chipset and receiver manufacturers in implementing EGNSS. | 2018 - 2020 |
| 2 User satisfaction monitoring process and customer assistance. | Build user experience and satisfaction; implement user feedback in the evolution of EGNSS. | 2018 - 2020 |
| 3 Market development by user segment (Aviation, Road, Location Based Services (LBS), Agriculture, Maritime, Rail, Mapping and Surveying, Timing & Synchronisation, Governmental). | Identify needs and opportunities for services and applications. | 2018 - 2020 |
| | Maximise adoption of EGNSS by value chain and its availability to users. | 2018 - 2020 |
| 4 Management of active internet-based communications via websites and social media. | Management of active internet-based communications via websites and social media. | 2018 - 2020 |

1.4.2 Highlights for 2018

In 2018 the Agency continued stimulating the demand for Galileo within the user community and supporting the development of Galileo-ready products. Thanks to the collective efforts of the GSA in the previous years, there were crucial achievements across all market segments.

The GSA continued to work closely with chipset and receiver manufacturers, as they are essential to Galileo's success. Dual frequency chipset penetration in particular took an important step. In December 2018 Qualcomm, following Broadcom, STMicroelectronics and Ublox launched a new dual-frequency GNSS chipset, leveraging the Galileo E1/E5a signals and confirming the take off of the Galileo E5 frequency, currently one of the main differentiators, at worldwide level. In parallel Galileo-enabled phone market penetration further increased with more than 100 new different smartphone models, putting the installed base at approximately 600 million units at the end of 2018.

To consolidate the position of EGNOS in aviation, the Agency continued to foster its adoption by supporting Air Navigation Service Providers (ANSPs) to implement EGNOS approach procedures and building enablers to facilitate operators to equip aircraft. Moreover, the Performance-Based Navigation Regulation published in July 2018 mandates the use of EGNOS in all airports by 2020 and the decommissioning of conventional nav aids by 2030. GSA, together with the European Aviation Safety Agency (EASA), led an initiative to extend the use of EGNOS to non-instrument runways, a market twice as large as the current one. EasyJet, in collaboration with Airbus, announced that their A320 will be the fleet's first aircraft to be EGNOS-enabled and Boeing announced new models with SBAS capabilities. The Agency consolidated

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.

EGNOS in helicopters and prepared EGNOS adoption in such emerging markets as drones and surveillance. With respect to Galileo, the Agency triggered the analysis of innovative uses of the Galileo Search and Rescue Return Link for Aviation and progressed on the implementation of the Cospas Sarsat beacons.



For the Road segment, the Agency also supported technically automotive manufacturers with the use of Galileo in Autonomous driving. As a result, BMW confirmed that new autonomous vehicle models are expected by 2020-2021 and will be Galileo enabled. The Volvo V60 is the first model equipped with the pan European eCall. In addition, many new models of cars with eCall have been approved during 2018 and are expected to be introduced to the market soon. Actions undertaken by the GSA in collaboration with EC/Joint Research Centre (JRC) to pre-test eCall products, have also helped progress towards the target of more than 13 million enabled cars by 2021.

In 2015, some European maritime authorities (i.e. France, Spain and Norway) declared the intention to adopt EGNOS in their infrastructure for coastal navigation and the International Association of Lighthouses Authorities (IALA) proposed to develop guidelines for maritime authorities to support their decision to adopt a Satellite Based Augmentation System (SBAS).

GSA with the support of the European Satellite Services Provider (ESSP) and ESA, led the work that resulted in the publication of the IALA Guidelines 1129 in 2018, on the retransmission of SBAS corrections using Multi-Frequency radio beacons and Automatic Identification System stations.

GSA also conducted a pilot project for the implementation of EGNOS in these stations, resulting in implementations in Spain, Germany, Latvia and Hungary, with support from the United Kingdom and France. France also upgraded one of its stations to use the EGNOS Data Access System (EDAS).

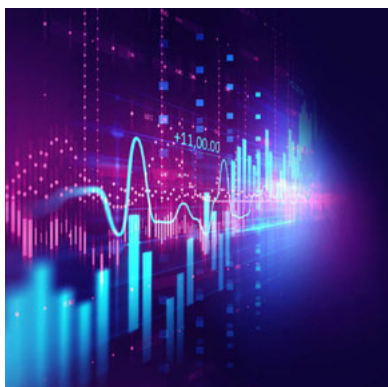


In Rail, the positive results of the first train using E-GNSS to deliver safety-relevant positioning tested in Italy in 2017 triggered the certification process for providing a commercial operation, which is currently in progress within the pilot line in Pinerolo-Sangone. Galileo is also becoming increasingly important within non-safety relevant applications. At the end of 2018 one of the major players - Deutsche Bahn AG, announced that their cargo rail car fleet will be equipped with the track and trace telematics solution using GNSS and are expecting more than 30 000 Galileo enabled receivers to be delivered.

The professional sector of Agriculture, Surveying, Timing and Synchronisation continued to progress positively in terms of E-GNSS usage. For Agriculture, GSA is constantly providing technical assistance support to machinery manufacturers, network providers, associations and national Paying Agencies. CNHi, a European machinery manufacturer and service provider, has upgraded its network to full Galileo capability to bring EGNSS to its customers, as result of the cooperation started in 2017. Numerous national Paying Agencies already rely on EGNOS for on-the-spot checks and are evaluating new possibilities based on Galileo differentiators.

For Surveying, 28 Real Time Kinematics augmentation service providers have upgraded or started to upgrade to Galileo capabilities (4 additional service providers completed their upgrades in 2018: NetPos (The Netherlands), IGN (Spain), SKAPOS (Slovakia) and Regina (Croatia)). The main Precise Point Positioning providers also utilise Galileo for their corrections.

For both Surveying and Agriculture, the Young Surveyors' Prize and Farming by Satellite were successfully conducted and awarded having a record participation for the latter with 29 registrations from 13 countries.



For the Timing and Synchronisation market, the Agency continued working closely with the market community (users, operators, receiver manufacturers) to increase the E-GNSS market penetration and contribute to the overall resilience of European critical infrastructures. In addition a European Galileo based multi frequency receiver suitable for the critical infrastructure was developed, as well as the concept definition of added-value application offerings based on Galileo services leveraging the Galileo OS in the short term and then upgraded to the Galileo OS-NMA.

At the end of 2018, the Second User Consultation Platform (held during the EU Space Week) confirmed great interest and user participation in all market segments. The quantification of user needs and requirements continued, in particular for emerging applications.

Users confirmed great expectations for new Galileo services/differentiators with a particular focus on the need for the Open Service Message Authentication (OS-NMA) experimental service in 2019 in order to avoid missing market opportunities for Digital Tachograph, Level 3/4 Autonomous Vehicles, drones and Timing and Synchronisation. The Agency continued to apply a systematic approach to promote Galileo's differentiators in each vertical and horizontal market segment.

With respect to Open Service – Navigation Message Authentication (OS-NMA), a first implementation in a real commercial receiver was achieved. This allowed for the verification of service compatibility with a real product capable of entering the market; which will facilitate the provision of support for the upcoming live test signal phase expected in 2019. In line with the overall OS-NMA workplan, the Agency also raised awareness about using OS-NMA and collected feedback from potential users. Finally, the Agency assessed the NMA added value for a regulated road application (i.e. Smart Tachograph) and started preparing the ground for the inclusion of NMA in the next Tachograph regulation.



Regarding the High Accuracy Service (HAS), the Agency has contributed to the service definition by reflecting the user needs captured during the user consultation process and explaining the service to major market players, for example in automotive and professional segments.

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 2018

| Objective 1: E-GNSS market development in Aviation (WBS 5.02.03 and 5.03.03) | |
|---|--|
| Expected results | 2018 results |
| <ul style="list-style-type: none"> • 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 ANSPs on implementing Localiser Performance with Vertical Guidance (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; • EGNOS user satisfaction survey completed. | <ul style="list-style-type: none"> • Annual market monitoring, analysis and forecasting performed, also including drones, surveillance and Search and Rescue (SAR) beacons, in addition to navigation; • New technology report published including updated information on aviation and integrating drones in a new section on automation; • Adoption strategy enlarged to include new uses of GNSS: helicopters navigation, surveillance, drones, and search and distress tracking; • 2018 edition of user consultation platform on aviation performed, which included new applications; • Consolidated cooperation with aviation stakeholders, such as EASA, contributing to regulatory activities, SESAR Joint Undertaking on Research and Development, and Eurocontrol on adoption; • Targeted cost benefit analyses developed for ANSPs and operators. The new Five Lives Advisory Group (FLAG) on helicopters was created to support EGNOS adoption; • First flight testing to prove the added value of EGNOS and Galileo performed and assessment of user needs; • 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; • EGNOS user satisfaction survey was launched in 2018 and implementation of 2017 results was completed. |

| | | Targets | 2018 results |
|------------|---|---------|--------------|
| Indicators | Number of updates of report on penetration of Galileo and EGNOS in receiver models | 1 | 1 |
| | Number of updates of the adoption strategy for aviation | 1 | 1 |
| | Successful organisation of annual sessions on user needs for all sub-segments using adequate forum | 100% | 100% |
| | Number of EGNOS-based approaches designed which are tracked | 500 | 598 |
| | Unmanned Aerial Vehicles demonstration tracked | 90% | 90% |
| | Successful implementation of all activities in support of the introduction of SAR beacons to aviation | 100% | 100% |
| | Completion of annual EGNOS User Satisfaction survey | 100% | 100% |
| | Number of specific working groups established | 3 | 3 |

| Planned outputs | Actual outputs |
|--|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> GNSS User Technology 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; Institutions and industry/users cooperation material. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> GNSS User Technology Report published, including drones and SAR as new uses; Galileo receivers for drones and SAR updated, EGNOS penetration in aviation receivers updated; Adoption strategy updated with new applications, such as surveillance, drones and distress tracking; Updated user requirements published; Annual tracking of EGNOS approach procedures (592 by end of 2018), including helicopters; 2 manufacturers developing ELT-DTs (Emergency Locator Transmitter – Distress Tracking) and ELTs with Galileo RLS; EGNOS 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: E-GNSS Market development in Road (WBS 5.02.04 and 5.03.04)

| Expected results | 2018 results |
|--|---|
| <ul style="list-style-type: none"> • Market monitoring, analysis and forecasting in the area of road transportation; • Technology monitoring in the area of road transportation; • Market and user oriented EGNSS market segment adoption strategy; • Segment institutions and industry/user relationship management, including definition and update of user needs; • Technical support (including plan and testing) to smart (digital) tachograph industry for EGNSS adoption, in cooperation with the JRC; • Recommendations provided to the EC for its Cooperative-Intelligent Transport System (ITS) Master Plan¹⁰, 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 applications. | <ul style="list-style-type: none"> • Annual market monitoring, analysis and forecasting performed; • New technology report published; • Adoption strategy updated; • Segment institutions and industry/user relationship managed • 2018 edition of user needs consultation on UCP on Road segment performed; • Technical support provided (Plan drafted; testing postponed due to OS-NMA Interface Control Document publication delay) 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 II and III; • Selection of the contractor to develop 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); • Design of the roadmap completed and the first set of actions (entry plan) were launched including the membership of the GSA in Mobility as a Service Alliance and initiation of the pilot demonstrations. |

¹⁰ The master plan can be found online on the EC's website at: http://ec.europa.eu/smart-regulation/roadmaps/docs/2016_move_040_cooperative_intelligent_transport_en.pdf

| | | Targets | 2018 results |
|------------|--|---------|-----------------|
| Indicators | Number of updates of report on penetration of Galileo and EGNOS in available receiver models globally | 1 | 1 |
| | Number of updates of the adoption strategy for road | 1 | 1 |
| | Successful organisation of annual sessions on user needs within the respective forum | 100% | 100% |
| | Test plan for smart (digital) tachograph designed (% of test methods agreed with the JRC) | 100% | 100% |
| | Number of smart (digital) tachograph receiver models tested | 1 | 0 ¹¹ |
| | Galileo adoption in road GNSS receivers: % of models with Galileo capability | 65% | 65% |
| | % of actions within the roadmap for adoption in cooperative-ITS designed | 100% | 100% |
| | % of actions within the roadmap for EGNSS standardisation and certification process in autonomous vehicles implemented | 30% | 30% |
| | % of entry plan for EGNSS adoption in MaaS applications designed | 100% | 100% |

11 Due to OS-NMA Interface Control Document delay

| Planned outputs | Actual outputs |
|---|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • GNSS User Technology 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 report; • Entry plan. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • GNSS User Technology 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 were designed, validated and initiated; • Strategy on Road and Automotive (focus on Autonomous driving) designed. |

Objective 3: EGNSS market development in Maritime (WBS 5.02.05 and 5.03.05)

| Expected results | 2018 results |
|--|--|
| <ul style="list-style-type: none"> • 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. | <ul style="list-style-type: none"> • Annual market monitoring, analysis and forecasting performed. Market monitoring and analysis showed a penetration of 80% of EGNOS and 15% of Galileo in receivers; • New technology report published including updated information on maritime and integrating autonomous vessels in a new section on automation; • Adoption strategy updated for the use of EGNOS and Galileo for maritime navigation and SAR positioning applications; • 2018 edition of User consultation platform on Maritime performed; • Galileo tests and schedule agreed with 3 ship-borne receiver manufacturers; • Main beacon manufacturer included SAR return link in PLB (Personal Locator Beacon) and Emergency Position-Indicating Radio Beacon. |

| | | Targets | 2018 results |
|------------|---|---------|--------------|
| Indicators | Number of updates of info on penetration of Galileo and EGNOS in available receiver models globally | 1 | 1 |
| | Number of updates of the adoption strategy for maritime | 1 | 1 |
| | Successful organisation of annual sessions on user needs within the respective forum | 100% | 100% |
| | Number of ship borne receiver manufacturers engaged in Galileo testing | 3 | 3 |
| | % of development of the first maritime SAR beacon including Galileo RLS complete | 100% | 100% |

| Planned outputs | Actual outputs |
|---|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> GNSS User Technology 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; Development of Maritime SAR beacon that includes Galileo developed RLS. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> GNSS User Technology report published; Report on Galileo and EGNOS penetration in maritime receivers and chipsets updated; Adoption strategy and roadmap updated; User requirements updated within the User Consultation Platform; The 3 receiver manufacturers agreed to lend their receivers subject to a loan agreement; Maritime SAR beacon (PLB and Emergency Position-Indicating Radio Beacon) including Galileo RLS developed. |

Objective 4: EGNSS market development in Rail (WBS 5.02.06 and 5.03.06)

| Expected results | 2018 results |
|---|---|
| <ul style="list-style-type: none"> Market monitoring, analysis and forecasting in the area of rail; Technology monitoring in the area of 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; Implementation of the roadmap for rail certification. | <ul style="list-style-type: none"> Annual market monitoring, analysis and forecasting performed; New technology report published; Adoption strategy updated; 2018 edition of User Consultation Platform (UCP) on rail performed; Consolidation of final user requirements for safety relevant applications and analysis of their impact on EGNSS services ongoing and on-track; Implementation of the roadmap for rail certification is in progress and on-track. |

| | Targets | 2018 results |
|-------------------|--|--------------|
| Indicators | Number of updates of info on penetration of Galileo and EGNOS in available receiver models globally | 1 |
| | Number of updates of the adoption strategy for rail | 1 |
| | Successful organisation of annual sessions on user needs within the respective forum | 100% |
| | Results of EGNSS performance tests available for endorsement by European rail signalling supplier community | 100% |
| | Implementation of certification roadmap (% of actions completed) | 20% |

| Planned outputs | Actual outputs |
|--|---|
| Outputs relating to the multi-annual work programme objectives: <ul style="list-style-type: none"> GNSS User Technology Report; Report on Galileo and EGNOS penetration in rail receivers and chipsets; Adoption strategy report; | Outputs relating to the multi-annual work programme objectives: <ul style="list-style-type: none"> GNSS User Technology report published; Report on Galileo and EGNOS penetration in rail receivers and chipsets updated; Adoption strategy and roadmap updated; |

- Updated user requirements – limited to the UCP report;
- Performance tests report;
- Partially implemented roadmap.
- User requirements updated within the UCP;
- Performance tests report defined;
- 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 | 2018 results |
|--|--|
| <ul style="list-style-type: none"> • Market monitoring, analysis and forecasting in the area of agriculture; • Technology monitoring in the areas of high precision, agriculture and surveying markets; • Market and user oriented EGNSS market segment adoption strategy; • 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; • Support EGNSS adoption through dedicated awards for innovative integration of EGNSS in high precision, agriculture and surveying applications; • Analysis of synergies with Copernicus; • Initialise procedure to implement Commercial Service (CS); • Consolidate upgrade to Galileo in private and public reference networks. | <ul style="list-style-type: none"> • Annual market monitoring, analysis and forecasting performed; • New technology report published including updated information; • Adoption strategy updated; • 2018 edition of UCP on agriculture, mapping and surveying performed • Consolidated cooperation with agriculture, mapping and surveying stakeholders, such as the Joint Research Centre (JRC), paying agencies, CLGE (Council of European Geodetic Surveyors), etc.; • Galileo penetration increase slower than expected but new CNHi (Trimble) and Topcon products with Galileo ready capabilities are coming in early 2019. Trimble and Topcon cover almost 60% of the market in high precision. EGNOS keeps its entry level position in high precision adopted with more than 80% receivers in the market; • Agriculture Cost Benefit Analysis tool developed and discussed with CNHi and Topcon; • Precision farming exhibition held at New Holland Campus, where new Trimble receivers, which are 100% Galileo compatible, were tested; • Execution and award of the Farming by Satellite prize 2018 and GLGE young surveyor prize; • Contribution to supporting the Sustainable Development Goals of EGNSS and Copernicus report; • Procedure to implement CS initialised; • Galileo public and private reference network upgraded with 28 Real Time Kinematics. |

| | | Targets | 2018 results |
|------------|---|-----------------|--|
| Indicators | Number of updates of info on penetration of EGNSS in number of receiver models available globally | 1 | 1 |
| | Number of updates of the adoption strategy for high precision | 1 | 1 |
| | Successfully conduct regular user fora | 100% | 100% |
| | Galileo adoption in professional receivers and chipsets for high precision, agriculture and surveying (annual percentage of models with Galileo capability) | 60% | 47% |
| | Timely support for EGNSS adoption via dedicated awards for innovative integration of EGNSS in high precision, agriculture and surveying applications and/or devices | As per schedule | Farming by Satellite prize 2018 and CLGE (Council of European Geodetic Surveyors) young surveyor prize supported |
| | Analysis of synergies between EGNSS and Copernicus completed | 100% | 100% |
| | % of completion of selection procedure for the Commercial Service (CS) service provider | 90% | 90% (handed over during 2018) |
| | % of completion for the analysis of Galileo penetration in private and public reference networks | 100% | 100% |

| Planned outputs | Actual outputs |
|---|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> GNSS User Technology 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; | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> GNSS User Technology Report published; Report on Galileo and EGNOS penetration in receivers and chipsets in agriculture and surveying updated; Adoption strategy report updated; Updated user requirements – limited to UCP report; Materials from awarded prizes published; |

- Report analysing the synergies with Copernicus, including recommended actions;
- Consolidated roadmap for the CS service provision approach;
- Report on Galileo implementation in the reference networks.
- Contributed to supporting the Sustainable Development Goals of EGNSS and Copernicus;
- Consolidated roadmap for the CS service provision approach drafted and maintained;
- 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 | 2018 results |
|--|--|
| <ul style="list-style-type: none"> • 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. | <ul style="list-style-type: none"> • Annual market monitoring, analysis and forecasting performed up to 2030; • New technology report published including updated information; • Strategy updated reflecting the main changes in terms of adoption for Galileo and GNSS and to include main market trends; • 2018 edition of UCP performed, and establishing of user relationships with key stakeholders by liaising with main actors of the value chain, including chipset and device vendors; • Galileo penetration significantly increased in mass market devices. |

| | Targets | 2018 results |
|------------|---|--------------|
| Indicators | Number of updates of information about penetration of Galileo and EGNOS in receiver models available globally | 1 |
| | Number of updates of LBS adoption strategy | 1 |
| | Successful submission of annual report to User Consultation Group | 100% |
| | % of models with Galileo capability adopted in mass market applications (LBS and IoT) chipsets | 55% |

| Planned outputs | Actual outputs |
|--|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> GNSS User Technology Report; Report on Galileo and EGNOS penetration in mass market receivers and chipsets; Adoption strategy report; Updated user requirements – limited to UCP report. | <ul style="list-style-type: none"> GNSS User Technology report published; Report on Galileo and EGNOS penetration in Location Based Services (LBS), M2M and Mass Market receivers and chipsets update; Adoption strategy and roadmap updated; User requirements updated within the UCP. |

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

| Expected results | 2018 results |
|--|--|
| <ul style="list-style-type: none"> 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 adoption of Galileo in critical infrastructures. | <ul style="list-style-type: none"> Annual market monitoring, analysis and forecasting performed; New technology report published; Adoption strategy updated; 2018 edition of UCP on Timing and Synchronisation performed; 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 | 2018 results |
|------------|--|--------------|
| Indicators | Number of updates of penetration of Galileo and EGNOS in number of receiver models available globally | 1 |
| | Number of updates of the adoption strategy for timing and synchronisation | 1 |
| | Successful consultation of user needs within User Consultation Group | 100% |

| Planned outputs | Actual outputs |
|---|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> GNSS User Technology Report; Report on Galileo and EGNOS penetration in timing and synchronisation receivers and chipsets; Adoption strategy report; Updated user requirements – limited to UCG report; Supporting materials delivered (upon request) to EC regarding Galileo in timing and synchronisation. | <ul style="list-style-type: none"> GNSS User Technology report published; Report on Galileo and EGNOS penetration in Timing and Synchronisation receivers and chipsets updated; Adoption strategy and roadmap updated; User requirements updated within the UCP; Inputs provided to EC when requested. |

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

| Expected results | 2018 results |
|---|--|
| <ul style="list-style-type: none"> Market monitoring, analysis and forecasting in the area of governmental use; Delivery of necessary information to support Member States in the promotion of Galileo PRS within their user communities, following CPAs consultations. | <ul style="list-style-type: none"> Market analysis in support of Galileo second generation was prioritised and performed. Additional market analysis in the area of governmental use was postponed to 2019; Needed information provided to Member State communities with the support of the promotion of Galileo PRS, following CPA consultations. |

| | Targets | 2018 results |
|------------|---|--------------|
| Indicators | Number of updates of information about potential penetration of Galileo PRS | 1 |
| | % of implemented action from CPA consultations | 20% |

| Planned outputs | Actual outputs |
|--|---|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> Report on Galileo's potential penetration in receivers and chipsets for governmental use; Material about Galileo PRS status and supportive actions provided to CPAs. | <ul style="list-style-type: none"> Market analysis report in support of Galileo second generation; Dissemination material for PRS promotion to Member States. |

Objective 9: Services, Applications and R&D Communications (WBS 1.03.01)

| Expected results | 2018 results |
|---|--------------|
| <p>Communication activities relating to EGNOS and Galileo services and applications for research and development comprise of the following items:</p> <ul style="list-style-type: none"> • 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 | 2018 results |
|--|---------|--------------|
| Indicators Increased positive activity across all channels utilised | 100% | 100% |

| Planned outputs | Actual outputs |
|---|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 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. | <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 2018 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 two active websites in English (www.gsa.europa.eu and www.gsc-europa.eu), one web tool (useGalileo.eu) in all 24 EU languages and contributes regularly to www.egnos-portal.eu. • GSA Social Media presence: In 2018 the GSA stepped up social media activity and achieved a 43% increase followers on Twitter, 60% increase in followers on LinkedIn, a 105% increase in YouTube subscribers and a 27% increase in Facebook followers in comparison to 2017. • Printed Publications: Production of promotional materials for ECall and Galileo-enabled smartphones in all 24 EU languages. Production and promotion of 2018 GSA GNSS Technology Report, and GNSS/Earth Observation Synergy Report, plus a range of updates and reprint of various brochures for event distribution and EGNSS technical documentation. Creation of Inside GNSS 'Opinion Leader' series – Interviews with five key Galileo-enabled device leaders. • Video Production: Production of 25 videos and animations, including: <ul style="list-style-type: none"> - Who is using Galileo today? - Topical videos on eCall and Waterborne transport - 'What is Galileo' and 'Galileo in your pocket' animations completed in all 24 languages - A range of event specific info and promotional clips - 13 informational webinars were implemented - 5 Galileo 'Accuracy Matters' campaign promotional clips |

- **Event creation, participation and management:** 20 events, including but not limited to: The Mobile World Congress, World ATM Congress, SpaceOps 2018, Concar Expo 2018, HORIZON 2020 Space Info Day & Brokerage Event, and the full organisations of 2018 EU Space Week and the first 'Agriculture and Space Day'.
- **Media, public relations and stakeholder initiatives:** December 2018 launch of new mass-market campaign for Galileo: Accuracy Matters which featured video clips at events, on social media and in airports, as well as 9 press initiatives including but not limited to:
 - Galileo: 2 years after Initial Services, Accuracy Matters more than ever!
 - GSA publishes its second GNSS User Technology Report
 - eCall Satellite navigation certified for first European customers
- **Newsletter production and distribution:** The GSA launched a new weekly newsletter called 'Watch this Space'. 40 issues were published in 2018 to +9 000 subscribers.
- **Feedback surveys and studies:** In 2018 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 and a post event survey for EU Space Week.

1.5 Agency Management (WBS 1)

1.5.1 Highlights for 2018



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, IT, and logistics. The main 2018 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 2018, 18 accreditation reviews related to GSA internal systems/areas were performed.
- Continued support and awareness for overall Agency work via a range of corporate communications and stakeholder relations/liaison initiatives.
- The Agency continued to engage and expand its internal communication efforts to help support an informed, motivated and connected GSA team located in multiple locations.

1.5.2 Tasks for 2018

| Objective 1: Legal, procurement, grants and contract management (WBS 1.01.02) | |
|--|--------------|
| Expected results | 2018 results |
| <ul style="list-style-type: none"> 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 | 2018 results |
|------------|---|--------------|
| Indicators | Procurement and contract award: % of contracts in place and on time | 90 % |
| | Contract management: % of exceptions linked to legal department performance compared to total number of contracts signed in a year | 100% |
| | | < 5% |
| | | 0,15% |

| Planned outputs | Actual outputs |
|---|----------------|
| <ul style="list-style-type: none"> 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 | 2018 results |
|---|--------------|
| <ul style="list-style-type: none"> • Selection, recruitment and on-boarding of the most suitable candidate for each vacant post and in accordance with applicable requirements and Staff Regulations; • Welcome/work-life balance features; • Staff administration and services: establishment of individual rights to ensure staff have a complete formal record and receive correct entitlements; • Staff performance; • Learning and staff development. | As planned |

| | | Targets | 2018 results |
|------------|--|-----------|--------------|
| Indicators | % execution of the Establishment Plan | 95% | 100% |
| | Average throughput time of the recruitment process | ≤5 months | 4.7 months |
| | Staff absenteeism | ≤6% | 2.0% |
| | % of appraisal exercises that are executed on time | 95% | 100% |
| | Number of annual leave carried over | 12 days | 10.38 |
| | Average rating of quality of training | >7 | 8.79 |

| Planned outputs | Actual outputs |
|---|----------------|
| <ul style="list-style-type: none"> • Proposal and communication of action plans for specific, non-regular exercises; • Provision of quality advice to individual inquiries. | As planned |

Objective 3: Finance and budget management (WBS 1.01.04)

| Expected results | | 2018 results |
|--|--|--------------|
| Budgeting and regular financial management: | | As planned |
| <ul style="list-style-type: none"> Budgeting, monitoring and reporting on level of budget execution to all internal and external clients; Daily management of Agency financial transactions; Provide EC 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: | | |
| <ul style="list-style-type: none"> 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' (ECA) 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 EC and internal clients on execution of grants and cash flow needs. | | |

| Targets | | 2018 results |
|------------|--|---|
| Indicators | Commitment rate and rate of payment within prescribed time limits | |
| | 95% | 100% commitment rate and 98.9% payments within prescribed time limits |

| Planned outputs | Actual outputs |
|---|----------------|
| <ul style="list-style-type: none"> • 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 4: Information and Communication Technology (ICT) (WBS 1.01.05)

| Expected results | 2018 results |
|--|--|
| <p>The GSA's ICT activities are split along three fundamental lines:</p> <ul style="list-style-type: none"> • Systems and infrastructure management to ensure all admin systems operate within optimal parameters and are reliable and available to Agency users as required; • User management to ensure the appropriate provision of technical assistance and support; • Project management of all internal ICT projects according to the Agency's needs; • ICT security to ensure the confidentiality integrity and availability of GSA data and ICT systems. | <p>In 2018 resourcing constraints did not allow ICT to achieve all the service requests on time, including for deployment of new equipment for system processing EUCI. The the Internal Audit Service (IAS) Audit on ICT governance identified a number of issues to tackle.</p> |

| | Targets | 2018 results |
|------------|---|---|
| Indicators | Tickets completed in under 24h | At least 50% of tickets ¹² 67% |
| | Tickets completed within 1-5 days | Maximum 40% of tickets 15% |
| | Tickets completed within 5-10 days | Maximum 5% of tickets 18% |
| | Tickets completed after 10 days | Maximum 5% of tickets 0 |

¹² 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.

| Planned outputs | Actual outputs |
|---|--|
| <ul style="list-style-type: none"> • Implementation of requested changes (systems management); • Execution and control of core ICT projects (following PRINCE2 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: <ul style="list-style-type: none"> - 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. | <p>Following the ICT Audit about Governance a new output ICT Strategy and ICT SEC strategy are under development with the associated policies.</p> |

Objective 5: Facility management and logistics (WBS 1.01.06)

| Expected results | 2018 results |
|--|---|
| <ul style="list-style-type: none"> • 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. | <ul style="list-style-type: none"> • Facility management and logistical services were provided in requested quality and timing; • Inventory management updated and according to policy. |

| | | Targets | 2018 results |
|------------|--|--|--|
| Indicators | % of satisfaction from users | 90% users satisfied within EXCELLENT and GOOD categories | Based on the satisfaction survey for 2018, the target has been reached, with 90.16 % of GSA staff selecting either Excellent (57%) or Good (33.16%). |
| | Regular updates of the inventory system based on movement and inventory checks | Weekly | The inventory system (ABAC ASSETS) has been updated on a regular basis. |
| | % of tickets addressed within 24 h | ≥ 90% | Target has been reached. Absolute majority of all received tickets were addressed and solved within 24 hours. |

| Planned outputs | Actual outputs |
|---|---|
| <ul style="list-style-type: none"> • 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. | <ul style="list-style-type: none"> • Monthly facility services reports provided as main support documents for management and invoicing, together with monthly operational reports and time sheets; • Publication of a new Facility Management tender procedure for 2019 – 2023; • Ticketing tool records in electronic version; • HQ utilities consumption records in electronic version; • Facility Management satisfaction survey for 2018; • Assets review committee report – withdrawal from the ABAC inventory; • ABAC ASSETS database up to date; • Frequent communication with the building owner (mails, ED letters). |

Objective 6: Administrative Board management (WBS 1.01.07)

| Expected results | 2018 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 | 2018 results |
|--|------------------------|--------------|
| Indicators | | |
| Schedule of meetings announced for year are not altered | Implemented as planned | As planned |

| Planned outputs | Actual outputs |
|---|----------------|
| <ul style="list-style-type: none"> Agenda and minutes of each meeting; Board decisions, including written procedures. | As planned |

Objective 7: Configuration and document management (WBS 1.01.08)

| Expected results | 2018 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 | 2018 results |
|---|---------|--------------|
| Indicators | | |
| ECM system implemented and in use | 100% | 80% |
| Policies, processes and procedures under configuration control | 100% | 80% |
| All new employees and relevant contractors trained | 100% | 100% |

| Planned outputs | Actual outputs |
|--|--|
| <ul style="list-style-type: none"> ECM system; Relevant policies, processes and procedures; Training materials. | <ul style="list-style-type: none"> 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 8: Personal data protection (WBS 1.01.09)

| Expected results | 2018 results |
|--|-----------------|
| Full Agency compliance with data protection rules (Regulation (EU) 2018/1725). | Full compliance |

| | Targets | 2018 results |
|------------|--|---|
| Indicators | All existing and new personal data processing notifications submitted to Data Protection Officer (DPO) – data subjects informed – DPO registry up-to-date | 100% either notified or in preparation |
| | Number of prior-checking notifications successfully closed with European Data Protection Supervisor (if applicable) | 100% either notified or under work |
| | Number of personal data incidents / breaches | No data breaches. 2 incidents pertaining to COMMs activities, where personal data processing operations began without a corresponding privacy statement informing data subjects. As soon as DPO was informed, privacy statements were communicated to data subjects. These incidents did not constitute a breach within the meaning of the applicable rules and, therefore, there was no need to inform the EDPS or the concerned data subjects. |
| | References to GSA in the European Data Protection Supervisor (EDPS) annual report | No negative references |

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

Objective 9: Strategic planning and risk management (WBS 1.02.01)

| Expected results | 2018 results |
|---|--------------|
| <p>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:</p> <ul style="list-style-type: none"> • Management of delegation agreements and working arrangements between the Agency and EC or ESA; • Implementing Administrative Board decisions; • Preparing relevant programming documents and their corresponding reporting; • Ensuring that appropriate resources are provided to the SAB; • Implementing relevant internal controls to protect the EU's financial interests; • Act as corporate risk manager. | As planned |

| | Targets | 2018 results |
|------------|---|-----------------|
| Indicators | Successful organisation of delegation agreements and working arrangements management activities As per schedule | As per schedule |
| | Successful implementation of all Board decisions 100% | 100% |
| | Timely preparation of programming documents and corresponding reporting 100% | 100% |
| | Regular update of the risk management registry Quarterly | As planned |

| Planned outputs | Actual outputs |
|---|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Administrative Board decisions; • Single programming document; • Annual activity report; • Internal audit report; • Risk registry. | <ul style="list-style-type: none"> • 1 • 2 • Annual Activity Report; • 2018 Internal Audit report; • Risk register – updated on quarterly basis as planned. |

Objective 10: Quality and IMS (WBS 1.02.02)

| Expected results | 2018 results |
|--|---|
| <p>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.</p> | <ul style="list-style-type: none"> • The GSA WBS was updated and release as Ver. 3 in September 2018, which included a major review of the EGNOS work packages. Galileo and PRS work packages were updated as well; • 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 | 2018 results |
|------------|--|-------------------------------------|
| Indicators | Progress on implementing quality audit (% of audit reports available) 90% | 100% |
| | Implementation rate of actions in the continuous improvement database (open, closed and overdue items) 70% | 2% Open 2% Overdue 96% Closed |

| Planned outputs | Actual outputs |
|---|--|
| <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • 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. | <ul style="list-style-type: none"> • Regular KPI tracking and quarterly review meetings; • Audit Plan released on 30 January 2018 and implemented, audit reports available; • Implemented on 29 October 2018; • Database regularly tracked and actions followed up; • IMS document libraries maintained; • PA and QA RAMS activities handed over to separate team; • WBS maintained and updated; • 6 training sessions, 4 departmental surveys and IMS inductions for all new staff members. |

Objective 11: Control audit management and internal control (WBS 1.04.01 and 1.04.02)

| Expected results | 2018 results |
|---|--|
| <p>The GSA's internal control coordination and risk management activities are on-going tasks that help fulfil its statutory obligations. These include:</p> <ul style="list-style-type: none"> • Liaising with, and reporting to, the IAS 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 ICS; • Reporting on the follow-up of all open recommendations and action plans (from the IAS, Internal Audit Capability (IAC), external auditors, the Court of Auditors and the Parliament's discharge); • Coordinating the GSA's IAC¹³ in the preparation, execution, reporting and monitoring of recommendations relating to internal audit activities; | <ul style="list-style-type: none"> • Throughout 2018 there has been a particular focus on the IAS audit on "GSA ICT governance". It will represent a significant review of GSA ICT department's scope, perimeter, operations and related resources; • GSA assessed the implementation of the 16 EC ICS and issued a corresponding report; • Two audit reports from the Internal Audit Service have been released, and the IAS audit plan for 2019 was reviewed; • The pending recommendations from the European Parliament were also reviewed in depth; • An audit report from the IAC has been released jointly with review audits and an annual report; • Three audits on the use of delegated funds 2017 were planned, procured and executed; |

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

- Coordinating the GSA's external auditors, required under Delegation Agreements in the procurement of the audit services, preparation, execution, reporting and monitoring of recommendations related to these audit;
- Management of and reporting on all actions related to the Gifts and Hospitality Policy, including the gifts registry;
- Managing all actions relating to the GSA's Anti-Fraud Strategy;
- Assessing requirements for developing and implementing a Conflict of Interest Policy;
- Execution of a business continuity impact assessment and development of the different elements of the GSA corporate business continuity management.
- The Gifts and Hospitality Policy, including the 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;
- GSA's Business Continuity Impact Analysis was reviewed, work on the BC Plan has started;
- GSA led the creation of an EU institutional BC network, supported by ACER and EU-LISA.

| | | Targets | 2018 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% | 90% |

| Planned outputs | Actual outputs |
|--|---|
| <ul style="list-style-type: none"> • Internal audit capability audit report; • IAS audit report; • External auditors audit reports for delegated funds; • Declaration of assurance and management declarations under Delegation Agreements; • EC Internal Control Standards (ICS) compliance report; • Anti-fraud internal information and support; • Gifts and conflict of interest registries; • Business continuity management framework. | <ul style="list-style-type: none"> • An audit report from the IAC, two review audits and an annual report; • Two audit reports from the IAC; • There external auditors audit reports for delegated funds; • Declaration of assurance and management declarations; • EC ICS compliance report; • Anti-fraud internal information and support; • Gifts and conflict of interest registries; • Business Impact Analysis reviewed, Business continuity plan under implementation. |

Objective 12: Corporate Communications (WBS 1.03.02)

| Expected results | 2018 results |
|---|--------------|
| <ul style="list-style-type: none"> Strengthened and recognised corporate identity for the GSA; Enhanced overall awareness of the GSA and facilitated better understanding of its mission, vision and values; Increased awareness of the GSA's Work Programme and achievements; Consolidated and strengthened relationships with key European and international players in the space sector and key GNSS user communities; Strategic partnerships built/strengthened; Increased awareness of and appreciation for the GSA's work by Member States. | As planned |

| | Targets | 2018 results |
|--|---------|--------------|
| Indicators Increased positive activity across all channels utilised | 100% | 100% |

| Planned outputs | Actual outputs |
|---|---|
| <ul style="list-style-type: none"> Annual communications plan; 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; Newsletters production and distribution; Feedback surveys and studies. | <ul style="list-style-type: none"> 2018 Communications Plan published and implemented; Website creation, maintenance and management: in 2018 there were 727,000 page views on the GSA website, 313,000 on useGalileo.eu, 172,000 on the GSC Help Desk site and 33,000 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; 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 'The GSA: Linking space to user needs' in English and French, preview during Launch 10 video transmission. Production of 'GSA Trainees' and 'Happy Europe Day' video for recruitment; |

- **Event creation, participation and management:** 10 events, including but not limited to: the 10th Space Policy Conference, 34th Space Symposium, GRC Inauguration with 2018 Galileo Masters Kick-off, UN “My Planet My Future: Space for Sustainable Development Goals” exhibition, promotional activities at Galileo Launch 10 and the full organisation and implementation of the 4th GSA Open Days and the Cospas-Sarsat 2018 Task Group Meeting on MEOSAR System Evolution;
- **Media, public relations initiatives:** In addition, 5 press initiatives including but not limited to:
 - Galileo quartet successfully launched from Kourou;
 - Galileo Reference Centre inaugurated in the Netherlands.

Objective 13: Internal Communications (WBS 1.03.03)

| Expected results | 2018 results |
|--|--------------|
| <p>The Agency uses internal communications to empower its staff and to ensure they remain ‘on brand’. This objective is meant to:</p> <ul style="list-style-type: none"> • Foster a culture of positive team spirit and customer service; • Promote better staff understanding and awareness of the Agency’s mission, 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 | 2018 results |
|---|---------|--------------|
| Indicators | | |
| Increased positive activity across all channels utilised | 100% | 100% |

| Planned outputs | Actual outputs |
|---|---|
| <ul style="list-style-type: none"> • Annual communications plan; • Event creation, participation and management; • Newsletters production and distribution; • Feedback surveys and studies; | <ul style="list-style-type: none"> • Expansion and production of 45 issues of weekly GSA Internal newsletter 'CONNECT'; • Support of internal communications of quality control, ISO certification, cyber security, newcomer support, etc; • Staff participation in GSA Open Days. |

Objective 14: Stakeholder liaison and communications (WBS 1.03.04)

| Expected results | 2018 results |
|---|--------------|
| <p>The Agency maintains and improves stakeholder liaison and communications to:</p> <ul style="list-style-type: none"> • Increase dialogue and strategic partnerships aimed at fulfilling mutually-shared goals; • Enhance positive and open working relationships, exchange of information, 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, further sharing key information and actively participating 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 EC, DG GROW colleagues and members of the Administrative Board. | As planned |

| | Targets | 2018 results |
|---|---------|--------------|
| Indicators | | |
| Increased positive activity across all channels utilised | 100% | 100% |

| Planned outputs | Actual outputs |
|--|---|
| <ul style="list-style-type: none"> Annual communications plan; Website creation, maintenance and management; Social media campaigns; Production and dissemination of publications and videos; Event creation, participation and management (exhibition, advertising, promotion and presentation); Media and public relations initiatives; Newsletters production and distribution; Feedback surveys and studies. | <ul style="list-style-type: none"> 2018 Communications plan published and implemented; Organised a number of VIP visits to the Agency's headquarters, including a hosting a visit of the Bulgarian Presidency/Transport Attaches, a delegation from the European Parliament ITRE committee and a Citizen Dialogue event with EC VP Šefčovič and Czech Prime Minister Babiš; 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 15: Agency transversal security (WBS 2.02.01)

| Expected results | 2018 results |
|---|---|
| <ul style="list-style-type: none"> Management of authorisations to access EU Confidential Information (EUCI); Management and maintenance of COMSEC accounts held by the 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 | 2018 results |
|--|---------|--------------|
| Indicators | | |
| % of compliance with Commission decisions 2015/444 and 2015/443 | 100% | 100% |

| Planned outputs | Actual outputs |
|--|-------------------------------|
| <ul style="list-style-type: none"> • 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. | Outputs produced as required. |

Objective 16: Accreditation Panel of Internal Systems (WBS 2.05.06)

| Expected results | 2018 results |
|--|--|
| <ul style="list-style-type: none"> • 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 | 2018 results |
|--|---------|--------------|
| Indicators Number of internal accreditation reviews | 9 | 18 |

| Planned outputs | Actual outputs |
|--|---|
| <ul style="list-style-type: none"> • Security accreditation report; • Recommendations to the SAA; • SAA decision / authorisation to operate Agency areas/systems. | <ul style="list-style-type: none"> • Security accreditation report: 8; • Recommendations to the SAA: 18; • SAA decision / authorisation to operate Agency areas/systems: 17. |

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).

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 2018 in the main areas of the programme include:

- The provision of EGNOS services.
- The EGNOS V3 contract signature with industry.
- Second revision of the EGNOS Working Arrangement between GSA and ESA, which was adopted at the beginning of 2019.
- Progress in extension study of EV3 to Africa.
- Definition and publication of updated EGNOS Safety of Life Service Definition Document.
- Third specific grant related to Service Performance Monitoring Support awarded.
- EGNOS V3 Security Accreditation and Certification Plan (SACP) sent to the GNSS Security Accreditation Panel (GSAP).
- EGNOS v2.4.2 System Evolutions and Operational Transition on-going with 2.4.2-I and ESR242A Critical Design Reviews, and publication of RFPs for the ESR242B new sites preparation and operations for Kuusamo (Finland), Aqaba (Jordan) and Kiev (Ukraine).

- GSA/ESA Specific Contract #2 (related to the development of EGNOS V3) of working arrangement signed
- GSA sites procurement activities continued: 42/44 Ranging and Integrity Monitoring Station (RIMS) procurement Invitations To Tender were sent, 26 RIMS offers received and the first 6 RIMS Best And Final Offers received. The first contract (RIMS Target Level of Safety) was awarded during the period.
- By the end 2018, 598 EGNOS based procedures were implemented at 317 airports/helipads in 23 countries. There are currently 492 LPV/LPV200/PinS at 292 airports/helipads and 106 Approach with Vertical Guidance (APV) Baro procedures at 47 airports.
- 3rd Aviation Call for grants undertaken.
- Supervision of EGNOS Service Provision (ESP) operations, including on security aspects.

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.

Key Agency activities undertaken in 2018 in the main areas of the programme included:

- Continuing provision of Galileo Initial Services.
- Launch 10 Early Operations Phase activities.
- Further development of the infrastructure in close relationship with ESA.
- Continuation of the GSOp specific contract 2, started on 1 July 2017, with the GSOp contractor in full control of the service operations under GSA responsibility. Supervision of the GSOp operations, including on security aspects.
- Amendment of the GSA-ESA Working Arrangement specific contracts to include new activities on the Ground Mission Segment (WP2 and WP2x) and Ground Control Segment (WP3 and WP3x). Further execution of the ESA support activities under the GSA-ESA Working Arrangement specific contract 2.
- Transition of the Galileo SAR service provision responsibility from the EC to the GSA on 1 January 2018. Initiation and execution of SAR/Galileo Data Service Provider contract.
- Development of PRS activities.
- Execution of Early Operation Phase of the four satellites of Launch 10, including security monitoring by GSA/GSMC, following a successful launch in December 2017.
- Conclusion of the Enhanced Services Consolidation Review. Execution of the first step of Service Validation Readiness Review and Service Validation Review for Enhanced Services
- Adoption and start of flow down of the EC's cyber requirements.
- Ensured the re-accreditation activities of 13 Galileo ground sites in 2017, including both GCCs, the GSMC located in France and the new GSMC in Spain.

- Provision of support to the EC for the organisation of the GNSS Security Board and its working groups.
- Development of the first phase of the GRON.

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 2018, 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 running on track.
- Aviation with two ARAIM projects awarded and kicked-off.
- Aviation and Maritime with five MEOSAR projects awarded and kicked-off.
- Maritime with the Satellite Based Augmentation System (SBAS) shipborne receiver (MAREC project) kicked-off.
- Road with the ESCAPE project running and on-track and OS-NMA user terminal (PATROL project) kicked-off.
- Timing and Synchronisation with the Galileo timing receiver for critical infrastructures call for proposals published and evaluation completed.

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 2018, the Agency managed a portfolio of 58 projects from Horizon 2020's first, second and third calls. By the end of 2018:

- 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.

The Agency was involved in preparing the calls foreseen for 2019-2020. The fourth call for proposals submission was launched on 16 October 2018. The following is the portfolio of projects managed by the Agency in 2018:

| Proposal Acronym | Call | Status | Description |
|-------------------|------|-----------------|---|
| 5LIVES | 1 | Final reporting | 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 | Final reporting | Building European Links with South East Asia in the field of GNSS. |
| BEYOND | 1 | Closed | Building EGNSS capacity on EU Neighbouring multimodal Domains. |
| CaBiAvi | 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 | Final reporting | 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 | Final reporting | 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 |
| 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. |
| MISTRAL | 1 | Final reporting | 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 |

| Proposal Acronym | Call | Status | Description |
|------------------|------|-----------------|--|
| 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 | Final reporting | 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 | Final reporting | 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 |
| 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 |

| Proposal Acronym | Call | Status | Description |
|---------------------------|------|---------|---|
| 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 |
| GREENPATROL | 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 |

3.6.6.1 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.

All the projects planned under H2020 PRS were successfully procured. In total, five procurements (one under H2020 PRS Item 1, four under H2020 PRS item 2) were contracted in 2016 and managed throughout 2017 and 2018.

The following is a list of PRS user segment projects managed in 2018:

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



2.1 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) 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 Tuozi |

2.1.1.2 List of Administrative Board Decisions

The Administrative Board met four times in 2018: January, March, June and October. These meetings, numbered 51 through 54, decided upon the following items:

| Mtg | Date | Decision number | Title |
|-----|------------|-----------------|--|
| 51 | 31/01/2018 | 51-18-01-02 | Minutes of the AB 50 meeting |
| 51 | 31/01/2018 | 51-18-01-04 | Decision on the Budget 2017: Carry-over of appropriations from 2017 to 2018 |
| 51 | 31/01/2018 | 51-18-01-05 | Decision on the first amendment of the Budget 2018 |
| 51 | 31/01/2018 | 51-18-01-06 | Decision on the Draft Budget 2019 |
| 51 | 31/01/2018 | 51-18-01-07 | Endorsement of the provisional SPD 2019-2021 |
| 52 | 21/03/2018 | 52-18-03-02 | Minutes of the AB 51 meeting |
| 52 | 21/03/2018 | 52-18-03-03 | Adoption of the SPD 2018-2020 |
| 52 | 21/03/2018 | 52-18-03-04 | Endorsement of revised Charter of the European Commission Internal Audit Service (IAS) |
| 52 | 21/03/2018 | 52-18-03-05 | Approval of revised Charter of the GSA Internal Audit Capability (IAC) |
| 52 | 21/03/2018 | 52-18-03-06 | Action Plan for audits for the GSA Internal Audit Capability 2017-2018 |
| 52 | 21/03/2018 | 52-18-03-07 | Approval of Guide to missions and authorised travel |
| 52 | 21/03/2018 | 52-18-03-08 | Decision on GSA Financial Circuits |
| 52 | 21/03/2018 | 53-18-06-02 | Election of a new Chair for the Administrative Board |
| 52 | 21/03/2018 | 53-18-06-02 | Election of a new Deputy Chair for the Administrative Board |
| 53 | 18/06/2018 | 53-18-06-02 | Minutes of the AB 52 meeting |
| 53 | 18/06/2018 | 53-18-06-03 | Adoption of the Annual Activity Report 2017 |
| 53 | 18/06/2018 | 53-18-06-04 | Adoption of the Annual Accounts for 2017 |
| 53 | 18/06/2018 | 53-18-06-05 | Decision adopting Guidelines on Whistleblowing |
| 53 | 18/06/2018 | 53-18-06-06 | Decision Setting Up a Staff Committee |
| 53 | 18/06/2018 | 53-18-06-07 | Amendment to Decision on Support of Multilingual Tuition for Children of GSA Staff |
| 53 | 18/06/2018 | 53-18-06-08 | Decision approving the Policy on Public Access to Documents |
| 53 | 18/06/2018 | 53-18-06-09 | Decision amending the GSA-ESA Galileo Working Arrangement |

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

| Mtg | Date | Decision number | Title |
|-----|------------|-----------------|---|
| 61 | 04/07/2018 | GSA-AB-WP-61 | Decision assigning ED the functions of acting HoA and HoHRD |
| 62 | 05/10/2018 | GSA-AB-WP-62 | Decision on budgetary transfer within 2018 budget |
| 63 | 14/12/2018 | GSA -AB-WP-63 | Decision EGNOS GSA ESA WA amendment 2 |
| 65 | 18/12/2018 | GSA -AB-WP-65 | Decision GMSC HA approval |
| 66 | 21/12/2018 | GSA -AB-WP-66 | Decision programming document 2019-2021 |

Written procedure 64 was cancelled.

2.1.2 The Security Accreditation Board

The SAB is the European GNSS Security Accreditation Authority. It is established within the Agency as an autonomous body pursuant to Article 3 of the GSA Regulation 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. All the security accreditation decisions related to the GNSS systems are its sole competence.

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

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

2.1.2.1 Composition

The SAB brings together representatives of the Member States, the 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 |

The decisions taken by the SAB are classified.

2.1.2.2 Support provided by the Agency

According to Article 11(10) 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:

- Around 600M Galileo-enabled devices
- Launch 10 related activities undertaken
- 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
- EGNOS V3 signature with industry
- First eCall cars on market
- Second GNSS User Technology Report published
- EU Space Week in Marseille with over 1 000 participants
- Second Galileo User Assembly
- Ninth EGNOS Annual Workshop
- Fourth GSA Open Days Prague with over 2 000 visitors
- 1.2 million views of GSA, UseGalileo.eu and GSC website

2.3 Budgetary and financial management

The Agency's own executed budget in 2018 was EUR 32 230 582, which represents a 100% budget execution in terms of commitments. In addition to its core budget, the GSA continued to manage a large amount of delegated budget following the signature of 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 EUR 1.2 billion from the delegated budget was committed in 2018 and EUR 771.9 million made in payments.

In terms of core budget breakdown, the total expenditure on staff costs was EUR 19 754 010.84, other administrative costs amounted to EUR 8 055 574 and expenditure on operational costs was EUR 4 420 997.16.

Furthermore, during 2018:

- Budget execution was 100% in commitment appropriations and 100% in 2018 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 one budget amendment on 31 January 2018. The amendment consists of the reduction of EUR 1 127 780 in both commitment and payment appropriations bringing it to the final amount of EUR 32 230 582, reflecting the GSA request for an additional 23 Temporary Agent (TA) posts, however only 10 TA posts and respective budget were granted. The amended budget also included the revised European Free Trade Association (EFTA) contribution of EUR 692 581.
- 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 2018: 508 commitments, de-commitments and modification of commitments; 4 448 payment requests; 1 615 mission orders, 57 recovery orders and 7 internal transfers. All in all, the GSA processed 6 635 financial transactions.
- Payment appropriations totalling EUR 2 198 628.46 were carried over on Title 2 (automatic carry-over) from 2017 to 2018, representing 42.2 % of the total 2017 Title 2 budget. Furthermore, EUR 4 517 293.91 was carried over from 2018 to 2019, representing 56 % of 2018 Title 2.
- Payment appropriations totalling EUR 1 142 816.9 were carried over on Title 3 (non-automatic carry over) from 2017 to 2018 to maintain the Agency's payment capacity on existing legal obligations. There were no payment appropriations carried over on Title 3 (non-automatic carry over) from 2018 to 2019.
- According to payment time statistics 98.9 % of all payments were done within the time limit of 30 days, 60 days or 90 days for grants and with an average payment time of 14.66 days.
- The Agency paid EUR 259.94 in late interest to suppliers - a 49 % decrease in comparison to 2017.
- Cancellations of unused appropriations were related to those carried over from 2017 for a total amount of EUR 126 883.93, representing 3.23 % of the total amount carried forward, which leads to a budget outturn of EUR 61 381.40 in 2018.

For further details on the budget implementation for the reporting period, please see the [Report on Budgetary and Financial Management in 2018](#) 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 had concluded the year 2018 with the full execution of its establishment plan. At the end of 2018, the Agency employed 128 (including 12 offers) TAs, 53 (including two offers) contract agents (CAs) and three seconded national experts (SNE), bringing the total number of staff to 184.

The Agency was allocated ten additional posts for its 2018 establishment plan in addition to the two posts 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). In 2018, seven TAs left the Agency, resulting in a total of 19 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 2018 establishment plan was 100%.

Regarding CAs, in 2018, the Agency received seven resignations and recruited nine new CA staff members. The number of SNEs decreased as two SNEs left the Agency.

Overall, the Agency concluded 29 selection procedures, processed over 1400 applications, conducted more than 150 interviews and sent 47 job offers, out of which six were declined (13%). In comparison to previous years, the number of declined recruitment offers decreased, while the number of resignations remained stable for what concerns TAs and increased for what concerns CAs. In addition, the Agency hired 11 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, work-related personality questionnaires and assessment centres for managerial positions. The GSA analysed the job and workforce allocation to ensure a balanced distribution of tasks and resources relevant to the activities carried out on the basis of its Work Breakdown Structure. The Agency allocated the new posts planned for 2018 according to the results of this analysis.

The Agency continued managing the contract for the provision of temporary agency workers, 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. In particular, the Agency successfully relocated designated staff members from Swanwick in the United Kingdom to San Martin de la Vega in Spain. Moreover, two new agreements with international educational establishments were concluded: one in Madrid, Spain and one in Prague, Czech Republic.

During 2018, the Agency adopted and implemented three 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). 55 new employees were provided with a comprehensive induction programme. The average number of training days per staff member was 6.

Group training events organised in-house focused on developing competencies including intellectual property, video conferencing, time and conflict management skills, use of excel etc. The Agency supported 42 staff members in language courses.

The Agency completed the procurement procedures for the provision of a large scale project management training (PMP) as of 2019 and for the provision of leadership development competencies as of 2019.

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.

2.5 Assessment by Management

Article 30.2 of the GSA Financial Regulation 2014 defines Internal Control as a process applicable at all levels of management and designed to provide reasonable assurance of achieving the following objectives:

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

In 2018, the Agency reviewed and reported on its compliance with the EC's ICS. Throughout 2018, the GSA continued with its review of its ICS with a view of adapting the EC Internal Control Framework in 2019.

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 12 exceptions registered in 2018, 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 128 of the Financial Regulation.

- Concerning the award of the "Development of an Advanced RAIM Multi-constellation Receiver" grant (GSA/GRANT/01/2017), the time limits for the evaluation were not respected due to exceptional circumstances attributable mainly to the applicants, specifically the need to carry out lengthy clarification rounds (seven 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 for both awarded consortia, due to the large number of co-partners in both consortia that resulted in a delay in the collection and submission of the mandates.
- Concerning the award of the "Development of MEOSAR Beacons" grant (GSA/GRANT/02/2017), the time limits for the evaluation was not respected due to the fact that the evaluation of the proposals received required lengthy clarification rounds (four in total) which took place over the summer holiday period. During this period the availability of the applicants' representatives as well as the GSA members of the evaluation committee was limited, hence resulting in a delay in the closure of the

evaluation. 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 only in the case of one out of the five awarded consortia (grant agreements with the other four awarded consortia were signed within the Financial Regulation time limits). The reason for the delay in the signature of this one grant agreement is related to the impact of the withdrawal of the UK from the European Union on the implementation of the project. More specifically, the GSA had already announced by way of letter to the awarded consortium on 27 February 2018 that the eligibility criteria must be respected throughout the envisaged duration of the grant agreement; following this letter, the GSA held calls with the awarded consortium in March in order to negotiate a way forward. Such negotiations resulted in the information to the GSA (on 04 April 2018) that the consortium would revise its awarded proposal in order to identify the UK-established co-applicant as subcontractor (with the subsequent change in terms of activities and budget). The revised documentation was provided by the consortium on 31 May 2018 and the grant agreement was signed on 29 June 2018.

- Concerning the award of the “Public Regulated Service Joint Test Activities” grant (GSA/GRANT/03/2016), the time limits for the evaluation and for the signature of the grant agreements were not respected due to the specificities of this Call for Proposals. In particular, this Call for Proposals was addressed to the CPAs of Member States which were called for the first time to participate in a GSA grant procedure. Most of the CPAs participating are branches of Member States’ public administrations and lack the administrative expertise/structures required to prepare a proposal addressing the GSA’s requirements (eligibility and financial capacity criteria). This fact, in combination with the size of the participating consortia (3 consortia composed of 13, 6 and 13 entities respectively) resulted in the need for lengthy clarification rounds (eight in total) surpassing the Financial Regulation time limits. 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 as the awarded consortia raised a number of comments concerning the content of the grant agreements and required a long period of time to collect the mandates from the consortium partners, which is justified by the size of the consortia (mentioned above) and the nature of the participating entities (branches of public administration, public bodies).
- In the above mentioned Register of exceptions one exception was recorded relating to the implementation of grants for grant agreement No 687329 “STRIKE 3” which relates to Article 193 of the Financial Regulation on “Principle of non-retroactivity”. This exception was caused by the fact the grant agreement amendment, which foresaw the re-allocation of certain tasks and resources, was not finalised on time due to the technical error in the EC governed ICT system COMPASS, and was thus out of the GSA control.

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)

The GSA audit action plan for the IAS audit on “GSA ICT governance” was approved by the IAS in December 2018. It is the conclusion of a major horizontal exercise, involving GSA operational and support departments, to boost current ICT standards and service delivery in 2019 while improving GSA ICT security as the main priority. GSA also agreed with IAS that they will focus their 2019 audit on EGNOS.

In the summer of 2018, the Internal Audit Service (IAS) executed a follow-up audit on outstanding recommendations from previous years¹⁴. The IAS performed an on-the-spot follow-up audit for six important recommendations. The IAS issued a note later in the year¹⁵ concluding that the six recommendations were adequately and effectively implemented.

The IAC of the GSA's audit of the "efficiency of the GSA procurement award process" was also executed in 2018 and concluded that though the procurement award process is properly run, efficiency improvements might still be implemented at GSA. The audit report was approved in Q1 2019.

In 2018 the GSA initiated the preparatory arrangements for the audit of all three Delegation Agreement activities for 2018, which coincided with the issuing of DG GROW's audit report on Delegation Agreement activity for 2017 which had no major findings but issued some recommendations. GSA also enhanced the cooperation with DG GROW auditors for the upcoming audits of Delegation Agreement 2018 activity in order to optimise the outcome of the audits.

2.7.2 European Court of Auditors (ECA)

The ECA 2018 report (on 2017 activity) was positive with only comments, none of which related to delegated funds. On more generic agency wide issues, the ECA commented that a re-validation of the accounting systems of the Agency was still expected to be completed at the date of closing their report. Furthermore, the ECA highlighted that the Agency is not using the EPSO platform to publish its vacancies and that no single solution for electronic tendering and invoicing was in place in the audited year. The ECA as well highlighted that a mid-term evaluation of the Galileo and EGNOS programmes and of the Agency's performance in the period 2014-2016 was carried out on behalf of the EC. All observations from previous years were considered to be either ongoing or not applicable.

Following the ECA observations, the Agency reported:

- In 2015 the GSA outsourced its accounting services to the EC, therefore the EC Accounting Officer provides all services required by Article 50 of the Framework Financial Regulation applicable to Agencies, including the validation of local systems. The validation approach was therefore subject to discussion and planning within the DG Budget services. The GSA intends to publish all vacancy notices on the Inter-Agencies portal, which is considered equivalent to EPSO from the Agencies perspective and providing a sufficient level of transparency to EU citizens. In addition, the Agency also publishes its vacancy notices in the specialised space sector. It was noted that the 'e-Submission' module currently supports only open procedures and, therefore, the GSA shall use it only for such procedures. In this respect, the GSA has already held a first coordination meeting with DG DIGIT and is currently in the process of finalising and signing a Memorandum of Understanding (MoU) with DG DIGIT in order to set the framework of e-Submission and kick-off its implementation.

14 Recommendation No. 3 (Important): Job descriptions; Recommendation No. 1 (Important): Planning process efficiency; Recommendation No. 2 (Important): Process of establishing the Single Programming Document; Recommendation No. 3 (Important): Risk management; Recommendation No. 4 (Important): Performance management; Recommendation No. 5 (Important): Workload assessment. Those belong to different past audits hence the numbering is not correlated.

15 Follow-up of outstanding recommendations from past IAS audits in GSA – Note on audit conclusions, IAS.A1/MK/RvdZ/IK/AM/mam - Ares(2018)5510713

2.8 Follow up of recommendations and action plans for audits

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. For a brief overview of the Agency's audit activity for the year, see section 2.7.

All observations made by the ECA in previous years were considered to be either ongoing or not applicable in their 2017 exercise audit report.

In relation to the comments made as a result of the 2016 audit by the IAC of DG GROW, GSA took into consideration all relevant recommendations. Though extra comments stemmed from the audit report on the 2017 Annual Implementation Reports, it was considered that the findings did not involve a material impact on the figures provided by the GSA. The Agency is already working on taking all the 2017 recommendations on board, in particular the one calling on the GSA to establish a Budget Management Tool.

Throughout 2018, GSA reviewed its Business Impact Analysis and started drafting its corporate Business Continuity Plan to be completed within 2019.

At the end of 2017, the Agency had already implemented all recommendations related to IAS audits prior to 2018. Such implementation was reviewed and confirmed by the IAS in Q4 2018. Only IAS recommendations related to the IAS 2018 audit remain outstanding.

In 2018, the Agency selected Ernst & Young to perform the three external audits on the 2016 activities under the EGNOS Exploitation, Galileo Exploitation and H2020 Applications Delegation Agreements. The audits concluded that the funds delegated by the EC had been properly managed, although it again recommended the development of a tool to better facilitate controlling and reporting on EGNOS and Galileo procurement and grants. The development of such tool has been put on hold at GSA.

As said, the Action Plan for the IAS audit on "GSA ICT governance" was approved in December. It contains 6 recommendations, 2 very important and 4 important. GSA is 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 IT 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.

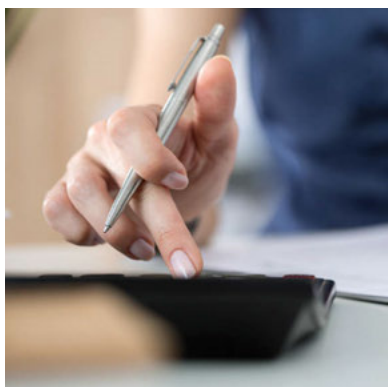
2.9 Follow up of recommendations from the discharge authority

The Agency replied to all requests for action/clarification by the discharge authority on the 2016 discharge. The final decision on giving discharge to the GSA on the 2017 budget implementation is expected to be adopted by the discharge authority in the first quarter of 2019. The discharge authority has made no official recommendations on the subject to date.

2.10 External Evaluations

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

ASSESSMENT OF THE EFFECTIVENESS OF THE INTERNAL CONTROL SYSTEMS



3.1 Risk management

In 2018 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 2018, the top 10 corporate risks at the GSA, in Work Breakdown Structure order rather than severity, were:

| Risk | 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 |

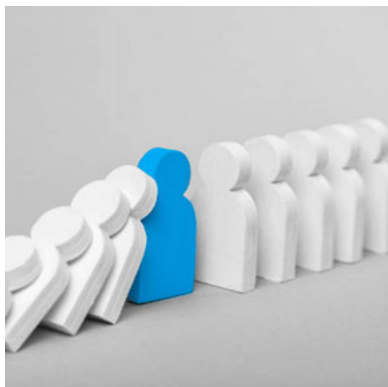
Each risk has an identified and adopted mitigation action plan. Corporate Risk Management Boards take place on a quarterly basis. The above-summarised risk management process was audited positively in 2016.

3.2 Compliance and effectiveness of Internal Control Standards

The last 2017 assessment on compliance with the ICS signed in May 2018, showing that the Agency is compliant with all ICS except for Business Continuity. Throughout 2017, the GSA worked to steadily improve its ICS level of compliance. The organisation has been able to grow and change, being able to adapt its control system as it evolved. Improvements were implemented in relation to the following standards:

- ICS 2, *Ethical and Organisational Values*: the GSA has expanded the reach of its Antifraud Strategy and Conflict of Interest including Whistleblowing policy and drafting Conflict of Interest Implementing Rules still under review by the EC. The GSA Code of Conduct is still under development.
- ICS 3, *Staff Allocation and Mobility*: The Agency has staff deployed in multiple locations within the EU. The mobility between these locations and functional teams is always promoted in order to foster the one Agency spirit and to build in-house expertise and enhance knowledge sharing. The Agency will continue its efforts to improve the situation and address the negative impact of correction coefficient level for Prague.
- ICS 10, *Business Continuity*: the GSA upgraded its Business Impact Analysis and initiated the drafting of its corporate Business Continuity Plan.
- ICS 11, *Document Management*: the GSA developed its GSA Document Management System (DMS)¹⁶ tool that was installed and configured on both the Admin and GRUE II. The GSA also developed the corresponding procedures and tutorials, and initiated the revision of the GSA Documents and Records Management Policy and related process.
- ICS 12, *Information and Communication*: filling in ICT security documentation gaps progressed with the preparation of a new ICT Strategy Plan for the 2019-2021 period, an ICT SEC Strategy and the relevant ICT SEC policies. 2018 priorities are ICT staffing and financial resources to implement the ICT Strategy and vision with 3 main points: ICT SEC, ICT Continuity and ICT Enterprise architecture.

16 Referred in Section 1.5.2 (Objective 7) as Enterprise Content Management System (ECM)



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 2017 did not contain any reservations.

4.2 Reservations

There are no reservations regarding 2018.

4.3 Overall conclusions on assurance

The Agency provided assurance in 2018 to the EC's DG GROW 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. It was, however, noted that the award decision concerning the tender for the selection of the Galileo services operator has been challenged before the Court of Justice by one of the tenderers and that the relevant proceedings will continue in 2019.

The Agency continued to manage a large number of delegated appropriations by the EC during 2018. 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 observations in this respect.

The degree of implementation and effectiveness of the ICS will continue to be assessed.

The Parliament granted the discharge to the Executive Director (as per the draft Discharge report 2016). The Council was also in favour of granting this discharge.

The ECA 2018 report (on 2017 activity) was positive.

DECLARATION OF ASSURANCE

I, the undersigned, Carlo des Dorides,
Executive Director of the European GNSS Agency,

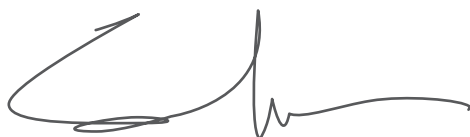
In my capacity as Authorising Officer,

- Declare that the information contained in this report gives a true and fair view¹⁷.
- State that I have reasonable assurance that the resources assigned to the activities described in this report have been used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees concerning the legality and regularity of the underlying transactions.

This reasonable assurance is based on my own judgement and on the information at my disposal, such as the results of the self-assessment, ex-post controls, the work of the internal audit capability, the observations of the Internal Audit Service and the lessons learnt from the reports of the Court of Auditors for years prior to the year of this declaration.

- Confirm that I am not aware of anything not reported here which could harm the interests of the Agency.

Prague, 18 June 2019



Carlo des Dorides

¹⁷ True and fair in this context means a reliable, complete and correct view on the state of affairs in the service.

ANNEXES

Annex I – Core business statistics

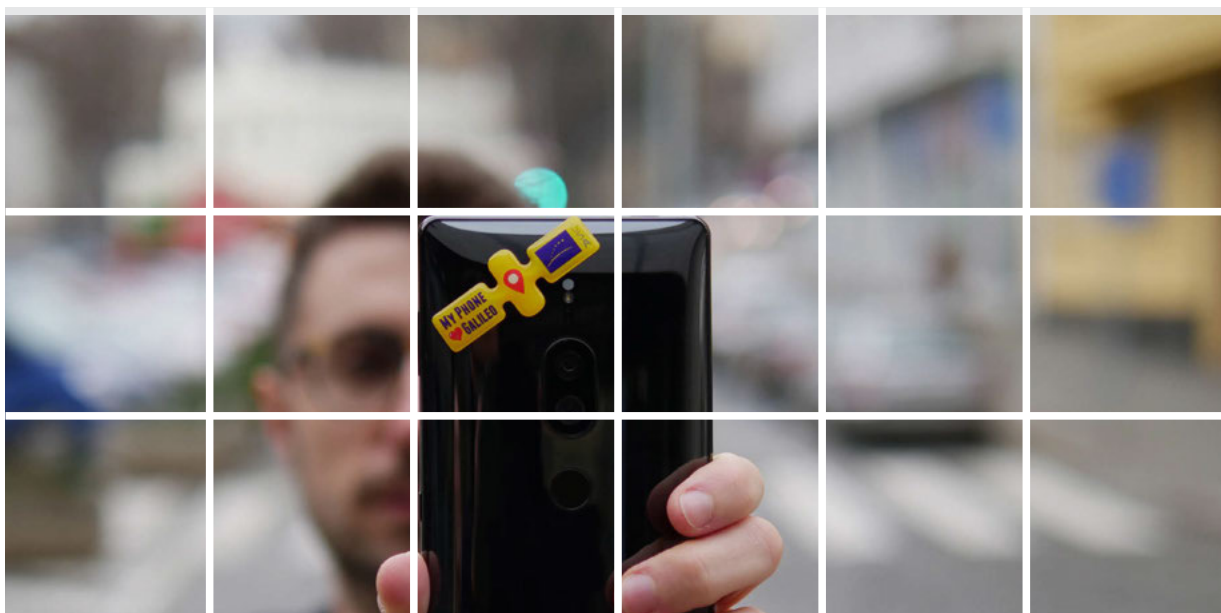
The measurement of core business activities and the related KPIs are listed in section 1.

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 2018 |
|---|-------------------------------------|---|
| Title 1 - Staff expenditure | | |
| 1100 | Staff expenditure | 15,591,761.63 |
| 1200 | Recruitment costs | 137,250.00 |
| 1210 | Medical services | 52,317.15 |
| 1300 | Missions and travel | 1,459,042.00 |
| 1400 | Training expenditure | 381,820.00 |
| 1500 | Social measures | 368,197.00 |
| 1600 | Interims & Trainees | 324,482.00 |
| 1700 | Representation expenditure | 703.74 |
| 1800 | Tuition fees | 1,438,437.32 |
| TOTAL FOR TITLE 1 | | 19,754,010.84 |
| Title 2 - Administrative expenditure | | |
| 2000 | Rental of buildings | 3,133,858.26 |
| 2100 | Data processing | 3,255,274.34 |
| 2200 | Movable property | 17574.03 |
| 2300 | Current administrative costs | 1,072,466.23 |
| 2400 | Postage and telecommunication costs | 210,628.85 |
| 2500 | Meetings | 71,594.00 |
| 2600 | SAB administrative expenditure | 294,178.29 |
| TOTAL FOR TITLE 2 | | 8,055,574.00 |
| TOTAL FOR TITLES 1 AND 2 | | 27,809,584.84 |
| Title 3 - Operational expenditure | | |
| 3100 | Expenditure on studies | 3,886,213.41 |
| 3300 | SAB operational expenditure | 534,783.75 |
| TOTAL FOR TITLE 3 | | 4,420,997.16 |
| TOTAL TITLE 1+TITLE 2+TITLE 3 | | 32,230,582.00 |



| | | Commitment Appropriations | |
|----------------------|-------------|---------------------------|-----------|
| Executed in 2018 | % | Uncommitted | % |
| 15,591,761.63 | 100% | 0.00 | 0% |
| 137,250.00 | 100% | 0.00 | 0% |
| 52,317.15 | 100% | 0.00 | 0% |
| 1,459,042.00 | 100% | 0.00 | 0% |
| 381,820.00 | 100% | 0.00 | 0% |
| 368,197.00 | 100% | 0.00 | 0% |
| 324,482.00 | 100% | 0.00 | 0% |
| 703.74 | 100% | 0.00 | 0% |
| 1,438,437.32 | 100% | 0.00 | 0% |
| 19,754,010.84 | 100% | 0.00 | 0% |
| 3,133,858.26 | 100% | 0.00 | 0% |
| 3,255,274.34 | 100% | 0.00 | 0% |
| 17574.03 | 100% | 0.00 | 0% |
| 1,072,466.23 | 100% | 0.00 | 0% |
| 210,628.85 | 100% | 0.00 | 0% |
| 71,594.00 | 100% | 0.00 | 0% |
| 294,178.29 | 100% | 0.00 | 0% |
| 8,055,574.00 | 100% | 0.00 | 0% |
| 27,809,584.84 | 100% | 0.00 | 0% |
| 3,886,213.41 | 100% | 0.00 | 0% |
| 534,783.75 | 100% | 0.00 | 0% |
| 4,420,997.16 | 100% | 0.00 | 0% |
| 32,230,582.00 | 100% | 0.00 | 0% |

| Budget line | Heading | Payment Appropriations Budgeted 2018 |
|---|-------------------------------------|--------------------------------------|
| Title 1 - Staff expenditure | | |
| 1100 | Staff expenditure | 15,591,761.63 |
| 1200 | Recruitment costs | 137,250.00 |
| 1210 | Medical services | 52,317.15 |
| 1300 | Missions and travel | 1,459,042.00 |
| 1400 | Training expenditure | 381,820.00 |
| 1500 | Social measures | 368,197.00 |
| 1600 | Interims & Trainees | 324,482.00 |
| 1700 | Representation expenditure | 703.74 |
| 1800 | Tuition fees | 1,438,437.32 |
| TOTAL FOR TITLE 1 | | 19,754,010.84 |
| Title 2 - Administrative expenditure | | |
| 2000 | Rental of buildings | 3,133,858.26 |
| 2100 | Data processing | 3,255,274.34 |
| 2200 | Movable property | 17,574.03 |
| 2300 | Current administrative costs | 1,072,466.23 |
| 2400 | Postage and telecommunication costs | 210,628.85 |
| 2500 | Meetings | 71,594.00 |
| 2600 | SAB administrative expenditure | 294,178.29 |
| TOTAL FOR TITLE 2 | | 8,055,574.00 |
| TOTAL FOR TITLES 1 AND 2 | | 27,809,584.84 |
| Title 3 - Operational expenditure | | |
| 3100 | Expenditure on studies | 3,696,296.74 |
| 3300 | SAB operational expenditure | 724,700.42 |
| TOTAL FOR TITLE 3 | | 4,420,997.16 |
| TOTAL TITLE 1+TITLE 2+TITLE 3 | | 32,230,582.00 |

| Payment Appropriations | | | | | |
|------------------------|-------------|---------------------|------------|----------------------|-------------|
| Paid in 2018 | % | Carried Forward | % | Total Executed | % |
| 15,591,761.63 | 100% | 0.00 | 0% | 15,591,761.63 | 100% |
| 98,850.59 | 72% | 38,399.41 | 28% | 137,250.00 | 100% |
| 5,398.15 | 10% | 46,919.00 | 90% | 52,317.15 | 100% |
| 1,263,228.93 | 87% | 195,813.07 | 13% | 1,459,042.00 | 100% |
| 254,984.18 | 67% | 126,835.82 | 33% | 381,820.00 | 100% |
| 186,940.64 | 51% | 181,256.36 | 49% | 368,197.00 | 100% |
| 206,656.80 | 64% | 117,825.20 | 36% | 324,482.00 | 100% |
| 663.74 | 94% | 40.00 | 6% | 703.74 | 100% |
| 1,417,724.12 | 99% | 20,713.20 | 1% | 1,438,437.32 | 100% |
| 19,026,208.78 | 96% | 727,802.06 | 4% | 19,754,010.84 | 100% |
| 1,931,148.66 | 62% | 1,202,709.60 | 38% | 3,133,858.26 | 100% |
| 744,350.06 | 23% | 2,510,924.28 | 77% | 3,255,274.34 | 100% |
| 17,574.03 | 100% | 0.00 | 0% | 17,574.03 | 100% |
| 421,714.96 | 39% | 650,751.27 | 61% | 1,072,466.23 | 100% |
| 83,489.29 | 40% | 127,139.56 | 60% | 210,628.85 | 100% |
| 62,760.06 | 88% | 8,833.94 | 12% | 71,594.00 | 100% |
| 277,243.03 | 94% | 16,935.26 | 6% | 294,178.29 | 100% |
| 3,538,280.09 | 44% | 4,517,293.91 | 56% | 8,055,574.00 | 100% |
| 22,564,488.87 | 81% | 5,245,095.97 | 19% | 27,809,584.84 | 100% |
| 3,695,421.52 | 100% | 0.00 | 0% | 3,695,421.52 | 100% |
| 724,700.42 | 100% | 0.00 | 0% | 724,700.42 | 100% |
| 4,420,121.94 | 100% | 0.00 | 0% | 4,420,121.94 | 100% |
| 26,984,610.81 | 84% | 5,245,095.97 | 16% | 32,229,706.78 | 100% |

II.2 – Information on transfers and amending budgets

One amended budget was approved during the reporting period that took into account the fact that GSA requested an additional 23 TA posts and, in the final 2018 budget, only additional 10 TA posts were granted. The final EFTA contribution for 2018 was also lower than estimated and therefore the budget was decreased by EUR 1 127 780 as approved by the Administrative Board at the meeting on 31 January 2018.

The Agency published both the 2018 initial budget and an amended budget no 1 in the Official Journal of the EU on 28 March 2018.

Seven internal transfers were processed in 2018, 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 5 October 2018.

II.3 – Information on interest charged through late payments

Interest on late payment totalling EUR 259.94 was paid in 2018, a decrease of 49% from 2017 (EUR 511.46).

II.4 – Summary information on budgetary operations

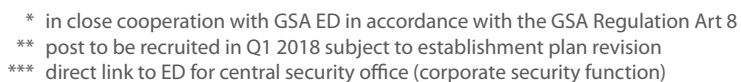
The Agency began the reporting period with an initial budget of EUR 33 358 362. There was one amendment to the budget within the course of the year, which reduced the budget by EUR 1 127 780, therefore bringing the total budget to EUR 32 230 582.

Budget execution for the year was 100% in commitment appropriations and 100% in 2018 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 14.66 days, well below the 30 day EC benchmark and 20 day target. The Agency processed 6 635 financial transactions, representing a 1.7 % increase compared to 2017.

The Agency continued to manage a large amount of delegated budget in 2018, following the signature of three new Delegation Agreements in the course of 2014 for EGNOS Exploitation, Galileo Exploitation and Horizon 2020. An amendment to the Galileo Exploitation Delegation Agreement was signed in 2018, assigning a further EUR 410 million to the Agency. The Agency committed EUR 1 173 219 279 of the delegated budget in 2018 and made EUR 771 880 417 in payments.

The GSA re-organisation, presented below, was decided on in March 2017.



Annex IV – Establishment Plan

The Agency's Establishment Plan for 2018 was as follows:

| Category and grade | Establishment plan in EU Budget 2018 | | Modifications in 2018 in application of flexibility rule ¹⁸ | |
|-----------------------|--------------------------------------|------------|--|------------|
| | Officials | TA | Officials | TA |
| Administrator (AD) 16 | | | | |
| AD 15 | | | | |
| AD 14 | | 1 | | 1 |
| AD 13 | | 3 | | 3 |
| AD 12 | | 6 | | 1 |
| AD 11 | | 7 | | 4 |
| AD 10 | | 14 | | 9 |
| AD 9 | | 13 | | 20 |
| AD 8 | | 32 | | 32 |
| AD 7 | | 35 | | 35 |
| AD 6 | | 8 | | 12 |
| AD 5 | | 4 | | 7 |
| Total AD | | 123 | | 124 |
| Assistant (AST) 11 | | | | |
| AST 10 | | | | |
| AST 9 | | | | |
| AST 8 | | | | |
| AST 7 | | | | |
| AST 6 | | 1 | | 1 |
| AST 5 | | 2 | | 1 |
| AST 4 | | 1 | | 1 |
| AST 3 | | | | 1 |
| AST 2 | | 1 | | |
| AST 1 | | | | |
| Total AST | | 5 | | 4 |

¹⁸ In line with Article 32 (1) of the framework Financial Regulation, the management board may modify, under certain conditions, the establishment plan by in principle up to 10% of posts authorised, unless the financial rules of the body concerned allows for a different percentage rate.

| Category and grade | Establishment plan in EU Budget 2018 | | Modifications in 2018 in application of flexibility rule ¹⁸ | |
|---------------------|--------------------------------------|------------|--|------------|
| | Officials | TA | Officials | TA |
| AST/SC 6 | | | | |
| AST/SC5 | | | | |
| AST/SC4 | | | | |
| AST/SC3 | | | | |
| AST/SC2 | | | | |
| AST/SC1 | | | | |
| Total AST/SC | | | | |
| TOTAL | | 128 | | 128 |

Information on entry level grades for posts

The Agency has a grading policy based on the EC Decision on types of post and post titles (European Commission Decision of 16 December 2013 on types of post and post titles C(2013) 8979 final). The table below refers to Temporary Agents (TAs):

| 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 2018 distribution of staff was as follows, split by areas of activity:

| | | Allocated on 31 Dec 2018 ¹⁹ | |
|-----------------|---|--|---------|
| | | TA | CA, SNE |
| Core tasks | Security accreditation | 10 | 1 |
| | Security and PRS tasks | 2 | 1 |
| | GSMC operations | 21 | 15 |
| | Promotion and marketing of the services | 6 | 4 |
| | Agency management | 17 | 21 |
| Delegated tasks | EGNOS Exploitation | 16 | 4 |
| | Galileo Exploitation | 52 | 12 |
| | Research & Development (H2020) | 4 | 5 |
| Total | | 128 | 63 |

¹⁹ Including 10 accepted offers for TA positions and 1 accepted offer for CA positions.

The financial resources, split by area of activity are:

| | | Amount (EUR) |
|-----------------|--|----------------|
| Core tasks | Security accreditation | 534 783.75 |
| | Security and PRS tasks | 0 |
| | GSMC operations | 734 000 |
| | Promotion and marketing of the services | 3 152 213.41 |
| | General Administration and Agency Management | 27 809 584.84 |
| Delegated tasks | EGNOS Exploitation | 330 411 290.30 |
| | Galileo Exploitation | 831 779 984.93 |
| | Research & Development (H2020) | 11 028 004 |
| Total | | 1 205 449 861 |

Annex VI – Specific Annexes related to part 2

VI.1 – GSA Legal Framework (as of 31 December 2018)

| 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 Dec 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 |

| Document | Ref. | Issue - Date |
|---|--------------------------------------|---------------|
| Decision No 1104/2011/EU of the European Parliament and of the Council of 25 October 2011 on the rules for access to the Public Regulated Service provided by the Global Navigation Satellite System established under the Galileo programme | 1104/2011 (enforced on 5/11/2011) | 25 Oct 2011 |
| Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002 of 25 June 2002 as subsequently amended | 966/2012 | 25 Oct 2012 |
| Commission Delegated Regulation (EU) No 1268/2012 of 29 October 2012 on the rules of application of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council on the financial rules applicable to the general budget of the Union as subsequently amended | 1268/2012 | 29 Oct 2012 |
| Decision of the Administrative Board adopting the GSA Financial Regulation Implementing Rules 2014 of 25 April 2014 | WP33 | 25 April 2014 |
| Regulation No 31 (EEC), 11 (EAEC), laying down the Staff Regulations of Officials and the Conditions of Employment of Other Servants of the European Economic Community and the European Atomic Energy Community 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.

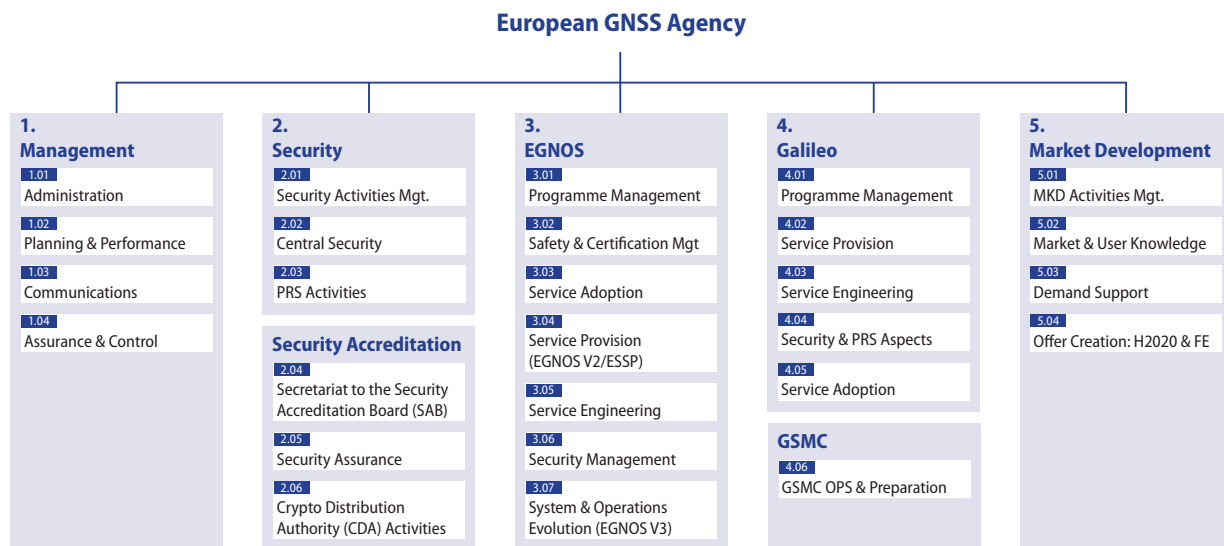
Annex VIII – Draft Annual Accounts and Financial Reports

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 2018, the Court of Auditors will audit these Accounts. After their final remarks, the Agency will submit the 2017 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 2018-2020 and therefore the Consolidated Annual Activity Report 2018 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 |
| CMS | Common Minimum Standards |
| COMSEC | Communication Security |
| CPA | Competent PRS Authority |
| CS | Commercial Service |
| DG GROW | Directorate General Growth |
| EASA | European Aviation Safety Agency |
| EC | European Commission |

| Abbreviation | Definition |
|----------------|--|
| ECA | European Court of Auditors |
| ECM | Enterprise Content Management |
| EDAS | EGNOS Data Access System |
| 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 |
| ESP | EGNOS Service Provision |
| ESSP | European Satellite Services Provider |
| EU | European Union |
| EUCI | EU Classified Information |
| EURATOM | The European Atomic Energy Community |
| FKC | Flight Key Cell |
| FLAG | Five Lives Advisory Group |
| FP7 | Seventh Framework Programme for Research and Technological Development of the European Union |
| GCC | Galileo Control Centre |
| GCS | Galileo Control Segment |
| GDDN | Galileo Data Distribution Network |
| GEO | Global Earth Observation |
| GMS | Ground Mission Segment |
| GNSS | Global Navigation Satellite System |
| GPS | Global Positioning System (USA) |
| GRC | Galileo Research Centre |
| GRON | Galileo Robust Operational Network |
| GRUE | GSA EU Restricted Network |
| GSA | European GNSS Agency |
| GSAP | GNSS Security Accreditation Panel |
| GSOp | Galileo Service Operator |
| GRC | Galileo Reference Centre |
| GSC | GNSS Service Centre |
| GSF | Galileo Security Facility |
| GSMC | Galileo Security Monitoring Centre |
| GSOp | Galileo Service Operator |
| H2020 | Horizon 2020 |
| HA | High Accuracy |
| HR | Human Resources |
| IAC | Internal Audit Capability |
| IALA | International Association of Lighthouses Authorities |
| IAS | Internal Audit Service |
| ICS | Internal Control Standards |
| ICT | Information and Communications Technology |
| ILS | Integrated Logistic Centre |

| Abbreviation | Definition |
|--------------|---|
| JRC | Joint Research Centre |
| IMO | International Maritime Organization |
| IMS | Integrated Management System |
| ISO | International Standards Organisation |
| IT | Information Technology |
| ITS | Intelligent Transport Systems |
| 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 |
| OS-NMA | Open Service Message Authentication |
| OSRR | Operations Service Readiness Review |
| PA | Product Assurance |
| PLB | Personal Locator Beacon |
| PRS | Public Regulated Service |
| P3RS2 | PRS Pilot Project 2 |
| RIMS | Ranging and Integrity Monitoring Station |
| RLS | Return Link Service |
| PRS4PMR | Public Regulated Service for Personal Mobile Radio |
| RAMS | Reliability, Availability, Maintainability and Safety |
| RUE | 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 |
| SDD | Service Definition Document |
| SIAP | Strategic Internal Audit Plan |
| 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 |
| UCP | User Consultation Platform |
| US | United States (of America) |
| WBS | Work Breakdown Structure |
| WG | Working Group |
| WO | Work Order |
| WP | Work Package |



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