

“GSA MyGalileoDrone Competition 2020”

Terms of Reference

1 THE BACKGROUND

Following Galileo initial service declaration in 2016, the increasing availability of Galileo-enabled receivers and the fast-growing market of drone-based applications and services, the European GNSS Agency (GSA) market activities are focusing on Galileo “Good Use” by increasing the awareness and stimulating its use by entrepreneurs and general public. Through this **contest**, the GSA aims at encouraging the development of applications and services based on drones using Galileo positioning, offering high accuracy and increased robustness, in order to stimulate business creation in this new, growing, and innovative market.

It is expected that the **contest** will stimulate drone application developers and service providers to learn about the Galileo potential and create new tools that could be exploited also in future projects. From the point of view of final users, the **contest** will allow to have in the market innovative applications and services based on drones and powered by Galileo, to showcase Galileo performance and benefits, fostering its introduction into this new market.

2 THE CONTEST

THE CHALLENGE

The aim of the contest is to design, develop, test and prepare for commercial launch a drone-based application and/or service able to provide a position and/or time fix by using Galileo-enabled receiver. The use of Galileo shall be understood in a broad sense, and not limited to the navigation components in the flying platform. The competition is open to integration of Galileo in any of the drone components or other equipment supporting the operations, that is, the flying platform (autopilot or other payload), the ground control station, or any other devices supporting the implementation of the application, such as smartphone, as well as external ones, such as U-Space services.

The Galileo Open Service (OS) and Search and Rescue (SAR) Service launched on 15 December 2016 as part of Galileo Initial Services are of special interest for drone based services. The OS provides a free dual-frequency service for positioning, navigation and timing, increasing the accuracy and robustness of the PNT solution for drone-based applications. The SAR service contributes to live-saving efforts by swiftly relaying radio beacon distress signals to the relevant SAR crews by means of dedicated payloads on-board Galileo satellites, and therefore locating people in distress and makes their position known to the relevant authorities. On January 21 2020, the SAR/Galileo Return Link Service (RLS) was declared operational. It provides an automatic acknowledgement message back to

the user informing them that their request for help has been received. A list of Galileo capable receivers is available in <https://www.usegalileo.eu/>.

In the frame of the contest, 4 (four) prizes will be given. All the requirements for application are described in this Terms of Reference.

Each participating team shall propose an application / service targeting one of the following innovation areas:

- **Drones for European Green Deal:**
 - Robust drone automated navigation solutions
 - Smart mobility solutions supporting reduction of congestions and more efficient and sustainable transport, such as urban air mobility, VTOL, air taxis or package delivery
 - Support to sustainable maritime and railway transportation, such as emissions monitoring, surveillance at sea, inland waterways operations
 - Field to Fork strategies on sustainable food, such as applications supporting precision agriculture
 - Applications in support of preserving Europe's natural environment, such as monitoring of natural assets
- **Drones for European Digital Strategy**
 - U-Space services leveraging artificial intelligence: U-space is a set of new services relying on a high level of digitalisation and automation of functions and specific procedures designed to support safe, efficient and secure access to airspace for large numbers of drones.
 - Internet of Things, e.g. intelligent interconnected drones exchanging information with other resources in low power context
 - Drones services to enable digital connectivity, also in remote and rural areas
 - Operations that leverage synergies between 5G and Space data
 - Efficient and digital surveying: Cadastral surveying, mining, marine surveying, GIS, photogrammetry
 - Infrastructure inspection and maintenance: Power grid, transport network energy distribution, solar panels inspection, offshore platforms, wind farms, etc.
- **Drones to Protect our European way of life:**
 - Applications supporting efficient search and rescue operations, such as search in remote areas
 - First-aid drones and medicine delivery
 - Support to firefighting, other natural disaster monitoring (e.g. floods, forest fires, earthquakes, etc), patrol, security, etc
 - Efficient support to migration processes and border operations
- **Drones for Resilience & the European Recovery**
 - eHealth: e.g. delivery of samples, medicines, tests, disinfection services
 - Support to safe tourism
 - Food production: e.g. crop monitoring, intelligent crop management
 - Support to production and inspection

In the area of the applications/services described above, the competition targets the use of Galileo in any components of the service, and not limited to the flying platform itself, such as, but not limited to:

- **Integration of GALILEO to improve flight performance and/or control**, such as E-GNSS integration or activation of the capability in the flight management system or

autopilot in order to deliver more robust service, integration of E-GNSS with other sensors to enable a better navigation solution.

- **Support the drone mission execution:** such as, but not limited to mobile apps for drones targeting the use of EGNSS to plan, record and track the flight, provide fly/no-fly area maps and support geo awareness, weather reporting in the flight area, and facilitate communication with other drone pilots and drone integration in the airspace.
- **U-Space services** supporting future Drone operations.
- **Drone Payload**, such as geolocated images processing, geoawareness/geo-identification support equipment.
- **Additional equipment** in the control station, pilot equipment or post processing software leveraging EGNSS data.

The application / service must demonstrate that the increased accuracy/availability provided by Galileo, within multi-constellation and preferably multi-frequency solution provides added value to the application. Each application / service shall demonstrate the use of Galileo (see description of the competition phases). This can be done indicatively by any of the options below:

- Cross-checking the list of drones using Galileo capable receivers (in the myGalileoDrone competition website: www.gsa.europa.eu/myGalileoDrone).
- Adding a Galileo capable receiver as a payload or integrated into the drone autopilot for the purpose of the application. The list of Galileo capable receivers suited for drone applications is available on www.usegalileo.eu.
- In case the receiver used for the purpose of the competition is Galileo ready but the capability is not activated by the manufacturer by default, the applicant shall activate it by the use of existing software.
- Using a Galileo ready smartphone (or other device) as part of the application or service.
- Integrating a Galileo capable receiver in the platform used for the purpose of the application, as described above.
- Other means of demonstrating the Galileo use and increased performance may be proposed by the applicant in their proposal.

In order to ensure efficient communication of the developments made during the contest, the finalists commit to make the application and/or service available to potential customers by their own website, and applications developed for smartphones available in suitable platforms (e.g. Google Play / Apple Store) and finalise them within 18 months after the conclusion of the competition. In case of long-term missions (i.e. air taxis), the finalists commit to an annual progress update to the GSA.

ELIGIBILITY CRITERIA

Participation in the contest is open to teams, ideally from one (1) to seven (7) participants, composed by natural persons or legal entities. Each team must appoint a team coordinator to serve as the central contact point and represent the team towards GSA.

Natural persons applicant shall be EU Members States citizen or citizen of Switzerland or Norway. All applicants must be at least of 18 years of age by the date of registration to the contest.

In the case of legal entity, its central administration or registered office must be located in the EU Member States or in Switzerland or in Norway.

EXCLUSION CRITERIA

The contest is not open to entry where prohibited or restricted by law and is not open to employees of GSA, EC and ESA or to immediate family members (spouses, domestic partners, parents, grandparents, siblings, children and grandchildren) of employees of GSA, EC and ESA or to employees or immediate family members of any of their respective affiliates.

In addition, all applicants shall be able to sign the Declaration on Honour (Annex 1) to be allowed to participate to this competition.

CONTEST PROCESS

The contest will be organised in four steps:

- **First step – Open call for ideas (deadline for submission 31st August 2020):** Following the launch of the competition, each team shall submit a proposal describing the plans for developing an application and/or service to address one of the innovation areas listed above. The proposal shall include the following documents:
 - Application form with the technical description of the idea (available [here](#));
 - Declaration of honour on exclusion (available [here](#));
 - Financial Identification Form (available [here](#));
 - Legal Entity Form¹ (available [here](#)) with a copy of an identity document (national ID card or passport) of the natural persons participating to the team and, if legal entity, an extract of the national company registry of the legal entity. **The photographs, as well as any other personal data (except for the name, date of birth and nationality) included in such ID documents must be concealed by each applicant so that they are not at all visible in the submitted copy. If, despite the aforementioned, such non-mandatory personal data are visible, it is implied that the applicant has given its consent to their processing**

Submissions must be made through the official contest site <https://www.gsa.europa.eu/MyGalileoDrone>. The proposals will be evaluated by the GSA evaluation board composed by GSA experts of the main innovation areas who will choose a maximum of thirty (30) projects to proceed to the second step: development phase M1. Selected teams will be announced on the official contest site and promoted in other official channels. The award criteria defined below will be applied for the selection of the proposals that will move to the second step.

- **Second step - Development phase M1 (15th September – 30th November 2020):** During this step, the selected teams will be engaged in the development of a demo version of the proposed application and/or service. The demonstrator shall implement the general concept, prove feasibility via a flight in a representative scenario and provide a test report. As an output of this phase, the participants shall submit a demonstrator, including the following information:

¹ Every natural person participating to a team shall submit a “Natural Person” form + a copy of their own ID. Persons representing a legal entity shall submit a “Private Company” or “Public Law Body” form for the legal entity they represent + a copy of their own ID.

- Detailed description of the application or service, definition of the flight tests and operations performed by the drone operator;
- Drone and additional equipment configuration, being especially relevant to confirm drone GNSS receiver or the other equipment using Galileo;
- Video of a demonstration in flight, showcasing the application in a representative simulated scenario;
- Recorded logs of the drone and/or proof of use of Galileo in other equipment during the demonstration.
- For applicants proposing a software application: a demo version of the app, showing its functionalities and a report of testing results.

During this phase the teams will receive technical support consisting of:

- lists of Galileo capable drones and receivers;
- a dedicated API to facilitate the use of GNSS raw measurements;
- online mentoring sessions with the technical and business advisory team, on GNSS, drone operations and safety aspects².

At the end of the development phase, the demonstrators will be evaluated by a GSA evaluation board who will choose a maximum of ten (10) projects to proceed to the Finals Phase. The GSA will also verify the demonstrators and reported performances by a visit to the selected teams.

The award criteria defined in the section below will be applied for the selection of the proposals that will move to the Finals.

The Teams selected ² will be invited³ to proceed to the last step: Finals. Selected teams will be announced on the official contest site and promoted in other official channels.

- **Third step - Finals:** The official award of the "MyGalileoDrone" 2020 competition will take place during the awards ceremony to be organized in a selected EU capital. During this event, each team will present its application or service to the GSA evaluation board, including a roadmap of the request to the relevant authority for the authorisation to deliver commercial services (if needed for the target application/service). The finalists will also perform a demonstration of the application / service, including flights. The winners of the 1st, 2nd, 3rd and 4th prizes will be selected based on the award criteria listed below and awarded. Winners will be promoted in official channels.

PRIZES

Each member of the teams participating in the Finals will receive a certificate of reaching the final stage. Additionally, the winner teams of the contest will receive the following Prizes:

- 1st Prize of the GSA Evaluation Board: € 100.000 (one hundred thousand Euro)
- 2nd Prize of the GSA Evaluation Board: € 60.000 (sixty thousand Euro)

² The technical advisory team will independently assess each application/service at the end of this phase and present the results to GSA as input to the decision process to select teams for the next step.

³ GSA will offer travel reimbursement for each team coordinator invited to participate in the Final. The reimbursement of participation for other team members may be provided depending on the budget availability.

- 3rd Prize of the GSA Evaluation Board: € 40.000 (forty thousand Euro)
- 4th Prize of the GSA Evaluation Board: € 30.000 (thirty thousand Euro)

Prizes shall be awarded in accordance with the principles of transparency and equal treatment and shall promote the achievement of policy objectives of the Union.

The GSA reserves the right to propose an additional Prize under the present Terms of Reference at any time until the closure of the First step.

AWARD CRITERIA

The following criteria will be considered for the assessment of the projects along the three steps of the contest:

- **Innovation (0-5):** Is this kind of application or service not yet available on the market? Is the application technologically advanced (e.g. using multi-frequency, innovative algorithms)?
- **Market potential (0-5):** Is this application / service sellable after repackaging this idea into a real service? Is there a potential market demand/customer base for this product?
- **Galileo relevance (0-5):** Is the application / service making use of Galileo? Is the increased accuracy offered by Galileo relevant for the application? Is the increased robustness provided by multi-constellation / multi- frequency relevant for the application?
- **Technical feasibility and service readiness (0-5):** What is the level of progress since the start of the contest?⁴ Has the required level of completion for the phase been fully achieved?⁵ Is the applications/service ready to be delivered in the market?
- **Address regional development needs (0-5):** Does the solution address needs of regional markets or improve the offer available in regional markets for the services proposed to be provided by the drone-based solution? In case additional authorisation are needed from the relevant national authority, are they identified and is the plan to achieve them credible?

The above-mentioned criteria will be assessed confidentially and on a discretionary basis by the GSA evaluation board. The applicants irrevocably acknowledge that:

- Jury deliberations are confidential and will not be disclosed to applicants.

INTELLECTUAL PROPERTY OF DEVELOPMENTS

Applicants will retain full ownership of the intellectual property rights on software developed within the framework of the contest, and exclusivity of commercial exploitation.

Additionally, the winners shall include Galileo/GSA branding in marketing material related to the development in a form to be defined by mutual agreement between the applicant and GSA, for example by including a logo in the app description page or any other form agreed without affecting the ownership and exclusivity of the commercial exploitation retained by the candidates nor the EC/GSA rights on the Galileo trademark.

⁴ Please note that this question will be relevant only for the 2nd phase and finals

⁵ Please note that this question will be relevant only for the 2nd phase and finals

3 THE SCHEDULE

ID	Event	Date (estimated)
1	Announcement of Contest	17 July 2020
2	Information Webinars	August 2020
3	Proposal Step 1 submission deadline	31 August 15 September 2020
4	Announcement of selected teams to proceed to development phase M1	15 September 30 September 2020
5	App/Service Development Phase end – submission/review of demonstrators	30 November 2020
6	Announcement of selected teams to proceed to Finals	15 December 2020
7	Competition Final	28 January 2021

4 REQUESTS FOR ADDITIONAL INFORMATION

Participants may request additional information for the purpose of clarifying the scope of these Terms of Reference. Any requests for additional information must be made in writing only to prizes@gsa.europa.eu. The subject of the email has to quote the reference 'MyGalileoDrone 2020' followed by the name of the team. Participants are invited to send the requests for additional information as early as possible before the deadline for submission of each phase.

5 THE ORGANISATIONAL COSTS

The participation to the contest is free of charge for the applicants. For the avoidance of doubt, it is recalled that only travel reimbursement for each team coordinator invited to participate in the Final will be reimbursed, and travel costs of the other members of the team may remain at their charge.

Costs incurred in preparing and submitting a proposal are borne by the Applicants and will not be reimbursed.

6 OTHER CONDITIONS

Participation in the Contest requires the acceptance of the Rules of Contest consisting of these Terms of Reference as well as the GSA's General Rules of Contest (available on GSA's website under the following link:

https://www.gsa.europa.eu/sites/default/files/content/general_rules_of_contest_for_prizes.pdf).

All applicants must comply with the General Rules of Contest; in particular the attention of the applicants is brought to the obligations set forth under Article 7 (Audits, cooperation for publicity purposes) and Art. 10 (Intellectual Property).

For the avoidance of doubt, any applicants reaching the second step of the competition shall be subject to Article 7 of the GSA's General Rules of Contest.

Any personal data that may be included in the applications of entities applying for this opportunity shall be processed by the GSA in accordance with the applicable rules on the protection of natural

persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data.

Identity of the Controller and Data Protection Officer:

1. For what concerns the processing purposes 1, 2 and 3 below:

- **Controller:** European GNSS Agency (GSA), Head of GSA Market Development Department, Janovskeho 438/2 170 00 Prague 7, Czech Republic, market@gsa.europa.eu;
- **Data Protection Officer:** GSA Data Protection Officer, Janovskeho 438/2 170 00 Prague 7, Czech Republic, dpo@gsa.europa.eu

2. For what concerns the processing purpose 4 below:

- **Joint Controllers:** (1) European GNSS Agency (GSA), Head of GSA Market and Development Department, Janovskeho 438/2 170 00 Prague 7, Czech Republic, market@gsa.europa.eu and (2) European Commission, Directorate-General for Budget of the European Commission ('DG Budget'), DG Budget's Data Controller BUDG-FICHIER-TIERS@ec.europa.eu
- **Data Protection Officers:** (1) GSA Data Protection Officer, Janovskeho 438/2 170 00 Prague 7, Czech Republic, dpo@gsa.europa.eu and (2) DG Budget Data Protection Coordinator BUDG-DATA-PROTECTION-COORDINATOR@ec.europa.eu

Purposes of processing:

1. Registration in the application platform available at the dedicated contest site and submission of the application
2. Management and administration of the award process pertaining to this opportunity
3. The preparation of the contract(s), only with regard to the personal data of the awarded applicant(s)
4. Only with regard to the personal data of the awarded applicant(s):
 - the registration of the necessary "legal entities" and "bank account" files in the Commission Financial System ABAC (Accrual Based Accounting)
 - the execution of payments towards the registered entities
 - the registration of the related financial transactions

Data concerned: any personal data that may be included in interested entities' applications. Such data can relate to the following categories:

- Identification of individuals (e.g. name, last name, title, function in organisation);
- Communication details of individuals (e.g. email address, telephone number, postal address);
- Information for the evaluation of eligibility, exclusion and award criteria (e.g. expertise, technical skills and languages, educational background, professional experience including details on current and past employment)
- Financial information of applicant(s), e.g. bank account number, IBAN and BIC codes, address of respective bank branch, name of bank account holder
- Data related to criminal convictions and offences of: (1) members of the administrative, management or supervisory body of applicants, (2) natural persons who have powers of representation, decision or control of the applicant, (3) owners of the applicants as defined in Article 3(6) of Directive (EU) 2015/849, (4) natural persons assuming unlimited liability for the debts of the applicants, (5) natural persons who are essential for the award or the implementation of the contract(s); such data are collected through the submission of the declaration of honour

It is specifically noted that:

- the abovementioned processing operations will not entail the processing of any special categories of personal data. If, however, an applicant submits such data at its own volition

and without any specific request, it is implied that the data subject has given its consent to the processing of such data

- the provision of personal data by the applicants is a requirement necessary to enter into the contract

Legal bases: Article 5(1)(a), 5(1)(c), 10(2)(a) and 11 of Regulation (EU) 2018/1725

Lawfulness of processing:

- Article 5(1)(a): the processing is necessary for the performance of a task carried out in the public interest, specifically the management and functioning of the GSA through the launching of competitions.
- Article 5(1)(c): the processing is necessary for the performance of a contract to which the data subject is party or in order to take steps at the request of the data subject prior to entering into a contract; the GSA processes the personal data of the applicants at their request (through the submission of their applications) in order to take the necessary steps prior to enter into the contract with the awarded applicant (s).
- Article 11: the processing of personal data relating to criminal convictions and offences shall be carried out only when authorised by Union law; such processing, in the form of an extract from the judicial record or declaration of honour, is explicitly foreseen in the Financial Regulation⁶ (Articles 136-140)
- Article 10(2)(a): as explained above, in case any applicant submits special categories of data at its own volition and without any specific request, it is implied that the data subject has given its consent to their processing

Recipients of the data processed:

- a limited number of staff of the GSA managing this procedure
- data processors:
 - a limited number of staff of GSA contractors assisting GSA staff in the management of this procedure
 - a limited number of staff of GSA contractors in charge of the provision of hosting services for the GSA's servers
 - a limited number of staff of the service providers in charge of providing to the GSA the application platform via which the applicants submit their applications
 - a limited number of staff of the Directorate-General for Budget of the European Commission ('DG Budget')
- bodies charged with a monitoring or inspection task in application of Union law (e.g. internal audits, Financial Irregularities Panel, European Anti-fraud Office – OLAF)
- members of the public: the winning entities will be announced to the public, which may also entail the announcement of the personal data of the representatives of such entities (e.g. name, last name)

All the abovementioned recipients are established in the European Union.

⁶ Regulation (EU, Euratom) 2018/1046

Information on the retention period of personal data:

1. with the exception of the information under point (2) below, all other information pertaining to this procedure shall be kept for up to 7 years following the end of the year when the contract(s) has been awarded as a result of the award procedure; files may also have to be retained until the end of a possible audit if one started before the end of the above period;
2. all information (including personal data) submitted by the applicants in the application platform will be deleted from said platform
 - within a maximum of 2 months after the launch of the second stage of the competition, for those applicants which are not selected to proceed to the second stage of the competition;
 - within a maximum 2 months after the closing date of the second stage of the competition, for those applicants which are selected to proceed to the second stage;
3. all collected data may be stored:
 - electronically on GSA servers with access control measures (i.e. one or two factor authentication) hosted by GSA contractors which are located in the EU and abiding by the necessary security provisions
 - physically in secure storage cupboards in the GSA HQ in Prague
 - electronically and physically on the servers/cupboards of the processors identified above (all of which are established in an EU Member State)

Transfer of personal data to third country:

The service providers in charge of providing to the GSA the application platform use the server service Amazon Web Services (AWS) of Amazon and, therefore, **data may also be transferred to Amazon's servers located in third countries (outside the European Union).**

Amazon is certified under the EU-US Privacy Shield which ensures that the company provides an adequate level of protection of personal data (European Commission Implementing Decision (EU) 2016/1250 'adequacy decision'); for information on the certification of Amazon please see <https://www.privacyshield.gov/participant?id=a2zt0000000TOWQAA4>; for more information on the EU-US Privacy shield see https://ec.europa.eu/info/law/law-topic/data-protection/data-transfers-outside-eu/eu-us-privacy-shield_en and for the Commission's adequacy decision see https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2016.207.01.0001.01.ENG&toc=OJ%3AL%3A2016%3A207%3AFULL

The data subject's rights and contact data:

- Data subjects have the right of access, rectification and erasure of their personal data or restriction of processing at any time, provided that there are grounds for the exercise of this right, as per the applicable rules
- Data subjects have the right to object, on grounds relating to his or her particular situation, at any time to the processing of personal data concerning him or her. Requests shall be addressed to the GSA Market Development Department at market@gsa.europa.eu by describing the request explicitly. It is noted that pursuant to such a request, the Controller shall no longer process the personal data unless the Controller demonstrates compelling

legitimate grounds for the processing which override the interests, rights and freedoms of the data subject or for the establishment, exercise or defence of legal claims

- Data subjects may obtain their personal data, submitted to the GSA, in a structured, commonly used and machine-readable format and transmit them to another controller, provided that there are grounds for the exercise of this right, as per the applicable rules
- Data subjects are entitled to lodge a complaint at any time with the European Data Protection Supervisor (<http://www.edps.europa.eu>; EDPS@edps.europa.eu) if they consider that their rights under the applicable rules on the protection of individuals with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data have been infringed as a result of the processing of their personal data by the GSA
- Only in cases where the data subjects' consent is used as the legal basis for the processing of personal data (i.e. in case they have submitted special categories of data at their own volition and without any specific request), they can withdraw their consent at any time, without affecting the lawfulness of the processing before the withdrawal

Any request for the exercise of any of the abovementioned rights shall be addressed to the GSA Market Development Department at market@gsa.europa.eu; data subjects are kindly requested to describe their requests explicitly.

7 TABLE OF ACRONYMS AND DEFINITIONS

API	Application Programming Interface
OS	Open Service
PNT	Positioning, Navigation and Timing
R&D	Research and Development
SAR	Search and Rescue
UAV	Unmanned Aerial Vehicle