ERTMS on SATELLITE Galileo Game Changer

Deliverable D1.1 Quality Plan

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REPORT CONTRIBUTORS

Name	Company	Details of Contribution
Elena Razzano	RFI	Background General review of the document
Elisabetta Noce	Rina – C	General review of the document Contribution Section: Cooperation Tool
Laura Giovanelli	Rina – C	Contribution Section: Financial Reporting

DOCUMENT APPROVAL

Document Code	Rev.	Approved	Authorised	Date
ERSAT-GGC_WP1_D1.1_Quality Plan_v2	02	TMT	Massimiliano Ciaffi	2018/04/06

This Quality Plan document has been prepared to define the quality assurance requirements and adopted procedures for all aspects of project data management that are applicable for the full duration of the ERSAT GGC project.

The scope of the Quality Plan is to provide detailed process requirements with respect to the day-to-day project management and on the particular practical aspects of the project development, including report production procedures, criteria for work progression and results performance measurement. Procedures for the management and processing of documents, which define mandatory rules for document numbering/references, typographical standards and document classification and status, are also included.

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ACRONYMS/ABBREVIATIONS

Acronyms\Abbreviations	Description
CA	Consortium Agreement
CFS	Certificate on Financial Statement
DoA	Description of Action
DRS	Deliverable Review Sheet
EGNOS	European Geostationary Navigation Overlay Service
EGNSS	European Global Navigation Satellite Systems
ERTMS	European Railway Traffic Management System
ERSAT	ERTMS on Satellite
FAsT tool	Financial Assessment Tool
GA	Grant Agreement
GSA	European Global Navigation Satellite System Agency
PO	Project Officer
RP	Reporting Period
SC	Steering Committee
SYGMA	System for Grant Management
TMT	Technical Management Team
URL	Uniform Resource Locator
WP	Work Package

1. BACKGROUND

ERSAT GGC project is conceived for speeding up the certification process of EGNSS assets according to the ERTMS rules. It is a 24-month follow up of the ERSAT (ERtms + SATellite) program launched in 2012 by RFI in collaboration with Ansaldo STS for integrating satellite technologies on the ERTMS platform. Primary goals of ERSAT GGC are to allow RFI, recently nominated Game Changer for integrating satellite technology into ERTMS, to launch an operational line by 2020, the same year Galileo services will be operational, and to accelerate the standardization process at European level for including the satellite requirements into the new ERTMS TSI (Technical Specification for Interoperability). As a results of previous projects, EGNSS and ERTMS – both pillars of the European industrial policy - are becoming tightly intertwined and backed by a mutual-supportive business model - a pre-requisite to give birth to fast growing EGNSS applications and to the deployment of economical sustainable ERTMS solutions on local and regional market which today is dominated by legacy systems most of which old and still manually operated. ERSAT GGC will rely on the achievements of the most relevant EC and GSA funded projects such as NGTC, ERSAT EAV, STARS, RHINOS, whose the individual coordinators are partners of the ERSAT GGC consortium.

ERSAT GGC will exploit a fully operational Test bed located in Sardinia on the 50km double track line between Cagliari and San Gavino, by the end of the project foreseen 30 November 2019. This Test Bed includes the ERTMS main constituents, a fully equipped train, and the EGNSS/ Wireless assets to operate with the ERTMS system based on the Satellite based Location Determination System (LDS). Other facilities, such as those of the CEDEX laboratory, DLR and RFI will be exploited for the certification process.

The ERSAT GGC consortium includes RFI, SNCF and ADIF as the main European rail stake-holders and two independent Notify bodies, Italcertifer and Bureau Veritas which are already supporting RFI for the certification process.

2. SCOPE

This Quality Plan document has been prepared to define the quality assurance requirements and adopted procedures for all aspects of needed for (LEAN) Quality Assurance processes that are applicable for the full duration of the ERSAT GGC project. The scope of the Quality Plan is to provide detailed process requirements with respect to the day-to-day project management and on the particular practical aspects of the project development, including report production procedures, criteria for work progression and results performance measurement. Procedures for the management and processing of documents defining mandatory rules for document numbering/references, typographical standards, classification and status are also included.

This document constitutes the first draft of the Deliverable D1.1 "Quality Plan" in the EU framework of the project titled "ERSAT Galileo Game Changer" (Project Acronym: ERSAT GGC, under Grant Agreement No 776039) and follows on from the original formal deliverable.

The aim of the Quality Plan is to control and ensure quality of project activities, and to effectively/efficiently manage the material/data generated within the ERSAT GGC project. It also describes the way data will be collected, processed, stored and managed internally within the

project. All aspects of procedures that are associates with data management external to the project will be the subject of a separate deliverable, D1.2 "Data Management Plan".

This document contains a range of mandatory procedures and process rules which control the management task and define the necessary collaboration activities between the participants. The content of the document is complementary to other official documents that define obligations under the Grant Agreement (GA) (and associated annexes) and the Consortium Agreement (CA). The Quality Plan has to be considered as a live document and as such will be the subject of periodic updating as necessary throughout the project life cycle. This version contains what are considered the most important rules and procedures that need to be in place at the current time. Based on experience (e.g. the reviewing process) and demands for additional procedures, it is envisaged that this document will be adjusted and extended as necessary.

3. PROJECT ORGANISATION

The project has a structured governance and management framework that controls and directs decisions during the project. This is organised as shown in Figure 3.1 below:
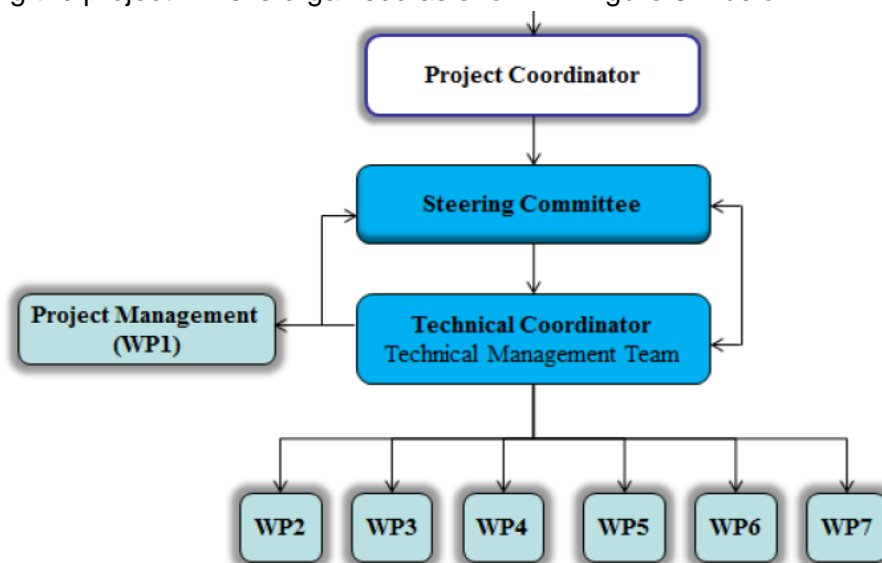
Figure 3.1: Project Organisation

This organizational structure is based on the following principles:

o WP leadership for effective decentralized management and decision making. The project is divided into a number of WPs with their own internal organization and management structure. The WPs are specialized to specific research and technology areas making the best possible use of expert knowledge from participating partners.

o Management Committees: hierarchical structures to enforce the global project objective Decentralized management and decision making at WP level is coordinated following industrial best practices by a hierarchical structure of managing committees:
   - Steering Committee (SC)
   - Technical Management Team (TMT)
   - Project Management Office (PMO) for overall project management.

3.1 STRATEGIC COORDINATION

Strategic co-ordination is performed by the ERSAT GGC Steering Committee (SC).

This committee ensures strategic coordination of Project and oversees the overall project. It acts as the consortium's strategic management body supported by the Project Coordinator (RFI) and assisted by the Technical Leader (Ansaldo STS).

The main objectives of the SC are:
- o to ensure compliance of the Project implementation with the joint research strategy objectives;
- o to facilitate co-ordination with other on-going large scale project where relevant;
- o to ensure handling of ethical issues;
- o to oversee management of the CA and the GA.

The main activities of the SC are:
- o Approval of the Work Plan Description;
- o Approval of the consortium's budget;
- o Validation of the incurred expenditure in accordance with the budget;
- o Support the Project Coordinator in preparing meetings with the European Commission;
- o Approval of the accession of a new partner or withdrawal of an existing partner;
- o Review and approve exploitation, dissemination and communication policies.

The SC normally meets every 6 months. The Technical Leader sets the agenda of the meetings jointly with the Project Coordinator.

3.2 TECHNICAL COORDINATOR

The TMT has the task to oversee both the overall technical progress of the entire project as well as the execution of the work of individual WPs, coordinating them in terms of their technical content. The TMT is mandated by the SC to ensure that the project tasks are monitored and managed from a technical aspect.

The TMT serves as a forum where WP Leaders can present and defend the positions, problems and issues emerging from each WP. This platform allows WP Leaders to reach proper consensus when proposing technical solutions for the project.

The TMT oversees the overall progress of the Project and coordinates the execution of individual WPs in terms of their technical and programmatic contents and according to common engineering consistency and quality guidelines.

The main objectives of the TMT are:
- o to ensure smooth execution of work plan;
- o to ensure troubleshooting and resolution (technical level);
- o to guarantee interoperability and integration;
- o to ensure the openness and scalability of specifications and design.

The main activities of the TMT are:
- o to define the technical roadmaps for the Project;
- o to approve Project Baseline (schedule, effort and budget allocation, milestones and deliverables);

- to prepare the programme of activities, and propose changes to the Project or WP if necessary;
- to solve cross-WP technical issues;
- to escalate to SC on key technical issues.

The TMT will be chaired by the Technical Leader (Ansaldo STS) who will facilitate mitigation and elimination of technical issues across work packages tasks and deliverables.

The TMT normally meets every 3 months. In addition, interim contacts (e.g. conference calls) take place on a monthly basis. The Technical Leader sets the agenda of the meetings and conference calls jointly with the Project Coordinator.

3.3 PROJECT MANAGEMENT OFFICE (PMO)

The PMO is headed by Project Coordinator who represents a reference point of contract for the consortium towards the GSA and the Project external stakeholders.

The WP1 will be overseen by the Project Coordination Team headed by the Project Coordinator (RFI) and supported by RINA-C.

3.4 WORK PACKAGES STRUCTURE AND MAIN DELIVERABLES

3.4.1 Work Package Structure

The table below is taken from the Grant Agreement 776039 – ERSAT GGC. This shows the main work packages of the project.

WP Number[9]	WP Title	Lead beneficiary[10]	Person-months[11]	Start month[12]	End month[13]
WP1	Project Management and Coordination	1 - RFI	30.00	1	24
WP2	Enhanced ERTMS Specification and Architecture	2 - ASTS	68.50	1	10
WP3	Safety and Hazard Analysis of the Enhanced ERTMS Architecture	3 - RINA-C	68.00	2	10
WP4	Track Survey and Track Classification	9 - DLR	108.00	1	18
WP5	Assessment of the Enhanced ERTMS architecture and of the Survey process and related toolset	14 - BVI	64.50	7	24
WP6	Demonstration	11 - RDL	35.00	18	24
WP7	Dissemination and Exploitation	12 - UNIFE	13.50	1	24
			Total	387.50	

Table 3.2: Work Packages list

3.4.2 Main Deliverables

The main deliverables of each work package are indicated in the Grant Agreement 776039 – ERSAT GGC. The full list of the deliverables is presented in Appendix B (Chapter 13.2). The main types of deliverables can be grouped into "reports", "demonstrations" and "websites", patent filing, etc.

4. COMMUNICATION AND COORDINATION

The project contact list is kept continually updated by the PMO.

Company	Details
RFI **Project Coordinator**	Massimiliano Ciaffi m.ciaffi@rfi.it
RFI **Amministrative Coordinator**	Manuel Romoli m.romoli@rfi.it
RFI and RINA-C **Support for the project coordinator team**	Giusy Emmanuele gi.emmanuele@rfi.it Elena Razzano e.razzano@rfi.it Elisabetta Noce elisabetta.noce@rina.org
Ansaldo STS **Technical Coordinator**	Salvatore Sabina Salvatore.sabina@ansaldo-sts.com
Unife **Dissemination Leader**	Jose BERTOLIN jose.BERTOLIN@unife.org
RINA - C **Financial Reporting**	Laura Giovanelli laura.giovanelli@rina.org

Table 4.1: Key Contact Details

Table 4.2 contains the contact details of the WP leaders.

WP	Company	Name and Surname	E-mail address
WP1	RFI	Massimiliano Ciaffi Deputy: Giusy Emmanuele	m.ciaffi@rfi.it gi.emmanuele@rfi.it
WP2	ASTS	Salvatore Sabina Deputy: Fabio Pognante	Salvatore.sabina@ansaldo-sts.com Fabio.Pognante@ansaldo-sts.com
WP3	RINA-C	Francesco Sperandio Deputy: Silvia Sturaro	francesco.sperandio@rina.org; silvia.sturaro@rina.org
WP4	DLR	Omar Garcia Crespillo Deputy: Andreas Iliopoulos	Omar.GarciaCrespillo@dlr.de Andreas.iliopoulos@dlr.de
WP5	BV	Alessandro Basili	alessandro.basili@it.bureauveritas.com
WP6	RADIOLABS	Andrea Coluccia	andrea.coluccia@radiolabs.it
WP7	UNIFE	Jose Bertolin	Jose.BERTOLIN@unife.org

Table 4.2: WP leaders Contact Details

5. COMMUNICATION ACTIVITIES AND REPOSITORY

5.1 INTERNAL COMMUNICATION

All partners will be regularly informed by e-mail about the project status, planning and any other issue in order to obtain maximum transparency and consciousness. All documents shall be transmitted or made available on the private internal repository. In addition, direct transmission of information to the partners will be used where appropriate.

Conference calls between WP leaders and project coordinator/technical coordinator will be held quarterly (TMT), so that it is possible to monitor the progress of project activities and to timely detect possible problems in order to mitigate them and to deliver effective contingency plan (if needed). At the same time, WP leaders have to monitor activities in their own WP by holding periodical conference calls with the other partners involved in their WP activities and by asking the support of the task leaders.

Internal reporting will include management (WP monthly report, conflict handling, risk analysis and mitigation, etc.) and other reports produced by the WP Leaders. The WP Leaders will produce the minutes of their own WP meetings, and will contribute to periodic reports, as appropriate. All the procedures to be implemented during the project life cycle were formalised in the Consortium Agreement and complementary information is added in this deliverable D1.1.

Every official meeting of the project should be traceable on the private internal repository in the Meetings section (agendas, minutes of meetings, presentations).

5.2 COOPERATION TOOL

A Cooperation Tool platform is established (https://www.cooperationtool.eu/projects/) in order to support the work of the consortium members. For access to the website, users are provided with a username (e-mail address) and password (automatically created by the website during the first registration). Beneficiaries who do not have access to the website can ask the Coordinator to open an account.

Beneficiaries shall use the website to share project information. The main functionalities to be used by project participants are the following:

- o documents upload and download (e.g., deliverables, minutes of meetings, agendas, presentations, Technical Annex, contact list, etc.)
- o create and check meetings, find documents related to meetings and confirm attendance to meetings;
- o add actions and check their current status.

An instruction manual on how to use the Cooperation Tool is circulated among beneficiaries; the document is also accessible on the website (Tutorial for all Project Members).

5.2.1 Cooperation Tool administration – Access Rights

Members are granted with access rights in the Cooperation Tool according to their role in the project as described in the table below.

Role	Who	Description
Guest	All members	All members of the project get by default "Guest" rights on all domains. Guest rights give access to all documents and meetings with Access field marked as "Guest" in the tool (i.e. documents and meetings with Access flagged with higher rights will not be visible for Guests);
User	Work package contributor	All partners contributing in a work package (WP members) have "User" rights, enabling them to create new documents.
Power User	Deputy/assistant WP Leader	This role has the same rights as user and in addition is able to create meetings. This role is normally used by deputy\assistant of the WP leader within the same company.
Domain Administration	WP Leader	The leader of each WP is granted "Domain Admin" rights in its WP domain. In addition to the "Power User" rights, the "Domain Admin" can: • Manage user rights within the domain; • Change documents status to "issued", confirming that the peer review process is completed; • Create and manage action points from meeting.
Project level administration	Coordinator	The Coordinator has overall project administration rights, enabling to administrate the complete project database.

5.2.2 Document Management in the Cooperation Tool

Whenever a new document is produced within the project, it must be uploaded on the Cooperation Tool. When a document is uploaded, a unique document code is assigned. The following subsections describe how this identification code is structured and set up.

Document Coding structure

The identification code contains the six following sections:

[PROJECT] – [DOMAIN] – [TYPE] – [OWNER] – [NUMBER] – [VERSION]

where:
- o [Project] is GGC for all ERSAT-GGC documents;
- o [Domain] is the relevant domain in the Cooperation Tool (WP, Task or project body);
- o [Type] is one letter defining the document category;
- o [Owner] is the trigram of the deliverable leader organisation;
- o [Number] is an order number allocated by the Cooperation Tool when the document is first created;
- o [Version] is the incremental version number, automatically incremented at each upload.

Example

Project Code	Domain (3-4 characters)	Type (1 letter)	Owner (3 letters)	Number (3 digits)	Version* (2 digits)
GGC	TMT	B	RFI	001	01
GGC	WP1	T	AST	002	02
GGC	GEN	A	RCI	003	03

* Version number is 00 when the document is declared but not yet existing. Version number is 01 as soon as it is first uploaded on the Cooperation Tool. Version numbers are incremented whenever a new version of an existing document is uploaded on the Cooperation Tool. This is important in order to keep track of the different versions of an existing document.

Document Types

When creating a document in the Cooperation Tool, the type of document in the section "Specific Information" should be selected. This information will be used to set up the identification code. Documents are classified among the following types:

Letter	Name	Description
A	Administrative	Any administrative document except contractual documents
B	Meeting Agenda, Presentation or Minutes	Meeting Agenda, Presentation or Minutes
C	Contractual document	Consortium Agreement, Grant Agreement and their approved amendments
D	Deliverable	Deliverable identified as such under the Grant Agreement
E	EC document	Document provided by EC (general rules, guidelines or EC experts documents)
M	Model (template)	MS-Office document templates including ERSAT GGC visual identity
P	Periodic Report	All intermediate/periodic reports except those listed as deliverables. May be a WP intermediate report or a project intermediate report requested by the Grant Agreement but not listed as deliverable
R	Deliverable Review Sheet (DRS)	Filled review sheet used to gather peer review comments on a deliverable. It can be also used to comment any other internal document when explicitly agreed or requested by its owner.
S	Risk Sheet	Filled risk sheet
T	Technical contribution	Technical document contributing to a task/deliverable but not part of the deliverable
W	Proposal	Proposal for changes to the Consortium Agreement or Grant Agreement
X	External document	Document produced by non-members of the project (e.g. papers, reports, external public deliverables…) that, upon authorisation of the author(s), are shared with the project due to its relevancy.

5.3 E-MAIL CORRISPONDENCE

To avoid the unnecessary proliferation of e-mails, the following general rules shall be observed in corresponding with fellow ERSAT GGC participants:
- o keep partners well informed, but ensure that the correspondence is completely necessary;
- o ensure that the subject matter is relevant for them and concise;
- o avoid unnecessary "broadcasting" to large numbers of individuals;
- o avoid copying in people "for information";
- o if reception of the e-mail needs to be acknowledged, this must be specifically requested in the e-mail.

5.3.1 Email "subject" Naming Convention

E-mail "subject" field shall follow the following naming convention:

"ERSAT-GGC_WPxx_zz.zz_Subject of email_YYYYMMDD"

Where the following coding applies:
- o xx defines the relevant to the work package e.g. 01 through to 07;
- o zz.zz defines the task within the work package;
- o Subject of email: this is free format text that is a short description of the e-mail' subject.

In case of the e-mail is addressed to the whole WP, the reference to the Task must be deleted.
The partners have the responsibility to inform the WP1 co-ordinator of changes to email addresses and any persons that should be added or removed, etc. The ERSAT GGC mailing list is maintained updated by the Project Coordinator and is available on the Cooperation Tool.

5.4 TELE / CONFERENCING

Tele/Video conferencing is considered a powerful tool for performing communications between multiple partners in an efficient manner, and negating the need for physical travel.
The technique is particularly applicable to short meetings and should be considered as the preferred method of meeting, whilst acknowledging that face to face meetings have other indirect benefits and should not be avoided if they provide an advantage over digital communications.
The following principles should be considered as a means of providing successful teleconference meetings:
- o the meeting should be limited to a small number of participants;
- o the date, time, expected duration, agenda and name of participants should be communicated in advance (typically at least 1 week before);
- o all required documents shall be distributed before the meeting (allowing sufficient time for reading / analysis);
- o teleconferences should be limited in time to ensure the participants full attention;
- o minutes summarising the decisions and actions shall be produced.

The preferred conferencing system is "Lync" or "WebEx" or "GotoMeeting".
ERSAT GGC partners shall work as a team to find a suitable teleconferencing facility method that works best for the participants within a particular work package or task.

6. EXTERNAL COMMUNICATION

All aspects of external communication shall be in accordance with the specific additional requirements of the Data Management Plan, as defined in the ERSAT GGC deliverable D1.2.

6.1 INTELLECTUAL PROPERTY RIGHTS

Intellectual Property Rights (IPR) refers to the new knowledge/results generated in the project. Before disseminating any results related to the ERSAT GGC project outside the consortium, e.g. through a publication or a conference paper, a consortium member shall ensure that no other participant objects to the publication of this material. The rules for the IPR management have been set in the GA and CA of ERSAT GGC project.

According to the ERSAT GGC CA, before disseminating results, the partners should be subject to the following rules:

- o at least 45 days prior notice of any dissemination activities (including publications) shall be given to the other partners concerned, including information concerning the planned dissemination activity and data;
- o this notification shall also be communicated to the TMT;
- o following notification, any of those partners may object within 30 days, if it considers that its legitimate interests in relation to its results (or background IPR) could be compromised. If no objection is made within the time limit stated above, the publication is permitted;
- o in such cases, the dissemination activity may not take place until appropriate steps are taken to safeguard these objections.

For notification, the following procedure shall be applied:

- o the partner wishing to disseminate foreground should first inform the TMT chairman, ERSAT GGC project Manager, WP7 Leader and the affected participants;
- o objections shall be notified to the TMT chairman and ERSAT GGC project Manager;
- o the assessment of the objection will be assessed in accordance with the "Terms of Reference" of the TMT.

6.2 COMMINCATION WITH THE GSA

The ERSAT GGC Project Manager shall be the official interface to the GSA. Therefore all matters that involved ERSAT GGC business with the GSA shall be directed through this communications channel.

6.3 CONFIDENTIALITY

All information designated as "confidential" (either orally or in writing) shall be clearly indicated as such on both paper and electronic document copies.

7. DOCUMENT MANAGEMENT

During the lifetime of the ERSAT GGC project, many documents will be produced. The following chapter contains the document management process controls and procedures to ensure document integrity and consistency.

7.1 LANGUAGE

All documents must be written in English.
Given that not all partners are English native speaker's emphasis shall be placed on the use of simple and clear English terms making use of short sentences.

7.2 DOCUMENT TEMPLATES

A standard document format (styles, pages layout, basic content structure definition, etc.) shall be used.
The following templates have been created:

- o Deliverables: ERSAT-GGC_Template_Deliverable;
- o Agenda of Meetings: ERSAT-GGC_Template_Agenda;
- o Minutes of Meetings: ERSAT-GGC_Template_MoM;
- o Presentation: ERSAT-GGC_Template_PPT;
- o WP Monthly Report: WP_Monthly_Report;
- o GSA Quarterly Reporting: ERSAT-GGC_Template_Quarterly Reporting.

The following chapters introduce briefly the first 4 types of templates while details on WP Monthly Report and GSA Quarterly Reporting are presented in Chapter 9.1.1.
Appendix A (Chapter 13.1) contains the full list of available document templates together with the link to the related files.
Document templates contain the ERSAT GGC project logo and GSA and EU logo with project ID in all the documents based on the Art 29.4 of the GA on the cover page and specific fields to be filled in, depending on the document template.
Whenever a new document is produced within the project, it must be uploaded on the Cooperation Tool.
Use of the templates is mandatory, but the core section structure may be configured specifically to reflect the nature of the document.

7.2.1 Deliverables Template

Each deliverable must be prepared using the specific template.

The deliverable layout has to be structured to have a minimum of the following main section parts. The deliverable template contains a sample of the structure as basis of all the deliverables:

- o **Front cover & Introduction**: standard cover page, glossary, table of contents and list of figures;
- o **Executive Summary**: this section should be a synopsis, or general overview, summarising the content of the document;
- o **Main Document**: this is the main part of the deliverable and shall explain clearly how the results were achieved, including diagrams or pictures to illustrate technical/scientific points;
- o **Conclusion**: this section shall be a summary of the major outputs and conclusion of the deliverables;
- o **References**: a list of documents, publications and other key references relevant to the deliverable;
- o **Annexes/Appendix with additional information**: this part shall provide detailed technical data and if necessary remain confidential and therefore not released with the main document.

Additional sections can be added if the nature of the work makes this necessary.

7.2.2 Agenda Template

The template for the agenda has to be filled in with all the required fields related to date, timing and venue of the meeting, the aim of the meeting, the expected participants and presenters.

The agenda should contains the list of the pending actions from the previous meetings.

The agenda of the meeting have to be uploaded on the Cooperation Tool in advance (5 working days).

7.2.3 Minutes of the meeting Template

The template for the minutes has to be filled in with all the required fields related to date, timing and venue of the meeting and the participants. The minutes should contains in attachment the presentations made during the meetings or a reference to them and the list of the actions planned for the next meeting. The minutes have to uploaded on the Cooperation Tool as soon as possible and interested parties have to be informed.

7.2.4 Presentation Template

All the presentations containing information related to ERSAT GGC project have to be prepared using the template.

Presentation for the participation to external events or conferences, have to be sent before using it to the Project Coordinator (Massimiliano Ciaffi) and Dissemination Leader (Jose Bertolin) for approval.

Each deliverable must be allocated a predefined level of dissemination identified in the DoA (see the list of Deliverables). These levels shall be one of the following categories:

- o CO, confidential, only for members of the Consortium;
- o PU, Public.

See the front cover sheet of the deliverables document template for the "level of dissemination" data entry position.

7.3 DOCUMENT STATUS

A status is associated to each step of the document lifecycle:

- o Draft: the document is under development by one or several partners;
- o Under review: the document is made available within the project for peer review;
- o Issued: the document is ready for submission to GSA;
- o Obsolete: the document is withdrawn.

8. PROJECT DELIVERY/PROJECT MANAGEMENT

The main aims of the RFI led work package are as follows:

- o to ensure the management of the overall project and its resources, coordinating the delivery of the project outcomes;
- o to ensure the internal and external communication, assessing and reporting on the progress made (for partner and GSA);
- o to set up risk mitigation strategies and the application of a contingency plan throughout the whole project to achieve the project objectives in time.

8.1 MANAGEMENT AND DELIVERY OF CONTRACT WORK PACKEGE DELIVERABLE

This section addresses how contract requirements will be delivered. The procedure is documented below:

- i. coordinator submits the deliverable to the reviewers using email;
- ii. reviewers provide comments in the DRS and send them back to the Coordinator;
- iii. repeat steps (i) and (ii) until there are no more comments and the deliverable is formally accepted by the reviewers (an email from the reviewer clearly showing that the deliverable is ACCEPTED is required);
- iv. coordinator uploads the accepted deliverable together with the last DRS to SYGMA;
- v. coordinator informs the PO per email about upload of deliverable accepted by reviewers to SYGMA;
- vi. GSA PO confirms final acceptance at quarterly/mid-term reviews.

In order to guarantee the efficient and timely delivery of Work Packages the general rule that will be enforced is detailed below:

- o Reviewers and Coordinator will provide feedback within 2 weeks on the suitability of the WP deliverable produced;
- o After 2 review cycles there must be a clarification call to deal with issues, clarifications and other areas preventing the acceptance of the WP with the presence of the GSA Project Manager.

At each stage the participant's representative shall review the document and complete the "review sheet" template form. Throughout each review stage there can be a number of review iterations. The WP Leader shall provide a combined review sheet document and the completed deliverable report to the TMT for the final stage review.

8.1.1 Content

The technical accuracy of the report content shall be reviewed specifically with respect to validating that any assumptions are reasonable, any included results have been measured to an appropriate resolution and accuracy, the analytical techniques used are correct and that any conclusions drawn are valid. The Lead Author is responsible for the report content.

8.1.2 Format

The compliance to the template document layout shall be checked including cross referencing spelling and grammatical correctness. The document shall also be checked with respect to structure and layout, style, and consistency of the language. The Lead Author is responsible for the report formatting.

8.1.3 Document Status

At each stage of the review process the "version" of the document as reported in the front cover sheet of deliverables reports and any other document types shall be revised to reflect the status of the document. The primary status shall relate to the following review levels and have numerical increments in accordance with the following structure:

- o Draft   Draft document
- o TLR   Task Leader Review
- o TMTR   Technical Management Team review
- o FINAL   Final Completed Report
- o RELEASE   Released report uploaded

9. PROJECT ORGANISATION

9.1 REPORTING TO GSA

The GSA performs governance control of project progressing through three primary mechanisms:

- o GSA quarterly reporting;
- o periodic reporting;
- o project deliverables;
- o project reviews.

The management and quality control procedures for the production of deliverables and project reviews are described in the previous chapters of this document.

Additional internal reporting shall be applied as necessary to monitor project progress and identify problems and risks at early stages.

The internal reporting requirements have to be defined in order to be compatible with the reporting formats and periodicities to facilitate reuse of existing information and not overburden partners with additional administrative work.

9.1.1 GSA Quarterly Reporting

The process in relation to the quarterly report is as follows:

- o coordinator sends the completed report to reviewers using email;
- o reviewers must complete: Deliverables sheet – column, "Summary comment by Reviewer" and column "Reviewers Recommendations";
- o reviewers complete Meetings (sheet) – column "Comment by Reviewer";
- o dissemination Leader (UNIFE) completes Dissemination (sheet) – from column "A" to column "H";
- o reviewer sends the Quarterly report back to coordinator;
- o coordinator sends the Quarterly Report via email.

For the preparation of the Quarterly Review Report, the template "ERSAT-GGC_Template_Quarterly Reporting" shall be used.

9.1.2 Periodic Reporting

In addition to the Quarterly review report, according to the ERSAT GGC GA, the coordinator must submit a periodic report within 60 days following the end of each reporting period.

These reports will be prepared with the contribution of the WP leaders for the individual work packages and of all the Beneficiaries for the contribution required.

The Periodic Report must include the following:

- o Periodic Technical Report;
- o Periodic Financial Report.

A Final Report is also due at the end of the project.

The project GSA reporting cycle is divided into reporting periods of the following duration:
o   Period 1: from month 1 to month 12;
o   Period 2: from month 13 to month 24.

9.1.2.1   Periodic Technical Reporting

The periodic technical report is made up of 2 parts:
- o Part A:

  - cover page;
  - publishable summary;
  - web-based tables covering issues related to the project implementation (e.g. work packages, deliverables, milestones, etc.);
  - answers to the questionnaire about the economic and social impact, especially as measured against the Horizon 2020 key performance indicators and monitoring requirements.

Part A is composed by structured tables from the grant management system (accessible through the Participant Portal).

- o Part B, free text, core part of the report with:

  - explanations of the work carried out by all beneficiaries and linked third parties during the reporting period;
  - an overview of the progress towards the project objectives, justifying the differences between work expected under Annex I and work actually performed, if any.

Part B must be uploaded by the Coordinator to the grant management tool of the EC as a single PDF document.

9.1.2.2   Periodic Financial Reporting

The financial reporting is made up of structured forms from the grant management system, including:

- Individual financial statements for each beneficiary and each linked third parties;
- Explanations of the use of resources and the information on subcontracting and in-kind contributions provided by third parties, from each beneficiary (where needed).

The individual financial statements of the last reporting period must also detail the receipts of the action.

9.1.2.3   Final Reporting

At the end of the project, the consortium must submit 2 reports:

- o Final periodic report;
- o Final report.

The final report consists of 2 parts – both of which must be completed in the grant management system (no need to upload any documents):

- o Final technical report: publishable summary of the entire project (giving an overview of the results, their exploitation and dissemination, and the conclusions about the project and its socio-economic impact);
- o Final financial report: final summary financial statement that is automatically created by the system and corresponds to the request for payment of the balance.

In addition to the periodic report for the last reporting period, the coordinator must submit the final report within 60 days following the end of the last reporting period.

9.1.3 Project Review

The objectives of the project reviews are:

- o to demonstrate project progress towards the milestones and deliverables foreseen by the GSA Project Officer and the Project Reviewer(s);
- o to demonstrate achievements to date through presentations, evidence & demonstrations;
- o to present the plans for the next reporting period;
- o to propose any planned programme changes.

Note: these reviews shall be considered as critical events and represent an opportunity to demonstrate the positive aspects of the consortium. The preparation of these events shall be explicitly identified on the WP plan and be adequately resourced.
Post review, a GSA report will be issued and any recommendations will require follow up actions.

9.1.4 Project deliverables

Project deliverables are the main results of the project. Procedures for the preparation and review of the deliverables are presented in the previous chapters of this document.

9.2 PROJECT INTERNAL REPORTING

9.2.1 WP Monthly Reporting

The contractual GSA reporting shall be supplemented by additional internal reporting to monitor project progress.
The internal technical reporting will address the following objectives:

- o to provide intermediate project progress reporting;
- o to provide a mechanism to identify and solve problems proactively;
- o to provide data to feed into GSA periodic reporting.

The WP technical internal reporting will be carried out every month by using the related template "WP_Monthly_Report" (see Appendix A). Each WP leader must send to the Project Coordinator the worksheet of this template related to the WP he\she is leading by the 5th of the next month.

The Project Coordinator collects all the worksheets received in a single file. The file is analysed by the Project Coordinator and the Technical Coordinator that could contact the WP leaders if needed. The WP monthly reporting are used as basis of discussion for the TMT meetings\conf call.

<div align="right">

9.2.2 Project Financial Reporting

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Financial rules for the participation in ERSAT GGC are described in the GA.

All beneficiaries – including the Coordinator – must fill in their own financial statement, electronically sign it and submit it to the Coordinator at the end of each reporting period.

Besides the information required by the GSA, the Coordinator will collect more detailed costs description, in order to perform a rough check of costs compliancy with actual activities carried out and correct costs allocation under different WPs. To this purpose, the Coordinator will use a specific excel tool (FAsT), provided to the beneficiaries at the start of the project.

Each participant shall ensure that:

- o Project expenses are properly recorded;
- o Invoices are kept and time sheets are held as justification of cost;
- o Eligible costs shall be distinguished from non-eligible costs.

10. MEETING ORGANISATION AND PROTOCOL

The process for managing meetings is documented within section 6 – Governance Structure of ERSAT GGC Consortium Agreement – Oct 28th 2017. The organisational structure of consortium comprises of a Steering Committee and Technical Management Team.

The Steering Committee meeting takes place at least once a year. The Technical management team meetings will occur at least quarterly. The ERSAT GGC Consortium Agreement states the following in terms of the notice periods which must be applied for the meeting types.

Meeting Type	Ordinary Meeting	Extraordinary Meeting
Steering Committee	At least once a year	At any time upon written request of the Technical Management Team or 1/3 of the Members of the Steering Committee
Technical Management Team	At least quarterly	At any time upon written request of any Member of the Technical Management Team

Table 10.1: Frequency of main meetings

10.1 MEETING TYPES

The meeting within the ERSAT GGC project will be of two specific types:

- o Formal meeting that support the project governance and consist of:
    - Steering Committee;
    - Technical Management Team;
    - Technical Meetings (at WP or task level);
    - ERSAT GGC-Exploitation Group.

10.2 STEERING COMMITTEE

Ordinary meetings will take place at least twice a year, but this might be adapted to the needs of the project. Extraordinary meetings can be held at any time upon written request of any member of the Technical Management Team or a minimum of 1/3 vote of the Steering Committee members.

10.3 TECHNICAL MANAGEMENT TEAM

The Technical Management Team shall meet four times a year (normally every quarter), but can be convened exceptionally to respond to specific needs of the project. The TMT is chaired by the the Technical Co-ordinator.

10.4 TECHNICAL MANAGEMENT TEAM

The Project Coordinator shall be informed on the organisation of each meeting prior to give notice to project partners. In case the agreement on the organisation of a future meeting is done during a meeting/conf call, the Project Coordinator shall be notified as soon as possible.
For each meeting, the following information must be provided:

- o Meeting Title;
- o Location;
- o Date;
- o Duration (days);
- o Type;
- o Comments;
- o Corresponding Milestone (if any).

The provision of all these information mandatory in order to keep track of all project meetings organised within ERSAT-GGC project that need to be listed in the GSA H2020 quarterly reporting template to be filled in the Project Coordinator on behalf of the whole consortium.

The following management practices shall be applied in relation to the preparation, running and follow-up of meeting as given below:

- ✓ Meeting Participants:
  In order to be as efficient as possible, small meetings should be preferred to large ones. It is therefore advised not to invite people who are not directly concerned with the subject of the meeting.
- ✓ Planning and logistics:
  Participants should be informed of the meeting date sufficiently in advance (exact timelines as given in the CA). If possible, meetings with different purposes should be combined to save both travel time and money. Detailed information on transport and accommodation should be provided.
- ✓ Preparation:
  The objectives and agenda of meeting should be distributed sufficiently in advance (exact timelines, according to different Consortium Bodies, are given in the CA) so that possible comments can be made within a given timeline (see CA). If specific contributions are to be made by participants, they should be informed at the same time. Support material should be distributed sufficiently in advance so that participants have the time to read and comment on it.
- ✓ Meeting Management:
  For each meeting, a chairman and minute taker shall be designated.
- ✓ Meeting follow-up:
  Minutes should be uploaded on the Cooperation Tool no longer than 5 working days after the meeting. An action list shall be established with responsible partners and deadlines.

All meeting documents (list of participant (if any), presentations done during the meeting, working documents produced during the meeting, etc.) shall be uploaded on the Cooperation Tool and linked to the meeting they refer through the Reference option.

11. CONCLUSION

This report contains the first release of the "Quality Plan" and represents the status of the mandatory quality requirements at the time of deliverable D1.1.

This report has to be read in combination with all the referenced documents, appendix material and including the Grant /Consortium Agreement, annexes and guidelines.

The report will be subject to revision as required to meet the needs of the ERSAT GGC project.

12. REFERENCES
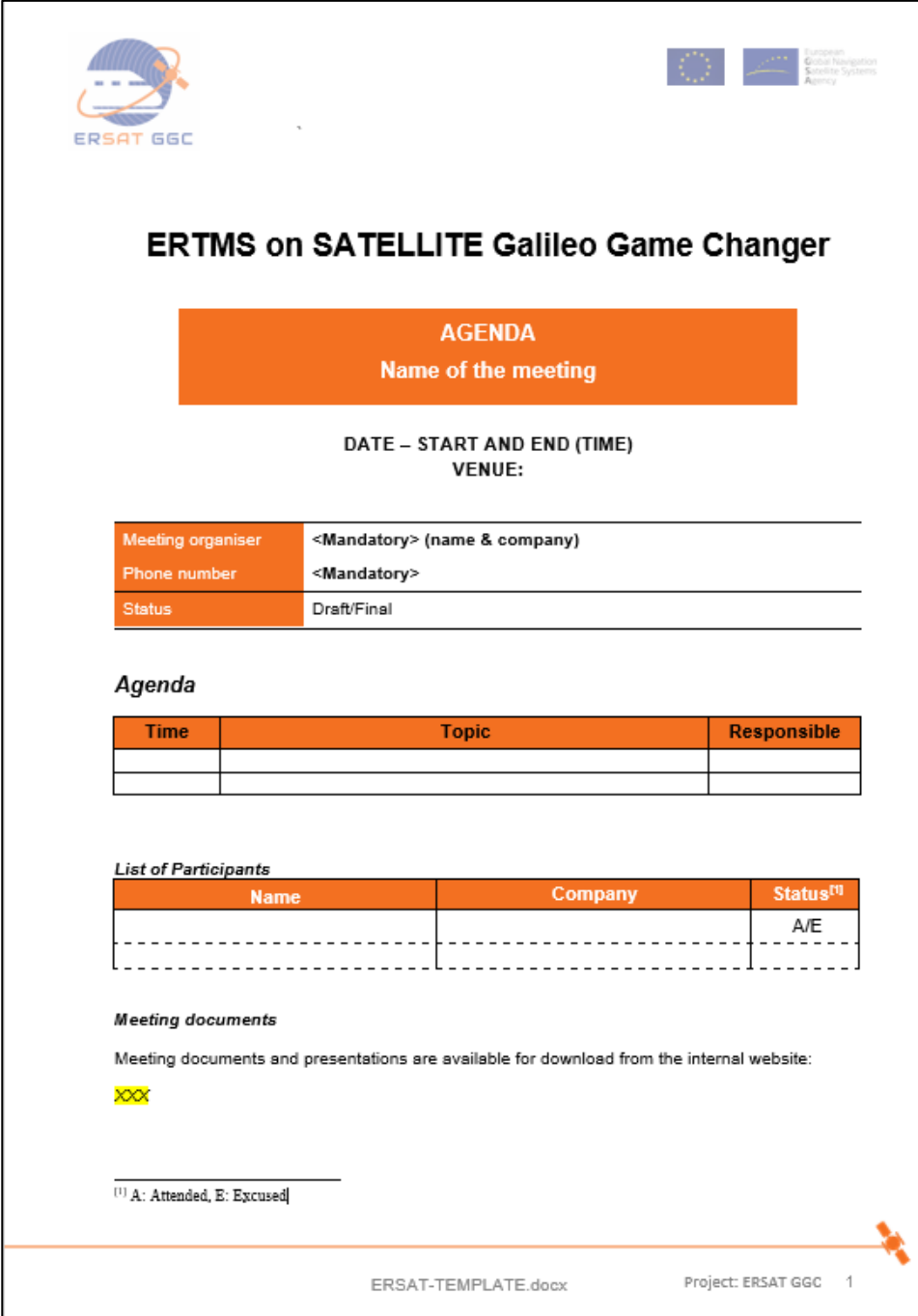
ERSAT GGC GA 776039 (GA and all the annexes)
ERSAT GGC Consortium Agreement

13.1 APPENDIX A DOCUMENT TEMPLATES

The references made to templates in this document are enclosed below.
The current available models are shown below.

Figure 13.1: Template_Agenda

Figure 13.2: Template_Delivareble

Figure 13.3: Template_Minute of Meeting

Figure 13.4: Template_PPT

Figure 13.5: Template_Quarterly Reporting

Deliverable (number)	Deliverable name	WP number	Lead participant	Type	Dissemination level	Delivery date (in months)	Delivery date according GA	Delivery date for review	Internal Review	GSA Review
D1.1	Quality Plan	1	RFI	R	PU	3	28/02/2018	13/02/2018	TMT members	Eutimio Tiliacos
D4.1	Procedure Specification Document	4	DLR	R	CO	3	28/02/2018	13/02/2018	TMT members	Ales Filip
D7.1	Dissemination Plan	7	UNIFE	R	CO	3	28/02/2018	13/02/2018	TMT members	Eutimio Tiliacos
D7.2	Project Website	7	UNIFE	DEC	PU	3	28/02/2018	13/02/2018	TMT members	Eutimio Tiliacos
D7.3	Project Leaflet	7	UNIFE	DEC	PU	4	31/03/2018	16/03/2018	TMT members	Eutimio Tiliacos
D1.2	Data Management Plan	1	RFI	ORDP*	PU	6	31/05/2018	16/05/2018	TMT members	Eutimio Tiliacos
D2.1	Enhanced Functional ERTMS Architecture Capable of using GNSS and Public Radio TLC Technologies	2	ASTS	R	PU	6	31/05/2018	16/05/2018	TMT members	Ales Filip
D3.1	Safety Analysis of ERSAT ERTMS Application over GNSS	3	RINA-C	R	PU	6	31/05/2018	16/05/2018	TMT members	Ales Filip
D4.2	Technical Specification of Survey Toolset	4	DLR	R	CO	8	31/07/2018	16/07/2018	TMT members	Ales Filip
D4.3	Prototype Implementation of the Survey Toolset	4	DLR	DEM	CO	9	31/08/2018	16/08/2018	TMT members	Ales Filip
D2.2	Functional and Not Functional Test Specification	2	ASTS	R	PU	10	30/09/2018	14/09/2018	TMT members	Ales Filip
D3.2	GNSS Quantitative Study for ERSAT GGC Project	3	RINA-C	R	PU	10	30/09/2018	14/09/2018	TMT members	Ales Filip
D4.4	Measurement Campaign Report	4	DLR	R	CO	15	28/02/2019	13/02/2019	TMT members	Ales Filip
D4.5	Process Execution Report	4	DLR	R	PU	15	28/02/2019	13/02/2019	TMT members	Ales Filip
D4.6	Technical Report about system integration in CEDEX laboratory	4	DLR	R	CO	18	31/05/2019	16/05/2019	TMT members	Ales Filip
D4.7	Technical Report about system integration in RFI laboratory	4	DLR	R	CO	18	31/05/2019	16/05/2019	TMT members	Ales Filip
D4.8	Technical Report about system integration in DLR laboratory	4	DLR	R	CO	18	31/05/2019	16/05/2019	TMT members	Ales Filip
D4.9	Technical Report about system integration in DAPP/RINA laboratory	4	DLR	R	CO	18	31/05/2019	16/05/2019	TMT members	Ales Filip
D4.10	Technical Report on application of the ERSAT GGC tool set in the GNSS Service Center	4	DLR	R	CO	18	31/05/2019	16/05/2019	TMT members	Ales Filip
D5.1	Assessment report of the enhanced functional ERTMS architecture	5	BVI	R	PU	18	31/05/2019	16/05/2019	TMT members	Ales Filip
D6.1	Track Survey Execution Report	6	RDL	R	PU	21	31/08/2019	16/08/2019	TMT members	Eutimio Tiliacos/Ales Filip
D5.2	Assessment report of the survey process	5	BVI	R	PU	22	30/09/2019	13/09/2019	TMT members	Ales Filip
D7.4	Project Leaflet – Updated	7	UNIFE	DEC	PU	22	30/09/2019	13/09/2019	TMT members	Eutimio Tiliacos
D5.3	Assessment report of the related toolset	5	BVI	R	CO	24	30/11/2019	14/11/2019	TMT members	Ales Filip
D6.2	Field Data Analysis Report	6	RDL	R	PU	24	30/11/2019	14/11/2019	TMT members	Eutimio Tiliacos/Ales Filip
D7.5	Dissemination and Exploitation Report	7	UNIFE	R	PU	24	30/11/2019	14/11/2019	TMT members	Eutimio Tiliacos