



ESRIUM

Grant Agreement No. 101004181

Deliverable 1.1 Project Handbook



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ESRIUM – GA No. 101004181 EGNSS-ENABLED SMART ROAD INFRASTRUCTURE USAGE AND MAINTENANCE FOR INCREASED ENERGY EFFICIENCY AND SAFETY ON EUROPEAN ROAD NETWORKS	
D1.1 Project Handbook	
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Project partners
JOANNEUM RESEARCH Forschungsgesellschaft mbH – Institute DIGITAL (JRD), ASFINAG Autobahnen- und Schnellstraßen-Finanzierungs-Aktiengesellschaft (ASF), Virtual Vehicle Research GmbH (VIF), Finnish Geospatial Research Institute (FGI) of the National Land Survey (NLS) of Finland, FH OO FORSCHUNGS & ENTWICKLUNGS GMBH (FHO), Evolit Consulting GmbH (EVO), NNG Software Developing and Commercial LLC (NNG), ENIDE SOLUTIONS .S.L (ENI), Politecnico di Milano (POL)
Abstract
<p>ESRIUM is a multi-national project with the common goal to increase the safety and resource efficiency of mobility on the road. The key innovation will be formed by a homogeneous, accurate and recent digital map of road surface damage and road wear. Further addressed as “road wear map”, it will contain unique information, which is of value to multiple stakeholders: road operators will be able to lower the road maintenance effort by optimal planning. Further, road operators will be able to lower road wear and increase traffic safety especially for heavy vehicles: considering the market introduction of partly automated truck fleets and platoons, the precise track of these vehicles can be adjusted by communicating precise routing recommendations in- and cross-lane. Truck fleet operators following these recommendations can receive tolling benefits, and increase the general safety for their vehicle fleet. Especially with the increasing levels of autonomy, systems will utilize infrastructure support to handle the requirements of the automated driving task and additional external requests. In ESRIUM, these opportunities are addressed by utilizing C-ITS infrastructure and EGNSS based localization in planning the trajectories of such automated vehicles. Key to the ESRIUM innovation is a precision localization service, which provides reliable locations of road damages and of the vehicles using the roads. Considering a European-level business-case, only Galileo may provide such a service in homogeneous quality, even at very remote locations on the European continent.</p>

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EXECUTIVE SUMMARY

This deliverable describes the Project Handbook (PH) of ESRIUM, which serves as a single-entry point to all information needed to manage the project in internal cooperation, and externally in relation to EC. In its first official version, is in agreement with the ESRIUM Project Management Board (for members see Section 2.3.3) and the EC (PO and Reviewers). The PH is a living document; therefore, it is maintained in the ESRIUM Confluence® workspace (see Section 5.2). Any major update has to be communicated to the Management Board.

DOCUMENT REVISION

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ACRONYMS USED

Acronym	Explanation
CA	Consortium Agreement
EAB	Expert Advisory Board
EC	European Commission
EEB	ESRIUM Executive Board
GA	Grant Agreement
H2020	Horizon 2020
IP	Intellectual Property
IPR	Intellectual Property Right
KoM	Kick-Off-Meeting
LOI	Letter of interest
MGT	Management
PH	Project Handbook
PM	Project Manager
PMB	Project Management Board
PO	Project officer
PW	Password
RV	Review
WP	Work Package

SECTION 1: INTRODUCTION

This document is the Project Handbook (PH) for the ESRIUM project prepared under the H2020 Programme, Grant Agreement No: 101004181. It contains all links to the project master data (contracts, project organization, work description, administrative and financial planning data) and all information necessary to ensure uniform management procedures, communication streams, and quality management.

The Project Handbooks (PH) serves as a single-entry point to all information needed to manage the project in internal cooperation, and externally in relation to EC. In its first official version is in agreement with the ESRIUM Project Management Board, and the EC. The PH is a living document. Therefore, it will be maintained in the ESRIUM-Confluence® space (see Section 5.2, <https://confluence.nng.com/x/Tk94Dw>). The submitted version is located on the projects document store (ESRIUM-Cloud, see Section 5.1) at `/DELIVERABLES/WP1` (<https://dig-cloud.joanneum.at/index.php/f/45168>).

The purpose of this document is to provide all project partners with an overview of the most important project procedures (project monitoring, reporting tools, financial management, internal communication structures, etc.), and the European Commission with the assurance that the project management is taking place using state-of-the-art project management techniques, adequate and efficient in view of the size and content of the project.

Additionally, this document references to partner and contact lists as well as documentation and communication standards in order to enable quick and efficient communication within the project consortium.

This document is produced by the project coordinating organization. It is reflecting partner and project details close to the start of the project. In order to fulfil its function as a quick reference to frequently asked questions and problems, this document will be updated and changed according to the evolvement of procedures and progress during the lifetime of the project. The coordinator appreciates the feedback of all partners to improve this handbook.

Most information in this handbook is redundant and can be found in other documents already compiled during project bidding, contract negotiations, information available at publicly available EC sources, and documented correspondence between the ESRIUM participants, and between the coordinator and the EC. The major benefit of this document in this respect is the collection of all relevant information to provide a clearly arranged single entry point into the project and its frequent management and communication processes. Whenever possible, links to more detailed and comprehensive documents available on the internet - in largest part within the internal document server - are given, to supply information during unusual, unexpected or occasional procedures.

SECTION 2: PROJECT ORGANIZATION

The coordinating organization JRD runs a complete contact list that is available on the project document store (`/MGT/ESRIUM_MailingLists.xls`, <https://dig-cloud.joanneum.at/index.php/f/34600>) as well as in the Confluence® space (<https://confluence.nng.com/x/3Ep4Dw>). In that document, you can also find the phone numbers if available and roles in the project. Please help us with information about changes in addresses, phone numbers or e-mail.

Changes of address of the beneficiary organizations have to be accepted by EC with an amendment, which should be initiated and performed under management of the coordinator.

2.1 Beneficiaries List

No.	Short Name	Full Name	PIC
1	JRD	JOANNEUM RESEARCH Forschungsgesellschaft mbH	999981537
2	VIF	Virtual Vehicle Research GmbH	997885852
3	ASF	ASFINAG Autobahnen- und Schnellstraßen-Finanzierungs-Aktiengesellschaft	950547427
4	FGI	MAANMITTAUSLAITOS	964526388
5	FHO	FH OO FORSCHUNGS & ENTWICKLUNGS GMBH	999663474
6	EVO	Evolit Consulting GmbH	896941250
7	ENI	ENIDE SOLUTIONS .S.L	957776158
8	NNG	NNG Software Developing and Commercial LLC	895686555
9	POL	Politecnico di Milano	999879881

Table 1: Project partners: internal number, short and long name and PIC.

2.2 Contact Lists

Please refer to the document [/MGT/ESRIUM_MailingLists.xls](#) (<https://dig-cloud.joanneum.at/index.php/f/34600>)

2.3 Project organization (overview)

2.3.1 General Management Approach

The general management approach is based on the project management structure and will ensure that the various phases of the project are properly coordinated in order to accomplish the defined goals and to maximize the project success. The project management of ESRIUM is considering itself as a work package, and as such, it will have an appointed leader. JRD will be leader of this work package WP1, thus the project manager is from JRD. The project manager will act as the contact point between the consortium and the Commission Project Officer and is responsible for the overall execution and performance of the project. The management Work Package is divided into three tasks, namely the administrative (Task 1.1), the financial (Task 1.2) and the technical (Task 1.1) management.

Details on the management structure and procedures can be found in the GA, pp. 163–169.

2.3.2 Project Coordinator

The project coordinator (JRD) will, in addition to his or her responsibilities as a partner, be responsible for the financial, administrative and technical project coordination, including cost monitoring, overseeing the overall progress and punctual submission of deliverables to the Commission, external contacts, the organization of review and progress meetings and dealing with the remaining technical and administrative management issues. JRD as Coordinator of the project will designate the overall Project Manager (PM) for this project.

The Coordinator will be responsible for

- the overall coordination and the leadership of the project execution and inter-partner cooperation, especially monitoring the partners' fulfilment of their obligations
- introducing quality assurance procedures (including risk monitoring) and setting up rules of cooperation
- managing all contractual issues (IPR; exploitation etc.)
- managing ethical or privacy related issues resulting from RTD activities
- in-time collecting, reviewing and submitting information on the progress of the project and reports and other deliverables (including financial statements and related certifications) to the European Commission
- administering the community financial contribution and fulfilling the financial tasks described in the consortium agreement (CA)
- preparing the meetings, proposing decisions and preparing the agenda of PMB meetings, chairing the meetings, preparing the minutes of the meetings and monitoring the implementation of decisions taken
- setting up and maintaining efficient communication structures (e.g. e-mail lists; an internal communication platform; the ESRIUM web page for dissemination of project results)

The Coordinator shall not be entitled to act or to make legally binding declarations on behalf of any other partner. The Coordinator shall not enlarge his or her role beyond the tasks specified in the CA.

2.3.3 The Project Management Board (PMB)

The PMB (= General Assembly in the CA) is the decision-making body of the Consortium. It consists of one representative of each partner (hereinafter Member). It is responsible for the successful progression of the project, continuously monitoring the work to ensure the proposed schedule is met and the timely completion of the deliverables. The liaison with external contacts and the continuous contact to end users will guarantee the target quality of the project goals. The PMB will also handle conflict situations.

In addition to the authorised partner representatives, the Project Manager will be part of the PMB and has the casting vote in case of a tie. The Project Manager will chair the PMB meetings unless decided otherwise by the PMB.

The PMB will provide a forum for the project partners to decide on general project policy issues like strategic project orientation, updated work plans, modifications of the CA, withdrawal or entry of a new partner, financial allocation of the EC contribution, etc.

Furthermore, the PMB is responsible for the innovation/technical management of the project and the coordination between the different work packages and tasks. This especially includes:

- assessment of progress reports and detailing of work plans
- planning of joint publications and dissemination activities
- coordination of development and integration issues between different work packages
- guarantee that the project tasks are carried out in time
- translation of technical recommendations into actions (given either by the EC, by the reviewers or by other project external bodies) and
- review of potential problems of partner collaboration and conflict resolution.

Meetings of the PMB will take place every 6 months, and it further stays in contact via e-mail or via telephone conferences continuously. If possible, the physical meetings should be held in connection to other project meetings or workshops. They will be organized by changing Members of the PMB.

Additional meetings may be held using phone conferences, in particular when the need for urgent decisions arises.

For the PMB Meetings, each Member shall be deemed to be duly authorized to deliberate, negotiate and decide on all matters. A Member may appoint a substitute or a proxy to attend and vote at any meeting.

The partners agree to abide by all decisions of the PMB Meetings. This does not prevent the partners to submit a dispute to resolution in accordance with the provisions of settlement of disputes in the CA.

2.3.4 The ESRIUM Executive Board (EEB)

The EEB as the supervisory body for the execution of the project shall report to and be accountable to the PMB. It shall consist of the coordinator and all of the work packages leaders as appointed by the PMB (hereinafter Executive Members). The coordinator shall chair all meetings of the Executive Board, unless decided otherwise. The coordinator shall send minutes of Executive Board meetings, once accepted, to the General Assembly members for information. The Executive Board shall prepare the meetings, propose decisions and prepare the agenda of the General Assembly. The Executive Board shall be responsible for the proper execution and implementation of the decisions of the General Assembly. The Executive Board shall monitor the effective and efficient implementation of the project. In addition, the Executive Board shall collect information at least every 6 months on the progress of the project, examine that information to assess the compliance of the project with the consortium plan and, if necessary, propose modifications of the consortium plan to the General Assembly.

The Executive Board shall:

- Initiate, coordinate and organise the work packages
- Support the coordinator in preparing meetings with the European Commission and in preparing related data and deliverables
- Prepare the content and timing of press releases and joint publications by the consortium or proposed by the European Commission in respect of the procedures of the EC-GA Article 29.2.
- In the case of abolished tasks as a result of a decision of the General Assembly, the Executive Board shall advise the General Assembly on ways to rearrange tasks and budgets of the parties concerned. Such rearrangement shall take into consideration the legitimate commitments taken prior to the decisions, which cannot be cancelled.

WP	Organization	Full Name
1	JRD	Matthias Rüther
2	NNG	András CSEPINSZKY
3	FGI	Zahid Bhuiyan
4	JRD	Patrick Luley
5	VIF	Selim Solmaz
6	ENI	Annarita Leserri
7	JRD	Martina Uray

Table 2: ESRIUM Executive Board.

2.3.5 Expert Advisory Board (EAB)

ESRIUM places particular importance on delivering results, adopting procedures and proposing new tools that are perfectly aligned with public acceptance, ethical, regulatory and security rules. Therefore, it is planned to install an expert advisory board that will assist the PMB on scientific and technical issues. It shall be made up of elected representatives of project partners, as well as external advisors. A number of 3-6 advisors seems to be appropriate for the nature of the proposed project.

The responsibilities of the advisory board, among others, will be to:

- give advice on general research strategy,
- monitor industrial applicability of research results,
- monitor general progress of ESRIUM,
- validate whether project results and strategies adhere to ethical, legal and security requirements,
- assist in identifying arising IPRs,
- be the contact point to scientific and industrial communities,
- suggest dissemination and exploitation channels.

The advisory board will be set up in the beginning phase of ESRIUM and will have representatives from the automotive domain, infrastructure providers, test regions, governmental organizations, etc.

Following persons and organizations have already been contacted and have expressed their interest in being part of the EAB (cf. also the respective LOIs in the attachment):

- ALICE, Alliance for Logistics Innovation through Collaboration in Europe, will share the project outcomes within ALICE members and when relevant, will provide the project with professional, expertise on user requirements and evaluation, as the project is particularly interested in understanding potential direct benefits for road freight transport companies. Furthermore, ALICE will support networking of the ESRIUM project and the dissemination of ESRIUM's results.
- EBE Solutions GmbH will support the ESRIUM project, as an external expert representing the stakeholder/developer view, with a focus on, the requirements definition EBE is willing to participate in several workshops and be a member in the Advisory Board.
- Traficom, the Finnish Transport and Communication Agency: Traficom will support the ESRIUM project as an external expert, representing the stakeholder/developer view with a focus on the requirements definition. Traficom is willing to participate in Workshops and be a member of the Advisory Board.
- Aurora Snowbox will support the ESRIUM project, in particular with regard to the requirements definition and as an external expert, representing the stakeholder/developer view. Snowbox is willing to participate in Workshops and be a member of the Advisory Board.
- Vibracoustic AG & Co. KG will support the ESRIUM project, in particular with regard to the requirements definition and as an external expert, representing the stakeholder/developer view. Vibracoustic is willing to participate in Workshops and be a member of the Advisory Board.

Further (inter-)national candidates will be asked in advance of the start of the project.

To facilitate the EAB in their scope, they will have access to project reports and deliverables before their publication, data repository and process schemes.

2.3.6 Data Protection Officer (DPO)

From the EthR: “The host institution must confirm that it has appointed a Data Protection Officer (DPO) and the contact details of the DPO are made available to all data subjects involved in the research.”

Therefore, there will be two DPOs for the setup of the tests including research participants at the two testing sites. That is, VIF and FGI.

2.3.7 Member of the PMB

Each partner appointed its representative (Member of the PMB), who is responsible for management and who will organize the administrative and technical matters of the project partner (see Table 3). The Member will be able to negotiate matters concerning cost, will initiate the local audits requested by the EC, is responsible for the planning of the internal resources and will further fulfil the following tasks:

- Preparation of periodic Management and Progress Reports as prescribed by the EC
- Responsibility for monitoring of partners’ expenditures
- Initiation and reviewing of deliverables in coordination with the partners as specified in the CA
- Ensuring punctual submission of deliverables and reports
- Scheduling and planning of all project activities assigned to the partner

No.	Organization	Full Name
PM	JRD	Martina Uray
1	JRD	Matthias Rüther
2	VIF	Selim Solmaz
3	ASF	Friedrich Vogl
4	FGI	Sanna Kaasalainen
5	FHO	Wolfgang Schildorfer
6	EVO	Michael Weilguny
7	ENI	Francesc Rosinés
8	NNG	András CSEPINSZKY
9	POL	Luca Pasino Studer

Table 3: ESRIUM Project Management Board.

2.3.8 Work Package and Leaders

The project is organized into reasonably defined Work Packages, and for each Work Package (WP) one partner is appointed as WP leader. The WP leaders are responsible for managing the execution of the work in the different tasks associated with their Work Packages. They are also responsible for the performance of their associated operative partners in the Work Package and have to manage the resources allocated to them. The WP leaders shall coordinate the preparation for the defined deliverables and will submit these deliverables to the Coordinator. Each WP leader has to send

biannual WP progress reports to the Coordinator. These reports shall state the current progress of the Work Package in general and for each task in particular, as well as unresolved issues and required actions to solve them.

Each WP is organized into clearly defined Tasks, and for each Task a partner is defined as Task leader. The Task leader is responsible for the execution of the work in a single Task and will realize a detailed coordination of the involved partners. The Task leader will support the generation of the WP related deliverables in accordance with the WP leader.

SECTION 3: CONTRACTUAL FRAMEWORK

3.1 Grant Agreement

The grant agreement can be found in the ESRIUM-Cloud `\MGT\Grant Agreement` (<https://dig-cloud.joanneum.at/index.php/f/40730>).

3.2 Consortium Agreement

It has been signed by all Consortium Partners (Decemberv2020) and can be found in the ESRIUM-Cloud `\MGT\Consortium Agreement` (<https://dig-cloud.joanneum.at/index.php/f/34601>). It regulates the cooperation within the project consortium and mainly contains the following topics relevant for ESRIUM ordinary procedures:

- Organisational provisions (project boards and their responsibilities, management, voting procedures, ...)
- Liability towards each other
- Non-disclosure of information
- Financial provisions (financing plan, modification procedures, auditing of costs, payments, ...)
- Intellectual Property Rights (IPR) and commercial provisions (confidentiality, ownership of results, legal protection of rights, exploitation of results, background know-how, ...)
- Dissemination of knowledge (publications, trade-shows etc.)
- Legal provisions (legal form of the co-operation, duration of the agreement, applicable law, settlement of disputes, ...).

SECTION 4: WORKPLAN, SCHEDULES, DELIVERABLES

4.1 Work packages, tasks and responsibilities

For the overview of all work packages from the GA, together with the associated Tasks, see Table 4.

Work Package	Work Package Name	Start Month	End month	Start Date	End Date	Lead	Partner
WP 1	Project Management	1	36	2020-12-01	2023-11-30		
1.1	Administrative management	1	36	2020-12-01	2023-11-30	JRD	
1.2	Financial management	1	36	2020-12-01	2023-11-30	JRD	
1.3	Technical management	1	36	2020-12-01	2023-11-30	JRD	FGI, VIF
WP 2	Use Cases and Requirements Analysis	1	17	2020-12-01	2022-04-30		
2.1	Use case definition	1	6	2020-12-01	2021-05-31	FHO	All
2.2	Technical requirements	7	12	2021-06-01	2021-11-30	JRD	ASF, NNG
2.3	Non-technical requirements	4	12	2021-03-01	2021-11-30	FHO	ASF, NNG
2.4	System interface design	13	15	2021-12-01	2022-02-28	NNG	ENI
2.5	Business case baseline	1	17	2020-12-01	2022-04-30	ENI	ASF, NNG
WP 3	EGNSS Localization + I2V Communication	2	30	2020-12-31	2023-05-31		
3.1	State-of-the-art, literature survey and definition of the hardware and software tools	2	6	2021-01-01	2021-05-31	FGI	ASF, JRD
3.2	E-GNSS implementation	4	24	2021-03-01	2022-11-30	FGI	ASF, JRD
3.3	Sensors fusion for enhancing post-processing PVA accuracy in sensor system	4	23	2021-03-01	2022-10-30	JRD	
3.4	C-ITS implementations	5	30	2021-04-01	2023-05-31	ASF	JRD
3.5	Integration of the EGNSS System and the C-ITS Link into the user vehicle	19	30	2022-06-01	2023-05-31	VIF	ASF, JRD, FGI
WP 4	Wear Map Creation, Integration and Upkeeping	1	36	2020-12-01	2023-11-30		
4.1	Road Wear Ground Truth Data Collection	1	12	2020-12-01	2021-11-30	JRD	FGI
4.2	Road Wear Sensor System and Data Collection	4	24	2021-03-01	2022-11-30	JRD	FGI, ASF
4.3	Road Wear Detection and Classification	7	24	2021-06-01	2022-11-30	JRD	ASF
4.4	Road Wear Prediction	7	24	2021-06-01	2022-11-30	EVO	ASF
4.5	Road Wear Data Aggregation and Management Layer	13	30	2021-12-01	2023-05-31	JRD	NNG
4.6	Road Wear Data Platform	25	36	2022-12-01	2023-11-30	NNG	ASF
WP 5	Proof of Concept and In-Vehicle Validation	1	36	2020-12-01	2023-11-30		
5.1	Development and integration of automated driving functions in the test vehicle	6	30	2021-05-01	2023-05-31	VIF	ASF, JRD
5.2	Test runs data collection	1	33	2020-12-01	2023-08-31	VIF	ASF, JRD, FGI
5.3	Data Analysis	19	36	2022-06-01	2023-11-30	JRD	VIF, EVO, NNG
5.4	User Acceptance Evaluation	19	36	2022-06-01	2023-11-30	FHO	
WP 6	Dissemination, Exploitation	1	36	2020-12-01	2023-11-30		
6.1	Communication & dissemination activities	1	36	2020-12-01	2023-11-30	ENI	All
6.2	Engagement activities and collaborations	1	36	2020-12-01	2023-11-30	JRD	All
6.3	Exploitation management & IPR strategy	9	36	2021-08-01	2023-11-30	NNG	All
WP 7	Ethics Requirements	1	36	2020-12-01	2023-11-30		
7.1	H - Requirements No.1	1	36	2020-12-01	2023-11-30	JRD	All
7.2	POPD - Requirements No.2	1	36	2020-12-01	2023-11-30	JRD	All

Table 4: Work packages, tasks, duration and responsibilities.

4.2 Milestones

Table 5 gives an overview of the project milestones (as in GA–WT4, p.122 – p.123).

Milestone number	Milestone title	WP number	Lead beneficiary	Due date (in months)
MS1	Project Management Documents Ready in Version 1	1	JRD	M3
MS2	Communication Strategy established and initial Communication kit available	6	ENI	M3
MS3	Use Case Definition	2	NNG	M6
MS4	Results of the state-of-the art and literature survey about EGNSS location	3	FGI	M6
MS5	Technical, non-technical user requirements and system interface design ready for handed over to WP3	2	ENI	M12
MS6	Sensor System Operational	2, 4	JRD	M12
MS7	KPIs and Scenarios Defined	5	NNG	M12
MS8	Sensing Vehicles ready	2,3,4,5	JRD	M12
MS9	EGNSS authentication implementation	3	FGI	M15
MS10	Successful Mid-Term Review	1	JRD	M18
MS11	Intermediate business and exploitation approach defined	6	NNG	M18
MS12	User Vehicle with integrated EGNSS and C-ITS Systems Operational	3, 5	VIF	M24
MS13	Road Wear Map in Data Platform Available	4	JRD	M24
MS14	Road Damage Prediction Data in Data Platform Available	4	EVO	M24
MS15	Wear Map ready	3,4,5	JRD	M24
MS16	User vehicle EGNSS localization unit	3, 5	ASF	M30
MS17	Automated Demonstrator Vehicle Ready	3, 5	VIF	M30
MS18	Test Runs Completed	5	FGI	M33
MS19	Documents for Final Review Ready	1	JRD	M36
MS20	Data Analysis and User Acceptance Evaluations Ready	5	FHO	M36
MS21	Overall dissemination activities and completed exploitation plans	6	ENI	M36
MS22	Complete Workflow evaluated	5,6	ASF	M36

Table 5: List of milestones.

An overview on the meeting and travel plan (see Figure 1) enables a prediction on the necessary personnel and budget resources as well as a preliminary idea for scheduling future events.



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4.4 List of deliverables – Sorted by date

Deliverable (number)	Deliverable name	WP number	Short name of lead participant	Reviewing Organisation	Type	Dissemination level	Delivery date	Status
D1.1	Project Handbook and Project Quality Plan	1	JRD	ENI	R	PU	M3 28.02.2021	pending
D6.1	Dissemination and communication strategy and plan	6	ENI	JRD	R	CO	M3 28.02.2021	pending
D6.2	Communication kit - Initial version	6	ENI	JRD	OTH	PU	M3 28.02.2021	pending
D2.1	Use Case Definition	2	NNG	FHO	R	PU	M6 31.05.2021	
D3.1	Report on EGNSS-based Precise Localization for Autonomous Cars	3	FGI	JRD	R	CO	M6 31.05.2021	
D7.1	H - Requirement No. 1	7	JRD	FGI	ETH	CO	M6 31.05.2021	
D7.2	POPD - Requirement No. 2	7	JRD	VIF	ETH	CO	M6 31.05.2021	
D2.4	First Business case baseline	2	FHO	NNG	R	CO	M8 31.07.2021	
D2.2	Technical and non-technical user requirements document	2	ENI	JRD	R	CO	M12 30.11.2021	
D4.1	Road Wear Ground Truth Data	4	FGI	ASF	OTH	CO	M12 30.11.2021	
D5.2	Test scenarios and performance criteria specifications	5	NNG	POL	OTH	PU	M12 30.11.2021	
D2.3	System interface design document	2	JRD	FHO	R	CO	M15 28.02.2022	
D3.2	Galileo OS-NMA Implementation	3	FGI	JRD	OTH	CO	M15 28.02.2022	
D6.4	Market & business ecosystem analysis	6	NNG	FHO	R	PU	M15 28.02.2022	
D2.5	Second Business case baseline	2	FHO	ENI	R	CO	M17 30.04.2022	
D1.2	First Financial information required by EC	1	JRD	ENI	R	CO	M18 31.05.2022	
D1.4	First Periodic project report	1	JRD	ENI	R	PU	M18 31.05.2022	
D4.2	Road Wear Sensor System	4	JRD	VIF	OTH	CO	M18 31.05.2022	
D6.6	Preliminary exploitation plans	6	NNG	FHO	R	PU	M18 31.05.2022	
Midterm Review								
D3.4	EGNSS Processing and Hardware for the Sensor System	3	JRD	ASF	OTH	CO	M23 31.10.2022	
D3.3	EGNSS Algorithms, Software and Hardware for the User Vehicle	3	FGI	JRD	OTH	CO	M24 30.11.2022	
D4.3	Sensor System Data Collection	4	JRD	NNG	OTH	CO	M24 30.11.2022	
D4.4	Road Wear Detection and Classification	4	JRD	FGI	OTH	CO	M24 30.11.2022	
D4.5	Road Wear Prediction	4	EVO	JRD	OTH	CO	M24 30.11.2022	
D3.5	Report on extension of C-ITS by EGNSS Use case	3	ASF	JRD	R	PU	M30 31.05.2023	
D4.6	Road Wear Data Aggregation and Management Layer	4	JRD	EVO	OTH	CO	M30 31.05.2023	
D5.1	Test vehicle specification and setup	5	VIF	FGI	DEM	CO	M30 31.05.2023	
D1.3	Second Financial information required by EC	1	JRD	ENI	R	CO	M36 30.11.23	
D1.5	Second Periodic project report	1	JRD	ENI	R	PU	M36 30.11.23	
D4.7	Road Wear Data Platform	4	NNG	JRD	OTH	CO	M36 30.11.23	
D5.3	Test results analysis report	5	VIF	NNG	R	PU	M36 30.11.23	
D5.4	User acceptance analysis report	5	FHO	VIF	R	PU	M36 30.11.23	
D6.3	Communication kit - Final version	6	ENI	NNG	OTH	PU	M36 30.11.23	
D6.5	Communication and dissemination final report	6	ENI	NNG	R	PU	M36 30.11.23	
D6.7	Final exploitation plan	6	NNG	FHO	R	PU	M36 30.11.23	
Final Review								

Table 6: List of deliverables (for a better legible version see “ESRIUM_Gantt.xlsx” in the ESRIUM-Cloud, <https://dig-cloud.ioanneum.at/index.php/f/34600>).

4.5 Individual WP efforts

PM		JRD	VIF	ASF	FGI	FHO	EVO	ENI	NNG	POL
16,16	WP 1: Project Management	12,66	1,50		2,00					
	1.1 Administrative management									
	1.2 Financial management									
	1.3 Technical management									
58,35	WP 2: Use Cases and Requirements Analysis	9,10	3,25	10,00		6,00		12,00	18,00	
	2.1 Use case definition									
	2.2 Technical requirements									
	2.3 Non-technical requirements									
	2.4 System interface design									
	2.5 Business case baseline									
50,00	WP 3: EGNSS Localization + I2V Communication	11,00	14,00	8,00	17,00					
	3.1 State-of-the-art, literature survey and definition of the hardware and software tools									
	3.2 E-GNSS implementation									
	3.3 Sensors fusion for enhancing post-processing PVA accuracy in sensor system									
	3.4 C-ITS implementations									
	3.5 Integration of the EGNSS System and the C-ITS Link into the user vehicle									
114,00	WP 4: Wear Map Creation, Integration and Upkeeping	39,00		10,00	7,00		18,00		40,00	
	4.1 Road Wear Ground Truth Data Collection									
	4.2 Road Wear Sensor System and Data Collection									
	4.3 Road Wear Detection and Classification									
	4.4 Road Wear Prediction									
	4.5 Road Wear Data Aggregation and Management Layer									
	4.6 Road Wear Data Platform									
100,12	WP 5: Proof of Concept and In-Vehicle Validation	2,22	60,90	6,00	4,00	5,00			11,00	11,00
	5.1 Development and integration of automated driving functions in the test vehicle									
	5.2 Test runs data collection									
	5.3 Data Analysis									
	5.4 User Acceptance Evaluation									
45,65	WP 6: Dissemination, Exploitation	3,00	2,65	2,00	1,00	5,00		12,00	20,00	
	6.1 Communication & dissemination activities									
	6.2 Engagement activities and collaborations									
	6.3 Exploitation management & IPR strategy									
	WP 7: Ethics Requirements									
	7.1 H - Requirements No.1									
	7.2 POPD - Requirements No.2									
563,78	OVERALL	76,98	82,30	36,00	31,00	16,00	18,00	24,00	89,00	11,00

Table 7: Individual WP effort by partner (PM).

4.6 Project reviews

From GA (p. 126), see Table 8.

Review number	Tentative Timing	Planned venue of review	Comments if any
RV1	1	Prague / online	Kick-Off meeting
RV2	2	Prague / online	Midterm review
RV3	3	Prague / online	Final review

Table 8: Project reviews.

SECTION 5: INTERNAL COMMUNICATION

5.1 Document store – ESRIUM-Cloud

Login to ESRIUM-Cloud:

Link: <https://dig-cloud.joanneum.at>

User: Your mail address

PW: Generated for each user by clicking „Forgot Password?“

There are multiple Options to use the JOANNEUM Nextcloud Service

- (1) Via web interface:
 - (a) Simply click on „go to“ in the „Your Account was created email“
 - (b) Visit <https://dig-cloud.joanneum.at>
- (2) Via client
 - (c) Download here: <https://nextcloud.com/clients/>

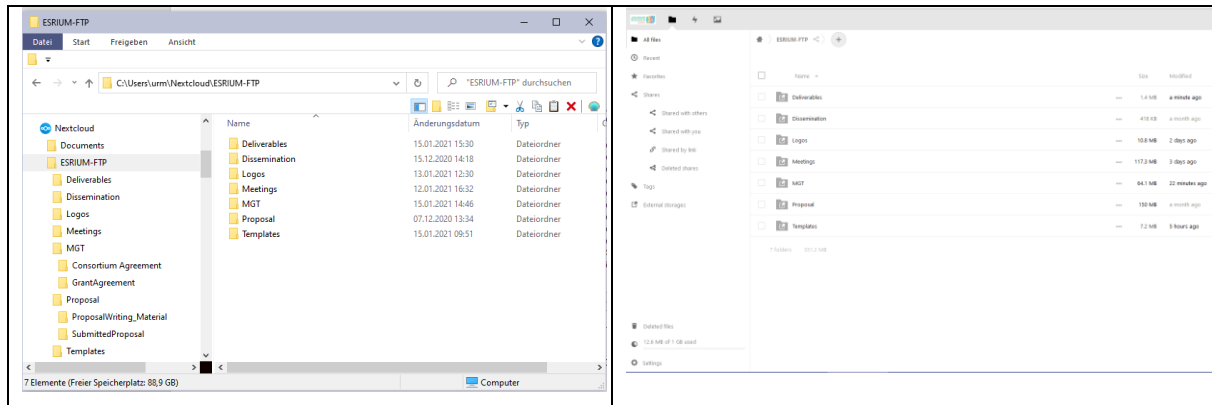


Figure 2: Nextcloud solution for ESRIUM (current structure).

You can find all documents created for the project in the ESRIUM-Cloud, as well as slides of all presentations, e.g. the kickoff meeting (KOM).

The purpose of the ESRIUM-Cloud server is to prepare and exchange even large data; however, it is also a backup for most important documents.

5.2 Online documentation – ESRIUM-Confluence®

Login to ESRIUM-Confluence® space:

Link: <https://confluence.nng.com/display/ESRIUM/ESRIUM+Summary>

User: Ask Gergely HAVAS for login data: Gergely.HAVAS@nng.com

PW:

A Confluence® archive folder (generated Word document) will be created on a monthly basis and put to the ESRIUM-Cloud (\ConfluenceBackup, <https://dig-cloud.joanneum.at/index.php/f/45038>) in order to keep all data safe.

All work done in ESRIUM will be documented here. E.g. minutes of meetings (see also Section 5.5.3). There is also the possibility to work together on deliverables. These can be exported into the ESRIUM_Deliverable_Template.docx format for submission.

Please be aware that documents have to be stored in the ESRIUM-Cloud and it is not allowed to upload anything to the Confluence® workspace. The only exception are images (especially for deliverables) in jpeg-quality in document size (220 dpi).

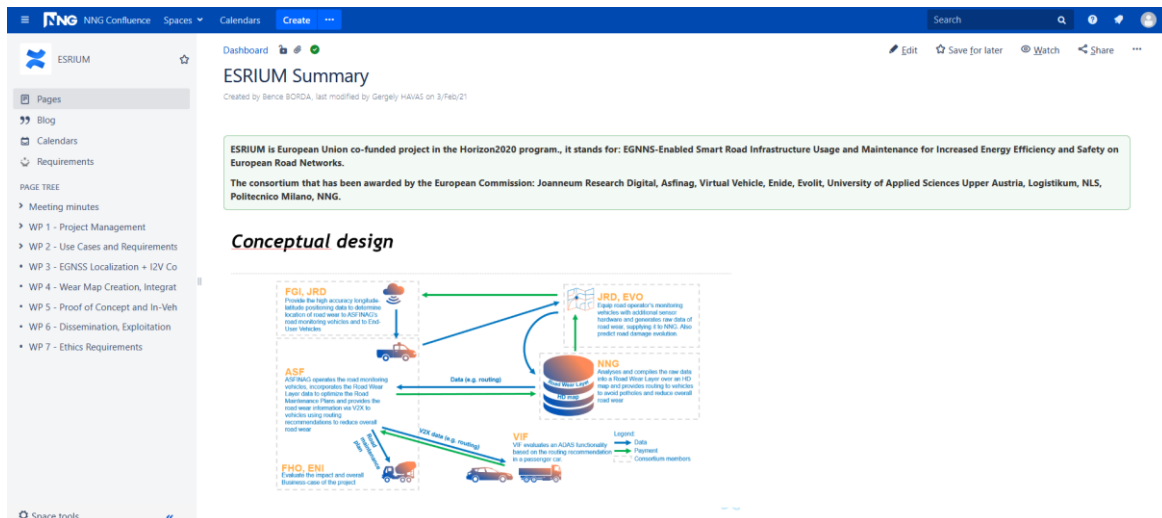


Figure 3: Start screen of Confluence® workspace for ESRIUM.

5.3 Mailing lists

JRD has currently installed the following mailing lists:

- All participants: esrium@joanneum.at
- WP-leaders: esrium-wp@joanneum.at
- Participants WP2: esrium-wp2@joanneum.at
- Participants WP4: esrium-wp4@joanneum.at
- Contact persons for financial issues: esrium-fsign@joanneum.at
- Contact persons for management issues: esrium-mgt@joanneum.at

5.4 Naming conventions of documents

In the runtime of the project, a lot of reports, deliverables, notes, and documents will be produced. A naming convention helps a lot in sorting the input. By the name, you just can see what the document is about. We suggest the following synopsis

ESRIUM-XXX-NNN_YYYY-MM-DD_WPXX-DESCR-VX.EXT

- XXX stand for
 - ADM Administration
 - MIN Minutes
 - REP Report
 - REF Review
 -
- NNN stand for short name of Institutions
- YYYY-MM-DD (date: 2012-03-27)
- WPXX – Work package XX for Number (01-10)
- DESCR stands for a more detailed description (e.g. Project Management Plan)
- VXXX – Version no “XXX” use three digits starting with V00
- EXT – type of document (docx, xlsx, pdf,)

5.5 Meetings

Different categories of meetings will support the project management activities and the detailed coordination of the work within the work packages. The project's kick-off meeting will take place in the first month after the formal project start on the coordinator's premises. To ensure coordination and promote collaboration, regular project meetings are organized every 6 months to discuss progress and collaborative efforts. In addition, technical meetings between a smaller numbers of partners will be organized with regard to the requirements of the progress in the different project phases. Groups within individual work packages will discuss the progress of work every month, mostly using phone conferences or individual conversations with the work package leader. These groups will also organize workshops focusing on core topics of the work package either in terms of separate meetings or in combination with conferences or within project meetings.

Board	Ordinary Meeting	Extraordinary Meeting
Project Management Board	At least once a year	At any time upon written request of the Executive Board or 1/3 of the members of the General Assembly
Executive Board	At least twice a year	At any time upon written request of any member of the Executive Board
Advisory Board	At least once a year	At any time upon written request of the Executive Board

Table 9: Frequency of meetings.

5.5.1 Notice of a meeting

The chairperson of a consortium body shall give notice of a meeting to each member of that consortium body in written form as soon as possible and no later than the minimum number of days preceding the meeting as indicated below.

Board	Ordinary meeting	Extraordinary meeting
Project Management Board	14 calendar days	07 calendar days
Executive Board	14 calendar days	07 calendar days
Advisory Board	45 calendar days	15 calendar days

Table 10: Notice of meetings.

5.5.2 Sending the agenda

The chairperson of a consortium body shall prepare and send each member of that consortium body a written (original) agenda no later than the minimum number of days preceding the meeting as indicated below.

Board	Ordinary meeting	Extraordinary meeting
Project Management Board	14 calendar days	07 calendar days
Executive Board	14 calendar days	07 calendar days
Advisory Board	45 calendar days	15 calendar days

Table 11: Timeline for Agenda.

5.5.2.1 Adding agenda items

Any agenda item requiring a decision by the members of a consortium body must be identified as such on the agenda.

Any member of a consortium body may add an item to the original agenda by written notification to all of the other members of that consortium body up to the minimum number of days preceding the meeting as indicated below.

Board	Ordinary meeting	Extraordinary meeting
Project Management Board	07 calendar days	04 calendar days
Executive Board	07 calendar days	04 calendar days
Advisory Board	15 calendar days	07 calendar days

Table 12: Timeline for adding Agenda items.

5.5.3 Minutes and Documentation of meetings

5.5.3.1 Necessities from the CA

The chairperson shall produce written minutes of each meeting, which shall be the formal record of all decisions taken. The chairperson shall send draft minutes to all Members within ten (10) calendar days of the meeting.

The minutes shall be considered as accepted if, within fifteen (15) calendar days from sending, no Member has sent an objection in writing to the chairperson with respect to the accuracy of the draft of the minutes.

The chairperson shall send the accepted minutes to all the Members of the General Assembly, including the Coordinator, who shall safeguard them. If requested the Coordinator shall provide authenticated duplicates to the Parties.

5.5.3.2 Consortium rules

In ESRIUM, minutes will be documented directly during meetings in the Confluence® workspace provided by NNG. Nonetheless, the above deadlines are still valid, but no explicit documents will be generated and only links will be sent.

The respective partners make all presentations of all meetings available in the ESRIUM-Cloud (\Meetings, <https://dig-cloud.joanneum.at/index.php/f/40720>). The availability of presentations has to be reviewed within 15 working days after the meeting by the conveners.

It is the responsibility of the project coordinator to frequently (i.e. bi-monthly) check the action list of the minutes for deadline compliance. Open action list points have to be discussed at the next meeting, respectively.

5.5.4 Vetoes

When a decision has been taken on a new item added to the agenda before or during the meeting, a Member may veto such decision during the meeting and within fifteen (15) days after the draft minutes of the meeting are sent.

5.6 Phone conferences

Telephone conferences (held instead of face-to-face meetings) – usually with more than two participants and longer than a usual phone call - will be treated like other meetings and minutes have to be prepared using the same templates as for physical meetings.

Telephone conferences can be called up by anyone of the ESRIUM consortium if a purpose is detected. For informally arranged telephone conferences the convening party / member has to provide minutes within 5 working days.

SECTION 6: PARTICIPANT PORTAL

The Participant Portal is the single-entry point for interactions with the research and innovation programmes of the European Commission. It offers you the possibility to use a great variety of services and tools that facilitate the monitoring and the management of proposals and projects throughout their lifecycle.

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home>

Depending on the role in projects and organisation, you can view information on projects, negotiate your grant agreement, manage amendments, submit financial and scientific reports or review projects.

Access to the portal is based on an **ECAS account**. ECAS stands for the European Commission's Authentication Service. It provides single sign-on across a large number of Commission information systems: Each user needs to use only one username and password to access different IT systems and once the user has authenticated himself to ECAS, he does not have to re-enter username and password within the same browser session. More information can be found in the [ECAS FAQ page](#).

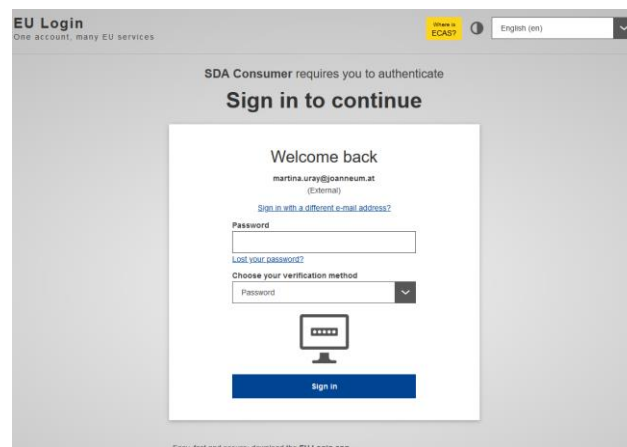


Figure 4: Login of participant portal.

After login, a new one displaying all the processes your user profile can access will replace the actual homepage. Under the register “My Project(s)”, you can find ESRIUM.

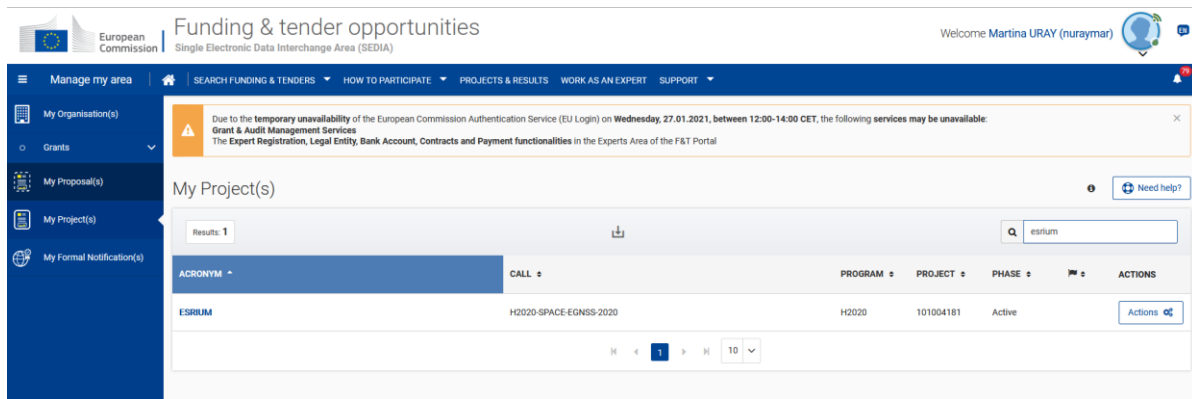


Figure 5: Active projects.

Under “ACTIONS -> Manage Consortium” you can add members of your organisation or/and change their role in the project.

Under “ACTIONS -> Manage Project” you are directed to the currently ongoing project status.

6.1 Reporting

Online Manual on reporting:

https://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/grant-management/reports_en.htm

6.1.1 Continuous Reporting

This can be found in the register “Active Processes -> Continuous reporting data”.

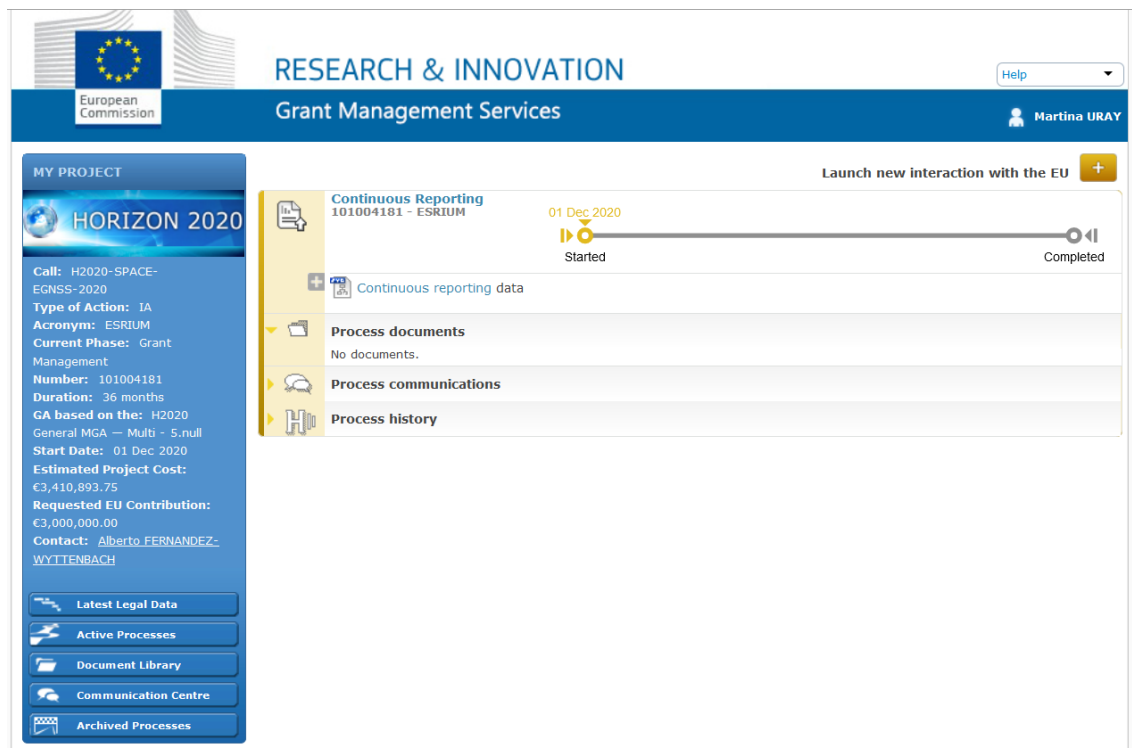


Figure 6: Continuous reporting in the Participant Portal.

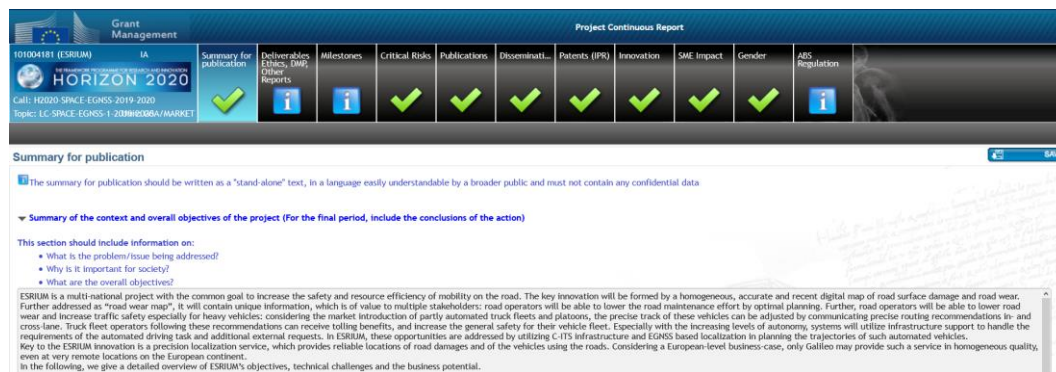


Figure 7: Continuous reporting data.

The summary of publication will be updated by the Coordinator on a quarterly basis. Deliverables, milestones, risks, publications, dissemination activities, patents and innovations have to be added as soon as they are available / occur. Gender and SME impact should be updated on a quarterly basis.

For guidelines see:

https://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/grant-management/reports/continuous-report_en.htm

6.1.2 Periodic Reporting



Figure 8: Periodic reporting in the Participant Portal.

There are two periodic reports for ESRIUM (interim and final) consisting of two parts:

- (1) Technical report (template available)

For guidelines see: https://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/grant-management/reports/periodic-reports_en.htm

- (2) Financial report

For guidelines see:

<https://webgate.ec.europa.eu/funding/display/ECResearchGMS/How+to+complete+your+financial+statement+-+general> and
<https://webgate.ec.europa.eu/funding/display/ECResearchGMS/How+to+use+the+Personnel+Costs+Wizard>

SECTION 7: COST MODELS, FINANCIAL STATEMENTS AND AUDIT CERTIFICATES

7.1 Financial statements and audit certificates

In the final reporting a 'certificate on the financial statements' (CFS) is mandatory for each beneficiary, if it requests a total contribution of EUR 325 000 or more, as reimbursement of actual costs and unit costs calculated on the basis of its usual cost accounting practices (see Article 5.2 and Article 6.2 of the GA).

For ESRIUM these beneficiaries have to provide CFS: **JRD**, **VIF** and **NNG**.

Further information about Audit Certificates is available at:

https://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/applying-for-funding/register-an-organisation/certifications_en.htm

7.2 Details of community financial distribution

Tables are from the GA (p.207 and p.125).

Form of costs ¹	Estimated eligible ¹ costs (per budget category)								EU contribution				
	A. Direct personnel costs				B. Direct costs of subcontracting	C. Direct costs of fin. support	D. Other direct costs		E. Indirect costs ²	Total costs	Reimbursement rate %	Maximum EU contribution ³	Maximum grant amount ⁴
	A.1 Employees (or equivalent)		A.4 SME owners without salary			D.1 Travel	D.2 Equipment	D.3 Other goods and services	D.5 Costs of internally invoiced goods and services				
	A.2 Natural persons under direct contract		A.5 Beneficiaries that are natural persons without salary										
	A.3 Seconded persons												
	[A.6 Personnel for providing access to research infrastructure]												
Actual	Unit ²	Unit ²		Actual	Actual	Actual	Unit ²	Flat-rate ¹⁰					
a	Total b	No hours	Total c	d	e	f	Total g	$h = 0.25 \times (a + b + c + f + g + \frac{a}{[i1]^{13}} + \frac{c}{[i2]^{13}} \times a)$	$j = a + b + c + d + e + f + g + h + \frac{a}{[i1]^{14}} + \frac{c}{[i2]^{14}} \times a$	k	l	m	
1. JRD	538 014.00	0.00	0.00	0.00	0.00	0.00	118 094.00	0.00	164 027.00	820 135.00	100.00	820 135.00	820 135.00
2. VIF	501 390.00	0.00	0.00	0.00	0.00	0.00	60 200.00	0.00	140 397.50	701 987.50	100.00	701 987.50	700 487.50
3. ASF	223 200.00	0.00	0.00	0.00	0.00	0.00	33 500.00	0.00	64 175.00	320 875.00	70.00	224 612.50	224 612.50
4. FGI	175 491.00	0.00	0.00	0.00	0.00	0.00	16 500.00	0.00	47 997.75	239 988.75	100.00	239 988.75	239 988.75
5. FHO	132 800.00	0.00	0.00	0.00	38 000.00	0.00	15 000.00	0.00	36 950.00	222 750.00	100.00	222 750.00	222 750.00
6. EVO	149 166.00	0.00	0.00	0.00	0.00	0.00	10 000.00	0.00	39 791.50	198 957.50	70.00	139 270.25	139 270.25
7. ENI	144 000.00	0.00	0.00	0.00	0.00	0.00	17 250.00	0.00	40 312.50	201 562.50	70.00	141 093.75	141 093.75
8. NNG	480 600.00	0.00	0.00	0.00	0.00	0.00	34 000.00	0.00	128 650.00	643 250.00	70.00	450 275.00	450 275.00
9. POL	42 110.00	0.00	0.00	0.00	0.00	0.00	7 000.00	0.00	12 277.50	61 387.50	100.00	61 387.50	61 387.25
Σ consortium	2 386 771.00	0.00		0.00	38 000.00	0.00	311 544.00		674 578.75	3 410 893.75		3 001 500.25	3 000 000.00

Figure 9: Project costs.

	WP1	WP2	WP3	WP4	WP5	WP6	WP7	Total Person/Months per Participant
1 - JRD	12.66	9.10	11	39	2.22	3	✓	76.98
2 - VIF	1.50	3.25	14	0	60.90	2.65		82.30
3 - ASF	0	10	8	10	6	2		36
4 - FGI	2	0	17	7	4	1		31
5 - FHO	0	6	0	0	5	5		16
6 - EVO	0	0	0	18	0	0		18
7 - ENI	0	12	0	0	0	12		24
8 - NNG	0	18	0	40	11	20		89
9 - POL	0	0	0	0	11	0		11
Total Person/Months	16.16	58.35	50	114	100.12	45.65		384.28

Figure 10: Project effort.

7.3 Pre-financing, interim payment, guarantee fund

The EC contribution includes:

- One single pre-financing payment of € 1.650.000 paid at the start of the project (Article 12.2 of GA). It was received by the coordinator on 27.11.2020 and 75% of it was

forwarded on 08.01.2021 according to the regulations in the CA. The remaining 25% will be paid at the end of month 15. That will be the end of February 2022.

- One interim payment up to 90 % of total depending on real costs (payment 90 days after acceptance of the project reports and cost statements from M1-M18).
- One final payment depending on the accepted real costs 90 days after acceptance of the project reports and cost statements up to the maximum contribution (exclusive guarantee fund). This also includes the amount retained for the Guarantee Fund (€ 150.000.00).

The information on maximum rates of contribution according to the activities and the type of beneficiary concerned can be found in Figure 9 and p.207 of the GA.

The maximum grant amount of the project shall be € 3.000.00. The maximum EC contribution cannot be exceeded. Even if the eligible costs of the project happen to be higher than planned, no additional funding is possible.

		Prefinancing	Rate 1: 01.2021	Rate 2: 02.2022
	max. Grant	100%	75%	25%
1	JRD	820.135,00	410.067,50	307.550,63
2	VIF	700.487,50	350.243,75	262.682,81
3	ASF	224.612,50	112.306,25	84.229,69
4	FGI	239.988,75	119.994,38	89.995,78
5	FHO	222.750,00	111.375,00	83.531,25
6	EVO	139.270,25	69.635,13	52.226,34
7	ENI	141.093,75	70.546,88	52.910,16
8	NNG	450.275,00	225.137,50	168.853,13
9	POL	61.387,25	30.693,63	23.020,22
	3.000.000,00	1.500.000,00	1.125.000,75	375.000,00

Figure 11: Pre-financing numbers as forwarded by the coordinator.

7.3.1 Budget transfers (from GA)

The 'estimated budget' for the action is set out in Annex 2 of the GA. It contains the estimated eligible costs and the forms of costs, broken down by beneficiary and budget category (see Articles 5, 6). The estimated budget breakdown indicated in Annex 2 may be adjusted — without an amendment (see Article 55) — by transfers of amounts between beneficiaries, budget categories and/or forms of costs set out in Annex 2, if the action is implemented as described in Annex 1. However, the beneficiaries may not add costs relating to subcontracts not provided for in Annex 1, unless such additional subcontracts are approved by an amendment or in accordance with Article 13.

7.3.2 Justification of costs

In accordance with its own usual accounting and management principles and practices, each party shall be solely responsible for justifying its costs with respect to the project towards the European Commission. Neither the coordinator nor any of the other parties shall be in any way liable or responsible for such justification of costs towards the European Commission.

A party, which spends less than its allocated share of the consortium budget, will be funded in accordance with its actual duly justified eligible costs only. Special regulations regarding recovery of undue amounts can be found in the CA (Article 44).

A party that spends more than its allocated share of the consortium budget will be funded only in respect of duly justified eligible costs up to an amount not exceeding that allocated share.

SECTION 8: QUALITY MANAGEMENT PLAN

8.1 Internal review for reports (deliverables)

For each deliverable, an internal reviewer (project partner, see Figure 12) is assigned.

Deliverable (number)	Deliverable name	WP number	Short name of lead participant	Reviewing Organisation
D1.1	Project Handbook and Project Quality Plan	1	JRD	ENI
D1.2	First Financial information required by EC	1	JRD	ENI
D1.3	Second Financial information required by EC	1	JRD	ENI
D1.4	First Periodic project report	1	JRD	ENI
D1.5	Second Periodic project report	1	JRD	ENI
D2.1	Use Case Definition	2	NNG	FHO
D2.2	Technical and non-technical user requirements document	2	ENI	FHO
D2.3	System interface design document	2	JRD	FHO
D2.4	First Business case baseline	2	FHO	ENI
D2.5	Second Business case baseline	2	FHO	ENI
D3.1	Report on EGNSS-based Precise Localization for Autonomous Cars	3	FGI	JRD
D3.2	Galileo OS-NMA Implementation	3	FGI	JRD
D3.3	EGNSS Algorithms, Software and Hardware for the User Vehicle	3	FGI	JRD
D3.4	EGNSS Processing and Hardware for the Sensor System	3	JRD	ASF
D3.5	Report on extension of C-ITS by EGNSS Use case	3	ASF	JRD
D4.1	Road Wear Ground Truth Data	4	FGI	ASF
D4.2	Road Wear Sensor System	4	JRD	VIF
D4.3	Sensor System Data Collection	4	JRD	NNG
D4.4	Road Wear Detection and Classification	4	JRD	FGI
D4.5	Road Wear Prediction	4	EVO	JRD
D4.6	Road Wear Data Aggregation and Management Layer	4	JRD	EVO
D4.7	Road Wear Data Platform	4	NNG	JRD
D5.1	Test vehicle specification and setup	5	VIF	FGI
D5.2	Test scenarios and performance criteria specifications	5	NNG	POL
D5.3	Test results analysis report	5	VIF	NNG
D5.4	User acceptance analysis report	5	FHO	VIF
D6.1	Dissemination and communication strategy and plan	6	ENI	JRD
D6.2	Communication kit - Initial version	6	ENI	JRD
D6.3	Communication kit - Final version	6	ENI	NNG
D6.4	Market & business ecosystem analysis	6	NNG	FHO
D6.5	Communication and dissemination final report	6	ENI	NNG
D6.6	Preliminary exploitation plans	6	NNG	FHO
D6.7	Final exploitation plan	6	NNG	FHO
D7.1	H - Requirement No. 1	7	JRD	FGI
D7.2	POPD - Requirement No. 2	7	JRD	VIF

Figure 12: Quality-reviewing organisations with respect to deliverables.

Deliverables (content from Confluence® extracted to the template) must be sent fifteen working days prior to the delivery date (according to the GA) to the internal reviewer and the project management.

All project partners may remark on the content (available in the Confluence® workspace) and make suggestions. The feedback period for partners and internal reviewers is five working days. Feedback is sent directly to the responsible partner.

The internal reviewer reviews the content against the GA and the criteria set out in Section 8.2. Furthermore he/she has to check the formal criteria of the deliverable (e.g. is the content state of the art, are references properly given, is the structure clear and coherent, etc.)

The internal reviewer will contact the responsible partner and the project management on eventual necessary changes. A feedback cycle (five working days) between authors and reviewer will be established in order to optimise the deliverable.

The project management submits the deliverable to the project reviewers (Josep Maria SALANOVA GRAU and Gustavo OYERVIDES ZERRWECK) five working days prior the official delivery date. They will

send back comments/remarks through a template form called DRS. Remarks from the DRS should be implemented as soon as possible. JRD submits this new version asking for final validation. If no further iterations are needed from the reviewers (always via DRS), JRD is automatically authorised to submit the final deliverables to the system for the POs final approval.

8.2 Tasks of internal reviewers

The internal reviewer is especially responsible for:

- Checking the deliverable against the objectives defined in the GA
- Checking completeness and (in case of delivery to outside the ESRIUM Consortium) if the deliverable can be understood by persons not directly involved in the project
- Checking references
- Recommending solutions for problems/discrepancies if necessary and
- Documenting the review result in writing (using the provided template).
- Minor changes, such as wording and typos may be added directly in the deliverable document.

Internal reviews should contain the following information:

- Title of deliverable, version number, date
- Responsible author and partners who have contributed to the deliverable
- Internal reviewer, review date
- Problem description, severity of the discrepancy, recommended solution
- Final conclusions of internal review.

8.3 Internal reviews for software systems

Deliverables, which are of type “software”, consist of:

- The software itself in form of executables or libraries or combinations thereof.
- Documentation of the software, which also has to be made available to the internal reviewer.

For the documentation, the same procedure as described for deliverables is applied. However, there are some extensions for the handling of the software.

- The hardware and software requirements to install and run the software have to be given in detail at least six weeks prior to the due date. This allows the testing partner to organise the required hardware.
- In cases where the software is a library, a testing framework application has to be part of the deliverable.
- Appropriate test data (e.g. video and audio files) will be made available for testing by the responsible partner.

The software has to be packaged in a way making it possible to install and configure the software for persons with reasonable computer skills.

8.4 Project monitoring

JRD as the project manager is responsible for monitoring the project progress in terms of spent resources and budget. This is mainly performed based on biannual activity reports, management reports and financial statements. The biannual activity reports for each partner are due on or before the **10th of the month** following the relevant reporting period.

Each partner has to document the project progress during the duration of the project. This documentation will be the basis for which all efforts, payments, audits and so on will be checked and verified.

The usage of these templates and filling the biannual reports will provide information on:

- the work done in each WP.
- the results achieved / documents produced within this period.
- the person months spent during the period per WP to achieve the reported work done.
- the deviations from the work plan and overview of arising risks or problems.

JRD as the project coordinator has set up a database to summarize this information and therefore needs to collect inputs from each partner to develop an overview on the accurate status and progress of the project on a regular, half-year basis.

According to JRD - and its project manager's internal quality management plan - a contact person of each beneficiary is kindly asked to report on the actual status of its organisation. You are kindly asked to fill in a short reporting after each half-year of the project.

For this purpose, JRD prepared appropriate templates (which can be downloaded from the Cloud at / Templates/, <https://dig-cloud.ioanneum.at/index.php/f/43165>), which have to be specifically updated for the respective reporting period by each partner: e.g., /MGT/Biannual Report/2021-H1 (<https://dig-cloud.ioanneum.at/index.php/f/44200>)

A	B	C	D	E	F	G	H	I	J	K	L
1	Half-year period	01.12.2020 - 31.05.2021	HY1								
2	Partner:	JRD									
3	Date:										
4	est. Budget Spent	/ within this half-year									
5	est. Budget Spent	/ per vehicle Project	0,00								
6											
7	HY1	JRD	Workpackage 1								
8	Workpackage	Summary of work done	Results/Document produced	Estimated	PM per WP in this	Name of the experts who worked in the respective WP	Indicate level of your assessment				Comments
9	Project Management	part task	in a form, WP	1	PM per WP in this (Max. 20 person months, E & R, RND)	Maximal number of person months for the WP, for whom it is allowed for each task	Indicate level of your assessment (Green: fully, Yellow: medium, Red: low)				This does not have to be done for the project management tasks. It is a summary of the project management, not a summary of the project management, not a summary of the project management.
10	Overall Assessment of WP2										
11	T11 - Administrative management										
12	T12 - Financial management										
13	T13 - Technical management										
14											
15	HY1	JRD	Workpackage 2								
16	Workpackage	Summary of work done	Results/Document produced	Estimated	PM per WP in this	Name of the experts who worked in the respective WP	Indicate level of your assessment				Comments
17	Use Cases and Requirements Analysis	part task	in a form, WP	1	PM per WP in this (Max. 20 person months, E & R, RND)	Maximal number of person months for the WP, for whom it is allowed for each task	Indicate level of your assessment (Green: fully, Yellow: medium, Red: low)				This does not have to be done for the project management tasks. It is a summary of the project management, not a summary of the project management, not a summary of the project management.
18	Overall Assessment of WP2										
19	T21 - Use case definition										
20	T22 - System interface design										
21	T23 - Business case baseline										

Figure 13: Biannual Reporting Template – tasks.

There is a template for each partner organisation reduced to the tasks where they are involved in.

In the first row the reporting period is defined, and in the second row the organizations name is written.

ToDo for each participant:

- Fill the date of the report (Cell C3)
- Provide an estimate of the budget spent in the ESRIUM project for the respective half-year. (Cell C4)
- Provide the respective information for each task per instructions below:
 - Column D: A short summary of the work done per task in the respective half-year. In doing this, it is enough to give key words:

- e.g. Database setup, templates for biannual reporting,
- Column E: Which results/deliverables were produced per task (by your organisation) within this half-year.
 - e.g. D1.1 Project handbook
- Provide the respective information for each work package per instructions below:
 - Column F: Estimate the percentage of your work done within the work package, which is already completed. This refers to the whole project duration and not only to this half-year.
 - e.g. If you finished the report which is your contribution within this work package, write 100%. If you have a draft, estimate how much work you have done so far compared to the work you still have to do.
 - e.g. If you sent in your contribution to the WP leader, which is all of the work you have to do within this work package and this is already accepted by the WP leader, indicate 100%. If it is not accepted, indicate a lower percentage as you might still have to do some more work within this work package.
 - Column G: Provide a PM estimation spent on the WP within this specific half-year.
 - e.g.: 0,85 PM
 - Column H: Give a list of experts working on the work package within this specific half-year.
 - Column I, J, K, L: Indicate your assessment of the overall work package situation. If you think it is running as planned, mark the column H (green column) with an X. If you think there are small problems, but not significant, mark the Column I (amber column) with an X. Moreover, if you think the work package is running definitely wrong or if you see any critical issue, mark the column K (red column) with an X. If you mark the amber or the red column, please comment on it in column L.
- At the very bottom, indicate the expenditures, which your organisation had during this respective period related to the ESRIUM project.
 - Column A-F: Indicate costs for travels (start, end, location, expert, costs (estimated)).
 - Column G: Indicate the WP these travel costs belong to.
 - Column H,I,K,L: Describe any other costs your organisation had within this period.
 - Column J: Indicate the WP these other costs belong to.

[illegible]

Figure 14: Biannual Reporting Template – expenditures.

JRD summarizes the information and generates WP reports for each WP within 15 working days after the reporting period (see Figure 15). In addition, JR generates result diagrams, indicating the accurate state of the work for each WP (see Figure 16).

[illegible]

Figure 15: Summarised WP reports generated by JRD.

These reports are then sent as a PDF file to the respective WP lead for information. If the WP leader disagrees with the partner input, this discrepancy has to be solved between the WP leader and the respective partner.

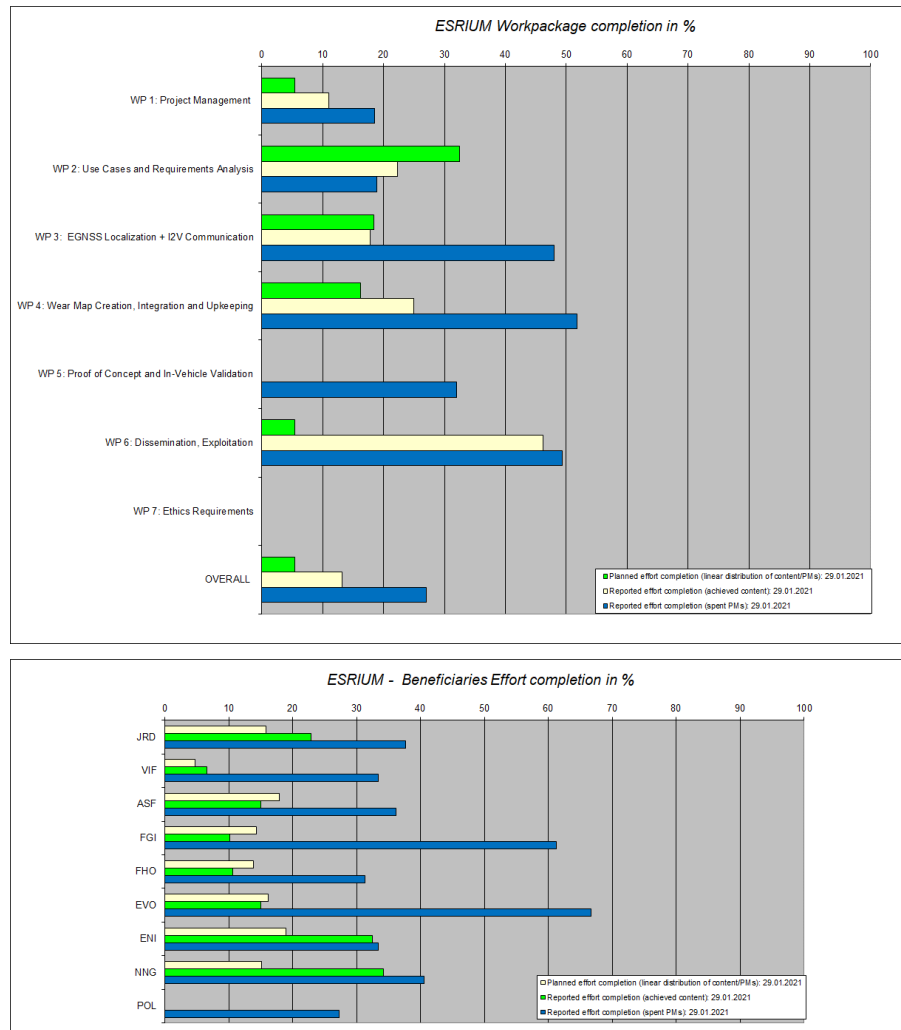


Figure 16: Result diagrams generated by JRD, indicating the status for work of each WP.

In this diagrams (at the moment filled with fantasy numbers, as no reporting is available so far) the status of each WP and each partner can be seen:

- A green bar for the plan (according to the work plan that assigns a specific amount of work of each task to be duly finalised during the reporting period)
- A white bar for the estimated completion
- A blue bar for the time spent

8.4.1 Summary of required project reporting activities

- (1) Each ESRIUM partner does the biannual reporting in the attributed Excel sheets.
- (2) Each ESRIUM partner sends the reporting until 10 days after the end of each half-year period (e.g., HY1 until 10.03.2021) to martina.uray@joanneum.at.
- (3) JRD returns actual summarized WPs and the WP specific diagrams within 15 days after the end of the working period to the WP leaders.
- (4) WP leaders may comment on the summaries within 5 working days.

8.5 Dissemination, publications and logos

8.5.1 Notification of dissemination activities

Note that the project coordination (JRD) has to be informed about any dissemination.

All information and documentation that are made accessible to third parties (organisations and persons not part of the ESRIUM consortium) have to undergo an approval mechanism. This ensures that information is always distributed consistently and that no secrets or insights are released prematurely.

Each partner shall have the right to publish or allow the publishing of data, which constitutes his knowledge, pre-existing expertise or confidential information. External publications should be joint publications between project partners, whenever possible.

The coordinator and all partners have to be informed on project related publications 45 days in advance.

The partner shall announce the following data:

- Nature of the publication (conference, location, date, deadlines, etc.)
- Abstract and authors of the paper

All publications or communications are required to obtain the consent of all partners concerned. If none of the partners objects to the publication within 30 days from the date of referral, consent shall be deemed to be given.

Any objection shall include:

- a request for modifications, specifically if information contained in the proposed publication or communication is likely to impair the industrial and commercial use of Knowledge;

or

- a request that the publication or communication shall be cancelled if intellectual property-protection is being sought for the information contained in the proposed publication.

If a dispute, regarding a publication cannot be settled amicably within 2 calendar months the PMB shall decide the issue.

8.5.2 Acknowledgements

Further to Article 29.4 of the Grant Agreement, every publication shall contain the following Acknowledgement of European Community Support (exact wording to be applied!):

“This project has received funding from the European GNSS Agency under the European Union’s Horizon 2020 research and innovation programme under grant agreement No 101004181”.

Any dissemination of results (in any form, including electronic) must display the Agency logo and the EU emblem. You can find those in ESRIUM-Cloud /Logos (<https://dig-cloud.joanneum.at/index.php/f/33169>).

8.5.3 Open Access (GA Article 29.2)

Each beneficiary must ensure open access (free of charge online access for any user) to all peer-reviewed scientific publications relating to its results.

In particular, it must:

- (1) as soon as possible and at the latest on publication, deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications;

Moreover, the beneficiary must aim to deposit at the same time the research data needed to validate the results presented in the deposited scientific publications.

- (2) ensure open access to the deposited publication — via the repository — at the latest:
 - (a) on publication, if an electronic version is available for free via the publisher, or
 - (b) within six months of publication (twelve months for publications in the social sciences and humanities) in any other case.
- (3) ensure open access — via the repository — to the bibliographic metadata that identify the deposited publication.

The bibliographic metadata must be in a standard format and must include all of the following:

- the terms “European GNSS Agency”, “European Union (EU)” and “Horizon 2020”;
- the name of the action, acronym and grant number;
- the publication date, and length of embargo period if applicable, and
- a persistent identifier.

8.5.4 Documentation of dissemination activities

All publication and dissemination activities have to be reported in the participant portal (see Section 6.1.1).

Categories to be filled:

- Specify the total funding amount used for Dissemination and Communication activities linked to the project
- Specify the number of Dissemination and Communication activities linked to the project for each of the following categories
 - Organisation of a Conference
 - Organisation of a Workshop
 - Press release
 - Non-scientific and non-peer-reviewed publication (popularised publication)
 - Exhibition
 - Flyer
 - Training
 - Social Media
 - Website
 - Communication Campaign (e.g. Radio, TV)
 - Participation to a Conference
 - Participation to a Workshop
 - Participation to an Event other than a Conference or a Workshop
 - Video/Film
 - Brokerage Event
 - Pitch Event
 - Trade Fair
 - Participation in activities organised jointly with other EU project(s)
 - Other

- Specify the estimated number of persons reached, in the context of all dissemination and communication activities, in each of the following categories:
 - Scientific Community (Higher Education, Research)
 - Industry
 - Civil Society
 - General Public
 - Policy Makers
 - Media
 - Investors
 - Customers
 - Other

In addition, references to published articles will be stored on the project's public web page. If possible, PDF versions of publications should also be made available but complying to the publisher's copyright rules.

8.6 Project homepage, Twitter and LinkedIn

The project homepage is on-line via <https://esrium.eu/> (see Figure 17). Please have a look on the page and help with updating information.

Follow ESRIUM on Twitter and LinkedIn:

- https://twitter.com/Esrium_H2020
- <https://www.linkedin.com/groups/9011218/>

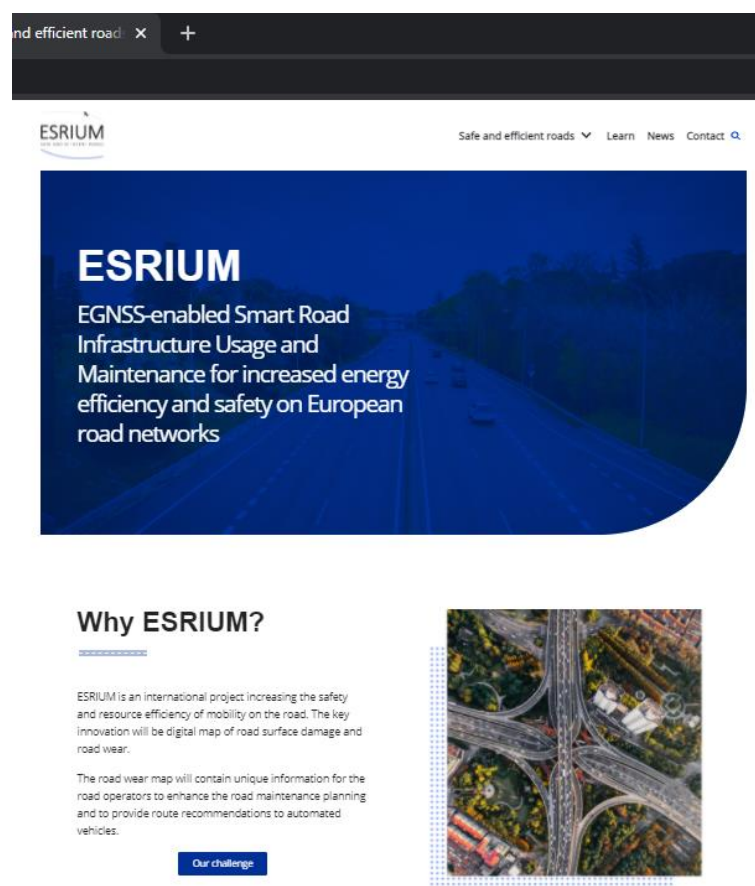


Figure 17: Print screen of ESRIUM Homepage.

8.7 Project templates

At the ESRIUM-Cloud, you can find a lot of useful templates for the work on the project (</Templates>, <https://dig-cloud.joanneum.at/index.php/f/43165>).

Currently available:

- ESRIUM_Deliverable_Template.docx
- ESRIUM_InternalQualityReview_Template.docx
- ESRIUM_PRESENTATION_Template.pptx
- ESRIUM_Qreport_Template.xls

8.8 Time sheets (CA, Article 18)

In addition, for personnel costs (declared as actual costs or on the basis of unit costs), the beneficiaries must keep time records for the number of hours declared. The time records must be in writing and approved by the persons working on the action and their supervisors, at least monthly. In the absence of reliable time records of the hours worked on the action, the Agency may accept alternative evidence supporting the number of hours declared, if it considers that it offers an adequate level of assurance.

As an exception, for persons working exclusively on the action, there is no need to keep time records, if the beneficiary signs a declaration confirming that the persons concerned have worked exclusively on the action.

8.9 Standards, practices, conventions for Software

This document does not overrule software development guidelines, which are already in place at the partners' organisations. However, it has to be made sure that the following minimum set of guidelines is in place and is followed.

Source code of software shall be stored in a source code version control system (e.g. Microsoft SourceSafe, Subversion) to allow easier versioning of software and enable stepping back to an older version of the software.

Regular backups (at least weekly) of source code, data and documents have to be performed to prevent complete loss of IPR in case of severe system malfunctions or disasters. These backups (tapes, disks) have to be stored in a safe, separate location (e.g. in a different building).

8.10 Problem documentation and handling

Biannual activity reports will be collected and summarized from all partners by the project leader (see Section 8.4). Quality issues will be raised formally in this report and solution(s) that will be taken to correct the problem will be presented.

Problems raised by a consortium member during a meeting will be recorded in the minutes of the respective meeting. If required, actions will be assigned to one or more partners with the goal to solve the problem by a specific date. The project management will monitor the progress of these actions to solve the problem through the biannual activity reports.

The project management is responsible for reporting critical problems (which could affect the entire project) immediately to the project consortium and to the EC Project Officer.

8.11 Conflict resolution

Problems have to be reported as early as possible to the project coordination in order to immediately define and apply mechanisms for remedial actions (if necessary) within the respective boards. For more information have a look at the GA and the CA.

SECTION 9: REFERENCES AND USEFUL LINKS

Ref	Description	Link
[1]	EC Contract (GA)	https://dig-cloud.ioanneum.at/MGT/Grant Agreement
[2]	Consortium Agreement (CA)	https://dig-cloud.ioanneum.at/MGT/Consortium Agreement
[3]	Contact & Mailing List	https://dig-cloud.ioanneum.at/MGT
[4]	Template folder on internal document store	https://dig-cloud.ioanneum.at/Templates
[5]	H2020 Online Manual	https://ec.europa.eu/research/participants/docs/h2020-funding-guide/index_en.htm
[6]	Guidance notes for audit certificates	https://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/applying-for-funding/register-an-organisation/certifications_en.htm#CFS See also GA Annex 5
[7]	EC Financial Guide	ftp://ftp.cordis.europa.eu/pub/fp7/docs/financialguide_en.pdf See also GA Annex 4

SECTION 10: FINAL NOTE AND CONCLUSION

The version of the ESRIUM Project Handbook presented here describes all regulations, guidelines, deadlines, obligations and responsibilities as currently set.

All members of the consortium are obliged to follow these rules in order to ensure a smooth flow of the project. Since during a projects lifetime additional regulations or changes in responsibilities may occur, this document is a living document.

The idea is to have a single reference point for basic rules and fast information access but of course it does not overrule/replace other project relevant documents such as the grant agreement and the consortium agreement.

A regularly maintained version of this document is located in the ESRIUM-Confluence® Workspace (<https://confluence.nng.com/x/Tk94Dw>) for easy accessibility of all project relevant information valid at the current time. Each partner is called to comment on missing information or any new arising regulations. Minor changes (such as changes in contact lists) will be updated without comment while in case of major changes the consortium will be notified accordingly.

The submitted version is stored in the ESRIUM-Cloud at \Deliverables (<https://dig-cloud.ioanneum.at/index.php/f/43487>).