

Flexible energy systems Leveraging the Optimal integration of EVs deployment Wave

Grant Agreement Nº: 101056730

Deliverable 9.1

Project Management Handbook

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Document information Table

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List of Acronyms

ACRONYM	MEANING
AB	Advisory Board
AE	Affiliated Entity
CA	Consortium Agreement
CFS	Certificate on the Financial Statements
DoA	Description of the Action
EB	Executive Board
EIB	Exploitation and Innovation Board
EV	Electric Vehicle
GA	Grant Agreement
GA	General Assembly
IPR	Intellectual Property Rights
M	Month
PM	Person Month
RP	Reporting Period
UoR	Use of Resources
WP	Work Package





Executive Summary

Project management is a key aspect to achieve an optimal level of coordination and cooperation between consortium partners.

As most collaborative projects, FLOW is a complex project in terms of size of the consortium and mostly in terms of workflow between the different partners. Therefore, coordination aspects, management of resources and quality assessment need to be detailed in depth from the beginning of the project.

This Deliverable describes FLOW's strategy to implement an appropriate coordination strategy, addressing general issues regarding the project structure, partner responsibilities as well as specific guidelines about internal procedures, communication and risk assessment.

The main sections developed in this Deliverable are:

- Project structure
- Governance
- Project management (meetings, project monitoring, reporting, payments, etc.)
- Communication and dissemination
- Risk assessment

In summary, this Deliverable is a manual and reference document for the partners to reach a common understanding of project procedures for an efficient implementation of the project, achieving the objectives as set out in the Grant Agreement.





1. Project Structure

1.1. Project Breakdown at Work Package level

FLOW activities are structured in 9 WPs. In WP1 the main requirements coming from the mobility and energy fields are defined and represent the common set of drivers for the development and replications in other WPs. On the other hand, it defines the informational objects allowing interoperability and standardisation. WP2 focuses on elucidation of user requirements and acceptance to delivery participation strategies, whereas WP3 defines interoperability specifications, communication protocols, data privacy and cybersecurity requirements, and makes data available for market uses. WP4 develops devices and tools for BTM applications to manage assets at the local level, while WP5 focuses on the FTM and system level integration by optimising the interactions with the grid, improving existing tools and ensuring appropriate harmonisation via an orchestrator. WP6 validates components of the overall concept in advanced labs and small-scale demos (i.e. testbeds), while WP7 demonstrates the entire solution in large-scale lighthouse demos at citywide scale/entire island. WP8 underpins FLOW by ensuring that the solutions are appropriately communicated and disseminated while tailored exploitation and replication strategies are set in motion by the entire FLOW team. Lastly, WP9 ensures adequate management and coordination.

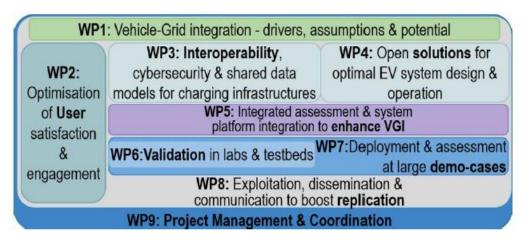


Figure 1. Project Breakdown at WP Level.



1.2. Project Breakdown at Task Level and Project Timeline

The GANTT Chart displayed in Figure 2 shows FLOW's project breakdown at task level and against time.

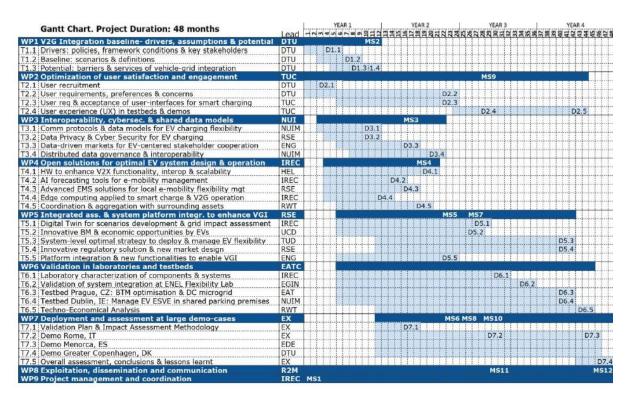


Figure 2. GANTT Chart.

1.3. Coordination and Responsibilities

Each WP has a defined Leader (Lead Beneficiary) that will coordinate the progress of the corresponding WP in collaboration with the different Task Leaders. The Task Leaders will report to the WP Leader. WP Leaders in turn will report to the Executive Board and to the General Assembly.

1.3.1. Work Packages

Table 1 shows the different WPs including the WP Leader (Lead Beneficiary), the estimated effort per WP, the start and end months and the related Deliverables. Next, Table 2 summarizes the staff effort per participant and per WP, expressed in PMs.





Table 1. WPs and WP Leaders.

Work Package No	Work Package name	Lead Beneficiary	Effort (Person- Months)	Start Month	End Month	Deliverable No(s)
WP1	Vehicle-Grid Integration baseline-drivers, assumptions and potential	2 - DTU	58.00	1	12	D1.1, D1.2, D1.3, D1.4
WP2	Optimization of user satisfaction and engagement	19 - TUC	81.00	1	44	D2.4, D2.2, D2.1, D2.5, D2.3
WP3	Interoperability, cybersecurity and shared data models for EV charging infrastructures	14 - NUIM	62.00	3	22	D3.4, D3.3, D3.1, D3.2
WP4	Open solutions for optimal EV charging system design and operation	1 - IREC-CERCA	131.00	4	21	D4.3, D4.4, D4.2, D4.1, D4.5
WP5	Integrated assessment and system platform integration to enhance VGI	5 - RSE SPA	205.00	6	42	D5.2, D5.1, D5.5, D5.4, D5.3
WP6	Validation in laboratories and testbeds	13 - EATON	120.00	6	45	D6.1, D6.2, D6.4, D6.3, D6.5
WP7	Deployment and assessment at large scale demo- cases	9 - ENEL X SRL	293.00	12	48	D7.3, D7.4, D7.1, D7.2
WP8	Exploitation, dissemination and communication to boost replication	12 - R2M	85.00	1	48	D8.2, D8.1, D8.5, D8.4, D8.3
WP9	Project management and coordination	1 - IREC-CERCA	43.00	1	48	D9.2, D9.1

Table 2. Summary of Staff Effort (PMs).

Participant	WP1	WP2	WP3	WP4	WP5	WP6	WP7	WP8	WP9	Total Person-Months
1 - IREC-CERCA	4.00		3.00	30.00	18.00	15.00	18.00	3.00	16.00	107.00
2 - DTU	14.00	17.00					58.00	1.00	2.00	92.00
3 - TU Delft	1.00		1.00	15.00	21.00			2.00	1.00	41.00
4 - HELIOX BV	2.00	2.00	4.00	25.00		8.00	7.00	1.00	1.00	50.00
5 - RSE SPA	2.00	4.00	9.00	9.00	16.00	1.00	6.00	2.00	2.00	51.00
6 - EGIN	1.00	1.00	1.00		1.00	5.00	3.00	1.00	1.00	14.00
6.1 - EDI	1.00				1.00		5.00			7.00
7 - ARETI S.P.A.	3.00			3.00	17.00		25.00	2.00	1.00	51.00
7.1 - ACEA ENERGIA	1.00	1.00		1.00	5.00		4.00	2.00		14.00
8 - EDISTRIBUCION	3.00				15.00		33.00	1.00	1.00	53.00
9 - ENEL X SRL	2.00	1.00		15.00	10.00		30.00	2.00	2.00	62.00
9.1 - ENDESA X	3.00	1.00					25.00	1.00		30.00
10 - RWTH AACHEN	1.00	1.00		12.00	4.00	12.00		1.00	1.00	32.00
11 - NUID UCD	1.00		1.00	1.00	21.00	4.00		1.00	1.00	30.00
12 - R2M	3.00				5.00		4.00	30.00	2.00	44.00
13 - EATON	1.00	2.00		12.00		37.00	14.00	1.00	2.00	69.00
13.1 - EATON Dublin	1.00	1.00	4.00		3.00	8.00	7.00			24.00
14 - NUIM	1.00	1.00	19.00	4.00	4.00	20.00	1.00	2.00	2.00	54.00
15 - TERNA	1.00				34.00	3.00	12.00	5.00	1.00	56.00
16 - EDSO	3.00				5.00			8.00	1.00	17.00
17 - Spirii	1.00	1.00		2.00	3.00		16.00	1.00	1.00	25.00
18 - ENG			16.00		17.00		17.00	2.00	1.00	53.00
19 - TUC	2.00	36.00				6.00	6.00	2.00	2.00	54.00
20 - AVERE	4.00				5.00			9.00	1.00	19.00
21 - BMW GROUP	2.00	12.00	4.00	2.00		1.00	2.00	5.00	1.00	29.00
Total Person-Months	58.00	81.00	62.00	131.00	205.00	120.00	293.00	85.00	43.00	1078.00



1.3.2. Tasks

Each WP consists of different tasks. All tasks are listed below in Table 3, with corresponding Task Leaders, participants and the start and end month:

Table 3. Summary of Tasks.

Task nº	Task title	Task leader	Participants	Start Month	End Month
Task 1.1	Drivers: policies, framework conditions and key stakeholders in EV integration	DTU	IREC, R2M, EGIN, EDI, ARETI, AE, EDE, ENEL X, ENDESA X, TERNA, EDSO, SPIRII, AVERE, TUC	1	6
Task 1.2	Baseline: Scenarios and definitions	DTU	EGIN, EDI, EDSO, IREC, TUD, AVERE, BMW, TUC, NUIM, HELIOX, RWTH, UCD	3	9
Task 1.3	Potential: Barriers and services of vehicle-grid integration	DTU	EGIN, AVERE, BMW, R2M, ARETI, ACEA E., HELIOX, NUIM, TUD, IREC, RSE, EAT-IE, EAT- CH, EDSO, EDI, EDE, TERNA	5	12
Task 2.1	User recruitment	DTU	TUC, AVERE	1	5
Task 2.2	User requirements, preferences and concerns	DTU	TUC, BMW, EGIN, HELIOX, RSE, ARETI, AE, EAT-IE	1	24
Task 2.3	User requirements and acceptance of user-interfaces for smart charging	TUC	BMW	6	24
Task 2.4	User experience in testbeds and demos	TUC	DTU, EGIN, ACEA E., SPIRII, RWTH, EAT-CZ, EAT-IE, ENEL X, ENDESA X, NUIM	24	44





Task nº	Task title	Task leader	Participants	Start Month	End Month
Task 3.1	Communication protocols and data models for EV charging flexibility	NUIM	DTU, RSE, ENG, IREC, TUD, HELIOX, EGIN, EAT-IE	3	12
Task 3.2	Data Privacy and Cyber Security for EV charging	RSE	NUIM, TUC	4	12
Task 3.3	Data-driven markets for EV-centered cross-stakeholder cooperation	ENG	NUIM, RSE	6	18
Task 3.4	Distributed data governance and interoperability to open-source energy modelling systems	NUIM	UCD, ENG, IREC, BMW	8	22
Task 4.1	Hardware solutions to enhance V2X functionality and improve interoperability and scalability	HEL	EAT-CZ, IREC	4	21
Task 4.2	Forecasting tools for e-mobility management based on artificial intelligence	IREC	EAT-IE, HELIOX, ARETI, ACEA E., NUIM, BMW	4	16
Task 4.3	Advanced EMS solutions for local e- mobility flexibility management	RSE	EAT-CH, HELIOX, IREC, RSE, TUD, ARETI, ACEA E., ENEL X	4	18
Task 4.4	Edge computing to bolster control solutions for smart charge and V2G operation	IREC	EAT-CZ, DTU, RSE	4	14
Task 4.5	Coordination and aggregation with surrounding assets	RWTH	RSE, ENEL X, IREC, UCD, EAT-CH, SPIRII	6	20
Task 5.1	Digital Twin for scenarios development and grid impact assessment	IREC	TUD, RSE, ARETI, TERNA	6	30
Task 5.2	Innovative business models and economic opportunities by EVs and their interaction with energy system	UCD	RSE, ARETI, EAT- IE, ACEA E., ENEL X, R2M	6	28
Task 5.3	System-level optimal strategy to deploy and manage flexibility services provided by EVs	TUD	ARETI, RSE, EGIN, EDE, IREC, UCD, TUC, EDSO, TERNA, ENEL X	12	42





Task nº	Task title	Task leader	Participants	Start Month	End Month
Task 5.4	Innovative regulatory solution and new market design to enhance VGI	RSE	EGIN, EDI, UCD, ARETI, DTU, ACEA E., TERNA, TUC, EDSO, SPIRII, AVERE, ENEL X	12	42
Task 5.5	Platform integration and new functionalities to technically enable system-level VGI	ENG	EGIN, NUIM, TERNA, ENEL X, SPIRII, ARETI, ACEA E., TERNA, RWTH, IREC, RSE, EDE	6	24
Task 6.1	Laboratory characterisation of components and systems	IREC	TERNA, EGIN, EAT-CZ, HEL, BMW	6	32
Task 6.2	Validation of systems integration Enel Flexibility Lab	EGIN	IREC, ARETI, EDE, EAT-CZ, EATCH, RSE, HELIOX	6	36
Task 6.3	Testbed Prague, CZ: BTM optimisation and DC microgrid	EAT-CZ	EAT-IE, EAT-CH, RWTH, HELIOX	6	42
Task 6.4	Testbed Dublin, IE: Manage EVSE in shared parking premises	NUIM	UCD, EAT-CZ, EAT-CH, DTU, TUC	6	42
Task 6.5	Techno-Economical Analysis	RWTH	IREC, EAT-CZ, HELIOX, NUIM, UCD, EGIN, TERNA, DTU, TUC	12	45
Task 7.1	Validation Plan and Impact Assessment Methodology	IREC	ARETI, ACEA E., EGIN, EDI, RSE, TERNA, ENG, BMW, EDE, R2M, ENDESA X, DTU, SPIRII, HELIOX, ENEL X, TUC	12	18



Task nº	Task title	Task leader	Participants	Start Month	End Month
Task 7.2	Demo Rome, IT	ENEL X	ARETI, ACEA E., EGIN, EDI, RSE, TERNA, ENG, TUC, BMW, EAT-CH, EAT-IE	12	46
Task 7.3	Demo Menorca, ES	EDE	IREC, EGIN, R2M, ENDX, TUC	12	46
Task 7.4	Demo Greater Copenhagen, DK	DTU	SPIRII, HELIOX, EAT-CH, EAT-IE	12	46
Task 7.5	Overall assessment, conclusions and lessons learnt from testbeds and demos	ENEL X	EDE, IREC, ENDESA X, ARETI, ACEA E., RSE, ENG, BMW, TERNA, EGIN, EDI, DTU, SPIRII, HELIOX, EAT-CZ, TUC, R2M, NUIM	30	48
Task 8.1	FLOW project identity and communication toolbox	R2M	All	1	48
Task 8.2	Communication and dissemination plan and execution	R2M	All	1	48
Task 8.3	Competence analysis, identification and management of exploitable results	R2M	All	6	36
Task 8.4	IPR protection, agreements and exploitation	R2M	All	18	48
Task 8.5	Replicability and scalability	R2M	EDSO, AVERE, RSE, EGIN, EDE, ARETI, ACEA E., EAT, TERNA, ENEL X, BMW	30	48
Task 8.6	Clustering activities with other initiatives and projects	R2M	EDSO, AVERE, BMW	3	48
Task 9.1	Scientific & Technical management and progress monitoring	IREC	All	1	48
Task 9.2	Administrative & Financial management	IREC	All	1	48
Task 9.3	Open research data & knowledge management	IREC	All	1	48





1.3.3. Deliverables

The FLOW consortium committed to deliver 39 Deliverables throughout the project. All Deliverables are listed in Table 4.

Table 4. Deliverables.

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Туре	Dissemination Level	Due Date (month)
D1.1	External drivers	WP1	2 - DTU	R — Document, report	PU - Public	6
D1.2	Internal baseline	WP1	2 - DTU	R — Document, report	PU - Public	9
D1.3	Potential and barriers	WP1	2 - DTU	R — Document, report	PU - Public	10
D1.4	Common smart charging definition	WP1	2 - DTU	R — Document, report	PU - Public	12
D2.1	The setup of two European user panels	WP2	2 - DTU	R — Document, report	PU - Public	5
D2.2	Factors influencing user acceptance of smart charging and V2X concepts	WP2	2 - DTU	R — Document, report	PU - Public	24
D2.3	Improving UX of user interfaces of smart charging systems	WP2	19 - TUC	R — Document, report	PU - Public	24
D2.4	Recommendations for demonstration projects	WP2	19 - TUC	R — Document, report	PU - Public	30
D2.5	User satisfaction in demonstration projects	WP2	19 - TUC	R — Document, report	PU - Public	44
D3.1	Requirements and specifications for the development interoperable SW	WP3	14 - NUIM	R — Document, report	PU - Public	12
D3.2	Schemes and solutions to guarantee data Privacy and Cyber Security for EV charging	WP3	5 - RSE SPA	R — Document, report	PU - Public	12
D3.3	Technological components to enable data driven markets for electromobility	WP3	18 - ENG	R — Document, report	PU - Public	18
D3.4	Design of distributed data governance architectures and data adapters for mobility	WP3	14 - NUIM	R — Document, report	PU - Public	22
D4.1	V2X EVSE and the EVSE platform description	WP4	4 - HELIOX BV	R — Document, report	SEN - Sensitive	21
D4.2	Forecasting tool and algorithm advancement	WP4	1 - IREC-CERCA	R — Document, report	PU - Public	16
D4.3	Advanced flexibility management system description and functionalities	WP4	5 - RSE SPA	R — Document, report	PU - Public	18
D4.4	Assessment of the potential for edge computing to support e-mobility	WP4	1 - IREC-CERCA	R — Document, report	PU - Public	14
D4.5	Local aggregation and cluster coordination tool	WP4	10 - RWTH AACHEN	R — Document, report	PU - Public	20
D5.1	E-mobility scenarios: EV penetrations, charging infrastructure deployments and grid impacts	WP5	1 - IREC-CERCA	R — Document, report	PU - Public	30
D5.2	New business models and economic opportunities for e-mobility stakeholders	WP5	11 - NUID UCD	R — Document, report	PU - Public	28
D5.3	System-level strategies to leverage EV mass deployment connected to the grid	WP5	3 - TU Delft	R — Document, report	PU - Public	42
D5.4	Key recommendations on new policies and regulation to boost effective VGI of millions of EVs	WP5	5 - RSE SPA	R — Document, report	PU - Public	42
D5.5	Platforms integration to effectively implement VGI via harmonised data/signal exchange	WP5	18 - ENG	R — Document, report	PU - Public	24
D6.1	Component level characterisation results	WP6	1 - IREC-CERCA	R — Document, report	PU - Public	32
D6.2	System level definition and hardware in the loop simulation	WP6	6 - EGIN	R — Document, report	PU - Public	36
D6.3	Building as a grid with DC microgrid and BTM optimisation	WP6	13 - EATON	R — Document, report	PU - Public	42
D6.4	Efficient management of EVSE in shared parking premises	WP6	14 - NUIM	R — Document, report	PU - Public	42
D6.5	Techno-economic analysis of testbeds	WP6	10 - RWTH AACHEN	R — Document, report	PU - Public	45
D7.1	Validation plan and assessment methodology & KPIs	WP7	1 - IREC-CERCA	R — Document, report	PU - Public	18
D7.2	Configurations, design and use cases for demos	WP7	9 - ENEL X SRL	R — Document, report	PU - Public	31
D7.3	Comprehensive validation and assessment from demos & testbeds	WP7	9 - ENEL X SRL	R — Document, report	PU - Public	46





Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Туре	Dissemination Level	Due Date (month)
D7.4	Conclusions & lessons learnt for replication	WP7	1 - IREC-CERCA	R — Document, report	PU - Public	48
D8.1	FLOW project identity and communication material	WP8	12 - R2M	DEC —Websites, patent filings, videos, etc	PU - Public	4
D8.2	FLOW communication and dissemination plan	WP8	12 - R2M	R — Document, report	PU - Public	6
D8.3	Identification, assessment and management of exploitable results	WP8	12 - R2M	R — Document, report	SEN - Sensitive	10
D8.4	IPR protection plans, agreements and exploitation plans	WP8	12 - R2M	R — Document, report	SEN - Sensitive	32
D8.5	FLOW replicability and scalability roadmap	WP8	12 - R2M	R — Document, report	PU - Public	48
D9.1	FLOW project management handbook	WP9	1 - IREC-CERCA	R — Document, report	PU - Public	3
D9.2	Data and knowledge management plan	WP9	1 - IREC-CERCA	R — Document, report	PU - Public	6

1.3.4. Milestones

Lastly, the FLOW consortium committed to deliver 12 Milestones throughout the project. All the different milestones are defined with a Lead Beneficiary and a specific due date. The lead beneficiary will act as the responsible to report the achievement to the WP Leader and to the Project Technical Committee. All Milestones are listed in Table 5.

Table 5. Milestones.

Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Means of Verification	Due Date (month)
1	Project management Handbook and Data Management Plan	WP9	1-IREC-CERCA	D9.2 and 9.3 submitted	3
2	Harmonised definition on smart charging, services and requirements	WP1	2-DTU	D1.4 submitted	12
3	Data driven markets specification and use cases	WP3	14-NUIM	D3.3 - Available use cases & report	18
4	Tools enhancing charging system capability & performance developed	WP4	1-IREC-CERCA	D4.2, D4.3, D4.4 & D4.5 submitted	20
5	Platforms integration ready for deployment and validation at demos	WP5	5-RSE SPA	D5.5 sub. & platforms connected	24
6	Configurations finalised for all demos and testbed to start installation	WP7, WP6	13-EATON	Installation begins based on design	24
7	Business models and planning tools	WP5	5-RSE SPA	D5.2 submitted	28
8	Integration of solutions completed and ready for commissioning	WP7, WP6	13-EATON	Successful commissioning finalised	28
9	Recommendations for demos finalised	WP2	19-TUC	D2.4 submitted	30
10	Systems ready to work and validation begins in all demos	WP7, WP6	9-ENEL X SRL	D7.2 submitted	31
11	Exploitation plans for identified KERs	WP8	12-R2M	D8.4 submitted	32
12	FLOW Scalability and Replicability plan	WP8	12-R2M	D8.5 submitted	48

2. Governance

FLOW has a governance structure that is aimed at establishing an effective framework in the decision-making processes and the management of day-to-day activities, monitoring the development of the work plan in order to achieve the project objectives. FLOW is a collaborative project and its governance structure involves four different levels:





- Strategic level: The General Assembly (GA) as the ultimate decision-making body.
- 2. Operational level: The Project Coordinator will implement the decisions taken by the GA, and serves as 'bridge' between the consortium and the Funding Authority. The Executive Board (EB) on the other hand is responsible for the overall progress and deliverables of the Project. Lastly, the Exploitation and Innovation Board (EIB) will give guidance with a strong focus on the impact and exploitation of results.
- 3. Content level: each WP has a WP Leader that is responsible for monitoring the development and implementation of the technical activity in agreement with the quality requirements fixed by the General Assembly.
- 4. External advice will be provided by the Advisory Board (AB), the OEM Panel and the Users Panel.

The standard decision-making process within the Consortium is fixed in the CA. If necessary, additional mechanisms will be established by the General Assembly in agreement with the CA.

The subchapters below summarize the roles of all the different consortium bodies. In some cases, the representatives formally nominated and constituted during the Kick-off Meeting that took place in July 2022.

2.1. General Assembly

The General Assembly (GA) is the ultimate decision-making body and is responsible for the overall implementation of the project and shall consist of one representative of each Party, and it is chaired by the Project Coordinator.

Attributions of the GA are defined in section 6.3.7. of the Consortium Agreement. These include (but are not limited to):

- > Proposals for changes to Annexes 1 and 2 of the GA to be agreed by the Granting Authority;
- > Entry of a new Party to the Project and approval of the settlement on the conditions of the accession of such a new Party;
- > Withdrawal of a Party from the Project and the approval of the settlement on the conditions of the withdrawal;
- Identification of a breach by a Party of its obligations under the CA and GA;
- Declaration of a Party to be a Defaulting Party and remedies to be performed by a Defaulting Party;
- > Termination of a Defaulting Party's participation in the consortium and measures relating thereto;
- Proposal to the Granting Authority for a change of the Coordinator;
- Proposal to the Granting Authority for suspension of (part of) the Project.

The General Assembly consists of one representative per Partner that should meet at least once every 6 months. The representatives are identified in Table 6.





Table 6. General Assembly representatives.

Beneficiary nº	Beneficiary name	GA representative
1	IREC-CERCA	Cristina Corchero
2	DTU	P.B.A.
3	TU DELFT	G.R.C.M.
4	HELIOX	T.G.
5	RSE SPA	L.M.
6	ENEL GRIDS	C.M.
7	ARETI	E.D.L.
8	E-DISTRIBUCIÓN	M.P.
9	ENEL X WAY	M.C.C.
10	RWTH AACHEN	E.G.
11	UCD	т.о.
12	R2M	F.N.
13	EATON	H.R.
14	NUIM	F.P.
15	TERNA	M.D.S.
16	EDSO	S.L.
17	SPIRII	T.F.
18	ENG	F.B.
19	TUC	J.K.
20	AVERE	P.V.
21	BMW	Y.F.

2.2. Executive Board

The Executive Board (EB) is the main Consortium Body responsible for the overall progress and deliverables of the project. Table 7 identifies the members of the Executive Board of FLOW.

Attributions of the EB are defined in section 6.4.4. of the Consortium Agreement. These include (but are not limited to):

- > Execution and implementation of the GA decisions;
- > Seeking solutions to all matters of importance to the achievement of the Project;
- Monitoring and ascertain the implementations of the Project and monitoring its technical progress;
- > Ensure good communication and sufficient information flow within and between the WP;





- > Assuring the quality of the work and to streamline the interdependencies in the Project;
- Implementation of the exploitation activities.

Table 7. Executive Board Members.

Role	Beneficiary name	EB Member
Chair	IREC-CERCA	Cristina Corchero
WP1 Leader	DTU	P.B.A.
WP2 Leader	TUC	B.K.
WP3 Leader	NUIM	F.P.
WP4 Leader	IREC-CERCA	J.E.
WP5 Leader	RSE SPA	F.C.
WP6 Leader	EATON	H.R.
WP7 Leader	ENEL X WAY	M.C.C.
WP8 Leader	R2M	F.N.
WP9 Leader	IREC-CERCA	Cristina Corchero

2.3. Project Coordinator

The Project Coordinator acts as intermediary between the Parties and the Granting Authority and shall perform all tasks assigned to it as described in the GA and in the CA. These include (but are not limited to):

- > monitoring compliance by the Parties with their obligations under the CA and the GA;
- > collecting, reviewing to verify consistency and submitting reports, other deliverables (including financial statements and related certification) and specific requested documents to the Granting Authority;
- > preparing the meetings, proposing decisions and preparing the agenda of GA meetings, chairing the meetings, preparing the minutes of the meetings and monitoring the implementation of decisions taken at meetings;
- ➤ administering the financial contribution of the Granting Authority and fulfilling the financial tasks described in Section 7.2 of the CA.

The Project Coordinator of FLOW is Dr. Cristina Corchero. She will be supported by the Project Management Office of IREC. The Project Coordinator and the project management team is identified in Table 8:

Table 8. Project Coordinator and Project Management Team.

Role	Beneficiary name	Name
Project Coordinator	IREC-CERCA	Cristina Corchero





Project Manager (main contact for administration and finance)	IREC-CERCA	Sarah Cnockaert
Project Manager (support)	IREC-CERCA	Josep Maria Herrera
Project Manager (support)	IREC-CERCA	Carla Piñol Rivas

2.4. Exploitation and Innovation Board

The Exploitation and Innovation Board (EIB) will be responsible for the following tasks:

- Continuous monitoring and recording of results;
- Adequateness of dissemination and exploitation strategies;
- Provide non-binding recommendations for the project dissemination strategy;
- Align technical activity, dissemination and exploitation of the results with the goals of the FLOW Grant Agreement; ensuring the expected exploitation plan of this project;
- Assess new processes and products, detecting and adapting changes taking place in the technologies involved and evaluating changes in the market;
- ➤ Propose to the Members concerned adequate intellectual property rights protections, facilitating technology transfer of the results, including possible agreements among the Parties.

Table 9 identifies the member organisations of the EIB, which will be chaired by R2M, WP8 Leader.

Table 9. Exploitation and Innovation Board Members.

Beneficiary name
IREC-CERCA
R2M
HELIOX
ENEL GRIDS
ARETI
ENEL X WAY
EATON
TERNA
EDSO
SPIRII
ENG
AVERE
BMW





2.5. Advisory Board

The Advisory Board will be a consultative organism composed of selected stakeholders covering a plurality of perspectives and providing their knowledge to support the development of the Project.

The Advisory Board shall be formed by external stakeholders and experts in the field. The members of the Advisory Board are designated and revoked by the General Assembly.

The members of the Advisory Board decide to associate with the Project by signing a letter of commitment and accept the consortium agreement's rules. The members of the Advisory Board will also sign a confidentiality agreement according to the template included in the CA.

Table 10 identifies the member organisations of the AB, which will be chaired by RSE SPA.

Table 10. Advisory Board Members.

Organisation
RSE SPA
ENTSO-E
Eurelectric
ARERA
IEA HEV TCP
European Battery Alliance
GEODE
ElaadNL (SCALE)

2.6. OEM Panel

The members of the OEM Panel that are appointed and revoked by the general Assembly are key to

- provide inputs to requirement elucidation (WP1 and WP2)
- define user-centric design
- > support the replication and scalability of the solutions and approach (WP8). Panel members contribute to defying the drivers and have direct access to the innovations for early-adopter uptake.

The members of the OEM Panel will sign a confidentiality agreement according to the template included in the CA.

Table 11 identifies the member organisations of the OEM Panel, which will be chaired by AVERE.





Table 11. OEM Panel Member Organisations.

Organisation
AVERE
BMW
STELLANTIS
RENAULT
NISSAN
SEAT
MOTUS-E
EUCAR
ACEA

2.7. Users Panel

Table 12 identifies the member organisations of the Users Panel, which will be chaired by TUC.

Table 12. Users Panel Members

Organisation
TUC
AVERE
HOTELS AND TOURISTIC BUSINESS MENORCA
MUNICIPALITY OF ROME
CUSTOMERS ENEL X, ARETI, EDISTRIBUCION
UCD & NUIM STUDENTS
PARKLUNROAD USERS
SMART DUBLIN
BORHOLM RESIDENTS

3. Project Management

3.1. Meetings

In this section we describe different kind of meetings that will be organized throughout the project in order to ensure successful completion of the project.

3.1.1. General meetings

At least once every six months the Consortium will meet either physically, either remote online. At least one representative per partner should be present at these meetings. The objective of these





meetings is to share the progress (status of the tasks, deliverables and milestones) and results of the project with all beneficiaries. The agenda of these meetings includes (but is not limited to) the following slots:

- Introduction describing the general status of the project (by Project Coordinator);
- One slot per WP to follow up the progress of the work, explain deviations, identify potential risks and coordinate next actions (by WP Leaders);
- Optional slot to discuss specific issues affecting the project;
- Slot for wrap-up and next steps to sum up the main conclusions and recall the next actions (by Project Coordinator).

Note that extraordinary meetings of the General Assembly may be organized at any time upon written request of any beneficiary.

3.1.2. Executive Board meetings

The Coordinator and WP Leaders will meet (at least) every two months to discuss the overall progress and deliverables of the project. The EB meetings are chaired by the Project Coordinator and every six months these meetings should be organized face-to-face.

3.1.3. Technical review meetings

After every Reporting Period there is a technical review meeting to present the progress and the results of the project to the Project Officer. The date and place for the meeting is agreed with the Project Officer. Usually The Project Officer appoints a few external experts to act as reviewers during the meeting. The Project Coordinator and WP Leaders will be present at the meeting to present the progress of the project and to answer questions of the reviewers; however other beneficiaries may also get involved. After the review meeting, the European Commission sends a report with their conclusions on the progress of the project to the Project Coordinator.

The Project Coordinator and WP Leaders are responsible for the following tasks:

- Prepare the agenda for the review meeting (usually an introduction, one slot per WP including Q&A, and a slot for conclusions);
- Prepare high-quality presentations;
- > Answer questions from the reviewers:
- Draft minutes to share with partners;
- Send all partners the review report from the EU;
- Make sure to take into account all comments and recommendations from the Project Officer and other reviewers.





3.1.4. Rehearsal meetings

Rehearsal meetings are scheduled after every Reporting Period to prepare for a Technical Review Meeting. The main objective is to rehearse the presentations for the Project Officer and reviewers. Questions and requests that might be raised by the Project Officer and the reviewers will be anticipated during these meetings.

3.1.5. WP meetings

WP Leaders can organize teleconference calls with all implied beneficiaries in the respective WP to follow-up on progress and to guarantee proper implementation of the work plan. WP Leaders will keep the Project Coordinator informed.

3.1.6. General follow-up calls

The Project Coordinator and consortium bodies reserve the right to organize teleconference calls at any time for the overall follow-up of the project or if any significant deviation or risk is identified. Depending on the issue, attendance of WP Leaders and/or Deliverable leaders is mandatory.

3.2. Project Monitoring

Project monitoring refers to all the tasks defined to ensure that the project is within scope, time and budget. The Project Coordinator is in charge of the coordination of project monitoring. To that end, the following points need to be considered at any time during the project implementation, and beneficiaries must immediately inform the PC — who is in turn bound to inform the Funding Authority and the other beneficiaries — of any of the following situations:

- Events which are likely to affect significantly or delay the implementation of the action or the EU's financial interests, in particular:
 - Changes in its legal, financial, technical, organizational or ownership situation (or those of its linked third parties);
 - o Changes in the name, address, legal form, organization type of its linked third parties.
- ➤ Circumstances affecting the decision to award the grant or compliance with requirements under the Agreement.





3.3. Reporting

3.3.1. Official reporting

FLOW has three official Reporting Periods (RPs), as displayed in Table 13:

Table 13. Reporting Periods.

Table 201 Kepot and Ferroad					
Reporting Period 1:	M1-18	01/07/2022	31/12/2023	Interim payment	
Reporting Period 2:	M19-36	01/01/2024	30/06/2025	Interim payment	
Reporting Period 3:	M37-48	01/07/2025	30/06/2026	Final payment	

The Project Coordinator must submit a periodic report within 60 days following the end of each RP. These reports will be submitted through the EU Funding & Tenders Portal (Sygma). Each periodic report consists of a technical and a financial part:

- > The main content of the Technical Report will include (but is not limited to):
 - Explanation of the work carried out by the beneficiaries;
 - Overview of the progress towards the objectives, including Milestones and Deliverables identified in the Description of the Action (DoA);
 - Explanations justifying deviations between expected work to be carried out in accordance with Annex 1 and work actually completed, if any;
 - o Explanations on deviations in Effort and Use of Resources, if any;
 - Information on exploitation and dissemination of the results;
 - Summary for publication;

> The Financial Report:

- The Financial Report will include the individual financial statements of all beneficiaries, detailing effort per WP and Use of Resources for each budget category during the RP.
- Beneficiaries and their affiliated entities must declare all eligible costs, even if these exceed the EU Grant Amount. Costs that are not declared in the individual financial statement will not be taken into account by the European Commission.
- Moreover, each beneficiary must certify that:
 - > The information provided is complete, reliable and true;
 - The costs declared are eligible;
 - ➤ The costs can be supported by adequate records and supporting documentation.



Figure 3. Reporting Timeline.





The final report (M50) is similar to the interim reports (M20 and M38), but will include some additional contents such as the Certificate on the Financial Statements (CFS) for all Beneficiaries and Affiliated Entities that request a total contribution of EUR 430.000 or more. The CFS must cover all reporting periods and must be composed of two separate documents:

- The Terms of Reference to be signed by the Beneficiary and the Auditor;
- The Auditor's Independent Report of Factual Findings to be issued on the Auditor's letterhead, dated, stamped and signed by the Auditor (or the competent public officer) which includes the agreed-upon procedures to be performed by the Auditor, and the standard factual findings to be confirmed by the Auditor.

Reviews and audits by the European Commission can be initiated during the implementation of the action and up to five years after the payment of the balance.

3.3.2. Internal reporting

Every 6 months, the Project Coordinator will ask all beneficiaries to fill in a template in order to provide details on their Use of Resources over the past 6 months. The template will contain the following information:

- > Summary of the resources consumption for project monitoring purposes, consisting of an estimate of efforts spent per WP and major eligible cost items incurred in the past six months;
- Any foreseen deviation(s) of the effort or costs foreseen for the next six months period;

The Project Coordinator will define a template for collection of this six-monthly report to monitor potential effort deviations from internal resources planning. This template will be distributed to the partners and will be available in the project intranet. The Project Coordinator will compile all inputs and will generate reports that will be presented during the general meetings. This monitoring action will help understand the project status and anticipate corrective measures when necessary.

3.4. Payments

The Project Coordinator is responsible for payments to partners according to the agreed procedures in the CA. The Project Coordinator will receive the funding from the funding authority and will distribute the corresponding grant amounts to the parties in several payments.

- Pre-financing: two instalments:
 - o First instalment at the beginning of the project implementation;
 - Second instalment after M12;
- Interim payments:
 - 1st interim payment after RP1;
 - o 2nd interim payment after RP2;
- Payment of the balance: final payment after RP3.





The Project Coordinator will distribute the funding to the project beneficiaries. Beneficiaries with Affiliated Entity are responsible to distribute the corresponding payment to their AE(s).

3.5. Quality Assurance

A well-established quality assurance methodology is required to ensure a good attainment of the project. This methodology should however be based on a simplified procedure, to ensure good results while avoiding too much bureaucracy. The quality assurance procedures to validate the contents of the Deliverables and Reports of FLOW are described below:

- A. The quality review procedure for documents should start at least 4 weeks before the official submission of the deliverable. The draft should be uploaded in the FLOW document repository to allow any interested partner to review and provide constructive feedback. The main entities involved in this process are the WP Leaders and the Project Coordinator.
- B. The author(s) will request that Deliverables are reviewed by all participants of the WP and the WP Leader. These should provide a reviewed version of the document with 'track of changes'.
- C. Next, the Deliverable author(s) must consolidate a revised version of the deliverable for approval at least one week before the submission deadline.
- D. Finally, the Deliverable undergoes a subsequent release check by the Project Coordinator. If necessary, the Project Coordinator can request additional quality improvements by the author(s).

The workflow of the quality assessment for documents is summarized in Table 14.

Participants Document status Timing First draft Author(s) First internal review At least 4 weeks before submission deadline WP Leader, WP participants, Project Coordinator, any other interested partner may provide feedback Second draft At least one week before submission Author(s) deadline Final Quality check At least 1 week before submission deadline Project Coordinator + author(s) Approval By submission deadline **Project Coordinator**

Table 14 Quality Assessment Workflow.

The internal reviewers are expected to evaluate the Deliverables providing feedback according to the following criteria:

- Whether the Deliverable responds to the original research questions, objectives and expected outcome;
- > Technical decisions are appropriately elaborated and justified;
- > Innovative aspects are sufficiently drawn up and well explained;





- Described work represents technical innovation or advance ahead of the state-of-the-art;
- Described work is expected to represent a significant impact;
- Whether the Deliverable will lead to further outputs, such as papers, standards contributions, or exploitable outcomes;
- Executive summary allowing readers to understand document objectives and scope;
- Clear writing and logical order: easy to read and understandable by different types of public;
- Content is focused on key issues, with a suitable level of detail;
- Completeness: there are no significant omissions;
- Suitable conclusions;
- Appropriate references;
- Template compliance;
- Correct English spelling and grammar; etc.

During the document production and its review process several issues might arise, such as delays or lack of quality.

- A delay of n days must be notified by the document editor to the Project Coordinator and WP Leader at least 2*n days before the due date. Correction measures must be defined and agreed between the author(s) and the WP Leader in order to reduce the impact of the delay as much as possible. The WP Leader briefs the Project Coordinator about the decision.
- On the other hand, the Project Coordinator might reject the Deliverable due to lack of quality or other reasons. In this case:
 - o The Deliverable author(s), WP leader and Project Coordinator will agree on a solution;
 - These could reach out to the General Assembly to inform them and discuss corrective actions if the Project Coordinator deems this is necessary;
 - If necessary, the Project Coordinator will inform the Project Officer about the issue and the corrective measures.

4. Communication and Dissemination

4.1. Internal Communication

Efficient internal communication is key for a successful implementation of the project.

Any beneficiary must immediately inform the Project Coordinator — who is bound to inform the Agency and the other beneficiaries — in any of the following situations:





- > Events which are likely to affect significantly or delay the implementation of the action or the EU's financial interests, such as changes in its legal, financial, technical, organizational or ownership situation (or those of its Affiliated Entities);
- Changes in the name, address, legal form, organization type (or those of its Affiliated Entities);
- ➤ Circumstances that could have affected the decision to award the grant or that could affect compliance with the requirements under the Grant Agreement.

English should be the main language for all communication within FLOW.

Mailing will be the preferred medium for internal communication (e.g. to organize meetings and for other common activities that require a fast and effective coordination among the parties involved). The e-mail subject must contain all useful information to allow an easy and rapid classification of the message. The subject should always start with 'FLOW', and an 'URGENT' label in the e-mail subject should identify any deliverable and decision deadline as well as urgent information or requests coming from the Commission.

IREC, as coordinator, is responsible for maintaining the contact list up-to-date, covering technical staff and at least one person from each partner dealing with financial, contractual and legal issues. It is the responsibility of all partners to appoint the appropriate people to be part of the list. Also, each beneficiary is responsible for keeping information up-to-date in the Funding and Tenders Portal (e.g. name, address, legal representatives, legal form, organization type, etc.). All partners should avoid an improper usage of the list. Mail intended for specific purposes or communications to specific people should not be sent to the entire list but only to the parties involved.

Finally, in order to avoid sending plenty of attachments by e-mail and as a matter of transparency, all partners should use the FLOW document repository in Ms Teams/Sharepoint to upload and share documents with the rest of the consortium.

4.2. Documentation

Each partner is responsible for the quality of its contribution. The Deliverable author(s) must agree on the table of contents, the work that each contributor has to provide and a tentative schedule for closure. The Deliverable editor is responsible for the overall quality of the work, including the appropriate issue of the document and communication management procedures: coordinating, requesting and collecting contributions, as well as integrating these.

The WP Leader will support the Deliverable editor by checking the alignment of the Deliverable with the following features:

- Consistency of the roles of the partners that are involved in the WP;
- Proposed timetable is realistic and meets the expected deadline;
- Proposed contents are compliant with objectives stated in the Work Plan.





FLOW outputs (deliverables, reports, presentations) will be produced using the templates that will be distributed to the partners and that will be available in the FLOW document repository in Ms Teams/Sharepoint. These templates will be improved and/or updated when necessary.

All relevant documents in the framework of FLOW will be done in English. Nevertheless, dissemination materials (such as press releases or technical publications) can be translated to other languages (mainly the Consortium languages) when desirable. In this scenario, each partner is responsible for translation of official FLOW documents to its language of interest.

All project-related documentation will be stored in the FLOW document repository in Ms Teams/Sharepoint, which has been created as an internal management tool for communication and sharing documentation between partners. All documentation of the project must be uploaded and updated in the respective WP folder.

Documents should be identified with a unique coded name, which should be structured into the following fields:

[Project Acronym - 'DX.Y Title of the Deliverable_(Status)]

Example: FLOW – D9.1 Project Management Handbook_(Draft)

Where:

- > DX.Y stands for the Deliverable ID, as identified in the Grant Agreement;
- > Status:
 - o (Draft) refers to intermediate versions of the document.
 - o (Review) refers to the version for internal review.
 - o (Final) refers to the version for official submission to the funding authority.

The file name can be completed with any additional information which may be useful for external readers (e.g. v2, vf, date, etc.).

4.3. Dissemination of Results

The protection of IPR and the associated procedures for dissemination have been agreed by the Parties in the CA. Likewise, ownership of results is also defined in the CA.

During the Project and for a period until 3 years after the end of the Project, the dissemination of own Results by one or several Beneficiaries including but not restricted to publications and presentations, shall be governed by the procedure of Article 17.4 of the Grant Agreement and its Annex 5, Section Dissemination, subject to the following provisions.

Prior notice of any planned publication shall be given to the other Parties at least 30 calendar days before the publication. Any objection to the planned publication shall be made in accordance with the Grant Agreement in writing to the Project Coordinator and to the Beneficiary/Beneficiaries proposing





the dissemination within 15 calendar days after receipt of the notice. If no objection is made within the time limit stated above, the publication is permitted.

A Party shall not include in any dissemination activity another Beneficiary's Results or Background without obtaining the owning Beneficiary's prior written approval, unless they are already published. The mere absence of an objection to such dissemination by the owning Beneficiary shall not be considered as an approval.

Any form of dissemination must:

Display the EU emblem:



Figure 4. EU emblem.

Include the following disclaimer:

'Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.'

5. Risk Assessment

Risk assessment is a continuous process oriented to early identification of any deviation in the achievement of objectives and/or scope of the project work plan, in the foreseen timing and with the allocated resources, and with the expected quality. Risk assessment intends to apply the right countermeasures and considers the steps shown below to minimize the undesirable effects.

In order to accomplish this risk assessment process, the cooperation of project partners is key. Project partners must participate by providing risk input (any issue that might have negative impact on successful implementation of the project), and by supporting risk mitigation planning and execution activities. In this sense, risk assessment is a shared responsibility among all partners.

Each Deliverable editor is responsible for the risk management of the Deliverable. Identified risks should be reported to the WP Leader. At WP level, each WP Leader is responsible for the compliance of the WP and risks regarding quality, scope, time, and cost should be reported to the Project





Coordinator. If a WP Leader is not able to manage a certain risk, the Executive Board will step in. Risks involving any interdependency between WPs will be directly managed by the EB. The EB can escalate to the General Assembly, depending on the nature and severity of the risk.

Some risks (e.g., administrative, financial, legal) may affect multiple WPs and or may affect the partners of the project (such as a partner withdrawing from the project, overspending, IPR conflicts, etc.). These risks will be directly managed by the EB in close collaboration with the General Assembly.

A preliminary list of critical risks was included in the Grant Agreement. If any new risk is identified, it will be monitored accordingly and the table of risks will be adequately updated when necessary.

Table 15. List of critical risks.

Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
1	Loss of key staff & rehiring delays.	WP9	Available staff start working on tasks and if required, new personnel will be swiftly integrated through interconnected communication with the partners.
2	One partner leaves FLOW.	WP9	Urgent GA called and partners decide if to redistribute responsibilities across existing partners or looking for a new partner. Current team is multidisciplinary
3	Lack of coordination between FLOW partners.	WP9	The management structure and WP9 practises are defined to cover potential miscommunication and lack of commitment through WP & task leaderships.
4	Delay of one of WPs can affect the others	WP9	Monthly WP leaders meetings are used for everyone to know the status of all WPs. Preliminary results are used in subsequent WPs if delays occur.
5	Low visibility of the project	WP8	Team is integrated in extensive networks at local, national and international level. ARE and EDSO are well-known across mobility and energy networks.
6	Subpar or limited smart charging harmonisation	WP1	The harmonisation in definition and services is complex. Deep knowledge of standards, best industry practises, involvement of actors in chain mitigate risk
7	Lack of end-user's support and engagement.	WP2	Partners experienced in recruitment of participants and sampling. A pool of potential participants is available from previous projects. Local infrastructure (e.g. car rentals and hotels) is used to acquire participants for the demos.
8	Data requirements across platforms heterogeneous	WP5, WP3	Partners experienced in data integration. In case of increased difficulty a GA decides on priorities and design minimum viable interoperable specifications.
9	Data availability for model development and training	WP4	Ultimately data will be gathered from the demonstrations but to accelerate the timeline for work in WP4, existing data will be gathered from project partners and existing installations.
10	Lack of reliable data for scenarios and multi-criteria assessment	WP5	High number of partners able to provide direct data and directly involved in international associations working on scenarios and studies on e-mobility.
11	Unexpected changes in EV market trends, technology, regulation.	WP5	Consortium able to be constantly updated both on EV side and on regulatory side by partners and by AB members.
12	System integration (e.g, HW, backend, protocols) is nontrivial	WP7, WP6	Experienced team and dedicated WP (1 and 3) on harmonisation and interoperability will facilitate integration
13	EVs & components for T6.1 not available/provided by demos/OEM	WP7, WP6	Partners have available portfolio of EVSE and EV that can be used; additionally, EV can be rented for the testing and validation
14	Contracting and financial aspects are not properly addressed	WP5, WP8	Economic trade-offs for all the actors involved are analysed in WP5 and related exploitation plans are envisioned in WP8.

Conclusions

This Deliverable is a manual and reference document for the partners to reach a common understanding of project procedures for an efficient implementation of the project with the aim of achieving the objectives fixed in the Grant Agreement. The project responsibilities and project timeline are presented and well-defined in the document. Finally, it is worth noting that this document makes reference to the Grant Agreement, and will need to be updated in the event of an amendment or other project modifications.



