Deliverable 1.1

Project management handbook with templates & guide

Funded by the European Union

Document Classification

Document Title	D1.1 Project management handbook with templates & guide
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Work Package	WP1 – Project and Innovation Management
Dissemination Level	PU = Public
Nature	R = Report
Doc ID Code	20240229_STEP_D1.1
Keywords	Project Management Plan; Gantt Chart; Task dependencies; Work Plan; Resources

Document History

2018-11-19	Table of content defined	SUB- ABGI – Clara PAWLAK
2018-11-19	V1 sent to PCO - AIRBUS	SUB- ABGI – Clara PAWLAK
2018-11-29	V2 with correction and addition	P01 AIRBUS – Serena RIZZOLO

Document Validation

Project Coordinator	P1 AIRBUS – Serena RIZZOLO serena.rizzolo@airbus.com
Date	2023-02-29

Document Abstract

This report presents the project management handbook of the STEP Horizon Europe project (Grant Agreement n° 101134959), detailing methodologies and guidelines for efficient project execution. It presents roles, responsibilities, and processes for managing work packages, document sharing,

consortium communication, and quality control. Additionally, it highlights strategies for risk identification and mitigation, budget management, and project milestones and deliverables tracking. Aimed at ensuring the project meets its objectives within budget and on time, the handbook serves as a fundamental resource for all project participants, providing tools and templates for standardised management practices across the consortium.

Table of contents

1. INTRODUCTION

The STEP Handbook is the main planning document; it describes how major aspects of the project are managed, monitored and controlled. It is intended to provide guidance and direction for specific management, planning, and control activities such as schedule, cost, risk, communication and quality.

The focus of this document is to describe the approaches being taken in the project to manage the various work packages, share and store documents, communicate among consortium members, control the quality of project deliverables, identify and mitigate risks associated with the project.

More precisely, the handbook clearly defines roles, responsibilities, processes and activities; increases probability that projects will complete on-time, within budget, and with high degree of quality; ensures understanding of what was agreed upon; helps project teams identify and plan for how project activities will be managed (budget, quality, schedule, etc.).

1.1 What is this project handbook meant for?

- Support all participants in the STEP project in achieving an efficient scientific and technical contribution to the project while complying with the administrative, legal and financial framework of EU funding and good management practice.
- Collect and make available a management tool Project Netboard (PNB), project documentation templates, and guidelines.

1.2 What is this project handbook not meant for?

This Project Handbook does not provide any supplementary legal constraints to the Grant Agreement (GA), the Consortium Agreement (CA) and their annexes.

1.3 Who is concerned by this project handbook?

All actors in the STEP project shall read and understand the contents of this Project Handbook and namely:

- The productive staff members (scientists and technicians) of each participating institution involved in the STEP project;
- The administrative and financial staff members of each participating institution.

1.4 How is this project handbook updated?

This Project Handbook shall be updated whenever:

- The CA is modified;
- The Description of Action (DoA) is modified;
- The minimal set of tools, models, protocols and guidelines prove to be inadequate.

Changes to the Project Handbook shall be notified to all participants in the minutes of the meeting of the General Assembly having made the relevant decision and the new version of the Project Handbook shall be amended within 2 months following the decision.

2. PROJECT OVERVIEW

2.1 Synopsis of the project

Project full title:	Silicon and T2SL EuroPean collaboration for a non-dependent supply chain for large eSWIR FPAs
Grant Agreement Reference Number:	101134959
Starting Date:	01.12.2024
Ending Date:	31.05.2027
Maximum Grant Amount:	3 058 895.74€
Abstract of the STEP project	
The STEP project aims to improve European space missions by creating advanced infrared (IR) camera sensors, focusing on the eSWIR (extended short wavelength infrared) range. This project is a response to Europe's need for better space observation technology, which is currently outpaced by US advancements. Europe wants to make its own large, high-quality IR sensors for space because these are crucial for studying the Earth, weather, climate change, and space. The US leads in this technology, partly because their defenc e market drives a lot of development and investment in these sensors. STEP plans to use a special technology called Type II superlattice (T2SL) to make these sensors. T2SL can cover the entire infrared range and is seen as the best alternative to the current leading technology. It's cheaper, quicker to make, and performs well, which is exactly what Europe needs for its space missions. The project brings together top European companies and research institutes, including Airbus, IRnova, Fraunhofer IAF, and ISAE-SUPAERO. Together, they're working on making these advanced sensors a reality. This collaboration aims to make Europe self-sufficient in this critical technology, reducing its reliance on non-European parts and expertise. By developing these sensors, STEP will support a wide range of space missions, including Earth observation and defense, making sure Europe stays competitive in space technology.	
Objectives of STEP	
The overall goal of the project is to establish a fully European supply chain for high performance, large area T2SL-based eSWIR FPAs that can satisfy all the requirements of future space missions, while being adequate to space volume and lead time and being open to any European space actors. The project will demonstrate the European non-dependence for eSWIR T2SL PDA production, by providing eSWIR FPAs with European design, epitaxial growth, wafer fabrication and hybridization. STEP will also contribute in establishing an European scalable large format digital space ROIC line, aligned with already initiated actions to validate an STM European CMOS process as ISAE-SUPAERO baseline technology from 2025	
Impacts of STEP	

The STEP project answers directly to the expected impact of the destination 5 "Open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data" in two main ways:

- Securing the autonomy of supply for critical technologies: as mentioned previously, STEP will allow the creation of a robust and sustainable European supply chain for space technologies and components which will directly contribute to securing the supply for critical technologies and equipments .
- Fostering the EU's space sector competitiveness: Thanks to the development of very high-resolution sensors with better performance as a new competitive technology for space, STEP aims at improving space-based capabilities and capturing new markets notably in the field of Earth observation sector (e.g. hyperspectral imaging and greenhouse gases concentration monitoring commercial services).

2.2 Participating institutions

The organis ation of the STEP project will be structured, according to the expertise in collaborative projects, number of participants and the complexity of the work plan.

Aims of this structure are:

- To ensure the achievement of the project objectives and milestones,
- And the deliverables to be provided on time,
- The decision-making process and communication to be taken in place.

Beneficiary	PIC	Full Name	Country
AIRBUS DS-F	999809265	AIRBUS DEFENCE AND SPACE SAS	FR
IRNOVA	996317168	IRNOVA AB	SE
Fraunhofer	999984059	FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV	DE
ISAE-Supaero	999892491	INSTITUT SUPERIEUR DE L'AERONAUTIQUE ET DE L'ESPACE	FR

The management structure will be executed according to the CA, signed and approved after the GA and the kick off meeting, establishing the responsibilities and rights of the partners.

2.3 Work Plan

The STEP workplan (Generalized Activity Normalization Time Table - GANTT) is reported here below.

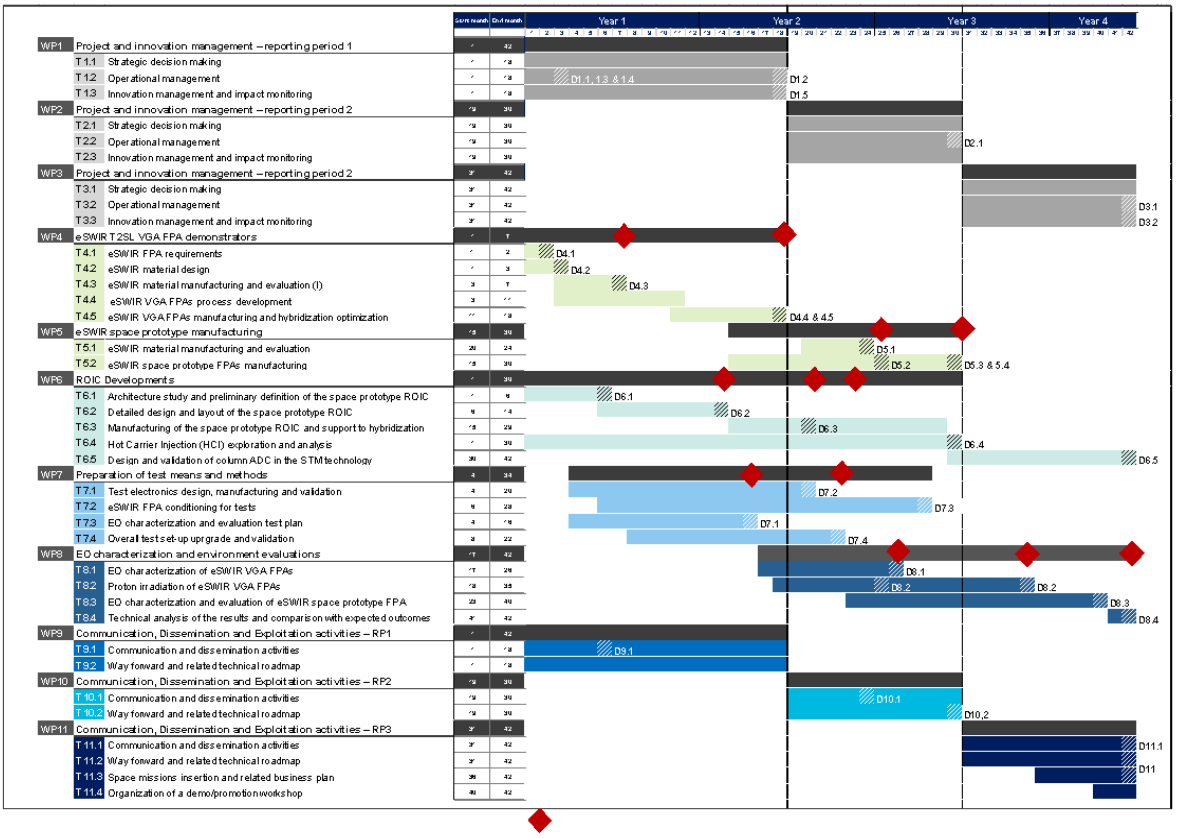

Figure 1: GANTT of the STEP project (initial version).

2.4 Program Evaluation and Review Technique (PERT)

To meet the goals and the requested impacts, the STEP project consists of 11 work packages: 5 concern technical developments, 6 are dedicated to the management and dissemination activities. These work packages cover a project time of 3,5 years.

A schematic representation of the interactions among the work packages and their main tasks is given here, by the PERT (Project Evaluation and Review Technique) diagram. This diagram of the work plan of the project will be used as a reference for the consortium for the internal review of the strategy at milestones, but also for the assessment of the impacts.

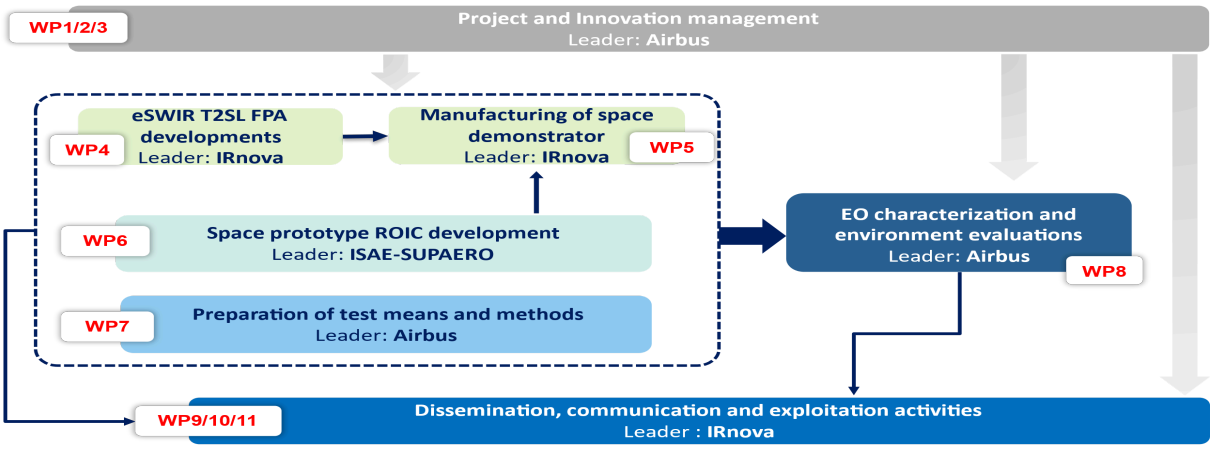

Figure 2: PERT of the STEP project.

2.5 Project deliverables

40 deliverables are foreseen in the work plan, as summaris ed in the table below.

Table 1 : list of expected deliverables.

D No	Deliverable Name	Lead Beneficiary	Type	Diss Level	Due Date
D4.1	eSWIR FPA requirements	AIRBUS DS-F	R	SEN	31/01/2024
D1.1	Project management handbook with templates & guide	AIRBUS DS-F	R	PU	29/02/2024
D1.3	Data Management Plan	AIRBUS DS-F	DMP	PU	29/02/2024
D1.4	GDPR compliance report	AIRBUS DS-F	R	PU	29/02/2024
D4.2	Delivery of 8 reference eSWIR T2SL wafers from US foundry	IRNOVA	DEM	SEN	31/03/2024
D6.1	Space ROIC architecture definition report	ISAE-Supaero	R	SEN	31/05/2024
D9.1	Initial Dissemination, Communication	IRNOVA	R	PU	31/05/2024
D9.2	Initial exploitation plan	IRNOVA	R	SEN	31/05/2024
D4.3	eSWIR epiwafer delivery	Fraunhofer	DEM	SEN	30/06/2024
D6.2	Space prototype ROIC detailed design report	ISAE-Supaero	R	SEN	31/01/2025
D7.1	Electro-optical characterization and evaluation test plan for VGA FPAs	IRNOVA	R	SEN	31/03/2025
D1.2	Report reporting period 1	AIRBUS DS-F	R	SEN	31/05/2025
D1.5	Initial impact assessment	AIRBUS DS-F	R	PU	31/05/2025
D4.4	VGA format eSWIR FPAs	IRNOVA	DEM	PU	31/05/2025
D4.5	eSWIR T2SL growth and VGA FPA development report	IRNOVA	R	SEN	31/05/2025
D6.3	Wafer delivery of the space prototype ROIC (6)	ISAE-Supaero	DEM	SEN	31/07/2025

D7.2	Test setup validation report	IRNOVA	R	SEN	31/07/ 2025
D7.3	Electro-optical characterization and evaluation test plan for Space prototype FPAs	AIRBUS DS-F	R	SEN	30/09/ 2025
D5.1	eSWIR epiwafer delivery with optimized growth	Fraunhofer	DEM	SEN	30/11/ 2025
D10.1	Intermediate Dissemination, Communication	IRNOVA	R	PU	30/11/ 2025
D5.2	First POC eSWIR space prototype	IRNOVA	DEM	PU	31/12/ 2025
D8.2	Protons irradiation test report (first campaign) and update (second campaign)	AIRBUS DS-F	R	SEN	31/12/ 2025
D8.1	VGA FPAs characterisation and evaluation test report	IRNOVA	R	SEN	31/01/ 2026
D7.4	Two VGA FPAs (optimized European eSWIR material) delivered in IDDCA for protons radiations tests	AIRBUS DS-F	DEM	SEN	31/03/ 2026
D6.4	Hot Carrier Injection test and analysis report	ISAE-Supaero	R	SEN	30/05/ 2026
D2.1	Report reporting period 2	AIRBUS DS-F	R	SEN	31/05/ 2026
D5.3	European eSWIR space prototypes	IRNOVA	DEM	PU	31/05/ 2026
D5.4	eSWIR space prototype manufacturing report	IRNOVA	R	SEN	31/05/ 2026
D10.2	Exploitation plan and IPR management updates for the EC	IRNOVA	R	SEN	31/05/ 2026
D6.6	Assessment of the STM H9A process	ISAE-Supaero	R	SEN	30/11/ 2026
D8.3	Space prototype FPAs characterisation and evaluation test report	AIRBUS DS-F	R	SEN	31/03/ 2027
D3.1	Report reporting period 3	AIRBUS DS-F	R	SEN	31/05/ 2027
D3.2	Final impact assessment	AIRBUS DS-F	R	PU	31/05/ 2027
D6.5	ADC test vehicle design and test report	ISAE-Supaero	R	SEN	31/05/ 2027
D8.4	Technical analysis report	AIRBUS DS-F	R	SEN	31/05/ 2027
D11.1	Final Dissemination, Communication	IRNOVA	R	PU	31/05/ 2027

D11.2	Workshop report	IRNOVA	R	PU	31/05/ 2027
D11.3	Supply chain analysis	IRNOVA	R	SEN	31/05/ 2027
D11.4	The technical roadmap and business plan for commercialization	AIRBUS DS-F	R	SEN	31/05/ 2027
D11.5	Final exploitation plan	IRNOVA	R	SEN	31/05/ 2027

2.6 Project milestones

For a correct tracking of progress, the STEP project adopts a work plan with 12 Milestones (MS). Table here below resumes the list of MS.

N°	Name	WP	Date
1	T2SL eSWIR epiwafers delivered and evaluated	4	7
2	Space prototype ROIC design review	6	14
3	IRnova upgraded test set-up TRR	7	16
4	First eSWIR T2SL high performance VGA FPA demonstrated	4	18
5	Space prototype ROIC wafer delivery to ISAE SUPAERO	6	20
6	Airbus upgraded test set-up TRR	7	22
7	Delivery of one validated space prototype ROIC wafer to IRnova	6	23
8	Delivery of first two space prototype FPAs with US T2SL material to Airbus	5	25
9	VGA FPAs Test Review Board	8	26
10	Delivery of first two space prototype FPAs with Fraunhofer IAF T2SL material to Airbus	5	30
11	Protons second campaign Test Review Board	8	35
12	Space prototypes FPAs Test Review Board	8	42

Table 2: list of MS for the STEP project.

3. CONSORTIUM PROCEDURES

3.1 Management

Day-to-day scientific and management decisions are taken by the Project Coordinator (PC). Strategic decisions and major technical and operational decisions (any reschedule of deliverables, milestones, tasks, effort…) are taken by the General Assembly, which has the highest decision-making responsibility and policy setting power.

The General Assembly shall not deliberate and decide validly if no more than 1/3 of partners are present or represented by proxy (quorum). Each member shall have one vote. Defaulting parties may not vote. In case of conflict resolution voting, the absolute majority is required. The PC mediates and participates in all important decisions .

Any decision may also be taken without a meeting if the PC circulates to all members a written document which is then signed by the defined majority of members. Such a document shall include the deadline for responses. Decisions will only be binding once the relevant part of the minutes has been accepted.

A member who can show that its own work, time for performance, costs, liabilities, intellectual property rights or other legitimate interests would be severely affected by a decision of the General Assembly may exercise a veto with respect to the corresponding decision or relevant part of the decision. When the decision is foreseen on the original agenda, a member may veto such a decision during the meeting only. When a decision has been taken on a new item added to the agenda before or during the meeting, a member may veto such a decision during the meeting and within 15 days after the draft minutes of the meeting are sent. In case of exercise of veto, the members shall make every effort to resolve the matter which occasioned the veto to the general satisfaction of all members. A party may not veto decisions relating to its identification as a defaulting party. The defaulting party may not veto decisions relating to its participation and termination in the consortium or the consequences of them. A party requesting to leave the consortium may not veto decisions relating thereto.

The PC shall produce written minutes of each meeting which shall be the formal record of all decisions taken. He shall send draft minutes to all members within 10 calendar days of the meeting. The minutes shall be considered as accepted if, within 15 calendar days from sending, no member has sent an objection in writing to the PC with respect to the accuracy of the draft of the minutes. The PC shall send the accepted minutes to all the members of the General Assembly.

The General Assembly shall be free to act on its own initiative to formulate proposals and take decisions in accordance with the procedures set out.

3.2 Schedule management

Schedule management is the process of ensuring that the project schedule is base lined, maintained, and managed. It is a dynamic process that occurs throughout the project lifecycle: under the rolling wave approach, as more information becomes available, the schedule can be refined to reflect the updated information. Schedule management is accomplished through a stringent change control process, and a comprehensive monitoring and reporting system. Project status is monitored against the baseline on a monthly basis and the Work Plan will be updated as needed. The PC has primary responsibility for controlling the effective use of schedule status information from all partners.

The project overall schedule management is the responsibility of the PC with the help of the PM (Project Manager); the schedule management within each WP is managed by the leader of that WP; the detailed action plan for each task will be managed by the leader of that task; thus, the different schedule management processes is therefore managed by different people depending on the level.

As the monthly monitoring is performed, the PC may identify schedule slippage on critical paths tasks and shall identify ways to get the project back on schedule.

For variances greater than 1 month, the PC may choose to accept identified delays. Variances greater than 3 months are considered unacceptable. The PC will immediately inform the General Assembly if they determine that any MS are at risk of being missed.

If a change occurs, the PC shall incorporate proposed change(s) into an updated work plan. This document contains a revision history log explaining the description of the change(s) and the effects of this(these) change(s) on the progress of the work.

3.3 Decision and management structure

The Project Management Structure for the STEP project will be integrated by the governing bodies presented in the following figure:

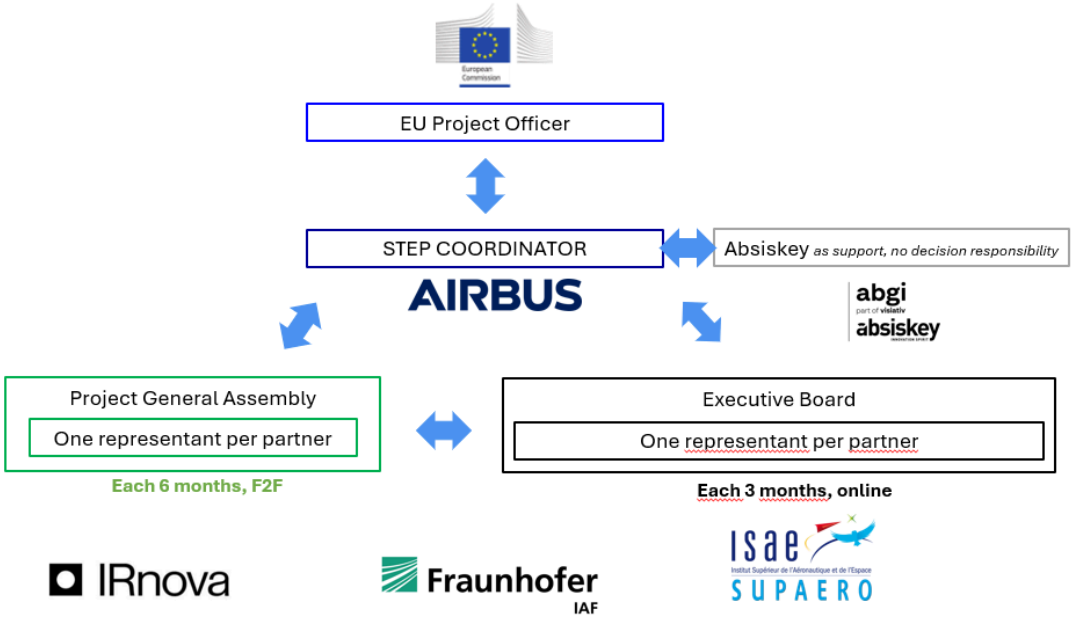

Figure 3: schematic of the management structure for the STEP project.

a) The Project Officer (PO):

The PO is Simon Silvio CONTICELLO.

b) The Project Coordinator (PC):

Serena RIZZOLO, on behalf of AIRBUS DEFENCE AND SPACE will act as STEP Project Coordinator, being the responsible person for the overall coordination activities.

The responsibilities of the PC are:

- To follow-up the project activities, collecting, reviewing to verify consistency and submitting reports, verifying timing of milestones and other deliverables, assuring their compliance with the project objectives and work plan, as well as specific requested documents to the EC;
- To manage the administrative and financial tasks required by the EC;
- To compile the cost monitoring requested to the partners 1 month before each Project General Assembly (expected every 6 months), according to the provision of deliverables by the partners, which will help the coordinator to have control about the cost expended in periods no longer than 6 months. Occasionally, the PC could freeze the release of the EC annual funding corresponding to a particular Partner if it is detected a lack of commitment to accomplish the tasks and it is considered a risk to the continuation of the Project. In those cases, once the due deliverables have been submitted the deposit will be released;
- To manage the risks and contingency plan of the project eventually proposing corrective and mitigating measures and strategies to the GA;
- To prepare, convene and chair the General Assemblies, produce the meeting agenda and minutes as the formal record of all decisions taken. Then, to assure its implementation;
- To be the interlocutor between the members of the Advisory Board (AB), the stakeholders and the General Assembly;
- To be the official representative of the project to EC, maintaining a permanent contact to the EC and the PO to provide the necessary information that may be requested and deal with any matter, including management of conflicts;
- To follow-up the communication/dissemination/exploitation activities, according to the linked plans;
- To control the results generated in the Project and analyse the Intellectual Property Rights (IPR) measures.

The PC is supported on above mentioned actions by Clara Pawlak (ABGI, subcontractor), Project Manager.

c) The General Assembly:

The General Assembly is composed of:

- The PC;
- The Work Package's Leaders (WPL);
- All involved partners.

The General Assembly has an advisory capacity and is in charge of making strategic recommendations towards the GA about the main objectives of the project.

It coordinates the technical advancement of the project, identifying the internal risk and monitoring milestones. In addition, it arbitrates the IPR (intellectual property rights) and resolves internal conflicts.

d) The Advisory Board (AB):

An AB is created comprising world-leaders' experts in the project domains. The AB is in charge to evaluate the project result assessment and to contribute in terms of scientific, regulatory, and market strategy.

The AB is composed of:

- Rémi Barbier, Lead of the Instrumentation department at IP2I.
- Jean-Luc Gash, CSO of the company First Light Imaging S.A.S.
- Sten Edsröm, Program manager for Technology development of Sensors and Camouflages at FMW.

The AB will be regularly consulted. A Non-Disclosure Agreement (NDA) will be signed by each AB member before the first meeting for confidentiality reasons. Project details provided to the AB will be diligently reviewed by the PC and the PM to avoid any sensitive data distribution.

e) The Project Manager (PM):

The Project Manager is represented by ABGI, subcontractor, and is responsible for the following activities:

- To support the PC in the correct implementation of all the required actions to fulfil with the EC rules and expectations;
- Assisting and facilitating the work of the PCs for executing the decisions of the General Assembly and the actions demanded by the PO if required;
- Providing the support for the use of the management tool (PNB);
- Archiving all project documents.

f) The Work Package Leader (WPL):

The WPLs shall work in close collaboration with the PCs and the PM for the general project management and are responsible for:

To support the PC through day-to-day management of the Project, ensuring that correct procedures are adopted and followed, that all deadlines, milestones, WP deliverables and reports are met and to coordinate partner interaction within the WP and tasks;

To provide the deliverables of its corresponding WP (in their specific format) to the PC;

Assessing the quality of the outputs from their WP including the level of quality of their own deliverables;

To give support to the PC also in preparing meetings with the EU PO and related data/deliverables;

To monitor the effective and efficient implementation of the Work Plan, by collecting through the Task Leaders information every 6 months;

To assure the good communication with and among the partners participating in the Work Package through the Task Leaders, supervising the accomplishment of the project work plan in their respective WPs and promoting contacts and as many meetings as necessary between the partners involved.

To interact with the AB and stakeholders, their suggestions and feedback will be translated to the General Assembly and will explain the issues that should be discussed in the meetings that will hold during the project execution;

To inform the PC and the PM about the detection of non-compliances with the Work Plan, identifying technical problems and conflicts that may arise among partners in their respective WPs, supporting him in the solutions to be taken;

To execute the decisions of the General Assembly in the corresponding WP.

Decisions of the General Assembly are taken by absolute majority voting.

PC is the only people who can contact the PO and the EC.

The GA sets the rules and engagements vs the EC.

The CA sets the rules and engagements between beneficiaries.

Each beneficiary is in charge to provide its own contribution to the project where requested.

AB does not have voting and decision-making rights.

The Work Package Leaders are listed in the table below:

WP	WP Title	Company	WP Leader
1,2,3	Project and innovation management	Airbus	Serena RIZZOLO
4	eSWIR T2SL VGA FPA demonstrators	IRnova Fraunhofer IAF	Linda HÖGLUND
5	eSWIR space prototype manufacturing	IRnova Fraunhofer IAF	Linda HÖGLUND
6	ROIC Developments	ISAE-SUPAERO	Philippe MARTIN-GONTHIER
7	Preparation of test means and methods	Airbus	Serena RIZZOLO
8	EO characterizations and environment evaluations	Airbus	Serena RIZZOLO
9,10,11	Communication, dissemination and exploitation activities	IRnova	Linda HÖGLUND

3.4 Project Management Tool (Project Netboard – PNB)

ABGI is subcontracted by AIRBUS DEFENCE AND SPACE for project management support tasks. With the aim to monitor project progresses and its correct implementation according to the scheduled DoA and the GA, ABGI provides to the consortium a free-of-use management tool: Project Netboard (PNB).

PNB allows to:

- Ensure the follow-up of activities and the simultaneous management of the relevant costs;
- Compare data from the GA with partners achievements and their spending;
- Allow the completion of monthly time sheets;
- Provide periodical reports and balance sheets;
- Store and share project documentation.

PNB is accessible at the following URL: http://projectnetboard.absiskey.com

Username and password will be sent individually to each declared user in March 2024.

For any question or inquiries please get in touch with ABGI relevant contact, Jerome Mermoz jerome.mermoz@abgi-france.com

3.5 Issue management

Conflict is not expected to be a significant factor since the roles of each partner have been well defined, so as to avoid any misunderstandings that might occur later in the project.

The resolution of problems and conflicts are handled systematically. Establishing a good working relationship among the project team members is a prerequisite for the quick resolution of problems and issues.

Conflict's resolutions are based on the principle that any dispute should be resolved by consent and as near the source as possible, thus, conflicts on a local sphere are managed by the people involved (e.g. a dispute between the partners engaged in a WP should be addressed by that WP team).

Conflicts which cannot be solved internally are taken through a "principled negotiation" process that is focused on optimis ing outcomes and maximis ing the benefits of all parties involved.

In case of conflicts arising within the consortium regarding the carrying out of the project or other matters related to the project itself, the following steps are taken:

- The parties will try to resolve the conflict issue amicably between them;
- If a conflict cannot be resolved within the local sphere, it is raised to the PC; for conflict resolution in a technical aspect, the PC is in charge of proposing an alternative. If this is agreed, the issue is solved;
- If this attempt fails the question will be brought to the first scheduled meeting of the General Assembly, or in case of urgency, an ad hoc meeting of the General Assembly will be called for by the PC, upon request of a General Assembly member;
- The question will be discussed within the General Assembly, and the PC will try to solve it by consensus; the General Assembly will decide which procedure will be followed, and the corresponding correction measures that should be taken. The participant that provokes the conflict will declare acceptance of the procedure and the corrective measures;
- If the conflict cannot be resolved, the PC declares the participant "not in line" with the project execution and the consortium will ask for a contract termination for the participant concerned, with the contractually stated consequences. The PO will be immediately notified of the situation and of the measures to be taken in order to solve it. An appropriate review of the work plan will be suggested by the PC, approved by the General Assembly and sent to the commission for acceptance;
- In case it is decided (by the PC or General Assembly) that a conflict resolution will involve a voting procedure among partners, the absolute majority (> 50%) will be required for the decision to go ahead.

4. BUDGET

4.1 Project Budget

The financial contribution of the Funding Authority to the STEP project is distributed by the PC according to:

- The Consortium plan;
- The approval of reports by the Funding Authority.

The coordinator must distribute the payments between the beneficiaries without unjustified delay. The following payments will be made to the coordinator:

- One pre-financing payment;
- Interim payments, on the basis of the request for interim payment;
- One payment of the balance, on the basis of the request for payment of the balance.

The aim of the pre-financing is to provide the beneficiaries with a float. It remains the property of the EU until the payment of the balance. The EC will make the pre-financing payment to the coordinator within 30 days either from the entry into force of the GA. An amount corresponding to 5% of the maximum grant amount is retained by the EC from the pre-financing payment and transferred into the 'Guarantee Fund'.

Interim payment is paid based on the completion of the Work Packages. The EC will pay to the coordinator the amount due as interim payment within 90 days from receiving the periodic report.

The payment of the balance reimburses the remaining part of the Work Packages completion.

The payment schedule, which contains the transfer of pre-financing and interim payments to Parties, is handled according to the following:

- Funding of costs included in the Consortium plan will be paid to parties after receipt from the Funding Authority without undue delay and in conformity with the provisions of the GA. Costs accepted by the Funding Authority will be paid to the party concerned;
- The coordinator is entitled to withhold any payments due to a party identified by a responsible Consortium body to be in breach of its obligations under this CA or the GA or to a beneficiary which has not yet signed this CA;
- The coordinator is entitled to recover any payments already paid to a defaulting party. The coordinator is equally entitled to withhold payments to a party when this is suggested by or agreed with the Funding Authority.

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

A party leaving the consortium shall refund all payments it has received except the amount of contribution accepted by the Funding Authority or another contributor. Furthermore, a defaulting party shall bear any reasonable and justifiable additional costs occurring to the other Parties in order to perform its and their tasks.

More details can be found in the CA and in the GA.

4.2 Payment handling

The PC is then responsible for distributing the money to the other partners on the project.

The maximum total EC financial contribution for STEP is fixed at 3 058 895,74€.

Prefinancing

This is made at the start of the project, usually within 30 days of the EC signing the GA.

The pre-financing payment (48,33%) made to the PC will be a percentage of the maximum EC financial plus the 5% contribution to the guarantee fund (kept by the EC).

Interim Payments

These are made after each period financial reports are submitted and accepted by EC. Payment is subject to the approval of the periodic report (PR). Its approval does not imply recognition of the compliance, authenticity, completeness or correctness of its content. The amount due as interim payment is calculated by the EC in the following steps:

- Step 1 – Application of the reimbursement rates;
- Step 2 – Limit to 90% of the maximum grant amount.

Final Payment

This is made at the end of the project once EC has accepted all deliverables and reports and will include any final payment due to the project. This will include the 'Guarantee Fund' payment.

Guarantee Fund

The Guarantee Fund is a percentage of the budget, in the case of STEP the PC withholds 5% of each partner's budget at the start of the project in the Guarantee Fund. If the project runs smoothly and there are no issues this 5% is paid out by the PC with the final payment.

The PC uses the money in this fund to reimburse the project in the situation where one of the partners is made bankrupt and takes with its money in excess of the costs reported.

Distribution of funds to partners

The EC financial contribution is received by the PC on behalf of the consortium, split by the number of RP. The PC will then distribute the EC financial contribution to each partner without unjustified delay according to the rules set out in the CA and GA.

Subsequent payments will be based on the validation of the deliverables and the completion of work packages submitted to EC and potentially dependent upon any budget changes proposed and approved by the General Assembly and the STEP Project Officer.

Pre-financing is released to each beneficiary by the Coordinator within 30 days from the entry into force of the GA.

4.3 Budget and cost management

The objective of applying cost management is to ensure that the project is completed within budget. Cost management refers to the process of gathering, tracking and managing the financial resources throughout the project's life cycle. This process relies heavily on accurate estimates and actual data that need to be maintained and updated accordingly. Having quality input data is the key to obtaining reliable cost information for managing resources and making decisions. Cost summaries information at the different levels are rolled up from task level to the project level.

Cost's estimation and budget determination was done in the proposal phase of the project. The project budget reflects the whole estimated eligible costs that STEP consortium partners need for executing the project activities and is detailed in the overall project budget in the GA.

In order to keep track of the estimated and real budget spent by each partner, the PC requests a financial internal report every 6 months, where real personnel costs, other direct costs and indirect costs during the period are indicated. Each partner is responsible to control their costs (personnel, subcontracting, and other indirect costs) in accordance with their own accounting and management principles and practices.

The PC shall prepare a status update every 6 months, including tracking and evaluating trends and variances in the costs associated with the project in order to provide timely management reporting which will enable rapid response and mitigation to adverse trends, problem areas, progress shortfalls, potential progress or cost impacts, etc. before they become milestone impacts.

The PC meets with the General Assembly as needed to review planned vs. actual progress, forecasted activity, areas in need of recovery and upcoming critical milestones.

The PC ensures that the project costs and available contingency amounts are monitored continuously and that there is adequate funding to cover proposed budget changes. Use or reallocation of contingency funds must be approved by the General Assembly. Cost deviations that will result in increasing the overall project budget have to be approved by the General Assembly once it is demonstrated that adequate funding exists to finance the proposed change.

5. RISK MANAGEMENT

Risk Management is the identification, assessment, and prioritis ation of risks to minimis e, monitor and control the probability and/or impact of unfortunate events also known as threats. Since not all risks can be eliminated, mitigation strategies and contingency plans can be developed to lessen their impact if they occur. Essentially, effective risk management requires an informed understanding of relevant risks, an assessment of their relative priority and a rigorous approach to monitoring and controlling them.

The responsibility of managing project risks relies with the coordinator: identified risks are tackled and alerts are raised in case any of the identified risks increases its priority. All activities related with the risk management are monitored by the PC (supported by the PM), responsible for the risks-related deliverable, with the collaboration of each WPL for specific issues relevant within every specific WP/TK.

The risk register is maintained by AIRBUS DEFENCE AND SPACE and is constantly updated as the project evolves.

6. PROJECT WEBSITE

6.1 Overview of the project website

A website has been designed as a "One Page" integrated website to serve as a key tool for external communication of the project and dissemination activities. It has been set up and is maintained by ABGI in cooperation with IRNOVA and the other consortium members.

The web site features essential information about the project:

- Summary and objectives,
- Partners,
- Project progress graph chart,
- News,
- Results,
- Events,
- Public documents.

Details on the website are reported in the deliverable D7.1.

6.2 Web portal administration and access

The STEP website (https://step-project.eu/) administrator is Mr. Jerome MERMOZ and web content editors are Ms. Diane GABARET (Communication Manager - CM) and Ms. Clara PAWLAK (PM).

For any photos, news, results, communication you would like to publish on the website or for any questions or comments, contact the CM or the PM at the following emails addresses:

diane.gabaret@abgi-france.com

clara.pawlak@abgi-france.com

Any dysfunction of the STEP website shall be reported to the website administrator.

7. COMMUNICATION AND DISSEMINATION ACTIVITIES

Following the GA, the partners have certain obligations concerning communication about the project. These obligations and rules are summaris ed in the next paragraphs.

7.1 Promoting the action and its results

The beneficiaries must promote the action and its results.

Examples of action of promotion:

- A press release for the general public at the start of the action;
- An event that shows how the outcomes of the action are relevant to our everyday lives;
- Organis ing workshops about the action, targeted at audiences for which the action is of interest;
- Producing a brochure to explain the action's work to a large public audience to show how interesting this specific research topic can be.

7.2 Visibility of the EU contribution

The beneficiaries must — during the action and afterwards — ensure the visibility of EU funding for any communication activity related to the action by displaying the EU emblem and associated 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 [name of the granting authority]. Neither the European Union nor the granting authority can be held responsible for them."

The EU funding visibility is mandatory for any communication activities related to the action.

7.3 Dissemination

Following the GA, the partners have certain obligations concerning dissemination about the project results:

- Unless it goes against their legitimate interests, the beneficiaries must as soon as possible disseminate their results (i.e. make them public).
- No dissemination at all may take place, if:
  - The results need to be protected as a trade secret (i.e. confidential know-how) or
  - Dissemination conflicts with any other obligations under the GA (e.g. personal data protection, security-related obligations, etc.).
- When deciding on dissemination, the beneficiaries must also consider the other beneficiaries' legitimate interests and follow this procedure:
  a) At least 45 days prior notice of any dissemination activity shall be given to the other parties, including sufficient information concerning the planned dissemination activity and the data envisaged to be disseminated.
  b) Following notification, any of those Parties may object within 45 days of the notification to the envisaged dissemination activity if it considers that its legitimate interests in relation to its foreground or background could suffer disproportionately great harm.
  c) In such cases, the dissemination activity may not take place unless appropriate steps are taken to safeguard these legitimate interests.
  d) If no objection is made within the time limit stated above, the publication is permitted.

Each beneficiary shall keep informed IRNOVA and ABGI about any activities beforehand in order to monitor and follow-up.

Each beneficiary shall contribute actively to promote STEP results by sharing communication and dissemination materials (pictures, photos, participation to events, …)

8. PROJECT COMMUNICATION

8.1 Emails and Mailing list

E-mail is the principal means of interpersonal communication in STEP. It can be used for information exchanges, minutes of meetings, executive summaries. It is informal, fairly rapid and well suited for non-critical information. E-mail distribution list is maintained (and regularly updated) by the PM, and available to all the partners, indicating the contact persons for administrative/financial issues as well as contact persons for the development of the activities. Any change concerning people involved and contact details (i.e. request to add or remove a member) shall be opportunely communicated to the PM and the PC. The updated list of contact is available in the project repository folder in Google Workspace, or via Project Netboard.

The following rules should ensure the suitable use of the e-mail communication between project participants:

- Address information only to involved parties in communication: do not systematically copy everyone into communications, or if replying to a specific individual, be cautious not to press the 'reply all' function over 'reply';
- In any communication, include the PC and the PM;
- The title of each e-mail should include the project name followed by the topic of the discussion;
- In case the email message has an attachment, please use ZIP files to compress information or share by WeTransfer tool or directly via Google Workspace. However, and as a general rule, always upload the file in the project repository and inform the relevant people of the location of the file.

The e-mail exchange is the main instrument used by project partners to share information, proposals and ideas, as well as to prepare deliverables and any other project output (papers, talks, reports for the EC, etc.).

8.2 Conference calls

Conference calls are used for meeting partners without spending time and budget on travelling. Videoconferences and teleconferences should be programmed at least two weeks in advance and should follow a set agenda. All partners are welcome to put their camera on for improved interactions.

Telephone is used when personal interaction, a fast answer or reliable confirmation is needed. Telephone calls can sometimes be appropriate for urgent matters so it is important that up to date telephone numbers are made available. It is highly recommended to send an e-mail with the conclusion of a telephone call to limit any ambiguity.

8.3 Meetings

Face-to-face project meetings (General Assembly meetings) are scheduled tentatively as reported in Section 3.

Extraordinary General Assembly meetings can be convened by the PC and the PM at request of partners or when this is required because of contingencies and conflicts occurring during the project.

One review meeting is settled with the EC for the periodic project assessment, at M10 – September 2024.

The following will be at M18, M30 and M42.

In both cases, the participation of at least one representative per partner is mandatory. The WPL participation is highly recommended. A backup contact should rely on the participation of the WPL in case of absence.

8.4 Digital communication tools

The STEP project website https://step-project.eu/ , is one of the main tools for disseminating information about the consortium and the achievements of the project, providing visitors with comprehensive information about its context and objectives.

Likewise, a LinkedIn webpage is available: https://www.linkedin.com/company/step-eu-project/

A graphical identity (logo, presentation template, document template, etc.) has been created to improve the project visibility worldwide (external stakeholders, interested parties, EC bodies, …).

Deliverable D9.1 will provide more details on these and other available and planned tools.

All these tools are available in the PNB project repository.

9. DATA AND PUBLICATIONS

9.1 Data Management Plan

STEP adheres to Open Research Data Pilot (ORDP), and all generated data will be made publicly available, provided that such data do not represent any economic risk, or if partners cannot give critical information on project's progress to any concurrent entities, public or private.

A Data Management Plan (DMP) will be created to describe how the project will collect, process, share and protect the data produced by the project partners. The DMP will be consistent with the IPR policy (i.e. IP, confidentiality, publication provisions, …) and updated as any changes occur in the consortium policies.

Each partner shall communicate to the PC and the PM on data to be stored and shared within the DMP. The General Assembly will be in charge to take the relevant decisions.

For all other data, partners will be required to use an open access repository (such as ZENODO), connected to the tools proposed by the EC (e.g. OPENAIRE) to grant access to the publications and to a bibliographic metadata in a standard format including information requested by the EC.

The DMP will be fully described in the D1.3.

9.2 Publications

'Green open access' model will be adopted for peer-reviewed scientific publications, where individual partners will deposit manuscripts in an online repository.

If it is decided that the scientific research will not be protected through IPR, but will rather be published directly, then the project is aware that Open Access must be granted to all scientific publications.

A dedicated repository space has been created on the PNB repository: it will contain the project's publications. Publications will also be shared on the project website.

The acknowledgement of EC support for all publications and other dissemination relating to STEP project research shall be included in all project external communications.

10. QUALITY PLAN

The quality plan gives practical guidance to the PC, coordinating bodies and project partners for checking the progress of the project and assuring the quality of its outputs.

Being the main objectives of the plan:

- Planning review procedures in order to monitor its progress and the achievement of its goals;
- Put in place risk management;
- Create clear procedures for delivery high quality results;
- Provide consortium with guidance for project reporting and deliverable production;
- Provide consortium with guidance on communication, exchange of data, publication and dissemination;
- Provide consortium with templates for project outputs.

10.1Internal Project Reporting

WPLs are requested to report to the PC every General Assembly meeting on the technical progress of their own WP. WPLs are requested to provide the following information using the template already uploaded to the project repository, said report includes:

- Work performed during the reporting period of reference and main results achieved;
- Status of each WP task, details on the work carried out by each beneficiary involved;
- Activities planned for the following reporting period - Updated planning for the next period;
- Status of ongoing deliverables with delivery date in the following reporting period;
- Progress towards milestones planned for the following reporting period;
- Status of the risks and updating risk analysis of the respective WP;
- Critical assessment of the technical progress: deviations from the original plan and proposed measures (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule, impact on other tasks, available resources and the overall planning).

During these meetings, the PC is requested to provide the following information:

- Overall total project expenses consumed vs the planned budget;
- Efforts of the personnel, who have worked in the period in each WP and per beneficiary, vs the planned budget;
- Costs carried out by the beneficiary per each WP vs the planned budget.

The PC / PM is in charge of controlling the project interim reports which are stored in the project repository.

10.2Deliverables

Deliverables are official project documents that shall be submitted to the EC (in the participant portal) to prove the advancement on specific WP/TK.

Partner responsible for the deliverable is in charge of releasing a draft version of the work by gathering inputs from partners involved in the work. This draft version is then evaluated by the PC / PM for a demanded revision of the document based on their feedback (if any). The final version is submitted in the participant portal by the PC / PM.

The validation process described below shall be observed.

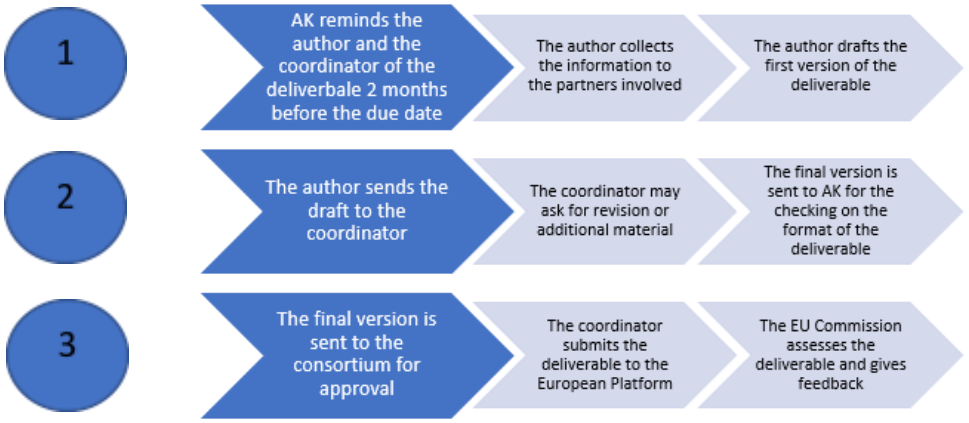

Figure 4: validation process for the deliverables.

10.3EC project Progress Reporting

Periodic progress reports (PR) have to be delivered to EC according to the GA. The reporting includes a technical and a financial report and must be drawn up using the forms and templates provided by the EC and available in the participant portal (Sygma ECAS).

The technical report has to be submitted by the PC / PM through the participant portal and will be generated in collaboration with each WPL, using as inputs the internal technical periodic reports for the activities carried out during the concerned period. A summary of scientific results obtained per WP and TK shall be reported by each WPL. Deviations from the DoA shall be reported: delays, changes of research direction etc.

The validation process is the same as the one adopted for the deliverables.

Timeline for the preparation of the PR to the EC (with respect to the deadline of the periodic report) is presented below:

Table 4: timeline for the preparation of the PR.

Timing	Action
1M prior the deadline	The PC / PM sends requests to WPLs
Deadline	WPLs gather input from TK leaders
15 days after the deadline	WPLs send draft report to the PC / PM and receive feedback
1M after the deadline	Final version of the report is submitted in the participant portal

In addition, in the participant portal, several forms should be completed by the PC / PM (based on the information provided by all beneficiaries) about:

- Summary of the work performed from the beginning of the action to the end of the period covered by the report and main results achieved so far;
- Progress beyond the state of the art and expected potential impact;
- Gender information for each beneficiary;
- Status of MS achievements;
- Critical risks status;
- List of scientific publications;
- Overview of the dissemination and communication activities;
- List of patents;
- Overview on the proposed innovation (prototypes, testing activities, clinical trials;
- Open Dataset;
- Ethics aspects;

10.4EC final reporting

In addition to the last periodic report, the PC shall submit a final report within 60 days following the end of the last reporting period.

The final report will be written on the basis of inputs provided by the partners. It will include the following parts:

- The final technical report providing:
    - An overview of the results and their exploitation and dissemination;
    - The conclusions on the action, and
    - The socio-economic impact of the action.

11. CONCLUSIONS

This document presents the approach taken by the STEP team to manage the project. The Project Handbook has to be considered as a guiding document to guarantee that the project will adhere to the original work plan. In addition, the tools used by the team to manage the project, communicate internally and externally about the project and to control the quality and risks associated with the project have been presented.

The Project Handbook and the various instruments used to control the project will be continuously updated and refined as the project moves forward. As this is a living document, changes will be made as the project advances and partners develop more components.

=== End of the document ===

1. ANNEXES : Project templates for deliverables and meetings