D12.1 Project Handbook

Submission date: 20th December 2024

Due date: 31st December 2024

Version 1.0 (Final)

DOCUMENT SUMMARY INFORMATION

Grant Agreement No	101168007		
Full Title	Strategies and Services for Enhanced Disruption Resilience and Cooperation in Europe		
Start Date	01/10/2024	**Duration**	36 months
Deliverable	D12.1 Project Handbook		
Work Package	WP12 – MANAGEMENT: Project Coordination		
Type	R	**Dissemination Level**	PU
Lead Beneficiary	EVIDEN RO		

Funded by the European Union

The ENDURANCE project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement no.101168007. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Table 1: List of changes

Version nr.	Date	Change	Author
0.1	26.11.2024	Initial draft	Liana Predut, Ioana Craciun, Adelin Homoraceanu, Andrei Chipaila, Razvan Polexe
0.2	04.12.2024	Final draft ready for peer review	Liana Predut, Gabriele Giunta, Hans Graux, Janvier Parewyck, Theodoros Sampatakakis, Amelie Cathier
0.3	10.12.2024	Peer review	Hans Gaux, Emmanouil Mavrogiorgis, Stella Theologidou, Gabriele Giunta
0.4	16.12.2024	Peer review comments addressed	Gabriele Giunta, Liana Predut
0.5	19.12.2024	SAB review	Gabriele Giunta, Adelin Homoraceanu, Denis Caleta
1.0	20.12.2024	Final version	Liana Predut, Valerij Grasic, Ioana-Andreea Craciun, Gabriele Giunta, Andrei Chipaila

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Contents

1 References

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2 Acronyms and Abbreviations

2.1 Acronyms

Acronym	Description
AI	Artificial Intelligence
CER	Critical Entity Resilience
CI	Critical Infrastructure
CIP	Critical Infrastructure Protection
CER	Critical Entity Resilience
CIR	Critical Infrastructure Resilience
EC	European Commission
EU	European Union
FAIR	Findable, Accessible, Interoperable, and Reusable
IP	Intellectual Property
IPR	Intellectual Property Rights
IR	Internal Reviewer
ML	Machine Learning
MS	Member States
NIS	Network and Information Security Directive
PC	Project Coordinator
PO	Project Officer
SAB	Security Advisory Board
SEN	Sensitive
TL	Task Leader
TM	Technical Manager
WP	Work package
WPL	Work package Leader

2.2 Abbreviations

Abbreviation	Description
N/A	

3 Figures and Tables

3.1 Table of Figures

3.2 Table of Tables

4 Executive summary

This deliverable is a key component of Work Package (WP) 12, which is dedicated to ensuring effective day-to-day coordination, financial and legal administration, and internal project communication. WP 12 is committed to executing the project efficiently while adhering to established timelines and budget constraints.

The Project Handbook outlines all operational aspects related to project execution and management. It serves as a comprehensive resource for consortium partners, detailing specific procedures and standards to be followed throughout the project lifecycle. This includes communication tools, quality assurance processes, risk identification, management and mitigation strategies, and essential guidelines.

This document provides a comprehensive overview of the organizational structure. On the one hand, it details the operational units responsible for executing tasks in accordance with established standard operating procedures. These procedures govern key aspects such as the deliverables repository, project templates, and communication processes.

The second part of the document details the management bodies responsible for validating project deliverables. This includes adherence to quality and risk management protocols guided by strict decision-making mechanisms, including voting and quorum rules.

Additionally, the Project Handbook outlines specific guidelines related to the project budget, payment schedule, and reporting timelines, ensuring full transparency and compliance with the European Commission's requirements.

5 Introduction

Strategies and Services for Enhanced Disruption Resilience and Cooperation in Europe (ENDURANCE project) has been submitted under the topic **HORIZON-CL3-2023-INFRA-01-01** (Destination - Resilient Infrastructure) of the HORIZON Europe Programme and has been contracted under Grant Agreement number 101168007 and signed between parties.

ENDURANCE is driven by the critical need to fortify Europe's essential services against potential disruptions, transcending the sole focus on the underlying critical assets. Recognizing the significance of the CER and NIS2 Directives in setting the groundwork for resilience and, in parallel, the current silo approach to the Critical Infrastructure (CI) resilience and the business continuity of essential services they provide, we will assist the CI authorities across the EU in fully grasping and harmoniously implementing both directives. By comprehensively understanding and preparing for the demands of these legislative measures (and their national implementations), we aim to empower the EU MS authorities and CI operators with the know-how, methodologies, services, and strategies needed to navigate the complexities of disruption resilience effectively.

The project started in October 2024, having a 36-month duration, and it is scheduled to end on the 30th of September 2027.

The aim of this document is to set up and explicitly describe the different management procedures and instructions to be applied during the project implementation and exploitation periods.

6 Consortium structure

The parties involved in the project are:

- The European Union ('EU'), represented by the European Commission ('EC'), on the one part
- The project consortium, on the other part, composed by:
    - The coordinator: EVIDEN RO – EVIDEN Technologies SRL, based in Romania.
        - One affiliated entity: EVIDEN DE - EVIDEN GERMANY GMBH, based in Germany.
    - The beneficiaries:
        - ENG - ENGINEERING INGEGNERIA INFORMATICA SPA, based in Italy,
        - SYN - SYNELIXIS LYSEIS PLIROFORIKIS AUTOMATISMOU & TILEPIKOINONION ANONIMI ETAIRIA, based in Greece,
        - SBT - SILVER BULLET RISK POSLOVNE RESITVE DOO, based in Slovenia,
        - ICCS - EREVNITIKO PANEPISTIMIAKO INSTITOUTO SYSTIMATON EPIKOINONION KAI YPOLOGISTON, based in Greece,
        - ICS - INSTITUT ZA KORPORATIVNE VARNOSTNE STUDIJE LJUBLJANA, based in Slovenia,
        - AKOS - AGENCIJA ZA KOMUNIKACIJSKA OMREZJA IN STORITVE REPUBLIKE SLOVENIJE, based in Slovenia,
        - URSIV - Urad Vlade Republike Slovenije za informacijsko varnost, based in Slovenia,
        - TS - TELEKOM SLOVENIJE DD, based in Slovenia,
        - ELES - ELES DOO OPERATER KOMBINIRANEGA PRENOSNEGA IN DISTRIBUCIJSKEGA ELEKTROENERGETSKEGA OMREZJA, based in Slovenia,
        - DNSC - DIRECTORATUL NATIONAL DE SECURITATE CIBERNETICA, based in Romania,
        - MoH - MINISTERUL SANATATII, based in Romania,
        - DGPI - DIRECTIA GENERALA DE PROTECTIE INTERNA, based in Romania,
        - CGDM - CLINICA GINECOLOGIE DR. MUNTEAN SRL, based in Romania,
        - FVG - REGIONE AUTONOMA FRIULI-VENEZIA GIULIA, based in Italy,
        - INS - INSIEL - INFORMATICA PER IL SISTEMA DEGLI ENTI LOCALI S.P.A., based in Italy,
        - RDFA - PERIFEREIAKO TAMEIO ANAPTYKSIS ATTIKIS, based in Greece,
        - RDFW - PERIFEREIAKO TAMEIO ANAPTYXIS PERIF DYTIKIS ELLADOS, based in Greece,
        - EYDAP - ETAIREIA YDREYSEOS KAI APOCHETEFSEOS PROTEYOYSIS ANONIMI ETAIREI, based in Greece,
        - TLX - TIMELEX, based in Belgium,
        - DBC - DIADIKASIA BUSINESS CONSULTING SYMVOULOI EPICHEIRISEON AE, based in Greece,
        - CCL - CARR COMMUNICATIONS LIMITED, based in Ireland.

The role of the **Coordinator** is as follows (more details in Article 7b of the Grant Agreement):

(i) monitor that the action is implemented properly

(ii) act as the intermediary for all communications between the consortium and the granting authority, unless the Agreement or granting authority specifies otherwise, and in particular:

- submit the prefinancing guarantees to the granting authority (if any)
- request and review any documents or information required and verify their quality and completeness before passing them on to the granting authority
- submit the deliverables and reports to the granting authority
- inform the granting authority about the payments made to the other beneficiaries (report on the distribution of payments)

(iii) distribute the payments received from the granting authority to the other beneficiaries without unjustified delay.

The role of the **Beneficiaries** is as follows (more details in Article 7a of the Grant Agreement):

(i) keep information stored in the Portal Participant Register up to date

(ii) inform the granting authority (and the other beneficiaries) immediately of any events or circumstances likely to affect significantly or delay the implementation of the action

(iii) submit to the coordinator in good time:

- the prefinancing guarantees (if required)
- the contribution to the deliverables and technical reports
- any other documents or information required by the granting authority under the Agreement

(iv) submit via the Portal data and information related to the participation of their affiliated entities.

The main contact persons from each entity are being listed and updated in the project contact list the file part of the project common repository.

7 Management structure

7.1 Consortium Bodies

The organizational structure of ENDURANCE has multiple Consortium Bodies. It is comprised of several **management** bodies and **operational** bodies.

Details are available in the SEN version of the Project Handbook deliverable.

7.2 Voting rules and quorum

Voting rules and quorum have been defined and documented in the Consortium Agreement.

Details are available in the SEN version of the Project Handbook deliverable.

7.3 Decisions mechanism

The decision mechanism has been defined for the ENDURANCE project.

Details are available in the SEN version of the Project Handbook deliverable.

8 Way-of-working in the Project

8.1 Deliverables repository and project templates

Intermediary draft versions and final versions of the project results and deliverables will be stored in the common project partners' repository – SharePoint (where external parties do not have access).

Access will be granted by Eviden as PC, on a need-to-know and need-to-contribute basis, taking into consideration least privileged access principles. Only project members have access to the SharePoint.

Project templates for the PowerPoint files, Word documents, and Minutes of the Meeting are available under the project working repository.

8.2 Communication process

Partners will communicate through channels such as email, calls, meetings.

Meetings may be conducted either in person, with physical attendance from the representatives of the Parties, or online through Teams conferences, as deemed suitable.

Details are available in the SEN version of the Project Handbook deliverable.

9 Project Plan

9.1 Work breakdown structure

The ENDURANCE project is organized into thirteen (13) Work Packages and spans a duration of 36 months. A detailed Gantt chart outlining the project timeline has been included in the most recent version of the Description of Action (DoA) submitted to the EU Commission and is also part of the Grant Agreement.

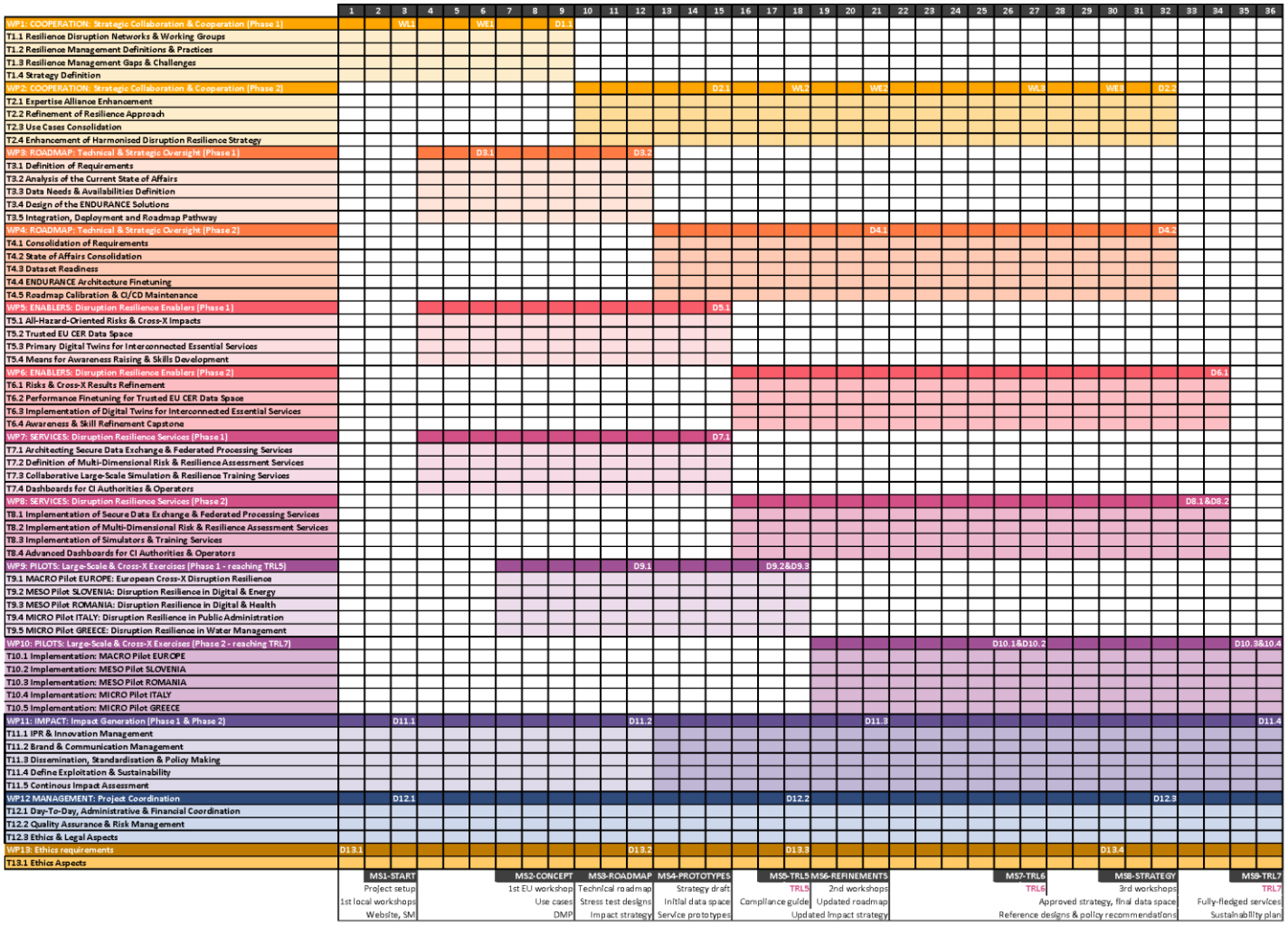

Figure 1 – Detailed ENDURANCE Gantt Chart

10 Project Deliverables and Validation Process

Deliverables are outputs of an EU-funded project that must be presented to the European Commission (EC) within the timeline set in the Grant Agreement. They are submitted to the EC through the online Funding & Tenders platform portal.

All deliverables and milestones shall be completed in time. If there is a delay foreseen, an explanation must be provided to the PO, along with the newly anticipated delivery date. All partners are encouraged to inform the consortium (especially the PC & TM) well in advance of any potential problems that might cause an issue for the work to be completed, in order to avoid any possible delays.

As part of the ENDURANCE project, as for deliverable types we have R — Document, report, and ETHICS deliverables. The Independent External Ethics Advisors will be responsible for producing the ETHICS deliverables (associated with WP 13), and the PC shall submit them in the EU Portal.

Below is an overview of the deliverables' completion process (from drafting to final approvals):

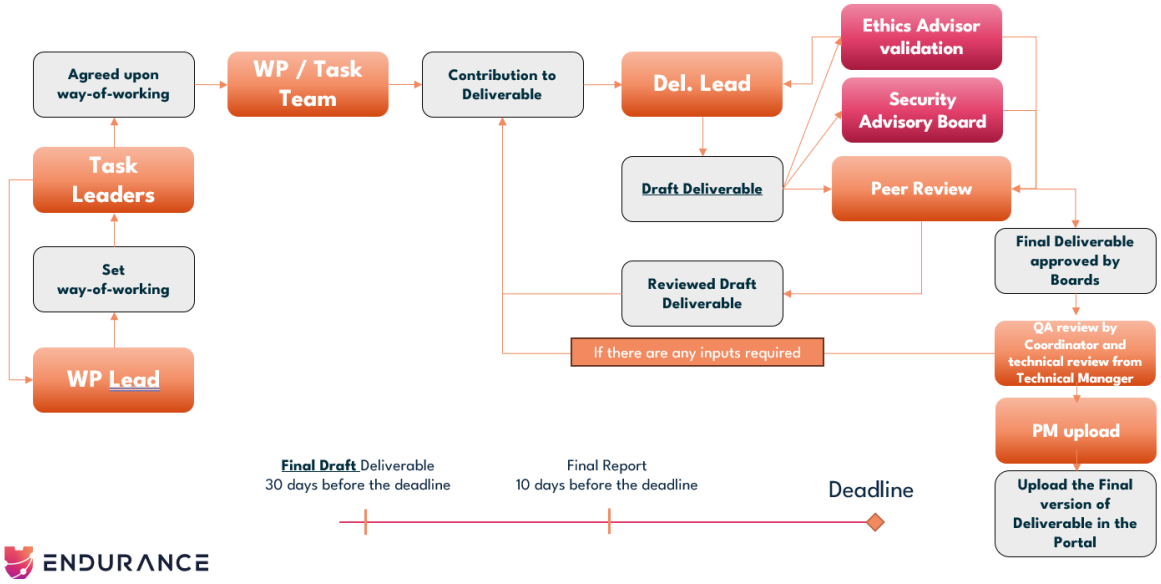

Figure 2 - ENDURANCE deliverable completion process

The deliverable lead is responsible for providing the initial draft based on the contributions that each partner provided to the individual tasks and related work packages. To guarantee sufficient time for input collection and completion, the final draft deliverable will be made available for validation at least **30 days** prior to the deadline.

We will reserve **2 weeks** for the peer review; and **1 week** for the ethics and security advisory review in parallel. The approval step will be considered after the Board Members provide the final approvals, as per the process flow above.

The Quality Assurance review focusing on formatting (**and not technical content**) will be conducted by the Project Coordinator, while the **review of technical content** will be handled by the Technical Manager, who will also serve as the Quality Assurance Manager.

The deliverable approval bodies are as follows:

- PC for the Quality Assurance review of the formatting and not technical contents.
- TM (if needed) for the review of technical aspects described in a deliverable and to ensure the output deliverable meets the required quality standards.
- WPL to ensure the deliverable scope is aligned with the Grant Agreement and the WP requirements.
- TL to ensure the outcomes of the task were successfully delivered and documented appropriately.
- Peer reviewers (with the criteria to establish the peer reviewers detailed below):
    - **Two (2) peer reviewers** from the Consortium, (but not part of the Thematic peer reviewers' group).
    - Thematic peer reviewers:
        - **Data Manager** to ensure proper alignment with FAIR data management principles.
        - **Ethics and Compliance Manager** for overseeing the ethical principles and compliance of the overall project deliverables, and advisory on legal and ethics alignment.
        - When the case (if applicable):
            - **Cooperation Manager** to ensure active and continuous engagement of all the relevant CI stakeholders' input (e.g. relevance for the requirements/use cases/pilots) is captured in the deliverable.
            - **Impact and Exploitation Strategy Manager** to ensure alignment with the Exploitation and Dissemination plans and strategies, IPR Management, Impact Analysis.
            - **Communication and Dissemination Manager** for sections referring to alignment with the Dissemination plans and strategies; Branding and Visual Identity; Communication Channels and strategies.
- SAB to provide clearance there are no sensitive aspects disseminated by accident.

11 Project Development Baselines

As we work towards achieving our commitments (which are equivalent to our preparedness objectives outlined in the Endurance proposal, as follows: preparedness with collaboration, preparedness with services, and preparedness with strategy), it is essential to cultivate a strong culture of collaboration and cooperation at all levels.

To this end, establishing partnerships and synergies with existing initiatives is crucial. The alignment of emerging resilience-focused legislation with the current ecosystem, which includes CI authorities across Europe, operators, and other relevant stakeholders, is vital for ensuring seamless implementation across geographical and sectoral boundaries.

The Critical Entity Resilience (CER) and NIS2 Directives are laying the groundwork for resilience as we speak, providing a solid foundation for the benefits of ENDURANCE to deliver and enhance preparedness and response capabilities against disruptions to essential services caused by various threats or hazards. In return, our efforts aim to facilitate the adoption and implementation of these directives with minimal friction, ensuring a smooth transition and effective integration.

The CER and NIS2 directives are harmoniously completed by the SWE (Space Weather Events) regulation - defined from SSA as part of the Space Program-, where influence on critical infrastructure on Earth and ensuring the proper and uninterrupted functioning of space-based services are kept in mind. Together, they represent crucial components of EU legislation designed to enhance the resilience of critical infrastructure. However, the landscape would be incomplete without the foundational support provided by dedicated initiatives like ENDURANCE, which facilitate the transition from a purely regulatory framework to effective implementation and seamless deployment within critical infrastructure networks.

It is important to note that ENDURANCE is not the only initiative addressing these challenges. We must also recognize the significant contributions of other key projects in this domain, such as:

- EU-CIP (Engineering, 2024): This project aims to establish a comprehensive pan-European knowledge network for resilient infrastructures, empowering policymakers to develop data-driven, evidence-based policies while enhancing the innovation capacity of critical infrastructure operators, authorities, and innovators, including SMEs.
- ERNICP (European Commission, 2024): This initiative focuses on creating a framework for experimental facilities and laboratories to share knowledge and best practices, further strengthening the resilience of critical infrastructures.

The CER Directive (Migration and Home Affairs, 2024) aims to minimize the impact of both natural and man-made disruptive incidents. It encompasses critical sectors including energy, transportation, banking, financial market infrastructures, healthcare, drinking water, wastewater, digital infrastructure, public administration, space, and food.

Under the CER Directive, EU member states are required to conduct risk assessments for essential services and implement measures to enhance resilience. This proactive approach is designed to

improve prevention, response, and mitigation strategies for incidents that disrupt the delivery of essential services.

In parallel, the NIS 2 Directive supports the implementation of EU policies and regulations related to cybersecurity. According to ENISA, NIS 2 (ENISA, 2024) enhances the overall cybersecurity landscape across the EU by establishing a robust cyber crisis management framework such as CyCLONe and promoting greater harmonization of security requirements. It encourages member states to address emerging areas of concern, such as supply chain security and vulnerability management.

As we delve deeper into each of these key elements, the synergies between ENDURANCE and other critical components in creating a resilience-focused ecosystem across Europe become increasingly evident.

ENDURANCE is poised to play a pivotal role in developing future sector-specific standards across selected pilot domains, including energy, digital services, health, drinking water, wastewater, and public administration.

Standardization is essential for implementing the regulatory framework established by the CER and NIS2 Directives, ensuring high-quality organization, processes, personnel, and management in the delivery of services related to Critical Infrastructure Protection (CIP).

Furthermore, we will expedite policymaking by leveraging and promoting existing foundational standards and emerging standards in CER.

The Critical Infrastructure Blueprint (CIB) recommendation is noteworthy as it focuses on three key priority areas: preparedness, response, and international cooperation. The CIB recommendation outlines a comprehensive roadmap for EU countries to address significant incidents affecting critical infrastructure across various sectors, including energy, transport, digital infrastructure, public administration, and more.

Other important structures that help shape the CER landscape include:

- ISO 31000, ISO/IEC 27001 - Standardized risk assessment and management-focused policies
- ISO 22301 - Standardized business continuity policies such as redundancy support plans designed specifically for Business Continuity Management Systems (BCMS).
- CERG, the Critical Entities Resilience Group - enabling the exchange of information and best practices related to the resilience of critical infrastructure and entities.
- CyCLONe, Cyber Crises Liaison Organisation Network - enabling effective European cybersecurity crisis management, response to large-scale incidents and empowering cooperation.
- The Horizon Europe security research funding program also serves as a crucial component in enhancing the resilience of infrastructures, with contributions that cannot be overlooked. Notable projects include SUNRISE - which aims to improve the resilience of infrastructures impacted by pandemics, aqua3S - focused on increasing safety in existing water networks, and more.

This expanding array of instruments is effectively standardizing policies and practices that govern resilience-focused operations across EU member states. Its development and growth can be traced back to the European Programme for Critical Infrastructure Protection (EPCIP), which was initiated in the mid-2000s.

While all current initiatives are rooted in the EPCIP framework, it is important to acknowledge that the program had its limitations, primarily addressing traditional risks within selected critical infrastructure sectors. As the landscape of threats and risks has evolved, there is a need for a broader approach that aligns with contemporary challenges.

As a result, an alternative to CIP-focused initiatives has emerged: the resilience approach, commonly referred to as CIR (Critical Infrastructure Resilience).

12 Quality Assurance and Risk Management

Quality Assurance is one of the most important works carried out within the *WP12 – MANAGEMENT: project coordination*, and specifically *T12.2 - Quality Assurance & Risk Management*. It serves as the foundation for project activities to be completed successfully, on time, and with a very high quality. The Quality Assurance guidelines should be always taken into consideration and the following key actions should be implemented by all partners in their own work:

- Maintain consistency in work methods throughout the project, in accordance with set policies, procedures, regulations, and codes of practice and without significant deviation.
- Ensure that all policies, procedures, relevant regulations, and codes of practice are implemented and systematically reviewed to reflect quality values.
- Regularly monitor and measure the quality of its work methods, outputs, and outcomes to achieve high quality standards, best value, and continuous improvement.

One of the main QA objectives is to assure that all project deliverables are drafted, verified, approved, and issued following the process described in the project management guidelines and, at the same time, that the content of these deliverables is aligned with expected outputs and requirements, as described in sec. 12.2 (**Product Quality Assurance**).

The applied Quality Assurance methodologies and procedures will adhere to **ISO 9001** and **ISO 27001** standards, ensuring compliance throughout the project's lifecycle. However, we will maintain a specific degree of flexibility to accommodate the specific requirements of an innovation project. The ISO 9001 requirements provide a set of standard elements that guide the implementation of a **Quality Management System** (QMS). The requirements are designed to be generally applicable, identifying which elements are mandatory in a QMS, but not how these are implemented. Concerning ISO 27001, it allows to demonstrate information security is handled following best practices and in line with international corporate objectives. A fusion of both allows to streamline information security processes and quality management protocols, so as to improve business operations and strengthen overall organizational resilience.

12.1 Quality Management System

The **Quality Management System** aims to ensure that ENDURANCE will achieve the expected results in the most efficient way and that the deliverables will be accepted by the EC. To achieve this objective, we have established quality methodologies and procedures that provide clear guidelines for project partners. These guidelines cover the preparation and validation of deliverables, internal peer reviews, financial statement preparation, periodic reporting, and risk management. To guarantee high quality for all activities carried out in the context of a project of the scale and complexity of ENDURANCE, **Quality Assurance Procedures** are essential. Quality Assurance Procedures will be applied to all activities and will be the joint responsibility of all partners until the complete discharge of their obligations under the EC contract. The main goals of the Quality Assurance Procedures are:

- The establishment of documentation, reporting and communication procedures;
- The production of high-quality deliverables on time and according to specifications;
- The identification of technical and commercial risks, or deviations at an early stage;
- The realization of any necessary remedial actions as soon as possible.

12.2 Product Quality Assurance

In the case of deliverables, the first level of quality will be exercised by the designated Lead Beneficiary who will establish a comprehensive development plan identifying the deliverable coordinator, contributors, development procedures, and the evaluation process. Then, two internal reviewers (IR) from the ENDURANCE Consortium, not involved in the preparation of the deliverable (external to the Task or at least not initially involved in the writing process), are appointed by the Project Management Committee to peer review the deliverable, along with other peer reviewers (as described in chapter 10) once the preliminary version is finished. - The reviewers will promptly provide feedback and suggested revisions to the deliverable authors to ensure the final document meets high-quality standards. Additionally, the deliverable will be distributed among partners for review and feedback collection in case of significant concerns or disagreements regarding its quality. A Security and Ethical Review will be performed by the SAB and the Ethics Advisors. Finally, the Technical Manager (also assigned as Quality Assurance Manager) will monitor the quality of work and deliverables and will report to the PC on quality progress and resolution of issues.

The following table presents some of the main aspects that each internal reviewer should check, beyond the provision of comments on the content of the deliverable and suggestions for improvement.

Table 4: Quality Assurance Checklist

List of Quality Review Checks	Check
Deliverable follows the project's templates	☐
Headers and footers of the document are appropriately modified	☐
Contributing Partners are properly highlighted and in-line with the DoA	☐
A proper Revision History is included	☐
The list of Acronyms and Abbreviations is completed	☐
The Executive Summary provides a comprehensive summary of the document, while presenting the role of the document in the project's workplan	☐
The table of contents, the table of figures, the table of table and other references are properly updated	☐
The content of the document is in-line with the expectations described in DoA, as well as with the type of the deliverable (e.g., report, ethics, DMP)	☐

The document is properly structured and formatting i.e., it has a structured and no formatting flaws	☐
Tables, Figures and Codes contain properly numbered captions and apt descriptions	☐
The deliverable includes a "Conclusions" section	☐
In case the document is built incrementally over a previous version, it must clearly outline the changes, enhancements, and improvements over the previous version	☐
References follow the same style and are properly cited in the text	☐
The document follows the Naming Conventions of ENDURANCE	☐
The PDF of the document is properly generated	☐
EU emblem rules are followed correctly	☐
Unique identification of each deliverable is in place (i.e. deliverable number, deliverable name)	☐
Document release correctly filled in	☐
Confidentiality level / Security Classification of the deliverable is correct as per the DoA	☐
Information captured in the deliverable is concise, clear, and aligned with the expected outcomes of the specific project task as per the DoA	☐

12.3 Risk Management

Along with Quality Assurance, Risk **Management** is considered a key tool that contributes to the success of the project. Regular internal project reporting and a transparent communication approach will ensure that potential problems or delays in project progress will be detected early and that corrective actions can be taken if necessary. Special attention will be paid to keeping the partners informed of the project status, planning and other important issues. We will proactively manage potential risks through a comprehensive self-assessment process spanning the project's duration. Our management strategy will focus on identifying and monitoring both internal and external risks, along with any other factors that could impact the project's progress toward its objectives. This approach will enable us to implement mitigation measures promptly, ensuring the project's success. Risks can arise from:

- Unexpected technical difficulties or unexpected scientific findings.
- Poor communication or co-operation between partners.
- Insufficient resources from partners
- Human operational errors: planning errors, poor quality, incomplete tasks, etc.

Risk Management is a process which enables the analysis and management of risks associated with the project. It is expected to increase the likelihood of successful completion of the project to cost, time and performance objectives. By nature, innovation action projects should be effectively organised in order to handle change since their future is less predictable than other activities. To this end, the objective of risk management is to provide the process and techniques for the evaluation and control of potential project risks, focusing on their precautionary diagnosis and handling.

Responsibility for Risk Management is carried by many contributors within the project and each contributor must be aware of risk warning signs throughout the project's lifetime. In ENDURANCE, the Project Management Committee has the responsibility to promptly identify any upcoming risks of a delay or deviation from the Work Plan or resource allocation and request all necessary corrective actions from WP leaders. Moreover, the Project Management Committee will also provide a mechanism for the prevention and resolution of disputes. The PC and TM will play pivotal roles in evaluating the achievement of project objectives and associated risks and implementing contingency plans throughout the project's entire duration. Additionally, the TM will be responsible for monitoring risks together with the PC and the WP leaders and facilitating the information flow and collaboration efforts between partners of the consortium. The management structure outlined in sec. 7 ensures that risks are reported promptly to the PC via the WP leaders.

A risk table associated to each WP has been established and will be progressively maintained throughout the project's lifecycle. The table below summarises the critical risks for the project in its entirety and their mitigation measures. The table constitutes the 1st version of the risk registry of the project. The registry will be updated regularly (i.e., every three-six months, and whenever the case) to include new risks, updated risks, as well as risks that have been cleared. Moreover, any risks that have materialized will be presented, along with the applied/activated mitigation actions and their outcomes.

Table 5: Critical Risks Registry

Risk [Likelihood / Severity]	WPs	Proposed Risk-Mitigation Measures
END USER ENGAGEMENT RISKS		
Lack of end user engagement (particularly in workshops) [**L**/**M**]	WP1&2	End users will be **involved from early stages** to capture their needs fast and integrate their feedback into the solution design. **Regular feedback loops** will be established (workshops, surveys, interviews) to keep them engaged, understand their experience, and address their expectations. The **Working Group will be continuously extended** to secure a representative enough panel of end users to collect meaningful insights.
Cultural and communication barriers among the stakeholders from different countries may hinder cooperation [**M**/**M**]	WP1&2	Physical workshops and face-to-face virtual meetings will be organised to help to **establish personal connections** among the stakeholders. **Diverse teams** will be formed in project activities (especially hands-on activities during the workshops) to foster better understanding and collaboration among the members.
Resistance to change in the form of resistance to	WP1&2	Comprehensive **training and education** activities will be provided to help the end users understand the benefits of the new solutions and how to

adopting new strategy and technologies [**M**/**M**]	WP9& 10 WP11	use them effectively. The end users will be **involved in the decision-making process** to increase their sense of ownership and reduce resistance.
DESIGN, DEVELOPMENT, AND INTEGRATION RISKS		
The proposed **strategy is not compliant** with evolving EU legislation (**L**/**M**)	WP1& 2 WP12	Early-stage **thorough analysis of current landscape** will be done to ensure all relevant compliance and regulatory procedures are implemented. **CI authorities will be directly involved** in the design and development of the strategy, offering their expertise on legal requirements and alignment.
Requirements misalignment with the end users' needs[**M**/**H**]	WP3 & WP4	We will conduct comprehensive **end user interviews and surveys** to validate their requirements and implement **regular reviews and revisions** of requirements throughout the project.
Design complexity may lead to implementation challenges [**M**/**H**]	WP3 & WP4	A **modular design** approach will be utilized. Several **reviews and revisions** of the design will be done with cross-functional teams to address the revised requirements and feedback from developments.
Limited data access, **low data quality**, or issues with **data interoperability** [**M**/**M**]	- WP3, WP4, WP5 & WP6	Data to be used is either **open or owned by the project partners**. These data are of required quality. Analysis of data and data sources will start early to allow for timely decisions on new sources (incl. synthetic data).
Implementation and integration complexity may lead to bottlenecks in the deployment phase [**M**/**H**]	WP3-WP10	**Agile SW development** practices together with a **continuous integration and deployment** (CI/CD) approach will be adopted to enable testing at regular intervals.
Rapid development without attention to (possibly low) **code quality** [**M**/**M**]	WP5-WP10	**Code quality checks** will be conducted regularly and **time for refactoring** will be allocated in the detailed planning of work. A **culture of code cleanliness** will be fostered and promoted.
Expanding the project scope without formal approval [**L**/**M**]	All	A formal **change control process** will be defined and adopted under quality assurance and technical coordination. Every significant change proposed will be **evaluated** in terms of the impact on timeliness and resources.
Piloting delays may occur due to unforeseen issues or lack of resources [**H**/**M**]	WP9 & WP10	A detailed **technical and strategic roadmap** will be prepared in WP2 and aligned with planned WP5 activities, which will enable us to **secure necessary resources** in advance. **Progress monitoring** will be done regularly, and adjustments that may be needed will be made in due time.
Digital twins do **not accurately represent** the modelled systems [**M**/**H**]	WP5 & WP6	The input data, designs of different digital twin models, as well as the final visualisations will be **continuously tested, validated, and calibrated** with real-world data.
Digital twins may cause **performance degradation** in operational services [**M**/**M**]	WP5 & WP6	Performance of the digital twins will be **continuously monitored**. The underlaying models and systems will be **optimised**. In case of severe performance issues, services will be **decoupled** from the digital twins.

Simulation tools may be too resource-intensive causing **performance issues** [**M**/**M**]	-WP7, WP8, WP9 & WP10	**Software and hardware requirements** will be assessed in advance, ensuring that the necessary resources are available in time. **Configurations will be optimised** to reduce resource consumption.
Educational and training material is **misaligned** with user needs, **outdated** or **overwhelming** [**M**/**M**]	WP5-WP10	Thorough **assessment of user needs** will be done, and different **learner personas** will be created to tailor contents to audience. Frequent **reviews, revisions, testing, and feedback loops** will help to ensure that the contents remain relevant and reflect latest developments.
The designed stress tests are **inadequate or unrealistic** [**M**/**H**]	WP9 & WP10	**CI stakeholders will be engaged** in the scenario development and validation to ensure they align with potential real-world risks. The tests will be **continuously reviewed and updated** based on changing conditions.
IMPACT GENERATION RISKS		
Insufficient brand visibility which may hinder impact and engagement [**L**/**L**]	WP6	A **robust branding and communication strategy, tools, and guidelines** will be developed and continuously reviewed and refined. The project with be regularly promoted through **several different channels**.
Impact is limited by current business processes [**M**/**M**]	WP11	Partners will focus on **business process re-engineering** aimed at maximizing the expected impact.
Failure to **impactfully communicate, disseminate, or exploit** project outcomes [**L**/**M**]	WP11	**Addressing the target groups early and continuously** in the project will raise timely interest in the project outcomes. The structure of the consortium ensures that a **promising field for the exploitation** of the project outcomes will be created.
Assessment of the business models shows **poor viability**. [**M**/**M**]	WP11	**Multiple variations of use cases** will be studied, and relevant business roles and models will be compared accordingly, as well as their respective profitability perspectives, each with an adapted and realistic timeline.
COLLABORATION AND MANAGEMENT RISKS		
Frictions in the consortium due to its size, cultural differences, or insufficient communication. [**L**/**M**]	All	The workplan enables partners to **closely collaborate** on the same activities, facilitating pleasant atmospheres within the teams. WP2 and WP5 will ensure collaboration and cohesion among partners. Frequent meetings and continuous interpersonal and informal communication will be encouraged.
Failure to deliver one or more **objectives**. [**L**/**H**]	All	We will ensure progress monitoring procedures are in place to proactively identify and address any arising issue.

12.4 Formatting guidelines and EU emblem rules

This chapter details the general guidelines on information that should be included in all document deliverables, as well as formatting rules and EU emblem rules.

Please make sure to follow the rules mentioned below:

- The first page of the document should contain the ENDURANCE logo, Deliverable number, Deliverable name (as per the Grant Agreement), Deliverable date, Status of the deliverable

(draft or final), the Version number of the Deliverable (0.1/ 0.2/ 1.0 – per case), and the EU funded statement and EU funded logo in the footer.

- Each page of the document (including first page) should contain the deliverable dissemination level (Public/Sensitive).
- Each page of the document (starting from the second page) should include the ENDURANCE logo in the header.
- The document should contain a list of changes table containing the following information: the version number, the date, the description of the changes/additions, the author of the changes/additions.
- The document should contain a contributors table (with the following columns: Role, Contributor's Name, Entity Short Name).
- The document should contain the Table of Contents of the deliverable chapters: Acronyms, Terms & Abbreviations, Introduction, and Other Chapters.
- The document should contain the Approvers section (in case approvals are needed).
- Use headings and subheadings for clarity.
- Keep the EU disclaimer in the first page footer acknowledging funding, grant agreement number and EU project funded logo.
- Use bullet points or numbered lists for easy reading.
- Include images or diagrams where applicable to enhance understanding and apply a caption to each.
- Maintain consistent formatting (font size, color, and style) throughout the document.
- Always "update fields of the entire table" in the Table of Contents.
- Table/picture numbering & title must be written using "Insert caption". The table caption is placed above, and the picture caption should be placed below.
- ENDURANCE visual identity and rules: the ENDURANCE logo should be part of all project deliverables and its templates. More details are explained in Deliverable D11.1 – Brand, Website, and Social Media Channels.

- Font requirements for Word document deliverables are as follows:
  - Normal text (Font Calibri, Size 11, color: #000000)
  - Bulleted list (using style Bullet, Font Calibri, Size 11, color: #000000)
  - Chapter Title Using Style Heading 1 (Calibri, font size 20, color: #171E38)
  - Sub-heading Using Style Heading 2 (Calibri, font size 14, color: #E23B67)
  - Sub-heading Using Style Heading 3 (Calibri, font size 12, color: #A023A1)

- For the Minutes of the Meeting (MoM) template, please ensure the listed requirements are followed:
  - Normal text (Font Calibri, Size 11, color: #000000)
  - First page should contain the date, timeslot and location of the meeting
  - Separate sections for: Participants list, Agenda, Previous actions, Notes, Next actions

As per the Grant Agreement, unless otherwise agreed with the granting authority, all communication activities undertaken by the beneficiaries related to the project (including media relations, conferences, seminars, information material, such as brochures, leaflets, posters, presentations, etc., in electronic form, via traditional or social media, etc.), dissemination activities and any infrastructure, equipment, vehicles, supplies, or major results funded by the grant must acknowledge the EU support and display the European flag (emblem) and funding statement (translated into local languages, where appropriate):

Figure 3 – EU emblems

The emblem must remain distinct and separate and cannot be modified by adding other visual marks, brands, or text.

Apart from the emblem, no other visual identity or logo may be used to highlight the EU support.

When displayed in association with other logos (e.g. of beneficiaries or sponsors), the emblem must be displayed at least as prominently and visibly as the other logos.

Any communication or dissemination activity related to the action must use factually accurate information.

Moreover, it must indicate the following disclaimer (translated into local languages where appropriate): “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 European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.”

The guidelines for the visual identity of the deliverable templates as per the EU emblem rules (Commission, 2024) are as follows:

- All documents must display the EU emblem in combination with a simple funding statement, mentioning the EU support.
- When displayed in association with other logos, the emblem must be at least the same size as the biggest of the other logos.
- It is recommended to place the EU emblem at a distance from the third-party organisation’s logo.
- The European Union emblem must not be modified or merged with any other graphic element or text.
- The recommended typefaces to be used in conjunction with the EU emblem are Arial, Auto, Calibri, Garamond, Tahoma, Trebuchet, Ubuntu, and Verdana.

- The protection area of the EU-funded logo must remain free of competing texts, logos, images, or any other visual element that could compromise its good legibility.
- The minimum height of the EU emblem must be 1 cm. For specific items, like pens, the emblem can be reproduced in a smaller size.
- Underlining and use of other font effects is not allowed.
- The positioning of the text in relation to the EU emblem must not interfere with the EU emblem in any way.
- The color of the font should be Reflex Blue (the same blue color as the European flag), white or black depending on the background.
- Sufficient contrast should be ensured between the EU emblem and the background. If there is no alternative to a colored background, a white border must be placed around the flag.
- The font size used should be proportionate to the size of the emblem.

13 Project Budget and Payment Plan

The total cost, party's share and maximum grant amount per each project entity were detailed in the ENDURANCE Consortium Agreement document.

Each project party will be entirely responsible for providing the Granting Authority with justification for its eligible costs related to the Project in line with its own standard accounting and management principles and procedures.

Eligibility conditions are detailed in Article 6 of the Grant Agreement.

The budget amounts may be adjusted by transfers between participants and budget categories, if this doesn't involve a significant or fundamental alteration to the action's description in Annex 1 of the Grant Agreement.

Details are available in the Sensitive version of the Project Handbook deliverable.

14 Reporting

Continuous reporting

Project beneficiaries must provide continuous reporting of the progress of the actions (e.g. milestones completion, deliverables, critical risks, etc.; if any).

This is done in accordance with the deadlines and conditions agreed with the Granting Authority using the EU Funding Portal Continuous Reporting tool.

Periodic reporting

The beneficiaries must provide periodic reports, that include a technical and financial part.

The Technical part includes an overview of the action implementation. It must be prepared using the template available in the Portal Periodic Reporting tool. All beneficiaries complete their contribution to the Technical Part.

The Technical Report is divided in two parts, Parts A and B:

- Part A: contains the structured tables with project information (retrieved from the Grant Management System).
- Part B (the narrative part): mirrors the application form and requires the participants to report on differences (delays, work not implemented, new subcontracts, budget overruns etc.) Give a clear account of the project activities during the reporting period towards the objective of the project and the expected impacts, explain any deviations of the DoA.

The financial part of the periodic report includes the financial statement (consolidated statement for the consortium) and must contain the lump sum contributions indicated in Annex 2, for the work packages that were completed during the reporting period.

The Coordinator completes the Status of Work Packages. A work package should be declared as completed when the work has been carried out as outlined in the description of action (Annex 1). Even if certain elements are missing, the package can still be deemed complete as long as all essential tasks have been completed, and/or equivalent tasks have been carried out, and/or when deviations have been duly justified.

The signing of the Financial Statements is automatically generated.

More details can be found in the Grant Agreement, section 21.2 Periodic reporting: Technical reports and financial statements.

Reporting periods

During the project implementation, there will be 2 reporting periods, as follows: the first reporting period is from M1-M18 (October 2024-March 2026), and the second reporting period is from M19-M36 (April 2026-September 2027).

Reporting					Payments	
Reporting periods			Type	Deadline	Type	Deadline (time to pay)
RP No	Month from	Month to				
					Initial prefinancing	30 days from entry into force/10 days before starting date – whichever is the latest
1	1	18	Periodic report	60 days after end of reporting period	Interim payment	90 days from receiving periodic report
2	19	36	Periodic report	60 days after end of reporting period	Final payment	90 days from receiving periodic report

Figure 4 – Reporting and payment schedule

After the reporting period is closed, the deadline for the consortium to submit the report is 2 months (60 days). The interim payment and final payment are expected to be received after 90 days from the report submission date.

The certificates on the financial statements (CFS) must not be included in these reports, as it is not applicable for this lump sum project (per the Grant Agreement, section 21.2 Periodic reporting: Technical reports and financial statements).

Project reviews

Periodic Review meetings are planned at the end of each reporting period (@ M19/20 & @M37/38) in agreement and with the participation of the Project Officer, plus 2 or 3 external experts, after the submission of the reporting package via the portal.

The scope is to outline the project progress, tasks completed, key achievements, resource usage, and if the case, any deviations.

Attendance at this meeting is mandatory for the PC, TM, and WPLs. Other consortium participants are also welcome to attend the review meetings.

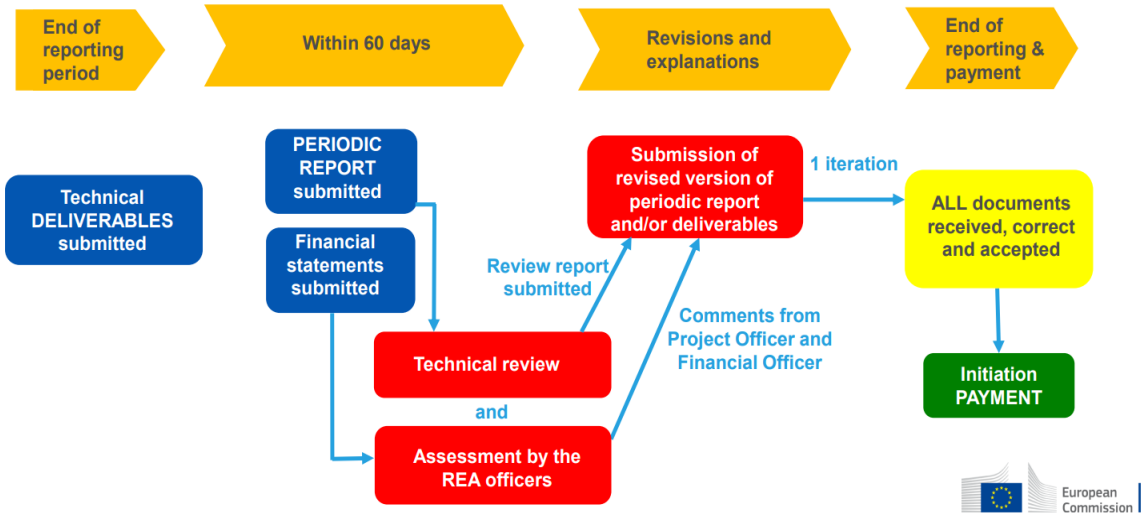

Figure 5 - Reporting and review flow

The deliverables and milestones associated with each reporting period are the following:

Milestones	Deadline Month	Means of verification
MS1: Start Related WPs: WP11, WP1, WP12 Lead: EVIDEN RO	M3: December 2024	Project start. Local workshops #1 held (WL1). Brand established, website and social channels live (D11.1 Brand, Website, and Social Media Channels). Project handbook released (D12.1).
MS2: Concept Related WPs: WP3, WP1 Lead: ENG	M9: June 2025	European workshop #1 held (WE1). Data Management Plan released (D3.1).
MS3: Roadmap Related WPs: WP9, WP3, WP11 Lead: ENG	M12: September 2025	Requirements, designs, and roadmap towards TRL5 (D3.2). Large-scale test designs and plans (D9.1). Updated impact generation strategy and assessment framework (D11.2).
MS4: Prototypes Related WPs: WP9, WP5, WP7 Lead: ENG	M15: December 2025	Identification of essential services, critical entities, interdependencies, risks, and cascading effects; prototypes for the data space and other enablers (D5.1). Prototypes for the initial services and dashboards (D7.1).
MS5: TRL5 Related WPs: WP9, WP2, WP12 Lead: ENG	M18: March 2026	Local workshop #2 held (WL2). Refined test designs and first pilot reaching TRL5 (D9.2&D9.3). Analysis of relevant legal and ethics frameworks, compliance guidelines (D12.2). First reporting period
MS6: Refinements Related WPs: WP4, WP11, WP2 Lead: ENG	M21: June 2026	European workshop #2 held (WE2). Refined requirements, designs, and roadmap towards TRL6 (D4.1). Updated impact strategy and initial impact assessment (D11.3).
MS7: TRL6 Related WPs: WP2, WP6, WP10 Lead: ENG	M27: December 2026	Final local workshop (WL3). Second pilots and reaching TRL6 (D10.1&D10.2).
MS8: Strategy Related WPs: WP4, WP12 Lead: ENG	M32: May 2027	Reference designs and final roadmap to TRL7 (D4.2). Compliance assessment and policy recommendations (D12.3).
MS9: TRL7 Related WPs: WP11, WP6, WP8, WP10 Lead: ENG	M36: September 2027	Final implementation of enablers (D6.1) and services (D8.1). Final pilot, reaching TRL7 (D10.3&D10.4). Business plans and sustainability (D11.4). Second reporting period

Figure 6 - Deliverables and milestones associated with each reporting period

15 Record keeping

The record-keeping (as per Article 20 in the Grant Agreement) may be done in accordance with each entity's internal standards, rules, and procedures.

The beneficiaries must — at least until the time-limit set out in the Data Sheet Point 6 in the Grant Agreement — keep records and other supporting documents to prove the proper implementation of the action (proper implementation of the work and/or achievement of the results as described in Annex 1 of the Grant Agreement) in line with the accepted standards in the respective field (if any).

According to Article 25.1.3 of the Grant Agreement, in the case of audit the beneficiary concerned must cooperate diligently and provide — within the deadline requested — any information (including complete accounts, individual salary statements or other personal data) to verify compliance with the Agreement.

All project partners must keep all records for 5 years after the final payment.

The beneficiaries must keep the original documents. Digital and digitalized documents are considered originals if they are authorized by the applicable national law. The granting authority may accept non-original documents if they offer a comparable level of assurance.

The records and supporting documents must be made available upon request or in the context of checks, reviews, audits, or investigations.

16 Amendments to the Grant Agreement

Amendments may be requested by any of the project parties, as per the Grant Agreement Article 39.

The party shall promptly notify the PC of any change that suggests an amendment and provide justification for it.

The request for amendment must include:

- the reasons why
- the appropriate supporting documents and
- for a change of coordinator without its agreement: the opinion of the coordinator (or proof that this opinion has been requested in writing).

The granting authority may request additional information.

The PC submits and receives requests for amendment on behalf of the party and must submit a request for amendment signed directly in the Portal Amendment tool.

Any amendment should be discussed and agreed with the General Assembly.

More details on the Amendments can be consulted in the Grant Agreement Article 39.

17 Exploitation and IPR procedures

17.1 IP Protection

The protection of intellectual property rights is essential to safeguard all options for the future exploitability of project outcomes, and to protect the interests of the partners investing in specific solutions. For that reason, ENDURANCE intends to ensure that all possible avenues to obtain and protect intellectual property rights are duly considered.

As with most EU funded research projects, it is expected that most project results will rely principally on **copyright** protection. This is the most obvious solution, given that some of the most valuable assets to be created during ENDURANCE are likely to be software applications, as well as guidance and best practice documents towards stakeholders of the ENDURANCE community. As these will typically be creative and original works, copyright protection will apply automatically, and the principal challenge is to implement IP management strategies that allow the effective tracking of ownership rights when a specific asset involved multiple partners, or when it was created on the basis of pre-existing work.

However, ENDURANCE will also consider less typical forms of IP protection, including the **patentability** of project outputs (which is not excluded, given that the EU recognizes computer-implemented inventions as patentable results in some circumstances), and reliance on **trade secrets,** in particular for commercially valid know-how that can be exploited, but does not qualify for protection using copyrights, e.g. because the work is largely factual and descriptive, and therefore is not a copyright protected creative work.

Finally, the project will also consider, during the final exploitation planning, whether **trademarks** (e.g. for the creation of a commonly branded ENDURANCE solution, service, or network) are feasible, valuable, and desirable for the partners.

The ENDURANCE project will apply an “open within, control without” approach, where IP-protected assets will be made openly accessible between the project partners wherever this is needed to achieve an optimal result; but will be closed towards outside entities by default in order not to pre-empt future exploitation choices.

The ENDURANCE project has dedicated internal expertise available, as will be explained below, to assist partners in choosing optimal IPR management choices, and to proactively identify, mitigate, and resolve any IP conflicts that arise during the project.

17.2 IP Exploitation

Exploiting intellectual property (IP) generated within the ENDURANCE project ensures that the innovative outputs are effectively utilized to create societal, economic, and scientific value. A comprehensive exploitation strategy is essential for bridging the gap between research results and their practical implementation. The following aspects define the exploitation framework:

1. **Systematic Identification of Results**:

   At the core of the exploitation process is the systematic identification of results with commercialization potential. This includes assessing technologies, methodologies, software, and datasets generated during the project. A robust internal review mechanism will ensure that every output is examined for its applicability to target markets, particularly in alignment with the CER and NIS2 Directives.

2. **Value Proposition Development**:

   A detailed value proposition will be developed for each exploitable result to define its relevance, competitive advantage, and unique benefits. This will include identifying key beneficiaries, such as critical infrastructure operators, EU member states, and industry stakeholders.

3. **Market Analysis and Stakeholder Engagement**:

   An ongoing market analysis will identify trends, opportunities, and competitive dynamics relevant to project outcomes. This process will involve directly engaging stakeholders through surveys, workshops, and consultations to validate market needs and ensure alignment between project outputs and end-user requirements.

4. **Developing Exploitation Plans:**
   Drafting an exploitation plan for the results that should outline potential markets, users and commercialization. Plans should be reviewed periodically during the consortium meetings und updated to reflect market trends and technological advancements.
5. **Strategic Partnerships and Commercial Pathways**:

   Collaboration is critical to scaling and deploying project results. Partnerships with technology developers, industry leaders, and regulatory bodies will be sought to facilitate licensing, joint ventures, and knowledge transfer agreements. These partnerships will be formalized through contractual arrangements, ensuring clarity of roles and responsibilities.

6. **Balancing Open Access and Commercialization**:

   Dissemination activities will be carefully balanced with commercialization objectives to ensure public results sharing does not compromise their market potential. Open access will be encouraged for results with broader societal benefits, while commercialization pathways will be pursued for outputs with a direct revenue-generation potential.

7. **Sustainability and Exploitation Models**:

   Structured exploitation models, such as recurring revenue streams from licensing agreements, service productization, and the establishment of spin-off ventures, will ensure long-term sustainability. Additionally, measures will be implemented to ensure that exploitation aligns with ethical considerations and European values.

8. **Non-commercial Exploitation:**

   Academic dissemination, publishing findings in peer-reviewed journals.

   Open-source contributions. Share software and tools under open-source license where appropriate.

   Share outcomes with the public through accessible platforms and media.

17.3 IP Management

Effective intellectual property management is critical to ensure the protection, accessibility, and appropriate utilization of all IP assets generated during the ENDURANCE project. This process involves structured governance, compliance, and collaborative strategies, as outlined below:

1. **IP Asset Declaration and Inventory**:

   At the project's initiation, all participants must declare existing IP assets required for the execution of the project. These assets will be catalogued in an IP inventory, as a reference for ownership rights and access permissions throughout the project lifecycle.

2. **Ownership and Joint Development**:

   Results will be owned by the party or parties responsible for their creation. For jointly developed results, a co-ownership agreement (or if necessary, multiple such agreements) will be established, defining each party's rights and obligations, including terms for licensing, revenue sharing, and further development and exploitation rights.

3. **Protection Mechanisms**:

   IP protection will be tailored to the nature of the asset. This includes filing patents for novel technologies, securing copyrights for creative works, and employing trade secret protections where applicable. Timely filing is crucial to prevent unauthorized use or disclosure.

4. **Access Rights and Licensing**:

   The project’s objectives will grant access rights to IP. Participants will have royalty-free access for implementing project activities, while fair and equitable terms will apply for external use or commercial exploitation. A clear licensing framework will be established to manage these transactions.

5. **Monitoring and Compliance**:

   Compliance with EU regulations and grant agreement. Regular audits and monitoring will ensure compliance with IP protocols. This includes verifying adherence to confidentiality agreements, ensuring the proper attribution of ownership, and tracking the status of protection measures. Non-compliance will be addressed through predefined corrective actions. Annual review of handbook to incorporate changes in EU regulations or project needs.

6. **Conflict Resolution**:

   Disputes over IP will be resolved through structured mechanisms, such as mediation and arbitration. These processes will ensure fair outcomes while minimizing disruptions to the project.

7. **Documentation and Reporting**:

   Comprehensive documentation will support transparency and compliance. This includes maintaining records of IP declarations, protection filings, licensing agreements, and exploitation plans. Regular reports will be shared with consortium members and relevant stakeholders to keep all parties informed.

8. **Ethical and Legal Considerations**:

   IP management will be aligned with ethical standards and legal frameworks, including GDPR compliance for data-driven assets and adherence to Horizon Europe guidelines. This ensures that the project maintains integrity and accountability in all its IP-related activities.

9. **Third-party contributions and background IP:**
   Contributions from third parties or background IP must be disclosed prior integration and documented in the consortium agreement. Comply with licensing and access rights agreed upon with the IP owners.
10. **Confidentiality and data management:**
    Ensure NDAs are in place for all partners and third parties handling sensitive project information.
    Restrict access to unauthorized personnel and encrypt sensitive communications.
    Regularly update security protocols and conduct vulnerability assessments.
11. **Termination and post-project considerations:**
    Clarify ownership of residual IP and access rights after project termination.
    Establish licensing terms that ensure sustained exploitation of project outcomes.
    Preserve project documentation and facilitate transfer to relevant stakeholders for future reference or continuation.

18 Ethics and Gender Policy

18.1 Ethical dimension of the objectives, methodology and likely impact

By definition, essential services include services whose temporary or prolonged interruption has **significant consequences for the population**. In some cases, lack of access to these resources can lead to serious medical or psychological after-effects, or even death. In addition, the interruption of these services may be linked to a triggering event that is harmful in itself, such as a natural disaster. Consequently, there is a **cross-cutting ethical dimension** to the resilience of critical infrastructures and the strategies that are put in place to deal with incidents.

Of course, an incident management strategy will always aim to avoid the least damage and casualties. However, in practice, such responses can often only limit the consequences for the maximum number of people and will have to accept certain casualties. This means that **choices must be made**, both upstream when designing response methodologies and tools, and downstream during actual crises.

Ethical issues such as these are not new and are linked to the famous **trolley problem**. The trolley problem was first formulated by the British philosopher Philippa Foot in 1967 in an article entitled *The Problem of Abortion and the Doctrine of the Double Effect*, and developed further by Judith Jarvis Thomson, another philosopher, in her article *Killing, Letting Die, and the Trolley Problem* published in 1976.

When developing a resilience framework for essential services as part of the ENDURANCE project, it will therefore be important to be vigilant for any situation that requires **certain needs, resources, or people to be prioritized**. Different measures may have a different impact on people in a given area depending on their age, gender or other criteria. Similarly, measures taken as part of a resilience plan may benefit people in one geographical area, or even one Member State, to the detriment of another.

In addition, the use of **artificial intelligence tools** in certain circumstances enables rational and faster responses to incidents, but it delegates some of the choices, particularly prioritization, to algorithms, for which it is therefore necessary to ensure robustness and minimize bias.

Of course, all these issues are delicate, which is why a **well-constructed, balanced framework that is clear** to implement and that highlights the right issues from the outset is crucial.

The ENDURANCE project will therefore work to put in place an ethical framework, or 'Charter', which will be based on **fundamental rights, monitored, and minimize harmful effects**.

A set of concepts and rules will be developed and agreed between the various partners to create a framework for collaboration within the EU that will not only ensure the continuity of essential services and respond effectively to incidents and disasters but will also be implemented ethically and in accordance with the values and legislation applicable within the EU.

The ENDURANCE project will therefore be **continuously monitored** to cover its ethical dimensions. Relevant considerations will be raised during the various implementation phases as well as during the pilot phases, and **any issues that arise will be addressed, where necessary in consultation with an external ethical advisor**.

An **Initial assessment** will be carried out mid-way through the project, and a **Final assessment** at the end of the project, to confirm that the framework and pilots are compliant, and to indicate any areas where improvements can still be made.

Because the ENDURANCE project will involve a variety of ethical and legal issues, including multidisciplinary issues, the list of relevant legislation is given in the following heading.

18.2 Compliance with ethical principles and relevant legislation

Partners of the ENDURANCE project will ensure compliance with the following EU law (and their implementation in national law), mainly:

- **Critical Entities Resilience Directive (CER Directive)**
- **Directive on measures for a high common level of cybersecurity across the Union (NIS2 Directive)**: In particular, continuity of service and confidentiality of information are crucial to ensure the most effective response to any serious incidents.
- **General Data Protection Regulation (GDPR)**: A significant amount of data must be collected as part of the incident response, including personal data that will have to be shared between several actors. This data must be protected, but it must also be sufficiently accessible, and quickly, to ensure the most effective response to any serious incidents.
- **Artificial Intelligence Act (AI Act)**: When AI is used to help operators make critical decisions, such tools should be designed following best standards and ensure robustness and minimization of bias.

18.3 Gender Policy

The ENDURANCE project is keenly aware of the importance of safeguarding an open, inclusive, and positive approach towards all genders. Beyond the habitual monitoring and reporting of gender representation in the project partners, ENDURANCE will therefore:

- Apply **gender-neutral and gender-inclusive language** in its internal and external **communications**, being respectful and mindful of individual preferences, and avoiding terminology that needlessly favor a gender over any other;
- Ensure that **deliverables and publications** are also quality reviewed with this communication approach in mind, prior to any submission and publication outside of the consortium;
- Ensure that the project applies **gender-inclusive design**, i.e. that the project considers whether the conceptualization, implementation or use of project assets are likely to favor a gender over any other, and to seek reasonable solutions wherever possible.
- Prior to initiating any **piloting activities or external consultations** (such as workshops or questionnaires), the ethics team will conduct an ***ex ante* evaluation** whether the set-up and organization are likely to attract greater or smaller participation from one gender over others; and/or whether the execution of the pilot or consultation is likely to have detrimental impacts on some genders. Where problems are identified, these will be mitigated proactively wherever possible.

- After the conclusion of **piloting activities or external consultations**, an ***ex post* evaluation** will similarly be conducted to determine any discrimination or bias, irrespective of whether any risks had been identified in advance; and the implications for the project outcomes will be identified.

The ethics team will assess compliance with this Gender Policy throughout the execution of the project. It is worth recognizing that, in a project such as ENDURANCE, gender issues are unlikely to occur, with the exception of possible gender imbalances in project team members (as security related and technologically driven projects such as ENDURANCE traditionally are likely to have an overrepresentation of persons that identify as male). Nonetheless, compliance with the Gender Policy will be monitored, and ENDURANCE partners will be encouraged to seek equitable participation and representation in their teams.

19 Security

The ENDURANCE project concerns critical infrastructure, invoking real-life scenarios for the continuity of the interconnected essential services, including analysis of threat assessments, thereby raising security concerns.

The aim is to minimize any security risks with could occur for the ENDURANCE project development or partners by ensuring the proper storage and document sharing repository, as well as proper data classifications and proper checks on the disseminated information to be cleared as not security sensitive.

All Parties shall ensure that an appropriate level of security is maintained.

We recommend to all entities participating in this project implement the measures foreseen in the staff working document "Tackling R&I foreign interference".

Multiple Critical Infrastructure operators and authorities, and SME support will collaborate within a controlled environment to understand the potential cascading effects and assess collective response capabilities. Simulations provide a risk-free space for operators to test different strategies and make informed decisions.

19.1 Data Classifications

ENDURANCE deliverables have two data classification types:

- Public
    - Information that can be shared openly with the public.
    - From April 2017, deliverables with the dissemination level public will be published in Cordis. A warning message will be now displayed when a public deliverable is submitted to make users aware that, once approved by the Project Officer, the deliverable will be sent to Cordis for publication.
- Sensitive
    - Only for members of the consortium (including Commission Services)

Sensitive information with a security recommendation must comply with the additional requirements imposed by the granting authority. This is all documented in Annex 1 of the Grant Agreement (DoA Part B chapter 5.1).

There are specific rules on Sensitive information with security recommendation that are detailed in the Grant Agreement Annex 5.

- Before starting the action tasks concerned, the beneficiaries must have obtained all approvals or other mandatory documents needed for implementing the task. The documents must be kept on file and be submitted upon request by the coordinator to the granting authority. If they are not in English, they must be submitted together with an English summary.

- For requirements restricting disclosure or dissemination, the information must be handled in accordance with the recommendation and may be disclosed or disseminated only after written approval from the granting authority.

Regardless of the data classification type, all information belonging to the ENDURANCE project or to ENDURANCE partners must be protected by all parties in conformity with the classification level.

If not stated clearly and defined explicitly, in agreement, project partners should jointly work to define the data classification level and confidentiality measures for the information created by them.

19.2 Security Advisory Board

The Security Advisory Board has been established to evaluate project deliverables continuously throughout the project lifecycle. Its primary objectives are to identify any security-sensitive information, recommend appropriate classification and declassification measures, and implement timely strategies to prevent the misuse of such information.

19.3 Access to the project deliverables and documentation

The ENDURANCE project document repository is a controlled and enclosed SharePoint site, available only to precise project list members. The Eviden SharePoint is enabled for sharing with project partners, part of secure collaboration with Microsoft 365.

When accessing the SharePoint for the first time, Terms and Conditions need to be read, understood, accepted, and followed.

While using the project SharePoint, all users must comply with the following, such as (as stated in Terms and Conditions):

- You acknowledge that the service is for business use only. You agree that you will not use the service for any personal purposes. The service should not be used to store personal content/files.
- You are responsible for all activity that occurs under your username.
- You are solely responsible for your conduct and any content that you submit, post, and display on the service, or that you allow others to submit, post and/or display on the service under your username.
- You must not harass, threaten, impersonate, or intimidate other users.
- You must not upload, post, email, transmit or otherwise make available any content that is unlawful, harmful, threatening, abusive, harassing, tortious, defamatory, vulgar, obscene, libelous, invasive of another's privacy, hateful, or racially, ethnically or otherwise objectionable.

- You must not upload, post, email, transmit or otherwise make available any unsolicited or unauthorized advertising, promotional materials, "junk mail," "spam," "chain letters," "pyramid schemes," "affiliate links," or any other form of solicitation.
- You must not transmit any worms or viruses or any code of a destructive nature.
- You must not violate any local laws in your jurisdiction (including but not limited to intellectual property laws).
- You must not use the service for any illegal or unauthorized purpose. If you are an international user, you agree to comply with all local laws regarding online conduct and acceptable content.
- You warrant that you will not submit material that is copyrighted, protected by trade secret or otherwise subject to third party proprietary rights, including privacy and publicity rights, unless you are the owner of such rights or have permission from their rightful owner to post the material.
- You agree that you shall be solely responsible for your own content and the consequences of posting or publishing it.

19.4 Data sets and dissemination

Throughout its implementation, the project will aim to adhere to as many FAIR (Findable, Accessible, Interoperable, and Reusable) principles as possible.

To reach the defined objectives, ENDURANCE will **not** use any classified background information and will **not** produce any foreground classified information.

19.5 Security Restrictions

In order to achieve the expected outcomes, and safeguard the Union's strategic assets, interests, autonomy, or security, namely, to protect and to preserve the confidentiality of risk assessments and of the vulnerabilities of critical entities of Member States, participation is limited to legal entities established in Member States only. Including entities established in countries other than EU Member States is ineligible.

20 Conclusions

This deliverable presents the management procedures and tools for the ENDURANCE project, establishing a robust framework for project implementation. It ensures standardized processes and documentation, promoting consistency throughout the project's execution.

The Project Handbook encompasses all operational aspects related to project management and execution. It serves as a comprehensive resource for consortium partners, outlining specific procedures and standards to be adhered to during the project lifecycle. Key components include communication tools, quality assurance processes, risk identification and management strategies, and essential guidelines.

Additionally, the handbook details our methodologies, the project plan including the work breakdown structure and task allocation, quality assurance measures, and risk mitigation strategies. It also addresses critical considerations regarding ethics, intellectual property protection, and data security, ensuring full compliance with the European Commission's requirements.