HEDGE-IoT

Holistic approach towards Empowerment of the Digitalization of the Energy Ecosystem through adoption of IoT solutions

D1.1
Project Management Handbook

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

DOCUMENT CONTROL SHEET

PROJECT INFORMATION

Project Number	101136216		
Project Acronym	HEDGE-IoT		
Project Full title	Holistic Approach towards Empowerment of the Digitalization of the Energy Ecosystem through adoption of IoT solutions		
Project Start Date	01 January 2024		
Project Duration	42 months		
Funding Instrument	Horizon Europe Framework Programme	Type of action	HORIZON-IA HORIZON Innovation Actions
Call	HORIZON-CL5-2023-D3-01-15		
Topic	Supporting the green and digital transformation of the energy ecosystem and enhancing its resilience through the development and piloting of AI-IoT Edge-cloud and platform solutions		
Coordinator	European Dynamics Luxembourg SA		

DELIVERABLE INFORMATION

Deliverable No.	D1.1							
Deliverable Title	Management, communication and quality approaches, Data Management and IPR protection procedures							
Work-Package No.	WP1							
Work-Package Title	Project Management and Administration							
Lead Beneficiary	ED							
Main Author	Stratis Kanarachos (ED)							
Other Authors	Nikos Bilidis (ED)							
Due date	February 29th 2024							
Deliverable Type	X	Document, Report (R)		Data management plan (DMP)		Websites, press & media action (DEC)		Other
Dissemination Level	X	Public (PU)		Sensitive (SEN)		Classified		
	PU: Public, fully open SEN: Sensitive, limited under the conditions of the Grant Agreement Classified R-UE/EU-R – EU RESTRICTED under the Commission Decision No2015/444 Classified C-UE/EU-C – EU CONFIDENTIAL under the Commission Decision No2015/444 Classified S-UE/EU-S – EU SECRET under the Commission Decision No2015/444							

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

DOCUMENT REVISION HISTORY

Version	Date	Description of change	List of contributor(s)
V0.5	16/02/2024	First Draft	ED
V0.9	22/02/2024	Internal Review	CEL
V1.0	29/02/2024	Final Draft	ED, RWTH, VTT, CEL, F6S

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

PARTNERS

Participant number	Participant organisation name	Short name	Country
1	EUROPEAN DYNAMICS LUXEMBOURG SA	ED	LU
2	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	RWTH	DE
3	ENGINEERING - INGEGNERIA INFORMATICA SPA	ENG	IT
4	EREVNITIKO PANEPISTIMIAKO INSTITOUTO SYSTIMATON EPIKOINONION KAI YPOLOGISTON	ICCS	EL
5	INESC TEC - INSTITUTO DE ENGENHARIADE SISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA	INESC	PT
6	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO	TNO	NL
7	TAMPEREEN KORKEAKOULUSAATIO SR	TAU	FI
8	TEKNOLOGIAN TUTKIMUSKESKUS VTT OY	VTT	FI
9	TRIALOG	TRIALOG	FR
10	CYBERETHICS LAB SRLS	CEL	IT
11	CENTRO DE INVESTIGACAO EM ENERGIA REN - STATE GRID SA	NESTER	PT
12	INTERNATIONAL DATA SPACES EV	IDSA	DE
13	ELIA TRANSMISSION BELGIUM	ETB	BE
14	HRVATSKI OPERATOR PRIJENOSNOG SUSTAVA D.D.	HOPS	HR
15	UNIVERSITATEA TEHNICA CLUJ-NAPOCA	TUC	RO
16	CLUSTER VIOOIKONOMIAS KAI PERIVALLONTOS DYTIKIS MAKEDONIAS	CLUBE	EL
17	F6S NETWORK IRELAND LIMITED	F6S	IE
18	SOCIAL OPEN AND INCLUSIVE INNOVATION ASTIKI MI KERDOSKOPIKI ETAIREIA	INCL	EL
19	ABB OY	ABB	FI

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

20	ENERVA OY	ENERV	FI
21	JARVI-SUOMEN ENERGIA OY	JSE	FI
22	DIMOSIA EPICHEIRISI ILEKTRISMOU ANONYMI ETAIREIA	PPC	EL
23	DIACHEIRISTIS ELLINIKOU DIKTYOU DIANOMIS ELEKTRIKIS ENERGEIAS AE	HEDNO	EL
24	INDEPENDENT POWER TRANSMISSION OPERATOR SA	IPTO	EL
25	ELLINIKO HRIMATISTIRIO ENERGEIAS	HENEX	EL
26	HARDWARE AND SOFTWARE ENGINEERING EPE	HSE	EL
27	QUE TECHNOLOGIES KEFALAIOUCHIKI ETAIREIA	QUE	EL
28	ARETI S.P.A.	ARETI	IT
29	APIO S.R.L.	APIO	IT
30	ACEA ENERGIA SPA	AE	IT
31	VOLKERWESSELS ICITY B.V.	VWICI	NL
32	ARNHEMS BUITEN BV	AB	NL
33	STICHTING VU	VU	NL
34	COOPERATIVE ELECTRICA DO VALE DESTE CRL	CEVE	PT
35	REN - REDE ELECTRICA NACIONAL SA	REN	PT
36	MC SHARED SERVICES SA	SONAE	PT
37	ELES DOO SISTEMSKI OPERATER PRENOSNEGA ELEKTROENERGETSKEGA OMREZJA	ELES	SI
38	ELEKTRO GORENJSKA PODJETJE ZA DISTRIBUCIJO ELEKTRICNE ENERGIJE DD	EG	SI
39	OPERATO DOO	OPR	SI
40	SVEUCILISTE U ZAGREBU FAKULTET ELEKTROTEHNIKE I RACUNARSTVA	UNIZG	HR
41	INSTITUT JOZEF STEFAN	JSI	SI
42	KONCAR - DIGITAL DOO ZA DIGITALNE USLUGE	KONC	HR

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

DISCLAIMER

Funded by the European Union. Views and opinions expressed are those of the authors only and do not necessarily reflect those of the European Union. The European Commission is not liable for any use that may be made of the information contained herein.

COPYRIGHT NOTICE

EXECUTIVE SUMMARY

This document serves as the first output from HEDGE-IoT's Work Package 1, focusing on Project Management (PM) and Quality Assurance (QA). It outlines the comprehensive project management approach, details the quality assurance measures, and lays out the risk management and innovation strategies to be employed throughout the project's life. The Project Management Handbook sets forth the management procedures that will guide the design, implementation, and demonstration phases of HEDGE-IoT. All project partners share the responsibility of following this handbook closely, as required by the EC Grant Agreement (Project number: 101136216), to ensure the high quality of all project results and adherence to coordination practices during project activities. This plan includes a series of deliberate steps to ensure Hedge-IoT's quality goals are met. Additionally, the document acts as a checkpoint to confirm that all agreed-upon procedures are being followed and to address any deviations with corrective actions. A set of Key Performance Indicators (KPIs) is also introduced, which will be regularly updated to track the project's progress and the quality of work across the various executed tasks.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

TABLE OF CONTENTS

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

LIST OF TABLES

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

LIST OF FIGURES

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

ABBREVIATIONS

CA	Consortium Agreement
DoA	Description of Action
DoW	Description of Work
EC	European Commission
GA	General Assembly
ICT	Information and Communication Technology
IPR	Property Rights
KPIs	Key Performance Indicators
PI	Principal Investigator
PCT	Project Coordination Team
PC	Project Coordinator
PM(H)	Project Management (Handbook)
PMBOK	Project Management Book Of Knowledge
PMI	Project Management Institute
QA(S)	Quality Assurance (Supervisor)
SAB	Scientific Advisory Board
SotA	State of the Art
TL	Task Leader
WP	Work Package

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

1 INTRODUCTION

1.1 PURPOSE OF THE DOCUMENT

This Project Management Handbook (PMH) outlines the essential tools, frameworks, structures, processes and methods needed to manage the project's quality effectively from its initiation to completion. It establishes the project's management principles, standards, and scope, as well as delineating the duties, responsibilities, and authority of those involved. The aim of this document is to detail the procedures that will be employed throughout the various stages of project execution.

The facilitation on the Project Management planning is a collective responsibility of all project partners until all responsibilities under the EC grant agreement are fully met.

The Project Management plan is designed to guarantee the quality of all project outputs and to facilitate proper coordination among partners throughout the project's tasks. Specifically, the objectives of the Project Management plan include:

- Ensuring that the project progresses without hindrance.
- Documenting project advancement according to commonly agreed quality metrics, and ethical and technical norms.
- Identifying any early deviations from the project plan as outlined in the DoA (Description of Action).
- Implementing corrective measures promptly when needed.

The protocols established in this plan are intended to embed quality into the project's operational processes. Thus, it encompasses deliberate and methodical actions to confirm and achieve the project aims of HEDGE-IoT.

This handbook will act as the primary guide for the project coordinator and all project partners concerning quality-related issues within HEDGE-IoT.

This handbook will also act as a source of reference for the different reporting templates that will be used throughout the lifecycle of this project. At the time of writing, Appendix A includes the template of the Deliverables of the HEDGE-IoT project and the presentations template. The Agenda template, the Presentation template, the Minutes of Meeting template, and all updates applied from this time onwards, will be available in the deliverable “Project Management Handbook 2” (D1.2) that will be delivered at the end of M18.

The HEDGE-IoT project will implement a non-compliance and corrective action system to ensure prompt identification and rectification of any deviations from the project plan.

Instances of non-compliance will be recorded, and corrective measures will be taken, accordingly. The PMH mandates ongoing monitoring of these corrective actions to ensure that established procedures are effectively executed and adhered to.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

1.2 REFERENCE AND APPLICABLE DOCUMENTS

1.2.1 Reference documents

- Book of Knowledge from the Project Management Institute (PMI), PMBOK [1].
- Horizon Europe reference documents [2].

1.2.2 Applicable documents

- The documents, which are applied in the present Project Management Plan handbook, are:
- HEDGE-IoT Grant Agreement, project number: 101136216 for the Horizon Europe topic HORIZON-CL5-2023-D3-01-15.
- Consortium Agreement, version: 1.0 approved and signed by all HEDGE-IoT's partners.

1.3 STRUCTURE OF THE DOCUMENT

- Chapter 1 - Introduction: outlines the purpose, reference documents, and structure of the handbook. It establishes the management principles, standards, and scope of the HEDGE-IoT project, ensuring alignment with quality management from initiation to completion. It also refers to quality-related issues, focusing on early identification and correction of deviations from the project plan.
- Chapter 2 - Organisation and Responsibilities: describes the project management structure, emphasizing on principles like integrated project structure, advanced management tools, and binding decision provisions. It details the roles and functions of the Project Coordination Team (PCT), highlighting their responsibility for administrative, scientific coordination, and quality assurance tasks.
- Chapter 3 - Collaboration: defines the decision-making process, conflict resolution, and communication among partners. It emphasizes the importance of regular meetings and information flow for effective project progress measurement, ensuring that all partners are aligned and collaborative.
- Chapter 4 - Quality Review Process: outlines the stringent quality control measures for hardware/software, documentation, and research papers within the project. It emphasizes the importance of aligning project outputs with predefined acceptance criteria, ensuring adherence to schedules and budget, and maintaining focus on project objectives.
- Chapter 5 - Configuration Management: focuses on the systematic tracking and control of changes to all project outcomes, including deliverables, documents, and testing procedures.
- Chapter 6 - Quality Attributes and Key Performance Indicators (KPIs): outlines the qualitative attributes employed to evaluate the overall quality of project outcomes, emphasizing accuracy in planning, correctness, conformity, acceptance, redundancy, efficiency, and effectiveness. KPIs are utilized to monitor project progression towards objectives, with biannual reviews conducted by the technical manager and detailed in the Periodic Management Report.
- Chapter 7 - Risk Management: describes the ongoing, adaptive process, essential for identifying and responding to potential risks that could impact project success.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

- Chapter 8 - Innovation Management: describes how Innovation Management is structured to capture, develop, and implement novel ideas for impactful and innovative solutions. The process includes capturing diverse ideas, defining and understanding concepts, evaluating feasibility, and ensuring resource availability for transforming ideas into solutions. A critical aspect is managing Intellectual Property Rights (IPR), with the progress and effectiveness of innovation management strategies documented in Yearly Exploitation and Dissemination Reports.
- Chapter 9 – Internal Reviewers of Deliverables: includes the allocation of 2 internal reviewers for each one of the project's deliverables. This table will be updated in the future if need be.
- Chapter 10 – Effort Allocation per Task includes a detailed table where the contribution of each partner to the different Tasks in terms of PMs, is presented.
- Chapter 10 – Conclusions: serves as a comprehensive summary of the project's management strategies and procedures.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

2 PROJECT ORGANISATION AND RESPONSIBILITIES

The project management of HEDGE-IoT is grounded in three fundamental principles:

- **Integrated Project Structure:** Establish a cohesive project framework that integrates technical, scientific, and partner coordination aspects along with routine business operations.
- **Advanced Project Management Tools:** Utilize globally recognized and cutting-edge management tools, fostering a strong research commitment across the team. The project methodology will align with the standards of the Project Management Institute.
- **Binding Decision Provisions and Agreements for All Partners**: Ensure decision-making occurs at the appropriate level of responsibility, escalating only when necessary. Establish solid and trustworthy agreements to safeguard the intellectual properties of all partners.

These principles aim to develop a project management approach that ensures transparency and commitment from all involved parties, thereby facilitating a smooth and successful project progression. This approach is designed to ensure that HEDGE-IoT achieves all its objectives on time, within budget, and with the highest quality outcomes.

2.1 PROJECT MANAGEMENT STRUCTURE

The management structure of the HEDGE-IoT project is described as depicted in FIGURE 1.

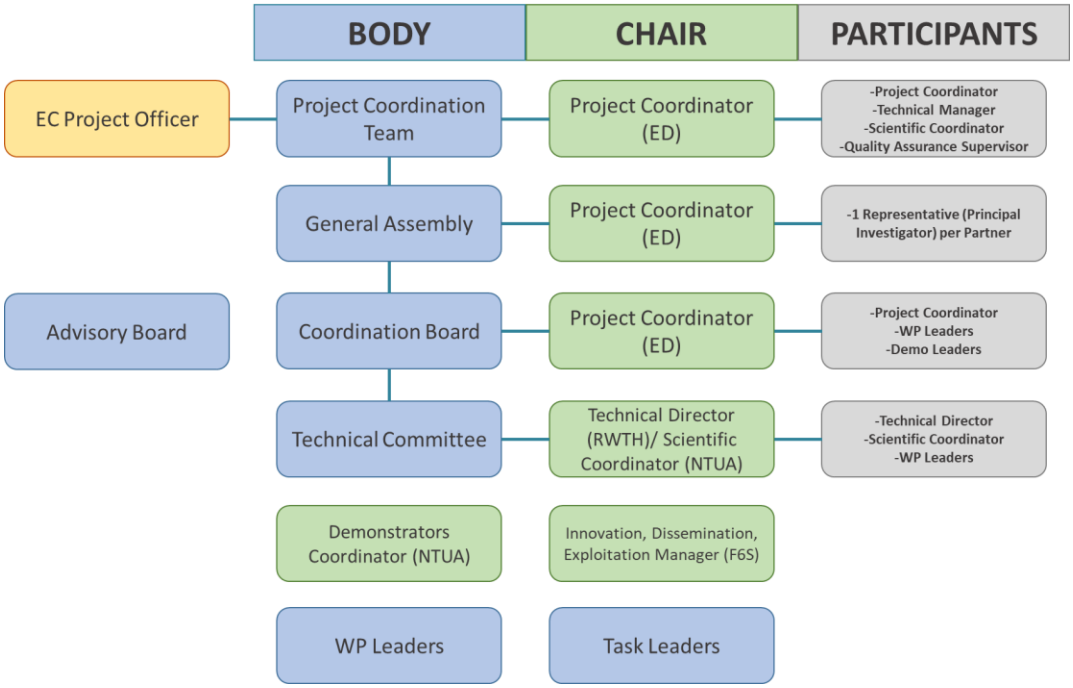


FIGURE 1. HEDGE-IOT MANAGEMENT STRUCTURE

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

2.1.1 Project coordination team

The Project Coordination Team is the central authority within the Consortium, overseeing the project's planning, execution, and management. This team is responsible for a range of critical functions, including:

- Administrative and scientific coordination tasks, along with Quality Assurance.
- Execution of all strategic action plans.
- Establishing and managing a budget and schedule control system.
- Addressing Intellectual Property concerns.
- Developing and implementing a culture of communication and reporting.
- Forming efficient and effective team structures.

The team is composed of key roles: "Project Coordinator" (ED), "Technical Coordinator" (RWTH), "Scientific Coordinator" (NTUA), "Demo Coordinator" (NTUA), "Innovation, Dissemination & Exploitation Manager" (F6S), and "Quality Assurance Supervisor" (ED). The primary responsibilities of each role are as follows:

- **Project Coordinator (PC)** – The PC serves as the main liaison with the European Commission, responsible for the overall coordination of the project. This includes reporting on the project's progress, any changes in the consortium or work plan, and receiving feedback on the research outcomes from each work package. The primary responsibility of the Project Coordinator (PC) is to oversee the work packages and tasks, ensuring they yield the anticipated results and that the project progresses effectively and punctually towards its goals. To achieve this, the PC must maintain regular communication with the work package leaders, verifying that the expected deliverables are produced on schedule and submitted to the Commission and project reviewers as necessary. The PC also organizes and leads the routine technical meetings of the General Assembly. Their duties encompass mediating and resolving conflicts, as well as implementing contingency plans in case of a partner's non-performance, failure to produce required research outcomes, recruitment issues, or resource shortages. Furthermore, the PC is tasked with ensuring the proper preparation and management of the consortium agreement, including intellectual property rights and other legal documents. The Project Coordinator serves as the sole official liaison with the European Commission, addressing all matters related to the HEDGE-IoT project and consortium.

- **Technical Coordinator –** This role is pivotal in achieving the technological goals of the project. The Technical Coordinator collaborates closely with the Work Package Leaders and assists the Project Coordinator (PC) in ensuring these goals are achieved efficiently and with high technical quality.

- **Scientific Coordinator –** This role is dedicated to ensuring the scientific objectives of the project are fulfilled as planned. Working in tandem with the Work Package Leaders, the Scientific Coordinator aids the PC in meeting these objectives on time and with superior scientific and technical standards. They report to both the PC and the General Assembly.

- **Demo Coordinator –** This role is typically loaded with a set of responsibilities focused on overseeing and managing demonstration activities. The role is crucial in ensuring that the project's theoretical and developmental work is effectively translated into practical, real-world applications.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

- **Innovation, Dissemination & Exploitation Manager –** This individual is tasked with overseeing the various phases of the innovation cycle. They are also in charge of disseminating project results throughout the project's duration and planning post-project activities.
- **Quality Assurance Supervisor (QAS) –** Collaborating with the PC, the QAS is responsible for developing, maintaining, and updating an effective Quality Plan (also included in this deliverable). They ensure the execution of quality assurance functions. Each Work Package Leader acts as a Quality Controller within their package, implementing and enforcing the quality control procedures outlined in the Quality Plan. Additionally, Quality Assessors from the Consortium partners' staff will be appointed to evaluate quality. These assessors will conduct periodic reviews and report their findings to the PC.

2.1.2 General assembly

The General Assembly (GA) is the major decision-making body of the HEDGE-IoT project, comprising one Principal Investigator (PI) from each project partner. Meeting biannually, the GA's primary role is to discuss the project's progress in detail and make decisions on HEDGE-IoT's technical directions. They receive and evaluate reports from each Work Package Leader and Working Group Leader, assessing the acceptability of progress in each Work Package. If necessary, the GA amends the work plan, reallocates resources, or initiates contingency actions. They also discuss and decide on project finances, intellectual property rights, and major disputes. The Project Coordinator can convene additional electronic meetings for urgent matters. Each GA member has one vote, with decisions ideally made by consensus or, if needed, by majority vote, with the Project Coordinator having the casting vote. The Consortium Agreement details the GA's decision-making and voting procedures.

2.1.3 Coordination Board

The Coordination Board supervises the execution of the Project, reporting to and being accountable to the General Assembly. Comprising representatives appointed by the General Assembly, it meets monthly to oversee the project's progress and execution. The Board is responsible for monitoring the project plan, proposing modifications, deciding on the technical roadmap, and selecting additional expertise like subcontractors. It advises the General Assembly on re-allocating tasks and budget in case of abolished tasks and prepares meetings, decisions, and agendas for the General Assembly.

2.1.4 Technical committee

The Technical Committee, adhering to the Project Coordination Team's (PCT) decisions, ensures consistency between the technical work packages (WPs). Chaired by the Project Coordinator, Technical Manager, and Scientific Coordinator, the committee is responsible for planning, executing, and monitoring the project's technical issues. It reviews work package results, assessing their quality, and delegates major project changes or unresolved issues to the General Assembly.

2.1.5 WP leaders

Each work package in the project has a designated Work Package Leader, typically a senior or principal investigator from the partner organizations. These leaders report directly to the Project Coordinator,

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

monitoring progress within their work package and ensuring timely and adequate production of deliverables.

2.1.6 WP Task leaders

For each task within a Work Package, a Task Leader (TL) is responsible for executing work, reporting to the related WP leader, and organizing meetings of the task teams as necessary. They ensure proper progression within their specific Work Package.

2.1.7 Advisory board

To effectively address any potential challenges, be they of a technical, ethical or administrative nature, the HEDGE-IoT project will establish a Transdisciplinary Advisory Board. This panel will provide guidance to the Consortium on a variety of aspects concerning the project's execution and evolution. Its advisory scope encompasses, but is not limited to, ensuring the scope, transparency, and legitimacy of the project's activities and methodologies, as well as the robustness and effective dissemination of the outcomes. The Advisory Board will be composed of a diverse group of experts, drawing from a wide array of scientific fields critical to the project, including information and communication technology (ICT), data science, IoT, the energy sector, smart grids, flexibility solutions, and policymaking. The Ethics Manager of the project will also be part of the Advisory Board. These experts will represent the full spectrum of disciplines pertinent to the project's objectives. The members of this Board will be nominated by the project's beneficiaries, and the Board's formation is scheduled to be completed by the end of the first semester. This strategic assembly will play a pivotal role in steering the project towards success, leveraging their collective expertise to navigate complex challenges and ensure the project's goals are met with the highest standards of excellence and innovation.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

3 COLLABORATION AMONG PARTNERS

Project and quality management endeavors are pivotal in ensuring the project's adherence to its planned trajectory and the fulfilment of its objectives. The ensuing sections delineate the strategies and actions essential for the project's seamless and effective progression throughout its lifecycle.

3.1 DECISION PROCESS

Decision-making within the project will typically be carried out by the designated team members and organizational entities, guided by the framework outlined in the Contract, the Consortium Agreement, the DoA, the regularly updated Project Management Handbook, and the specific plans for each Work Package or Task. In instances where disagreements arise among team members, a structured escalation process, detailed in the subsequent section, will be employed.

3.2 CONFLICT RESOLUTION

Throughout the project's duration, the consortium will need to reach consensus on various technical, scientific, and commercial concepts and specifications. This process usually begins with informal discussions, followed by formal validation through electronic communication, letters, or officially documented minutes. For significant matters, a concise report requiring the signatures of the decision-makers may be necessary. Non-technical aspects, such as resource distribution and contractual agreements, will also require formal documentation. Technical Leaders and Work Package Leaders are obligated to promptly notify the coordinator of any emerging conflict scenarios. Technical disputes within the bounds of existing contractual commitments, not necessitating alterations to the contract, budget, or overall resource allocation and focus, will initially be addressed at the Work Package level. Decisions will be reached through a majority vote among the Technical Leaders of all consortium members. If at WP level, the decision could be voted by partners involved. In cases where the decision is not acceptable to the minority group, the conflict resolution will escalate following these steps (Figure 2):

- The implementation team, responsible for executing a specific project plan task or activity, will first report the conflict to the Work Package leader.
- The Work Package leader will then convene a meeting of the Work Package team to discuss the issue. If a consensus is reached, the team will inform the Project Coordinator (PC).
- Should the meeting fail to produce a decision, the Work Package leader will escalate the matter to the Coordination Team, which will engage with the involved parties to seek a resolution.

If the Coordination Team's efforts do not lead to an agreement, the issue will be escalated to the General Assembly, vested with the authority to make the final decision. This decision must be accepted by all involved parties.

The decision-making process at the task level operates on the principle that all partners involved in a task have the right to participate in decisions concerning that specific task. If a resolution cannot be reached at this level, the issue should be escalated to the Work Package (WP) leader, who will assume the role of a mediator. This approach is mirrored at the work package level, where attempts at resolution initially involve mediation facilitated by the PC. For all conflicts that remain unresolved, the General Assembly will make the final decision.

An exception to this process arises when the project coordinator identifies a decision made by the General Assembly that could potentially compromise the entire project, such as deviating from the objectives and expected outcomes set by the European Commission. In such scenarios, the implementation of the decision

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

will be postponed until feedback from the Commission is obtained. The PC is tasked with promptly seeking guidance from the Commission following such a decision.

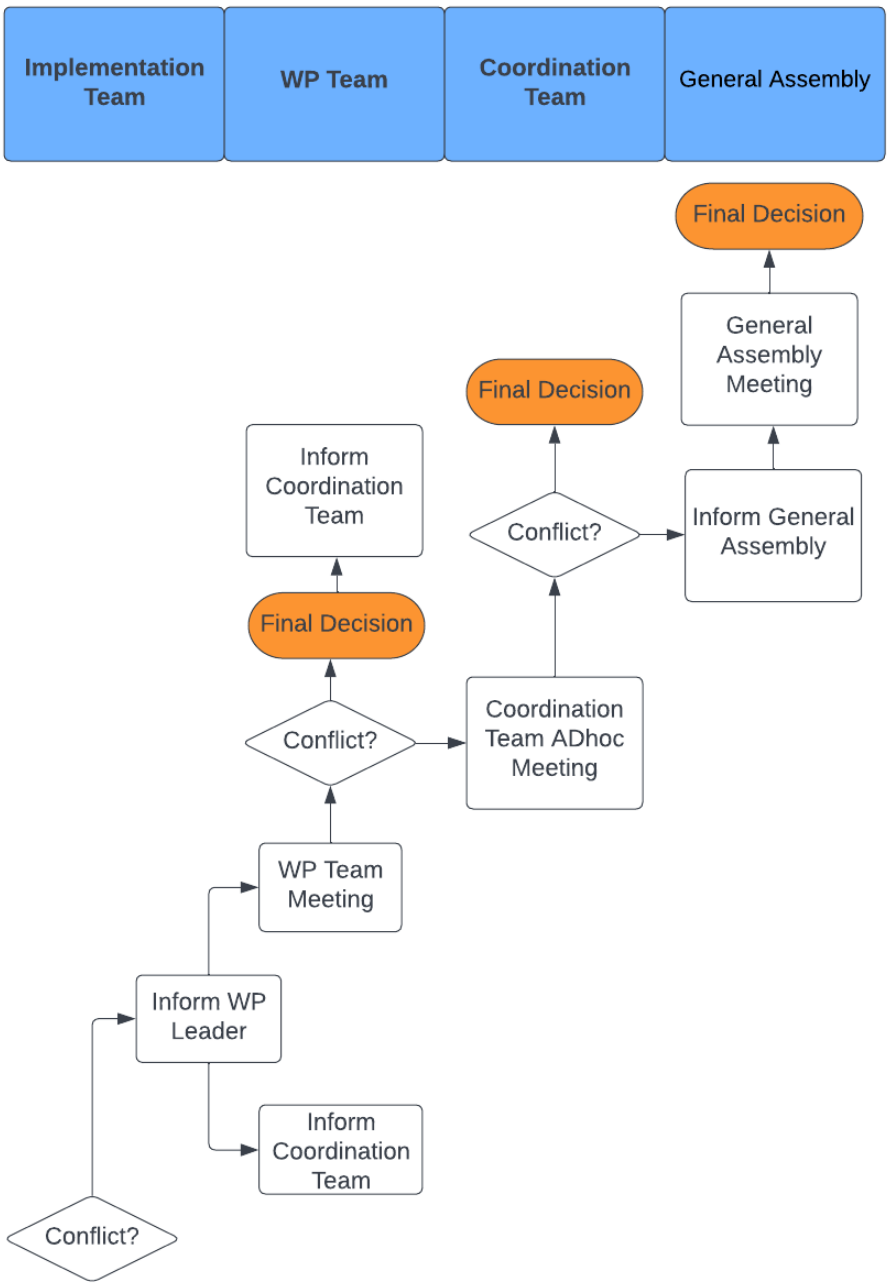


FIGURE 2. HEDGE-IOT CONFLICT RESOLUTION PROCEDURE.

In situations where disputes continue without resolution, the consortium will notify the PC, seek insights from reviewers, and convene an extraordinary meeting. Should it become necessary to involve the responsible EC Officer, a formal request for a meeting will be submitted by the PC to address the issue.

3.3 COMMUNICATION AMONG PARTNERS

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Effective communication among partners is a cornerstone of the project's success. This section outlines the mechanisms and standards for ensuring efficient information flow within the project.

3.3.1 Information flow

The flow of information within the project will be facilitated through various channels, including:

- Sharing of internal technical and business documents
- Notifications about new publications in relevant fields or updates from standardizing bodies.
- Reports from external meetings.
- Regular online and physical project meetings.

All technical documentation produced by the project will be available in electronic format, adhering to the guidelines detailed in chapter 5 of this document. The Quality Assurance Supervisor will oversee compliance with these guidelines. Online meetings across different working groups (such as at the WP level, task level, action level, etc.) will be documented in written format and shared electronically.

The primary tools for information exchange will be email and the project's sharepoint which will be hosted on the Proofhub platform. This platform will provide all partners with secure access and authoring rights for creating, editing, and reviewing documents, news, etc. The EC will have read-only access to specific Wiki folders. The collaborative space on Proofhub will include:

- A project library containing baseline documents (DoW, legal documents, CA, GA, etc.), deliverables, WP documents, meeting minutes and presentations, reports, dissemination materials, etc.
- Contact information and profiles of partners.
- An events calendar highlighting important dates, milestones, and deadlines.
- Project news updates.

The Project Coordinator will oversee the structure and maintenance of the Proofhub platform. Additionally, selected information such as public deliverables, published papers, events, and news will be shared through the project's public website.

For urgent communication needs (ensuring encryption when required), telephone and VOIP services will be used. Urgent emails will be sent with a request for explicit acknowledgment. Traditional registered mail will be reserved for formal correspondence requiring executive signatures. The Project Manager and the Quality Assurance Supervisor will ensure adherence to these communication standards.

3.3.2 Meetings

The consortium has scheduled regular meetings every six months to review progress and update short-term goals based on emerging needs (plenary meetings). Additional meetings may be convened to address specific issues or to support the progress of a particular working group. The following table provides a summary of the planned schedule for various project meetings.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

PROJECT BODY	PARTICIPANTS	POSSIBLE MEETING OBJECTIVES	FREQUENCY
GENERAL ASSEMBLY	DELEGATES FROM EACH PARTNER ORGANIZATION	• REVIEWING AND PLANNING PROJECT ACTIVITIES • DECISIONS ON PARTNERSHIP CHANGES • ADDRESSING KEY ADMINISTRATIVE MATTERS	BIANNUALLY
COORDINATION BOARD	• COORDINATOR • WP LEADERS • DEMO LEADERS	• ASSESSING PROJECT'S PROGRESS • SUGGESTING PLAN ADJUSTMENTS • PROVIDING RECOMMENDATIONS TO THE GENERAL ASSEMBLY	ASSESSING PROJECT'S PROGRESS
TECHNICAL COMMITTEE	• TECHNICAL MANAGER • SCIENTIFIC COORDINATOR • WP LEADERS • DEMO LEADERS	• OVERSEEING PROJECT TIMELINES AND PROGRESS • RESOLVING TECHNICAL ISSUES • MANAGING CONFLICTS	DURING GENERAL ASSEMBLY MEETINGS OR MORE OFTEN, AS NEEDED
COORDINATION TEAM	• PROJECT COORDINATOR • TECHNICAL MANAGER • SCIENTIFIC COORDINATOR • QUALITY ASSURANCE SUPERVISOR	• STRATEGIC PLANNING AND PROJECT OVERSIGHT • HANDLING CONFLICT RESOLUTION MATTERS	DURING GENERAL ASSEMBLY MEETINGS OR MORE OFTEN, AS NEEDED
WP MEETINGS	• WP LEADER • TECHNICAL TEAM MEMBERS FROM PARTNER ORGANIZATIONS	• TRACKING PROGRESS WITHIN WORK PACKAGES • FOCUSING ON SPECIFIC TECHNICAL AREAS AND KNOWLEDGE SHARING	AS NEEDED

TABLE 1. PLANNED TIMETABLE OF PROJECT MEETINGS.

3.3.3 Measurement of project progress

The consortium has scheduled regular meetings every six months to review progress and update short-term

3.3.3.1 Periodic project report to the EC

Comprehensive progress reports, which are detailed documents, will be regularly submitted to the European Commission, following art. 21 of the HEDGE-IoT Grant Agreement, to outline the project's advancements. The PC will be in charge of compiling contributions from all members of the consortium. These reports are due at the end of each reporting cycle and should include the final report. The entire project management process, including the flow of information, will be bolstered by software tools previously developed by the project partners. These comprehensive reports will encompass:

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

- Accurate financial statements detailing all expenditures incurred during the period.
- An in-depth analysis of the project's technical progress, broken down by each Work Package (WP).
- Documentation of any challenges or obstacles encountered throughout the project's duration.
- Outcomes of the ongoing risk management activities.
- Evaluations based on Key Performance Indicators (KPIs).

The structure and content of these periodic progress reports will adhere to the latest version of the template provided by the European Commission, which includes the Periodic Technical Report (parts A and B) and the Periodic Financial Report.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

4 QUALITY REVIEW PROCESS

4.1 REVIEWS OF HARDWARE/SOFTWARE

The HEDGE-IoT project incorporates a series of stringent control measures to effectively manage, monitor, and report on project activities and deliverables. This section outlines the quality assurance process for evaluating the project's products and deliverables. The controls and measures implemented aim to ensure that the project:

- Consistently produces outputs that align with the predefined Acceptance Criteria.
- Adheres to the planned schedule, staying within the allocated resources and budget.
- Remains viable and focused on achieving the objectives as outlined in the Grant Agreement.

4.2 REVIEWS OF DOCUMENTATION- PROJECT DELIVERABLES

Each project deliverable is assigned to a lead partner responsible for ensuring its high quality and timely delivery. This partner guarantees the deliverable's content aligns with the collective efforts of the task team and meets the relevant objectives.

The review criteria for project documentation include:

- Adherence to the format specified in the document templates (See Appendix A).
- Consistency with previously related documentation, such as technical specifications and requirements definitions.
- Identification and rectification of typographical errors.
- Technical quality: The Technical Committee reviews the technical aspects to ensure the documentation meets the project's technical goals and advances the current SotA (state-of-the-art) and technological research.
- Accuracy and relevance of references (if applicable).
- Compliance with data protection, privacy standards, and
- Ethical and security considerations.

The process and timeline for reviewing project documentation are detailed below:

1. The partner responsible for a deliverable drafts a preliminary “table of contents” at least two months before the deadline, assigns tasks to involved partners, and sets corresponding deadlines.

2. Involved partners provide input within these deadlines, and the responsible partner compiles the first draft. This draft is circulated among the consortium for feedback, with a response period of 5 working days.

3. The responsible partner incorporates this feedback, revising the document to create a semi-final version, due 15 days before the final deadline.

4. The Quality Control Process commences with the semi-final version being reviewed by the Scientific Advisory Board (SAB) and at least 2 Internal Reviewers, who are experts in the relevant field but not part of the authoring team. For deliverables involving all partners, additional Internal Reviewers are

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

appointed for a thorough peer review. (A complete list with the internal reviewers assigned to each project deliverable can be found in Section 9).

5. The internal reviewers provide their feedback, which the responsible partner incorporates into the document. If certain suggestions cannot be implemented, the reasons are documented. A second round of review may occur if necessary.
6. The partner finalizes the document, addressing all comments, and submits it to the coordinator 7 days before the deadline.
7. The coordinator then submits the final document to the EC portal, by the deadline.

4.3 REVIEWS OF RESEARCH PAPERS

To ensure the quality and relevance of research papers related to the project, the following internal review procedure is established:

- Authors should submit a summary of their paper to the Quality Assurance Supervisor, indicating their intent to submit the paper.
- The Quality Assurance Supervisor appoints two internal reviewers.
- Within 10 days, the Quality Assurance Supervisor and the reviewers assess the paper's quality and relevance to the project scope. This review period may be shortened depending on when the summary is initially received.
- If there are concerns about the paper's quality or relevance, the reviewers will communicate their objections to the authors within this timeframe.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

5 CONFIGURATION MANAGEMENT

Configuration management is a critical aspect of the project, focusing on the systematic tracking and control of changes to all project outcomes. This includes deliverables, documents, testing procedures, and any other related activities. The Quality Assurance Supervisor holds the responsibility for overseeing all configuration management activities outlined in this section.

5.1 DOCUMENT CONFIGURATION MANAGEMENT

Effective management of document configuration is achieved through meticulous tracking of the versions of various project documents. This includes:

- Project deliverables, as detailed in the deliverables list of the HEDGE-IoT Grant Agreement.
- Records of meeting minutes.
- Documentation of tests and testing procedures.

The process of document versioning involves close monitoring using a Configuration Matrix. This matrix serves as a comprehensive record, detailing all versions of each document throughout the project lifecycle. It ensures that every change, update, or revision is systematically tracked and recorded, providing a clear and organized overview of the document evolution within the project.

5.1.1 Deliverables

The consortium has scheduled regular meetings every six months to review progress and update short-term

CODING	HEDGE-IOT-[DELIVERABLE CODE]-VA.BB
A	S/N FOR MAJOR RELEASE OF THE DELIVERABLE (SUBMISSION TO THE EC)
BB	S/N FOR UPDATES DURING THE PREPARATION/ REVIEWING PHASE
EXAMPLE	HEDGE-IOT-D1.1-V1.00 (FOR SUBMISSION TO THE EC)

TABLE 2. DELIVERABLES NAMING CONVENTIONS.

5.1.2 Meeting minutes

The consortium has scheduled regular meetings every six months to review progress and update short-term

CODING	HEDGE-IOT -[NAME OF MEETING]-MINUTES-[STARTING DATE]-VA.BB
A	S/N FOR MAJOR RELEASE OF THE DOCUMENT
BB	S/N FOR UPDATES DURING THE PREPARATION PHASE
EXAMPLE	WEFORMING-1ST PLENARY MEETING-MINUTES-15JAN23-V1.00

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

TABLE 3. MEETING MINUTES NAMING CONVENTIONS.

5.1.3 Tests

Within the HEDGE-IoT project, a variety of testing methodologies will be employed, tailored to the specific tasks and objectives at hand. The project plan already outlines several key types of tests, each designed to assess different aspects of the system's functionality and performance. These include:

- **Component Tests:** Focused on evaluating the technical operation and compliance with requirements of individual system elements, these tests are the responsibility of the developers of each hardware and software component. They are crucial for ensuring that each component functions as intended.
- **Integration Tests:** Managed by the integrator, these tests are crucial for verifying the compatibility and interoperability of various system components. They play a vital role in ensuring that when combined, these components work seamlessly to support the overall system functionality.
- **Pilot Usage Tests:** These tests represent large-scale evaluations by end-users, integrating the complete system functionality within real-life scenarios. They are essential for assessing the system's performance in practical, everyday use.

For each of these testing types, a specific Test Framework and Test Scenarios will be developed and implemented. The responsibility for providing these Test Scenarios and Test Cases, tailored to the Component, Integration, and Pilot Usage tests, lies with the testing organization relevant to each test type. This structured approach ensures a comprehensive and effective testing process, covering all critical aspects of the system's functionality.

CODING	WEFORMING-YY-SN-VA.BB
YY	TS: TEST SCENARIO TC: TEST CASE
SN	SERIAL NUMBER
A	S/N FOR MAJOR RELEASE OF THE DOCUMENT
BB	S/N FOR UPDATES DURING THE PREPARATION PHASE

TABLE 4. SCENARIO / TEST CASE NAMING CONVENTION.

5.2 SOFTWARE CONFIGURATION

In the HEDGE-IoT project, the management and monitoring of software components will be conducted using advanced software versioning and code review tools. These tools, which may include platforms such as Git, Maven, Jenkins, and others, along with a repository system such as Nexus, will be centralized on a dedicated server. This setup will facilitate a feature-branch or git flow workflow, ensuring that all necessary components of the HEDGE-IoT system are accessible and manageable for the distributed development teams.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Given the complexity of the system, which comprises multiple sub-systems, there will be two key versions of the system:

- **A Development-Friendly Staging Version:** This version will be designed for local deployment, possibly with dummy data, allowing developers to test and enhance their components in a controlled environment.
- **Component Tests:** Focused on evaluating the technical operation and compliance with requirements of individual system elements, these tests are the responsibility of the developers of each hardware and software component. They are crucial for ensuring that each component functions as intended.

Throughout the development and pilot phases, a comprehensive ticketing and issue management system will be employed. Tools like the Proofhub, Atlassian Jira ticketing system, Github issuing system, or FusionForge will be utilized by all partners for efficient reporting and management of issues, bugs, and other development challenges.

5.2.1 Name space

The software components developed within the project will be assigned specific, unique names and version numbers. When applicable, these components will be compiled using Maven, adhering to the Maven versioning scheme. This scheme includes the use of revision numbers and the designation “SNAPSHOT” for internal, unofficial “working” builds. This systematic approach to naming and versioning ensures clarity, consistency, and ease of tracking changes throughout the software development lifecycle.

CODING	**ORG.WEFORMING.GN[.MN]-V1.V2[.V3-SNAPSHOT]**
GN	GROUP NAME E.G., “DAA” (DOCUMENT AUTHENTICITY ANALYTICS)
MN	A DOT DELIMITED MODULE NAME
V1	MAJOR VERSION NUMBER
V2	MINOR VERSION NUMBER
V3	REVISION NUMBER
EXAMPLE	ORG.WEFORMING.DAA.RESOURCE-TRACKER.API-1.0 OR ORG.WEFORMING.DAA.RESOURCE-TRACKER.IMPL-0.9.12-SNAPSHOT

TABLE 5. SOFTWARE COMPONETS NAMING CONVENTIONS.

5.2.2 Change log

In the HEDGE-IoT project, the documentation of changes between different versions of software components is a critical aspect. This is managed through a dedicated text file known as the change log. The change log serves as a historical record, detailing the specific changes, enhancements, and fixes introduced in each new version of a component. This documentation is vital for tracking the evolution of the software and understanding the rationale behind each modification.

5.2.3 Releases

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Stable releases within the HEDGE-IoT project are those versions of software modules that have successfully passed integration tests. These stable versions, along with their binaries, will be stored in a Nexus or Git repository. Accompanying these binaries will be comprehensive documentation, covering both user and technical aspects, to ensure that users and developers alike can effectively utilize and understand the software.

5.2.4 Unit testing

Before any coding begins, the software interfaces of all modules must be meticulously described, including details such as data type, format, and size. An example case using dummy data will be created, outlining all steps in detail. This case will serve as a standard for all partners to test their software contributions against. Unit testing is a mandatory process for all software developed by the HEDGE-IoT consortium. This testing ensures the quality and reliability of software components, and acceptance of any software contribution is contingent upon the successful completion and results of these unit tests.

5.2.5 Database files

Database files within the HEDGE-IoT project will be managed using a specific feature-branch or git flow workflow. Partners are responsible for their respective tables within the database. The project will maintain specific files containing the database schema (tables without data) and separate files with dummy data for testing purposes.

5.2.6 Logging

All software contributions in the HEDGE-IoT project are required to implement two distinct types of logs: functional logs and security logs. The format of these logs should be standardized and easily accessible for monitoring purposes, particularly the security logs. It's important that functional logs are managed separately from security logs to ensure clarity and security. A common logging framework will be adopted by the HEDGE-IoT consortium to maintain consistency across all software contributions.

5.2.7 Configuration files

Configuration files in the HEDGE-IoT project are designed to be easily accessible for modifications. These files will contain all the necessary data that can be altered according to the software environment and are essential for the execution of the software. This approach ensures that adjustments to the software environment can be made efficiently and effectively, adapting to varying requirements and conditions.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

6 QUALITY ATTRIBUTES AND KEY PERFORMANCE INDICATORS

6.1 QUALITY ATTRIBUTES

In the HEDGE-IoT project, a range of qualitative attributes will be employed to evaluate the overall quality of the project outcomes. These attributes are tailored to reflect the specific nature and scope of the HEDGE-IoT project, the diverse tasks involved, and the context in which the project's results will be utilized. Quality assurance is further reinforced by ensuring that all project activities adhere to the established quality criteria of the development process. The primary attributes that will be focused on include:

- **Accuracy in Planning**: Ensuring that project plans are precise and reliable.
- **Correctness**: This encompasses functionality, performance, and interoperability of the project outcomes.
- **Conformity**: Adherence to the project requirements and the methodologies defined.
- **Acceptance and Redundancy**: Ensuring that the project outcomes are acceptable to the stakeholders and have necessary redundancies in place.
- **Efficiency and Effectiveness**: Maximizing resource utilization and achieving project goals effectively.

These attributes are integral to the evaluation of the project's KPIs, as illustrated by a detailed example in the subsequent section.

6.2 KEY PERFORMANCE INDICATORS (KPIS)

In the HEDGE-IoT project, a range of qualitative attributes will be employed to evaluate the overall quality of the project

The HEDGE-IoT project will utilize KPIs to monitor the progression towards achieving its objectives. These KPIs will be overseen by the technical manager and will be subject to biannual (6-month) reviews. The findings and analyses of these KPIs will be included in the Periodic Management Report. The initial set of metrics to be used as a starting point for monitoring includes: Table 6 illustrates KPI examples suitable to the PM of HEDGE-IoT, grouped by WP, presenting a number of valid metrics and target values per case.

WP – ACTIVITIES	PERFORMANCE INDICATOR	FRAMEWORK FOR METRICS	TARGET VALUES
WP1 - PROJECT MANAGEMENT AND ADMINISTRATION	1-1 EFFICIENCY OF PROJECT COORDINATION	NUMBER OF COORDINATED MEETINGS AND TIMELY DECISIONS	100% ADHERENCE TO SCHEDULE
	1-2 BUDGET ADHERENCE	PERCENTAGE OF ACTIVITIES WITHIN BUDGET	≤ 5% DEVIATION
	1-3 STAKEHOLDER SATISFACTION	STAKEHOLDER SATISFACTION SURVEY RESULTS	≥ 85% SATISFACTION

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

	1-4 DELIVERABLE SUBMISSION TIMELINESS	PERCENTAGE OF ON-TIME DELIVERABLE SUBMISSIONS	90% ON-TIME
WP2 - STAKEHOLDERS REQUIREMENTS AND SYSTEM SPECIFICATIONS	2-1 COMPLETENESS OF REQUIREMENTS GATHERING	NUMBER OF STAKEHOLDER GROUPS CONSULTED	ALL RELEVANT GROUPS
	2-2 APPROPRIATENESS OF CONCEPTUAL SOTA REPRESENTATION	COVERAGE OF PROJECT SPECIFICATIONS	≥ 90% COVERAGE
	2-3 CLEARLY DEFINED BUCS	NUMBER OF BUCS DEFINED IN STANDARD REPRESENTATION	≥ 2 BUCS PER DEMO
	2-4 CLARITY OF SYSTEM SPECIFICATIONS	NUMBER OF SPECIFICATIONS CLEARLY DEFINED	100% CLARITY
	2-5 ALIGNMENT WITH STAKEHOLDER NEEDS	STAKEHOLDER FEEDBACK ON ALIGNMENT	≥ 90% ALIGNMENT
	2-6 TIMELINESS OF SPECIFICATION DELIVERY	ADHERENCE TO SPECIFICATION DELIVERY SCHEDULE	90% ON-TIME
	2-7 DELIVERY OF REFERENCE ARCHITECTURE VERSIONS	ADHERENCE TO PROJECT METHODOLOGY PLANNING	90% ON-TIME
WP3 TECHNOLOGICAL ENABLERS SPECIFICATION, DESIGN AND DEVELOPMENT	3-1 NUMBER OF AI/ML TOOLS EDGE-CLOUD TOOLS FOR CONSUMERS	BASELINE AT THE BEGINNING OF THE PROJECT	1 Y1, 2 Y2, 5 Y3, 8 Y4
	3-2 NUMBER OF SYSTEM OPERATOR'S RELATED TOOLS	BASELINE AT THE BEGINNING OF THE PROJECT	1 Y1, 2 Y2, 3 Y3, 5 Y4
	3-3 DIFFERENT TYPES OF IOT/EDGE DEVICES TO BE EXPLOITED IN DEMO AREAS E.G., SMART METER, HEMS, SENSORS, INVERTER	TARGET VALUE	>5
	3-4 A COMMON APP REPOSITORY FOR THE HEDGE-IOT ECOSYSTEM	TARGET VALUE	1 FULLY FUNCTIONAL BY THE 3RD TECHNOLOGY RELEASE (M32)
WP4 DIGITAL INTEROPERABILITY FRAMEWORK AND INTEGRATED SOLUTION	4-1 OPEN SOURCE RELEASED DEVELOPMENTS RELATED TO DATA CONNECTOR IMPLEMENTATIONS	BASELINE AT THE BEGINNING OF THE PROJECT	2 Y1, 3 Y2, 5 Y3

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

WP5 DEMONSTRATION ACROSS TECHNOLOGIES AND SCENARIOS	4-2 NUMBER OF OPEN SOURCE REFERENCE IMPLEMETATIONS OF IDS-BASED ARCHITECTURE TO ENSURE INTEROPERABILITY AND COMPATIBILITY WITH EXISTING ARCHITECTURES AND INFRASTRUCTURE.	TARGET VALUE	3, 1ST M9, 2ND M16, 3RD M25
	5-1 % OF PLANNED USAGE OF HEDGE-IOT TOOLS/DATA SERVICES (E.G., TRANSACTIONS, PERIODICITY) IN FIELD DEMOS	BASELINE AT THE BEGINNING OF THE PROJECT	10% Y1, 40% Y2, 60% Y3, 100% Y4
	5-2 % OF REAL-TIME DATA SHARING AMONG STAKEHOLDERS	BASELINE AT THE BEGINNING OF THE PROJECT	10% Y1, 40% Y2, 60% Y3, 100% Y4
	5-3 IOT/EDGE/FOG SITES UPTIME AND AVAILABILITY	BASELINE AT THE BEGINNING OF THE PROJECT	99.9%
	5-4 FLEXIBILITY UNLOCKED AND TRANSACTED IN MARKETS	BASELINE AT THE BEGINNING OF THE PROJECT	30% INCREASE
	5-5 NUMBER OF CONSUMERS ENGAGED WITH FLEXIBILITY SERVICES	BASELINE AT THE BEGINNING OF THE PROJECT	>1000 END USERS
	5-6 INCREASED GRID OPERATIONAL PERFORMANCE	BASELINE AT THE BEGINNING OF THE PROJECT	> 20% IN CAIDI
	5-7 FASTER APPLICATION RESPONSE TIMES	BASELINE AT THE BEGINNING OF THE PROJECT	20% IMPROVEMENT
	5-8 SAVINGS IN NETWORK BANDWIDTH AND LOWER LATENCY	BASELINE AT THE BEGINNING OF THE PROJECT	20%
	5-9 NO OF USERS INVOLVED IN THE PILOTING	TARGET VALUE	20% AT M18, 60% AT M32, 100% AT M42
WP6 IMPACT OUTREACH AND REPLICATION/SCALABILITY	6-1 END-USERS' BILL REDUCTION BY OFFERING FLEXIBILITY SERVICES	BASELINE AT THE BEGINNING OF THE PROJECT	10% Y1, 20% Y2, 25% Y3, 40% Y 4
	6-2 INCREASED RES AND IOT DEPLOYMENT FOR PROVIDING FLEXIBILITY SERVICES	BASELINE AT THE BEGINNING OF THE PROJECT	10% Y1, 20% Y2, 25% Y3, 30% Y 4

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

	6-3 INCREASED FLEXIBILITY INCORPORATION ENABLED BY IOT/EDGE TECHNOLOGIES FOR GRID SECURITY	BASELINE AT THE BEGINNING OF THE PROJECT	5% Y1, 10% Y2, 15% Y3, 30% Y4, 45% Y5+
	6-4 INCREASED RES INVESTMENTS FROM RESIDENTIAL USERS FIRMED WITH DERS ENABLE BY IOT	BASELINE AT THE BEGINNING OF THE PROJECT	5% Y1, 10% Y2, 15% Y3, 20% Y4, 25% Y5+
	6-5 CROSS-ENERGY FLEXIBILITY ENABLED BY HEDGE-IOT SOLUTION	BASELINE AT THE BEGINNING OF THE PROJECT	15% AT THE END OF THE PROJECT
	6-5 INCREASE DERS PARTICIPATION IN FLEXIBILITY PROVISION	BASELINE AT THE BEGINNING OF THE PROJECT	5% Y1, 10% Y2, 15% Y3, 20% Y4, 25% Y5+
	6-6 NO OF OPEN CALL PROJECT PROPOSALS THAT MUST ACHIEVE LESS THAN 30% RISK ON TRIPLE-A ASSESS TOOL.	TARGET VALUE	AT LEAST 3
WP7 DISSEMINATION, EXPLOITATION, STANDARDIZATION	7-1 NUMBER OF PARTICIPATIONS TO NEW STANDARDISATION PROJECTS	BASELINE AT THE BEGINNING OF THE PROJECT	4
	7-2 NUMBER OF PARTICIPATIONS TO STANDARDS REVISION PROJECTS	BASELINE AT THE BEGINNING OF THE PROJECT	2
	7-3 NUMBER OF PARTICIPATIONS TO STANDARDISATION GROUPS (WG, AG)	BASELINE AT THE BEGINNING OF THE PROJECT	10
	7-4 SOCIAL MEDIA FOLLOWERS	TARGET NUMBER	>500
	7-5 A SET OF POSTERS RELATED TO THE PROJECT TO BE USED AT EVENTS	TARGET NUMBER OF VERSIONS	>4
	7-6 PROJECT BROCHURES (ELECTRONIC AND IN HARDCOPY)	TARGET NUMBER OF VERSIONS	4
	7-7 GENERAL PROJECT PRESENTATION	TARGET NUMBER	1
	7-7 TRIAL VIDEOS	TARGET NUMBER	>=4
	7-8 INFOGRAPHICS TO SHOW THE RESULTS IN A CLEAR AND SIMPLE WAY	TARGET NUMBER	10

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

	7-9 AN ATTRACTIVE LARGE SIZE BANNER AND ONE STAND-UP PRESENTING A GENERAL IMAGE OF THE PROJECT AIMING TO CAPTURE A FIRST INTEREST/ATTENTION.	TARGET NUMBER	1+1
	7-10 TAILOR-MADE ARTICLES AND INTERVIEWS FOR PUBLICATIONS AND OTHER TARGETED MEDIA CHANNELS (E.G. EC NEWSLETTERS, SPECIALISED NATIONAL MAGAZINES ETC.)	TARGET NUMBER	>=5
	7-11 PERIODIC NEWSLETTERS DEVELOPMENT, PUBLICATION, AND DISTRIBUTION	TARGET NUMBER	>4
	7-12 PRESS RELEASES	TARGET NUMBER	>=5
	7-13 SYNERGIES WITH RELEVANT PROJECTS AND MAJOR EUROPEAN INITIATIVES.	TARGET NUMBER	>20

TABLE 6. KEY PERFORMANCE INDICATORS.

This approach ensures a structured and quantifiable method of tracking the project's progress and success, aligning with the overall objectives and goals of the HEDGE-IoT project.

At this point we have to note that the list of KPIs will be frequently updated, based on the progress of the project. These are the initial KPIs but as the progress progresses, new needs for monitoring may arise and/ or the targets of the KPIs may need to be revised. D1.1 will be revised twice during the course of the project (D1.2-M18 and D1.3-M30). The consortium will take advantage of these revisions to adjust the KPIs if deemed necessary. We have already identified a need to define KPIs to monitor the Open Call process. These will be specified as soon as the preparatory activities of the Open Calls begin. Moreover, the Communication and Dissemination strategy of the project will be reported in D7.1 (M3). In D7.1 the WP7 KPIs which were included here will be revised and elaborated on.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

7 RISK MANAGEMENT

In the HEDGE-IoT project, Risk Management plays a pivotal role in identifying and addressing potential risks that could impact the project's success. This process is dynamic and ongoing throughout the entire duration of the project, ensuring that risks are continuously monitored, assessed, and managed effectively.

The Coordination Team, under the guidance of the Project Coordinator, bears the primary responsibility for Risk Management. Their role is crucial in maintaining timely awareness and initiating prompt responses to potential problems, especially in the face of technological changes or unforeseen challenges. In such scenarios, the Coordination Team, with support from the Technical Committee, may delegate specific tasks to one or more WP Leaders to investigate these developments and recommend appropriate actions.

A key aspect of this process is the Project Coordinator's role in communicating risks to the project teams and fostering a culture of risk awareness among project staff. This involves regular reporting on risks and risk management strategies in the Periodic Activity Reports, ensuring that all team members are informed and prepared.

The methodology for managing risks within the HEDGE-IoT project is structured into four distinct steps:

- **Identification**: This initial step involves pinpointing areas where potential risks may arise. Within the HEDGE-IoT project, certain risks have already been identified in the DoA and serve as the baseline for the project's risk management considerations.
- **Quantification**: This step assesses the likelihood of identified risks occurring and examines the potential consequences of these events. It involves a thorough analysis of the impact each risk could have on the project's objectives and deliverables.
- **Response**: Developing strategies to mitigate identified risks is crucial. This involves formulating methods to either reduce the probability of the risk occurring or minimize its impact should it materialize. The HEDGE-IoT project places emphasis on proactive strategies, ensuring that mitigation plans and corrective actions are in place well in advance.
- **Control and Report:** This final step involves documenting the risks encountered, the actions taken, and the outcomes of these actions. Lessons learned are recorded and communicated to enhance the project's future risk management practices.

As the HEDGE-IoT project progresses, it is anticipated that new risks may emerge. The project's risk management strategy is designed to be adaptive, allowing for the identification and swift response to these new risks. This proactive and comprehensive approach to risk management is integral to the HEDGE-IoT project, ensuring that it remains on track to achieve its objectives despite the uncertainties and challenges that may arise at any time.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

8 INNOVATION MANAGEMENT

Innovation management within the HEDGE-IoT project is a structured process dedicated to capturing, developing, and implementing novel ideas to create impactful and innovative solutions. This process begins with the identification of user requirements, which serve as the foundation for proposing new technological advancements. These initial ideas, conceptualized as design blueprints for cutting-edge technologies, are then developed into comprehensive concepts. For instance, these could include a holistic data-sharing framework for the digitization of the Energy Ecosystem through IoT. The concepts that align with the project's goals are selected for further refinement, eventually becoming integral components of the HEDGE-IoT framework.

To ensure the project's innovations have a significant impact, the Innovation, Dissemination & Exploitation Manager will work in close collaboration with the WP leaders. This collaboration aims to:

- **Ensure User-Centric Solutions**: The proposed solutions will be developed with a keen focus on user requirements, ensuring that they address the needs and expectations of the end-users effectively.
- **Capture Diverse Ideas:** The process will be inclusive, ensuring that innovative ideas from all contributors are acknowledged and considered, preventing any valuable input from being overlooked.
- **Define and Understand Concepts**: It is crucial that the ideas and concepts are clearly defined and understood, allowing for a smooth transition from ideation to implementation.
- **Evaluate Feasibility**: The feasibility of transforming these ideas into practical solutions within the project's timeframe will be thoroughly assessed.
- **Provide Comprehensive Solutions**: The ideas developed will aim to offer complete solutions that comprehensively address the users' requirements, rather than providing only partial fixes.
- **Resource Assessment**: It will be verified that the transformation of these ideas into solutions is achievable using the available resources of the project.

The innovation management process also includes tracking the project's results and assisting participants in evaluating their contributions and outcomes. This process is closely coordinated with the Communication and Dissemination Plan, as outlined in Deliverable 7.1 of the HEDGE-IoT project. This ensures that the innovative solutions developed in HEDGE-IoT are effectively communicated to target audiences and the broader public.

Additionally, a critical aspect of this process is the management of Intellectual Property Rights (IPR). This involves careful documentation and handling of all IPR-related issues to protect the innovations and knowledge generated within the project. The progress and effectiveness of the innovation management strategy, along with IPR issues, will be documented in the Yearly Exploitation and Dissemination Reports, providing a comprehensive overview of the project's innovative achievements and their potential impact.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

9 INTERNAL REVIEWERS OF DELIVERABLES

DEL. NO	DELIVERABLE NAME	INTERNAL REVIEWER 1	INTERNAL REVIEWER 2
D1.1	PROJECT MANAGEMENT HANDBOK 1	CEL	ICCS
D1.2	PROJECT MANAGEMENT HANDBOOK 2	CEL	ICCS
D1.3	PROJECT MANAGEMENT HANDBOOK 3	CEL	ICCS
D1.4	DATA MANAGEMENT PLAN	VTT	RWTH
D2.1	REQUIREMENTS ON AN IOT CLOUD/EDGE SYSTEM FOR THE ENERGY ECOSYSTEM	INESC	TAU
D2.2	FUNCTIONAL SPECIFICATIONS OF THE HEDGE-IOT SYSTEM	ED	JSI
D2.3	HEDGE-IOT REFERENCE ARCHITECTURE (FIRST RELEASE)	IDSA	DST
D2.4	HEDGE-IOT REFERENCE ARCHITECTURE (FINAL RELEASE)	IDSA	DST
D3.1	HEDGE-IOT INTERFACES AND TOOLS FOR INTEROPERABILITY	TRIALOG	INESC
D3.2	HEDGE-IOT INTERFACES AND TOOLS FOR INTEROPERABILITY 2	TRIALOG	INESC
D3.3	HEDGE-IOT TECHNOLOGICAL ENABLERS (FIRST RELEASE)	TUC	NESTER
D3.4	HEDGE-IOT TECHNOLOGICAL ENABLERS (INTERMEDIATE RELEASE)	ICCS	ED
D3.5	HEDGE-IOT TECHNOLOGICAL ENABLERS (FINAL RELEASE)	TUC	NESTER
D4.1	HEDGE-IOT INTEROPERABILITY FRAMEWORK AND INTEGRATED SOLUTION (FIRST RELEASE)	RWTH	UNIZG
D4.2	HEDGE-IOT INTEROPERABILITY FRAMEWORK AND INTEGRATED SOLUTION (INTERMEDIATE RELEASE)	VTT	QUE
D4.3	HEDGE-IOT INTEROPERABILITY FRAMEWORK AND INTEGRATED SOLUTION (FINAL RELEASE)	RWTH	JSI
D5.1	GUIDELINES FOR DEMO PREPARATION	VU	UNIZG
D5.2	PRE-DEMO PHASE REPORT	CLUBE	TNO
D5.3	FULL DEMO PHASE REPORT	ED	QUE
D5.4	FINISH DEMO REPORT	TNO	ARETI
D5.5	GREEK DEMO REPORT	REN	JSI
D5.6	ITALIAN DEMO REPORT	PPC	ABB
D5.7	DUTCH DEMO REPORT	TAU	HOPS
D5.8	PORTUGUESE DEMO REPORT	KONC	HSE
D5.9	SLOVENIAN DEMO REPORT	NESTER	VTT
D5.10	DEMONSTRATIONS ACROSS TECHNOLOGIES AND SCENARIOS	TUC	CLUBE
D6.1	OPEN CALLS PREPARATION AND ANNOUNCEMENT	F6S	CEL

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

D6.2	OPEN CALLS INTERMEDIATE REPORT	TNO	ED
D6.3	OPEN CALLS FINAL REPORT	ICCS	QUE
D6.4	REGULATORY BLUEPRINT AND CONTRIBUTION TO THE EU DIGITALISATION OF ENERGY ACTION PLAN (FIRST RELEASE)	VU	ETB
D6.5	REGULATORY BLUEPRINT AND CONTRIBUTION TO THE EU DIGITALISATION OF ENERGY ACTION PLAN (FINAL RELEASE)	ELES	RWTH
D6.6	STAKEHOLDERS' PERSPECTIVE ON HEDGE-IOT RESULTS	ED	INESC
D7.1	COMMUNICATION AND DISSEMINATION PLAN	INCL	CEL
D7.2	EXPLOITATION, IPR AND MARKET EXPLORATION	TRIALOG	REN
D7.3	DISSEMINATION, EXPLOITATION AND MARKET EXPLORATION, STANDARDISATION, AND COMMUNITY BUILDING (FIRST RELEASE)	TNO	CLUBE
D7.4	DISSEMINATION, EXPLOITATION AND MARKET EXPLORATION, STANDARDISATION, AND COMMUNITY BUILDING (INTERMEDIATE RELEASE)	QUE	HSE
D7.5	DISSEMINATION, EXPLOITATION AND MARKET EXPLORATION, STANDARDISATION, AND COMMUNITY BUILDING (FINAL RELEASE)	ICCS	ED

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

10 EFFORT ALLOCATION PER TASK

In the following table you may find the effort allocation (in Person-Months) per task of each partner:

WP List - Effort form			ED	EDAT	RWTH	ENG	ICCS	INESC	TNO	TAU	VTT	TRIALOG	CEL	NESTER	IDSA	ETB	HOPS	TUC	CLUBE	F6S	INCL	ABB
			1	1a	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Tasks	S	E	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM
WP1 Project management and administration	1	42	32.0	3.0	12.0	11.0	1.0	1.0	1.0	1.0	1.0	1.0	16.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0
T1.1 Administrative coordination, internal communication and financial management	1	42	26.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
T1.2 Technical and scientific coordination	1	42	2.0	1.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
T1.3 Quality and risk management	1	42	3.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T1.4 Ethics, exchange requirements specifications and data management	1	42	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WP2 Stakeholders Requirements and System Specifications	1	28	13.0	10.0	17.0	9.0	9.0	10.0	8.0	18.0	5.0	18.0	18.0	11.0	5.0	8.0	6.0	6.0	2.0	0.0	4.0	6.0
T2.1 Technological state-of-the art of IoT and Cloud/Edge Data Ecosystem	1	8	2.0	2.0	3.0	0.0	1.0	4.0	0.0	2.0	0.0	2.0	0.0	2.0	1.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0
T2.2 End Users' Requirements Analysis and Design of BUCs	1	8	2.0	2.0	6.0	5.0	3.0	2.0	0.0	7.0	2.0	2.0	0.0	3.0	0.0	0.0	2.0	0.0	0.5	0.0	0.0	2.0
T2.3 Stakeholders' Board consultation towards knowledge diffusion promoting data harmonisation, real-time grid monitoring for resilience and flexibility	1	8	3.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	6.0	2.0	0.0	0.5	0.0	0.0	1.0
T2.4 Mapping of regulatory, societal and technical barriers and AI ethics at EU and national levels	3	8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	1.0	0.5	0.0	0.0	0.0
T2.5 User engagement, awareness, and inclusiveness requirements	3	8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	4.0	0.0
T2.6 Functional specifications for interoperability and standardised data integration (based on BUCs)	3	28	2.0	2.0	3.0	4.0	4.0	2.0	8.0	7.0	0.0	12.0	0.0	3.0	2.0	0.0	2.0	1.0	0.0	0.0	0.0	3.0
T2.7 Operational Framework design – Interoperable EDS-aligned Reference Architecture	4	28	2.0	2.0	4.0	0.0	1.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
WP3 Technological Enablers Specification, Design And Development	6	30	8.0	0.0	21.0	20.0	26.0	31.0	11.0	29.0	18.0	0.0	2.0	12.0	0.0	2.0	2.0	27.0	0.0	0.0	0.0	20.0
T3.1 Extension of demo specific IoT proprietary digital interfaces and platforms and tools	6	19	0.0		12.0	2.0	2.0	4.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
T3.2 AI/IoT enabled user-centric services specification	6	19	2.0		3.0	6.0	10.0	3.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
T3.3 Design of Federated Learning Algorithms, Tools and Services on the edge level	10	30	0.0		0.0	0.0	7.0	12.0	0.0	2.0	15.0	0.0	0.0	2.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	12.0
T3.4 Design and Development of AI/ML Algorithms, Tools and Services governing the coordinated operation and planning of infrastructure at the cloud level	12	30	3.0		0.0	0.0	7.0	8.0	0.0	19.0	3.0	0.0	0.0	8.0	0.0	2.0	0.0	4.0	0.0	0.0	0.0	6.0
T3.5 Computational Orchestration to ensure the cloud-edge continuum	12	30	3.0		6.0	12.0	0.0	4.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0	0.0	0.0	0.0	0.0
WP4 Digital Interoperability Framework and Integrated Solution	6	32	31.0	36.0	12.0	41.0	2.0	15.0	25.0	14.0	10.0	25.0	0.0	3.0	13.0	0.0	5.0	6.0	0.0	0.0	0.0	0.0
T4.1 Open Services Catalogue and App Store	10	32	10.0	9.0	0.0	8.0	0.0	4.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T4.2 Interoperability Middleware - Open Data Connector	8	32	6.0	8.0	0.0	22.0	0.0	4.0	0.0	2.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
T4.3 Semantic Interoperability	6	32	6.0	8.0	0.0	2.0	0.0	4.0	18.0	6.0	0.0	8.0	0.0	0.0	10.0	0.0	4.0	2.0	0.0	0.0	0.0	0.0
T4.4 IoT Cloud/Edge System integration	6	32	6.0	7.0	12.0	8.0	2.0	2.0	0.0	6.0	5.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T4.5 Cybersecurity considerations and AI safety	10	32	3.0	4.0	0.0	1.0	0.0	1.0	0.0	0.0	5.0	12.0	0.0	3.0	3.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
WP5 Demonstration Across Technologies And Scenarios	4	40	11.0	6.0	14.0	52.0	36.0	8.0	24.0	39.0	22.0	0.0	0.0	20.0	0.0	0.0	0.0	7.0	24.0	0.0	0.0	42.0
T5.1 Demos' preparation, evaluation framework and baseline analysis	4	12	1.0	1.0	0.0	0.0	10.0	0.0	4.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	3.0	0.0	0.0	3.0
T5.2 Demo 1 - Finland	12	38	2.0	0.0	0.0	0.0	1.0	0.0	0.0	34.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0
T5.3 Demo 2 - Greece	12	38	0.0	2.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
T5.4 Demo 3 - Italy	12	38	0.0	2.0	14.0	52.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
T5.5 Demo 4 - Netherlands	12	38	2.0	0.0	0.0	0.0	1.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T5.6 Demo 5 - Portugal	12	38	2.0	0.0	0.0	0.0	1.0	8.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T5.7 Demo 6 - Slovenia	12	38	2.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T5.8 Pilots' monitoring and evaluation	12	40	2.0	1.0	0.0	0.0	10.0	0.0	0.0	3.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	3.0
WP6 Impact Outreach and Replication/Scalability	12	42	8.0	6.0	0.0	0.0	13.0	0.0	0.0	0.0	9.0	2.0	10.0	2.0	2.0	2.0	3.0	0.0	6.0	8.0	41.0	1.0
T6.1 Open Calls	12	36	2.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8.0	41.0	0.0
T6.2 Technological economic and societal analysis and contribution to the EU Digitalisation of Energy Action Plan	25	42	4.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0
T6.3 Regulatory blueprint	25	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T6.4 Stakeholders' Board perspective on a roadmap for scalability and replicability at EU Level	25	42	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	3.0	0.0	0.0	1.0
WP7 Dissemination, Exploitation, Standardisation	1	42	18.0	7.0	7.0	11.0	7.0	3.0	11.0	1.0	5.0	14.0	10.0	5.0	11.0	3.0	4.0	3.0	18.0	34.0	9.0	4.0
Task 7.1 Communication and dissemination strategy	1	42	4.0	0.0	3.0	2.0	3.0	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0	1.0	1.0	2.0	2.0	28.0	5.0	1.0
Task 7.2 Exploitation, IPR and market uptake	1	42	2.0	0.0	0.0	3.0	1.0	0.0	0.0	0.0	0.0	1.0	2.0	0.0	2.0	0.0	0.0	0.0	12.0	3.0	1.0	2.0
Task 7.3 Liaison with other projects, TEF, the BRIDGE Initiative and European partnerships	1	42	8.0	7.0	4.0	5.0	3.0	1.0	3.0	0.0	3.0	4.0	3.0	4.0	2.0	2.0	3.0	1.0	4.0	3.0	3.0	0.0
Task 7.4 Contribution to standards	1	42	4.0	0.0	0.0	1.0	0.0	1.0	6.0	0.0	0.0	8.0	3.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
TOTAL			121.0	68.0	83.0	144.0	94.0	68.0	80.0	102.0	70.0	60.0	56.0	54.0	32.0	16.0	21.0	50.0	52.0	43.0	55.0	74.0

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

WP List - Effort form			ENERV	JSE	PPC	HEDNO	IPTO	HENEX	HSE	QUE	ARETI	APIO	AE	VWICI	AB	VUA
			20	21	22	23	24	25	26	27	28	29	30	31	32	33
Tasks	S	E	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM
WP1 Project management and administration	1	42	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
T1.1 Administrative coordination, internal communication and financial management	1	42	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
T1.2 Technical and scientific coordination	1	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T1.3 Quality and risk management	1	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T1.4 Ethics, exchange requirements specifications and data management	1	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WP2 Stakeholders Requirements and System Specifications	1	28	3.5	3.5	10.0	6.0	5.0	5.0	10.0	8.0	4.0	1.0	4.5	2.0	0.0	0.0
T2.1 Technological state-of-the art of IoT and Cloud/Edge Data Ecosystem	1	8	0.0	0.0	1.0	1.0	1.0	1.0	3.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0
T2.2 End Users' Requirements Analysis and Design of BUCs	1	8	1.0	1.0	3.0	3.0	2.0	2.0	3.0	2.0	1.0	0.0	1.5	1.0	0.0	0.0
T2.3 Stakeholders' Board consultation towards knowledge diffusion promoting data harmonisation, real-time grid monitoring for resilience and flexibility	1	8	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.5	0.0	0.0	0.0
T2.4 Mapping of regulatory, societal and technical barriers and AI ethics at EU and national levels	3	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0
T2.5 User engagement, awareness, and inclusiveness requirements	3	8	0.5	0.5	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0
T2.6 Functional specifications for interoperability and standardised data integration (based on BUCs)	3	28	0.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0
T2.7 Operational Framework design – Interoperable EDS-aligned Reference Architecture	4	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WP3 Technological Enablers Specification, Design And Development	6	30	1.0	0.0	24.0	22.0	12.0	12.0	19.0	20.0	1.0	4.0	1.5	0.5	0.0	0.0
T3.1 Extension of demo specific IoT proprietary digital interfaces and platforms and tools	6	19	1.0	0.0	10.0	10.0	8.0	8.0	0.0	0.0	1.0	1.0	0.0	0.5	0.0	0.0
T3.2 AI/IoT enabled user-centric services specification	6	19	0.0	0.0	4.0	4.0	2.0	2.0	2.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
T3.3 Design of Federated Learning Algorithms, Tools and Services on the edge level	10	30	0.0	0.0	6.0	4.0	0.0	0.0	6.0	6.0	0.0	1.0	0.0	0.0	0.0	0.0
T3.4 Design and Development of AI/ML Algorithms, Tools and Services governing the coordinated operation and planning of infrastructure at the cloud level	12	30	0.0	0.0	4.0	4.0	2.0	2.0	7.0	6.0	0.0	1.0	1.5	0.0	0.0	0.0
T3.5 Computational Orchestration to ensure the cloud-edge continuum	12	30	0.0	0.0	0.0	0.0	0.0	0.0	4.0	3.0	0.0	1.0	0.0	0.0	0.0	0.0
WP4 Digital Interoperability Framework and Integrated Solution	6	32	0.5	0.0	8.0	3.0	3.0	3.0	21.0	16.0	2.0	4.0	0.0	2.0	0.0	10.0
T4.1 Open Services Catalogue and App Store	10	32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0
T4.2 Interoperability Middleware - Open Data Connector	8	32	0.0	0.0	0.0	0.0	0.0	0.0	6.0	12.0	1.0	1.0	0.0	0.0	0.0	0.0
T4.3 Semantic Interoperability	6	32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.5	0.0	10.0
T4.4 IoT Cloud/Edge System integration	6	32	0.0	0.0	6.0	3.0	3.0	3.0	9.0	4.0	0.0	1.0	0.0	0.0	0.0	0.0
T4.5 Cybersecurity considerations and AI safety	10	32	0.5	0.0	2.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
WP5 Demonstration Across Technologies And Scenarios	4	40	25.5	9.0	37.0	35.0	31.0	32.0	11.0	9.0	54.0	54.0	19.5	34.0	7.0	33.0
T5.1 Demos' preparation, evaluation framework and baseline analysis	4	12	0.0	0.0	4.0	4.0	4.0	4.0	2.0	2.0	0.0	0.0	3.0	5.0	0.0	5.0
T5.2 Demo 1 - Finland	12	38	25.5	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T5.3 Demo 2 - Greece	12	38	0.0	0.0	30.0	28.0	24.0	25.0	7.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
T5.4 Demo 3 - Italy	12	38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.0	54.0	13.5	0.0	0.0	0.0
T5.5 Demo 4 - Netherlands	12	38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0	7.0	28.0
T5.6 Demo 5 - Portugal	12	38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T5.7 Demo 6 - Slovenia	12	38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T5.8 Pilots' monitoring and evaluation	12	40	0.0	0.0	3.0	3.0	3.0	3.0	2.0	2.0	0.0	0.0	3.0	0.0	0.0	0.0
WP6 Impact Outreach and Replication/Scalability	12	42	1.0	1.5	4.0	4.0	4.0	4.0	0.0	0.0	3.0	3.0	2.0	3.0	0.0	0.0
T6.1 Open Calls	12	36	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0
T6.2 Technological economic and societal analysis and contribution to the EU Digitalisation of Energy Action Plan	25	42	0.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T6.3 Regulatory blueprint	25	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T6.4 Stakeholders' Board perspective on a roadmap for scalability and replicability at EU Level	25	42	1.0	1.0	2.0	2.0	2.0	2.0	0.0	0.0	3.0	2.0	2.0	1.0	0.0	0.0
WP7 Dissemination, Exploitation, Standardisation	1	42	1.5	1.0	4.0	5.0	5.0	4.0	7.0	6.0	5.0	1.0	3.0	3.0	1.0	3.0
Task 7.1 Communication and dissemination strategy	1	42	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Task 7.2 Exploitation, IPR and market uptake	1	42	0.0	0.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	0.0	1.0	2.0	0.0	0.0
Task 7.3 Liaison with other projects, TEF, the BRIDGE Initiative and European partnerships	1	42	0.0	0.0	1.0	2.0	2.0	1.0	3.0	2.0	2.0	0.0	1.0	0.0	0.0	0.0
Task 7.4 Contribution to standards	1	42	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
TOTAL			34.0	16.0	88.0	76.0	61.0	61.0	69.0	60.0	70.0	68.0	31.5	45.5	9.0	47.0

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

WP List - Effort form			CEVE	REN	SONAE	ELERG	MCH	ELES	EG	OPR	UNIZG	JSI	KONC	
			34	35	36	36a	36b	37	38	39	40	41	42	
Tasks	S	E	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM
WP1 Project management and administration	1	42	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.5	1.0	1.0	116.5
T1.1 Administrative coordination, internal communication and financial management	1	42	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	69.0
T1.2 Technical and scientific coordination	1	42	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.5	0.0	0.0	16.5
T1.3 Quality and risk management	1	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0
T1.4 Ethics, exchange requirements specifications and data management	1	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0
WP2 Stakeholders Requirements and System Specifications	1	28	5.5	5.0	0.0	10.0	0.0	1.0	1.0	0.0	2.0	0.0	4.0	274.0
T2.1 Technological state-of-the art of IoT and Cloud/Edge Data Ecosystem	1	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	35.0
T2.2 End Users' Requirements Analysis and Design of BUCs	1	8	4.0	2.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	73.5
T2.3 Stakeholders' Board consultation towards knowledge diffusion promoting data harmonisation, real-time grid monitoring for resilience and flexibility	1	8	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	38.0
T2.4 Mapping of regulatory, societal and technical barriers and AI ethics at EU and national levels	3	8	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	20.5
T2.5 User engagement, awareness, and inclusiveness requirements	3	8	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	20.5
T2.6 Functional specifications for interoperability and standardised data integration (based on BUCs)	3	28	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	66.5
T2.7 Operational Framework design – Interoperable EDS-aligned Reference Architecture	4	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	20.0
WP3 Technological Enablers Specification, Design And Development	6	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	3.5	361.5
T3.1 Extension of demo specific IoT proprietary digital interfaces and platforms and tools	6	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	71.5
T3.2 AI/IoT enabled user-centric services specification	6	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	53.0
T3.3 Design of Federated Learning Algorithms, Tools and Services on the edge level	10	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	2.0	2.5	86.5
T3.4 Design and Development of AI/ML Algorithms, Tools and Services governing the coordinated operation and planning of infrastructure at the cloud level	12	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0	0.0	90.5
T3.5 Computational Orchestration to ensure the cloud-edge continuum	12	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0
WP4 Digital Interoperability Framework and Integrated Solution	6	32	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	321.5
T4.1 Open Services Catalogue and App Store	10	32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0
T4.2 Interoperability Middleware - Open Data Connector	8	32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	70.0
T4.3 Semantic Interoperability	6	32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	83.5
T4.4 IoT Cloud/Edge System integration	6	32	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	82.0
T4.5 Cybersecurity considerations and AI safety	10	32	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	45.0
WP5 Demonstration Across Technologies And Scenarios	4	40	30.0	6.0	7.0	15.0	11.0	9.0	16.0	16.5	7.0	13.0	8.0	834.5
T5.1 Demos' preparation, evaluation framework and baseline analysis	4	12	0.0	1.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	66.0
T5.2 Demo 1 - Finland	12	38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	125.5
T5.3 Demo 2 - Greece	12	38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	152.0
T5.4 Demo 3 - Italy	12	38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	196.5
T5.5 Demo 4 - Netherlands	12	38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	87.0
T5.6 Demo 5 - Portugal	12	38	30.0	4.0	7.0	15.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	95.0
T5.7 Demo 6 - Slovenia	12	38	0.0	0.0	0.0	0.0	0.0	9.0	12.0	14.0	5.0	13.0	8.0	64.0
T5.8 Pilots' monitoring and evaluation	12	40	0.0	1.0	0.0	0.0	0.0	0.0	2.0	0.5	2.0	0.0	0.0	48.5
WP6 Impact Outreach and Replication/Scalability	12	42	0.0	2.0	0.0	0.0	0.0	2.0	1.0	0.0	1.0	0.0	0.5	149.0
T6.1 Open Calls	12	36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	65.5
T6.2 Technological economic and societal analysis and contribution to the EU Digitalisation of Energy Action Plan	25	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	30.5
T6.3 Regulatory blueprint	25	42	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0
T6.4 Stakeholders' Board perspective on a roadmap for scalability and replicability at EU Level	25	42	0.0	1.0	0.0	0.0	0.0	2.0	1.0	0.0	0.0	0.0	0.0	41.0
WP7 Dissemination, Exploitation, Standardisation	1	42	1.0	4.0	2.0	3.0	2.0	4.0	1.0	1.0	1.0	1.0	1.0	255.5
Task 7.1 Communication and dissemination strategy	1	42	1.0	1.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	97.0
Task 7.2 Exploitation, IPR and market uptake	1	42	0.0	0.0	0.0	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0
Task 7.3 Liaison with other projects, TEF, the BRIDGE Initiative and European partnerships	1	42	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	83.0
Task 7.4 Contribution to standards	1	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.5
TOTAL			39.5	20.0	10.0	29.0	14.0	17.0	21.0	18.5	18.5	21.0	25.0	2312.5

TABLE 7: EFFORT ALLOCATION PER TASK

At the time of writing an amendment has been officially requested and submitted. With this amendment the effort allocation for some partners will slightly change. Since the amendment has not yet been approved Table 7 above, presents the original effort allocation. Once the amendment is officially signed we will have the opportunity to update this table in the next revision of this deliverable (D1.2, M18).

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

11 CONCLUSIONS

The PMH for the HEDGE-IoT project serves as a comprehensive guide, detailing the quality management mechanisms and establishing clear communication and reporting procedures. This handbook is instrumental in ensuring that all project activities are executed efficiently, adhering to the highest standards of quality and effectiveness. It outlines the roles and responsibilities of the project team, the decision-making processes, and the conflict resolution mechanisms, ensuring a smooth and collaborative working environment.

Furthermore, the PMH emphasizes the importance of innovation management, risk management, and quality control processes. These elements are crucial for the successful development and implementation of the project's objectives. The handbook meticulously describes the procedures for managing and reviewing hardware, software, and documentation, ensuring that all deliverables meet the project's stringent quality criteria. It also details the configuration management strategies, including document configuration and software configuration, to maintain the integrity and traceability of project outputs.

In conclusion, the PMH is a vital document that encapsulates the strategic approach of the HEDGE-IoT project. It not only guides the consortium in achieving its technical and scientific goals but also ensures that the project adheres to its planned schedule and budget. By establishing clear guidelines for communication, decision-making, and quality assurance, the PMH lays a solid foundation for the project's success. It is a dynamic document, adaptable to the evolving needs of the project, and serves as a roadmap for the consortium to navigate the complexities of the project while maintaining focus on its core objectives and deliverables.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

REFERENCES

[1] www.pmi.org, accessed on 29.11.2023.

[2] https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/reference-documents;programCode=HORIZON, accessed on 29.11.2023.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

APPENDIX A

DELIVERABLES TEMPLATE

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

DX.Y
Deliverable Name

Day/Month/year

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

DOCUMENT CONTROL SHEET

PROJECT INFORMATION

Project Number	xxxxxxxxxxxxx		
Project Acronym	HEDGE-IoT		
Project Full title	Holistic Approach towards Empowerment of the Digitalization of the Energy Ecosystem through adoption of IoT solutions		
Project Start Date	01 October 2024		
Project Duration	48 months		
Funding Instrument	XXXXXX	Type of action	XXXXXXX
Call	XXXXXXXXXXXXX		
Topic	XXXXXX		
Coordinator	XXXXXXXX		

DELIVERABLE INFORMATION

Deliverable No.	Dxx							
Deliverable Title								
Work-Package No.	WPxx							
Work-Package Title								
Lead Beneficiary	[Short Org. Name]							
Main Author	[Name and Short Org. Name]							
Other Authors	[Name and Short Org. Name]							
Due date	Mxx							
Deliverable Type		Document, Report (R)		Data management plan (DMP)		Websites, press & media action (DEC)		Other
Dissemination Level		Public (PU)		Sensitive (SEN)		Classified		
	PU: Public, fully open SEN: Sensitive, limited under the conditions of the Grant Agreement Classified R-UE/EU-R – EU RESTRICTED under the Commission Decision No2015/444 Classified C-UE/EU-C – EU CONFIDENTIAL under the Commission Decision No2015/444 Classified S-UE/EU-S – EU SECRET under the Commission Decision No2015/444							

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

DOCUMENT REVISION HISTORY

Version	Date	Description of change	List of contributor(s)

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

PARTNERS

Participant number	Participant organisation name	Short name	Country
1	EUROPEAN DYNAMICS LUXEMBOURG SA	ED	LU
2	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	RWTH	DE
3	ENGINEERING - INGEGNERIA INFORMATICA SPA	ENG	IT
4	EREVNITIKO PANEPISTIMIAKO INSTITOUTO SYSTIMATON EPIKOINONION KAI YPOLOGISTON	ICCS	EL
5	INESC TEC - INSTITUTO DE ENGENHARIADE SISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA	INESC	PT
6	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO	TNO	NL
7	TAMPEREEN KORKEAKOULUSAATIO SR	TAU	FI
8	TEKNOLOGIAN TUTKIMUSKESKUS VTT OY	VTT	FI
9	TRIALOG	TRIALOG	FR
10	CYBERETHICS LAB SRLS	CEL	IT
11	CENTRO DE INVESTIGACAO EM ENERGIA REN - STATE GRID SA	NESTER	PT
12	INTERNATIONAL DATA SPACES EV	IDSA	DE
13	ELIA TRANSMISSION BELGIUM	ETB	BE
14	HRVATSKI OPERATOR PRIJENOSNOG SUSTAVA D.D.	HOPS	HR
15	UNIVERSITATEA TEHNICA CLUJ-NAPOCA	TUC	RO
16	CLUSTER VIOOIKONOMIAS KAI PERIVALLONTOS DYTIKIS MAKEDONIAS	CLUBE	EL
17	F6S NETWORK IRELAND LIMITED	F6S	IE

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

18	SOCIAL OPEN AND INCLUSIVE INNOVATION ASTIKI MI KERDOSKOPIKI ETAIREIA	INCL	EL
19	ABB OY	ABB	FI
20	ENERVA OY	ENERV	FI
21	JARVI-SUOMEN ENERGIA OY	JSE	FI
22	DIMOSIA EPICHEIRISI ILEKTRISMOU ANONYMI ETAIREIA	PPC	EL
23	DIACHEIRISTIS ELLINIKOU DIKTYOU DIANOMIS ELEKTRIKIS ENERGEIAS AE	HEDNO	EL
24	INDEPENDENT POWER TRANSMISSION OPERATOR SA	IPTO	EL
25	ELLINIKO HRIMATISTIRIO ENERGEIAS	HENEX	EL
26	HARDWARE AND SOFTWARE ENGINEERING EPE	HSE	EL
27	QUE TECHNOLOGIES KEFALAIOUCHIKI ETAIREIA	QUE	EL
28	ARETI S.P.A.	ARETI	IT
29	APIO S.R.L.	APIO	IT
30	ACEA ENERGIA SPA	AE	IT
31	VOLKERWESSELS ICITY B.V.	VWICI	NL
32	ARNHEMS BUITEN BV	AB	NL
33	STICHTING VU	VU	NL
34	COOPERATIVE ELECTRICA DO VALE DESTE CRL	CEVE	PT
35	REN - REDE ELECTRICA NACIONAL SA	REN	PT
36	MC SHARED SERVICES SA	SONAE	PT
37	ELES DOO SISTEMSKI OPERATER PRENOSNEGA ELEKTROENERGETSKEGA OMREZJA	ELES	SI
38	ELEKTRO GORENJSKA PODJETJE ZA DISTRIBUCIJO ELEKTRICNE ENERGIJE DD	EG	SI

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

39	OPERATO DOO	OPR	SI
40	SVEUCILISTE U ZAGREBU FAKULTET ELEKTROTEHNIKE I RACUNARSTVA	UNIZG	HR
41	INSTITUT JOZEF STEFAN	JSI	SI
42	KONCAR - DIGITAL DOO ZA DIGITALNE USLUGE	KONC	HR

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

DISCLAIMER

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi.

Lorem ipsum dolor sit amet, cons ectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci t

COPYRIGHT NOTICE

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

EXECUTIVE SUMMARY

About the EXECUTIVE SUMMARY[1]:

Summaries are useful for people who have neither the time nor the inclination to read a lengthy document but who want to scan the primary points quickly and then decide whether they need to read the entire version.

A summary should be short enough to be economical and long enough to be clear and comprehensive. Don't sacrifice meaning for brevity. A short, confusing summary will take more of a busy executive's time than a somewhat longer but clear one.

It should stand alone (hence do not refer to section numbers or WPs).

- It focuses on results (findings, conclusions, and recommendations).
- It typically provides some motivation for why the problem is interesting.
- It typically mentions the research methodology.
- It does NOT need to provide a section-by-section summary.

[1] Footnote

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

TABLE OF CONTENTS

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

LIST OF TABLES

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

LIST OF FIGURES

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

ABBREVIATIONS

WP	Work Package
IoT	Internet of Things
….	

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

1 INTRODUCTION

Simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

2 SECTION: ABOUT TEXT AND TITLES

GUIDANCE:

Deliverables should not refer to project-internal matters such as WPs.

2.1 FIRST SUBSECTION

Body text

- First level bullet
  - Second level bullet
    - Third level bullet…

2.2 SECOND SUBSECTION

Lorem ipsum

Donec et mollis dolor. Praesent et diam eget libero egestas mattis sit amet vitae augue. Nam tincidunt congue enim, ut porta lorem lacinia consectetur.

2.2.1 Sub-subsection

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec a diam lectus. Sed sit amet ipsum mauris. Maecenas congue ligula ac quam viverra nec consectetur ante hendrerit. Donec et mollis dolor. Praesent et diam eget libero egestas mattis sit amet vitae augue. Nam tincidunt congue enim, ut porta lorem lacinia consectetur.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

3 SECTION: ABOUT FIGURES, TABLES & REFERENCES

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec a diam lectus. Sed sit amet ipsum mauris. Maecenas congue ligula ac quam viverra nec consectetur ante hendrerit. Donec et mollis dolor. Praesent et diam eget libero egestas mattis sit amet vitae augue. Nam tincidunt congue enim, ut porta lorem lacinia consectetur.

3.1 ABOUT FIGURES

About figures please remember to:

- Center them
- Put Figure caption (easier to then cross-reference to them)
- Caption font size should be 10 pt uppercase
- Caption should be centered as well

If the picture is taken from some other sources this should be stated

FIGURE 3. THIS FIGURE IS TAKEN FROM…

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

3.2 ABOUT TABLES

About tables remember to:

- Center them
- Put a Table caption (easier to then cross-reference to them):
- Caption should be centered as well

If the Table is taken from some other sources this should be stated

Hereby a table examples:

TABLE 8. CAPTION FOR THE TABLE 1

TABLE 9. CAPTION FOR THE TABLE 2

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

3.2.1 Agenda tables

Hereby an agenda table example:

AGENDA		
Schedule	**Item description**	**Presenter (Name, Affiliation)**
Day 1: dd/mm/yyyy		
08h00-09h00	Xxxxxxx xxxx xxxxx xxxxx xxxx xxxxxxx	Xxxxx Xxxxx
09h00-10h00	Xxxxxxx xxxx xxxxx xxxxx xxxx xxxxxxx	Xxxxx Xxxxx
Day 2: dd/mm/yyyy		
08h00-09h00	Xxxxxxx xxxx xxxxx xxxxx xxxx xxxxxxx	Xxxxx Xxxxx
09h00-10h00	Xxxxxxx xxxx xxxxx xxxxx xxxx xxxxxxx	Xxxxx Xxxxx
	Final Remarks	
END OF MEETING		

TABLE 10. CAPTION FOR THE AGENDA TABLE

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

4 CONCLUSIONS

Guidance: this section should conclude the work done and outline next steps.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

REFERENCES

For what concerns the references, please, insert them as numbered "cross-reference" as indicated hereby [1].

Notice that also cross references among sections and references to pictures and tables should be inserted as cross-references to numbered items so that when shifting around things in the document, the links will be automatically updated when saving it.

Sometimes for URLs you may want to use the footnote option[2] rather than the reference option as explained above.

[3] Authors, Title, Date…

[4] Authors, Title2, Date….

[5] URL…

[6] …

[2] http://www.interneturl.com

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

APPENDIX A

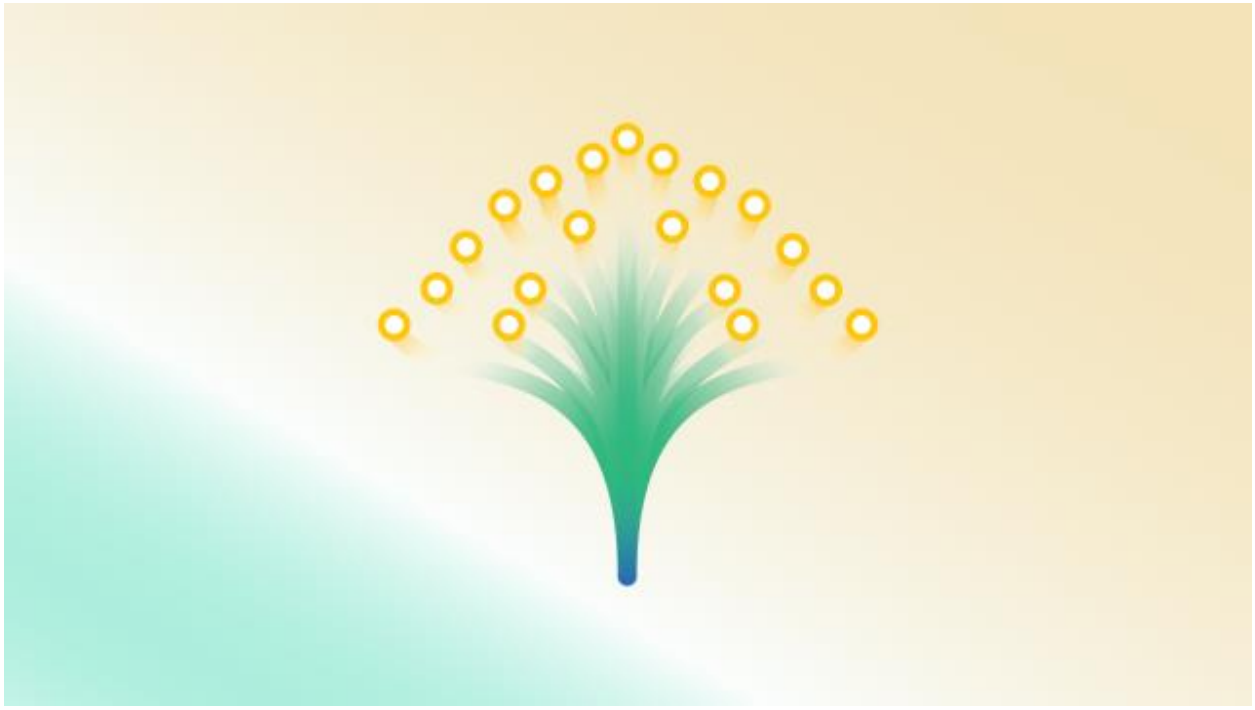
Anything that is related but not core to the deliverable can go into appendix.

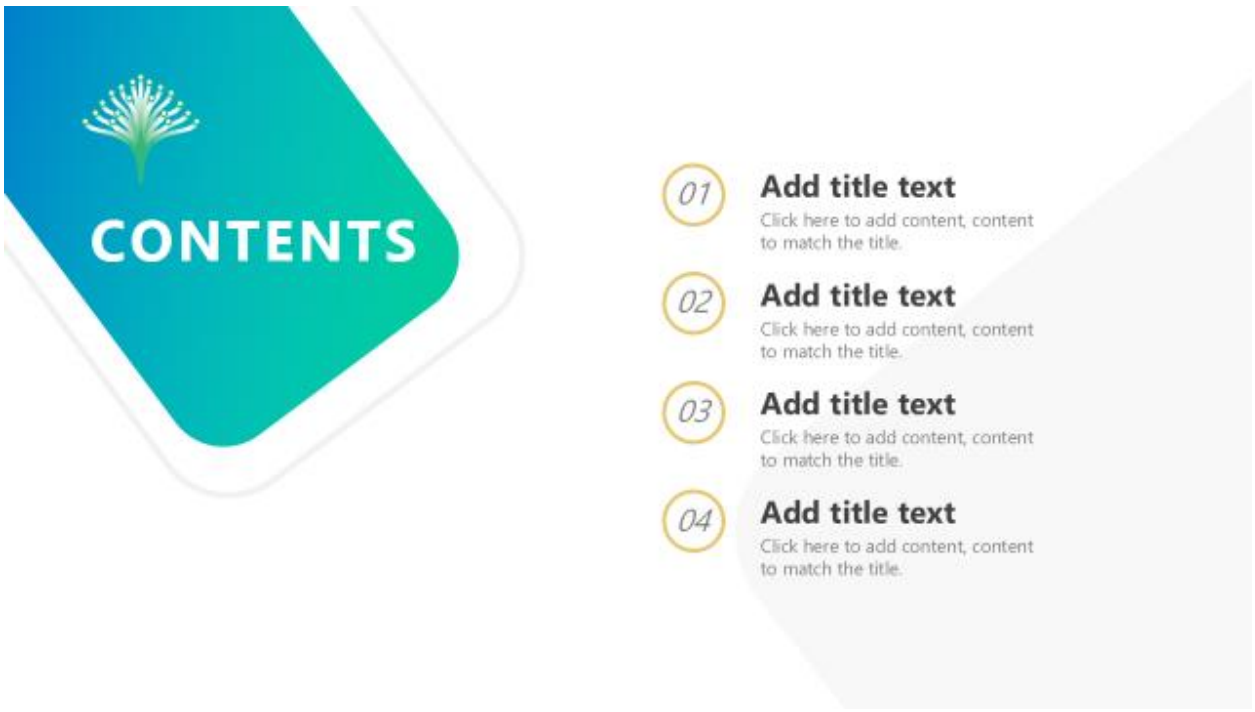
Co-funded by the European Union

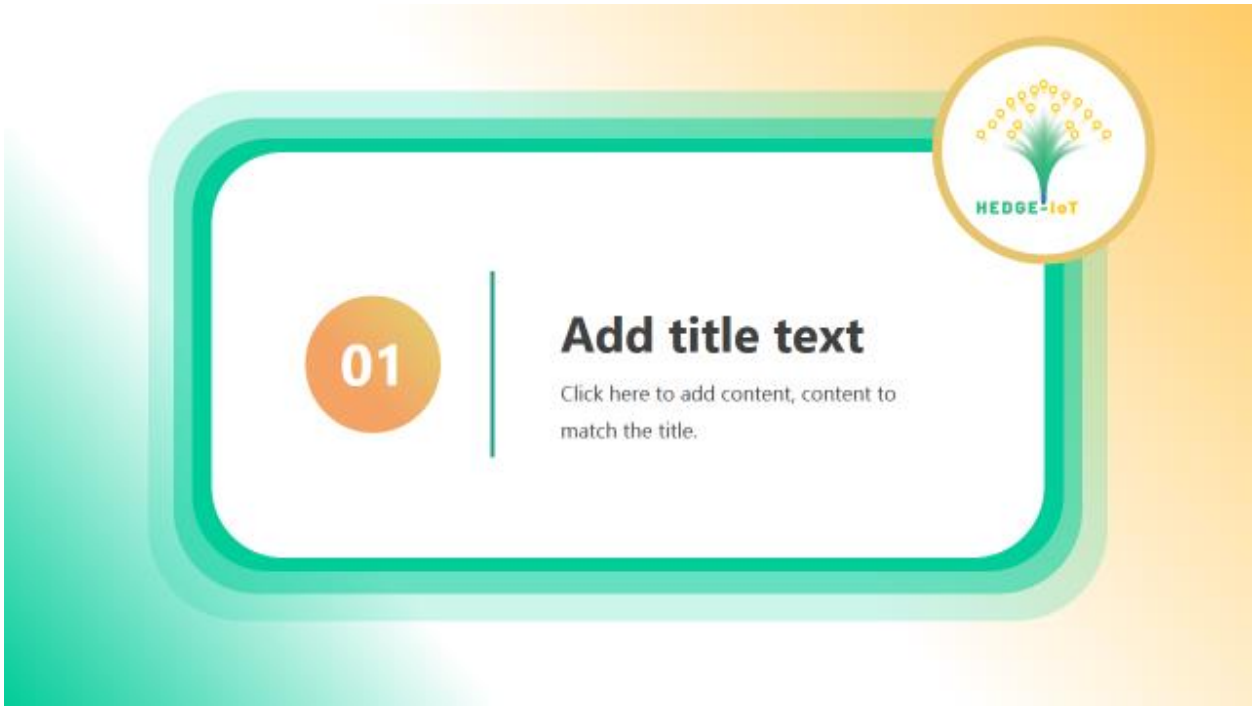
This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

HEDGE-IoT

POWER POINT TEMPLATE







Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

ADD TITLE TEXT

ADD YOUR TITLE HERE

Click here to add text content, such as keywords, some brief introductions, etc.

Click here to add text content, such as keywords, some brief introductions, etc.

ADD TITLE TEXT

Click here to add text content, such as keywords, some brief introductions, etc. Click here to add text content, such as keywords, some brief introductions, etc. Click here to add text content, such as keywords, some brief introductions, etc. Click here to add text content, such as keywords, some brief introductions, etc.

Click here to add content, content to match the title.

Click here to add content, content to match the title.

Click here to add content, content to match the title.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.


HEDGE-IoT
Add text
Add title text
Add title text
Click here to add content, content to match the title.
Add title text
Add title text
Click here to add content, content to match the title.
Add title text
Add title text
Click here to add content, content to match the title.


HEDGE-IoT
Holistic Approach towards Empowerment of the Digitalization of the Energy Ecosystem through adoption of IoT solutions
LOREM IPSUM DOLOR
Co-funded by the European Union

Co-funded by the European Union

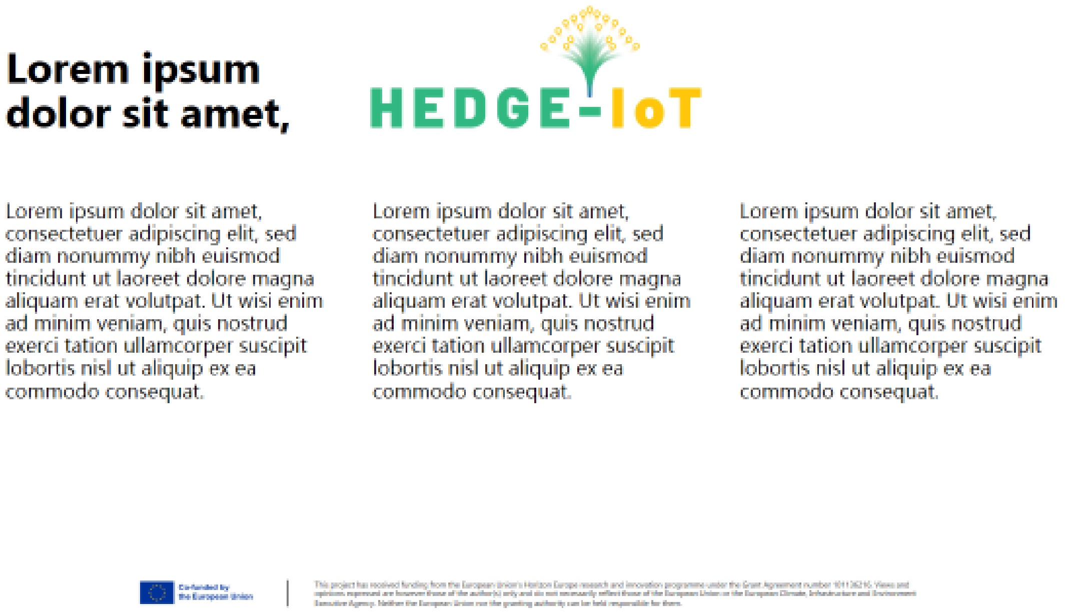
This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.



Lorem ipsum dolor sit amet,

HEDGE-IoT

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

HEDGE-IoT

HEDGE-IoT

Lorem ipsum

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Lorem ipsum

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Lorem ipsum

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Co-funded by the European Union

LOREM IPSUM

- Click to edit Master text styles
  - Second level
    - Third level
      - Fourth level
        - Fifth level

- Click to edit Master text styles
  - Second level
    - Third level
      - Fourth level
        - Fifth level

HEDGE-IoT

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement number 101136216. 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 Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

HEDGE-IoT