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## D1.1 – Project Management Manual

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Task Reference	<b>T1.1 – Project Management and Financial Administration T1.2 – Technical and Scientific Coordination</b>
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## REVISION HISTORY

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1.0	2024-07-30	CERTH	1 <sup>st</sup> Version
1.1	2024-08-30	CERTH	Version for Peer Reviews
2.0	2024-09-21	CUT, CSEM	Version for Quality Assurance
3.0	2024-09-30	CERTH	Version for Submission

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<sup>1</sup> Lead Beneficiary, Contributor, Internal Reviewer, Quality Assurance

<sup>2</sup> Can be left void



## TERMINOLOGY

Terminology/Acronym	Description
GA	Grant Agreement to the project
EC	European Commission
PC	Project Coordinator
TC	Technical Coordinator
PSC	Project Steering Committee
WP	Work Package
EFMEA	Expanded Failure Modes and Effects Analysis
RP	Reviewing period
AI	Artificial Intelligence
ML	Machine Learning
DLT	Distributed Ledger Technologies
PMM	Project Management Manual
IDE	Integrated Development Environment
QA	Quality Assurance
CM	Communication Manager



## EXECUTIVE SUMMARY

The primary goal of this management manual is to establish an efficient framework that ensures timely and effective delivery of the project's objectives. It includes comprehensive guidelines on communication, decision-making processes, risk management, and financial administration. The document also details the project's governance structure, including key roles. The management approach is intended to facilitate seamless coordination among the 15 consortium partners, ensuring high-quality deliverables and adherence to deadlines.

Project management activities have already commenced, with key processes and roles in place, as outlined in Section 3. Moving forward, project management will follow a structured plan, with regular monitoring of progress, risk mitigation strategies, and financial oversight. The document highlights critical project milestones and deliverables, ensuring that all partners are aligned on expectations and contributions.

Targeting key objectives such as efficient resource allocation, risk management, and stakeholder engagement, the strategy emphasizes continuous improvement and collaboration. The manual also details the quality assurance procedures to ensure that all project outputs meet the highest standards.

In conclusion, this management plan provides the foundational framework necessary for the successful execution of HYPER-AI, ensuring that all partners remain coordinated and that the project achieves its goals efficiently.



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# 1. Introduction

This document outlines a plan for managing and controlling the processes needed for the successful implementation of the HYPER-AI project. It focuses on the work breakdown structure and provides details on the task schedule, Lead Partners, deliverables, and task dependencies. This Project Management Manual (PMM) outlines management procedures to ensure consortium-wide alignment on key administrative and governance topics. These procedures are designed to enhance collaboration among project partners. If relevant changes arise in management processes, tools, the project schedule, budget, or risk management, the Project Coordinator will update this document as necessary.

## 1.1. Structure of the Document

PMM is structured as follows:

**Chapter 2 – Project Overview:** This chapter provides an overview of the HYPER-AI project, including its objectives, consortium participants, and the project's timeline and budget.

**Chapter 3 – Project Management:** This section outlines the management structure, roles, and responsibilities for overseeing the smooth execution of the project, including governance, decision-making processes, and coordination among partners.

**Chapter 4 – Work Plan Structure:** This chapter details the project's work plan, outlining the specific work packages, tasks, deliverables, and timelines, ensuring that all activities are well-coordinated and aligned with the project's objectives.

**Chapter 5 – Project Quality and Risk Management:** This section introduces the quality assurance framework and risk management processes, focusing on monitoring, evaluation, and mitigation strategies to ensure project success.

**Chapter 6 – Reporting Procedures:** This chapter defines the reporting procedures, including the creation, review, and submission of deliverables, along with guidelines for periodic technical and financial reporting to the European Commission.

**Chapter 7 – Financial Management:** This section outlines the financial management principles, including budget distribution, cost justification, and funding allocation, to ensure transparency and accountability throughout the project.

**Chapter 8 – Conclusion:** This chapter summarizes the key points of the Project Management Manual, reiterating the importance of collaboration, risk management, and quality assurance for the successful execution of the HYPER-AI project.

**Chapter 9 – List of Figures:** This section provides a list of all figures included in the document, offering visual references to support the text.

**Chapter 10 – List of Tables:** This section provides a list of all tables included in the document, giving a structured reference for data and information presented throughout the manual.



## 2. Project Overview

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### 2.1. Objectives

HYPER-AI addresses the inherent complexity in the IoT/Edge/Cloud continuum. Such a complex environment goes beyond the cognitive abilities of human programmers when it comes to anticipating all the possible ways of executing different tasks as well as what are the optimal ways of doing so. HYPER-AI envisions open, hyper distributed, multi-cloud / multi-edge computing environments unified under a transparent and collaborative computing continuum framework. HYPER-AI's overarching objective is to develop the necessary mid-tier and cloud-edge connectors to seamlessly integrate heterogeneous computing environments. This will establish new-generation, interoperable, and adaptive hybrid computing ecosystems that exploit cognitive clouds and edge intelligence beyond current limitations.

HYPER-AI will implement a multi-objective optimization framework considering a wide range of parameters such as infrastructure capacities, application needs, and energy efficiency that will drive the orchestration process. HYPER-AI enables the dynamic/on-the-fly allocation of heterogeneous infrastructures, e.g., different computational resources, bandwidth, etc., to different applications given the user-defined requirements to computational throughput, maximum resource utilization versus energy minimization. HYPER-AI will develop a solution where computational resources are treated as configurable and deployable components, allowing users to quickly analyze and test tools and services. This would enable the exposure of a new ecosystem of devices, software, hardware and services providing a computing continuum framework through AI augmented optimization of the computing continuum plane and cross-layer resource management from core cloud to the far-edge that enables discovery and interoperability of resources and common/specialized hardware, services and data handling.

Stemming from the above, HYPER-AI objectives are listed as follows:

- **Objective O1:** Design and implement the HYPER-AI open architecture that will empower swarms of nodes to collaboratively develop collective intelligence, bringing computation closer to the edge using decentralized AI/ML-based intelligence.
- **Objective O2:** Ensure dynamic cognitive and informative optimized decision-making across all phases of the application lifecycle (design, execution, maintenance).
- **Objective O3:** Develop autonomic system entities ensuring autonomous Smart-Nodes and rapid coordination of Smart-Nodes swarms during application design and runtime phases.
- **Objective O4:** Provide distributed self-configuration, self-healing, and self-optimization frameworks that support heterogeneous computing resources across the cloud-edge continuum.
- **Objective O5:** Create a secure and privacy-preserving framework for managing computational resources, integrating distributed ledger technologies (DLT) for secure and private data management as well as AI-based intrusion detection mechanisms.
- **Objective O6:** Develop a user-friendly Integrated Development Environment (IDE) that supports dynamic application configuration across the IoT/Edge/Cloud continuum, making it easier for developers to utilize the platform's capabilities.





- **Objective O7:** Validate and demonstrate HYPER-AI's effectiveness across multiple use cases, ensuring scalability, security, and efficiency in real-world environments such as manufacturing, green energy, automotive, agriculture, and healthcare.

## 2.2. Participants, duration and budget

The HYPER-AI project involves a diverse and highly experienced consortium consisting of 15 partners. This consortium includes 12 partners from the European Union, 2 from Switzerland, and 1 international partner from South Korea, facilitating collaboration across regions and expertise. The project is coordinated by CERTH - Centre for Research and Technology Hellas, Greece, that provides the project management capabilities and is also responsible for the technical and scientific project execution.

Table 1 presents the list of project consortium Partners.

**Table 1 Project participants**

Number	Role	Short name	Legal name	Country
1	COO	CERTH	ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS	EL
2	BEN	TID	TELEFONICA INNOVACION DIGITAL SL	ES
3	BEN	ECL	ECLIPSE FOUNDATION EUROPE GMBH	DE
4	BEN	NKUA	ETHNIKO KAI KAPODISTRIAKO PANEPISTIMIO ATHINON	EL
5	BEN	VIF	VIRTUAL VEHICLE RESEARCH GMBH	AT
6	BEN	OdinS	ODIN SOLUTIONS SOCIEDAD LIMITADA	ES
7	BEN	SABO	SABO - INDUSTRIAL AND COMMERCIAL INCORPORATED COMPANY OF MACHINERY FOR THE BRICK AND TILE INDUSTRY AND MANUFACTURED AUTOMATIC SYSTEMS	EL
8	BEN	TRUST-IT	TRUST-IT SERVICES SRL	IT
8.1	AE	COMMPLA	COMMPLA SRL	IT
9	BEN	CUT	TECHNOLOGIKO PANEPISTIMIO KYPROU	CY
10	BEN	eBOS	EBOS TECHNOLOGIES LIMITED	CY
11	BEN	ENEA	AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE	IT
12	AP	CSEM	CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECHERCHE ET DEVELOPPEMENT	CH
13	AP	HES-SO	HAUTE ECOLE SPECIALISEE DE SUISSE OCCIDENTALE	CH
14	AP	SUNDO	SUNDOSOFT LTD	KR



The above listed consortium will carry out HYPER-AI activities throughout its whole life, 36 months, from April 1st, 2024 to March 31st, 2027, with a total budget of 4,668,912.50 €, resulting in a contribution of 4,628,975.00 € from the EC.



### 3. Project Management

HYPER-AI's organizational structure reflects the consortium's size and complexity. The project management structure defines the governance framework, including roles, responsibilities, and compliance with the contract with the European Commission (EC). It also includes the overall management, communication, and coordination between different partners and stakeholders, as well as monitoring the progress of HYPER-AI, through supervision of milestones, risk management and establishment of contingency plans.

A project involving 15 partners requires numerous decisions that must be managed efficiently, with a comprehensive view of the entire project. The general management structure of HYPER-AI is outlined below. This structure includes the following governance bodies and their roles and responsibilities:

- Project Coordinator (CERTH): Responsible for ensuring the timely and effective progress of the project in line with the Grant Agreement.
- Technical Coordinator (CERTH): Responsible for overseeing the technical aspects of the project, ensuring that all technical requirements are met, coordinating between various technical teams, and ensuring proper implementation according to the project's specifications
- General Assembly (All Partners): The top-level management body where all partners are represented. It approves the management structure, project direction, and consortium agreements.
- Project Steering Committee (All WP Leaders): Supervises the execution of the project, manages strategic planning, oversees technical audits, and is responsible for daily project management.
- Work Package Leaders: In charge of managing tasks within their respective Work Packages (WPs).
- Task Leaders: Responsible for the technical oversight of their specific tasks and coordination with other related tasks.

#### 3.1. Roles and responsibilities

According to the project management structure presented, a brief description of the responsibilities and correspondent person appointed to the roles is described below.

##### 3.1.1. Project coordinator

Project Coordinator: Elias B. Kosmatopoulos – CERTH

Deputy project coordinator: Iakovos Michailidis - CERTH

Main responsibilities: CERTH is the legal entity responsible for the day-to-day administrative, legal, and financial management of the project. Responsibilities include interacting with the EC on contract issues, organizing General Assembly and Project Steering Committee (PSC) meetings, circulating relevant information, and coordinating project reviews and dissemination events. Additionally, CERTH is responsible for circulating relevant information and communications, overseeing project reviews, supporting dissemination and exploitation events, coordinated by the communication manager (TRUST-IT), and managing aspects related to the payment of financial contributions.

##### 3.1.2. Technical coordinator

Appointed person: Kostas Ioannidis – CERTH



Main responsibilities: The Technical Coordinator (TC) is primarily responsible for overseeing the proper implementation of the project, ensuring that all technical objectives are met. Acting as the intermediary between the consortium and the PC overseeing technical progress, ensuring scientific maturity, and promoting innovation.

### 3.1.3. Quality Assurance Manager

Appointed person: Vassilis Papataxiarxhs – NKUA

The Quality Assurance (QA) Manager ensures that all project deliverables meet predefined quality standards by establishing and implementing quality control processes. The QA Manager is responsible for identifying risks early in the project, developing mitigation plans, and working closely with other team members to address issues affecting technical outcomes. The QA Manager also monitors the project's progress, ensuring continuous improvement and adherence to standards, while regularly updating risk management plans and providing quality assurance reports to stakeholders.

### 3.1.4. Communication Manager

Appointed person: Diego Simoni – TRUST-IT

The Communication Manager (CM) is responsible for promoting the project's brand, ensuring an online presence, and engaging with key stakeholders through various channels such as social media, websites, and promotional materials. The CM manages the creation of content, including newsletters, videos, and publications, while organizing events like workshops and webinars to communicate project progress and impact. This role is crucial in ensuring consistent and clear communication of the project's results to both technical and non-technical audiences.

### 3.1.5. Project Steering Committee

Appointed persons:

**Table 2 Project Steering Committee**

Partner Name	Member
CERTH	Iakovos Michailidis, Kostas Ioannidis Thanasis Moustakas
NKUA	Vassilis Papataxiarxhs
CUT	Herodotos Herodotou
OdinS	Jesus Sanchez
TRUST-IT	Diego Simoni

Main responsibilities: The Steering Committee supervises project execution to ensure alignment with strategic goals, oversees technical audits, and manages financial matters. The committee coordinates the preparation of deliverables, manages the submission of reports to the European Commission (EC), and ensures proper risk assessment and contingency planning. Additionally, the steering committee approves strategic documents such as the Stakeholder Management Plan, Data Management Plan, and plans related to networking, dissemination, communication, and exploitation.



### 3.1.6. Work Package Leaders

Appointed persons:

**Table 3 WP Leaders**

Work Package No.	Partner Name	Leader
WP1	CERTH	Iakovos Michailidis
WP2	CERTH	Iakovos Michailidis
WP3	CUT	Herodotos Herodotou
WP4	NKUA	Vassilis Papataxiarhis
WP5	CERTH	Thanasis Moustakas
WP6	OdinS	Jesus Sanchez
WP7	NKUA	Vassilis Papataxiarhis
WP8	OdinS	Jesus Sanchez
WP9	TRUST-IT	Diego Simoni
WP10	TRUST-IT	Diego Simoni

Main responsibilities: The responsibilities of the Work Package (WP) leaders involve managing the tasks grouped within their respective work packages, ensuring coordination with other related work packages, and monitoring progress. WP leaders are responsible for achieving the objectives laid out in their work package, reporting any risks or issues, and contributing to the overall project deliverables. They also ensure that their work aligns with the project's strategic goals and timelines, handle technical follow-ups, and collaborate with task leaders to meet milestones and ensure quality control of deliverables.

### 3.1.7. Task Leaders

Appointed persons: Since some WPs have not started during the writing process of this deliverable only the partner that leads the task is stated in the following table.

**Table 4 Task Leaders**

Task No.	Task title	Partner Name
1.1	Project Management and Financial Administration (M01-M18)	CERTH
1.2	Technical and Scientific Coordination (M01-M18)	CERTH



1.3	Risk Management and Quality Assurance (M01-M18)	NKUA
1.4	Data Management, GDPR, Legal Compliance and Ethical Assurance (M01-M18)	OdinS
2.1	Project Management and Financial Administration (M19-M36)	CERTH
2.2	Technical and Scientific Coordination (M19-M36)	CERTH
2.3	Risk Management and Quality Assurance (M19-M36)	NKUA
2.4	Data Management, GDPR, Legal Compliance and Ethical Assurance (M19-M36)	OdinS
3.1	Technological Landscape Analysis	CUT
3.2	End-Users Requirements Definition	SABO
3.3	Planning of Use Cases and Scenarios Definition	VIF
3.4	Definition of KPIs and Evaluation Plan	OdinS
3.5	Specification of HYPER-AI Architecture	NKUA
4.1	Resources Abstraction and Self-advertisement mechanisms (Registration)	NKUA
4.2	Cognitive Cloud Softwarized Infrastructure Customization (Connectors)	NKUA
4.3	Open Resources Semantic Representation Models (device/infrastructure/cloud capabilities)	NKUA
4.4	Application modeling for planning and triggering decision making	VIF
5.1	Hyper distributed resources modeling AIs for reliable full-state estimation across the computing hierarchy	CERTH



5.2	Autonomous self-managed computing nodes and swarms (dynamic scale-up)	CERTH
5.3	Asynchronous distributed optimization mechanism for real-time computing (memory, processing, storage) resources reconfiguration	CUT
5.4	Distributed optimization mechanism for real-time data-related (big data locality and transmission) resources management	HES-SO
6.1	DLT-based Decentralised Data Trust and Security Framework	OdinS
6.2	AI-based distributed intrusion detection system for Cognitive Cloud Continuum architectures	CSEM
6.3	Privacy and Security in Federated Learning	TID
7.1	APPs Submission IDE	NKUA
7.2	Prototyping and Integration of HYPER-AI Platform	eBOS
7.3	HYPER-AI Prototype Adaptation to the Verticals	SABO
8.1	Vertical 1 - Manufacturing: AR-based Remote Assembly of Production Lines	SABO
8.2	Vertical 2 - Green Energy: Energy efficient data processing simulation for monitoring of critical infrastructures	ENEA
8.3	Vertical 3 - Mobility and Automotive: Automated driving of connected vehicles	VIF
8.4	Vertical 4 - Farming and Agriculture: Precision Agriculture improved by computing continuum from Cloud to-edge-to-IoT	OdinS



8.5	Vertical 5 - Healthcare: Disease Control originating from Wild Animals to prevent future Pandemics	SUNDO
8.6	Performance Evaluation and Impact Assessment	OdinS
9.1	Branding, Awareness and Communication channels set up (M01-M18)	TRUST-IT
9.2	Synergies, Liaison and Events Planning (M01-M18)	TID
9.3	Exploitation Plans, Business Strategy and IPR Management (M01-M18)	TRUST-IT
9.4	Standardisation, Certification of Tools, Services and Training Procedures (M01-M18)	TID
9.5	Open Source Ecosystem, Community Building and Sustainability (M01-M18)	ECL
10.1	Branding, Awareness and Communication channels set up (M19-M36)	TRUST-IT
10.2	Synergies, Liaison and Events Planning (M19-M36)	TID
10.3	Exploitation Plans, Business Strategy and IPR Management (M19-M36)	TRUST-IT
10.4	Standardisation, Certification of Tools, Services and Training Procedures (M19-M36)	TID
10.5	Open Source Ecosystem, Community Building and Sustainability (M19-M36)	ECL

Main responsibilities: The Task Leaders are responsible for the technical follow-up of their respective tasks. Their duties include coordinating closely with other task leaders to ensure that interdependent tasks are well-aligned and progressing smoothly. They oversee the specific deliverables and milestones associated with their tasks, ensuring that the project adheres to the predefined timelines. Task Leaders also play a vital role in identifying and mitigating risks associated with their tasks, making sure that technical challenges are addressed efficiently. Additionally, they are responsible for reporting progress





and coordinating with WP Leaders to ensure the integration of their task outcomes into the broader project framework.

### 3.2. Consortium procedures and rules for decision

Day-to-day scientific and management decisions are taken by the Project Coordinator (PC) and the TC. A collaborative decision-making model will be implemented, where decisions are taken by seeking consensus among partners during meetings. Additionally, all major technical issues and related decisions should be communicated to all consortium members, even if they are not directly involved in that aspect of the project. Strategic decisions, including the rescheduling of deliverables, milestones, tasks, and effort distribution, will be taken by the General Assembly the ultimate decision-making body of the consortium. In the event of a conflict or when major decisions need to be made, a two-thirds (2/3) majority approval from the consortium members is required. Each member present or represented at the meeting shall have one vote, and the decision is only considered valid if at least 50% of partners submit a vote (quorum). If quorum is not reached, the chairperson will convene another meeting within two weeks. Should quorum still not be achieved, an extraordinary meeting will be called, which can proceed and make decisions regardless of the quorum to avoid project delays.

Decision making on technical aspects affecting a specific WP or task will be preferably solved by the participants in this WP or task. In case of disagreement or when the decision affects more than one WP, first, the partners involved should, preferably, try to deal with the contingency immediately. In case this is not achieved, four steps will be followed in their respective order:

- Involvement of the WP Leader (if applicable) to resolve the issue.
- Involvement of the Project Coordinator.
- Notification to the GA.
- If resolution is not achieved after all the previous steps are taken, the issue will be brought to the attention of the EC.

## 4. Work Plan Structure

The project is organized in a structured manner to ensure efficient implementation and achievement of its objectives. The work plan is divided into ten (10) Work Packages (WP), each corresponding to specific tasks that contribute to the overall success of the project. The WPs are spread over the project's lifespan and target the realization of defined objectives. Each WP is assigned to a specific partner based on their technical or managerial expertise.

### 4.1. Overview of Work Packages

Table 5 provides an overview of the WPs, including the WP title, lead partner, and timeline for each.

Table 5 List of WPs

WP No.	WP Title	Lead Partner	Start Month	End Month
--------	----------	--------------	-------------	-----------



1	Project Management Phase 1	CERTH	1	18
2	Project Management Phase 2	CERTH	19	36
3	State Requirements Definition	CUT	1	12
4	Key Enabling Technologies at Systems and Hardware Level	NKUA	4	18
5	Distributed Self-Configuration, Self-Healing and Self-Optimization Framework	CERTH	7	30
6	Distributed Self-Protection Framework	OdinS	7	30
7	Prototyping, Verticals Preparation and IDE	NKUA	19	33
8	Applications, Verticals and Evaluation	OdinS	22	36
9	Dissemination, Communication and Exploitation Phase 1	TRUST-IT	1	18
10	Dissemination, Communication and Exploitation Phase 2	TRUST-IT	19	36

WP1 and WP2 deal with the coordination and management of the project. WP3 aims at studying the conceptual framework setting up the basis for the technical WPs. WP4 is responsible for developing key enabling technologies to enable the implementation of HYPER-AI. WP5 addresses the infrastructure and the programming tools, as well as the swarm intelligence of the platform and its optimization, orchestrating the execution of workflows behind the scenes. WP6 realizes the modules required to set up the basis for distributed security and components that will be the interface with which the end user. WP7 is responsible for the functional integration of HYPER-AI prototype, planification and preparation of the verticals, while WP8 oversees their execution and evaluation. WP9 and WP10 are related to the dissemination and communication activities as well as the study on the business models and the exploitation activities. It will interact closely with the research community and industry to monitor market needs paving the way towards the commercialization of products deriving from the HYPER-AI outcomes. Contribution to standardization initiatives will be also pursued together with the definition of guidelines and best practices to stakeholders, scientific community and policy makers. The interaction between various WPs is depicted in the figure 1 below.

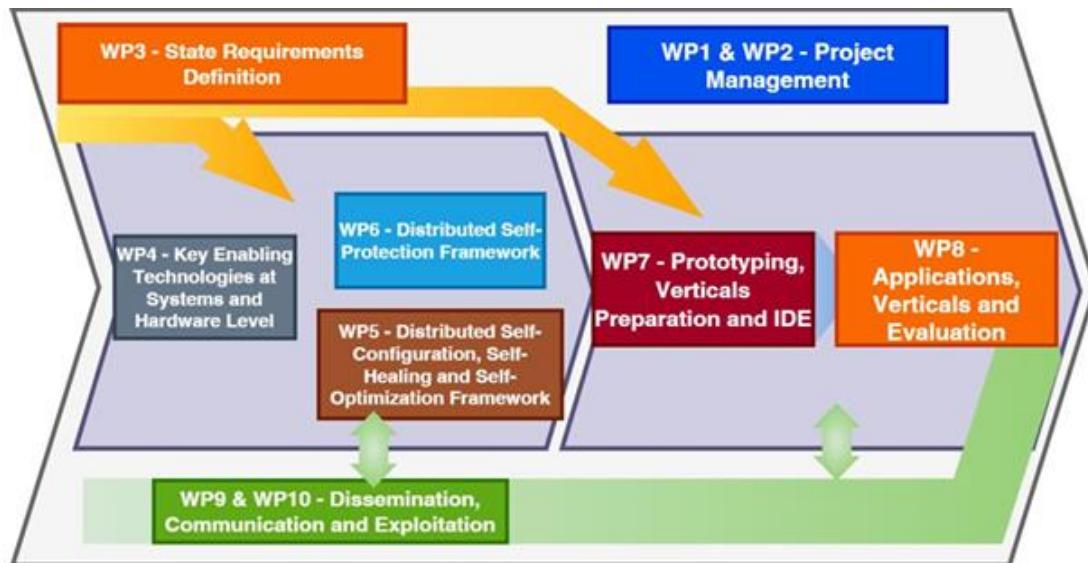


Figure 1 Interaction between WPs

## 4.2. Deliverables

This sub-section presents the project's deliverables, listed in table 6.

Table 6 List of deliverables

Deliverable No.	Deliverable Name	Work Package No.	Lead Partner	Type	Dissemination Level	Due Date (month)
D1.1	Project Management Manual	WP1	CERTH	R	PU	6
D1.2	Progress reports	WP1	CERTH	R	SEN	9
D1.3	Risk registry and quality management plan	WP1	NKUA	R	PU	6
D1.4	Data management plan	WP1	OdinS	DMP	PU	6
D1.5	Legal and Ethical issues and Guidelines	WP1	CERTH	R	PU	6
D2.1	Final project report	WP2	CERTH	R	SEN	36
D2.2	Risk registry and quality management plan Final version	WP2	NKUA	R	SEN	30
D2.3	Data management plan - Final version	WP2	OdinS	DMP	PU	36
D3.1	SotA Review and Requirement Analysis	WP3	CUT	R	PU	12



D3.2	Use Cases Definition and Evaluation Plan	WP3	OdinS	R	PU	12
D3.3	HYPER-AI Specifications and Architecture	WP3	NKUA	R	PU	12
D4.1	Resources abstraction layer	WP4	NKUA	R	SEN	18
D4.2	Open Connectors	WP4	NKUA	R	PU	18
D4.3	Semantic models and application modelling	WP4	VIF	R	PU	18
D5.1	Hyper distributed resources modeling Als for reliable full-state estimation across the computing hierarchy	WP5	CERTH	R	PU	30
D5.2	Autonomous self-managed computing nodes and swarms (dynamic scale-up)	WP5	CERTH	R	PU	30
D5.3	Asynchronous distributed optimization mechanism for real-time computing (memory, processing, storage) resources reconfiguration	WP5	CUT	R	PU	30
D5.4	Distributed optimization mechanism for real-time data-related (big data locality and transmission) resources management	WP5	HES-SO	R	PU	30
D5.5	First round of advances for the Distributed Self-Configuration, Self-Healing and Self Optimization Framework	WP5	CERTH	R	SEN	18
D6.1	DTL-based Distributed Data Trust and Security Framework	WP6	OdinS	R	PU	30
D6.2	AI-based distributed intrusion detection system	WP6	CSEM	R	PU	30
D6.3	Secure and Privacy-Preserving Federated	WP6	TID	R	PU	30



D6.4	First round of advances for the Distributed Self-Protection Framework	WP6	OdinS	R	SEN	18
D7.1	HYPER-AI IDE	WP7	NKUA	R	PU	33
D7.2	Integration Report	WP7	NKUA	R	SEN	33
D7.3	Prototype adaptations for the project verticals	WP7	NKUA	R	SEN	33
D8.1	Evaluation report of HYPER-AI innovations' technical performance in different verticals	WP8	OdinS	R	SEN	36
D9.1	Dissemination, Communication and Exploitation plan	WP9	TRUST-IT	R	PU	18
D9.2	Exploitation & Sustainability	WP9	TRUST-IT	R	SEN	18
D9.3	Standardisation, Certification, Open Source Ecosystem	WP9	ECL	R	SEN	18
D10.1	Communication, Dissemination and Stakeholder Engagement -Final version	WP10	TRUST-IT	R	PU	36
D10.2	Exploitation & Sustainability - Final version	WP10	TRUST-IT	R	SEN	36
D10.3	Standardisation, Certification, Open Source Ecosystem. - Final version	WP10	ECL	R	SEN	36

### 4.3. Milestones

Table 7 lists the project's milestones, including indication of the deliverables required to validate the milestones.

**Table 7 List of milestones**

Milestone No.	Milestone Name	Work Package No.	Lead Partner	Means of Verification	Due Date (month)
1	Project Handbook and Multi-Aspect	WP1	CERTH	D1.1, D1.3, D1.4, D1.5 delivered	6



	Management Framework defined				
2	Requirements and Architecture Fully Defined	WP3	CUT	D3.1, D3.2, D3.3 delivered	12
3	Release of Resources abstraction, interconnection and semantic & application modelling	WP4	NKUA	D4.1, D4.2, D4.3 delivered	18
4	Release of Distributed Self-Configuration, Self-Healing and Self-Optimization Framework	WP5	CERTH	D5.1, D5.2, D5.3, D5.4 delivered	30
5	Release of Distributed Self-Protection and UX Framework	WP6	OdinS	D6.1, D6.2, D6.3 delivered	30
6	HYPER-AI Platform ready for the pilots (system and application deployments)	WP7	NKUA	D7.1, D7.2, D7.3 delivered	33
7	Availability of final applications, vertical demonstrations and evaluation report	WP8	OdinS	D8.1 delivered	36
8	HYPER-AI website go live	WP9	TRUST-IT	D9.1 delivered	6
9	Initial plants ready for dissemination, exploitation, standardisation, & open-source ecosystem creation	WP9	TRUST-IT	D9.2, D9.3 delivered	9
10	Final completion of dissemination, exploitation, standardisation, & open-source ecosystem creation	WP10	TRUST-IT	D10.1, D10.2, D10.3 delivered	36



11	Final Management completed	Project	WP2	CERTH	D2.1, D2.2, D2.3 delivered	36
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#### 4.4. Timing of Work Packages, Tasks, and Deliverables

Figure 2 below outlines the timeline of work packages, tasks, and key deliverables throughout the project's duration.

WP	Title	Leader	Start	End	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
<b>WP1</b>	<b>Project Management Phase 1</b>	<b>CERTH</b>	<b>1</b>	<b>18</b>		<b>MS1</b>										
<b>T1.1</b>	Project Management and Financial Administration	CERTH	1	18		<b>D1.1</b>	<b>D1.2</b>									
<b>T1.2</b>	Technical and Scientific Coordination	CERTH	1	18												
<b>T1.3</b>	Risk Management and Quality Assurance	NKUA	1	18		<b>D1.3</b>										
<b>T1.4</b>	Data Management, GDPR, Legal Compliance and Ethical Assurance	ODINS	1	18		<b>D1.4</b>	<b>D1.5</b>									
<b>WP2</b>	<b>Project Management Phase 2</b>	<b>CERTH</b>	<b>19</b>	<b>36</b>												<b>MS1.1</b>
<b>T2.1</b>	Project Management and Financial Administration	CERTH	19	36												<b>D2.1</b>
<b>T2.2</b>	Technical and Scientific coordination	CUT	19	36												
<b>T2.3</b>	Risk Management and Quality Assurance	NKUA	19	36										<b>D2.2</b>		
<b>T2.4</b>	Data Management, GDPR, Legal Compliance and Ethical Assurance	ODINS	19	36											<b>D2.3</b>	
<b>WP3</b>	<b>State Requirements Definition</b>	<b>CUT</b>	<b>1</b>	<b>12</b>					<b>MS2</b>							
<b>T3.1</b>	Technological Landscape Analysis	CUT	1	12					<b>D3.1</b>							
<b>T3.2</b>	End-Users Requirements Definition	SABO	1	12												
<b>T3.3</b>	Planning of Use Cases and Scenarios Definition	VIF	1	12					<b>D3.2</b>							
<b>T3.4</b>	Definition of KPIs and Evaluation Plan	ODINS	1	12												
<b>T3.5</b>	Specification of HYPER-AI Architecture	NKUA	4	12					<b>D3.3</b>							
<b>WP4</b>	<b>Key Enabling Technologies at Systems and Hardware Level</b>	<b>NKUA</b>	<b>4</b>	<b>18</b>						<b>MS3</b>						
<b>T4.1</b>	Resources Abstraction and Self-advertisement mechanisms (Registration)	NKUA	4	18					<b>D4.1</b>							
<b>T4.2</b>	Cognitive Cloud Softwarized Infrastructure Customization (Connectors)	NKUA	4	18					<b>D4.2</b>							
<b>T4.3</b>	Open Resources Semantic Representation Models (device/infrastructure/cloud capabilities)	NKUA	4	18						<b>D4.3</b>						
<b>T4.4</b>	Application modelling for planning and triggering decision making	VIF	4	18												
<b>WP5</b>	<b>Distributed Self-Configuration, Self-Healing and Self-Optimization Framework</b>	<b>CERTH</b>	<b>7</b>	<b>30</b>												
<b>T5.1</b>	Hyper distributed resources modeling AIs for reliable full-state estimation across the computing hierarchy	CERTH	7	30											<b>D5.1</b>	
<b>T5.2</b>	Autonomous self-managed computing nodes and swarms	CERTH	7	30											<b>D5.2</b>	
<b>T5.3</b>	Asynchronous distributed optimization mechanism for real-time computing resources reconfiguration	CUT	7	30					<b>D5.5</b>						<b>D5.3</b>	
<b>T5.4</b>	Distributed optimization mechanism for real-time data-related resources management	HESSO	7	30											<b>D5.4</b>	
<b>WP6</b>	<b>Distributed Self-Protection Framework</b>	<b>ODINS</b>	<b>7</b>	<b>30</b>												<b>MS5</b>
<b>T6.1</b>	DLT-based Decentralised Data Trust and Security Framework	ODINS	7	30											<b>D6.1</b>	
<b>T6.2</b>	AI-based distributed intrusion detection system for Cognitive Cloud Continuum architectures	CSEM	7	30					<b>D6.4</b>						<b>D6.2</b>	
<b>T6.3</b>	Privacy and Security in Federated Learning	TID	7	30											<b>D6.3</b>	
<b>WP7</b>	<b>Prototyping, Verticals Preparation and IDE</b>	<b>NKUA</b>	<b>19</b>	<b>33</b>												<b>MS6</b>
<b>T7.1</b>	APPs Submission IDE	NKUA	19	33											<b>D7.1</b>	
<b>T7.2</b>	Prototyping and Integration of HYPER-AI Platform	EBOS	19	33											<b>D7.2</b>	
<b>T7.3</b>	HYPER-AI Prototype Adaptation to the Verticals	SABO	19	33											<b>D7.3</b>	
<b>WP8</b>	<b>Applications, Verticals and Evaluation</b>	<b>ODINS</b>	<b>22</b>	<b>36</b>												<b>MS7</b>
<b>T8.1</b>	Vertical 1 - Manufacturing: AR-based Remote Assembly of Production Lines	SABO	22	33												
<b>T8.2</b>	Vertical 2 - Green Energy: Energy efficient data processing simulation for monitoring of critical	ENEA	22	33												
<b>T8.3</b>	Vertical 3 - Mobility and Automotive: Automated driving of connected vehicles	VIF	22	33												
<b>T8.4</b>	Vertical 4 - Farming and Agriculture: Precision Agriculture improved by computing continuum from Cloud	ODINS	22	33												
<b>T8.5</b>	Vertical 5 - Healthcare: Disease Control originating from Wild Animals to prevent future Pandemics	SUNDO	22	33												
<b>T8.6</b>	Performance Evaluation and Impact Assessment	ODINS	25	36												<b>D8.1</b>
<b>WP9</b>	<b>Dissemination, Communication and Exploitation Phase 1</b>	<b>TRUST-IT</b>	<b>1</b>	<b>18</b>		<b>MS8</b>				<b>MS9</b>						
<b>T9.1</b>	Branding, Awareness and Communication channels set up	TRUST-IT	1	18		<b>D9.1</b>										
<b>T9.2</b>	Synergies, Liaison and Events Planning	TRUST-IT	1	18						<b>D9.2</b>						
<b>T9.3</b>	Exploitation Plans, Business Strategy and IPR Management	TRUST-IT	1	18												
<b>T9.4</b>	Standardisation, Certification of Tools, Services and Training Procedures	TID	1	18						<b>D9.3</b>						
<b>T9.5</b>	Open Source Ecosystem, Community Building and Sustainability	ECL	1	18												
<b>WP10</b>	<b>Dissemination, Communication and Exploitation Phase 2</b>	<b>TRUST-IT</b>	<b>19</b>	<b>36</b>												<b>MS10</b>
<b>T10.1</b>	Engagement and Community Building	TRUST-IT	19	36												<b>D10.1</b>
<b>T10.2</b>	Synergies, Liaison and Events Planning	TRUST-IT	19	36												<b>D10.2</b>
<b>T10.3</b>	Exploitation Plans, Business Strategy and IPR Management	TRUST-IT	19	36												
<b>T10.4</b>	Standardisation, Certification of Tools, Services and Training Procedures	TID	19	36												<b>D10.3</b>
<b>T10.5</b>	Open Source Ecosystem, Community Building and Sustainability	ECL	19	36												

Figure 2 Project critical deadlines

## 5. Project Quality and Risk Management

### 5.1. Quality Assurance

The quality assurance strategy in the document involves several key elements to ensure the success and compliance of the project:

Continuous Monitoring and Evaluation: The QA manager is responsible for ensuring the quality of project outcomes. This is done through continuous monitoring, intermediate reports, and active





collaboration between work packages. The TC works with partners to track progress and ensure all technical results align with the expected standards.

Collaboration Across Work Packages: Quality is preserved by fostering strong collaboration between work packages (WP4 to WP8). This involves the use of an agile toolkit provided to all partners, which ensures frequent feedback and the early identification of any issues. This collaborative approach is intended to prevent delays or loss of contributions from different team members.

Feedback Loops: Regular feedback is an integral part of the quality assurance process. The agile development methodology encourages iterative improvements based on real-time feedback from the various project stakeholders.

Evaluation of Technical Outcomes: The TC is responsible for evaluating technical results in relation to the agreed-upon quality standards.

This strategy ensures that the project maintains high-quality standards while allowing for agile responses to emerging challenges during implementation.

## 5.2. Risk Management

In terms of risk management, T1.3 identifies all potential risks early in the project for each WP, including technical, behavioral, legal, and organizational, and provides a comprehensive risk management plan. The risk management will go through a detailed risks registry following a risk management methodology such as Expanded Failure Modes and Effects Analysis (EFMEA) where assessment and mitigation actions for each identified risk will be included, while the registry will be continuously maintained until the end of the project's lifetime with regular iterations and re-assessments taking place twice a year for all the WPs. In cases when risks of high likelihood and severity have been identified, the PC will be notified, being always in close collaboration with the PO; for further advising.

Risks are categorized in the following 4 categories:

- Technical: physical features of hardware, coding elements of software
- Legal: based upon existing policies, laws, regulation framework in each nation/EU
- Behavioral: from users' behavior, attitude, how people approach the project
- Organizational: in relation to disaster mitigation plans and actors' roles

In the following figure 3 the risk assessment process is depicted:



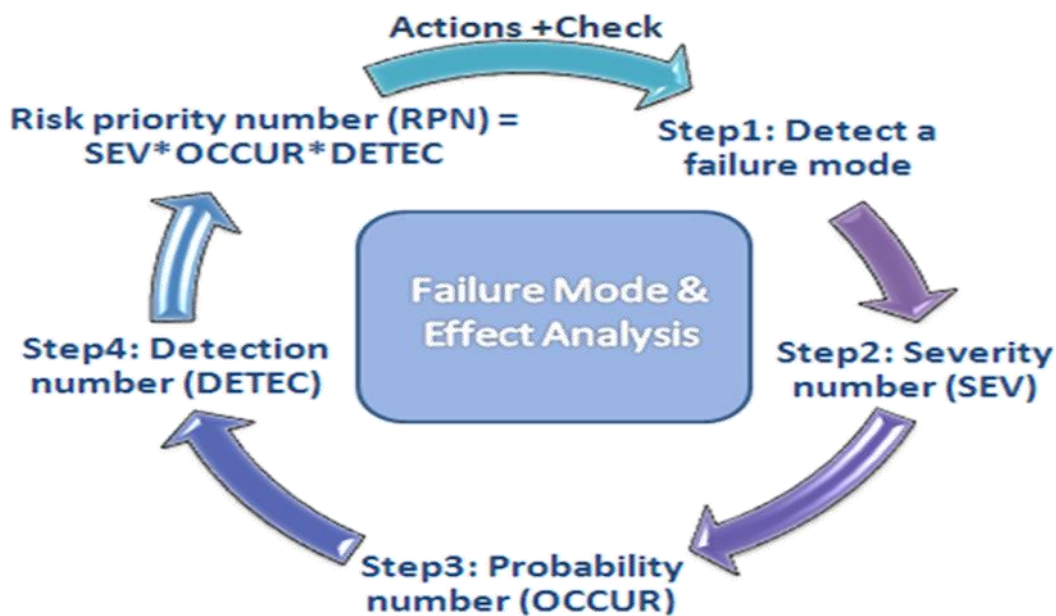


Figure 3 Risk Assessment

A monitoring process will be implemented and specific mitigation measures will be established. Risks are prioritized by the Risk Manager, with this process repeating every 6-12 months. There is a clear connection between different types of risks and the various phases of the project. This is maintained as a dynamic, living document in the form of an Excel file. More detailed information for the risk management methodology can be found in the deliverable (D1.3).

## 6. Reporting Procedures

### 6.1. Deliverables - creation, revision and submission

Deliverables are part of the contractual obligations of the project stated in the Grant Agreement, for that reason their quality should be ensured. The PC is responsible for organizing and coordinating an adequate review process of all deliverables, assigning the reviewers, and guaranteeing that they are finished within the deadline. Finally, PC must submit the deliverable to the EC Participant portal by the deadline and shall inform the GA.

To ensure effective deliverables peer-review, HYPER-AI has assigned two reviewers per deliverable:

- First reviewer: someone involved in the task under which deliverable is being written and with right expertise to provide content-wise evaluation.
- Second reviewer: partner that could be involved or not involved in task and respective WP, to provide more high-level revision.



## 6.2. Reporting

The PC should submit to the Agency the technical report and financial statement set out in Article 21 of the GA. These reports include requests for payment and must be drawn up using the forms and templates provided in the electronic exchange system.

The project reports template will be prepared and stored in a dedicated folder of the repository and shared with all Consortium Partners, accordingly with the rules stipulated in the Horizon Europe Portal:

- Technical report (word docs):
  - Description about the work carried out by the beneficiaries;
  - An overview of the progress towards the objectives of the action, including WP and tasks description, activities and progress summary;
  - Reasons for deviations from the expected work progress according to project timeline (Figure 2) and/or for failing to achieve critical objectives, and respective impact on other tasks, resources and planning (if any)
  - Details about the exploitation and dissemination of the results and, and if necessary,
  - an updated “plan for the exploitation and dissemination of the results”;
  - Resume about the communication activities;
  - Summary for publication by the agency;
  - Answers to questionnaire on action implementation and economic and social project’s impact, notably in the context of the Horizon Europe Portal key performance indicators and the Horizon Europe Portal monitoring requirements.
- Financial report (excel templates from the EC):
  - Individual financial statement (in accordance with Annex 2 of the Grant Agreement) from each beneficiary and from each linked third party, that must detail the eligible costs for each budget category.
  - Information about the resources’ use (Persons-Month per WP and costs per each budget line), including information on subcontracting and in-kind contributions provided by third parties from each beneficiary and from each linked third party.
  - A periodic summary financial statement, created automatically by the electronic exchange system, consolidating the individual financial statements for the reporting period concerned (except for the last reporting period) and including the request for interim payment.

Accordingly, with the Grant Agreement, the project has three reviewing periods (RP1), as shown in Table 8.

**Table 8 Reviewing periods**

Review No.	Timing (month)	Comments
RV1	9	Technical check not linked to a reporting period
RV2	18	interim review (RP1)
RV3	36	Final review (RP2)



### 6.3. Meetings

The HYPER-AI consortium will meet in various settings, including PSC and General Assembly meeting: for the PSC, meetings will be held with a 1-month periodicity, while for the General Assembly meetings the periodicity will be 6 months. In HYPER-AI two kind of meetings are considered: Face-to-face and online meetings. All project meetings are in English language, although meetings on national level are not affected by this rule.

For each project meeting, a specific subfolder will be created in repository structured the following way:

- Agenda, Logistics, Participant List
- Minutes
- Pictures
- Presentations

Also, WP specific meetings will be held online with a 1-month periodicity.

#### 6.3.1. Face-to-face meetings

Meetings shall not start earlier than 09:00 and/or last longer than 18:00 for any HYPER-AI Partners time zone (except for SUNDOSOFT), unless otherwise agreed by all the participants. The host shall organize beverages during the meeting. Lunch breaks shall be foreseen within the agenda and the lunch itself should be paid for by the host. For meetings lasting several days a common dinner shall be offered to the participants, which should also be paid by the host. At each meeting, a participant list should be circulated by the host (one for each meeting day), scanned and stored for reporting and audit purposes and the date for the next meeting of such kind should also be defined and indicated in the Meeting Minute. If there is a need for an additional meeting, which is not foreseen within the project application, the date for the meeting shall be announced as soon as possible.

Although not ideal, if a participant cannot be physically present in a face-to-face meeting, he can ask the host to be present through an online tool. Participation in face-to-face meetings is compulsory for every partner. To ensure participation in all planned sessions, partners may be represented by more than one person.

#### 6.3.2. Online meetings

WP or Task specific meetings should preferably be held by teleconference or other telecommunication means. In this kind of meeting, the host shall have enough hardware and tools to carry it out without problems (e.g. camera, microphone, internet connection, etc.), and it could be recorded if all the participants agreed (the host will be responsible for its management). As well as in face-to-face meetings, online meetings shall not start earlier than 09:00 and/or last longer than 18:00 independently of the time zone, unless otherwise agreed by all the participants. Online meetings are especially suitable when the number of participants is not very high, and the time needed for the meeting can be limited to a maximum of 90 minutes. Following there is a list of good practices are that should be considered in the organization of project online meetings:



- Complex virtual meetings can be broken down to few sessions with more focused schedule in order to reduce the number of participants and /or the duration of each session.
- In any case, if virtual meeting lasts longer than 90 minutes, a short break should be planned in the schedule of the meeting.
- The schedule of the meeting should be designed in a way that people that need to stay for specific topics can leave as soon as those topics are closed.

## 6.4. Communication

This section only refers to general communication at project level. The communication procedures aim to outline the tools available to beneficiaries, ensuring smooth communication and effective teamwork across the entire consortium. In the following sub-sections will be described the internal communications methods which were made available to the consortium, including:

- Collaborative tool
- Emailing

### 6.4.1. Collaborative Tool

CERTH in the role of HYPER-AI Project Coordinator, has created a specific Microsoft Teams' workspace for the consortium, providing access to all project's members. This workspace is, by default, the tool that the consortium will use to share documents to optimize collaboration amongst its partners.

Microsoft Teams fulfills all security conditions so that all beneficiaries can share any kind of files needed for the day-to-day work, which includes:

- Draft versions of Deliverables allowing collaborative work;
- Final Versions of submitted Deliverables;
- Financial and Administrative documents related to the project;
- Internal progress reports;
- Any other document providing information considered interesting for the consortium.

### 6.4.2. Emailing

Communication through emails is meant to be the main communication tool for collaboration among Partners. Its massive use, however, should be optimized to reduce avoidable bothers and to efficiently transmit the key figures of communication.

For that purpose, Partners should take in consideration some basic rules when sending electronic mails to each other. Those rules are as follow:

- To facilitate the identification and email searches, the subject of the email must include references to the relevant of Smart2B project, accordingly with the following example: "[HYPER-AI] WPX Task X.X – Subject" .



- Start a new email thread for each new subject. Don't start a new subject in the middle of a mail about another subject.
- In case of absence or poor access to internet connection, it is highly recommended to configure an automatic replay, which should include alternative contacts for urgent matters.
- Attachments of big size should be avoided. Documents' sharing is preferably done through the document repository of the project.
- To ensure a good and balanced level of communication, don't use "reply all" if it is not exactly necessary, and ensure that the list of recipients in Cc is relevant and should be well thought out.
- Similarly, avoid sending mails to all partners. The per-WP list should be used instead.
- Deadlines should be clearly specified in any action requested through email.

All people involved in HYPER-AI must have an email account. Each beneficiary must inform the coordinator about the contact persons for each task in which they are involved. Whenever there is any role or member change in the project, temporary or definitive, it should be informed from bottom-up regarding smart2B project management structure, and to the rest of the members that might be affected by the change. The information that should be provided in this situation is:

1. Duration of the change (mentioning if it will be temporary or definitive);
2. Contact details of the new person (full name, e-mail, phone number and other information that may be considered relevant).

HYPER-AI mailing list only should be updated by the PC, as well as the project management structure in case the change is deemed as definitive or is longer than six months.

## 7. Financial Management

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### 7.1. General Principles

#### 7.1.1. Distribution of Financial Contribution

The financial contribution of the Granting Authority to the Project shall be distributed by the PC according to:

- the Consortium Plan
- the approval of reports by the Granting Authority, and
- the provisions of payment in Section 7.2.
- A Beneficiary shall be funded only for its tasks carried out in accordance with the Consortium Plan.

#### 7.1.2. Justifying Costs

In accordance with its own usual accounting and management principles and practices, each Beneficiary shall be solely responsible for justifying its costs (and those of its Affiliated Entities, if any) with respect to the Project towards the Granting Authority. Neither the Coordinator nor any of the other Beneficiaries shall be in any way liable or responsible for such justification of costs towards the Granting Authority.



### 7.1.3. Funding Principles

- A Beneficiary that spends less than its allocated share of the budget as set out in the Consortium Plan or – in case of reimbursement via unit costs - implements less units than foreseen in the Consortium Plan will be funded in accordance with its units/actual duly justified eligible costs only.
- A Beneficiary that spends more than its allocated share of the budget as set out in the Consortium Plan will be funded only in respect of duly justified eligible costs up to an amount not exceeding that share, unless a budget reallocation was agreed upon by the General Assembly due to overspending/underspending of budget compared to the Consortium Plan.
- No Party shall be responsible or liable for another Party overspending its maximum budget as specified in the Grant Agreement.

### 7.1.4. Excess payments

A Beneficiary has received excess payment

- if the payment received from the PC exceeds the amount declared and accepted by the Granting Authority or
- if a Beneficiary has received payments but, within the last year of the Project, its real Project costs fall significantly behind the costs it would be entitled to according to the Consortium Plan. This will be verified by the PC 6 months before the end of the Project, at which point all Parties will be invited to provide an interim estimate within 30 days.

In case a Beneficiary has received excess payment, the Beneficiary will be requested by the PC and return the relevant amount without undue delay. In case no refund takes place within 45 days upon written request for return of excess payment from the Coordinator, the General Assembly may identify this as a breach of Party of its obligations under the Grant Agreement. Excess payments which are not refunded by a breaching Party and which are not due to the Granting Authority, shall be apportioned by the Coordinator to the remaining Parties pro rata according to their share of total costs of the Project as identified in the Consortium Plan and within the limits specified in Section 5.2 of the Consortium Agreement, unless decided otherwise on exceptional circumstances, until recovery from the breaching Beneficiary is possible. The PC will promptly inform the General Assembly about the situation and endeavour his best efforts in order to recover the amounts not refunded by a breaching Beneficiary. The General Assembly decides on any legal actions to be taken against the breaching Beneficiary according to Section 6.3.7 of the Consortium Agreement. Upon recovery any amount already deposited by the remaining Beneficiaries shall be returned to the remaining Beneficiaries without any undue delay

### 7.1.5. Revenue

In case a Beneficiary earns any revenue that is deductible from the total funding as set out in the Consortium Plan, the deduction is only directed toward the Beneficiary earning such revenue. The other Beneficiaries' financial share of the budget shall not be affected by one Beneficiary's revenue. In case the relevant revenue is more than the allocated share of the Beneficiary as set out in the Consortium Plan, the Beneficiary shall reimburse the funding reduction suffered by other Beneficiaries.



### 7.1.6. Financial Consequences of the termination of the participation of a Beneficiary

A Beneficiary leaving the consortium shall refund to the PC any payments it has received except the amount of contribution accepted by the Granting Authority or another contributor. In addition, a Defaulting Beneficiary shall, within the limits specified in Section 5.2 of the Consortium Agreement, bear any reasonable and justifiable additional costs occurring to the other Parties in order to perform the Defaulting Beneficiary's task and necessary additional efforts to fulfil them as a consequence of the Beneficiary leaving the consortium. The General Assembly should agree on a procedure regarding additional costs which are not covered by the Defaulting Party or the Mutual Insurance Mechanism.

## 7.2. Payments

Payments to Beneficiaries are the exclusive task of the PC. In particular, the PC shall:

- notify the Beneficiary concerned promptly of the date and composition of the amount transferred to its bank account, giving the relevant references
- perform diligently its tasks in the proper administration of any funds and in maintaining financial accounts
- undertake to keep the Granting Authority's financial contribution to the Project separated from its normal business accounts, its own assets and property, except if the PC is a Public Body or is not entitled to do so due to statutory legislation.

With reference to Article 22 of the Grant Agreement, no Beneficiary shall before the end of the Project receive more than its allocated share of the maximum grant amount less the amounts retained by the Granting Authority for the Mutual Insurance Mechanism and for the final payment.

The PC will transfer payments in accordance with Art. 7 and 22.1 of the Grant Agreement following this payment scheme. The initial payment will be set in the instalment table (see below) at a fixed percentage and paid accordingly. Further prefinancing instalments will be paid by the PC upon positive performance assessment of internal progress reports by the Project Executive Board.

Prefinancing will be paid by the Coordinator to the Beneficiaries after receipt of payment from the Granting Authority in separate instalments as agreed below:

**Table 9 Payment Scheme**

40 % of prefinancing	Initial prefinancing on receipt of prefinancing by coordinator	without undue delay after receipt of prefinancing by Coordinator
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20 % of prefinancing	Further prefinancing	6 months after starting date of the Project
20 % of prefinancing	Further prefinancing	12 months after starting date of the Project
20 % of prefinancing	Further prefinancing	15 months after starting date of the Project

In duly justified cases (e.g. in case of large investments in the beginning of the Project), upon written request and detailed explanation of such request by a Beneficiary, the Coordinator can distribute up to 100% of this Beneficiary's prefinancing share as initial prefinancing instalment.

As interim (and final) payments, the Beneficiaries will receive, upon receipt of the interim payment by the PC, the difference between the further prefinancing instalments already received and the Lump Sum Contributions approved by the Granting Authority. The initial prefinancing will not be taken into account for this calculation and remains as a float.

The PC is entitled to withhold any payments due to a Party identified by the General Assembly to be in breach of its obligations under this Consortium Agreement or the Grant Agreement or to a Beneficiary which has not yet signed this Consortium Agreement.

The PC is entitled to recover any payments already paid to a Defaulting Beneficiary except its Lump Sum Contributions already accepted by the Granting Authority. The PC is equally entitled to withhold payments to a Beneficiary when this is suggested by or agreed with the Granting Authority.

For the avoidance of doubt, funding allocated to Associated Partners from national funding is separate from the EC financial contribution and cannot be reallocated to Beneficiaries.

## 8. Conclusions

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This deliverable outlines the comprehensive management strategy for the HYPER-AI project, ensuring effective coordination, communication, and task execution throughout its duration. Designed as a dynamic document, it will be updated as needed to reflect changes in project requirements, timelines, or consortium roles, guaranteeing smooth progress and alignment with the overall objectives.





In the Project Management section, a clear and structured framework has been presented to guide all project partners through their roles and responsibilities. By establishing robust governance structures, decision-making processes, and risk management plans, this manual serves as a foundation for the project's success. The development of key management tools, including project schedules, communication protocols, and reporting procedures, is well underway and will remain critical throughout the project's lifecycle.

The Work Plan Structure and Project Quality and Risk Management sections detail the systematic approach being employed to monitor project milestones, ensure quality deliverables, and mitigate risks as they arise. This will provide a framework for ongoing project assessments and ensure that any potential challenges are addressed swiftly.

The Reporting Procedures and Financial Management guidelines, as outlined in this document, will continue to support efficient communication with the European Commission and ensure that all financial contributions are properly managed, promoting transparency and accountability across the consortium.

The successful execution of the management strategy, as described in this deliverable, will ensure that HYPER-AI remains on track to achieve its ambitious goals. It will foster a collaborative environment that enhances project outcomes, positioning the project to make a significant impact in the fields of AI and distributed computing.

## 9. List of Figures

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