Pan-European interoperable AC-DC HYbrid electricity NETworks

D1.1: Project Management Handbook

Lead beneficiary:	UBE	**Contributors:**	-
Reviewers:	Justino Miguel Ferreira Rodrigues (INESC), Lenos Hadjidemetriou (UCY)		
Type:	R – Report	**Dissemination:**	PU – Public
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List of acronyms and abbreviations

Abbreviation	Description
AB	Advisory Board
CA	Consortium Agreement
DEC	Dissemination and Exploitation Committee
DIM	Demonstration and Innovation Committee
DMP	Data Management Plan
DL	Demonstration Leader
DoA	Description of Action
D&CM	Dissemination & Communication Manager
FS	Financial Statement
GA	Grant Agreement
IPR	Intellectual Property Rights
KPI	Key Performance Indicator
PC	Project Coordinator
PMs	Personal Months
PMI	Project Management Institute
RM	Risk Management
QA	Quality Assurance
QR	Quality Review
RP	Reporting Period
RTD	Research, Technology and Development
TBC	To be Confirmed
TBD	To be Decided
TC	Technical Coordinator
ToC	Table of Contents
TR	Technical Review
WP	Work package
WPL	Work Package Leader

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Executive summary

D1.1 “Project Management Handbook” outlines the processes and mechanisms to be used throughout the HYNET project to ensure the successful completion of tasks and the achievement of its objectives. It details the processes, metrics, and supporting documentation required to maintain the high quality of HYNET deliverables and overall project management.

In HYNET, project management compliance is the responsibility of the Project Coordinator (PC), as well as the Work Package (WP) and Task leaders. From the start of the project (M1), internal communication channels have been established to ensure the smooth exchange of information between participants. These communication methods include email via mailing lists, teleconferencing, and an internal collaboration platform for document and task management. A preliminary schedule of project meetings has been developed, along with an analysis of roles and responsibilities.

Key aspects of implementation, such as co-creation and consultation processes, reporting procedures, decision-making, and conflict resolution, have been defined in detail. Document control procedures, including templates, naming conventions, and versioning, have also been agreed upon.

Quality assurance of deliverables is emphasized through internal audit mechanisms within the consortium, and corrective actions are to be taken when necessary. A defined quality procedure will be followed for the preparation of all deliverables. To support the internal review process, reviewers have already been designated for each deliverable to ensure proper planning of the required efforts.

Lastly, this deliverable defines a risk management plan, which includes a continuous risk assessment and mitigation strategy. An initial set of risks has been identified, and these will be monitored and updated as the project progresses.

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1. Introduction

1.1 Scope and objectives

The purpose of D1.1 “Project Management Handbook”, provides a quick overview of the project management structure and the most relevant managerial aspects to be followed, based on a proper implementation of the general mechanisms of work and setting the rules and responsibilities of the HYNET consortium. The objective is to ensure a high-quality progress of the work during the project lifetime. This includes the production of the deliverables and other project outcomes, the mechanisms for their submission and the internal review process, and which are the communication means among partners (i.e., meetings, mailing lists, project collaborative space).

In this context, the present deliverable aims to fulfil the following main objectives:

- Establish a quality management system in accordance with the ISO 9001 (Quality Management Systems - Requirements) standard.
- Assure the quality of the project deliverables and project management activities.
- Identify the quality responsibilities of all partners within the consortium.
- Ensure proper co-ordination and communication channels among partners during the project lifetime.
- Identify the potential risks of the project and evaluate their impact and exposure, while proactively designing risk elimination methods in order to guarantee the seamless and proper execution of the project’s tasks.

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2. Consortium Composition, Contacts and Management structure

2.1 Consortium and Participants Contacts

Official contact information of each of the Project Participants is included in the HYNET Grant Agreement. The full list of project participants, along with subscription to mailing lists is maintained as a living document in the HYNET Project Repository as a document restricted to the consortium. Partners are responsible to inform about any modification of their representatives both the PC and the Project Management Steering Committee or the respective WP leader, who will be responsible for informing the rest of members (if necessary).

2.2 Management Structure

The project management in HYNET will guarantee transparency and commitment to all engaged partners and thus, facilitate an unobstructed and successful project evolution. The overall project management of HYNET will comply with the following two major principles, namely the: (1) Principle of creating an integrated project structure incorporating technical, scientific and partner coordination as well as issues of commonplace business operation, based on the methodology of the Project Management Institute (PMI) and supported with state of-the-art management instruments; and (2) Principle of achieving agreement upon all partners and guaranteeing the arrangement of spot of decision making close to the responsible levels of execution as well as elevate them if necessary, concealing the reliable and trusted agreements in order to protect intellectual properties of all partners.

The project structure is designed to handle the most important aspects of management, namely decision- making, IPR policy, technical and administrative management, advisory functions and assessment. The overall management of the project will be facilitated by a consistent and formal approach. In any event, a detailed internal Project Plan will be defined in the preliminary stage of the project, to support the contractual Work Plan and to form the basis of the administrative structures and procedures to be used. The reporting lines and decision-making procedures are described in detail in the following sections.

The primary aim of this management structure is to be capable of responding to the needs of an Innovation Action without being intrusive or costly. The building-in of flexibility was one essential aspect while defining this structure.

2.3 Project Bodies and Main responsibilities

Description and duties of these entities are fully described in the Grant Agreement and are thus only briefly reported below.

2.3.1 HYNET General Assembly (GA)

HYNET GA will consist of representatives of each partner organisation. It will constitute the highest decision board, and its main task will be project governance. It will have the overall responsibility of all technical, financial, legal, administrative, ethical and impact issues of the project. It will monitor and assess the project's progress and make amendments, where necessary. It will encompass the following main roles:

1. **Project Coordinator (PC):** Ioannis Routis (UBE), will be responsible for the overall management of the project and will be the single point of contact with the EC. The PC coordinates all the communications within the partners to ensure progress and quality of the work and provides the Project Officer with technical, managerial, and financial information. Indicative administrative tasks of the PC include the supervision of the overall project progress, the preparation of the General Assembly meetings, the CA coordination, the supervision of the distribution of EC payments to each beneficiary, the preparation of the

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review meetings and the project's representation. In order to fulfil his tasks, the PC uses the resources of project management office team.

2. **Technical Coordinator (TC):** Nena Apostolidou (UBE), will be responsible for the overall scientific and technical management and progress of the project and has the responsibility to coordinate the overall technical progress and relevant processes.
3. **Dissemination & Communication Manager (D&CM):** Magda Zafeiropoulou (UBE), will be responsible to oversee and coordinate the execution of the dissemination and communication activities
4. **Work Package Leaders (WPL):** Each participant assigns a person from its team to be responsible for the work package that, in accordance with the workplan, the participant is responsible for. Each WPL coordinates the work to be carried out within the scope of the respective WP and cooperates closely with the task leaders. The WPLs monitor the performance and progress of the WP regarding to the project plan, ensuring the horizontal information flow to other WPLs and reports to the PC and the TC.
5. **Demonstration Leaders (DLs):** DLs will be responsible to oversee and coordinate demonstration related issues. They will ensure that the demonstration work packages are aligned with the horizontal work packages and facilitates the preparation, the deployment and the evaluation of the pilot results.
6. **Demonstration and Innovation Committee (DIM):** Consists of the TC, DLs and WPLs, and executes the day-to-day management of the project being also responsible for overseeing the demos overall progress and the innovation level in all tasks.
7. **Dissemination and Exploitation Committee (DEC):** Focuses on maximizing the HYNET impact and overseeing the communication, dissemination, and exploitation activities, led by D&CM and supported by all partners.

2.3.2 External Advisory Board (AB)

The HYNET consortium will contact experienced researchers and professionals in order to form an Advisory Board (AB) whose primary objective will be to monitor the HYNET related developments worldwide and facilitate enhanced visibility of the project results. The AB board will be chaired by the PC.

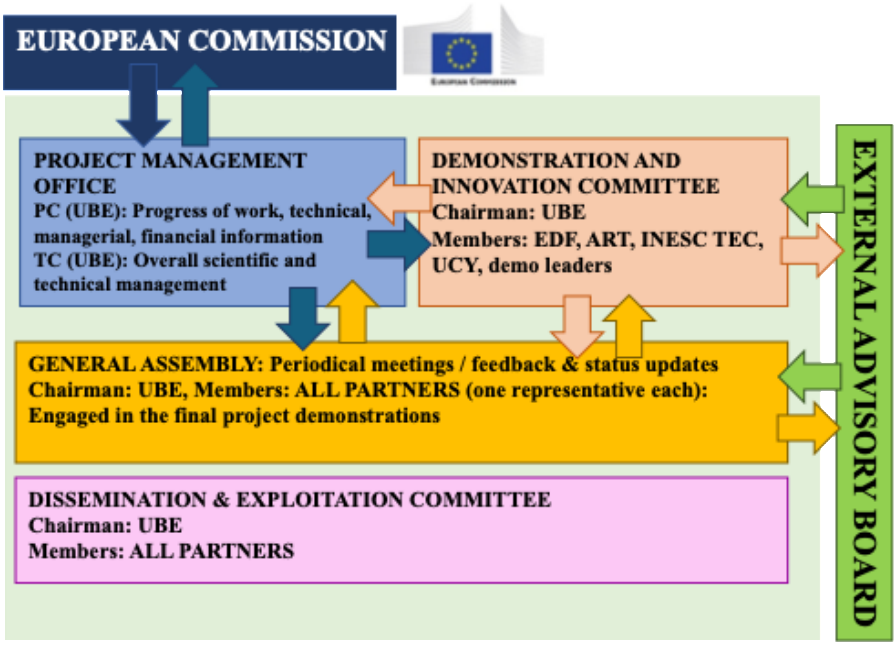

Figure 1: Project Management Structure

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3. Implementation Aspects

3.1 Decision Making

Decisions regarding the project implementation will normally be taken by the team members upon reaching consensus with the WP leaders. Typically, agreement will be reached first by informal contact, followed by official confirmation via electronic mail, letter or agreed written minutes. In case there is a dispute between two or more team members, a conflict resolution procedure must be followed, as presented in the specific document.

For important issues, the agreement may take the form of a short report that needs to be signed by the Steering Committee. Non-technical factors such as resource allocation and contractual terms will also need to be agreed and documented in writing.

The key driver on the decision-making procedures is the description of work to be performed as stated in the Contract, the CA, the DoA and the Quality Plan, and as regularly communicated within the consortium. Transparency of the implementation decisions and actions will be achieved by adequate communication of the emerging issues on project meetings and e-mail communications.

3.2 Conflict Resolution

Generally, technical issues or conflicts within the contractual commitments that do not involve any contract, budget, resource allocation or overall project focus changes will be discussed at work package level first.

If the decision reached between team members is unacceptable by other partners, the conflict will be resolved according to a conflict resolution procedure which can be summarized in the next steps:

1. The team members involved in the implementation of the WP will inform the WP leader for the emerging conflict.
2. The WP leader will decide whether the issue needs to be discussed in a teleconference or a dedicated WP Meeting. The WP Leader will inform the PC for the planned actions.
3. The result of the teleconference or the meeting will be communicated to the PC.
4. If no consensus has been reached so far, the PC will contact the responsible persons and will try to resolve the conflict.
5. In case that the disagreement remains, the issue will be escalated in the Steering Committee. The decision that will be taken at this level will be considered as the final resolution of the issue.

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4. Reporting Procedure and Payment Arrangements

The project reporting is the procedure used by the EC to assess and follow up on the financed projects. Therefore, it is of utmost importance, as it conditions in a very direct way the good image and good assessment of the project by the EC. It is important to remark that the project reporting is a responsibility of the whole Consortium, and every partner must be actively involved in it. The PC is the responsible for periodically gathering the information and reports from the different partners and consolidating it before sending it to the EC.

There are two types of reporting documents including technical and financial information: the Project Periodic Report and the Internal Activity Report. The Project Periodic Report refers to the official report that must be submitted to the EC according to the EC guidelines and templates. The Internal Activity Report refers to internal documents that will be used as control measures to effectively monitor the technical and economic progress of the HYNET project. The Internal Activity Reports will also feed the official reports.

4.1 Reporting Procedures

4.1.1 Internal Activity Report

HYNET Internal Activity Reports have to be prepared by consortium partners and provided to the PC two times per year (every 6 months). An Internal Activity Report shall contain: (a) Technical Information about the WP progress as provided by the respective WP leaders, (b) Effort Information as all partners will be requested to provide a breakdown of the effort spent in the related semester, per WP in comparison to the planned effort.

The procedure to be followed is:

- At the end of the 6-month period, the PC will send to the consortium an email with instructions and the template to be filled in.
- Each Partner has to fill in:
  a. Short description of work done (per WP and Task),
  b. achievements and results,
  c. problems occurred,
  d. Brief overview of planned activities for upcoming semester,
  e. Overview of dissemination/exploitation/cooperation/standardization activities,
  f. An estimation of resources spent (PMs) per WP in the respective reporting semester against the actual total PMs per WP.
- The partners send their report to the PC; this has to happen 20 days after the closure of the period.
- Finally, the PC consolidates the Internal Activity Report and shares it with the consortium once finalized.

4.1.2 Project Periodic Reports

During the HYNET project, two official Project Periodic Reports (RPs) must be submitted to the EC by the PC, covering the periods RP1 (from Month 1 to Month 18) and P2 (from Month 19 to Month 36). The reports shall be submitted to the EC for each reporting period within 60 days after the end of the period under assessment. The delay in the submission of these reports may cause the postponement of part of the next payment to be received by the partner until the next reporting period. The technical part will be managed through corresponding Project Periodic Reports. The PC is in charge to prepare the specific reports based on the information provided through Internal Activity Reports.

The financial status of the project and costs incurred during the period must be communicated to the EC through meticulously prepared Financial Statements (FS) in order to justify the incurred costs and expenses and qualify for the next/final payment. Each consortium partner has to upload financial

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information to the EC participant portal (ECAS) based on cumulative information obtained from the Interim Activity Report.

The procedure to be followed is:

- The PC will ask the partners to generate their individual FS in the EC Participant Portal to officially declare the costs incurred for the reference period.
- Each partner will complete the FS with the costs incurred during the period.
- Each partner will submit and digitally sign the FS. This signature will be done by the Project Financial Signatory appointed.
- The Coordinator will submit the financial report to the EC.

4.1.3 Project Final Report

In addition to the final Periodic reports, a Final Report has to be submitted by the coordinator 60 days after the end of the last reporting period.

4.2 Payment Schedule

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

- Given that the amount of the pre-financing payment will be € 4,798,149.60 and the amount of € 299,884.35 corresponding to 5% of the Maximum Grant Amount will be retained by the Funding Authority from the pre-financing payment and transferred into the 'Guarantee Fund', funding of costs included in the Consortium Plan will be paid to Parties after receipt from the Funding Authority without undue delay and in conformity with the provisions of the Grant Agreement. Costs accepted by the Funding Authority will be paid to the Party concerned.
- For the payment of the balance (final payment); the provisions of the Grant Agreement will be followed.
- Costs accepted by the Funding Authority, pertaining to interim and final payments, will be paid to Parties after receipt from the Funding Authority within 30 days and in conformity with the provisions of the Grant Agreement.
- Payments shall be made following confirmation of each Party's bank account details, and after the signature of both CA and Financial identification form by the partners.
- The Coordinator is entitled to withhold any payments due to a Party identified by a responsible Consortium Body to be in breach of its obligations under this CA or the GA or to a Beneficiary which has not yet signed this CA.
- The Coordinator is entitled to recover any payments already paid to a Defaulting Party. The Coordinator is equally entitled to withhold payments to a Party when this is suggested by or agreed with the Funding Authority.

4.3 Management of Knowledge and Intellectual Property

Knowledge and intellectual property issues will be addressed in compliance to HEU contract template/ contractual conditions. Such issues include ownership and protection of knowledge, dissemination of knowledge, access rights, etc. as described in the CA that is dully signed by all partners. The Steering Committee will be in charge of monitoring the proper implementation of the conditions specified in the Contract and the CA.

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5. Deliverable Submission and Quality Management

5.1 Deliverables Submission

The different technical objectives set for the project have their correspondence within the work packages and defined tasks. Compliance with these technical objectives is evident by on-time delivery the corresponding Deliverables. Each deliverable is assigned to Lead Beneficiary partners who will be responsible of its elaboration in due date. Every Lead Beneficiary is fully responsible for the deliverable's quality and is required to maintain adequate control of the participants' contributions.

The deliverables shall be submitted to the EC in English, by electronic means (in pdf format in the Participants Portal) or in any other format only if required by EC. The appropriate and updated deliverable template can be found in the HYNET Project Repository.

All the deliverables must be finalized and submitted to the EC within the deadlines defined in Annex I of the Grant Agreement.

5.2 Deliverables Quality Procedures

5.2.1 Quality Criteria

Last-minute proofreading is not sufficient. Instead, it should be ensured from the beginning that the content planned for the Deliverable will cover everything that is required. Table 1 summarizes the specific criteria for the Deliverable evaluation.

Table 1: Deliverables – Quality Criteria

Quality Criteria	
Quality of Content	The main objective of the Deliverable is fulfilled and addressed.
	The references are appropriate and complete.
	The methodology is appropriately justified.
	Results are useful and valuable to the project and comply with the Grant Agreement (GA).
	Conclusions are justified.
	No plagiarism.
	No syntax or grammatical mistakes. In addition, the use of UK-English as preferable language.
Readability	The document is easy to read.
	Appropriate and common-used fonts are used.
Structure.	Easy to visualize where key points are addressed.
	Easy to identify WP Tasks as described to the GA.
	The document structure is logical and appropriate.
Follow the Template	The template has been applied properly.
	Figures, graphics, statistics, and screenshots are legible and readable.
	The document's length is less than 100 pages. There might be exceptions in cases where many figures are included in the document.
	References and papers are correctly cited. Website references should be placed as page footnotes, but the bibliography and references to scientific

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	papers (or other types of papers) should be placed in a separate "References" section.
	Definition of terms.

5.2.2 Quality Assurance Procedures

As already stated, a last-minute reading will not be sufficient for the QA process. Hence, a detailed QA procedure was put in place as shown in Figure 2. The procedure is a process step, ensuring the early identification of risks for the deliverable, while all the members of the QA have a role to play as described in Section **Error! Reference source not found.**. The QA process is to be divided into three main sections, **i)** the planning phase, **ii)** the content phase, and **iii)** the final adjustment phase.

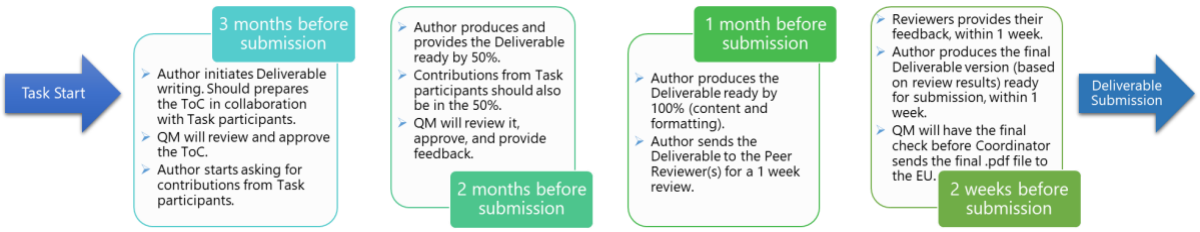

Figure 2: QA Procedures Diagram.

The planning phase begins three months before the submission of the deliverable. At the time, the deliverable's author will provide a Table of Context (ToC) to the WP leader and the QA manager. The two of them will check and approve the ToC. At this stage, the QA process will ensure the planning context covers and addresses all the milestones and objectives of the project. In the case of a technical deliverable, the TM will be involved as well.

The second stage of the QA process focuses on the writing of the deliverable. It is divided into two-time sections. During the first-time period, 50% of the deliverable needs to be prepared two months before the submission deadline. During the second period, all the context of the deliverable needs to be prepared. During this stage, two checks will take place from the QA manager. Initially, 50% of the deliverable will be checked and feedback will be given to the author, and one month before the submission, the QA manager will ensure the deliverable has been completed.

The third and final stage of the QA process includes the QA process by peer reviewers, the QA manager and the PC. One month before submission, the deliverable will be sent to the peer reviewers who are going to have a week to check the deliverable's context and give feedback to the author. The author will make any adjustments needed and two weeks before submission the deliverable will be sent to the QA manager. The QA manager will check and adjust the deliverable to meet the project's QA standards. One week before submission the author will send the deliverable to the PC for the final adjustments before submission of the pdf file to EC.

Table 2 shows an example of the Quality Assurance deadlines and checkpoints for an indicative Deliverable with submission in November 2025, while the respected Task started on January 2025.

Table 2: Quality Procedure Example.

Milestones		Deadline
Start of the Task		01 January 2025
3 Months before the submission	Outline ready + QM Review	31 August 2025
2 Months before the submission	50% Deliverable + QM Review	30 September 2025

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1 Month before the submission	100% Deliverable + Peer/Technical Board Chair/QM Reviews	31 October 2025
2 Weeks before the submission	Feedback by Reviewers	10 November 2025
1 Week before the submission	Final version by the Author	17 November 2025
Submission	The Project Coordinator will have the final look and send the deliverable .pdf to the PO	30 November 2025

After the Kick-off Meeting, the Consortium has decided and assigned two (2) internal reviewers for each of the deliverables as presented in Table 3 based on partners' expertise.

Table 3: Assigned Internal Reviewers

D#	Title	Type	Dissemin. Level	Lead Benef.	Due Month	Peer1	Peer2
D1.1	Project Management Handbook	R	Public	UBE	2	INESC	UCY
D1.2	Data Management Plan (Initial version)	DMP	Public	UBE	6	CIRCE	NKUA
D1.3	Legal and ethical issues and guidelines	OTHER	Public	UBE	12	SGI	ART
D1.4	Data Management Plan (Final version)	DMP	Public	UBE	30	GEPCF	CGES
D2.1	Description of boundary conditions, overall requirements of hybrid AC/ DC grids and operation modes of the demo-sites	R	Public	UCY	12	FENTECH	INESC
D2.2	Definition of HYNET technology requirements, reference use cases and KPIs	R	Public	EDF	12	SID	3SI
D2.3	Interoperability integration report for HYNET (Initial version)	R	Public	UBE	18	SGI	UCY
D2.4	Interoperability integration report for HYNET (Final version)	R	Public	UBE	27	CGES	FENTECH
D3.1	T&D system planning with integrated	R	Public	ART	27	NKUA	UCY

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	multi-energy sector networks						
D3.2	Reliability analysis for hybrid AC/DC networks	R	Public	SGI	27	EDF	BME
D3.3	Inertia compensation and functional requirements for grid forming technologies	R	Public	CIRCE	27	SGI	SID
D3.4	Hybrid AC/DC sub-transmission planning	R	Public	INESC	27	TSOC	FENTECH
D4.1	Advanced technologies for hybrid AC/DC networks	R	Sensitive	GEPCF	27	3SI	SID
D4.2	Quantitative methods and analysis for resilient hybrid AC/DC networks and DC distribution grids	R	Public	INESC	27	CGES	UBE
D4.3	Comprehensive planning and design strategy for MVDC grid implementation (Initial version)	R	Public	SGI	24	CIRCE	ART
D4.4	Comprehensive planning and design strategy for MVDC grid implementation (Final version)	R	Public	SGI	27	3SI	UBE
D5.1	Report on demonstration activities in the French demo	R	Public	EDF	33	FENTECH	SID
D5.2	Report on demonstration activities in the Norwegian demo	R	Public	ART	33	TSOC	UBE
D5.3	Report on demonstration activities within the MONITA HVDC interconnection	R	Public	NKUA	33	BME	3SI
D5.4	Report on demonstration	R	Public	UCY	33	CIRCE	STATNETT

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	activities within the EuroAsia HVDC interconnection						
D5.5	Demonstration evaluation report	R	Public	NKUA	36	SGI	UBE
D6.1	Communication and Dissemination report (Initial version)	DEC	Public	UBE	3	ART	GEPCF
D6.2	Communication and Dissemination report (1st Year)	R	Public	UBE	12	GEPCF	UCY
D6.3	Communication and Dissemination report (2nd Year)	R	Public	UBE	24	INESC	CGES
D6.4	Communication and Dissemination report (3rd Year)	R	Public	UBE	36	GEPCF	3SI
D6.5	Expanding HYNET: Scalability, replicability, and valorisation of DC for pan-European implementation (Initial version)	R	Public	BME	18	CIRCE	NKUA
D6.6	Expanding HYNET: Scalability, replicability, and valorisation of DC for pan-European implementation (Final version)	R	Public	BME	36	ART	TSOC
D6.7	HYNET exploitation report and clustering activities (Initial version)	R	Sensitive	UBE	12	BME	STATNETT
D6.8	HYNET exploitation report and clustering activities (Final version)	R	Sensitive	UBE	36	EDF	INESC

5.3 Document Control Management

The Document Control Management deals with the preparation of template documents, the identification and the tracking of changes related to draft and final versions of documents circulated among the partners.

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The PC is responsible for the necessary assessment of deliverables, while the Quality Manager will be responsible for the overall monitoring of the entire document control and configuration management activities described in this section.

5.4 Documentation Requirements

In the span of the HYNET project, a set of deliverables and relevant documented results are anticipated as depicted in the following table. Such documents will be sent by e-mail and be uploaded in the restricted HYNET document repository, as long as they comply with the following standards:

- Word Processor: Microsoft Word, version 2013 or later.
- Spreadsheet: Microsoft Excel, version 2013 or later.
- Presentations: Microsoft PowerPoint, version 2013 or later.

All files should be scanned for potential viruses before issue and screened on receipt. If an acknowledgement is requested, an explicit request should be included by the sender at the top of the message (e-mail, fax, etc.).

Table 4: Types of Files

Type	Responsible	Template
Deliverable submitted to the EC	As per DoA	Deliverable Document Template
Internal Project Presentation	All partners	Project Presentation Template
Meeting Agenda	Project Coordinator	-
Meeting Minutes	Project Coordinator & Technical Coordinator	Meeting Minutes Template
Reviewed Document	All partners	A new version with track changes on the original version
Internal Review Report	All partners	Internal Review Report Template
Final Activity Report	Project Coordinator / WP Leaders	As per Grant Agreement and Commission guidelines
Final Management Report	Project Coordinator	As per Grant Agreement and Commission guidelines
Financial Statement	All Partners	As per Grant Agreement and Commission guidelines
Consolidated Financial Statement	Financial Administrator	As per Grant Agreement and Commission guidelines

5.4.1 Naming Conventions and Versioning

Document configuration management will be ensured through tracking the versions and the history of changes within the various project documents, such as:

- Deliverables (as stated in the deliverables list in the DoA).
- Presentations of the project results.
- Meeting agenda and minutes.
- Internal audit reports and reviewed deliverables, including the corrective actions taken.

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Document history will be tracked in each deliverable in a separate table describing the different versions of the document and the reasons of change/updates on it.

Document versioning will be tracked through the monitoring of the Configuration Matrix in which all versions of each document will be tracked.

5.4.2 Deliverables submitted to the EC

Name	HYNET_[Deliverable Code]-[Deliverable Title]-vA.BB
Where	A: Major version of the deliverable (Submission to Commission) BB: Minor version of the deliverable for updates during the preparation phase
Examples	HYNET_D1.1-Project Handbook-v1.00 (for submission to the Commission) HYNET_D1.1-Project Management Handbook_UBE-v0.30 (for internal updates and submission for internal review)

5.4.3 Internal Project Presentations

Name	HYNET-[Purpose] or [WP Number] _[Partner]-vA.BB
Where	A: Major version of the presentation (Presentation in the event / workshop) BB: Minor version of the presentation for updates during the preparation phase
Examples	HYNET_WP1_UBE-v1.00 HYNET_D1.1-Project Management Handbook_UBE-v0.30 (for internal updates and submission for internal review)

5.4.4 Meeting Agenda

Name	HYNET_[Meeting Number] Meeting Agenda_[Place]-vA.BB
Where	A: Major version of the meeting agenda BB: Minor version of the meeting agenda for updates during the preparation phase
Examples	HYNET_KOM Agenda_Brussels-v1.00 (final version) HYNET_KOM Agenda_ Brussels -v0.10 (for internal updates and submission for internal review)

5.4.5 Meeting Minutes

Name	HYNET_[Meeting Number] Meeting Minutes_[Place]-vA.BB
Where	A: Major version of the meeting minutes BB: Minor version of the meeting minutes for updates during the preparation phase
Examples	HYNET_KOM Minutes_Brussels-v1.00 (final version) HYNET_KOM Minutes_ Brussels -v0.10 (for internal updates and submission for internal review)

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5.4.6 Reviewed Documents and Internal Audit Reports

Name	HYNET_[Deliverable Code]-[TR/QR]_[Partner / Expert]-vA.BB
Where	A: Major version of the deliverable / internal audit report BB: Minor version of the deliverable / internal audit report for updates during the preparation phase TR: Technical Reviewed document QR: Quality Reviewed document
Examples	HYNET_D1.1-TR_UBE-v0.31 (Technical Reviewed Document from UBE) HYNET_D1.1-TR_ UBE -v0.31 (Internal Audit (Review report from UBE) HYNET_D2.1-QR_ UBE-v0.41 (Quality Reviewed Document from UBE)

5.4.7 Security Levels

Circulation of Deliverables, Internal Deliverables and Working Documents, inside and outside the HYNET Consortium, is subject to the rules associated to the following security levels:

Table 5: Deliverable Security Levels

Type	Responsible	Template
PU	Public	Free circulation inside and outside the Consortium
PP	Restricted to other programme participants	Free circulation in the community of HYNET participants
RE	Restricted to a group specified by the consortium	An accompanying circulation list specified the organizations having access to the document
CO	Confidential	Circulation is limited to members of the consortium, the Commission Staff and the Reviewers

As a general rule, the European Commission Services have free access to all the Deliverables and Internal Deliverables produced by the Project.

5.4.8 Code of Conduct

HYNET partners are expected to jointly develop new ideas, concepts, and architectures, as well as to pursue, jointly or individually, relevant opportunities for dissemination and exploitation of the project results. Therefore, in order to guarantee open and frank collaboration among the consortium members, namely when this involves original contributions and information subject to some level of confidentiality, the following principles shall be observed:

- The partners shall comply to the rules set by Annex II to the Contract (General Conditions) and by the HYNET CA, in relation to:
  - The Intellectual Property Rights (IPR), regarding any original contribution or background knowledge brought in by any member; and
  - The IPR regarding any new knowledge (forward knowledge) generated in the framework of HYNET as a result of any cooperative activity.
- In all forms of use of the mentioned knowledge, proper recognition to all original contributors should be made, namely through:
  - Proper references in publications. When the referenced piece of knowledge has been published, standard referencing rules should apply. In case of draft ideas included in working documents, a reference to the author and corresponding document should be made; and

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    - Otherwise, in the case that there is no written reference, a note stating: "personal communication in the framework of the HYNET project" can be used (identifying the contributor).
- Similar rules should be observed when using copies of slides that include substantial original ideas (figures or text).
- When reporting Research, Technology and Development (RTD) results, Deliverables and Working Documents will contain a list of the contributing partners, intended as physical persons of the involved organizations who have provided contributions to the document.

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6. Communication amongst Consortium Partners

Efficient communication and collaboration structures are essential for the success of the project. Since all project partners are distributed across European member states, the centrepiece of the overall project communication will be a protected online collaboration platform, offering to each partner independent access to important documents, code, meeting agendas, supporting materials, individual to-do lists and other miscellaneous project information.

6.1 Meetings and Workshops

Regular and ad-hoc meetings will be held during the project lifecycle, including:

- **Project Plenary Meetings** held every 6 months in order to ensure that all procedures are understood and implemented in the proper way. The PC is responsible for the meeting formation (agenda of the meeting) and the communication of the meeting details (time, place) at least 2 weeks before the date of the meeting, in order to allow time to the participants for the scheduling and preparation of the necessary information for the meeting.
- **Technical Partners Meetings** held per case if required. Those meetings will be organised by the TC.
- **Monthly WP leaders' telcos (Steering Committee Meetings)** monitored by UBE. WP leaders alongside with Task leaders should present the progress of their WP as well as any open issue of admin, financing etc. nature
- **Monthly meetings for all active WPs:** Each WP leader will propose the meeting schedule according to his WP needs at least 1 week before the date of the meeting and coordinate the necessary actions among the involved partners for the implementation of the WP activities. Each WP leader will communicate the final agenda of the meeting at least 1 day before the meeting date.
- **Technical meetings** monitored by UBE held upon request.

A tentative table of the project meetings is available below.

Table 6: Tentative List of HYNET Plenary Meeting

Event	Date	Place
Kick-off Meeting	10-11 October 2024	Brussels, Belgium
1st Plenary Meeting	April 2025	TBD
2nd Plenary Meeting	October 2025	TBD
3rd Plenary Meeting	April 2026	TBD
RP1 Review Meeting	June 2026 (TBC)	TBD
4th Plenary Meeting	September 2026	TBD
5th Plenary Meeting	March 2027	TBD
Final Plenary Meeting	September 2027	TBD
Final Review Meeting	December 2027 (TBC)	TBD

6.2 Mailing Lists

Effective channels of internal communication have been established from M1 in order to exchange all the necessary information for the project implementation, such as deliverables and relevant documentation. Internal communication channels are also used for exchanging messages.

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A set of e-mail distribution lists have been created to facilitate the communication flows within the different bodies of the consortium. In particular, the following mailing lists have been created:

- general@hynet-project.eu
- pmb@hynet-project.eu
- financial@hynet-project.eu
- legal@hynet-project.eu
- wp1@hynet-project.eu
- wp2@hynet-project.eu
- wp3@hynet-project.eu
- wp4@hynet-project.eu
- wp5@hynet-project.eu
- wp6@hynet-project.eu

Subscription of each project member to a specific mailing list is managed and maintained by the PC. The updated subscription list is available through the HYNET Project Repository. Each consortium partner is responsible to inform the PC whether any modification of their representatives is needed, and the PC will be responsible for keeping the distribution lists updated and informing the rest of members.

6.3 Project collaborative space – Infrastructure and Repository

HYNET PC UBE has set up a shared space in Microsoft Share Point[1], to facilitate information exchange and file sharing between project partners. Microsoft Share Point is fully complied with all the General Data Protection Regulation (GDPR[2]) requirements and is used by the partners as the primary location for uploading and storing files related to the HYNET project, such as Deliverables, Meeting Minutes, Workshop Photos and other working documents, and videos.

Dedicated access to Microsoft Shared Point has been arranged for all users of the tool (project partners). No users/persons outside the consortium have no access to this tool. A snapshot of the Projects' Shared Point is shown in **Error! Reference source not found.**, where there is a specific file structure where each file should be uploaded and stored.

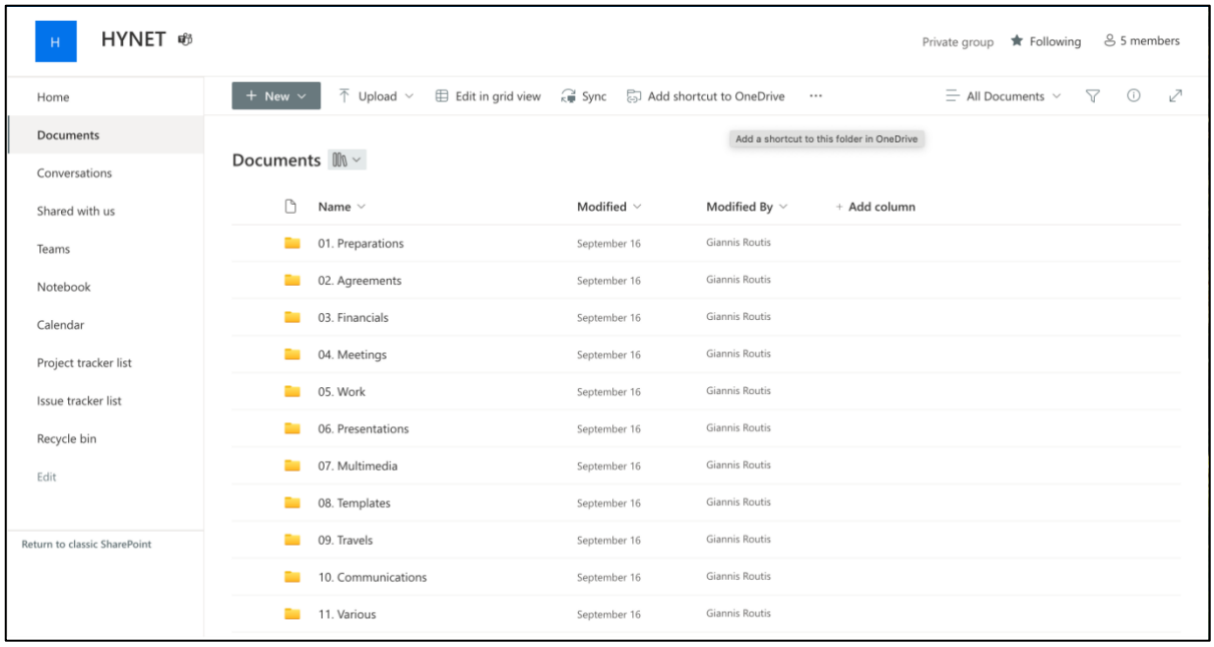

Figure 3: HYNET File Repository - Homepage

[1] https://www.microsoft.com/en-ww/microsoft-365/sharepoint/collaboration
[2] https://www.eugdpr.org/

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A brief summary of the documentation organization and content of the HYNET Project Repository with respect to the Document Management System:

01. **Preparations:** Preparatory information, prior to the KoM.
02. **Agreements:** Grant Agreement, Consortium Agreement, Amendments, etc.
03. **Financials**: Budget, payments, etc.
04. **Meetings:** Minutes and presentations of each meeting.
05. **Work:** Anything related to actual technical and scientific work, implementation, integration, etc.
06. **Presentations:** Includes other presentations, e.g., for public sharing.
07. **Multimedia:** Partners' logos, project logo, other images, photos, videos, etc.
08. **Templates:** Templates for various types of documents.
09. **Travels:** Information about traveling for Plenary Meetings, conferences, etc.
10. **Communications:** Includes contact information of consortium members, mailing lists, etc.
11. **Various:** Includes files that are not relevant to any of the above categories

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7. Risk Management

Risk Management (RM) is an important aspect of the project. It ensures the early identification of potential risks to the project and with the appropriate mitigation actions, ensures the success of the project. This Chapter identifies the responsible consortium members involved in the risk identification and mitigation planning before presenting the RM framework and procedure. Finally, the Chapter concludes with the RM plan.

7.1 Risk Management team and Responsibilities

The RM of the project is under Task 1.2 led by UBE as the PC, TC, QA and RM of the project. However, the RM of the project cannot be the responsibility of just one partner. Instead, all the members of the consortium need to contribute, with UBE to be responsible of coordinate the monitor the effort. This Section focuses on the role of the major partners and their responsibilities.

The primary members of the Risk Management team are the TC and the Work Package leaders. More in detail:

Technical Manager

The Technical Manager has the technical responsibility for the project. Hence, will monitor all the technical activities of the project, and report any risk related to the technical work, as well as mitigation actions.

Work Package leaders

The Work Package leaders will coordinate with the TM and all the consortium members for any work under the responsibility. They will monitor all the work perform in the respective work package and immediately report risks identified relevant to upcoming deliverables or milestones. If a new risk is not identified, periodically, they will update the existing risk already identified in the risk repository.

7.2 Risk Management Procedures

HYNET is establishing an (internal) Project Risks Management Procedure to systematically and efficiently manage risks related to the project's progress and lifecycle. All partners need to report any updates on the existing risks but also any new risks identified, and along with UBE, analyse, evaluate the risk and identify a response (mitigation action).

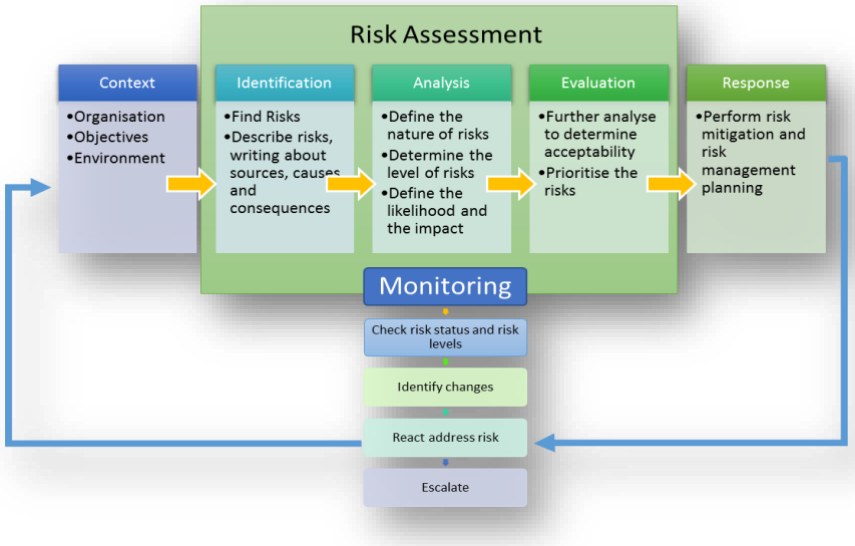

Figure 4: HYNET Risk Management Procedures.

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HYNET Risk Management Procedures are shown in Figure 4. UBE in collaboration with the WP leaders are responsible for following and updating the risk management procedure as follows:

- Establishing the context of the risk;
- Identification of risks with adverse effects or impacts – Contingency Planning and contingency actions;
- Analysis of the risk, categorisation, probability of occurrence and impacts;
- Evaluation and quantification of the risks, and significance;
- Risk monitoring and control and the related documentation;
- Planning the best way to deal with the risk;
- Risk Monitoring and managing outcomes minimising negative impact.

The mitigation measures are based on the notion that risks can be minimised or removed altogether wherever necessary. The main criteria for the appropriate mitigation measure are the impact that a risk possesses on the project's outcomes. Possible decisions for measures are shown below:

- **No-action:** This action is chosen when the possibility and the impact of risk are low. No immediate action is taken, rather the risk is monitored and evaluated in the future if needed.
- **Avoid risk:** If an action related to risk can be avoided, the consortium can follow such a practice, however, this should not affect the outcome or the milestones of the project.
- **Risk protection:** In the case of a high probability or impact risk, immediate mitigation measures should be taken. The major focus of the action should be the success of the project. If needed, the Project Officer (PO) should be informed immediately.

7.3 Risk Management Plan

The risk management plan is prepared and defined during M2 of the project, and it includes a list of possible risk sources and an impact and probability matrix.

7.3.1 Overview

Successful implementation of any kind of project relies, amongst others, on timely identification and control of risks, foreseeing of the consequences and effective management of them via appropriate proactive actions. Project risks describe the impact on the project of circumstances such as diminished quality of the end results, increased costs, delivery delays, loss of community confidence, or even failure. Risks' possibilities as well as risks' impact should neither be neglected nor overrated. Being efficient and effective in identifying and performing all proactive actions regarding possible risks will aid towards achieving the challenging HYNET objectives on time and according to budget; risk identification, management and mitigation constitutes, therefore, an integral part of the overall project management approach.

Risk management incorporates the following activities:

- Assessing continuously what could go wrong (risks),
- Determining which risks are important to deal with, and
- Implementing strategies to deal with those risks.

7.3.2 Continuous Risk Management Approach

This risk management plan has been produced based on existing risk management practices such as the Continuous Risk Management (CRM) paradigm developed by the Software Engineering Institute (SEI) as indicated in the following figure:

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Figure 5: Continuous Risk Management (CRM) paradigm

This iterative roadmap for risk management contains the following elements:

- **Identify:** makes all known project risks explicit before they become problems.
- **Analyse:** transforms risk data into decision-making information.
- **Plan:** translates risk information into decisions and mitigating actions (both present and future) and implements those actions.
- **Track:** monitors risk indicators and mitigation actions.
- **Control:** corrects deviations from the risk mitigation plans; and
- **Communicate:** enables the sharing of all information throughout the project and is the cornerstone of effective risk management.

7.3.3 Risk Identification

Risk identification is done throughout the project life cycle, and mitigation action is to be taken as early as possible. Risk identification should be on the agenda of every meeting and regularly discussed, especially around deliverables and milestones. While some risks can be more easily identifiable than others, emphasis needs to be taken on the task, for the early identification of all the risks to the project. However, all partners must report risks as soon as they have identified them. Especially for high-impact or high-probability risk, they need to report it immediately to UBE as PC and the WP leader, and all involved partners without having to wait for any upcoming meeting. The involved partners can organise an extraordinary meeting to discuss and take mitigation actions relevant to the risk.

7.3.4 Risk exposure

Risk exposure is a measure created by combining the impact and probability of the risk. These terms are identified below at the level of detail compliant to that of the SEI (four levels of impact and three of probability, translating to different levels of risk exposure).

Effect/Impact: the effect of the particular risk on the project, which is determined on the basis of the risk's effect on the project (e.g., performance, cost, schedule). The levels of impact are:

(1) Negligible (2) Marginal (3) Critical (4) Uncontrollable

Probability/Likelihood: the chance that a particular impact will occur. The levels of probability are:

(1) Low (2) Medium) (3) High

Risk exposure as a function of probability and impact is computed in.

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Table 7: Risk exposure

Probability / Effect	High	Medium	Low
Uncontrollable	HIGH	HIGH	MEDIUM
Critical	HIGH	MEDIUM	MEDIUM
Marginal	MEDIUM	MEDIUM	LOW
Negligible	MEDIUM	LOW	LOW

For risks where exposure is high, specific mitigation strategies shall be put in place and acted upon.

7.3.5 Risk Monitoring

The project will continuously monitor and assess identified risks and pay specific attention to risks that have been ranked as with high and medium exposure. Some risks that have already identified in the proposal level and are recorded in the DoA along with an analysis about the risk exposure can be found below:

Table 8: HYNET foreseen risks according to DoA

Risk Number	Description	Work Package No	Probability	Impact level	Proposed Mitigation Measures
1	Underestimation of project effort (cost-efficient use of resources)	WP1, WP2, WP3, WP4, WP5, WP6	Medium	High	To enhance resource efficiency and expedite project solution adoption, a 36-month timeline has been set. This timeframe is crucial for all activities, especially the pilot phase, which relies heavily on prior results. To mitigate potential delays, HYNET will implement short work cycles, providing detailed planning and early component versions to minimize the risk of not achieving project goals.
2	Insufficient consortium coordination	WP1	Low	High	Effective consortium management will be ensured through proper project management (i.e., with specified project coordinator) outlined in WP1. Partner roles and responsibilities have already been identified and will be continuously reviewed to avoid overlapping activities.
3	Partners identified that some of the targets have not been achieved	WP2, WP5	Low	High	The project will readjust its activities using alternative solutions that can lead to tangible KPIs (under the responsibility of the technical coordinator).
4	Interoperability problems among different components	WP2	High	High	Four different subtasks have been introduced in the workplan of the related task (T2.4), coordinated by the technical coordinator (UBE) and highly experienced partners (INESC, UCY) to ensure that potential interoperability problems between different tools are detected as early as possible and addressed.

5	Integration failure of workbench services in the overall HYNET framework	WP2	Low	High	Update integration guidelines and methodologies to tackle the current issue. Suggest effective container orchestration methods to automate and streamline software deployments, scaling, and management processes.
6	Developed tools do not operate as expected	WP3, WP4, WP5	Low	High	The tools will be designed based on specifications from WP3-WP4. Each routine in the tool will be tested by performing simulations or lab experiments, and the final tool will be tested in a similar way before deployment to demonstration sites.
7	Inadequate hardware and software resources for simulation and experimental validation	WP3, WP4, WP5	Low	High	Availability of additional hardware and software resources to ensure a smooth high-fidelity implementation (e.g., in a hardware in the loop configuration).
8	Delays in the completion of each phase due to technical difficulties or resource constraints	WP3, WP4, WP5	Medium	Medium	Regular reviews of the implementation progress and address technical difficulties. Monitoring of the research timeline to ensure the availability of contingencies in order to allow reallocation of resources or adjustment of the WP plan.

Table 9: Initial list of HYNET identified risks

Risk No	Probability	Effect	Risk Exposure
R 1	MEDIUM	Critical	**MEDIUM**
R 2	LOW	Critical	**MEDIUM**
R 3	LOW	Critical	**MEDIUM**
R 4	HIGH	Critical	**HIGH**
R 5	LOW	Critical	**MEDIUM**
R 6	LOW	Critical	**MEDIUM**
R 7	LOW	Critical	**MEDIUM**
R 8	MEDIUM	Marginal	**MEDIUM**

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8. Conclusion

This deliverable details the comprehensive approach HYNET is taking to manage the project, including quality management, risk management, and effective communication. It highlights the importance of systematic procedures for deliverable quality, risk identification, and mitigation measures. HYNET emphasizes a proactive and continuous assessment approach to project risks, ensuring the project progresses smoothly and within the allocated timeline and budget. Additionally, the project's structure for ensuring accountability and transparency among consortium members is seen as key to successfully achieving the project's objectives. The overall management plan, risk mitigation strategies, and internal review mechanisms are designed to address potential challenges, guaranteeing that HYNET delivers results that align with its technical and research goals.

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