



## D7.1 - Quality Management Plan

Work Package 7 – Project Coordination

Task 7.3 – Quality assurance and risk management

Submission date: Day Month Year

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## DISSEMINATION LEVEL

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## ABBREVIATIONS AND ACRONYMS

QMP	Quality Management Plan
EC	European Commission
CA	Consortium Agreement
DoA	Description of Action
PMP	Project Management Plan
DMP	Data Management Plan
PC	Project Coordinator
TPM	Technical Project Manager
FM	Financial Manager
QM	Quality Manager
GA	General Assembly
PMT	Project Management Team
WP	Work Packages
D	Deliverable
EV	Electric vehicle



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## EXECUTIVE SUMMARY

The Quality Management Plan (QMP) is a key document for the management of the InterSTORE Project, together with the Project Management Plan (D7.2) and the Data Management Plan (D7.3).

The QMP establishes the procedures and standards to be used in the InterSTORE project to assure the quality of the outputs and allocates responsibility for ensuring that these procedures and standards are followed.

The ultimate responsibility relies on the Quality Manager (QM), while the general responsibility to ensure quality is shared between all the partners. Quality outcomes are required in terms of the efficacy and efficiency of working practices.

The QMP is effective throughout the life cycle of the project, but is open to review. It lays out the activities that will ensure overall quality control is carried out effectively, and quality control mechanisms are adequately planned, and plans are followed, reviewed and updated considering experience and changing circumstances. This includes the mechanism for proposing and authorizing changes to Work Packages (WP), Deliverables (D) or any other agreed plan. The Quality Plan requires that there is evidence of achievement of high-quality standards in the final version of every Deliverable.



# 1 INTRODUCTION

## 1.1 Objectives and scope of the document

From the outset, the InterSTORE consortium defined the development of high-quality products and services (such as reports, events, and other services) as the overall goal for the project. Thus, two fundamental issues must be present during its whole duration:

- Technical consistency; and,
- Sound management procedures.

For that, it was set up to develop from the preliminary stages of the project a quality assurance plan (in line with the ISO 9001:2000 standards), where the different requirements and criteria are discussed, agreed and implemented. The overall package for that quality plan results from three different, yet integrated, sources:

- **D7.2 - Project Management Plan**, submitted by the end of month 3, containing all the contractual documentation (in particular, the consortium agreement on decision-making procedures and financial rules) and templates, as well as the detailed operative plan, describing each WP and measures at task level, specifying clear responsibilities and a Gantt of resources. Main risks associated with the project are identified as well, and an action plan for their mitigation is established.
- **D7.3 Data Management Plan**, submitted by the end of month 5, providing an analysis of the main elements of the data management policy that needs to be considered by the InterSTORE Consortium's project research data. Identifying the procedures and the governance system for the data management within the project.
- **D7.1 Quality Management Plan**, to be submitted at the end of month 6, establishing the criteria and measurement tools and procedures for the evaluation of outputs (technical/scientific and financial).

The present document refers to the Quality Management Plan, whose objectives are the following:

- To define a framework for the continuous progress monitoring.
- To set up a measurable form to evaluate the results (criteria and thresholds) and to apply corrective actions (whenever necessary), both for scientific and financial outputs.
- To present the quality management procedures in place.



## 1.2 Structure of the deliverable

This report is structured along five main chapters:

- Chapter 1 (current one) introduces the scope and objectives of the quality management plan and the structure of the report;
- Chapter 2 describes the overall methodology applied to the Quality Management Plan adopted in InterSTORE project;
- Chapter 3 describes the process, including the quality control mechanisms, measurement units and thresholds based on which the decision is taken as well as the reporting forms for the quality evaluation of scientific and technical outputs of the project;
- Chapter 4 describes the process, including the quality/quantity control mechanisms, measurement units and thresholds based on which the decision is taken as well as the reporting forms for the evaluation of the financial outputs of the project;
- Chapter 5 describes the coherence analysis performed comparing activities done and resources used.

# 2 InterSTORE OVERALL QUALITY CONTROL METHODOLOGY

## 2.1 Quality control approach

This chapter presents the quality control methodology applied to InterSTORE project.

According to the Description of Action (DoA), the project quality assessment is an on-going activity that starts at the very beginning of the project and ends after the last month of the project, integrating the last reporting documents. Its aim is to assure a high quality of the InterSTORE outputs with respect of the EC required standards.

Due to the complexity of the project, the quality control is related to several aspects of the project delivery. On one side, it will assure high-quality standards to each **technical and scientific report** produced by the project, including both the mandatory reports requested by the EC, such as the progress reports and deliverables, and the internal project documents that will be used for the InterSTORE knowledge creation and dissemination.

On the other side, the quality control procedures will be applied, as well, to all the **financial** reports that each partner will produce. Even in this second domain, the quality control method will be applied to both the mandatory financial reports requested by the EC (Form C and Audit Certificates), as well as to the internal management financial reports (Financial





Report). The quality assessment methodology will apply different processes to these two kinds of topics. This differentiation has been applied for several reasons:

a. The two domains follow different processes of production:

- Technical and scientific documents are mainly the project deliverables and interim and final reports. Therefore, the review is based on the evaluation of the quality of content and action produced, its coherence with expected scientific project objectives and their technical quality and richness. According to this structure, the review is based mainly on content and process evaluation.
- Financial outputs are mainly fulfilling of existing template. Partners should only fulfil standard templates with actual resources information according to the MGA updated version. According to this structure, the review is based mainly on deviation evaluation and justification.

b. The two domains require different reviewer' selection and evaluation:

- Technical and scientific documents always require the selection of an appropriate reviewer according to the topic of the report. InterSTORE has chosen an internal review process based on the selection of adequate reviewers for each specific deliverable as described in D7.2. Moreover, a Quality Manager (QM) has been appointed (CYG) and will be responsible for reviewing the interim and final project reports.
- Financial outputs will be always evaluated by RWTH financial and administrative manager. Since financial reports are expected every 18 months, the financial review process will be done in a standard and agreed way every 9 months, in order to avoid any relevant problem at the time of the formal reporting.

Finally, in order to assure a comprehensive and exhaustive quality control, InterSTORE has defined a specific methodology to evaluate the coherence between the work performed (directly evaluate within the technical and scientific outputs methodology) and the resources used to perform such activities (directly evaluate within the financial outputs methodology).

This evaluation will involve both the financial and administrative manager (RWTH) as well as the technical and scientific coordinator (ENX) together with the quality manager (CYG). The main objective of this evaluation process is to demonstrate that the activities performed for a specific activity (already accepted from the technical and scientific side), have used a reasonable amount of financial resources (expected time, expected personnel/effort, and expected financial resources) in line with expectations – as specified in the DoA.

## 2.2 Decision making procedures in InterSTORE

Whenever a conflict arises in the peer review process (disagreement regarding the quality of a specific output, between the author and the assigned reviewer), the decision-making process follows the approach and the procedures included into the Project Management Plan and the Consortium Agreement, here below summarized:

- STEP 1: Project Management Team (PMT) decision



Once this disagreement occurs, the Project Coordinator will request the PMT (that includes all WPs leader + Project Technical Manager) to perform jointly the review of the output. Decisions will be taken by a majority of two-thirds (2/3) of the votes.

- STEP 2: General Assembly ratification

The decision taken by the PMT will be then ratified/rejected by the formal approval of the General Assembly. Decisions will be taken by a majority of two-thirds (2/3) of the votes.

## 3 TECHNICAL & SCIENTIFIC PROJECT OUTPUTS MONITORING

As highlighted previously, this chapter aims to establish a framework for the evaluation of InterSTORE outputs defining the mechanisms, criteria and formats for this evaluation (commonly the quality control procedures) to be applied during the whole project life.

In this chapter, the following issues are covered: i) Objectives for the quality control of technical and scientific outputs; ii) Description of the process; iii) Criteria and evaluation grids; iv) Decision criteria; v) Template for review; vi) Quality note.

### 3.1 Objectives for the quality control of technical and scientific outputs

The development and implementation of a technical and scientific quality control mechanism for a study/project, refers to the overall objective of ensuring that all outputs (reports, brochures, web site) fulfil a set of conditions (previously established in an internal consortium document and reflecting the requirements established in the ISO 9001:2008), before its dissemination, particularly in relation to:

- Fulfilment of requirements and objectives.
- Technical consistency.
- Respect to the agreed formats.
- Clear presentation of the results.
- Graphic appearance.

In order to assess the accomplishment of those conditions, all outputs should be subject to a quality review (internal). Such procedure is of utmost importance for the InterSTORE project given its strong interaction with an enlarged number of stakeholders, whose main interest relies on focused, clear and practical results. This implies creating the conditions for the translation of highly technical contents into a practical and friendly language.

### 3.2 Quality control process

As mentioned in the PMP (D7.2), the quality control methodology relies on a simplified process, which ensures good results while avoiding non-essential procedures. The process for the content validation of the deliverables is described as follows:



- The quality review procedure starts at least 4 weeks before the official submission of the deliverable to the EC. The draft is uploaded to the InterSTORE repository for any interested partner to review and provide constructive feedback.
- The deliverable editor will request the WP leader, WP members and PC (i.e., the internal reviewers) to analyse the document. Reviewers are requested to provide a reviewed version of the document with “track of changes”.
- Then, the deliverable editor must consolidate a revised version of the deliverable and request the internal reviewers their approval, at least one week before the official submission deadline.
- Finally, the deliverable undergoes a subsequent release check by the PC. This last step might call for additional quality improvements from the deliverable authors.

*Table 1: Quality review procedures*

Document Status	Starting	Duration	Participants
Writing	-	-	Editor + Contributors
Review	4 weeks before deadline	2 weeks	Editor + Reviewers + PC
Revision consolidation and final document approval	2 weeks before deadline	1 week	Editor + Reviewers + PC
Quality check	1 week before	1 week	Editor + PC

### 3.2.1 Document production

**Objective:** to produce a high quality InterSTORE document

**Responsibility:** Partner with report responsibility and all partners involved

**Conditions to fulfil:**

- Partners involved in the production (the author) should provide the inputs in time and in accordance with the agreed formats.
- Submission of document for quality control at least 4 weeks in advance to the official date for EC submission.
- Quality control form (available on Annex of this document) duly filled with the objectives (general and specific) and dates (planned and actual).

**Description:**

- Responsible partner integrates the different inputs received from partners and compile the document. Such process involves the checks for content, coherence, grammar and syntax revisions.
- Official template for document production is available on Annex of this report.
- Responsible partner fills the quality control (QC) form with the indication of objectives, requirements (in most of the cases such objectives should correspond to



the initial text of the executive summaries) and dates – quality control form is an annex to this report

- d. Responsible partner submits the document and QC form to the coordinator and reviewer and circulate it among all partners
- e. Partner is responsible for the incorporation of changes / suggestions to the document (if any). In case major modifications are suggested, a consensus must be reached between partner, PMT and reviewer.
- f. A high production quality is expected for those deliverables with public dissemination level. Internal reviewers must put special effort in the quality assessment of these documents.

### 3.2.2 Quality control

The internal reviewers are expected to review the documents and provide feedback according to the criteria shown in Table 3, as presented in the PMP (D7.2).

*Table 2: Criteria for Quality Control*

Criteria	Points to consider
Technical	<ul style="list-style-type: none"> <li>▫ The appropriateness of the document in relation to the expected contribution (i.e. deliverable description).</li> <li>▫ Technical decisions are appropriately elaborated and justified.</li> </ul>
Innovation	<ul style="list-style-type: none"> <li>▫ Innovative aspects are sufficiently illustrated and well explained.</li> <li>▫ The work described is clearly exposed and presents technical innovation and improvements ahead of the state-of-the-art.</li> <li>▫ The work described is expected to have a significant impact (e.g. to the EV market, society, environment, EU economy, etc.).</li> <li>▫ The deliverable will lead to further outputs, such as papers, standards contributions, or exploitable outcomes.</li> </ul>
Style and format	<ul style="list-style-type: none"> <li>▫ Deliverables must include an executive summary. This allows readers to understand document objectives and scope.</li> <li>▫ Clear writing and logical order: easy to read and to understand by different types of public, but especially it targets adequately the intended audience.</li> <li>▫ Content is focused on key issues, with a suitable level of detail.</li> <li>▫ Completeness: there are no significant omissions.</li> <li>▫ Suitable conclusions.</li> <li>▫ Appropriate references.</li> <li>▫ Template compliance.</li> </ul>



	<ul style="list-style-type: none"> <li>▫ Correct English spelling and grammar.</li> <li>▫ Content-free of relative temporal references.</li> <li>▫ The ideal document page count is between 20 and 50.</li> </ul>
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During the document production and especially during the review process several issues might arise:

- Any expected delay of N days must be notified by the document editor to the PC and WP leader at least 2\*N days before the due date. Mitigation actions must be defined and agreed between the deliverable editor and the WP leader to reduce the impact of the delay as much as possible. The WP leader will brief the PC about the decision.
- If the PC does not accept the deliverable before delivery date due to lack of quality or due to other reasons:
  - Deliverable editor, WP leader and PC will agree on a mitigation plan.
  - GA could be reached for corrective actions if PC deems the issue is serious.
  - If needed, PC will inform the Project Advisor about the issue and the corrective measures.

### 3.2.3 Document release and storage

**Objective:** Procedure for the release and storage of InterSTORE documents

**Responsibility:** Project Coordinator

**Conditions to fulfil:**

- a. PC stores all final documents produced in the framework of the project within the on-line repository.
- b. All documents have a registry (document control sheet) with the name and version (e.g. InterSTORE\_deliverable1\_2.Date); this information should be visible on the cover sheet.

**Description:**

- a. All final documents and the supporting material associated (excel, presentations, etc.) are sent by the responsible partner to the coordinator,
- b. PC performs a final check and includes a quality note in the document.

This document was reviewed by ## according to the InterSTORE Quality Management Plan.
---

- c. PC submits the document in electronic formats.
- d. PC archives in the project repository according to the classification provided in the document control sheet.
- e. In case of new versions, the repository should be updated.

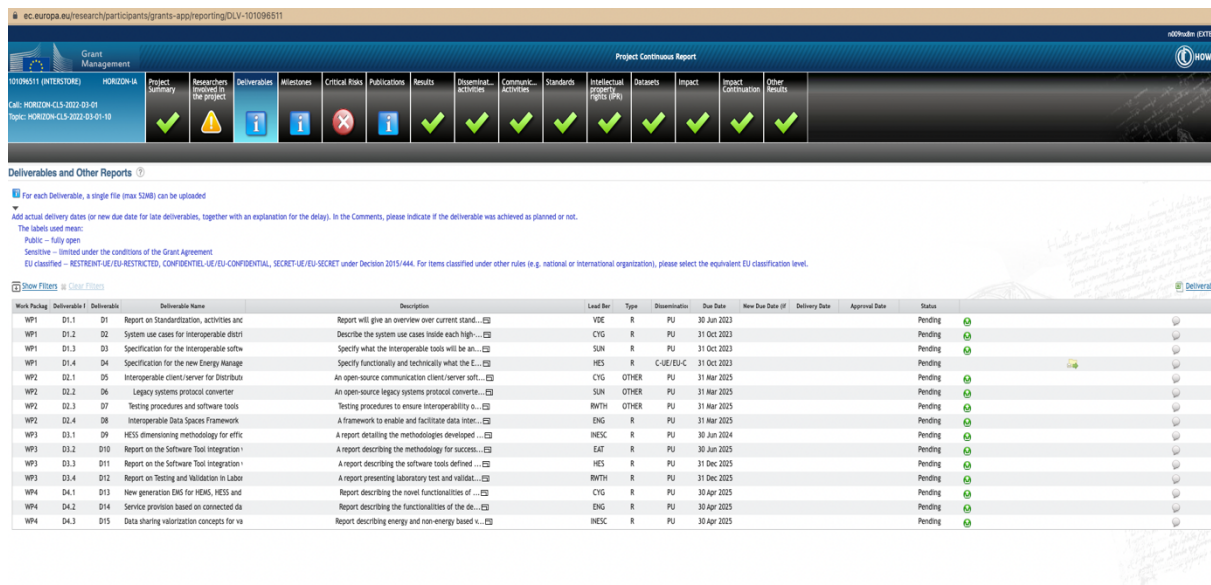
**On-line repository for technical & scientific documents (including Progress Reports):**

The final approved version of the InterSTORE documents must be stored into the official repository in the SYGMA system within the Participant Portal.

<https://ec.europa.eu/research/participants/grants-app/reporting/DLV-101096511>



Within this page the partner, supported by the coordinator, will be allowed to save the document.



ec.europa.eu/research/participants/grants-app/reporting/DLV-101096511

Grant Management

Project Continuous Report

101096511 (INTERSTORE) HORIZON-HI

101096511-2022-20-01  
Topic: HORIZON-CL5-2022-01-01-10

Deliverables and Other Reports

For each Deliverable, a single file (max 512M) can be uploaded.

Add actual delivery dates (or new due date for late deliverables, together with an explanation for the delay). In the Comments, please indicate if the deliverable was achieved as planned or not.

The labels used mean:

Public – fully open  
Sensitive – limited under the conditions of the Grant Agreement  
EU classified – RESTRICTED/UE/EU-RESTRICTED, CONFIDENTIAL/UE/EU-CONFIDENTIAL, SECRET/UE/EU-SECRET under Decision 2015/444. For items classified under other rules (e.g. national or international organizations), please select the equivalent EU classification level.

Work Package	Deliverable ID	Deliverable Name	Description	Lead Inst.	Type	Dissemination	Due Date	New Due Date (if)	Delivery Date	Approval Date	Status
WP1	D1.1	D01	Report on Standardization, activities and	VDE	R	PU	30 Jun 2023				Pending
WP1	D1.2	D02	System use cases for interoperable distri	CYG	R	PU	31 Oct 2023				Pending
WP1	D1.3	D03	Specification for the interoperable softw	SUN	R	PU	31 Oct 2023				Pending
WP1	D1.4	D04	Specification for the new Energy Manage	HES	R	C-UE/EU-C	31 Oct 2023				Pending
WP2	D2.1	D05	Interoperable Client/Server for Distribu	CYG	OTHER	PU	31 Mar 2025				Pending
WP2	D2.2	D06	Legacy systems protocol converter	SUN	OTHER	PU	31 Mar 2025				Pending
WP2	D2.3	D07	Testing procedures and software tools	RWTH	OTHER	PU	31 Mar 2025				Pending
WP2	D2.4	D08	Interoperable Data Spaces Framework	ENG	R	PU	31 Mar 2025				Pending
WP3	D3.1	D09	HES dimensioning methodology for erfic	INESC	R	PU	30 Jun 2024				Pending
WP3	D3.2	D10	Report on the Software Tool Integration	EAT	R	PU	30 Jun 2025				Pending
WP3	D3.3	D11	Report on the Software Tool Integration	HES	R	PU	31 Dec 2025				Pending
WP3	D3.4	D12	Report on Testing and Validation in Labor	RWTH	R	PU	31 Dec 2025				Pending
WP4	D4.1	D13	New generation EMS for HES, INESC and	CYG	R	PU	30 Apr 2025				Pending
WP4	D4.2	D14	Service provision based on connected da	ENG	R	PU	30 Apr 2025				Pending
WP4	D4.3	D15	Data sharing valorization concepts for va	INESC	R	PU	30 Apr 2025				Pending

Figure 1: Continuous reporting Tab, Deliverable status SYGMA screenshot

## 4 FINANCIAL PROJECT OUTPUTS MONITORING

As highlighted previously, this chapter aims to establish a framework for the evaluation of InterSTORE financial outputs defining the mechanisms and criteria for this evaluation to be applied during the whole project life.

In this chapter the following issues are covered:

- i) Objectives for the quality control of financial outputs.
- ii) Description of the process;
- iii) Criteria and evaluation grids;
- iv) Decision criteria;
- v) Template for review;
- vi) Quality note.

### 4.1 Objectives for the quality control of financial outputs

As mentioned at the beginning of the document, the main objective of the financial quality control is mainly related to the evaluation of a coherent expenditure process with respect of the agreed consumption.

The financial quality control will be based on two different analyses:

- Evaluation of personnel effort usage.
- Evaluation of financial resources usage.

This double approach has been chosen to allow the PMT to control two main aspect of resources usage:

- Allow a specific analysis of personnel effort usage, representing the personnel cost one of the relevant cost categories of the project. To keep under control this major



cost category PMT has to clearly analyse the two variables constituting this cost: number of person/months, and the average personnel cost used into the project. This information will be evaluated within the Evaluation of personnel effort usage.

- Allow a specific analysis of financial expenditure of each cost category allowed into InterSTORE Project.

Over the previous two evaluations, the information collected and evaluated under the project financial control will be used for the implementation of the final project quality control, the coherence analysis between resources and activities, discussed into the next chapter.

## 4.2 Quality control process

Quality control process can be divided in 4 main steps, which refer to:

- The production by the partners involved of a specific financial item and which must be done in respect to a set of agreed aspects.
- The financial control performed in accordance with the guidance provided, including the incorporation of corrections or suggestions by the partner responsible for its final production; and the deviations identified.
- The production by the partners involved of the needed justification of any identified deviation.
- The release of the document and its storage in the project repository.

### 4.2.1 Financial Forms production

**Objective:** To produce a high quality InterSTORE document

**Responsibility:** Partner with report responsibility

**Conditions to fulfil:**

- a. Partners involved in the production of its financial report should provide the inputs in time and in accordance with the agreed formats.
- b. Submission of financial document for financial control at least 3 weeks in advance to the official date for EC submission.

**Description:**

- a. Responsible partner integrates the different inputs received from internal staff and compile the document. Such process involves the checks for costs, and time spent on the project revisions.
- b. Responsible partner fulfils the official templates for financial documents. Responsible partner submits the financial report to the PC and to the FM.

Partner is responsible for the incorporation of changes/suggestions and justification of financial deviation with respect of financial plan agreed (if any) to the Financial Report.

### 4.2.2 Financial monitoring

**Objective:** To define the procedure for financial control of InterSTORE documents

**Responsibility:** FM, PC and responsible partner

**Conditions to fulfil:**



- a. Financial reviewer receives the financial document to revise and at least 3 weeks prior its official delivery.
- b. The financial Review is done within 1 week.
- c. Decision criteria could be accepted, accepted with justification and modification or rejected.

**Description:**

- a. Financial Manager performs the financial control against:
  - Planned distribution of persons/months and financial expenditures declared into the periodic financial report with respect of the planned distribution of persons/months and financial resources, as described in the DoA. The analysis will be applied for each partner at WP and Task level and for each cost category (personnel, travel, subcontracting, other project costs, indirect costs).
  - Adequacy of the financial report to the templates given and included into the PMP.
- b. Decision criteria (judgement of the reviewer):
  1. For the criteria a. classification is:
    - i. No deviation identified.
    - ii. Minor deviations, no action required.
    - iii. Major deviations – action required.
  2. For the criteria b. answer is yes/no.
  3. A document with a classification of NO in criteria b., is automatically considered as rejected and a new version must be produced.
  4. A document having a classification of iii. in criteria a., is automatically considered as rejected and a new version must be produced, and suggested modifications/justification of deviations should be included.
  5. A document having all criteria classified as i. or ii. in criteria a. is considered as accepted.
- c. Reviewer could add additional comments and suggestions to the document.
- d. After the financial control, reviewer returns the document to the partner responsible for the document and to the coordinator with the final decision. In case of significant changes to the structure and contents, a separate document should be produced.
- e. If decision is accepted or accepted with minor modification, author should produce a final version considering such modifications within one week, for its submission to the EC.
- f. If decision falls under the rejection (major modifications suggested), a new version is produced (consensus among reviewer, partner and coordinator) and the process restarts.

**On-line repository for the financial documents**

Once produced the final version of the Financial Statement, each partner will be requested to fill in the Financial Statement on-line, into the official repository within SYGMA system into the Funding and Tenders Portal: The procedure is described in the following link [https://webgate.ec.europa.eu/funding-tenders-opportunities/pages/viewpage.action?pageId=8913035#Reportingprocess%E2%80%9494general-Step2:AllbeneficiariescompletetheirownFinancialPart\(FinancialStatement\)andtheircontribut](https://webgate.ec.europa.eu/funding-tenders-opportunities/pages/viewpage.action?pageId=8913035#Reportingprocess%E2%80%9494general-Step2:AllbeneficiariescompletetheirownFinancialPart(FinancialStatement)andtheircontribut)





[iontotheTechnicalPartofthePeriodicReport.Beneficiariese-signandsubmittheirFinancialPartstotheCoordinator](#)

Once entered the Funding and Tenders portal, the partner must access to the link Periodic Reporting. Within this page the partner, supported by the PC, will be allowed to save the agreed financial data into the Financial Statement on-line template.

The project coordinator might reject the form in case any error is identified and might ask the FSIGN of the partner to make the required adjustments before submitting to the Project Advisor of CINEA.

## 4.3 Financial Contingency Plan

### 4.3.1 General approach

The activity of financial quality control applied every 9 month has the ultimate objective to evaluate the coherence of each partner financial reporting avoiding any unexpected deviations. As a second objective, the annual evaluation should also evaluate appearing deviations, evaluating the cause and providing a clear justification for them as soon as they appear. According to these rules, the financial quality control should select among possible existing deviations the ones produced for real acceptable plan deviations. These deviations, duly justified, will be processed by the Project Management Team and formally submitted to the General Assembly for their formal approval and consequent DoA adjustment.

Any deviation that will not be duly justified or not accepted by the management team or not ratified by the positive vote of the PMT will be rejected by the project. A rejection of these deviations will imply for the partner(s) involved a consequent adjustment of their financial reporting, solving the deviation initially included.

### 4.3.2 Identification of possible scenarios and specific actions

According to the experience in previous EU funded projects, some financial deviations, e.g., between a preliminary plan (as the one provided at the proposal stage) and the real detailed action plan (as the one produced at the beginning of the project according to the inception report details), could occur into the project lifetime.

Moreover, at a global level inflation and the increasing cost of assets are significant economic trends that have garnered attention in recent years. Among the key factors contributing to these trends, we can identify increased consumer demand, rising production costs, expansionary monetary policies, and supply chain disruptions. As economies recover from the COVID-19 pandemic, consumer demand has surged. This uptick in demand, coupled with supply chain disruptions and production constraints, has led to price increases for a wide range of goods and services. At the same time, several factors contribute to the increasing cost of assets: low interest rates, speculative investment, quantitative easing, and limited supply.

Considering the global and European context, InterSTORE project will have therefore a degree of flexibility in accepting minor deviations between original plans and actual



reporting, as outlined in the following paragraphs. Nevertheless, according to our experience, some deviations could occur having a destabilization impact on plans and project outputs. Below are listed some of the “usual” deviations that could occur during the project lifetime and that the Quality financial control should identify and solve:

- Deviation in PM allocations:
  - Partner will use a number of PM in a ratio not allowed by the project, especially if analysed at WP level. In order to avoid deviations at WP level, the financial control will be done at WP level and, where necessary, will be requested to provide a justification of the changes
  - Due to the fact that partners’ staff working groups are changing during the project duration partners use an actual average monthly salary rate different from the one identified at the project proposal stage. The financial manager will monitor any deviation to persons/months rate spent versus planned costs and request any justification and inform CINEA when necessary.
  
- Deviation in Cost allocations:
  - Sometimes, partner budget allocation to different cost categories, as identified at the proposal stage, differs from the real implementation plans. InterSTORE will try to avoid any budget transfer between different cost categories will exceed in order to keep a strong coherence with planned budget structure. According with this basic approach, InterSTORE will evaluate deviations in cost categories, measuring cost deviations (planned versus actual) within each of the following categories, to ensure that there is always a good reason, always with the goal in mind to reach the project goals efficiently
    - Personnel cost.
    - Travel costs.
    - Other direct costs.
    - Indirect costs.

To apply a standard contingency plan on previous outlined deviations, InterSTORE project considers its own micro-management rules for each of the following scenarios.

#### **Overspending within each partner budget and/or its persons/months allocation**

A project cannot be detailed at the very beginning and regular adjustments are normal practices during its lifetime.

In the context of the InterSTORE project, the Project Management Team will apply the following procedure regarding the deviation of the actual resources (persons/months allocation and financial expenditures) declared with respect of the planned over-expenditures:

- If one InterSTORE partner in its financial reporting file will over-expend their allocated resources (Person days and/or financial expenditures) for a specific period, the PMT will decide if it accepts or not this extra effort.



- If the over-expending is more than 20% of planned in each reporting period, the PMT will automatically reject it, unless previously agreed or unless the justification of deviation described by the partner is accepted by the GA.
- If the over-expending is below 20% of the planned one in each reporting period, the PMT will analyse the over-spending for acceptance.

This analysis will be done for each partner with respect of:

- Overall persons/months allocation and budget.
- Persons/months analysis for each WP.
- Financial expenditures for each cost category.

At the end of the project no cumulative over-expending will be accepted (unless agreed with the GA).

### **Under-expending within each partner budget and/or its persons/months allocation**

In case one partner is well below planned in each reporting period (-20% less) PMT will analyse together with the partner the reasons of such under-expending. Two cases are considered:

1. The partner is not able to perform some part of the activities planned. General Assembly then could decide to move some budget to another partner or to ask the partner to subcontract such activities.
2. The partner is doing all planned activities but is not able to justify the cost at the initially planned level. The remaining budget will be moved to other partner(s) based on a proposal made by the PMT and approved by the plenary of GA. Despite that no it will not possible to claim more than the overall amount granted.

Each partner is asked to inform the Project Coordinator/General Assembly in advance if he thinks to be in the case 2 situation, especially in the last project period. This will be done to allow a proper reallocation and use of the available financial resources.

### **Budget transfer between partners**

In principle, InterSTORE project does not accept any budget and persons/months transfer from one partner to another. Each partner indeed, has its own plan of persons/months allocation and financial expenditure plan.

If one partner needs to update this structure, not increasing its overall financial amount assigned, should formally ask to the coordinator an update of its financial and person/month plan, clearly justifying requested changes (example: this is the case when a partner want to move some of its travel budget to personnel one, or if he wants to update the number of persons/months without changing the personnel cost).

Nevertheless, InterSTORE project accept minor resource transfer from one partner to another one according to the following conditions:

- Both partners agreed to these changes.
- The transfer is clearly justified.
- The transfer has no impact on the activity planned.
- The Coordinator is informed about this planned budget shift.

### **Exchange Rates**



InterSTORE uses Financial Template in Euro. Costs not expressed in Euro should be converted to Euro using the conversion rates available on the European Central Bank (<http://www.ecb.int/stats/eurofxref/>) and corresponding to one of these two options that will be decided from the partner at the beginning of the project and that cannot be changed during the project lifetime:

- Conversion rate is the one identified in the first day of the month following the end of the reporting period.
- Conversion rate applied is the one identified when the expense occurred.

#### 4.4 Reporting rules

According to the EC Reporting Guidelines, every project is requested to provide the European Commission with a Periodic Report within *60 days after the end of each reporting period* (including the last reporting period), therefore each partner contribution should be provided to the coordinator **by 45 days after the end of each reporting period**.

The periodic report comprises the following financial sections and documents:

- a. An explanation of the use of the resources (Financial Report).
- b. A Financial Statement (Annex 4 of the Grant Agreement) from each beneficiary and each third party, if applicable, together with a summary financial report consolidating the claimed Community contribution of all the beneficiaries (and third parties) in an aggregate form, based on the information provided in the Financial Statement by each beneficiary.
- c. Financial statements should be accompanied by certificates (Audit Certificates) at final payment, when this is appropriate (once each partner cumulative funds reach the value of 430.000 euro), according to the Model Grant Agreement of EU Horizon.

Regarding the intermediate reporting, below is described the internal project management decisions regarding report delivery. This section, more in details, explains rules regarding delivery of the financial information to the Project Coordinator.

##### Financial Report (FR)

Considering problems faced in previous project experiences, the PMT has decided to delay the delivery of the FR as much as possible, considering the time constrain given by EC. It is mandatory, therefore, to send to the Coordinator the FR of each specific reporting period within **45 calendar days after the end of the period**. In case some costs are not fully detailed by 45 days after the end of the reporting period, each partner can specify which costs are missing and include them, as “Adjustment”, in the following FR.

##### 4.4.1 Expected actions for non-performing partners

With the aim to assure to the project a smooth running of its activities, including a delivery process aligned with the mandatory expectation of the European Commission, the Coordinator has introduced corrective actions for partners who do not respect the deadlines stated above.



In time financial and administrative delivery from each partner is critical, considering that due reports to EC are collective reports. Delay of one single partner imposes to the entire consortium a delay in the submission of the mandatory reports.

Whenever one of the previous financial reporting documents, Financial Statement, Audit Certificates or Financial Report is not submitted in time by a partner, according to the above rules, the request for funds by that specific partner will not be accepted. This implies that **no funds will be given to the partner** for that specific period. Under this situation the default partner is able, anyhow, to recover these funds into the next reporting period, adding the expenses of a specific reporting period with the previous period not delivered in time.

Previous rule will be applied by InterSTORE project, unless the delivery delay is clearly justified by the involved partner before the end of the reporting period and accepted by the Project Coordinator. In this case, PC will have the opportunity to give a maximum of four extra weeks to the pending partner to provide the project with their financial reporting. To ease FR delivery, the PC will keep partners informed about the status of missing Forms.

PMT hopes that the Consortium will not misinterpret these rules. It is in everyone's interest, and a matter of respect and fairness toward the individuals responsible for monitoring, to work together efficiently and responsibly on all aspects of the project, including the reporting.

## 5 PROJECT COHERENCE MONITORING

This monitoring process covers the last quality plan control expected within the project. Once performed the quality control of scientific outputs and the financial monitoring, InterSTORE will implement the third quality assessment, namely the evaluation of the coherence between activities performed versus resources declared to implement them. Due to its interdisciplinary nature, coherence analysis and monitoring will require collective effort of the entire Project Management Team, the Financial Manager, the Project Coordinator, the Quality Manager and the Project Technical Manager.

### 5.1 Objectives for the coherence analysis

Coherence analysis for an activity refers to the overall objective of ensuring that each scientific work and its connected resource usage are coherent among each other's.

To assess the accomplishment of this condition, all scientific outputs should be already validated from a quality control point of view (internal or external) and involved financial resources already validated by the financial monitoring process. Once these controls have been performed, scientific outputs and financial resources used to implement them will be finally connected. According to this process, the coherence analysis process is the ultimate and most complex analysis of the state of the work and does not use standardised approach. Indeed, an in-depth-analysis of the work performed and the resources consumed is expected to be done by the managers involved in the process.

It should be noted that such type of coherence control is already in place by some of the partners involved in InterSTORE project, in particular those that are certified by quality



management systems, with positive results in terms of the outputs produced and financial assessments.

## 5.2 Coherence analysis process steps

Coherence analysis process can be divided in two main steps which refer to:

- The quality control performed in accordance with the guidance provided, including the incorporation of corrections or suggestions by the partner responsible for its final production; and,
- The release of the document and its storage in the project repository.

Indeed, coherence evaluation process does not need some typical steps of the standard quality control (see chapter 3): selection of the reviewers and ad hoc document production. Reviewers are assigned by default and are the Project Coordinator, the Project Technical Manager, the Financial Manager, and the Quality Manager. Moreover, no document production is needed, since the work will be done within the information already collected into the Periodic Reports.

Previous simplification can be assured to the fact that the coherence analysis is performed upon existing documents and to the fact that the coherence is evaluated between the technical and scientific outputs (already evaluated under the quality control process) and actual financial information (already evaluated under the financial monitoring process).

Coherence evaluation, therefore, should be considered as the final and comprehensive project control, matching scientific and financial information among each other, outlining a clear correspondence among them.

### 5.2.1 Coherence analysis control

**Objective:** to define the procedure for coherence analysis control of InterSTORE outputs

**Responsibility:** PC, PTM, FM, QM

**Conditions to fulfil: !**

- Stable and assigned reviewers receive the financial chapter and content sections of the Periodic Report at least 3 weeks prior its official delivery;
- Review is done within 1 week;
- Decision criteria could be: i) accepted, ii) accepted with minor modifications or iii) rejected (major modifications suggested).

**Description:**

Once the financial and scientific components of the Periodic Report have been delivered to the InterSTORE Management Team, the four selected reviewers will analyse the project coherence analysis at WP level. Each WP will be analysed according to the following approach:

- a. First, each WP will be measured according to its accomplishment of expected results planned, identifying any eventual delay.
- b. Once the evaluation process for each WP has been achieved, a clear deviation list will be applied, identify the reasons and the partners involved in deviations: expected



outputs not delivered, responsibilities of delays, etc. On the contrary, anticipation to expected work will be outlined as well, if any. No inconsistency with plans should be identified considering that the work of each WP has been already evaluated during the quality control phase (see chapter 3).

- c. Once the delay/deviation/anticipation analysis on expected contents and objectives has been identified, the Coherence analysis process will merge these results with the status of resources consumed (Persons/Months usage); for each WP will be produced a deviation effort in terms of persons/months comparing actual resources used with the planned ones.
- d. Then, eventual deviation on expected objectives and deviation on expected resources will be compared.

The following scenarios are classified as coherent situations:

- I) WP affected by delays in activities should presents proportional under-spending in terms of resources (persons/months) consumed;
- II) WP affected by anticipations in activities should presents proportional over-spending in terms of resources (persons/months) consumed;
- III) WP not affected by any deviation in terms of accomplished activities should presents no deviations in terms of resources (persons/months) consumed.

On contrary, incoherence situations (see list below) will not be accepted, and clear justifications will be asked to the partners involved.

- IV) WP affected by delays in activities presenting over-spending in terms of resources (persons/months) consumed;
- V) WP affected by anticipations in activities presenting under-spending in terms of resources (persons/months) consumed;
- VI) WP not affected by any deviation in terms of accomplished presenting deviations in terms of resources (persons/months) consumed;
- VII) WP affected by deviation in activities accomplished (delay or anticipation) presenting no deviation in terms of resources (persons/months) consumed.

In presence of incoherence between activities performed and resources consumed, the activity description will be considered the independent variable. Resources used, therefore, will be adjusted to become coherent with the status of activities performed.

## 5.2.2 Document release and storage

**Objective:** To define the procedure for the release and storage of InterSTORE documents

**Responsibility:** Project Coordinator

**Conditions to fulfil:**

- Coordinator store all final documents produced in the framework of the project within the on-line repository;
- All documents have a registry (document control sheet) with the name and version (e.g. Progress Report1\_2.doc, version 1.1), and this information should be visible on the cover sheet;

**Description:**



- a. All final documents and the supporting material associated are sent by the responsible partner to the coordinator;
- b. Coordinator performs a final check and includes a quality note in the document

This document was reviewed by ## according to the InterSTORE Quality Management Plan.

- c. Coordinator submits the document in paper and electronic formats;
- d. Coordinator archives in the project repository according to the classification provided in the document control sheet;
- e. In case of new versions, the repository should be updated.

## 6 APPENDIX

- I. Quality Control Form
- II. List of InterSTORE technical and scientific deliverables and assigned peer reviewers





## 6.1.1 Quality Control Form

### Quality Control Form

Work Package Number - Project Coordination  
Task 7.3 – Quality assurance and risk management  
Submission date: Day Month Year

<b>Project Acronym</b>	INTERSTORE
<b>Call</b>	HORIZON-CL5-2022-D3-01
<b>Grant Agreement N°</b>	101096511
<b>Project Start Date</b>	01-01-2023
<b>Project End Date</b>	31-12-2025
<b>Duration</b>	36 months



**DOCUMENT IDENTIFICATION**

Delivery n.	
Delivery title	
Original planned date	
Actual planned date	
Date of the draft release	
Latest date of review submission	
This review should be sent back to	
Indicated reviewers	



## REVIEWERS IDENTIFICATION

Reviewing partner	
Name of author	
Review Submission Date	

## REVIEWERS REPORT

### Classification of the document

	1	2	3	4	5
Answers to objectives and requirements					
Logical structure					
Clarity of concepts, analysis and conclusions					
Language proficiency					
Presentation					

1: very poor – 5: excellent

### Decision

Accepted	
Accepted with minor modifications	
Rejected (major modifications suggested)	

### Additional Information

The deliverable document, in which changes and remarks are clearly indicated (preferably with the “track changes” option) is an integral part of this reviewers document.

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## 6.1.2 List of Deliverables and assigned reviewers

As detailed in the Project Management Plan (D7.2), the following table presents InterSTORE list of scientific and technical outputs (deliverables), which should pass the Quality control procedures described in the Quality Management Plan (D7.1). Every deliverable count with a partner or lead beneficiary, responsible to produce the output.

Del (number)	Deliverable name	WP	PP	Date	Rev.1	Rev2
D1.1	Report on Standardization, activities and regulatory requirements	WP1	VDE	6	CYG	ENG
D1.2	System use cases for interoperable distributed hybrid storage systems.	WP1	INESC	10	CYG	RWTH
D1.3	Specification for the interoperable software tools	WP1	SUN	10	CYG	RWTH
D1.4	Specification for the new Energy Management System for hybrid storage	WP1	HES	10	CYG	RWTH
D2.1	Interoperable client/server for Distributed Energy Storage (software with documentation)	WP2	CYG	15	SUN	ENG
D2.2	Legacy systems protocol converter (software with documentation)	WP2	SUN	15	RWTH	ENG
D2.3	Testing procedures and software tools (software with documentation)	WP2	RWTH	15	SUN	ENG
D2.4	Interoperable Data Spaces Framework – set of interoperability services	WP2	ENG	15	SUN	ENX
D2.1	Interoperable client/server for Distributed Energy Storage (software with documentation)	WP2	CYG	27	SUN	ENG
D2.2	Legacy systems protocol converter (software with documentation)	WP2	SUN	27	RWTH	ENG
D2.3	Testing procedures and software tools (software with documentation)	WP2	RWTH	27	SUN	ENG
D2.4	Interoperable Data Spaces Framework – set of interoperability services	WP2	ENG	27	SUN	ENX
D3.1	HESS dimensioning methodology for efficient integration Report	WP3	INESC	18	HES	EAT
D3.2	Report on the Software Tool integration with selected Devices	WP3	EAT	30	HES	INESC
D3.3	Report in the Software Tool integration with selected Platforms	WP3	HES	36	INESC	EAT
D3.4	Report on Test and Validation in Laboratory Environment	WP3	RWTH	36	HES	EAT



D4.1	New generation EMS for HEMS, HESS and aggregation report	WP4	CYG	28	HES	INESC
D4.2	Service provision based on connected data spaces report	WP4	ENG	28	HES	ENX
D4.3	Data sharing valorisation concepts for validation of user acceptance report	WP4	INESC	28	HES	ENX
D4.4	Corporate social and environmental responsibility business models	WP4	RWTH	28	EAS	VDE
D5.1	Report on planning of demonstration actions across the pilot sites	WP5	ENG	18	FZJ	HES
D5.2	Report on software tools integration and test execution across the pilot sites	WP5	CYG	30	FZJ	HES
D5.3	Report on evaluation of use cases and KPIs evaluation	WP5	FZJ	36	INESC	HES
D6.1	Report on project identity and website	WP6	EASE	3	ENX	RWTH
D6.2	First Communication and Dissemination Plan	WP6	EASE	6	ENX	RWTH
D6.3	First draft of the Exploitation Strategy, Plan and IPR report	WP6	VDE	12	ENX	CYG
D6.4	Final Exploitation Roadmap including Business Plan and IPR report	WP6	RTWH	32	ENX	CYG
D6.5	Final Communication and Dissemination Plan	WP6	EASE	32	ENX	VDE
D7.2	Project Management Plan	WP7	RWTH	3	INESC	FZJ
D7.1	Quality Management Plan	WP7	ENX	6	INESC	FZJ
D7.3	Data Management Plan	WP7	CYG	6	INESC	FZJ

## 7 LIST OF TABLES

Table 1: Quality Review Procedures

Table 2: Criteria for Quality control

