“D1.3 – Quality Management Plan”

0 Document information

0.1 Project details

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0.2 Document details

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Author(s)	Norbert Bauernfeind (PTAT)
Reviewers	Stefan Sieberer (PTAT)

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1 Executive summary – Purpose and Scope

This Quality Management Plan (QMP) defines the principles, procedures, and responsibilities that guide quality assurance and control activities within the InduGasHeat project, funded under the Research Fund for Coal and Steel (RFCS).

Its primary purpose is to ensure that the project delivers high-quality results that are consistent with its objectives, compliant with contractual obligations, and aligned with best practices in scientific and technical work.

The QMP covers all aspects of project implementation, including the development of deliverables, communication among partners, risk management, and internal review procedures. It applies to all consortium members and partners, and it serves as a reference document for maintaining consistency, transparency, and accountability throughout the project lifecycle.

2 Quality objectives

To ensure the successful implementation of the project and the delivery of reliable, impactful results, a set of quality objectives has been defined. These objectives reflect the consortium's commitment to scientific excellence, timely execution, and effective collaboration.

The quality objectives serve as guiding principles for all partners and provide a framework for continuous monitoring and improvement. They are aligned with the project's goals and the expectations of the European Commission under the RFCS framework.

- Ensure timely and complete delivery of all contractual deliverables
- Maintain scientific and technical excellence throughout all work packages
- Establish clear communication and coordination structures
- Apply consistent documentation and version control procedures
- Identify, assess, and mitigate project risks proactively

2.1 Abbreviations

Table 1 – Abbreviations

Abbreviation	Meaning
WPL	Work package leader
SC	Steering Committee
SAB	Scientific Advisory Board
EU	European Union
QMP	Quality Management Plan
RFCS	Research Fund for Coil and Steel
MR	Management Risks
LH	Likelihood
I	Impact

3 Roles and Responsibilities

The effective implementation of quality management within the InduGasHeat project relies on clearly defined roles and responsibilities among all stakeholders. The following entities play a key role in ensuring that the project's objectives are met with high standards of scientific, technical, and administrative quality:

European Commission (EU)

The European Commission, as the funding authority under the RFCS programme, is responsible for the overall supervision of the project from a contractual and financial perspective. It evaluates progress through periodic reporting, reviews, and audits, and provides formal feedback and approvals. The Commission also ensures that the project complies with all relevant EU regulations and funding conditions.

Consortium Leader (Coordinator)

The coordinator holds primary responsibility for the overall implementation and quality assurance of the project. This includes ensuring compliance with the Grant Agreement, overseeing progress across all work packages, coordinating reporting activities, and serving as the main point of contact with the European Commission. The coordinator also ensures that all project outputs meet the expected quality standards and timelines by facilitating communication and resolving issues at the consortium level.

Work Package Leaders (WPLs)

Work Package Leaders are responsible for the scientific and technical execution of their respective work packages. They coordinate tasks among the involved partners, monitor progress, and ensure that deliverables are prepared on time and according to quality expectations. WPLs are also expected to conduct internal reviews of draft outputs before submission and to report any risks, deviations, or delays to the Coordinator and Steering Committee.

Steering Committee (SC)

The Steering Committee consists of representatives from all project partners and acts as the main decision-making body of the consortium. It oversees the strategic direction of the project, monitors progress across work packages and supports conflict resolution and resource allocation. The SC is also responsible for endorsing the quality management procedures and reviewing updates to the Quality Management Plan, if needed. The Committee meets regularly to ensure transparency, alignment, and collective responsibility.

Scientific Advisory Board (SAB)

The Scientific Advisory Board is composed of external experts from academia who provide independent guidance and feedback on the project's scientific and technological direction. While the SAB has no formal decision-making authority, its role is to support quality assurance by offering critical insights, reviewing key project results, and identifying opportunities for alignment with scientific developments. The Scientific Advisory Board is consulted at key milestones and invited to attend selected consortium meetings.

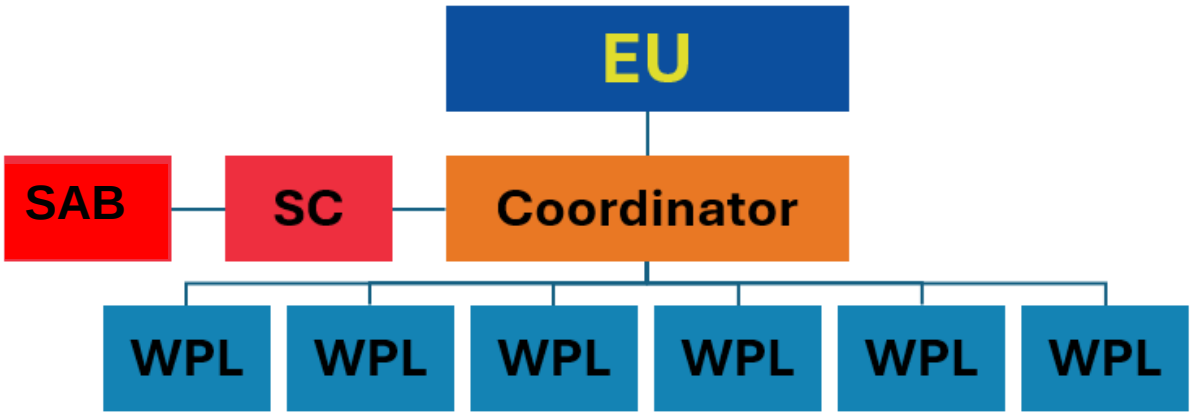

Figure 1 – Organisation structure of InduGasHeat-Project

4 Document and Version Control

A consistent and transparent system for document and version control is essential to maintain the quality and traceability of all outputs produced within the project. The InduGasHeat consortium commits to structured documentation practices (see D1.2) that ensure clarity, accountability, and compliance with the project's quality standards.
All project documents, in particular contractual deliverables, must follow a standardized naming convention and include a **version history table** at the beginning of each file. This table clearly lists:

- the version number,
- the date of the change,
- a short description of the modification,

This version history ensures full traceability of the document's development over time and facilitates collaborative editing across partner institutions.

Each deliverable must explicitly indicate:

- the **document author** (responsible for content creation),
- one or more **reviewers** from a different department or partner (responsible for critical feedback and quality check),
- and the **owner** of the document (responsible for implementation)

All finalized documents are stored in a central, access-controlled document repository (SharePoint), with read and write permissions based on partner roles.

This structured process ensures that all deliverables are prepared in a professional, collaborative, and auditable manner, supporting the credibility and impact of the project results.

5 Review and Approval Process

To ensure consistency, transparency, and high-quality outputs, the InduGasHeat consortium follows a structured workflow for the preparation and approval of all contractual deliverables. This process ensures that each document undergoes appropriate peer review, validation by the consortium's governance structure, and final submission in compliance with RFCS requirements.

The workflow is designed to foster collaboration between partners, incorporate diverse expertise, and maintain full traceability of document versions and responsibilities. It also provides a clear decision-making and approval chain, culminating in formal validation by the Steering Committee and submission by the coordinator.

The document flow for each deliverable follows these defined stages:

- **Initial Draft**: Prepared by the responsible partner or Work Package Leader.
- **Internal Review**: At least one reviewer provides feedback.
- **Revised Version**: Updated based on reviewer comments and submitted for pre-approval.
- **Submission**: The coordinator submits the approved deliverable to the EU Portal.

The consortium acknowledges that, despite this structured workflow, subsequent updates to deliverables may be necessary over the course of the project. To ensure transparency and traceability of such changes, each document includes a version history table. This table clearly records all modifications, including the date, nature of the change, and responsible partner, thereby maintaining a transparent documentation trail throughout the project lifecycle.

6 Quality Assurance Measures

To safeguard the scientific, technical, and administrative quality of the project's implementation and outputs, a set of quality assurance measures has been established. These measures are applied throughout the project lifecycle and are designed to detect deviations early, promote continuous improvement, and ensure alignment with the project's objectives and obligations under the RFCS framework. They complement the deliverable workflow and support a culture of accountability and excellence across the consortium.

- **Monthly core team meetings** to coordinate ongoing tasks, monitor progress, and address emerging issues promptly.
- **Work Package-specific alignment meetings** to ensure coordination among involved partners and maintain consistency within each WP.
- **Engineering reviews** to validate technical approaches, design choices, and interim results before critical decisions or implementation steps.
- **Steering Committee meetings** to monitor strategic progress, resolve escalated issues, and ensure alignment with overall project goals.
- **Consortium meetings** involving all partners to review major milestones, discuss deliverables, and facilitate knowledge exchange across work packages.
- **Standardized templates and checklists** to ensure completeness and consistency of deliverables and reports.
- **Scientific Advisory Board reviews** to ensure scientific and technical quality before submission.
- **Active feedback loops** among partners to promote collaborative problem solving and continuous improvement.

In addition to the defined quality assurance measures, the project's structure itself provides built-in control mechanisms through its clearly defined deliverables and milestones. These serve as formal checkpoints that allow for systematic monitoring of progress, quality, and alignment with the project's objectives.

Each deliverable must be completed by a specific deadline and undergoes internal review and validation before submission. Milestones, on the other hand, mark critical decision points or achievements and provide an opportunity to assess whether the project is on track—both in terms of content and timing.

Together, deliverables and milestones function as a framework for continuous oversight, enabling early detection of delays or deviations and triggering corrective actions if needed. They support transparency within the consortium and provide the European Commission with measurable indicators of project performance.

7 Risk Management

Effective risk management is a critical component of successful project execution, particularly in complex, multi-partner initiatives such as RFCS-funded projects. Proactively identifying, evaluating, and mitigating risks ensures that potential threats to the project's objectives, timeline, or resource allocation are addressed before they can cause significant disruptions.

In the context of the InduGasHeat project, risk management is not treated as a one-time task, but as a **continuous process** integrated into the overall project management structure. It supports decision-making at both operational and strategic levels and contributes to building trust and transparency within the consortium and towards the funding authority.

The project's risk management approach is structured into the following key stages:

- **Risk Identification**: This involves systematically scanning all aspects of the project—technical, organizational, administrative, and external—to identify potential risks that could affect the progress or quality of outcomes. Risks may arise from delays in data availability, dependencies between work packages, personnel turnover, or external factors such as regulatory changes or supply chain disruptions.

- **Risk Evaluation**: Once identified, each risk is assessed based on two dimensions: the **likelihood** of its occurrence and the **potential impact** on the project. This evaluation allows the consortium to prioritize risks and focus efforts on those with the highest potential to hinder success. The results are often visualized in a **risk matrix**, categorizing risks into low, medium, or high priority.

- **Risk Mitigation**: For all identified risks, especially those rated medium or high, appropriate **mitigation strategies** are defined. These can include preventive actions (e.g. parallel planning, backup solutions), contingency plans (e.g. resource reallocation), and clear communication and escalation procedures. Each risk is assigned to a responsible partner or role, ensuring ownership and follow-through.

Regular review and updating of the risk register are part of the ongoing quality management process. Risk status is discussed in Steering Committee meetings and, where appropriate, escalated to the European Commission via periodic reporting.

By embedding this structured risk management approach into the project's governance, the consortium creates a robust foundation for achieving its scientific, technical, and strategic goals—even in the face of uncertainty.

7.1 Risk Identification, Evaluation and Mitigation

Critical risks & risk management strategy *Grant Preparation (Critical Risks screen) — Enter the info.*			
Risk number	**Description**	**Work Package No(s)**	**Proposed Mitigation Measures**
1	Resources not sufficient to achieve project goals Likelihood (LH): Low; Impact (I): Medium	WP6, WP4, WP5, WP7, WP2, WP3, WP1	Follow-up meetings and reports will allow all partners to adjust project work plan. If needed, all partners (in accordance with partners, EC will be informed) will re-allocate resources. High level management commitment of all partners has already been assured.
2	Change of the involved people during the project execution (LH: Low; I: Low)	WP6, WP4, WP5, WP7, WP2, WP3, WP1	Definition of clear procedures and permanent result documentation to assist successors joining the project and help them to become quickly operational.
3	Consortium member leaves the project (LH: Low; I: High)	WP6, WP4, WP5, WP7, WP2, WP3, WP1	The consortium is excellent and would share the tasks of the leaving partner among the remaining ones. Alternatively, the consortium will look for another organisation with similar competences and characteristics within the steel community and related sectors.
4	Key milestones and deliverables are delayed (LH: Medium; I: Medium)	WP6, WP4, WP5, WP7, WP2, WP3, WP1	A detailed project management plan will be developed and reviewed periodically by the consortium, considering anticipation, response-time, and realistic deadlines.

Note regarding the Risk Assessment in Deliverable 1.3:

While Deliverable 1.3 includes a section on risk assessment, it is important to note that this document only provides an overview of selected management risks as illustrative examples.

Detailed information on technical risks is considered confidential and therefore not publicly shared in this deliverable.

Likewise, technical risk analysis to be conducted are not part of this document.

8 Monitoring and Reporting

Ongoing monitoring and transparent reporting are essential to ensure that the project remains on track, achieves its objectives, and adheres to the agreed timeline and quality standards. Within the InduGasHeat project, monitoring is implemented as a continuous, structured process that supports both internal coordination and compliance with the reporting obligations toward the European Commission.

Each Work Package Leader is responsible for tracking the progress of tasks within their area, identifying any deviations or delays, and reporting them promptly to the Project Coordinator. These inputs feed into regular internal progress reports and discussions during consortium meetings.

The Coordinator consolidates this information to provide an overview of project status, risk evolution, and upcoming deliverables and milestones. This monitoring activity is supported by tools such as progress tracking tables, risk logs, and action item lists, which are reviewed and updated on a regular basis.

Formal reporting to the European Commission is carried out in line with the RFCS Grant Agreement and includes:

- **Periodic Technical Reports**, summarizing progress towards objectives, deliverables submitted, and milestones reached.
- **Financial Reports**, detailing the use of resources, incurred costs, and budget consumption, submitted in accordance with the Grant Agreement requirements.
- **Final Report**, including a comprehensive overview of the project's results, impact, and lessons learned.

Quality assurance is embedded in the reporting process through internal review of all submitted content and validation by the Steering Committee before submission. In this way, monitoring and reporting function not only as administrative tools, but as strategic instruments for maintaining transparency, accountability, and excellence across the consortium.