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“D6.5 – Comprehensive Overview of the Project”

0 Document Information

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1 Introduction

Deliverable D6.5 provides a structured and detailed overview of the Hy4Smelt project's progress, achievements, and strategic direction after the first six months of implementation. Its purpose is to summarise the status of all work packages, highlight completed deliverables and milestones, and reflect on coordination, technical development, and dissemination efforts.

This comprehensive report serves as a key reference for internal and external stakeholders, offering transparency on project execution and alignment with the defined objectives. It also supports strategic planning by identifying potential risks, delays (such as the revised commissioning date), and preparatory actions already underway to ensure smooth continuation of the project.

D6.5 is an essential tool for monitoring progress, facilitating communication within the consortium, and demonstrating accountability to funding bodies and advisory partners.

2 Project Summary

The main purpose of the Hy4Smelt project is the demonstration breakthrough process of hydrogen-based, CO_2**-neutral reduction and melting of non-agglomerated low/medium-grade iron ores, meeting objectives set by the EU on clean steel technologies, sustainability, and competitiveness (e.g. Green Deal, Fit for 55, REPowerEU).**

The Hy4Smelt industrial-scale demonstrator is first-of-its-kind worldwide in processing ultra-fine iron ores in an innovative fluidised bed (FB) direct reduction (DR) with 100 % green H_2 **and melting the direct reduced iron in a renewable powered electric furnace (Smelter).**

The Hy4Smelt process offers highest flexibility in the use of iron ore grades that are not used for DR today. It is also in line with EU's zero-waste goal, as the Smelter slag will be qualified as a secondary, alternative raw material to Blast Furnace (BF) slag for the cement sector. Hy4Smelt initiates a massive transformation to a H_2-based and circular steel sector. It establishes the EU as a leader for carbon neutral steelmaking and is best suited within the RFCS programme.

Excellent consortium partners combine their outstanding know-how in iron ore processing, metallurgy, plant technology, and recycling in the cement sector together with highly skilled scientific partners. Hy4Smelt will enable the transformation of all steelmakers towards a H_2-based, sustainable and circular steel production, substantially reducing CO_2 emissions. Hy4Smelt will raise awareness of the necessity that handling low grade ores for green hot metal production must be now scaled up to push forward the EU towards a resource-efficient and competitive economy. This disruptive technology shows enormous exploitation potential at an estimated market demand of 200 million tons of green hot metal per year and the capability of replacing current Sinter plant-BF route in integrated steel plants.

2.1 Abbreviations, Acronyms, Units,

Table 1 – Abbreviations

Abbreviation	Meaning
DEC	Dissemination, Exploitation and Communication
UNILE	University of Salento
K1-MET	K1-MET GmbH
VAS	voestalpine Stahl GmbH

PTAT	Primetals Technologies Austria GmbH
BUW	Bauhaus-Universität Weimar
SSSA	Scuola Superiore Sant'Anna
ESTEP	European Steel Technology Platform
CSP	Clean Steel Partnership
DR	Direct Reduced
EU	European Union
RFCS	Research Fund for Coal and Steel
BF	Blast Furnace

3 Status of the Hy4Smelt project in month 6

3.1 WP1 - Technical, financial, and administrative project coordination and reporting

3.1.1 Description and objectives

Work Package 1 ensures the effective coordination, administration, and quality assurance of the Hy4Smelt project. Led by PTAT, WP1 provides the structural and procedural backbone necessary for the successful execution of all technical and strategic activities across the consortium.

The work package is divided into four key tasks:

- **T1.1 – Coordination, Organisation, and Communication**

  PTAT is responsible for developing and maintaining the **Project Management Plan (D1.1)**, which outlines the operational framework, communication protocols, and coordination mechanisms for the project. The plan ensures cohesion among partners and provides a clear roadmap toward achieving project objectives. PTAT also establishes internal communication channels, document repositories, and organizes regular internal meetings. An **Advisory Board**, composed of key stakeholders from industry and academia, is set up at the beginning of the project to provide strategic guidance and external perspectives.

- **T1.2 – Technical and Administrative Assistance and Reporting**

  PTAT acts as the central liaison between the consortium and the European Commission (EC), ensuring smooth communication and compliance with administrative requirements. Technical and financial reports are compiled in collaboration with all partners and submitted to the EC. A **Data Management Plan (D1.2)** is defined and periodically updated to regulate the handling, storage, and sharing of project data in accordance with FAIR principles and EU guidelines.

- **T1.3 – Meetings and Interactions with the EC**

  PTAT organizes all formal coordination meetings, including the **kick-off**, five intermediate meetings, and the **final meeting**, as well as any additional meetings requested by the EC Project Officer. PTAT ensures timely distribution of relevant documents and manages records of financial transactions between the consortium and the EC.

- **T1.4 – Quality Management**

  A **Quality Management Plan (D1.3)** is developed by PTAT to ensure the integrity and consistency of project outputs. Internal reviews of deliverables are conducted by experts from partner organizations not directly involved in their creation. A **Steering Committee (SC)**, consisting of one representative from each partner, is established to oversee and approve key project documents. PTAT coordinates periodic SC meetings and integrates **risk management** and **gender equality monitoring** into the reporting structure, building on assessments made during the proposal phase.

Together, these tasks ensure that Hy4Smelt is managed efficiently, transparently, and in alignment with both technical goals and regulatory expectations.

3.1.2 Status in month 6

- **T1.1 – Coordination, Organisation, and Communication**

  The **Project Management Plan (D1.1)** has been successfully completed and submitted. In addition, several discussions have taken place with potential members of the **Advisory**

Board. The final composition of the board is expected to be finalized by **Q1/2026**. Internal communication structures and document repositories have been established and are actively used.

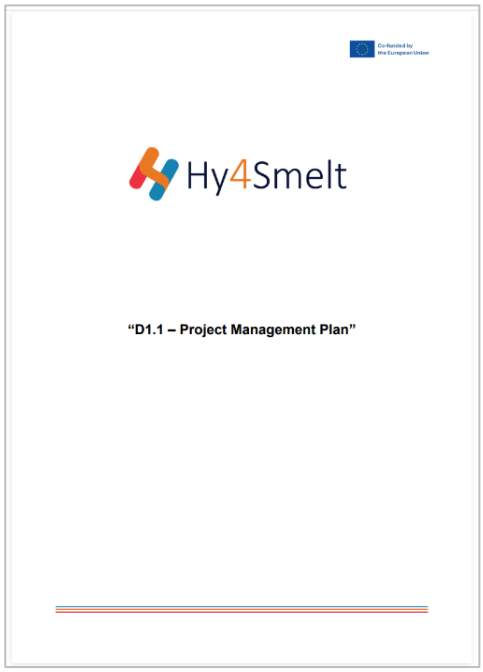

Figure 1 – D1.1 Project Management Plan

- **T1.2 – Technical and Administrative Assistance and Reporting**

  The **Data Management Plan (D1.2)** has been finalized and submitted. PTAT continues to coordinate effectively between project partners and the European Commission, ensuring smooth administrative and technical reporting processes.

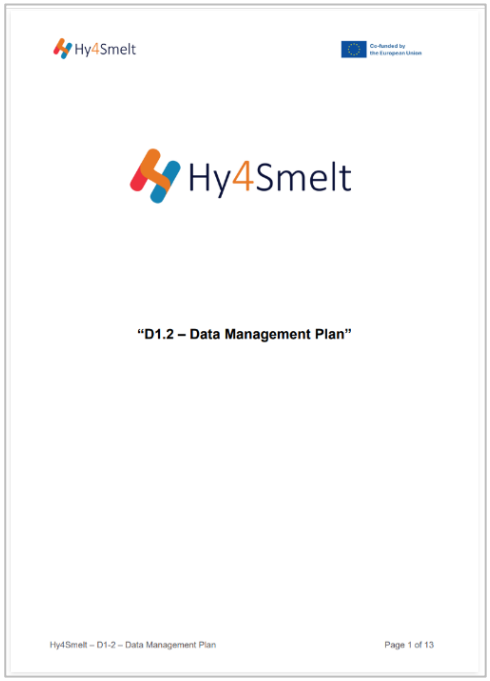

Figure 2 – D1.2 Data Management Plan

- **T1.3 – Meetings and Interactions with the EC**

  The **Kick-off Meeting** was successfully held, followed by the **1st Steering Committee Meeting**, establishing the project's governance and decision-making framework. Coordination meetings are scheduled according to plan.

- **T1.4 – Quality Management**

  The **Quality Management Plan (D1.3)** has been completed and approved. The **Steering Committee** has been formally set up and is operational, overseeing internal reviews and approvals of project deliverables. Risk management and gender monitoring mechanisms have been integrated into the reporting structure.

Figure 3 – D1.3 Quality Management Plan

3.1.3 Next Steps

With all deliverables from Work Package 1 successfully submitted, the next steps focus on maintaining and further strengthening the project's coordination and governance structures.

The final setup of the **Advisory Board** is expected to be completed by **Q1/2026**, following the initial discussions held with potential members. This board will play a key role in providing strategic guidance and external expertise throughout the project.

Ongoing efforts will continue to support the core objectives of WP1:

- Ensuring that the **project management structure and procedures** remain effective in delivering the project on time and within budget.
- Facilitating **smooth communication and coordination** among all consortium partners.
- Monitoring project progress and adjusting workflows as needed to meet objectives.
- Supporting a **target-oriented implementation** of the project, including the integration of **gender monitoring** into reporting and decision-making processes.

These next steps will ensure that WP1 continues to provide a stable and responsive framework for the successful execution of all technical and strategic activities within Hy4Smelt.

3.2 WP2 - Process development

3.2.1 Description and objectives

Work Package 2 focuses on the finalisation of the technological groundwork required for the successful implementation of the Hy4Smelt demonstrator. It encompasses the definition of use cases, engineering design, performance indicators, and digital integration, ensuring that all technical parameters are well established before the start of large-scale testing and operation.

The work package is structured into three main tasks:

- **T2.1 – Finalisation of Technological Preparation, Mass and Energy Balance, and Testing Campaigns**

  PTAT, VAS, and K1-MET (with support from subcontractors) are responsible for finalizing the use cases that will guide the test campaigns (D2.1). These use cases cover ramp-up scenarios, continuous operation, and technical plant optimization, including facility ageing to determine maintenance intervals. The task also includes the final verification of the mass and energy balance, which is essential for subsequent engineering and performance evaluation.

- **T2.2 – Definition of Key Performance Indicators (KPIs)**

  K1-MET leads the definition of KPIs, supported by PTAT, VAS, LOESCHE, and BUW. The KPIs are aligned with the objectives outlined in the Strategic Research and Innovation Agenda (SRIA) of the Clean Steel Partnership (CSP). UNILE contributes to the final determination of KPI value ranges (D2.2). These indicators will later be validated during the demonstrator trial phases (WP4) and evaluated in WP5 (T5.2), serving as benchmarks for technological success and impact.

- **T2.3 – Detailed Process Design and Engineering**

  This task covers the completion of all remaining engineering activities, including updates to flow diagrams, definition of take-over points, and preparation of operational and maintenance manuals. PTAT and VAS address technological and scientific aspects such as reactor design, refractory materials, hot metal and slag handling systems, water-cooling circuits, and off-gas analysis. VAS also provides critical input for integrating Hy4Smelt into the existing steel plant infrastructure, including material flow finalization. Additionally, PTAT initiates the digitalization and automation of the demonstrator (D2.3), laying the foundation for smart operation and monitoring.

Together, these tasks ensure that the Hy4Smelt demonstrator is technically sound, well-engineered, and ready for deployment, with clear performance targets and robust digital integration.

3.2.2 Status in month 6

- **T2.1 – Finalisation of Technological Preparation, Mass and Energy Balance, and Testing Campaigns**

  Design reviews related to operation and maintenance, including relining procedures, are currently in progress. The detailed engineering of key components such as reactors, vessels, material handling systems, refractory linings, piping, and equipment is proceeding according to schedule. Additionally, static calculations for the steel structures of both the HYFOR and Smelter units are underway. The kick-off and design review of the grinding and drying plant has been successfully completed.

  D2.1 – Use Case Definition and Finalisation of Technological Preparation has been successfully completed and submitted, providing the basis for engineering activities and test campaign planning

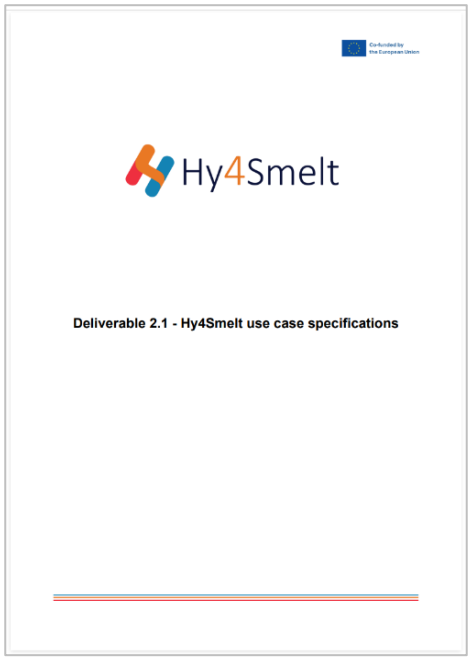

Figure 4 – D2.1 Hy4Smelt use case specifications

- **T2.2 – Definition of Key Performance Indicators (KPIs)**

  Preparatory work for KPI definition is ongoing in alignment with the overall engineering progress. The KPI framework will be finalized once demonstrator data becomes available later in the project.

  D2.2 – Definition of Key Performance Indicators has been successfully completed and submitted, establishing a clear framework for evaluating the technical, environmental, and economic performance of the Hy4Smelt demonstrator

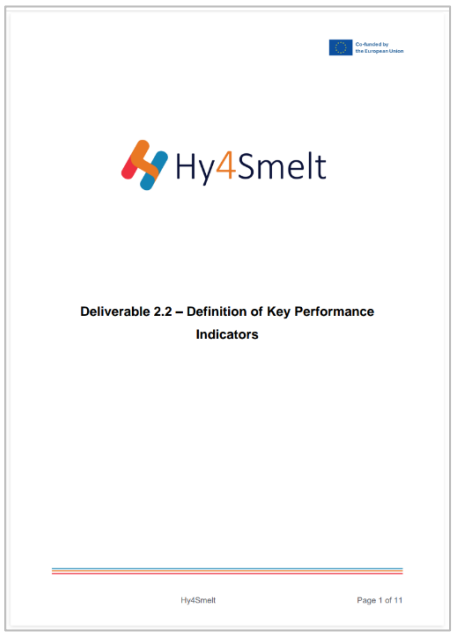

Figure 5 – D2.2 Definitions of Key Performance Indicators

- **T2.3 – Detailed Process Design and Engineering**

  Procurement of equipment is progressing **according to plan**, and **evaluation of potential sub-suppliers** for erection equipment, steel structures, and piping is actively ongoing. Planning for **construction site equipment** is also in progress. Detailed engineering for **water treatment systems** and **electrical & automation (E&A)** is advancing as scheduled. Furthermore, an **authority hearing** regarding a change request for the entire Hy4Smelt plant was held on **11 September 2025** without significant objections, and the **building permit remains valid**.

During the first six months of the project, the consortium has successfully initiated the planned research and engineering activities. Initial coordination and setup tasks were completed as foreseen, and the technical work is progressing according to the adjusted planning.

In line with the risk management strategy outlined in the proposal, the consortium **had to respond to a structural change in partner composition at the beginning of the project**. This required a redistribution of certain responsibilities and the integration of a new partner. While this process was successfully managed and all technical tasks remain covered, some adjustments in timing and budget allocation became necessary to ensure the optimal execution of the project.

As a consequence, the consortium is currently preparing an amendment request to the European Commission that will cover (i) a shift of selected budget items to better align financial resources with technical responsibilities, and (ii) a time extension to ensure that all milestones and deliverables can be achieved with the expected quality and impact.

Details on (i):

- Subcontracting costs that were previously borne by PTAT, due to newly established iron ore supplier arrangements, will be transferred to VASL. This reallocation reflects the updated operational structure and ensures alignment between financial responsibility and actual supply chain management.
- Furthermore, the supply of iron ore, as well as the transportation of iron ore, will be transferred to VASL. This change is intended to streamline procurement and logistics processes under a single responsible partner, thereby improving coordination and operational efficiency within the project framework.

Details on (ii):

- New duration of the project will be 63 months
- New project end date will be 30 Juni 2030

These adjustments will strengthen the implementation of the project and secure the delivery of its objectives, while ensuring that the overall scope, ambition, and expected impact of the project remain unchanged.

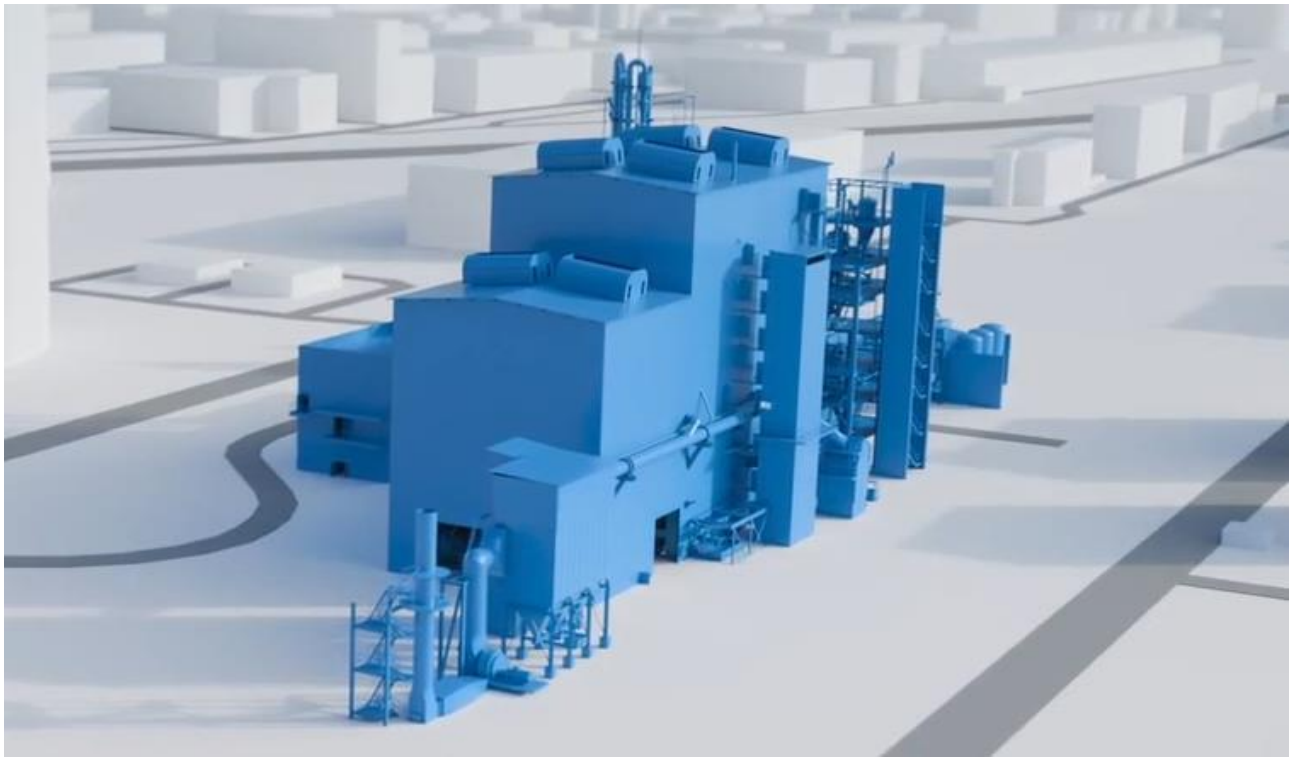

Figure 6 – 3D-Model of the plant

3.2.3 Next Steps

In the upcoming project phase, key activities will be undertaken to advance the implementation of Work Package 2. These steps focus on finalizing the engineering phase and preparing for the erection works. The following actions are planned:

- Finalisation of ordering the main equipment to receive all relevant data from selected sub supplier
- Implementation of sub supplier data in 3D Model, civil & steel structure calculations, piping design, E&A detail engineering and process detail engineering (incl. update of Piping & Instrumentation diagrams, HAZOPs, elaboration of interlockings)
- Finalisation of Detail Engineering
- Order erection and implement detailed erection planning together with selected erection partner

3.3 WP3 - Connection of the core technology modules

3.3.1 Description and objectives

Work Package 3 focuses on the integration, testing, and validation of the core technological modules that form the backbone of the Hy4Smelt demonstrator. This includes the digital connection of key components, cross-linking of media data, and both cold and hot testing phases to ensure operational readiness and safety.

The work package is structured into four main tasks:

- **T3.1 – Connection of Core Modules**

PTAT and VAS are responsible for digitally connecting the core aggregates of the Hy4Smelt system, including the HYFOR module (from the AWS-funded project) and the Smelter module (from the KPC-funded project). VAS and K1-MET (supporting PTAT) conduct a comprehensive review of infrastructure and systems to ensure compatibility and readiness. A **digital twin** of the demonstration plant is developed by PTAT (with support from K1-MET) to simulate automation scenarios and train operators both before start-up and during operation. Deliverable D3.1 documents the final connection setup, process control interfaces, and safety systems. A **HAZOP (Hazard and Operability Analysis)** is also conducted to identify and mitigate potential risks.

- **T3.2 – Cross-Linking of Media Data for Hy4Smelt**

  This task ensures the integration of real-time data from external sources such as the H2FUTURE PEM electrolysis and its follow-up project. VAS and PTAT incorporate this data into the Hy4Smelt automation and instrumentation systems, enabling dynamic monitoring and control based on live media inputs.

- **T3.3 – Cold Testing**

  VAS, supported by PTAT and K1-MET, conducts cold testing of the entire system without initiating DRI production or smelting. This includes functional testing of individual components and their performance in integrated operation. Safety training for Hy4Smelt personnel is also carried out during this phase. Cold testing results are included in Deliverable D3.2.

- **T3.4 – Hot Testing**

  Under real operating conditions, VAS and K1-MET (supported by PTAT) perform hot testing, including the production of DRI and liquid hot metal, and tapping of Smelter slag. The performance is evaluated using the KPI categories defined in WP2/T2.2, focusing on product quality and process data such as off-gas composition and hydrogen utilization. Deliverable D3.2 covers the testing outcomes, while D3.3 provides a technical description of the Hy4Smelt plant.

Together, these tasks ensure that the Hy4Smelt system is fully integrated, tested, and validated, paving the way for safe and efficient operation during the demonstrator phase.

3.3.2 Status in month 6

The following activities have been carried out as part of Task 3.1, focusing on integrating core modules:

- **Update of HAZOP** with information from subsuppliers (received after ordering the equipment) ongoing
- **Review of HAZOP** (Stage 1 without subsupplier information) with project partners done
- **3D Model update** with information from subsupplier ongoing

3.3.3 Next Steps

The following activities are planned to further advance Work Package 3, focusing on finalizing safety assessments and initiating the development of the digital twin:

- **Finalise HAZOP** after ordering of all relevant equipment.
- **Check implementation** of all defined measures from HAZOP
- **Start elaboration of digital twin** after receiving the relevant information from sub supplier (after all orders are placed at sub suppliers)

3.4 WP4 - Research and technology demonstration of Hy4Smelt

3.4.1 Description and objectives

Work Package 4 is dedicated to the execution and evaluation of the Hy4Smelt demonstrator trials. It focuses on the processing of raw materials, optimization of hydrogen-based reduction, and assessment of product quality and environmental performance. The work is designed to validate the technological concept under real operating conditions and generate data for further optimization and certification.

The work package is structured into eight interconnected tasks:

- **T4.1 – Iron Ore Processing**

  Iron ores defined in the use cases are processed and analyzed with a focus on grain size, iron content, and oxidation state. VAS (with subcontractors), PTAT, and K1-MET investigate factors influencing reducibility and sticking phenomena. Post-reduction, the metallization degree of the DRI is assessed. Efficiency analysis of mineral processing is documented in Deliverable D4.1.

- **T4.2 – Hydrogen Flow and Heating in HYFOR Step**

  Two hydrogen flow rates (1200 and 1500 Nm^3/h) are defined by PTAT and VAS to evaluate standard and high-productivity scenarios. The task focuses on optimizing hydrogen utilization in the reduction process and correlating it with reduction time. PTAT, VAS, K1-MET, and UNILE validate the process through DRI chemistry and microstructure analysis.

- **T4.3 – HCI vs. Hot DRI Fines**

  The output of the HYFOR process is assessed for direct charging into the Smelter or compaction. Charging of hot compacted material requires a nitrogen atmosphere. VAS, PTAT, and K1-MET (supported by UNILE) analyze reactivity, storage behavior, particle size, and metallization, linking results to T4.1.

- **T4.4 – Carbon Carriers and Additives**

  Various carbon carriers (e.g., anthracite, coke, organic sources) are evaluated for their role in final DRI reduction and hot metal carburization. Key parameters include grain size, fixed carbon content, reactivity, and ash composition. VAS, PTAT, and K1-MET also investigate additional iron carriers (HBI, scrap) and slag additives, with environmental and economic impacts assessed by SSSA through LCA/LCC.

- **T4.5 – Product Quality: Hot Metal**

  Hot metal samples are taken during tapping and after granulation. VAS, PTAT, and K1-MET analyze product quality using optical and spectroscopic methods, with results documented in Deliverable D4.3.

- **T4.6 – Product Quality: Slag**

  Slag samples from each testing campaign are wet granulated by VAS and processed by LOESCHE. LOESCHE, BUW, and CEMEX analyze the slag to support its certification as a secondary resource for the cement industry.

- **T4.7 – CO_2 Emissions and Off-Gas Composition**

  Off-gas composition is continuously monitored via sensors installed in all exhaust systems. Mass and energy balances support the measurements. The data is linked to the digital twin for real-time monitoring and process verification (PTAT, VAS).

- **T4.8 – Process Optimization**

Optimization efforts focus on ore characteristics, hydrogen flow and temperature, and pre-heating strategies for the HYFOR process. For the Smelter, optimal resource charging, electrode operation, refractory selection, and tapping sequences are developed during the demonstration phase. Deliverables D4.4 and D4.5 summarize the findings.

Together, these tasks ensure a comprehensive evaluation of the Hy4Smelt process, enabling refinement of operational strategies and validation of environmental and product performance.

3.4.2 Status in month 6

Work Packages 4 and 5 have not officially started yet, as their activities are directly dependent on the completion and commissioning of the Hy4Smelt demonstration plant. The core tasks outlined in these work packages require a fully operational facility to generate meaningful data and results.

Nevertheless, preparatory work has already begun to ensure a smooth transition into these phases once the plant is ready. For example, planning for the operational team that will run the demonstrator is underway. This includes defining roles, responsibilities, and training needs, which are essential for the execution of WP4 and WP5 tasks.

While no concrete activities related to the specific tasks have been carried out yet, foundational planning and coordination efforts are progressing as scheduled. In this regard, the project remains fully on track, and all necessary groundwork is being laid to enable timely and effective implementation of WP4 and WP5 once the demonstrator becomes operational.

3.4.3 Next Steps

The next steps for Work Packages 4 and 5 primarily involve planning and preparatory activities to ensure that all tasks can be executed effectively once the Hy4Smelt demonstration plant is completed and operational.

This includes the formation of the operational team, which is essential for running the demonstrator trials and collecting high-quality data. Roles, responsibilities, and training requirements are currently being defined to ensure readiness for the upcoming phases.

Additionally, technical and logistical planning is underway to support the smooth implementation of the tasks outlined in WP4 and WP5. This includes coordination between partners, scheduling of testing campaigns, and preparation of analytical frameworks for performance evaluation and environmental impact assessment.

Although no task-specific activities have started yet, these preparatory efforts are crucial and are progressing according to plan. They lay the foundation for the successful execution of the demonstrator trials and subsequent evaluation and exploitation activities.

3.5 WP5 - Impacts of the project results and exploitation

3.5.1 Description and objectives

Work Package 5 focuses on evaluating the technical, environmental, and economic performance of the Hy4Smelt demonstrator, assessing its scalability and replication potential, and preparing for its exploitation and regulatory alignment. The work is designed to ensure that the project delivers measurable impact and is positioned for future industrial deployment.

The work package is structured into six key tasks:

- **T5.1 – Scaling and Replication Scenarios**

  K1-MET leads the development of deployment scenarios for the Hy4Smelt use cases across the European steel industry (D5.1). PTAT and VAS support the analysis of market potential and replication opportunities, including the use of low-grade and ultra-fine iron ores. SSSA contributes with a preliminary **Life Cycle Assessment (LCA)** comparing Hy4Smelt to conventional steelmaking routes (e.g., EAF, BF-BOF), evaluating energy savings and environmental benefits. These results will serve as a foundation for the full LCA in T5.4.

- **T5.2 – Performance Evaluation of the Hy4Smelt System**

  VAS and K1-MET assess the technical, metallurgical, economic, and environmental performance of the demonstrator (D5.2/D5.3). KPI quantification is based on experimental data from WP4 and aligned with RFCS and CSP objectives. VAS analyzes the quality of DRI and hot metal, while PTAT (supported by LOESCHE) leads the economic assessment, including cost estimation and development of a business model (D5.5).

- **T5.3 – Evaluation of Smelter Slag Quality**

  LOESCHE, CEMEX, and BUW evaluate the reuse potential of Smelter slag in the cement industry, focusing on granulation, latent hydraulic properties, and concrete performance. BUW also investigates dry slag granulation to assess its impact on concrete workability and strength. These findings feed into the environmental and exploitation tasks (T5.4, T5.5).

- **T5.4 – Environmental Impact Assessment**

  SSSA leads the environmental and economic evaluation using ISO 14040–44 standards for LCA and LCC, supported by VAS. The assessment includes GHG reduction potential, availability of secondary carbon carriers, and water efficiency improvements. Results from T5.3 are integrated into Deliverable D5.4.

- **T5.5 – Exploitation Measures for the Steel Industry Core Market**

  K1-MET (supported by PTAT) develops an exploitation strategy (D5.6) to ensure post-project deployment of Hy4Smelt technologies. This includes risk management, IPR analysis, and competition compliance. Partners' background and foreground IP contributions are assessed, and commercialization routes are refined in collaboration with VAS.

- **T5.6 – Final Recommendations to Regulatory and Standardisation Bodies**

CEMEX, supported by LOESCHE, leads standardisation efforts for Smelter slag as a secondary raw material, engaging with national and European cement associations. VAS and PTAT define enhanced knowledge for 100% H_2-based reduction of ultra-fine iron ores. SSSA and ESTEP assess the contribution of Hy4Smelt to the European Green Deal and policy impact pathways, with results feeding into D5.2, D5.3, and D5.5.

Together, these tasks ensure that Hy4Smelt is not only technically and environmentally validated but also strategically positioned for industrial uptake and policy alignment.

3.5.2 Status in month 6

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3.6 WP6 - Dissemination and communication

3.6.1 Description and objectives

Work Package 6 (DEC) is dedicated to ensuring the visibility, outreach, and impact of the Hy4Smelt project through a structured and strategic dissemination and communication approach. The overarching objective is to effectively communicate the project's goals, progress, and results to a diverse range of stakeholders, including the scientific community, industry representatives, policymakers, and the general public.

The WP is structured into four key tasks:

- **T6.1 – Dissemination and Communication Master Plan**

  Led by UNILE, this task focuses on the development of a comprehensive Dissemination and Communication (DC) master plan (D6.1). The plan outlines the communication objectives, identifies target audiences, and defines the channels and tools to be used throughout the project lifecycle. It includes a timeline of activities and proposes a methodology for evaluating the effectiveness of dissemination efforts through feedback and engagement metrics. The DC plan serves as a strategic blueprint to ensure that all communication actions are aligned with the project's goals and stakeholder expectations.

- **T6.2 – Project Website**

  PTAT is responsible for setting up and maintaining the project's official website (D6.2), which acts as a central hub for public-facing information. The website provides comprehensive details about the project, its partners, and its progress. It hosts public deliverables, scientific publications, and documentation relevant to stakeholders. K1-MET oversees the periodic content updates to ensure the website remains current and informative.

- **T6.3 – Dissemination to the Steel Industry and Scientific Community**

  This task aims to actively engage the European and international steel industry and scientific community. K1-MET, VAS, and PTAT leverage their memberships in expert groups and participation in major metallurgical events (e.g., METEC) to share project results. Knowledge transfer is further supported through seminars and lectures at leading technical universities across Europe. Scientific dissemination is achieved via open-access journal articles and conference papers authored by UNILE, SSSA, and K1-MET. Target values for dissemination activities are defined in the DC plan and will be monitored and reported in D6.3.

- **T6.4 – Communication to the Public and Regulatory Bodies**

  This task focuses on outreach to the general public and policymakers at both national and European levels. Activities include press releases, newsletters, and the production of a project video. A LinkedIn channel managed by K1-MET enhances social media presence. Public engagement is further supported through guided tours of the demonstration plant, targeting schools, universities, and political representatives. ESTEP collaborates with K1-MET to produce quarterly newsletters and organize at least two workshops. Partners who signed Letters of Intent are actively involved in these communication efforts.

Together, these tasks ensure that Hy4Smelt's innovations and results are widely disseminated, fostering awareness, collaboration, and uptake across relevant sectors.

3.6.2 Status in month 6

After six months of project implementation, Work Package 6 has achieved several key milestones that significantly contribute to the visibility and outreach of the Hy4Smelt project:

- **D6.1 – Dissemination and Communication Master Plan**

  The Dissemination and Communication Master Plan was successfully prepared by UNILE and uploaded to the project portal. It has been reviewed and formally approved by the Steering Committee. The document serves as the strategic foundation for all dissemination and communication activities throughout the project.

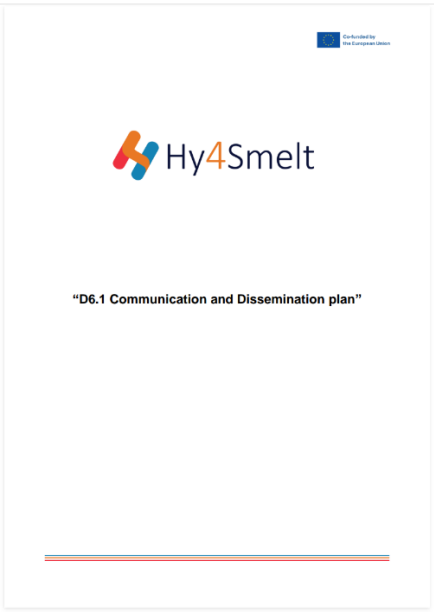

Figure 7 – DEC-Plan

- **D6.2 – Project Website**

  The official project website was developed and launched by PTAT. It provides a central access point for public information about the project, including updates, deliverables, and publications. The website is maintained and updated regularly to reflect ongoing progress and new results.

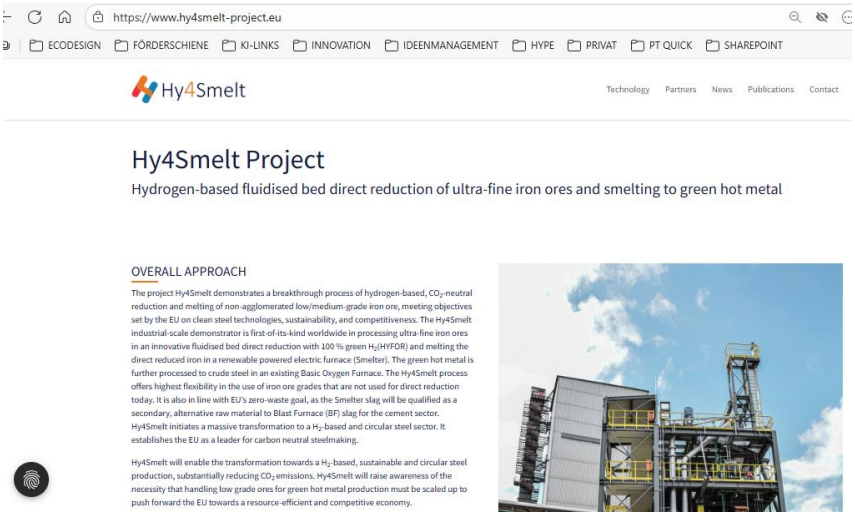

Figure 8 – Project Website

- **T6.3 – Dissemination to Industry and Scientific Community**

  Several dissemination activities have already taken place. Notably, the project was presented at the large demonstrator seminar organized by ESTEP, reaching a broad audience of industry experts and researchers.

  - 10th European Oxygen Steelmaking Conference, Vienna, Mai 22th
  - Large demonstrator seminar at ESTEP, September 9, 2025

- **T6.4 – Communication to the Public and Policymaker**

  Public communication efforts are well underway. A major highlight was the **groundbreaking ceremony** for the demonstration plant held on **September 25 in Linz**, which attracted attention from media, public stakeholders, and political representatives.

Figure 9 – Ground Breaking Ceremony for Hy4Smelt Plant

These achievements demonstrate that WP6 is progressing well and is actively contributing to the project's visibility, stakeholder engagement, and public awareness.

3.6.3 Next Steps

Following events are planned as next steps:

- ESTEP Annual Event, October 28, Udine
- H2 Convention Linz, November 2028
- World Steel Breakthrough Conference, December 2025

4 Conclusion

During the first six months of the Hy4Smelt project, **all planned deliverables and milestones have been successfully completed and submitted on time**. This reflects the strong coordination and commitment of all consortium partners and confirms that the project is progressing in line with its initial schedule and objectives.

Table 2 – Excerpt of list of deliverables

No.	Deliverable Name	WP No.	Lead	Type	Dissemination Level	Due	Status
D1.1	Project Management Plan	WP1	1 - PTAT	R — Document, report	PU - Public	2	done
D1.2	Data Management Plan	WP1	1 - PTAT	DMP — Data Management Plan	PU - Public	3	done
D2.1	Hy4Smelt use case specifications	WP2	3 - VAS	R — Document, report	PU - Public	3	done
D1.3	Quality Management Plan	WP1	1 - PTAT	R — Document, report	PU - Public	4	done
D2.2	List of KPIs	WP2	2 - K1-MET	R — Document, report	PU - Public	4	done
D6.1	Communication and dissemination plan	WP6	5 - UNILE	R — Document, report	PU - Public	6	done
D6.5	Comprehensive overview of the project	WP6	1 - PTAT	R — Document, report	PU - Public	6	done
D6.2	Project website	WP6	1 - PTAT	DEC — Websites, patent filings, videos, etc	PU - Public	7	done
D2.3	Report about detail engineering and Hy4Smelt process design	WP2	1 - PTAT	R — Document, report	SEN - Sensitive	8	open
D6.3	Report on DC activities	WP6	5 - UNILE	R — Document, report	PU - Public	12	open
D5.6	Exploitation strategy	WP5	2 - K1-MET	R — Document, report	PU - Public	17	open

Table 3 – Excerpt of list of milestones

No.	Milestone Name	WP	Lead	Means of Verification	Due	Status
1	Management plans (project, data, quality) available	WP1	1 - PTAT	Deliverables D1.1-D1.3 approved by Steering Committee (SC)	4	done
3	Use cases and KPIs defined	WP2	3 - VAS	D2.1/D2.2 approved by SC	4	done
14	DC plan	WP6	5 - UNILE	D6.1 approved by SC	6	done
15	Website online	WP6	1 - PTAT	Contents approved by SC and website online	7	done
4	Engineering and technological preparation complete	WP2	1 - PTAT	D2.3 approved by SC	8	open