

## I4-GREEN (Public Progress Report M12) D1.5 31/10/2023

14-GREEN Consortium



the European Union

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General information												
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Description of the related task and the deliverable. Extract from DoA	The coo towards adminis cost sta prepara of budg update plannin betwee officer/ interact Task: // benefici to back arrange establis partner conflict starting 1.2) will depict n GREEN reports timeling	ACPMR           C         Public (PU)         Confidential (CO)           C         Report (R)         Other (O)           C         Report (R)         Other (O)           C         Report and genent; submission of periodic/final reports and cost statements to the EC; control of work progress including timely preparation and submission of project results (Deliverables); control of budget expenditure in relation to the foreseen tasks and activities; update of the work plan accounting for risks and contingency planning. A smooth communication mechanism will be implemented between the participating organisations and with the project officer/EC through progress meetings and both online and off-line interactions between project leader and the EC. In addition, under this cask: A Consortium Agreement (CA) will be signed by all peneficiaries at the beginning of the project, including access rights o background and foreground knowledge, IPR and confidentiality irrangements (D1.1). The project Steering Committee (SC) will be established which will gather one representative from each full partner organisation and shall take key strategic and potential conflict management decisions. It will be gathered every 3 months starting from the Kick-Off meeting in M1. A Management Plan (Task. 2) will be delivered at the beginning of the project (M2) that will depict management and delivery modalities, internal procedures, I4-GREEN management structure. Progress, technical and financial reports will be submitted by the coordinator as per the project										
Authors	ACPMR											
Reviewers	ICAMCY	Ľ										
Status		Draft	Х	Final								

Revision H	istory			
Version	Date	Author	Organisation	Status
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Glossary	
Acronym	Meaning
EC	European Commission
PO	Project Officer
GA	Grant Agreement

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### 1. EXECUTIVE SUMMARY

I4-GREEN project has successfully completed its twelfth month, marking a significant milestone in our mission enabling access to raw materials is a crucial requisite for ensuring Europe's recovery and is essential to preserve and further improve the environment and the life quality.

The twelfth month of the I4-GREEN project has been marked by significant advancements in technology development, pilot plant installations, collaborative research, and public outreach. The project remains steadfast in its commitment to driving sustainability in the mining sector and is well-positioned to achieve its long-term goals.

The present deliverable presents I4-GREEN project, its objectives, developments and achievements during the last 12 months of execution.

### 2. INTRODUCTION

#### 2.1. 14-GREEN

Enabling access to raw materials is a crucial requisite for ensuring Europe's recovery and is essential to preserve and further improve the environment and the life quality. I4-GREEN is an industry-driven project wishing to deploy regional circular economy innovations in the mining processes.

I4-GREEN is an industry-driven project, entailing the following 2 green strands:

- Iron Holm Oak creates an EU lighthouse of a forefront technology to recover rare earth minerals from iron mining waste, reducing environmental impact and alleviating EU dependency on foreign rare earth elements Rare Earth Elements (REE) in particularly for Neodymium element.
- Riotinto will innovate with a SME-owned Green Tech to extract strategic raw materials (Cu, Zn, Co and PGMs).

Main objectives:

- 1. Unleashing the green innovation power of EU interregional Ecosystems and fostering the green transition of other EU regions facing similar challenges in mining/extractive industry
- 2. Turning mining green, circular and social through joint innovation investments for the green and circular extraction and the processing of raw materials
- 3. Re-evaluating of mining dumps and wastes
- 4. Reviving the ecosystems that are (often hardly) touched by the deindustrialization
- 5. Establishing a unique interregional ecosystem, a node for the green transformation of extractive industries and the emergence of an EU sustainable mining value chain.
- 6. Generating a concept for forefront sustainable and environmentally friendly processing recovery technologies and of low environmental impact.

An interregional system will grow thanks to innovative tools as well as enablers ready to align regional investments to turn the mining process into a green one.

### 3. I4-GREEN ORGANISATION STRUCTURE

#### 3.1. I4-GREEN project structure

I4-GREEN is industry-driven, with two pilots (Figure 1) at its core which will deploy circular innovations to the market:

Pilot 1 – Extremadura, Spain -With the objective is to create and develop a forefront technology to recover minerals from iron mining waste, reducing environmental impact and alleviating EU dependence.

Pilot 2 - Andalusia, Spain - Will be implemented for scaling up hydrometallurgical leaching of primary sulphide minerals for the sustainable recovery of essential metals for the green transition.



Figure 1 - I4-GREEN pilots

In parallel, and within the overall I4-GREEN project, several actions will be carried out that are essential and necessary for the success of the final achievement of the entire project, and they are reflected in the scope of cascade funding actions.

In this development of actions, it is foreseen the establishment of a system of cascade funding for SMEs, for the development of innovation projects within the two industrial pilots, with the objective of establishing new interregional and inter-sectoral value chains.

The open and competitive call will require SME-driven innovation projects to foster the inclusion of new products, processes and/or technical services in Pilot 1 and Pilot 2 projects.

For this purpose, a budget of 448.500,00  $\in$  will be financed, where up to 15 SMEs will receive up to 30.000,00  $\in$  each to develop innovation projects within the two industrial pilots.

### 4. CONSORTIUM OVERVIEW

Around these 2 pilots, an interregional system (Figure 2) will grow organically with investors, tech partners, regional governments (which bring their own resources to I4-GREEN), and other enablers ready to align regional investments to improve green mining.



Type

Cluster

Industry

Industry

Industry

Industry

Partners ISMC Cluster

GEVORA

NANOFABER

L FONORE

LAIN TECHNOLOGIES

Figure 2 - I4-GREEN ecosystem

Associated Partners are I4-GREEN Supporters, academics, environmental actors, NGOs and general society through local communities.

Supporting Institutions & Entities are Policy makers at local, regional and EU levels, and professional networks and platforms, among others, setting the base of mining regions development.

Partners (Figure 4) are I4-GREEN Core Agents, mining and raw materials providers & suppliers, mining companies, application enterprises, technological companies dedicated indirectly to raw materials, cross-regional & sectoral organisations, professional platforms.



Figure 3 - I4-GREEN partners

#### 4.1. Management structure

The management structure for I4-GREEN project has been designed to ensure smooth operability of project activities, provide effective leadership, and promote cooperation between the consortium and external supporters and partners. The final aim is the successful completion of tasks and deliverables, the two pilots and the parallel planned Open Call and mentoring services to SMEs, the two main crucial activities within the project. An effective cooperation between the coordinator and the project officer will also ensure that no major deviations are taking place, corrective measures are being taken into account and activities are being successfully implemented in compliance with the European Commission standards and rules for I3 projects. Considering the wide range of activities to be implemented, an efficient and effective coordination, decision-making and communication is therefore required.



Figure 4 - I4-GREEN management structure

### 5. WP1 - I4-GREEN MANAGEMENT AND COORDINATION

Leader: ACPMR Contributor: ALL Timeline: M1-M30

					20	22						20	23							20	24		
					nov	dez	jan	fev	mar	abr	mai	jun	jul	ago	set	out	nov	dez	jan	fev	mar	abr	
	Task	Leader	Contributers	Duration	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Wp1	I4-GREEN Management and coordination	ACPMR	All	M1-M30																			
	T1.1 - Contractual and financial project coo	ACPMR	ISMC, All	M1-M30																			
	T1.2 - Operational I3 Investment Managem	ACPMR	ISMC, All	M1-M30																			
	T1.3 - Technical coordination	ISMC	ACPMR, All	M1-M30																			
	T1.4 - Close Consortium and I3 ecosystem	ACPMR	ISMC, All	M1-M30																			
	T1.5 - Data management and protection	ACPMR	ISMC, All	M1-M30																			
	T1.6 - Quality assurance and risk managem	ACPMR	ISMC, All	M1-M30																			
	T1.7 - Gender dimension and gender balar	ACPMR	ISMC, All	M1-M30																			
Exe	cuted																						
Pro	gramed																						

Figure 5 - WP1 Gantt Chart

Developments (Timeline M1-M12):

- The management and coordination of I4-GREEN project has been developed in a good progress according to the available budget, timeline, milestones, tasks and deliverables.
- Regular internal progress reports have been requested to the consortium for ensuring a correct management in line with EC and legal requirements. ACPMR managed the internal statements supported by ICAMCYL.
- Regular, internal and effective channels (telcos, phone calls, meetings) within the consortium and between consortium and with EC have been employed for correct communication.
- Internal and external interactions have taken place with stakeholders, industrial associations and other projects in external events suitable for synergies.
- Risk management and quality assurance protocols have been applied to detect and avoid potential challenges or issues.
- Operational needs have been analysed to plan and ensure that cascade funding applicability is maintained to seek for independence in the 2 leading pilots functioning.

Some joint actions have been applied between I4-GREEN ecosystem and S3P partnerships (Mining industry and AMBP). ALL the partners contributed to ensure a correct management of the project, leaded administratively by ACPMR, coordinator of the project, and supported by ICAMCYL, technical coordinator of the project (originally ISMC).

	Deliverables													
WP	D	Deliverable Name	Lead Benef.	Diss Level	Due date	New Due Date	Delivery Date	Status						
WP1	D1.1	Consortium agreement	ACPMR SEN		30 Nov 2022	-	02 Dec 2022	Approved						
WP1	D1.2	Management Plan and Project Management Handbook	ACPMR	SEN	31 Dec 2022	-	16 Dec 2022	Approved						

WP1	D1.3	Shared digital platform	ACPMR	SEN	30 Nov 2022	-	22 Nov 2022	Approved
WP1	D1.4	Quality assurance (Manual) risk management, data management and protection plan	ACPMR	SEN	31 Jan 2023	-	23 Jan 2023	Approved
WP1	D1.5	Public Progress Report M12	ACPMR	PU	31 Oct 2023	-	Current report – Oct 2023	Pending

Table 1 - WP1 Deliverables

#### 5.1. T1.1 - Contractual and financial project coordination

Leader: ACPMR, ICAMCYL Contributor: ALL Timeline: M1-M30

Developments (Timeline M1-M12):

Consortium Agreement was prepared by ACPMR and ICAMCYL and signed at M1 setting the internal agreements between all the project partners. Control of work was performed ensuring deliverables, milestones and tasks were taking place on time and accordingly to the Grant Agreement. Smooth communication with EC and the project was ensured, having progress meetings to check the state of the play in the project. Internal meetings were taking place regularly every six months, but in addition, several meetings were set at demand of the partners and coordinator, especially for the definition of the open call guidelines. Steering Committee was appointed and informed about the management decisions. A management plan was set at M2 defining the project procedures.

Task deviations (Timeline M1-M12):

Leaders of T1.1 were ACPMR and ICAMCYL instead of ACPMR and ISMC. ICAMCYL contributed to the technical coordination of the project, supporting ACPMR as administrative coordinator.

#### 5.2. T1.2 - Operational I3 Investment Management

Leader: ACPMR, ICAMCYL Contributor: ALL Timeline: M1-M30

Developments (Timeline M1-M12):

A project management handbook (D1.2) was submitted in M2 including a quality manual providing a reference and guidelines on the management and quality processes that will govern the course of the I4-GREEN project. The use of that guidelines aimed to ensure better collaboration among the project partners. All the project partners should use this handbook to ensure the quality assurance during the whole project and to facilitate the detection and prevention of possible deviations from the work plan.

The Strategic Advisory Board was initially formed by external experts in M4 and additional experts were incorporated in M11.

Task deviations (Timeline M1-M12):

Leaders of T1.2 were ACPMR and ICAMCYL instead of ACPMR and ISMC. ICAMCYL contributed to the technical coordination of the project, supporting ACPMR as administrative coordinator.

Direct financial support to SMEs was not distributed during the first 12 months of implementation and is expected to be distributed as soon as open call evaluation periods ends (explained in T2.2)

#### 5.3. T1.3 - Technical coordination

Leader: ICAMCYL, ACPMR Contributor: ALL Timeline: M1-M30

Developments (Timeline M1-M12):

ACPMR and ICAMCYL organised individual and group meetings and performed continuous communication with partners involved in pilot tasks execution (GEVORA, LEONORE, LAINTECH, ATALAYA), for ensuring a correct involvement in the project, and for ensuring a correct understanding of their duties and responsibilities. In addition, consortium meetings were held at least every six months for the proper monitoring of the project execution with all partners in I4-GREEN.

All the deliverables planned until M12 of implementation were submitted on time. For guaranteeing the synergies with other cascade funding projects, MINE.THE.GAP platform (https://h2020-minethegap.eu/collaboration/) was updated and embedded for the submission of project applications of the I4-GREEN open call. For internal purposes, D1.3 described the Shared Digital Platform. It's a digital shared space and channels related with I4-GREEN project management, coordination, execution, and internal communication that allows a fast, secure and private way for project partners to share files, ideas, meeting and short messages.

Task deviations (Timeline M1-M12):

The cascade funding available for SMEs was not distributed during the first 12 months of implementation and is expected to be distributed as soon as open call evaluation periods ends (explained in T2.2)

Leaders of T1.3 were ACPMR and ICAMCYL instead of ACPMR and ISMC. ICAMCYL contributed to the technical coordination of the project, supporting ACPMR as administrative coordinator.

#### 5.4. T1.4 - Close Consortium and I3 ecosystem follow up

Leader: ACPMR, ICAMCYL Contributor: ALL Timeline: M1-M30

Developments (Timeline M1-M12):

All the meetings until M12 of implementation were organised online to optimize the available resourced. Communication flows, activities and their monitoring were jointly established. Moreover, in M2 (I3 Expert Group meeting) and in M5 (Coordinator's Day)

the ecosystem was integrated into other interregional activities for scaling the interregional impact of I4-GREEN.

Task deviations (Timeline M1-M12):

In the first 12 months of implementation 2 consortium meetings were planned. However, during the execution of the project tasks, most of the WPs considered necessary to have extra (not planned) meetings.

Leaders of T1.4 were ACPMR and ICAMCYL instead of ACPMR and ISMC. ICAMCYL contributed to the technical coordination of the project, supporting ACPMR as administrative coordinator.

#### 5.5. T1.5 - Data management and protection

Leader: ACPMR, ICAMCYL Contributor: ALL Timeline: M1-M30

Developments (Timeline M1-M12):

Data Protection Officers (DPO) were appointed. A Data Management Plan (DMP) was included in the project management Guidebook (D1.4) covering the full data life cycle, and including security measures to prevent unauthorised access to personal data or the equipment used for processing.

Task deviations (Timeline M1-M12):

Leaders of T1.5 were ACPMR and ICAMCYL instead of ACPMR and ISMC. ICAMCYL contributed to the technical coordination of the project, supporting ACPMR as administrative coordinator.

#### 5.6. T1.6 - Quality assurance and risk management

Leader: ACPMR, ICAMCYL Contributor: ALL Timeline: M1-M30

Developments (Timeline M1-M12):

The quality assurance process was launched in M3 (D1.4) and was monitored by the project management team until M12, and it is expected to be continued until the end of the project.

ACPMR and ICAMCYL reviewed all the deliverables submitted until M12.

Task deviations (Timeline M1-M12):

Leaders of T1.6 were ACPMR and ICAMCYL instead of ACPMR and ISMC. ICAMCYL contributed to the technical coordination of the project, supporting ACPMR as administrative coordinator.

5.7. T1.7 - Gender dimension and gender balance surveillance

Leader: ACPMR, ICAMCYL Contributor: ALL Timeline: M1-M30

Developments (Timeline M1-M12):

Equality work-life balance and encourage female team members to lead teams and take responsibility were applied and are expected to be maintained to the entire project duration. Specific measures to ensure gender balance were applied when appointing external experts forming the Strategic Advisory Board (50% female representation).

Task deviations (Timeline M1-M12):

Leaders of T1.7 were ACPMR and ICAMCYL instead of ACPMR and ISMC. ICAMCYL contributed to the technical coordination of the project, supporting ACPMR as administrative coordinator.

### 6. WP2 - SME ENGAGEMENT AND INTERREGIONAL INDUSTRIAL ECOSYSTEM CREATION

Leader: ICAMCYL Contributor: ACPMR, ISMC Timeline: M1-M30

					20	22	2 2023												2024				
					nov	dez	jan	fev	mar	abr	mai	jun	jul	ago	set	out	nov	dez	jan	fev	mar	abr	
	Task	Leader	Contributers	Duration	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Wp2	SME Engagement and Interregional Industrial Ecosystem Creation	ICAMCYL	ACPMR, ISMC	M1-M30																			
	T2.1 - SME Engagement and Interregional Industrial Ecosystem creation	ICAMCYL	ACPMR, ISMC	M3-M30																			
	T2.2 - I4-GREEN 'GreenTech Demo Call' for SMEs – preparation and launch	ICAMCYL	ACPMR, ISMC	M1-M12																			
	T2.3 - Management of the SME Open Call	ACPMR	ISMC, ICAMCYL	M6-M30																			
	T2.4 - SME Ecosystem Support Services	ICAMCYL	ACPMR, ISMC	M10-M30																			
Exe Pro	cuted gramed																						

Figure 6 - WP2 Gantt Chart

Developments (Timeline M1-M12):

Create an open call for providing third-party support (SMEs), solve lead pilot needs with solutions, and integrate them into the ecosystem activities. This included:

- Preparation of the open call guidelines and package
- Management of the open call and applications directed to candidates for funding
- Integration of the needs of the 2 pilots in the open call solutions to be applied

			Delive	rables				
Work Package No	Deliverable Related No	Deliverable Name	Lead Beneficiary	Dissemination Level	Due date	New Due Date (if delay)	Delivery Date	Status
WP2	D2.1	SME and ecosystem engagement report	ICAMCYL	PU	31 Jan 2023	-	31 Jan 2023	Approved
WP2	D2.2	Open call package	ACPMR	PU	28 Feb 2023	30 Jun 2023	12 Jul 2023	Approved

WP2 D2.3 Individual, Consensus Evaluation and ICAMCYL Integrated Evaluation reports	SEN 30 202	0 Jun 023 31 0ct 2023	Pending
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Table 2 - WP2 Deliverables

#### 6.1. T2.1 - SME Engagement and Interregional Industrial Ecosystem creation

Leader: ICAMCYL Contributor: ACPMR, ISMC Timeline: M3-M30

Developments (Timeline M1-M12):

Ecosystem actors in the technological sector and mining networks were identified in the regions involved in I4-GREEN. 3 steps were selected for targeting the actors:

- Leveraging clusters and cluster networks
- EU projects and Digital Innovation Hubs (DIH)
- Relevant projects, accelerators, incubators, etc.

As a result, D2.1 was submitted in M3 by ICAMCYL, including a characterisation of the economy, the SMEs environment, investment opportunities and the mining sectors of the four regions selected for the SME's engagement in I4-GREEN (Alentejo, Andalusia, Extremadura, Castilla y León). The result was a great value in resources, so this ecosystem can easily afford exploitable routes for potential entities that could be part of the interregional innovation network created.

Task deviations (Timeline M1-M12):

N/A.

## 6.2. T2.2 - I4-GREEN 'GreenTech Demo CALL' for SMEs - preparation and launch

Leader: ICAMCYL Contributor: ACPMR, ISMC Timeline: M1-M12

Developments (Timeline M1-M12):

The open call guidelines were created according to the GA requirements and pilot needs. The open call package included:

- Call announcement (available in 5 languages)
- Guide for applicants
- Frequently asked questions
- Template for application/Voucher application
- Supporting documents for voucher application
- Additional financial documents evidence to assess SME status

Before the public announcement was made, the material of the open call was shared and reviewed by EC for approval, the feedback received was considered before the publication of the open call.

Task deviations (Timeline M1-M12):

Open call preparation and launching was delayed until M9 to ensure the proper quality and fulfilment of the pilots and EC requirements, having enough details in the open call documents. Close cooperation between ACPMR and ICAMCYL enabled to announce open call quality a better project management for the future implementation. D2.2 was initially planned for M4 and was finally submitted in M9. ISMC leaded the dissemination of the open call.

#### 6.3. T2.3 - Management of the SME Open CALL

Leader: ACPMR Contributor: ISMC, ICAMCYL Timeline: M6-M30

Developments (Timeline M1-M12):

Having previous experience in managing cascade funding and SME open calls (MINE.THE.GAP), during the first 12 months of implementation ACPMR, ICAMCYL and ISMC performed the following activities:

- Launching of the open call by M9 and dissemination and promotion of the innovation vouchers offered. Guidance to interested applicants was covered and a Technical Open Session was organized in M11.
- Checking of the administrative and financial eligibility of the applications (according to the open call guidelines).
- Requesting for additional information on financial capability (according to the open call guidelines).
- Evaluators were appointed and briefed (according to the open call guidelines) to evaluate the received applications.
- 2 phases evaluation was conducted to select the best solutions selected for receiving funding.
- Applicants were notified of the funding decision and received feedback on the evaluation of their project proposal.
- Preparation and signing of the sub-Gran Agreements (between I4-GREEN and funded SMEs)

Task deviations (Timeline M1-M12):

ACPMR and ICAMCYL jointly managed the process of the open call. The direct financial support to third parties (innovation vouchers) is planned to be initiated by M13 once the sub-Grant Agreements with participating SMEs are signed. D2.3 and D2.4 were delayed considering the deviation of the launch of the open call explained in the previous task.

#### 6.4. T2.4 - SME Ecosystem Support Services

Leader: ICAMCYL Contributor: ACPMR, ISMC Timeline: M10-M30 Developments (Timeline M1-M12):

N/A

Task deviations (Timeline M1-M12):

This task is expected to start once the funded SMEs have initiated their innovation projects (M13).

### 7. WP3 – IHO PILOT – DEMONSTRATING COMBINED CIRCULAR PROCESSING FOR RARE EARTH AND IRON ORE

#### Leader: GEVORA

Contributor: LEONORE, ICAMCYL, NANOFABER, ACPMR, GTK, UNIOVI, ISMC, JDA Timeline: M1-M30

					20	22						20	23							20	24		
					nov	dez	jan	fev	mar	abr	mai	jun	jul	ago	set	out	nov	dez	jan	fev	mar	abr	
	Task	Leader	Contributers	Duration	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Wp3	IHO Pilot – Demonstrating Combined Circular Processing for Rare Earth and Iron Ore	GEVORA	Leonore, ICAMCYL, NanoFaber, APMR, GTK, UNIOVI, ISMC, JdA	M1-M30																			
	T3.1 - Green Extension to Rare Earth up scaling Phase 1	GEVORA	Leonore, ICAMCYL, NanoFaber, APMR, GTK, UNIOVI	M1-M24																			
	T3.2 - Green Extension to Rare Earth up scaling Phase 2 : Testing at scale	GEVORA	Leonore, ICAMCYL, NanoFaber, APMR, GTK, UNIOVI	M4-M24																			
	T3.3 - Green Extension to Rare Earth up scaling Phase 3 : Final Design and Deployment of the Processing	GEVORA	Leonore, ICAMCYL, NanoFaber, APMR, GTK, UNIOVI	M20-M24																			
	T3.4 - Ramping up to full industrial scale and interregional deployment	GEVÖRA	Leonore, JdA, ACPMR, ISMC	M24-M30																			

Programed



Developments (Timeline M1-M12):

The main activities related to this task have been developed in field studies.

Geological and geophysical studies to locate and describe the areas of interest for the recovery of monazite (REE) within the magnetite (iron ore) deposits were identified. A drilling campaign has been planned and a good part of the polling campaign has been carried executed.

A comprehensive review of existing data and laboratory-scale metallurgical studies was carried out. It was developed a study plan in line with the project's objectives and, subsequently, Gevora's technical team designated a sampling area for the extraction of 25 million tons of massive mineral for pilot-scale testing.

With the information collected in the studies carried out, work has begun on the definition of the digital and techno economic design.

#### 7.1. T3.1 - Green Extension to Rare Earth up scaling Phase 1

Leader: GEVORA Contributor: LEONORE, ICAMCYL, NANOFABER, ACPMR, GTK, UNIOVI

#### Timeline: M1-M24

Developments (Timeline M1-M12):

The main activities related to this task have been developed in field studies.

The beginning has been to carry out geological and geophysical studies to locate and describe the areas of interest for the recovery of monazite (REE) within the magnetite (iron ore) deposits.

With this information, a drilling campaign has been planned aimed at the recovery of drill cores that will allow us to carry out a detailed study of the monazite contents in the magnetite.

Subsequently, subcontracted suppliers were selected according to the provisions of this task for the execution of the drilling campaign. Three offers were presented from which the supplier was chosen based on competitive criteria such as technical, equipment, task execution time and budget.

A good part of the polling campaign has been carried out:

- The first line of drilling has been carried out in the concession area called "Colmenar", carrying out 7 drillings with a total of 1,462.65 m. Samples have been taken from the drill cores to carry out a complete analysis in the laboratory. With these surveys we have achieved an approximate mesh with 100 x 75 intersections up to elevation 150. With the results of this campaign, a first geostatistical treatment will be carried out that allows us to define the optimal mesh to have measured and indicated resources.
- A second line of drills has been carried out in the Colmenar area. 2 boreholes have been drilled with 631.10 m. With these surveys we would have an approximate mesh with 100 x 150 intersections up to level 100. Samples of the drill cores have also been taken for chemical study by X-Ray Fluorescence.
- All the planned drills have been carried out, although it has been decided to carry out five additional drills to expand knowledge about the deposit.

Finally, with the information collected in the studies carried out, work has begun on the definition of the digital and techno economic design.

ISMC, ICAMCYL helped on the integration of advance processing tech blocks (via NANOFABER). In particular NANOFABER has worked on water treatment strategies focused on sequestration and recovery of monazite, REE at large and raw materials from the patented method implemented at IOH, which throughout the project may allow improving on OPEX and overall sustainability. In the reference period, the focus was on design of prototypical membranes by incorporating electrospun nanocoatings and biopolymers into commercial products to improve antifouling and selectivity, while improving water flow. The work proceeds in parallel to the developments in T4.3 for ATALAYA's plant, primarily changing feedstock and optimizing the coating.

Monitoring and guiding the creation of this solution to be inserted into a innovative circular mine of the future in the context of interregional demonstrators was performed by ACPMR with its position as mineral resources cluster, by ICAMCYL as raw materials technological center and by ISMC as sustainable mining cluster.

Task deviations (Timeline M1-M12):

To expand knowledge of the deposit, the technical team has decided to carry out additional drills that will be carried out in the next three months completing the campaign before the end of 2023.

#### 7.2. T3.2 - Green Extension to Rare Earth up scaling Phase 2: Testing at scale

Leader: GEVORA Contributor: LEONORE, ICAMCYL, NANOFABER, ACPMR, GTK, UNIOVI Timeline: M4-M24

Developments (Timeline M1-M12):

During this period, the activities of this task have been focused on layer 1 of the task scope.

Completed tasks:

- During the first months of the project, a competitive search was carried out for service providers for the execution of metallurgical studies for the separation of iron ore and REE. Based on its technological, professional and experience capacity to carry out this type of studies, as well as the budget presented, the Finnish GTK Mintec study center was selected.
- Once the contract with GTK was signed, a detailed study of the previous information available and the metallurgical studies carried out by the project on a laboratory scale were carried out.
- With this information and with the objectives of this pilot, GTK designed a work plan for the studies.
- Next, Gevora's technical team determined a sampling area for the extraction of 25 Mt of massive mineral to carry out pilot-scale tests. This material was sent to Finland to the GTK facilities.

To date, the work carried out by GTK has consisted of:

- Mineralurgical studies to determine the separation sizes of the main minerals of interest such as magnetite (iron ore) and monazite (REE).
- Shredding to different sizes for subsequent processing by magnetic means. (Focus on 1) grinding to d80 of 38µm and low intensity magnetic separation and 2) grinding to d80 of 38µm followed by low intensity magnetic separation and reverse flotation to remove sulfur bearing minerals.
- Continuous magnetic separation in dry and wet ways
- Flotation for the study of the separation of sulfur contents
- Sample taking of each process variant
- Laboratory analysis of these samples using X-Ray fluorescence technology for complete chemical analysis, determining in each case the contents of iron ore and the REE elements of interest contained in the monazite of the tailings.

Currently, once the rejections of the iron separation have been obtained, the study will begin to obtain a monazite concentrate from the aforementioned process tailings to move on to layer 2 tasks.

Task deviations (Timeline M1-M12):

To date, all activities corresponding to this task have been developed according to the planned times.

#### 7.3. T3.3 - Green Extension to Rare Earth up scaling Phase 3: Final Design and Deployment of the Processing

Leader: GEVORA Contributor: LEONORE, ICAMCYL, NANOFABER, ACPMR, GTK, UNIOVI Timeline: M20-M24

Developments (Timeline M1-M12):

N/A

Task deviations (Timeline M1-M12):

There are no registered deviations during this progress report timeline.

7.4. T3.4 - Ramping up to full industrial scale and interregional deployment

Leader: GEVORA Contributor: LEONORE, JDA, ACPMR, ISMC Timeline: M24-M30

Developments (Timeline M1-M12):

N/A

Task deviations (Timeline M1-M12):

There are no registered deviations during this progress report timeline.

### 8. WP4 - ATALAYA-E-LIX PILOT - SCALING UP THE HYDROMETALLURGICAL LEACHING OF PRIMARY SULPHIDE MINERALS TO A SUSTAINABLE RECOVERY OF METALS ESSENTIAL FOR THE GREEN TRANSITION

Leader: LAINTECH Contributor: ATALAYA, JDA, ACPMR Timeline: M1-M30

					20	)22						20	23							20	24		
					nov	dez	jan	fev	mar	abr	mai	jun	jul	ago	set	out	nov	dez	jan	fev	mar	abr	
	Task	Leader	Contributers	Duration	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Wp4	Atalaya-E-LIX Pilot – Scaling up the hydrometallurgical leaching of primary sulphide minerals to a sustainable recovery of metals essential for the green transition	LainTech	Atalaya, JdA, ACPMR	M1-M30																			
	T4.1 - Commissioning and first testing round	LainTech	Atalaya	M9-12																			
	T4.2 - Scaling-up operation and optimization including the extension towards different strategic materials	LainTech	Atalaya	M12-M30																			
	T4.3 - Implementing innovative water treatment and remediation technologies in Atalaya's circular lighthouse	NanoFab er	Atalaya	M6-M30																			
	T4.4 - Environmental & construction permitting	LainTech	Atalaya, JdA	M1-M9																			
	T4.5 - Ramp-up	LainTech	Atalaya, JdA, ACPMR	M9-M30																			
Exe Pro	cuted gramed	•																					

Figure 8 - WP4 Gantt Chart

Developments (Timeline M1-M12):

As explained below, the Project execution plan is on-going, expecting to be finalized and commissioned before the end of M14.

During the next steps of the project (until M26) the plan is to run the full plant on maximum capacity in order validate the design criteria (CAPEX, OPEX, metal recoveries, plant availability, etc.)

In the long term (until the end of the project), the hidromet plant would be stabilised which would allow to extend the technology to new mineralogies through the Iberian Pyrite Belt and overseas.

			Delive	rables				
Work Package No	Deliverable Related No	Deliverable Name	Lead Beneficiary	Dissemination Level	Due date	New Due Date (if delay)	Delivery Date	Status
WP4	D4.1	Contracts and technical plans, including Service contracts, EPCM (Tech) package contract signed.	LAIN	SEN	30 Nov 2022		02 Dec 2022	Approved

Table 3 - WP4 Deliverables

#### 8.1. T4.1 - Commissioning and first testing round

Leader: LAINTECH Contributor: ATALAYA Timeline: M9-12

Developments (Timeline M1-M12):

LAINTECH and ATALAYA have been working together as a team. The project execution is moving forward, with the following task are ongoing (% of completion):

- Permitting (90%)
- Process engineering (100%).
- Basic design engineering (100%).
- Detailed design engineering (100%).
- Procurement (95%).
- Construction:
- Earthworks (100%)
- Civil (95%)
- Mechanical (90%)
- Structural (90%
- Platework (85%)
- Piping (80%)
- Electrical (70%)
- Instrumentation and control (60%)

The pre-commissioning of the plant will continue, cold and hot commissioning is expected to start on M13 and general validation & first plant production is expected to start on M14.

Task deviations (Timeline M1-M12):

This task is slightly delayed with only 10% of the plant already pre-commissioned. And cold and hot commissioning is slightly delayed, as well, as the general project engineering validation have not been started yet.

The project execution is being very challenging mainly due to the raw materials cost increase and supply chain materials shortage, in some of the key equipment. Moreover, the Company is putting great effort on the Project execution, at the same time Lain Tech is getting settle as a professional organization. Lain Tech owners team is growing quickly to make sure the goals and commitments are fulfilled. Finally, because the Project is protected under the intellectual property rule of law, and it may be a game changer, the difficulties associated are bigger than when dealing with an standard project execution.

## 8.2. T4.2 - Scaling-up operation and optimization including the extension towards different strategic materials

Leader: LAINTECH Contributor: ATALAYA Timeline: M12-M30

Developments (Timeline M1-M12):

There are no registered developments during this progress report timeline.

Task deviations (Timeline M1-M12):

There are no registered deviations during this progress report timeline.

## 8.3. T4.3 - Implementing innovative water treatment and remediation technologies in ATALAYA's circular lighthouse

Leader: NANOFABER Contributor: ATALAYA

#### Timeline: M6-M30

Description: The focus is on water treatment by separation to improve the overall sustainable innovations brought by LainTech with the aim of creating Atalaya's circular and sustainable pilot. Mirroring the approach from T3.1 for the Extremadura pilot, the application of ultrafiltration and reverse osmosis separation membranes are aimed at improving the selectivity towards different wastewater feedstock, characteristic of the Atalaya's pilot. Two main scalable technologies will be investigated and adapted to the Atalaya's case. Nanofaber will investigate and make recommendation to implant:

- Optimal and/or new modified membranes to achieve modules with improved durability/ separation/ antifouling properties which improve the purification and reuse of water at different levels and within multiple processes directly on site, ensuring water security, and water use efficiency. This step requires an assessment study for benchmarking purposes (M6-M20).
- 2. The benchmarking includes the embedding of iron-based nanomaterials in Nanofaber nano-membranes design for the selective adsorption and/or decomposition of target contaminants, in different case scenario relevant to Atalaya's pilot. The nanomaterials under consideration come two different forms, as powder (ultrafine magnetite) for use in agitated reactors configurations and in granular form (resin supported elemental nanoiron) for application in fixed bed installations.

Developments (Timeline M1-M12):

In the reference period, the activities were designed and prototypical membranes produced to assess the feasibility of electrospun membranes working on a wide range of operating pressures. made of recyclable and biodegradable materials for durability, separation and separation and antifouling properties, Antifouling function was pursued by two routes: 1) adding a nanoweb of carbon nanotubes and 2) by adding lignin. Interestingly the addition of the lignin layer, improved the wettability of the membrane and improved by one order of magnitude the bacterial proliferation. The work is ongoing and applications in ATALAYA's are under discussion.

Task deviations (Timeline M1-M12):

There are no registered deviations during this progress report timeline.

8.4. T4.4 – Environmental & construction permitting

Leader: LAINTECH Contributor: ATALAYA, JDA Timeline: M1-M9

Developments (Timeline M1-M12):

LAINTECH and ATALAYA have been working on the ELIX Project permitting and the current situation is as follow:

- Construction works Municipal license granted.
- Environmental Impact Assessment granted.
- ELIX Project restoration plan under public consultation stage (4 weeks process).
- ELIX Project execution pending final commissioning and start-up project authorisation. Expected to be granted by mid M14. Well advanced stage.

Task deviations (Timeline M1-M12):

N/A.

8.5. T4.5 - Ramp-up

Leader: LAINTECH Contributor: ATALAYA, JDA, ACPMR Timeline: M9-M30

Developments (Timeline M1-M12):

Project ramp-up is expected to after the pre-commissioning, cold and hot commissioning.

JDA and ACPMR supported the study of applicability of sustainable resources in the South of Europe towards the Green transition.

Task deviations (Timeline M1-M12):

It is estimated around 3 months deviation for this task compared with the scheduled on the beginning of the project.

### 9. WP5 - INTERREGIONAL ECOSYSTEM INTEGRATION FOR CIRCULAR AND SUSTAINABLE TECH DEPLOYMENT

Leader: ICAMCYL Contributor: ALL Timeline: M1-M30

									20	24													
					nov	dez	jan	fev	mar	abr	mai	jun	jul	ago	set	out	nov	dez	jan	fev	mar	abr	
	Task	Leader	Contributers	Duration	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Wp5	Interregional Ecosystem Integration for Circular and Sustainable Tech Deployment	ICAMCYL	All	M1-M30																			
	T5.1 - Stakeholder Analysis across S3 Sustainable Mining Regions	ACPMR	ISMC, ICAMCYL	M1-M18																			
	T5.2 - I4-GREEN ecosystem 'enablers' on boarding	ISMC	ACPMR, JdA, All	M12-M24																			
	T5.3 - Integration of circular & sustainability practices within SMEs	ISMC	ACPMR	M18-M24																			
	T5.4 - Strategic alliances and Private Investors Leverage	Leonore	ICAMCYL, ACPMR, JdA	M18-M30																			
Exec	ruted																						

Programed

#### Figure 9 - WP5 Gantt Chart

Developments (Timeline M1-M12):

ICAMCYL, ISMC, ACPMR and JDA started to leverage I4-GREEN project within the alliances they are participating in.

## 9.1. T5.1 - Stakeholder Analysis across S3 Sustainable Mining Regions

Leader: ACPMR Contributor: ISMC, ICAMCYL Timeline: M1-M18

Developments (Timeline M1-M12):

Stakeholders database preparation was initiated by ACPMR, ISMC, ICAMCYL that is expected to be completed in M18 for D5.1.

Task deviations (Timeline M1-M12):

N/A.

#### 9.2. T5.2 - I4-GREEN ecosystem 'enablers' on boarding

Leader: ISMC Contributor: ACPMR, JDA, ALL Timeline: M12-M24

Developments (Timeline M1-M12):

N/A

Task deviations (Timeline M1-M12):

There are no registered deviations during this progress report timeline.

9.3. T5.3 - Integration of circular & sustainability practices within SMEs

Leader: ISMC Contributor: ACPMR Timeline: M18-M24

Developments (Timeline M1-M12):

N/A

Task deviations (Timeline M1-M12):

There are no registered deviations during this progress report timeline.

9.4. T5.4 – Strategic Alliances and Private Investors Leverage

Leader: LEONORE Contributor: ICAMCYL, ACPMR, JDA Timeline: M18-M30

Developments (Timeline M1-M12):

N/A

Task deviations (Timeline M1-M12):

There are no registered deviations during this progress report timeline.

# 10. WP6 - INTERREGIONAL DEPLOYMENT AND REPLICATION TO FULL EU SCALE

Leader: ISMC Contributor: ICAMCYL, ACPMR, JDA Timeline: M1-M30

					20	22						20	23							20	24		
					nov	dez	jan	fev	mar	abr	mai	jun	jul	ago	set	out	nov	dez	jan	fev	mar	abr	
	Task	Leader	Contributers	Duration	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Wp6	Interregional deployment and replication t	ISMC	ICAMCYL, ACPMR, JdA	M1-M30																			
	T6.1 - EU Mirroring Strategy toward an EU- wide Demonstrator	ICAMCYL	ISMC, ACPMR, JdA	M20-M30																			
	T6.2 - Building a Cross regional Portfolio of Investment Leads	ICAMCYL	ISMC, ACPMR, JdA	M6-M24																			
	T6.3 - Clustering within clusters: a regional perspective for a benchmarking strategy towards cluster development	ACPMR	ISMC	M18-M30																			
	T6.4 - Development of a regional virtual database of industrial strategic geological resources and areas for sustainable recovery of critical raw materials	JdA	ISMC, ACPMR	M1-M24																			
	T6.5 - Development of database on mine waste valorisation for regional investment	JdA	ISMC, ACPMR	M1-M24																			

Programed

Figure 10 - WP6 Gantt Chart

Developments (Timeline M1-M12):

First steps were made on building a cross regional portfolio of Investment and a deep search of the most updated information about geology and mineral deposits of the target area was done.

#### 10.1. T6.1 - EU Mirroring Strategy toward an EU-wide Demonstrator

Leader: ICAMCYL Contributor: ISMC, ACPMR, JDA Timeline: M20-M30

Developments (Timeline M1-M12):

N/A.

Task deviations (Timeline M1-M12):

There are no registered deviations during this progress report timeline.

#### 10.2. T6.2 - Building a Cross regional Portfolio of Investment

Leader: ICAMCYL Contributor: ISMC, ACPMR, JDA Timeline: M6-M24

Developments (Timeline M1-M12):

Starting point was set by ICAMCYL, ISMC, ACPMR and JDA to collaborate with S3P/TSSP-Industrial Modernisation partnerships of the EC to promote SME investment projects opportunities, since S3P-Mining Industry is co-led by Castilla y León through ICAMCYL, as well as "Advanced Materials for Batteries" is co-led by JdA.

Participation in exchange-matchmaking workshop is planned by the time of writing for M13.

Task deviations (Timeline M1-M12):

N/A.

## 10.3. T6.3 - Clustering within clusters: a regional perspective for a benchmarking strategy towards cluster development

Leader: ACPMR Contributor: ISMC Timeline: M18-M30

Developments (Timeline M1-M12):

N/A

Task deviations (Timeline M1-M12):

There are no registered deviations during this progress report timeline.

10.4. T6.4 - Development of a regional virtual database of industrial strategic geological resources and areas for sustainable recovery of critical raw materials

Leader: JDA Contributor: ISMC, ACPMR Timeline: M1-M24

Developments (Timeline M1-M12):

A deep research of the most updated information about geology and mineral deposits of the target area has been made and an specific sheet and survey is being prepared to be spread to regional Governments in order to contribute to the geological study, the strategic analysis and mapping in Alentejo, Extremadura, Castilla y León and Andalucía.

The ERDF POCTEP project GEO\_FPI: GEO-FPI: CROSS-BORDER OBSERVATORY FOR THE GEOECONOMIC VALUATION OF THE IBERIAN PYRITIC BELT, where National Geological Surveys from Spain and Portugal and Junta de Andalusia were partners, produced the most updated planning for geology and mining in Alentejo and the west part of Andalusia, the Iberian Pyrite Belt IPB. Under the project website (https://geo-fpi.igme.es/es/default.htm) the most updated information about geology and mineral deposits in the area of West Andalusia and Alentejo is available (Figure 11).



Figure 11 - Geologic and mineral deposits information visualizer in West Andalusia and Alentejo (<u>https://info.igme.es/visor/?Configuracion=geo fpi</u>)

Additionally, under the same project, a memory of metallogenetic description, main deposits and their mineral potential (Figure 12) was produced and is available on the project's website.



Figure 12 - memory of metallogenetic description, main deposits and their mineral potential (<u>https://info.igme.es/geofpi/docs/mapas/METALOGENETICO\_ZSP\_400K\_Memoria.pdf</u>)

Regarding the rest of Andalusia territory, the main source of information is The Mineral Resources Mapping of Andalusia (Figure 13).



Figure 13 - Mineral Resources Mapping of Andalusia (<u>https://www.juntadeandalucia.es/portalandaluzdelamineria/ApdoGeologia</u> )

This information will be completed with the monographies about Critical Raw Materials distribution in Andalusia, JdA and IGME 2023, that shows the potential of future exploitation of these strategic minerals (Figure 14).

### POTENCIALIDAD DE ANDALUCÍA PARA EL APROVECHAMIENTO DE MATERIAS PRIMAS CRÍTICAS

Adánez Sanjuán, P.; Boixereu Vila, E.; Fernández-Leyva, C. (c.fernandez@igme.es) Sánchez García, T.; Santiago Martín, A.; Martínez Orio, R. ; Vega Martín, L.



Figure 14 - Critical Raw Materials distribution in Andalusia (https://www.juntadeandalucia.es/portalandaluzdelamineria/MineralesCriticos)

For the moment, it is possible to affirm that in Andalusia, more than 550 mineral occurrences have been found for Critical Raw Materials, 7 mines are in operation and 3 more projects are ready for ramp-up after approval of the last permits. Copper, strontium and fluorite are the main minerals exploited in Andalusia and tungsten in Castilla y León and Extremadura, but several investigation permits, with tens of millions of euros investment are running nowadays, allowing us to better evaluate the potential of the regions.

Task deviations (Timeline M1-M12):

N/A.

## 10.5. T6.5 - Development of database on mine waste valorisation for regional investment

Leader: JDA Contributor: ISMC, ACPMR Timeline: M1-M24

Developments (Timeline M1-M12):

Information about inventories of mine waste deposits in the target regions, including dimension, ore type, location, and administrative status is being developed.

A data base about interregional mine sites in Andalusia and Alentejo is developed and ready to contribute to this task.

A survey has been developed to be spread into the regional authorities participant of this project, regarding: a) Mine wastes Country Directive/law requirements; b) Mining industry – overall description (productivity value, employment); c) Main minerals and mining wastes (quantification and possible value); d) Current exploration and processing technologies e) Previous national and EU mine waste recovery projects.

Abandoned mines that exploited Barite, Manganese, Copper, Tungsten, Fluorspar, Nickel, etc have waste deposits that are potential targets for exploration.

The Spanish National Inventory of Mining Waste Deposits is being analysed for this project as an important source of information (Figure 15). The main waste deposits will be described and evaluated in a preliminary way. In Andalusia, 832 mining waste deposits are defined by Regional Mining Authority.



Figure 15 - Spanish National Inventory of Mining Waste Deposits

A report on the most updated mine waste processing technologies is being carried out joint with the main mining companies and consultant in the targets regions.

Most of the old mineral waste deposits were built many years ago, when the processing technique was not well developed, so it could remain important amount of fundamental, strategic and critical raw materials in them.

Some preliminary studies and analysis shown that some of the important minerals and elements are present in the wastes, but a more in-depth study is planned to be done with the support of Regional Mining Authority in Andalusia and CE ERDF founds.

Task deviations (Timeline M1-M12):

N/A.

### 11.WP7 - COMMUNICATION AND DISSEMINATION

Leader: ISMC Contributor: ALL Timeline: M1-M30

				2022 2023 2024																			
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	Task	Leader	Contributers	Duration	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Wp7	Communication and dissemination	ISMC	All	M1-M30																			
	T7.1 - Communication strategy, Dissemination Plan and Toolkit	ISMC	ICAMCYL, ACPMR, All	M1-M5																			
	T7.2 - Online presence: proactive dissemination and engagement	ISMC	ICAMCYL, ACPMR, All	M5-M30																			
	T7.3 - Traditional and offline communication	ISMC	ICAMCYL, ACPMR, All	M1-M30																			
	T7.4 - Policy makers communication package	ISMC	ICAMCYL, ACPMR, All	M1-M8																			
	T7.5 - Specific Communication, social engagement, and acceptance	ISMC	ICAMCYL, ACPMR, All	M1- M30																			
	T7.6 - Synergies with Third Party Events, Matchmaking and Conferences	ISMC	ICAMCYL, ACPMR, All	M12-M30																			
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Figure 16 - WP7 Gantt Chart

Programed

Developments (Timeline M1-M12):

Considering that communication impact will be measured at the end of our project, it has been vital to strategically plan the different actions from the very beginning. This means that, initially, efforts have been concentrated to the basics: the visual identity and the necessary platforms and tools to spread the project.

Some developments of this WP, during the reporting period, cover what will be specified separately further on:

- Creation of a project website and social media accounts (LinkedIn, Twitter and Youtube)
- Introduction project video
- Newsletters
- Events
- Scientific and other publications

It's expected that the C&D activities will create a broad impact that generate awareness about the sustainability of mining processes and green production techniques to engage people from local communities, mining sector and general audience with the project objectives, activities, results, and outputs.

			Delive	rables				
Work Package No	Deliverable Related No	Deliverable Name	Lead Beneficiary	Dissemination Level	Due date	New Due Date (if delay)	Delivery Date	Status
WP7	D7.1	Communication strategy and Dissemination Plan.	ISMC	SEN	31 Mar 2023		28 Jun 2023	Approved
WP7	D7.2	Communication Toolkit: Final Logo, Branded Portal (website), Social Media Pages, YouTube Channel.	ISMC	PU	31 Mar 2023		31 Mar 2023	Approved
WP7	D7.3	e-Newsletters.	ISMC	PU	31 Aug 2023		30 Aug 2023	Approved
WP7	D7.4	Promotional Videos.	ACPMR	PU	31 Aug 2023		24 Aug 2023	Approved

Table 4 - WP7 Deliverables

## 11.1. T7.1 - Communication strategy, Dissemination Plan and Toolkit

Leader: ISMC Contributor: ICAMCYL, ACPMR, ALL Timeline: M1-M5

Developments (Timeline M1-M12):

C&D activities are managed by the WP7 Lead Partner (ISMC). Leveraged by all I4-GREEN ecosystem partners, this effort will allow to reach out to key stakeholders within the I3 ecosystem created but also worldwide.

The Communication Strategy and Dissemination Plan (D7.1) was submitted in M3 including a quality manual providing a reference and guidelines on the management and quality processes that will govern the course of the I4-GREEN project. The Communication and Dissemination Plan has been developed based on key messages, potential audiences, roles and responsibilities, and the methods and channels to be used. Thus, the first list of target groups and stakeholders has been prepared at the beginning of the project to raise their awareness.

A plan not only for communication but also for dissemination by creating a brand toolkit, social media profiles, tools as newsletters or the introduction video of the project as well as the website development. All these instruments have been gathered in the Communication toolkit (D7.2) in the first months of this year and have been developed in the C&D plan categorised into different topics:

- Online presence
- Traditional and offline communication
- Policy makers communication
- Specific Communication, social engagement, and acceptance

• Synergies with Third Party Events, Matchmaking and Conference

Two promotional videos were produced (Figure 17) under D7.4 – Promotional Videos submitted by M8, with the objective of introducing the I4-GREEN project, its objectives, strategy, and partners. The main goal is engaging and encouraging viewers to search more about the project. The introduction video of the project has been created by ACPMR and has been released in two versions, one long and one short as a video capsule both in the YouTube channel, social media, and the website.



Figure 17 - I4-GREEN promotional videos

There was a logical way to structure the promotional video, which was thought and planned in detail and based on the core aspects of the I4-GREEN Project.

The videos are an important part of the strategy, they complement the I4-GREEN project even more, with the aim of showing, informing or entertaining, and it is a very strong communication tool.

Task deviations (Timeline M1-M12):

N/A.

## 11.2. T7.2 - Online presence: proactive dissemination and engagement

Leader: ISMC Contributor: ICAMCYL, ACPMR, ALL Timeline: M5-M30

Developments (Timeline M1-M12):

Project website (Figure 18) has been created by ISMC in M6 for the effective promotion of the project's purpose, news in the raw materials and mining sectors, activities, partners, public documents, videos, and other C&D material. Information provided by consortium has been crucial to feed the website contents.

Website address: <u>www.i3-i4green.eu</u>

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Figure 18 - I4-GREEN website (<u>www.i3-i4green.eu</u>)

The website has been designed taking into account its living nature and possible updates in favour of the needs of the project, e.g. the open call I4-GREEN. A repository with the useful information of the call as well as documents for the submission of proposals by SMEs has been implemented on the website (Figure 19).

C-GREEN IS closely collaborating with the project MINE.THE.GAP which provides the digital pla I4-GREEN is closely collaborating with the project MINE.THE.GAP which provides the digital pla I4-GREEN will provide financial support and services to up to 15 SMEs deploying new products Oak – PLOT 1, located in Extremadura, Spain) and E-LUX pilot (PILOT 2, located in Andalusia, Sp	tform to submit applications for the I4-GREEN Open Call. , processes and/or technical services into the IHO pilot (Iron Holm ain).
<section-header></section-header>	The Open Call contains all the documents needed for understanding and includes all the Call conditions (Call announcement, Guide for applicants & FAQ) and for submitting proposals for the Open Call (Application template & Supporting documents for application). The final goal is to promote technology transfer, services, and products into targeted sectorial SMEs and to promote cluster collaboration tools involving business services and financial support to SMEs in the ecosystem.
Please, download all documents (5), read carefully and fill the application template and CALL INSTRUCTIONS DOCUMENTS CALL GUIDE FOR ADVOLUMENT FAQ A	J the supporting documents by following the instructions. APPLICATION DOCUMENTS PPLICATION TEMPLATE SUPPORTING DOCUMENTS FOR APPLICATION
Call for proposals has been closed on 15th Septem MINE:THE.GAP PLATFORM IS ALREADY	nber 2023, 17:00 CET. CLOSED

Figure 19 - I4-GREEN Open Call repository (<u>www.i3-i4green.eu/opencall</u>)

The social media strategy, (including goals, audiences, targets and KPIs) has been included in the Communication Strategy and attached to the Dissemination Plan.

Twitter and LinkedIn (Figure 20) profiles are the main platforms used to promote the project activities and especially the Open Call and Ecosystem building and expansion sessions and events falling under WP5-6.



Figure 20 – I4-GREEN social networks: Twitter: @i4green\_eu and Linkedin: @ i4-GREEN

YouTube channel has been created to showcase video and visual material (Figure 21).

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Figure 21 - I4-GEEN Youtube channel: @i4green

Task deviations (Timeline M1-M12):

N/A.

#### 11.3. T7.3 - Traditional and offline communication

Leader: ISMC Contributor: ICAMCYL, ACPMR, ALL Timeline: M1-M30

Developments (Timeline M1-M12):

Newsletter tool has been developed by M8 within the D7.3 E-Newsletters. The first issue entitled "Welcome to the i4-GREEN newsletter" (Figure 22) was sent to the subscribers using the platform Mailjet. The Twitter and LinkedIn accounts are being used to share the existence of the newsletter subscription possibility, as well as the website.

The newsletter includes a brief description of the project as an introduction section and it follows with brief information pills related to project actions, activities, and news.



RELATED NEWS

e supply of critical raw materials (CRM). The legi





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take place online on the 6th Sep call ap





Figure 22 - Welcome to the I4-GREEN newsletter

Task deviations (Timeline M1-M12):

N/A.

T7.4 - Policy makers communication package 11.4.

Leader: ISMC Contributor: ICAMCYL, ACPMR, ALL Timeline: M1-M8

Developments (Timeline M1-M12):

Common advances have been performed for T7.4 and T7.5 starting the project engagement with specific audiences, throughout the participation in different relevant events for industry and policy makers. Examples of that events are: I3 Expert Group Meeting (Brussels, 14 December 2022), I3 Instrument Call Coordinators Day (Brussels, 16-17 March 2023), S3P-Mining Industry Meeting and networking (Mieres, 8 February 2023), EIT Stakeholders Day and Expert Forum (Madrid, 20-21 September 2023), etc.

Task deviations (Timeline M1-M12):

The partners leading this task, supported by the consortium, will continue once there is significant content that might be published to promote and therefore, relevant actions by the project, such as the results of I4-GREEN call.

## 11.5. T7.5 - Specific Communication, social engagement, and acceptance

Leader: ISMC Contributor: ICAMCYL, ACPMR, ALL Timeline: M1- M30

Developments (Timeline M1-M12):

Partners spread the project in their networks in a local, national and international levels, as well as in their usual instruments of communication such as social media or website. This task is an on-going issue that will be measured in the Consortium Meeting by M12 in order to specialize and unify contents and messages after the launching of the i4-GREEN call for SMEs.

Task deviations (Timeline M1-M12):

N/A.

## 11.6. T7.6 - Synergies with Third Party Events, Matchmaking and Conferences

Leader: ISMC Contributor: ICAMCYL, ACPMR, ALL Timeline: M12-M30

Developments (Timeline M1-M12):

N/A

Task deviations (Timeline M1-M12):

There are no registered deviations during this progress report timeline.