



D6.2 Financial and technical management

WP6 – Project management and Quality assurance

Strengthening University tech transfer capabilities to support circular economy value chains for plastics in Latin America - TechTraPlastiCE

August 22, 2025

This project has been funded with the support of Erasmus +. The contents are the responsibility of the author(s). The Commission cannot be held responsible for any use which may be made of the information contained therein. Project No. 101179564





Work Package :	WP6
Project Number :	101179564
Type of document:	Deliverable
Due Delivery Date:	May 30/2025
Actual Delivery Date:	August 22, 2025

Title :	D6.2 Financial and technical management	
Work Package :	WP6 – Project management and Quality assurance	
Description :	Implementation of project management mechanisms, in their operational, financial and accountability aspects. Financial management guidelines, training, and monitoring reports will be addressed.	
Responsible :	Université de Lorraine	
Author(s) :	Prof. Fabio A. Cruz PhD. Catalina Suescun.	
Project Call :	ERASMUS-EDU-2024-CBHE (Capacity building in the field of higher education)	
Dissemination Level :	Confidential	

Version:	1.3		
Contributors	Versions	Dates	Revision Description
WP6 Leader	1.0	May 25/2025	Global structure
UL	1.1	June 10/2025	Internal revisions of the docu- ment
WP6 Leader	1.2	June 17/2025	Corrections the document
UL	1.3	Jul 03/2025	Internal UL revisions of the doc- ument
Columbus	1.4	August 15/2025	Cross-reviewing process
WP6 Leader	1.4	August 22/2025	Final Corrections and submission

Disclaimer

This document is provided «as is» with no warranties whatsoever, including any warranty or merchantability, non-infringement, fitness for any particular purpose, or any warranty otherwise arising out of any proposal, specification or sample.

No license, express or implied, by estoppels or otherwise, to any intellectual property rights are granted herein. The members of the project TechTraPlastiCE do not accept any liability for actions or omissions of TechTraPlastiCE members or third parties and disclaim any obligation to enforce the use of this document.

This document reflects only the authors' view and the Commission is not responsible for any use that may be made of the information it contains. This document is subject to change without notice.

Contents

Ex	ecuti	ive Summary	1
1	Intro	oduction	2
2		nTraPlastiCE project overview:	3
	2.1	TechTraPlastiCE Key facts	
	2.2	TechtraPlastiCE in brief	3
	2.3	Project structure	4
	2.4	Project outputs	6
	2.5	TechTraPlastiCE Gantt Chart	10
	2.6	TechTraplastiCE Milestones	12
	2.7	Assumptions	12
	2.8	Constraints	14
3	Coo	rdination and Governance	16
	3.1	Project coordination	17
	3.2	TechTraPlastiCE roles	18
	3.3	Steering committee	18
	3.4	Work Package Leaders	18
	3.5	Task Leaders	21
	3.6	External Stakeholders	21
	3.7	Project Quality Committee	21
	3.8	External Advisory Board	22
	3.9	General Assembly	22
		3.9.1 Decision making and conflict resolution	
4	Proj	ect management	24



Δ	Tem	nlates Financial Statement	41
6	Con	clusions	40
5	5.1	ncial management plan Expenditure control	
	4.10	Project closure	36
	4.9	Risk Management Approach	
	4.8	Project Reporting and Reviews	
	4.7	Quality managment	
	4.6	Tracking of deliverables	29
	4.5	Deliverables	29
	4.4	Document management	
	4.3	Meetings for project development	
		Communication strategy	
	4.1	Communication plan	24

List of Figures

2.1	TechtraPlastiCE structure	5
2.2	Timeline of the project from Fev. 2025 - Jan. 2028. Updated on August 2025 .	11
3 1	Project management structure for TechTraPlastiCF	16

List of Tables

2.1	TechTraPlastiCE work packages and the corresponding tasks	. 7
3.2	Project Coordination names of the Université de Lorraine (UL) Steering committee of the TechTraPlastiCE project Appointed Persons as WP Leaders	. 19
4.2	Communication strategy of TechTraPlastiCE project Planned face-to-face meetings	. 27
4.3	Risk management	. 33

Executive Summary

The Project Management Plan (PMP) establishes the foundation for effective collaboration and coordinated implementation of the TechTraPlastiCE project. It outlines the management framework, operational guidelines, and quality standards necessary to ensure efficient execution and the achievement of project objectives.

This document provides a comprehensive description of the project's objectives, scope, and work plan; the coordination and governance aspects; project management details and financial management considerations.

1

Introduction

This Project Management Plan (PMP) has been developed to provide a comprehensive framework for the effective governance, coordination, and execution of the TechTraPlastiCE project. Prepared under the leadership of the Université de Lorraine as the project coordinator, the PMP serves as the principal reference document for all consortium partners, outlining the procedures, responsibilities, and standards necessary to achieve the project's objectives.

The plan defines the methodologies and operational structures to be applied throughout the project lifecycle, ensuring that activities are implemented in a timely, efficient, and transparent manner. It establishes the mechanisms for decision-making, communication, quality assurance, and risk management, enabling the consortium to maintain high performance standards and adapt to evolving circumstances.

Additionally, the PMP describes the project's governance model, organizational arrangements, and interdependencies among work packages. It aligns all management activities with the agreed work plan, European Commission requirements, and the overarching goal of advancing circular economy practices in plastics value chains in Latin America.

As a living document, the PMP will be periodically reviewed and updated to incorporate new insights, respond to emerging challenges, and ensure the continued relevance and effectiveness of project management processes.

TechTraPlastiCE project overview:

2.1 TechTraPlastiCE Key facts

- Call: ERASMUS-EDU-2024-CBHE-STRAND-2
- **Topic**: Capacity building in the field of higher education
- Project title: Strengthening University tech transfer capabilities to support circular economy value chains for plastics in Latin America
- Project start: 01/02/2025
- Duration: 36 months from 01/02/2025 to 31/01/2028
- Project Coordinator: Université de Lorraine
- Consortium: 10 organizations, 9 HEI's, 1 Association, from 4 Countries (Argentina, Chile, Colombia, Francia y Portugal)





















2.2 TechtraPlastiCE in brief

TechTraPlastiCE proposes a novel approach to reinforce the interaction of the universities with the plastic industry value chain with the purpose of the green transition.



The project aims to reinforce the applied research and technological transfer capacities of the universities improving their services portfolios to strengthen the plastic industry's contribution to the green transition. The ambition is to foster the collaboration and partnerships of the University with socio-economic stakeholders to incubate, establish and develop circular initiatives, demonstrating operational success by carrying out joint recycling interventions integrating actors in the plastics value chain in Colombia, Argentina, and Chile.

The project will follow a progressive technology transfer approach to foster University-Industry collaborations locally in Latin America. The major impact relies on establishing enduring partnerships that contribute to long-term engagement between academia and industry to build interdisciplinary and multi-stakeholder advances for research, innovation and educational/training capacities for plastic waste and circular economy.

The specific objective are:

- 1. To identify and understand key barriers and leverage points of the local plastic companies to generate university-industry collaboration opportunities.
- 2. Create and implement services and solutions portfolios for the plastics value chain based on the university's core competencies and knowledge.
- 3. Facilitate dynamic knowledge exchanges, fostering an environment that encourages active and modular educational collaborations between universities and industries.
- 4. Encourage multi-actor initiatives to enhance the reuse of plastic involving waste pickers organizations, companies and the local public sectors, taking advantage of the University's articulation capacities.
- 5. Develop recommendations on new technologies, business models, and organizational setups for university-industry collaborations based on the lessons learned from the implemented projects as a tool to improve, scale up and transfer good practices in Higher Education Institutions in Latin America.

2.3 Project structure

The TechTraplastiCE project is structured in 6 Work Packages:

- 1. Work Package 1: Innovation Opportunities for Circular Economy. Coordinated by: Pontificia Universidad Católica de Valparaíso (PUCV)
- 2. Work Package 2: Development of a networked portfolio. Coordinated by: Universidad Nacional del Sur (UNS) in collaboration with University of Aveiro (UA)







- 3. Work Package 3: Multi-actor collaborations for just and safe plastic's circular economy. Coordinated by: COLUMBUS
- 4. Work Package 4: Pilot projects implementation. Coordinated by: University of Santiago de Chile (USACH)
- 5. Working Package 5: Communication and Dissemination. Coordinated by: Universidad Nacional de Río Negro (UNRN)
- 6. Work Package 6: Project Management and Quality assurance. Coordinated by: Université de Lorraine

The project's structure is illustrated in **Figure 2.1**.

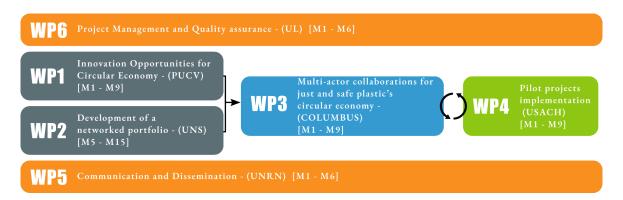


Figure 2.1: TechtraPlastiCE structure

WP1 is focusing on identifying and understanding the key barriers and leverage points faced by local plastic companies in transitioning to a circular economy.

Building on this, WP2 will explore potential responses to industry and sector needs for a circular economy, based on university missions, while highlighting existing gaps.

Using insights from WP1 and WP2, WP3 will promote multi-actor initiatives to increase the involvement of key stakeholders—such as waste pickers' organizations, companies, and local public authorities—leveraging the university's capacity to foster win-win collaborations.

In WP4, the emphasis will be on implementing pilot projects that address technology-based solutions as well as knowledge-sharing and social exchange initiatives. These will be developed within the defined portfolios at each participating university, creating a collaborative learning environment. WP4 will conclude with specific recommendations for institutional policies and strategies that strengthen higher education institutions' (HEIs) organizational cul-





ture, strategic capacity, and commitment to multi-actor knowledge sharing, based on lessons learned from the circular economy challenge.

WP5 and **WP6** are providing support to the entire project. **WP5** manage communication, dissemination, and visibility activities to promote the project's actions and results, maximizing its impact. **WP6** is focusing on establishing the necessary baseline and management structures to ensure effective coordination and progress monitoring across the project.

2.4 Project outputs

Each Work Package consists of a number of tasks led by a task leader, who will be responsible for managing and coordinating the specific tasks for the timely finalization of the corresponding deliverable.

Table 2.1 provides an overall view of the TechTraPlastiCE work packages and the corresponding tasks and deliverables including the beneficiaries in the lead.



Table 2.1: TechTraPlastiCE work packages and the corresponding tasks

WP	Task number	Task Name	Task leader	Related deliverable(s)
	T1.1	To develop a holistic framework to understand the companies/industries' performance for circular economy	PUCV, UC	D1.1 Framework to understand barriers and benefits to apply with local legislation
WP1	T1.2	To Identify gaps and drivers at targeted Industries/Companies to comply with the norms and consumers' preferences	PUCV, UC	D1.2 A document containing the gap analysis for companies/industries
	T1.3	To assess the innovation capacities of the industries/sectors	USACH, UL	D1.3 Results of the application of the innovation metrology index to targeted industries of the plastic value chain
	T2.1	Identify existing core services for plastics challenges within the network of partners	UNS, UA	D2.1 Repository with proposed solutions/services
WP2	T2.2	Designing of Institutional Portfolios	UNS, UA	D2.2 Document with Portfolio definition by Institution
	T2.3	Promoting cross-peer collaboration and mentoring	UNS, UA	D2.3 Mentoring and peer-collaboration learning reports
	T3.1	Reuse action clues in Argentina, Chile and Colombia	COLUMBUS, PUCV	D3.1 Comprensive problem definition on the reuse challenge
	T.3.2	Engaging local stakeholders	COLUMBUS	D3.2 Report on contacts and results of interviews
WP3	T.3.3	Assessment of local reuse systems and benchmarking with impactful reuse practices	COLUMBUS	D3.3 Benchmarking study
	T.3.4	Search Conferences	COLUMBUS	D3.4 Search conferences reports
	T 3.5	Implementation of collaborative initiatives	UNS	D.5 Updated portfolios
	T4.1	Creative Challenges in Integrating Industry-University Partnerships		D4.1 Report of the creative-based challenges to integrate Industry-University
	T4.2	Pilots implementation		D4.2 Pilots definition documents



(continued)

WP	VP Task Task Name Task leader number		Related deliverable(s)	
WP4	T4.3	Cross evaluation of pilot projects between Latin American Universities		D4.3 Digital Notebook with lessons and support actions
	T4.4	Institutional Recommendations		D4.4 Document with recommendations
	T5.1	Definition of a dissemination strategy and its implementation.		D5.1 Document with the digital strategy
WP5	T5.2	Dissemination Toolbox and Training		D5.2 Branding digital material and training program
	T5.3	Project Website Launching and Monitoring		D5.3 Website Social Media accounts
	T 5.4	Open Digital Repository		D5.4 Repository with materials
	T 5.5	Final Conference		D5.5 Final conference document results
	T.6.1	Partnership agreement management with the consortium		D6.1 Quality assurance plan
	T.6.2	Financial management guidelines, monitoring and reports		D6.2 Financial and technical management
				D6.3 Midterm Progress report
	T.6.3	Project Management guidelines, monitoring and reports.		D6.2 Financial and technical management
				D6.3 Midterm Progress report
WP6	T.6.4	Establishment of quality guidelines and an external advisory committee for monitoring		D6.2 Financial and technical management
		the advancement of the project.		D6.3 Midterm Progress report
	T.6.5	Organization of the Kick-off meeting at Nancy		D6.3 Midterm Progress report





The technology transfer approach adopted in this project serves as the backbone for fostering innovation, collaboration, and sustainability across Latin America and Europe. It ensures that knowledge, tools, and methodologies generated through the project are effectively translated into actionable outcomes for stakeholders involved in the plastics value chain.

In that sense, each WP contributes specific outputs aligned with the project goal:

WP1: Innovation opportunities for circular economy

- A validated framework for analyzing regulatory, technological, and socio-economic barriers to plastic recycling and reuse in Argentina, Chile, and Colombia.
- A diagnostic report identifying key innovation gaps and leverage points in the plastic value chain across the three countries.
- An assessment report on the innovation capacities of local plastic industry sectors, including indicators and comparative analysis.

WP2: Development of a network portfolio

- A digital repository containing systematized information on existing university services and solutions (technical assistance, training, co-development) related to the plastics value chain.
- A set of institutional and collective solution portfolios developed and made accessible for stakeholders in the plastics sector.
- A series of reports for peer mentoring and inter-institutional collaboration.

WP3: Multi-actor collaborations

- A detailed report (or presentation) summarizing the current state of reuse, key clues observed, contextual factors, and a set of actionable strategies to increase reuse rates in the three countries.
- A report based on interviews with waste pickers, companies, and local authorities, aimed at engaging these stakeholders and identifying initiatives in the reuse ecosystem.
- A benchmark study of local reuse systems and practices to identify strengths, gaps, and opportunities for improvement.
- Four search conferences to co-create solutions and reinforce the university's neutral articulating role.
- Updated institutional portfolios integrating new solutions and services identified through the search conferences.

WP4: Pilot projects







- An implementation of a set of pilot projects based on the solution portfolios, incorporating pedagogical, technological, and social components tailored to each national context.
- A digital notebook with cross evaluation reports summarizing identified barriers, lessons learned, and the scalability potential of the pilot initiatives across institutions.
- A document with institutional recommendations for strengthening technology transfer strategies.

WP5: Communication & dissemination

- A dissemination strategy document addressing institutional, regional, and international audiences, with tailored communication channels and messages.
- A project website developed and maintained, hosting all materials generated by partner institutions.
- A communication toolbox and an open digital platform developed to support visibility, knowledge sharing, and stakeholder engagement.

WP6: Project management and quality assurance

- A multinational coordination structure established and operational, facilitating collaboration between European and Latin American partners throughout the project.
- A series of annual planning and evaluation meetings successfully organized, with documented agendas, minutes, and action plans.
- A set of monitoring and quality assurance mechanisms implemented to track progress, ensure timely delivery of outputs, and uphold project standards.

2.5 TechTraPlastiCE Gantt Chart

The project is structured around a series of strategic events and deliverables distributed over the three-year period as illustrated in Figure 2.2.



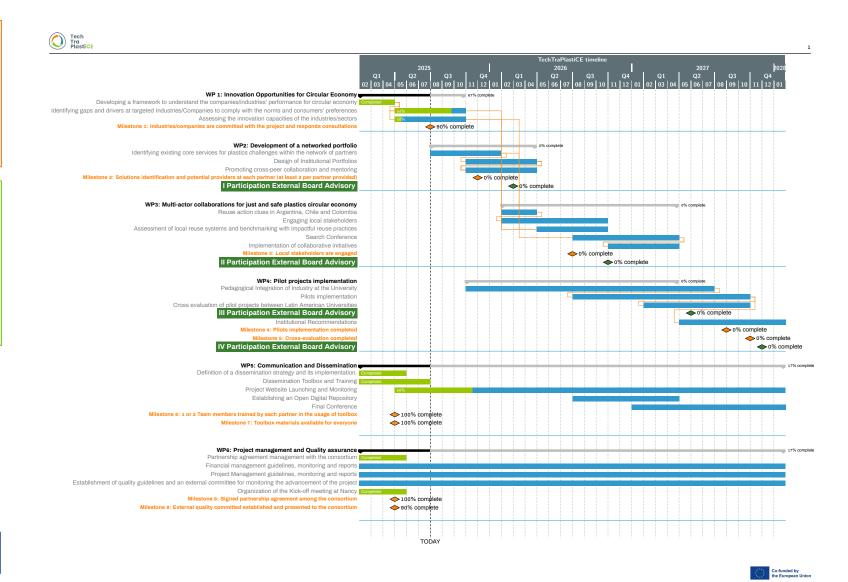


Figure 2.2: Timeline of the project from Fev. 2025 - Jan. 2028. Updated on August 2025





TechTraplastiCE Milestones 2.6

As illustrated in the Figure 2.2, the following milestones were

•	Milestone 1: Industries / companies are committed with the project and responds consultations	Date:2	?025-07
•	• Milestone 2: Solutions identification and potential providers at each partiper partner provided)	•	
•	• Milestone 3: Local stakeholders are engaged	Oate: 2	?026 - 07
•	Milestone 4: Pilots implementation completed	Oate: 2	?027 - 08
•	Milestone 5: Cross-evaluation completed	Oate: 2	2027-10
•	• Milestone 6: 1 or 2 Team members trained by each partner in the usage of toolbox	Oate: 2	?025-04
•	• Milestone 7: Toolbox materials available for everyone	Oate: 2	?025 - 04
•	• Milestone 8: Signed partnership agreement among the consortium \Box	Oate: 2	?025 - 04
•	Milestone 9: External quality committed established and presented to the consortium	Date: 2	2025-04

Assumptions 2.7

The assumptions were based on seven different criteria:

1. Funding & resources

- · Sufficient time and human resources will be available to implement and support project activities effectively.
- · Sufficient funding will be secured to carry out the planned technological transfer initiatives and service improvements.

2. Relations

- The universities have effective relationships with local plastic companies.
- The project team has an insight into the local plastics industry that will allow them to develop trustful relations with companies.







- The universities will develop and implement their service portfolios and are willing to share and define them.
- The universities actively participate in mentoring and peer-collaboration sessions.

3. Stakeholder engagement

- Stakeholders are willing to openly share information about barriers and benefits related to local legislation.
- Stakeholders will actively participate in the co-creation events and collaborative initiatives.
- Local plastic companies are open to innovation and improvement.
- University authorities will effectively facilitate and support the establishment of multi-actor initiatives involving diverse stakeholders.
- The universities organizing search conferences will be able to attract diverse and representative stakeholder participation.
- Stakeholders will provide timely feedback on the application of various instruments and consider the results useful and relevant for potential collaborations.
- Students will be effectively engaged in pilot projects by each institutional team, fostering creativity and enabling their contributions to be recognized as part of their academic performance.

4. Implementation & adoption

- The proposed initiatives will represent innovative and impactful approaches to plastic reuse.
- The exchange of ideas and experiences among partner institutions will result in tangible adaptations and improvements within their respective contexts.
- A diverse range of services will be proposed based on different degrees of interaction with companies.
- The implemented projects provide sufficient and meaningful lessons learned.
- The universities are willing to adopt and implement new technologies, business models, and organizational structures emerging from the project.
- The framework developed will be adaptable to the specific contexts and needs of different industries.
- There will be sufficient diversity among stakeholders to ensure a critical mass for effectively applying instruments and determining the most relevant services and solutions that universities can provide.

5. Communication & visibility





- Project partners will agree on the core elements of the communication strategy and actively participate in the related training program.
- The design and branding elements developed during the project will align with its objectives and overall expectations.
- The institutional portfolios will effectively communicate their contributions to addressing plastic-related challenges and will present key solutions and potential projects for industry partners
- Accurate and up-to-date information will be available to support the assessment of local plastic reuse systems.
- Partners will actively contribute to the development of the dissemination strategy, content creation, and activation of the project's website and social media channels.
- The project will successfully attract target audiences beyond the partnership through its results and communication campaigns.

6. Project Management & quality monitoring

- Ensure that all partners sign the partnership agreement in a timely manner to enable the proper start of the project.
- Require work package leaders to effectively oversee and actively contribute to the implementation of the quality assurance plan.
- Make certain that all partners follow the financial guidelines, participate in monitoring activities, and provide accurate information to support project management.

7. Lessons learned

 Project partners will provide constructive feedback on the pilot projects, enabling their continuous improvement and the generation of accurate and timely recommendations.

2.8 Constraints

According to the previous assumptions the constraints that might arise are the following:

- A lack of pre-existing or effective relationships between universities and local plastic companies may limit collaboration opportunities.
- Lack of timely and constructive feedback from stakeholders could affect the usefulness and applicability of the instruments used.





- · Universities might struggle to propose a diverse enough range of services to meet companies' varying needs.
- The framework developed may prove too generic or too specific, making it difficult to adapt across different industrial contexts.
- If portfolios are not well-communicated, their usefulness for industry stakeholders could be diminished.
- Inaccurate or outdated data may lead to flawed assessments of reuse systems.
- · If partners fail to provide timely and constructive feedback, the pilot projects may not evolve or generate transferable recommendations.

Coordination and Governance

The organizational structure of TechTraPlastiCE at a general level consists of a number of individuals and bodies and the roles they perform. The management structure presented in Figure 3.1 will be established under the TechTraPlastiCE project:

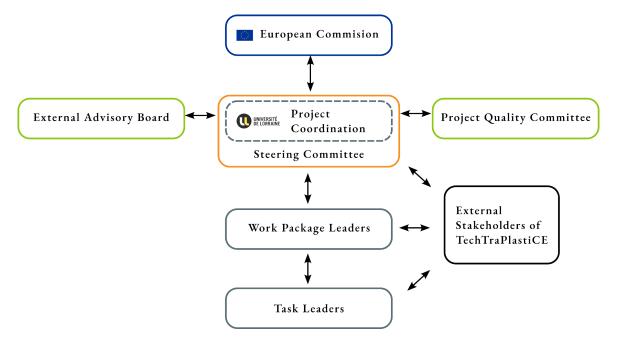


Figure 3.1: Project management structure for TechTraPlastiCE

The paragraphs below will provide a more in-depth understanding of each actor and the relevant role.



3.1 Project coordination

The main elements of the project coordination are:

- 1. The Project Coordinator is in charge of coordinating the TechTraPlastiCE project and is responsible for all contacts with the EU. Serves as the main liaison between the local coordinators of each partner institution, the associated partners, and all other consortium members ensuring that the project is met in their technical and financials aspects. Also, the project coordinator chairs the steering committee.
- 2. the **Project Manager**, supporting the Project Coordinator in administrative, financial and management issues.

In that sense, The Université de Lorraine (UL) as entity coordinator of TechTraPlastiCE will:

- 1. Take all the steps necessary to prepare for, perform and correctly manage the work programme set out in accordance with the objectives of the project as set out in the Grant Agreement concluded between the EACEA and the Coordinator;
- 2. Send to the Partners a copy of the Grant Agreement # 101179564 and its annexes, concluded with the EACEA, of the various reports and of any other official document concerning the project;
- 3. Notify and provide the Partner with any amendment made to the Grant Agreement # 101179564 concluded with the EACEA;
- 4. Define in conjunction with the Partners the role and rights and obligations of the parties, including those concerning the attribution of the intellectual property rights;
- 5. Comply with all the provisions of Agreement nr 101179564 binding the Coordinator to the EACEA.
- 6. Establish a shared platform where all relevant documents will be shared and available for all partners. Also, At least one virtual meeting of 2 hours every month will be structured in order to make a review of the advancement of the project with the all consortium.

Table 3.1: Project Coordination names of the Université de Lorraine (UL)

Role	Assigned representatives	Partner
Project Coordinator	Fabio A. Cruz Sanchez	Université de Lorraine (UL)
Project Manager	Catalina Suescun	Université de Lorraine (UL)





3.2 TechTraPlastiCE roles

For each TechTraPlastiCE partner, there will be three main roles:

- Managers: Each partner institution will appoint a manager responsible for facilitating communication and coordination between the Project Coordinator and the partner's internal structures—scientific, academic, and administrative. This role ensures the effective integration and implementation of project activities at the institutional level.
- Researcher / Teacher: The Researchers are the scientific and academic staff directly engaged in the project's technical activities. They will contribute their expertise in circular economy, plastic recycling, and technology transfer to achieve the project's objectives.
- 3. **Administrative**: The Administrative Staff will provide the necessary operational, financial, and logistical support for the smooth execution of the project at the partner level.

3.3 Steering committee

The steering committee (SC) is formed by one member of each beneficiary organization and chaired by the project coordinator.

The SC is the supervisory body for the execution of the project and is in charge of the proper execution and implementation of the decisions and monitoring the effective and efficient implementation of TechTraPlastiCE project.

The SC makes decisions on the main academic / technical aspects of the programme, and all financial aspects. The SC is the highest level decision making body in the project.

The following decisions shall be taken by the SC:

- In exceptional cases, proposals for changes to the Grant Agreement to be agreed by the Funding Authority.
- Propositions for changes to the consortium agreement.
- Entry of a new partner to the consortium and approval of the settlement on the conditions
 of the accession of such new Partner.
- Withdrawal of a Partner from the consortium and the approval of thesettlement on the conditions of withdrawal.





- Identification of a breach by a Partner of its obligations under the Consortium Agreement or the Grant Agreement.
- Declaration of a Partner to be a Defaulting Partner.
- Remedies to be performed by a Defaulting Partner.
- Termination of a Defaulting Partner's participation in the consortium andmeasures relating to this.
- Proposal to the Funding Authority for a change of the Coordinator.
- Proposal to the Funding Authority for suspension of all or part of the Project.
- Proposal to the Funding Authority for termination of the Project and the Consortium Agreement.

The Steering Committee shall prepare the meetings, propose decisions and prepare the agenda of the General Assembly.

Table 3.2: Steering committee of the TechTraPlastiCE project

	Partner	Assigned representative
UL	UNIVERSITÉ DE LORRAINE	Fabio CRUZ
UA	UNIVERSIDADE DE AVEIRO	Paula Ferreira
UNS	UNIVERSIDAD NACIONAL DEL SUR	Yamila Victoria Vazquez
UNC	UNIVERSIDAD NACIONAL DE CORDOBA	Luis Vivas
PUCV	PONTIFICIA UNIVERSIDAD CATOLICA DE VALPARAISO	Rolando Chamy
UC	UNIVERSIDAD CENTRAL	Sandra Bautista
COLUMBUS	COLUMBUS PARTNERS	Daniel Samoilovich
UNAL	UNIVERSIDAD NACIONAL DE COLOMBIA	Paulo Narváez
USACH	UNIVERSIDAD DE SANTIAGO DE CHILE	Daniel Galvez

3.4 Work Package Leaders

Each WP will have a designated leader ensuring the delivery of the activities on time and facilitate reporting to the coordination.







WP Leader	Partner	Assigned representative
WP1	PUCV	Sandra Ponce Carlos Carlesi Jara Rolando Chamy
WP2	UNS / (UA)	Yamila Victoria Vazquez (UNS) Yanela N. Alonso (UNS) Paula Ferreira (UA) Idalina José Gonçalves (UA)
WP3	COLUMBUS	Daniel Samoilovich Kelly Henao Cecilia Valdes
WP4	USACH	Daniel Galvez Lorena Delgado Pavlo Santander
WP5	USACH	Marcos Del Bello

Table 3.3: Appointed Persons as WP Leaders

The Work Package Leader's role includes:

UL

WP6

1. Plan and organise the technical activities within the respective Work Packages (WPs)

Marian Lenchours Pezzano María Paula Awe Luca

Fabio A. Cruz Catalina Suescun

- 2. Coordination with the Task-Leaders and the Project Coordinator to ensure good project progress and timely completion of all project deliverables and milestones.
- 3. Communicate any success, deviation and/or proposed contingency, via the Project Coordinator, to the Steering Committee for their consideration.
- 4. Organise, chair and prepare the minutes of WP meetings.
- 5. Participate in the meetings with the project quality committee.
- 6. Where unforeseen circumstances necessitate deviation from the work plan, the WP Leader will be responsible for identifying suitable contingencies;
- 7. Provide WP progress reports every 6 months delineating adherence (or otherwise) to the project workplan;

The Table 3.3 appoints the WP's of the TechTraPlastiCE leaders





3.5 Task Leaders

Each task of TechTraPlastiCE (see Table 2.1) will have a designated manager ensuring the delivery of the activities on time and facilitate reporting to the coordination.

The Task Leader's role includes:

- 1. Execute the technical activities within the respective Work Packages (WPs).
- 2. Coordination with internal and external members to ensure the technical/academica completion of deliverables and milestones.
- 3. Communicate any success, deviation and/or proposed contingency, via the, WP leader, Project Coordinator for their consideration.
- 4. Documentate the minutes of WP meetings.
- 5. Particpate in the meetings.

3.6 External Stakeholders

TechTraPlastiCE project will deploy a strategy focusing on the integration of the teachers, the technological transfers teams and external stakeholders related to the plastic value chain at each Latin American university.

Therefore, the first year will be dedicated to effectively establish a collaboration framework of the universities with the local partners related to the plastic value chains in Colombia, Argentina and Chile.

The second year will be focused on the interaction of the universities with the local external actors including small and medium enterprises and cooperatives of the plastic value chain. This will lead to the preparation of a set of recycling pilot initiatives that will be developed mostly at the end of the second and the rest of the third year of the project.

The interaction with the external stakeholders will be documentated in the development of the different deliverables.

3.7 Project Quality Committee

TechtraPlastiCE will asure a **Project Quality Committee** –**PQC-** (See Deliverable 6.1 for more details) responsible for defining open and transparent quality guidelines.







This committee will interact with the Steering committee regarding:

- Validation the timely fulfillment of the tasks and obligations acquired by the partners.
- The quality control and monitoring of the deliverables
- Preparation of General Assemblies
- Internal communication
- Project execution, monitoring and documenting of project activities, reporting, distribution and sharing of information and documents across the consortium.

3.8 External Advisory Board

TechtraPlastiCE will appoint a External Advisory Board -EAB-

The consortium will name a board of experts that will meet twice a year to give feedback and advice to the consortium on topics related to quality and results.

The group will be constituted by 5 external members from different areas of knowledge, backgrounds, and geographic areas, and can represent different sectors, including industry, academia, government and civil society.

All members in the consortium will be able to propose names for the board, which will be elected by the Work Package leaders through a decision making mechanism. All members can elevate questions or issues for the board meetings.

The EAB will interact with the Steering committee regarding:

- Technical / Academical alignment of the expertise of EAB members with the Tech-TraPlastiCE goals.
- Feedback on the TechTraPlastiCE results
- Communication & disseminations joint activitis.
- synergies between TechTraPlastiCE with external initiatives at local, national and European levels.

See Deliverable 6.1 for more details on the work plan of the EAB.

3.9 General Assembly

The General Assembly is the main decision-making body of the project. The General Assembly consists of the coordinator, by whom it is chaired, and all other beneficiaries.









The General Assembly is a platform to exchange information on work progress and results between all partners. It also decides on overall main project issues such as strategies, corrective measures, project redirection, conflict resolution and non-performance.

Decision making and conflict resolution 3.9.1

Decision making and conflict resolution processes have the objetive to set the procedures, flows and rules based on two main principles:

- 1. Voting will be based on one-vote-per-partner,
- 2. Decisions to be taken by each steering committee will be taken upon 6/10 of the votes.

Any signs of disagreement between project participants should be solved amicably between those partners involved. If not resolved at that level, and only if it is strictly necessary, a conflict resolution process must be enforced:

- TechTraPlastiCE participants will escalate the issue to higher management levels until resolved (form taskleader, WP Leaders and Project Coordination) and consensus to solve the problem is sought at each level.
- Eventually, if still not resolved, the SC will take care of the issue applying the two principles.

The Steering Committee will make proposals for such decisions to be made in the General Assembly (if needed).

The General Assembly has to competence regarding issues impacting the overall work plan, the Grant Agreement and the Consortium Agreement.

4

Project management

It is expected that over the course of the TechTraPlastiCE project that many documents will be produced, it is therefore vital that document management processes are followed in order to enableusers to locate and identify relevant files and to ensure version control.

4.1 Communication plan

Clear, consistent, and transparent communication is essential for the successful coordination and implementation of the TechTraPlastiCE project. To ensure fluid internal communication and effective collaboration among all partners, the Université de Lorraine (UL), as project coordinator, will establish a shared digital platform where all relevant documents and materials will be stored and made accessible to all members of the consortium.

In addition to this platform, the project will implement monthly virtual meetings (minimum duration: 2 hours) to monitor progress, share updates, and coordinate tasks across Work Packages.

These regular meetings will provide a structured space for reviewing advancements and addressing potential challenges collectively. To further strengthen internal coordination, the partners have agreed on setting up a governance system, drawing on UL's extensive experience in project management.

This system will guide the decision-making process, support the efficient execution of activities, and ensure that all voices within the consortium are heard and integrated throughout the project lifecycle.



Beyond internal communication, this project also places a strong emphasis on external communication, dissemination, and visibility, which are organized under a dedicated WP ead by the Universidad Nacional de Río Negro (UNRN). (Please refers to the D6.1. Quality assurance plan for more details)

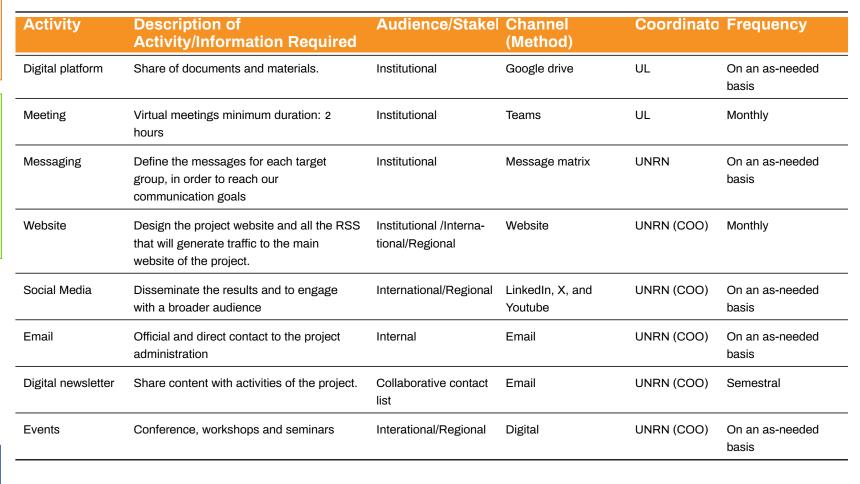
This WP is responsible for planning and executing a comprehensive strategy to promote project activities and results, maximize their impact, and ensure the visibility of the project.

The overarching objective is to make the outcomes accessible and relevant to a wide range of audiences, well beyond the partner institutions and associated stakeholders. The communication will be supported by a communication team composed by at least one person responsible for each partner. This team will be responsible for creating content, reviewing and approving dissemination materials. Additionally, the stakeholders will be continuously provided with updated information regarding project activities, news and events, thus the dissemination will have four levels:

- Institutional level: To create awareness and branding influence within each university community (leaders, administrators, professors, researchers, students, etc.)
- Socio-economic actors: It refers to companies leaders, leaders of associations of waste-pickers, local public authorities interested in sustainability, plastics and circular economy, and the society at large.
- Consortium: Targeting all European and Latin-American partners
- International/Regional level: To impact other non-partners, universities, associations or organizations interested in the project's objectives at international and regional level.

4.2 Communication strategy

Table 4.1: Communication strategy of TechTraPlastiCE project









Tech Tra PlastiCE



4.3 Meetings for project development

The project management involves two types of meetings:

- 1. Face-to-face meetings
- 2. Online meetings.

Table 4.2 presents the planned events scheduled throughout the three-year implementation of the project, including workshops, meetings, and training sessions involving partner institutions.

Table 4.2: Planned face-to-face meetings

Code	Event name	Туре	Objectives	Location
E1.1	Kick-off meeting	Event	Define management and baseline for tech-transfer	Nancy, Francia
E1.2	Portafolio pre- definition	Event	Share institutional experiences	Santiago, Chile
E1.3	Pilot imple- mentation follow-up	Event	General follow-up and evaluation team definition	Bogota, Colombia
E1.4	Results and dis- semination	Event	Dissemination of pilot results	Bariloche, Argentina
E1.5-E1.8	Search confer- ences (x4)	Workshop	Local co-creation with stakeholders	Various LATAM locations
E1.9-E1.10	Reactive solving challenge	Workshop	Early-stage innovation with universitys staff and industry	Multiple cities
E1.11	Cross- evaluation of pilots	Training	Evaluation and exchange of lessons	LATAM





Face-to-face meeting are a combination of management meeting (steering committee) and training sessions.

The meetings are described description of action and are budgeted for each partner in the project budget.

Regarding the online meetings, should be programmed at least a week in advance and should follow a set agenda. Online meetings are planned periodically, the video of online meetings will be recorded and published in the project platform available to partners. To hold online meetings, the TEAMS plateform are generally used. Minutes of the meeting (PPT slides) will be available in the Google drive plateform.

Telephone is used when personal interaction, a fast answer or reliable confirmation is needed. Telephone calls can sometimes be appropriate for urgent matters so it is important that up to datetelephone numbers are made available. It is highly recommended to send an e-mail with the conclusion of a telephone call to limit any ambiguity.

Refer to **Deliverable 6.1 Quality assurance plan**, for more details of internal communication.

4.4 Document management

Document templates have been produced which use a standard format including defined styles, page layout and content structure.

To ensure consistency in the TechtraPlastic project when communicating with external stakeholders or interested parties, a set of standard templates for various communications activities has been developed. These templates include:

- Deliverable template standard
- Meeting Minutes (MS Word format)
- · PowerPoint presentation template
- Standard logos for the project.

These templates may be updated as the project progresses and may be redesigned to fit with the design style of the project logo. Therefore, consortium partners should always use the most up-to-date version.





4.5 Deliverables

Each deliverable should follow a set structure as set out in the templates of:

- 1. Executive summary: a brief description of the key points of the main document
- 2. Table of Contents
- 3. Introduction: an outline of the aims and objectives of the deliverable andwhere it fits in the context of the TechTraPlastiCE project. The introduction should also explain the interdependences related to this deliverable, whether thiswork is drawing on earlier tasks and deliverables and what other tasks will usethis deliverable as input or for structuring their work.
- 4. **Main body of the report**: this section will explain the task that was carried outand the results generated and illustrate the technical and scientific progress made within the task.
- 5. **Conclusions**: this section should be a summary of the major outputs of thedeliverable and potential implications of the results on other parts of the project. The conclusions should also highlight where future improvements or further workshould be directed.
- 6. References
- 7. **Annexes**: Annexes of data or further information not suitable for the mainbody of the report, either due to its detailed nature or separated forconfidentiality purposes.

4.6 Tracking of deliverables

Deliverables are listed in the Grant Agreement Annex1 Part A – List of deliverables.

Deliverables will be tracked by the project coordination, identifying deliverables due in the near future, the deadlines for each deliverable, follow-up actions and the names of the persons producing and reviewing.

The deliverables will be uploaded to Funding & Tenders Portal Continuous Reporting tool.

4.7 Quality managment

The quality assurance process will be grounded in both qualitative and quantitative evaluations, drawing from feedback and data shared by all project partners and relevant stakeholders. Key quality criteria include:





- Relevance: The alignment of objectives with the strategic needs and priorities of the partners.
- Effectiveness: The extent to which outputs contribute to the intended outcomes.
- Pertinence: The efficiency and appropriateness of resource use in achieving deliverables in a cost-effective and timely way.
- Collaboration and Communication: The strength of coordination and transparency among consortium members, including the adequacy of communication tools and practices.
- Continuous Improvement: The presence of feedback mechanisms and iterative evaluations that allow the consortium to adapt and optimize practices throughout the project lifecycle.

This comprehensive approach will support not only the delivery of high-quality outputs but also a culture of shared responsibility, learning, and excellence among all project participants. For more information please refer to the **Deliverable 6.1 Quality assurance plan**.

4.8 Project Reporting and Reviews

According to the Grant Agreement, the project is divided into two reporting periods:

- Mid-term report: from project month 1 (Feb 2025) to project month 18 (August 2026);
- Final report: from project month 19 (Sept 2027) to project month 36 (Jan 2028).

To ensure a timely delivery of the reports, the project coordination will prepare the templates and notify the partners of their duties and where they should contribute to the report, at least 2 calendar months before the end of the reporting period.

The project coordination will then ask that each Partner contributes to the report, reporting on their participation with work package leaders also reporting on the progress made within their work package.

The Period 1 mid-project review will include both technical reports and financial statements, as described in the grant agreement, with the following documents:

A 'periodic technical report' containing:

- A resumé of the TechTraPlastiCE project
- Deliverables which are due within the Period 1 reporting period, according to the Grant Agreement Annex 1 Part A – List of deliverables.





- · Periodic Activity Report on the results and achievements of the project overthis reporting period, including the progress made on tasks, deliverables and achievement of milestones. If any deviations have occurred from the Description of Action in Annex 1 of the Grant Agreement, an explanation justifying the differences must also be provided.
- The Periodic Activity Report will also include a plan for the exploitation and dissemination of the results.
- Individual financial statements of each partner and a consolidated financial statement.
- Explanation of the use of resources
- Issues related to the action implementation and the economic and societal impact.

The Period 2 end-of-project review will include the same documents as Period 1, but applied to the whole project. In addition, it will include:

- A publishable summary report of all of the results, conclusions and the impact of the project, the benefits to end-users and society
- A final technical report
- An update to the exploitation plan for the implementation and dissemination of the products of the project
- Certificate of the Financial Statement (CFS) provided by auditor if necessary.

Risk Management Approach 4.9

Effective risk management is essential to ensure the success and continuity of the Tech-TraPlastiCE project.

The main categories of potential risks are:

- **Technical:** Insufficient expertise to address unexpected challenges.
- Financial: Economic difficulties faced by a partner, leading to a halt or significant reduction in their activities.
- Key resources: Withdrawal of personnel with critical roles from the project.

The most probable and highest-impact risks have been integrated into the project's logical framework as illustrated in Table 4.3.

This ensures that assigned risk task leaders can take timely action to implement mitigation measures. The risk assessment framework will be reviewed and updated regularly to maintain the project's resilience and adaptability to emerging challenges.

Table 4.3 presents risk register outlines the main potential risks identified across the different







WP.



Table 4.3: Risk management

WP No	Risk Description	Likelihood	Proposed risk-mitigation measures	Туре
WP1	Long administrative delays in the formalization of the administrative documents.	Low	Follow-up meeting will established to determine the delays and to adjust the delay in order to assure the overall progress	Technical
WP2	Project Staff turnover during the project that put in risk its continuity.	Low	 Establish a knowledge management approach in the quality criteria to systematize the methodological transfer and construction of own models to easily incorporate new members to the work teams. Partially disseminate the results of the project's progress with the university community to integrate the different areas. Designate backup personnel that can be inserted into the project in case of staff turnover. 	Technical
WP2	Incompatibility of the methodologies and knowledge transferred with the contexts of the Latin American partners in terms of culture and regulations.	Low	 Establish a quality measure of consistency at the kick-off meeting regarding the methodologies and knowledge transfer. Establish a map around the possible inconsistencies and weak points to adjust since the beginning of the project. 	Technical





Tech Tra PlastiCE

,		
$I \cap \cap$	ntın	ued)
1666	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ucui

WP No	Risk Description	Likelihood	Proposed risk-mitigation measures	Туре
WP3	Lack of enterprises that wish to participate or to be part of the joint recycling initiatives in the plastic value chain.	Medium	 The definition of the potential external enterprises mobilized are based on current collaborations. Chamber of commerce and networks business also intended in the project in order to map potential local partners. Definition around the benefits and responsibilities for the enterprises that decide to be part of the joint recycling initiatives. Create a benefits package for the enterprises to participate in the ecosystems. Use the enterprises as trainers/speakers to convince or attract other companies to participate. 	**Key resources**:
WP4	Knowledge gap about technological transfer and innovation and circular economy in the project team participants.	Medium	Definition of a procedure of disengagement, including the knowledge that can be mapped of failures experiences.	Technical
WP4	Disengagement of external enterprises in the participation of the project.	Medium	Definition of a procedure of disengagement, including the knowledge that can be mapped of failures experiences.	Key resources
WP4	Economic instability that reduces the risk-taking of companies (in particular SMEs)	Medium	The project will promote local cooperation and networking between different stakeholders to eventually motivate the participation of SMEs	Financial



From the outset, every effort will be made to identify risks early and implement suitable mitigation strategies:

Technical risks: Rely primarily on the internal expertise of the TechTraplastiCE consortium.

Financial or resource-related risks:

- If a partner faces financial difficulties or resource shortages, corrective measures may include reallocating the unfinished work to other partners, subcontracting it to a third party, or using a combination of both.
- The chosen approach will be based on an assessment of its impact and relevance to the project.
- Each work package (WP) leader will have a designated backup leader to ensure continuity if the original leader becomes unavailable.

At the project's conclusion, the project manager will:

- 1. Evaluate each identified risk and the overall risk management process.
- 2. Identify potential improvements to the process.
- 3. Document these improvements in the lessons-learned knowledge base for use in future projects.

4.9.1 Change management plan

Based on the risk analysis, to ensure structured and transparent change management throughout the project, the following steps will be followed:

- **Identification**: Any project partner identifying the need for a change will initiate the process by documenting the nature and justification of the proposed change.
- **Submission**: The person requesting the change will formally submit the request via email to the project coordination, including relevant details and rationale.
- **Evaluation**: The Project coordination, in collaboration with the Steering Committee (SC), will assess the potential impact of the change on the project's cost, risk, schedule, and scope.
- **Decision**: The Steering Committee will review the proposed change and all supporting information to make a final decision on whether the change will be approved.
- Implementation: If approved, the Project Manager will implement the change, update





and re-baseline all relevant project documentation, and ensure that the change is effectively communicated to all team members and stakeholders.

Project closure 4.10

The project's expected outcomes, including the development of a holistic framework, capacity building for universities, implementation of progressive technology transfer services, pilot projects, creation of an open-source repository, and policy recommendations, contribute to sustainable strategies. Each outcome serves to enhance the project's long-term impact and ensure its continued success beyond the funding period, crucial for maximizing its benefits.

At the project's conclusion, a comprehensive impact assessment will be conducted to evaluate outcomes, lessons learned, and areas for improvement. Comprehensive documentation of project processes, methodologies, and results will be undertaken to create a handbook guiding future initiatives. Knowledge transfer sessions and training programs will be facilitated for key stakeholders to retain expertise gained during the project. Efforts will also focus on exploring and securing additional funding sources, including follow-up grants, industry partnerships, or private investments.

Priority will be given to ongoing capacity building for project team members to keep them abreast of the latest developments in their respective fields. Successful project outcomes will be seamlessly integrated into existing institutional structures or processes to embed the project's impact in the organization's long-term strategy. A final meeting, held in Bariloche, will disseminate the project's main results to a large target community of actors involving partner universities, other non-partner companies, waste-pickers, and local government.

5

Financial management plan

As specified in the Consortium Agreement, the financial contribution of the Funding Authority to the TechTraPlastiCE project is distributed by the Project Coordinator. according to

- the consortium agreement;
- the approval of reports by the Funding Authority.

The project Coordinator commits to carrying out payments relating to the subject matter of the contract to the partners receiving the funds by the EACEA, according to the achievement of the tasks and the following schedule:

- 1st payment: the Coordinator must transfer the pre-financement payment to the Partners within 30 days following the reception of the funds from the EACEA, which should correspond to 70 % of the maximum grant amount attributed to each Partner, as set on the Grant Agreement nř 101179564 and its annexes.
- Final payment: the payment of the balance, up to 30 %, shall be made by the Coordinator to the Partners within 30 days following the reception of the funds from the EACEA, at the end of the project. This payment is made by the EACEA once the partner's contractual agreements have been fully met and all the necessary supporting documentation has been received and validated in the final report of the project. The beneficiary reserves the right to withhold the balance and demand a refund of the amounts already paid if the report is presented after the deadline mentioned in article 9 of the consortium agreement.

All payments shall be regarded as advances pending explicit approval by the EACEA of the final report including approval of the eligibility of the activities, the corresponding cost statement (if applicable) and the assessment of the quality of the results of the project.



The aim of the pre-financing is to provide the beneficiaries with a float. It remains the property of the EU until the payment of the balance. The funds made available shall be exclusively spent for the implementation of the project.

The budget allocation to each partner is based on the specific activities they are responsible for within the project. Each partner has been allocated a minimum number of person-months to participate effectively in project actions. This approach ensures that all members have the necessary resources to fully engage and contribute to the project's success.

5.1 Expenditure control

The objective of applying cost management is to ensure that the project is completed within budget. Expendure control refers to the process of gathering, tracking and managing the financial resourcesthroughout the project's life cycle. This process relies heavily on accurate estimates and actual data that need to be maintained and updated accordingly. Having quality input data is the key to obtaining reliable cost information for managing resources and making decisions. Cost summaries information at the different levels are rolled up from task level to the project level.

In order to keep track of the estimated and real budget spent by each partner, the PM requests a financial internal report every year, where real personnel costs, other direct costs and indirect costs during the period are indicated. The control and management of the financial resources allocated to each institution will be the sole responsibility of the affiliated universities.

Each university will handle its internal costs in accordance with its own institutional rules and procedures. At the end of each defined reporting period, they will prepare a detailed financial report to be submitted to the Project Coordinator for consolidation and verification.

Furthermore, during each audit, the universities will be required to present full and transparent accounts regarding the use of their allocated funds. Additionally, to ensure proper tracking and accountability of the spending, each partner will be responsible for regularly completing the table presented in Section A, detailing the expenses incurred by their institution.



Procurement management plan 5.2

All procurement activities will be conducted in accordance with the Grant Agreement and the guidelines for the use of the grant.

The Project Manager will provide overall oversight and coordination of procurement procedures across the project. However, each affiliated university will carry out its procurement processes following its own institutional rules and national regulations. During each audit, procurement documentation must be presented in line with the internal templates and reporting standards of each institution, ensuring traceability and compliance.

Equipment for the pilot's implementation was established to the 7 Latin American Universities that will be leading the implementation of recycling initiatives. Embracing open source technology solutions (hardware/software) to reduce administrative overheads and to possibly adapt to the context was a strategy adopted to improve the resources.

Scientific equipment and open source hardware for developing the recycling initiative were envisioned as a major strategy to guarantee the cost efficiency of the project. The equipment per country will be purchased from a single supplier, ensuring a lower value per volume. In addition, the guidelines of the institution will be followed to call for tenders with a minimum of 3 suppliers to ensure the best value for money.

6

Conclusions

The Financial and technical management plan is a central, living document that guides the execution, monitoring, and quality assurance of the TechTraPlastiCE project. It ensures alignment with the agreed work plan, provides mechanisms for effective internal and external communication, and establishes processes for risk management, quality control, and decision-making.

As the project evolves, the PMP will be periodically updated to reflect new insights, operational adjustments, and lessons learned. This iterative approach will enable the consortium to maintain high performance standards, adapt to emerging challenges, and strengthen collaborative practices.

Ultimately, the PMP's structured methodology and continuous improvement framework will support the achievement of the project's strategic objectives, ensuring that the outcomes deliver lasting value for higher education institutions, industry stakeholders, and the wider community engaged in advancing circular economy value chains for plastics in Latin America.



Templates Financial Statement

A template was designed to all memebers in order to put news of techtraplastice website.



	EU Contribution						
	Eligible lump sum contributions (per WP)						
Work Packages	WP 1 Innovation Opportunities for Circular Economy	WP 2 Development of a network portfolio	WP 3 Multi-actor collaborations for just and safe plastic's circular economy	WP 4 Pilot Project Implementation	WP 5 Communication and Dissemination	WP 6 Project management and Quality assurance	Requested EU contribution
Status of completion							
	a	b	С	d	e	f	l=a+b+c+d+e+f
Université de Lorraine							0
Universidade de Aveiro							0
Univesidad Nacional del Sur							0
Univesidad Nacional de Rio Negro							0

Univesidad Nacional de Cordoba							0
Univesidad de Santiago de Chile							0
Pontificia Universidad Catolica de Valparaiso							0
Universidad Central							0
Univesidad Nacional de Colombia							0
Columbus Partner							0
Total Consortium	0	0	0	0	0	0	0