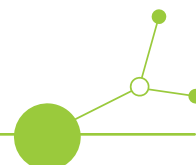


D.3.3.1 - Report on initiation and operation of the Regional Circular and Digital Construction Hubs



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Summary

In response to the urgent need for a sustainable transformation in the construction sector, the initiative of Regional Circular and Digital Construction Hubs aims to establish a strong and resilient innovation ecosystem across Central Europe. This initiative is built upon the knowledge and experience of the ReBuilt project partners, drawing on the insights and expertise gained from previous projects and participation in various networks.

The Circular and Digital Construction Hub for Central Europe ensures long-term sustainability by establishing a central circular and digital construction hub (based in Slovenia), complemented by eight regional/national circular construction hubs. These hubs are designed to become driving forces for the promotion, development, education, and implementation of circular and digital construction practices in Interreg Central Europe.

Each hub will also be specialized in a specific thematic area, aligned with its expertise, challenges, and needs. This targeted focus allows each hub to serve as a center of excellence in its field while contributing to a broader transnational knowledge base and support network.

The Slovenian central hub will play a leading and coordinating role, ensuring alignment, knowledge transfer, and cooperation among the regional hubs. With structured governance, stakeholder engagement, and a clear implementation plan, the network of hubs will drive systemic change in the construction sector—accelerating circular innovation, supporting regional economies, and contributing to the EU's circular and sustainable goals.

1. Introduction

The construction sector is one of the largest consumers of natural resources and a major contributor to greenhouse gas emissions and waste generation across Europe. In Central Europe, the transition to a circular and digital construction model is becoming increasingly important for moving toward a circular economy and is essential for achieving climate neutrality, improving resource efficiency, and fostering regional economic resilience.

However, the adoption of circular principles and digital tools in construction remains fragmented throughout the region. While some countries are making progress in areas such as policy frameworks, innovation, or education, others face structural challenges or barriers related to legislation and capacity.

There is a growing need for systemic and collaborative approaches that can bridge these gaps, drive innovation, and scale up sustainable practices. Digital technologies—such data platforms (e.g., CinderOSS, Concular, etc.) and smart material tracking (digital passports), along with the use of secondary raw materials, are considered key enablers of circular construction processes, supporting transparency, efficiency, and traceability across value chains.

The ReBuilt project, through the establishment of Central and Regional Circular and Digital Construction Hubs, which will also connect with the Gaia-X platform¹, is actively contributing to strengthening the existing ecosystem in Central Europe.

These insights directly influenced the design of the Circular and Digital Construction Hubs, which are based on the proven model of the European Institute of Innovation and Technology (EIT)² and EIT RM Hubs³. This

¹ <https://gaia-x.eu/>

² <https://www.eit.europa.eu/>

³ <https://eitrawmaterials.eu/innovation-hubs>



framework ensures a balanced emphasis on innovation, education, and entrepreneurship, supported by governance and strategic partnerships⁴.

2. Objectives of Establishing Hubs and Their Strategic Roles

The main goal of establishing Central and Regional Circular and Digital Construction Hubs is to create a long-term, sustainable, and interconnected support system for the transition to circular and digital construction in Central Europe. This system aims to:

- contribute to collaboration between Academia, Entrepreneurship and Innovation
- contribute to the development and implementation of legislation in the field of circular and digitalized construction in Central Europe;
- support the reduction of construction waste and the development and use of secondary raw materials;
- facilitate the implementation of innovative circular and digital construction solutions within construction companies;
- promote the development of targeted education and training for new competencies among workers in the construction sector;
- contribute to public-private dialogue aimed at overcoming regulatory barriers;
- encourage interregional cooperation and knowledge exchange both within and beyond the region.

The operation of the hubs is strategically aligned with several key European frameworks and goals, including:

- The EU Green Deal and the Circular Economy Action Plan, call for a built environment that is more resource-efficient and climate-resilient;
- The New European Bauhaus⁵, promotes sustainability, inclusion, and aesthetics in architecture and urban development;
- The EIT Knowledge and Innovation Community (KIC) model⁶, provides structured and goal-oriented cooperation among education, research, businesses, and public authorities.

In this way, the hubs will serve as catalysts for regional transformation, positioning Central Europe as a proactive leader in the European circular, green, and digital transitions – both within the construction sector and beyond.

3. Hubs Structure and Governance

3.1 Central Construction and Digital Hub (Slovenia)

The Central Circular Construction Innovation Hub, based in Slovenia, will serve as the core coordination and strategic leadership body for the transnational network of Circular Construction Hubs. Its main role is to ensure consistency, quality, and synergy across regional activities while supporting each hub's development according to its thematic specialization.

⁴ <https://www.eit.europa.eu/library/eit-ris-activity-report-2023>

⁵ https://new-european-bauhaus.europa.eu/funding/new-european-bauhaus-facility_en

⁶ <https://www.eit.europa.eu/global-challenges/about-our-communities>



3.1.1 Role and Responsibilities

Important are the minimum standards and guiding the activities⁷.

The role and responsibilities include:

- Leading the overall strategic direction and vision of the hub network;
- Developing and maintaining shared methodologies, frameworks, and digital tools;
- Acting as the central point of contact for external stakeholders, including EU institutions, industry networks, etc;
- Facilitating the integration of cross-cutting topics, such as circular business models, system innovation, and cross-border materials development;
- Supporting the visibility, pilots activities and dissemination of outcomes at the European level.

3.1.2 Coordination with Regional Hubs

The Central Hub will function as a coordinator, enabling structured collaboration between the eight regional/national hubs. This will include:

- Hosting regular network meetings, workshops, and exchange events;
- Coordinating joint initiatives (e.g. innovation challenges, pilot projects, capacity-building programs);
- Supporting the regional hubs in their specialization areas, offering knowledge and best practices;
- Promoting and supporting the replication of successful approaches across borders;
- Managing a **shared digital platform for communication**, data exchange, and resource sharing among hubs.

The coordination will be based on a collaborative governance approach, with regular input and feedback loops among all hub representatives.

3.1.3 Governance and Sustainability Plan

The governance of the Central Hub will be structured around the following elements:

- A Hub Steering Committee, composed of representatives from all regional hubs and the lead partner (LP1), responsible for strategic decisions and oversight;
- Thematic Working Groups ensuring focused collaboration across hubs.

To ensure long-term sustainability, the Central Hub will:

- To establish partnerships with European networks and initiatives (e.g., EIT RawMaterials, New European Bauhaus, etc.);

⁷ https://www.eit.europa.eu/sites/default/files/ris_hubs_minimum_standards_and_guiding_principles_final_agreement.pdf



3.1.4 Monitoring and Evaluation Mechanisms

The Central Hub will implement a **monitoring and evaluation system**, based on qualitative and quantitative indicators. Key features include:

- Regular **progress reports and self-assessments**, coordinated with regional hubs;
- Annual **impact reviews**, assessing alignment with EU policy goals and stakeholder needs.

This governance and monitoring framework will underpin the credibility, effectiveness, and replicability of the Central and Regional Circular Construction Hubs in Central Europe and across Europe.

3.2 Regional/National Hubs

The eight Regional/National Circular and Digital Construction Hubs form the backbone of the transnational network coordinated by the Central Hub in Slovenia. Each regional hub is embedded within its national or regional innovation ecosystem and focuses on driving **context-specific transformation** in the construction sector toward circularity and digitalization.

All regional hubs will incorporate a set of **cross-cutting enablers** that support effective implementation and collaboration:

- **Stakeholder Engagement:** Active involvement of local governments, industry, academia, NGOs, and civil society in hub activities through co-creation, partnerships, and advisory roles.
- **Digital Tools:** Adoption of digital technologies (e.g. material passports, databases, collaborative platform) to enhance transparency, traceability, and decision-making in circular construction.
- **Knowledge Sharing and Networking:** Participation in **transnational learning exchanges**, joint events, and thematic working groups coordinated by the Central Hub to ensure consistent knowledge flow and policy alignment.
- **Policy Dialogue and Alignment:** Contribution to the development and implementation of regional policies and action plans that support circular and digital construction, aligned with national and EU strategies.

Each hub, while maintaining this shared structure, will specialize in a specific thematic area based on its knowledge and experience. This ensures both harmonization and diversity across the hub network, enabling innovation at multiple levels.

3.2.1 Regional Specialization of Hubs

3.2.1.1 HR (Croatia): ReBuilt partner POR

Legislation for Circular Construction



Croatia's hub will focus on developing and promoting legal and regulatory frameworks that support circular practices in construction in Central Europe. Given the complexity of existing construction laws and the lack of circular-specific regulations, this hub will work on harmonizing policy frameworks, identifying legal barriers, and co-creating recommendations for effective policy implementation. It will engage public authorities, experts and the construction sector to accelerate legislative recommendation reform.

3.2.1.2 IT (Italy): ReBuilt partners Infordata and Opencontent

Digitalization

Italy's hub leverages the strong digital innovation ecosystem to support the development and adoption of digital tools for circular construction, such as digital passports, digital platform CinderoSS and connection with Gaia X platform (together with ReBuilt partner IIC, Slovakia). It aims to improve decision-making, design efficiency, and circular and digital management through data-driven solutions and collaboration with tech companies and research institutions.

3.2.1.3 CZ (Czechia): ReBuilt partner ZGBC

Circular Design

The Czech hub will specialize in advancing circular design principles, a new Bauhaus, emphasizing architectural innovation, modularity, and adaptability. It will support the development of circular design and guidelines for architects and engineers, helping integrate circularity early in project lifecycles. The hub will also promote green procurement and collaborative planning processes.

3.2.1.4 HU (Hungary): ReBuilt partners VAS and BURST

Policy and Regulatory

Hungary's hub focuses on policy innovation, acting as a bridge between circular economy goals and practical implementation in the built environment. The hub will lead policy activities, multi-stakeholder consultations, and advocacy for incentive mechanisms. It aims to build policy capacity and promote cross-sector collaboration to inform national and regional strategies.

3.2.1.5 AT (Austria): ReBuilt partner TWU

Circular Construction Education and Training

Austria brings strong knowledge and expertise in sustainability education and training. Its hub will concentrate on developing and disseminating educational content, training programs, and curricula for professionals, students, and workers across the construction value chain. It will collaborate with universities, vocational schools, and other relevant stakeholders to build a skilled workforce for circular construction.

3.2.1.6 PL (Poland); ReBuilt partner IETU

Demand-Side Measures

The Polish hub addresses a key challenge: limited market demand for circular construction products and services. It will work on stimulating demand through awareness campaigns, public procurement strategies,



and buyer engagement. The hub will support business models that respond to user needs and explore incentives for clients adopting circular approaches.

3.2.1.7 GE (Germany): ReBuilt partner HM

Innovation in Circular Construction Materials

Germany's hub will focus on research and development of innovative materials, such as bio-based composites, recycled aggregates, and recycled and secondary raw materials. With its strong research base and collaboration with the industry, the hub will support the material performance, standardization, and foster industry uptake of next-generation circular construction materials.

3.2.1.8 SL (Slovakia); ReBuilt partners IIC and URSTARCH

Industrial Symbiosis in Construction

Slovakia's hub will promote industrial symbiosis, encouraging resource and waste exchange between construction companies and other sectors (e.g., manufacturing, demolition). It will develop the ecosystems for material reuse, recycling, secondary raw materials, facilitate matchmaking between stakeholders, and demonstrate the economic and environmental value of symbiotic collaboration.

3.2.1.9 SI (Slovenia): ReBuilt partners: ZAG, NIGRAD, SGZ

Circular Value Chains and Business Models

As the Central Hub and thematic leader in business transformation, Slovenia will focus on circular value chain integration and new business models. This includes mapping value chains, identifying points for circularity, and designing scalable, models for service-based construction and reuse centers and reuse marketplaces.

Each hub's specialization contributes to the broader network by deepening expertise in a key area, while also sharing knowledge, experiences and methodologies with other regions. This creates a dynamic and resilient structure, capable of addressing regional challenges while advancing common European objectives in circular and digital construction.

4. Collaboration Business Model

The success of the Circular and Digital Construction Hubs initiative depends on strong transnational cooperation and a well-structured collaboration model that fosters continuous knowledge exchange, joint innovation, and mutual learning across the Central European region. The collaboration model will ensure that each hub contributes to and benefits from the collective expertise, experiences, and tools developed within the network in the field of Central Europe.



4.1 Transnational Cooperation and Knowledge Exchange

All nine hubs (Central + 8 regional/national) will operate as part of an integrated ecosystem, where cooperation is embedded in the operational structure. Transnational collaboration will be coordinated by the Central Hub in Slovenia, with structured mechanisms to:

- Facilitate the exchange of best practices and regional pilot cases;
- Support cross-border development, innovation projects and pilot initiatives;
- Enable the joint development of methodologies, standards, and tools;
- Create an open innovation environment that transcends national boundaries and fosters cross-sector collaborations;
- Provide support between hubs to address common challenges.

Knowledge exchange will be supported through regular bilateral and multilateral meetings, thematic working groups, online forums etc.

4.2 Joint Activities and Events

To further support collaboration, the hubs will implement a calendar of joint activities and high-impact events, designed to bring together innovators, policymakers, businesses, and academics across regions. These activities include:

- Hackathons and Innovation Cafes: Thematic innovation competitions focused on specific circular and digital construction challenges (e.g., digital tools, design, construction and demolition waste, reuse, secondary raw materials, etc.).
- Structured events involving public authorities and experts to co-design policy frameworks, address regulatory barriers, and pilot legislative innovations.
- Joint Demonstration Projects: Collaborative pilots that test circular technologies or business models across borders and showcase replicable outcomes.
- Annual Hub Forum: A transnational event hosted in rotation by regional hubs, serving as a platform for networking, showcasing results, and aligning strategic directions.

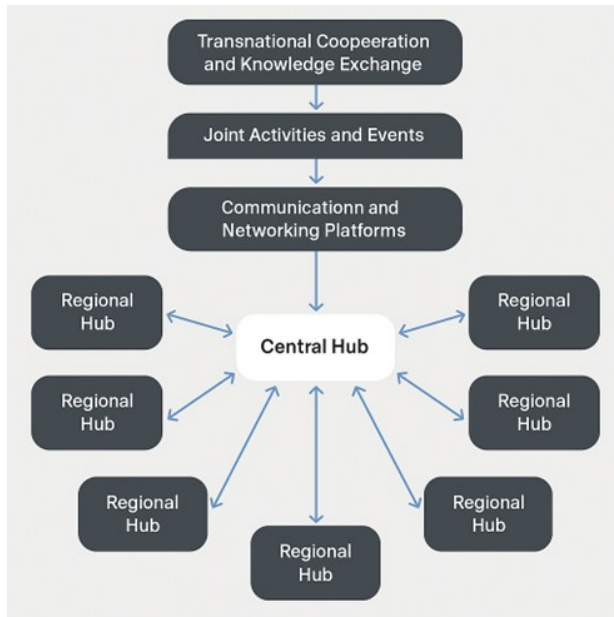
These events aim to strengthen the internal network and its external visibility and impact.

4.3 Communication and Networking Platform

To ensure continuous engagement and effective collaboration, the network will establish, the following:

- A shared **online collaboration platform**, offering access to project resources and other relevant documents;
- Social media channels and newsletters to promote hub initiatives and share success stories;
- Regular virtual exchanges, webinars

These activities will play a key role in collaboration, maintaining transparency, and building a pan-European community of practice focused on circular and digital construction (Picture 1).



Picture 1: Communication and networking platform

5. Roadmap: Implementation of the Hubs

The establishment and operationalization of the Central Circular and Digital Construction Hub and the eight Regional/National Hubs will follow a phased, collaborative approach. The roadmap outlines the implementation and long-term sustainability.

Phase	Timeline	Focus
Phase 1: Setup and Alignment	Months 1-2	Strategic planning, stakeholder mapping, governance setup, identification of regional priorities
Phase 2: Operational Launch	Months 3-4	Launch the hub, the start of events at all hubs
Phase 3: Consolidation and Scaling	Months 5 -??+	Strengthening of partnerships, policy engagement, scaling of services

Each hub will align its internal timelines with the central roadmap while maintaining flexibility to accommodate regional conditions and stakeholder readiness.

5.1 Roles of Lead partner of the Central Hub and Other Partners

Central hub - ZAG, as ReBuilt's lead partner, will be a coordinator:

- Lead the establishment of the Central Hub and oversaw network governance;
- Ensure strategic coherence, quality assurance, and performance monitoring across all hubs;
- Facilitate the design of the collaboration model and communication tools;
- Represent the network in transnational and EU-level dialogues;
- Support knowledge sharing and policy alignment across borders.



Each regional/national hub's partners will:

- Led the operational setup and execution of their respective hub;
- Engage regional stakeholders and coordinate local/regional innovation, business, and academy activities;
- Promote solutions aligned with their thematic specialization;
- Participate actively in transnational exchanges, events, and working groups;
- Contribute to the monitoring, evaluation, and sustainability planning efforts.

All Construction and digitalization Hubs will cooperate with the associated partners of the ReBuilt project and other stakeholders, such as ministries, universities, municipalities, construction companies, startups, chambers of commerce, and NGOs. Their roles involve :

- Providing expertise, facilities, and outreach;
- Participating in pilots, training, and co-creation sessions;
- Supporting dissemination and local uptake of hub activities.

6. Conclusion

The Central and Regional Circular and Digital Construction Hubs perform a pivotal step in reshaping the construction sector in Central Europe toward a more sustainable, innovative, and resilient future. By leveraging the collective knowledge and expertise of the ReBuilt project partners, this initiative builds a strong foundation for a transnational ecosystem that actively supports the circular and digital transformation of the built environment.

The coordinated structure—anchored by the Central Construction and Digital Hub in Slovenia and supported by eight regional/national hubs—ensures strategic coherence and contextual adaptability. This dual-level approach allows for a unified vision while respecting and responding to regional specificities, challenges, and opportunities. Each hub's thematic specialization enhances its capacity to become a center of excellence in its field, contributing not only to local development but also to the broader Central European innovation landscape.

What sets this initiative apart is its systemic and integrated approach. The hubs are part of a long-term strategy grounded in structured governance, stakeholder co-creation, cross-border collaboration, and alignment with key European policy frameworks. Their design reflects an understanding that sustainable change in the construction sector requires more than technological innovation—it demands regulatory, educational, and economic shifts.

Aligned with the European Green Deal, the Circular Economy Action Plan, and the New European Bauhaus, this network of hubs positions Central Europe at the forefront of the circular, green and digital transitions. Its a model for how regional innovation ecosystems can be mobilized to address pressing environmental challenges while generating economic and social value.

In the long term, the Circular and Digital Construction Hubs will serve as dynamic engines of change—accelerating the shift toward a resource-efficient, low-carbon, and knowledge-driven construction sector. By promoting interregional cooperation, fostering knowledge exchange, and supporting the practical implementation of circular and digital solutions, they will contribute significantly to a more sustainable and competitive Europe.