Interreg CENTRAL EUROPE

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ReBuilt

# D1.1.3 CONCEPTUAL NOTE FR ACTIVITIES NEEDED FOR DEVELOPMENT OF CIRCULAR AND DIGITAL CONSTRUCTION

BURST

Version 1.1

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# 1. Introduction

The deliverable D1.1.3 synthetises the major results of the initial mapping, the regional workshops and the transnational conference (D1.1.1 and D1.1.2) taken place in the participating countries in form of a summarizing conceptual note to strengthen the transition to circular and digital construction in Central Europe.

The information collected at desktop research phase, and workshop phase is being processed and manifested in D1.1.1, while further discussed at transnational level at the First Transnational Central European Circular and Digital Construction Conference, that took place in Ljubljana, Slovenia 13th March, 2024.

# 2. Data collection process

The ReBuilt project A1.1 focused on the mapping of the status of circular and digital construction in the 9 Central European countries in few turns

1) Initial mapping desktop research
2) Regional workshops (Period 1 and Period 2)
3) Transnational conference (Period 2)

1) Initial mapping desktop research (Period 1 and Period 2)

The project partners collected information in their home country in the internal template created by BURST and in close cooperation with the topic leaders of each of the 5 pillars.

1) Stakeholder mapping
2) Identification of relevant policies, strategies and legislation
3) Identification of good practices and innovations
4) Barriers, potentials and social acceptance of circular construction
5) Education potential for circular economy

This activity was going on in Period 1 and Period 2 depending on the country.

2) Regional workshops

Based on the desktop research, in each country, project partner(s) and associated partners organized at least one regional workshop to confirm and complement the collected information, that was summarized in D1.1.1.

The activity took place in Period 1 and Period 2 depending on the country.

3) Transnational conference

The information collected in the data collection phase was first presented to the wider public was at the First Transnational Central European Circular and Digital Construction Conference, that took place in Ljubljana, Slovenia 13th March, 2024. Beyond presentations on the findings, the conference give room to transnational discussions.

The conference discussion focused on three important aspects with the participants online and at the venue in three groups:

- Circular economy & circular construction: legislation, governance, politics
- Digital construction and good circular construction practices
- Circular construction: education, training, capacity building

The findings and major conclusions were integrated into the SWOT analysis below together with the 1st and 2nd phase of data collection.

# 3. Synthesis of the initial mapping

This chapter contains all the relevant information about the participating 9 countries of the CE region in transition to circular construction. The SWOT methodology aims at synthetizing the country-specific results and the transnational ones. The selected features might not be relevant to the same extent in each CE country; however, the relevance of the statement is evident.

| Strength | Weakness |
|---|---|
| • Some CE countries already have acts in place for circular construction.<br>• European framework / Directive to be implemented in the member states<br>• Chamber of Architects and Chamber of Engineers play a distinguished role to increase the capacities of construction professionals about new trends and the state-of-the-art through good exemplar system of compulsory training credits (e.g. Germany, Hungary)<br>• New materials and technologies from secondary raw materials are already in use and we have experience with them<br>• Existing ICT innovations network (GAIA-X network) demo cases are in place in Slovakia and Italy, whereas a construction ecosystem exists at European level.<br>• Industry 5.0 approach is backed by the EC priorities contributes to the transition to circular economy.<br>• Green public procurement process for circular construction industry has started in pilot project (LIFE Care4Climate project) and newer and newer projects are being developed in this field<br>• Increasing obligation to use BIM in public investments in CE countries | • Horizontal integration into other policies is still ahead<br>• Bureaucratic challenges: due to differing end-of-waste criteria, transboundary waste / secondary raw material transport is complicated<br>• Lack of dialogue among relevant stakeholders<br>• Complex issues - interdisciplinary knowledge gap of the stakeholders<br>• Too many regulations in the EU limit the room for innovation resulting in the low innovative capacities<br>• The legislation lags behind the trends<br>• Lack of well-functioning pilot projects and novel pilot construction ecosystems with connected knowledge transfer<br>• Too high-quality standards for materials make the (high ratio) use of secondary raw materials impossible e.g. Poland<br>• Challenges for the logistics and legislation for onsite separation of secondary raw materials at the premises of demolition exists<br>• Quality of recyclable materials<br>• Insufficient collecting system of secondary raw materials |

| | |
|---|---|
| • Existing practices for the traceability of materials such as by the use of RFID tags | |
| **Opportunity** | **Threats** |
| • Transboundary, regional cooperation could help finding the optimal market size and increase efficiency<br>• Policy-making is a clear driving force to change current linear practice<br>• Existing work culture of architects and civil engineers to work with recycled building materials<br>• Sustainable buildings need more attentive, complex planning<br>• Awareness raising of the public (end-users) could support the bottom-up demand<br>• Relevant players of the stakeholder ecosystem are highly motivated of using innovative tools (esp. big players)<br>• Great potential in the use of digitization to monitor the carbon footprint for construction concrete<br>• Increasing importance of the life-cycle assessment methodology for companies to prove the environmental information about their products<br>• Ongoing process for establishing protocols fore data gathering and digital passports to be compatible for cross-border logistics, traceability<br>• More and more pilot project start in various aspects to facilitate the transition for circular construction sector | • Lack of a coordinating entity with authority - being an evolving and horizontal theme in the legislation, and touching upon different competences, without no clear responsible entity<br>• Not easy to overcome spatial and time heterogeneity issue for the demand – source<br>• Public mistrust on recycled materials (quality, price, convenience) is a clear limit in the demand side<br>• Being afraid of change, innovation is a clear social hurdle from the stakeholders |

# 4. CONCLUSION

The CE Member State-wide assessment was overcome by the transnational thinking is this activity shedding light on the similarities and differences among the countries. The sharing of experience about legislation, good practices, gaps and barriers pointed out, that the CE countries are on the same road to the circular and digital construction and in most aspects closer to each other than they think, but in few aspects more ahead of the other regional countries.

The summarizing SWOT analysis gives a solid overview of the transnational status of circular and digital construction, the challenges and the weaknesses the CE region faces and the project could cope with, and the strengths and opportunities ReBuilt is able and exploit.

This analysis will be further discussed and utilizied in the upcoming activities of ReBuilt project that will focus in single points of the analysis.