

OUTPUT FACTSHEET

Project index number	CE0100390	Acronym	ReBuilt			
Output type ("x" to be included)	Strategy/ action plan		Pilot action		Solution	x
Output number (O.xx)	O.2.4	Output title	Digital solutions for circular construction			
If the output target is > 1 in the AF, please specify the output(s) described in the factsheet	n/a					
Output delivery date	maj.26					
Project website	https://www.interreg-central.eu/projects/rebuilt/					

Summary description of the output

Please present the output by addressing the following topics.

*Territorial challenges and needs in the regions specifically addressed by the output
(max. 700 characters)*

Central European regions differ widely in the maturity of circular and digital construction. Common gaps include reluctance towards secondary raw material (SRM)-based products, missing data on their quality and traceability (waste-to-product flows), underdeveloped SRM markets and the absence of trusted digital infrastructure for exchanging material data across organisational and national boundaries. Without verifiable, interoperable digital solutions, circular value chains cannot operate at scale. The output addresses these needs with a jointly developed digital solution that makes material data trustworthy, discoverable and exchangeable across borders.

*Main aim(s) of the output and how it contributes to tackle the identified challenge(s)
(max. 500 characters)*

The output delivers innovative co-designed and co-created digital solutions for circular construction, implemented from the pilot action A2.3: a digital business ecosystem for circular value chains with digital material passports and an on-line marketplace for secondary raw materials (SRM) and SRM-based products. The solution serves as a GAIA-X case study, establishing the platform as a trusted participant in European federated data infrastructure and enabling verifiable cross-border exchange of material data.

*Technical description of the output (e.g. scope, main features, innovative elements etc.)
(max. 1500 characters)*

The solution is an integrated digital business ecosystem for circular construction value chains, co-created by the partnership and validated through pilot action A2.3 and delivered as O.2.2 - Circular construction technical pilots. Its components: (i) a digital material traceability platform (modular, API-first, SaaS-deployable) issuing Digital Product Passports (DPP) as W3C Verifiable Credentials following the UN/CEFACT DPP 0.6.0 vocabulary, with material data captured via RFID/NFC/QR identification and exportable to BIM in IFC-compliant formats; (ii) the upgraded CinderOSS transnational marketplace, publishing signed DPPs, End-of-Waste criteria and legislative frameworks, reusable technologies and green business model templates; and (iii) the GAIA-X use case as the innovative core: the platform holds a verifiable identity through a did:web Decentralised Identifier, a Gaia-X Participant Credential issued through the official onboarding wizard and validated by the Gaia-X Compliance Service, and every DPP is cryptographically signed (JsonWebSignature2020, eIDAS-aligned certificate chain). Any external party can independently verify material provenance by resolving the publicly available DID document and checking the signature, without relying on a central authority - realising European data sovereignty principles in a real circular construction workflow. The solution positions ReBuilt as a reference implementation for Gaia-X-aligned circular construction data infrastructure and is documented in D.2.3.5 - Development of GAIA-X Use Case.

*Involvement of target groups during output development and/or implementation
(max. 700 characters)*

The solution was co-designed and co-created with its target groups and partners. Construction and waste management companies, SMEs and public service providers contributed requirements and real material flows through the pilot, quality assurance and certification bodies shaped the DPP data model, and marketplace users tested listing, matchmaking and DPP verification workflows. Because federated identity and verifiable credentials are unfamiliar to most construction professionals, effort was invested in practical, value-oriented demonstrations - scanning a tag and immediately viewing a signed, independently verifiable passport - which proved decisive in building stakeholder confidence.

*Cooperation dimension of the output, i.e. joint development within the partnership and, if applicable, joint implementation (see output indicator definitions in chapter I.3.3 and Annex 2 of the programme manual)
(max. 700 characters)*

Several partners were involved in the joint development of the solution. INFORDATA (IT) developed the traceability platform and implemented the GAIA-X use case, Opencontent (IT) upgraded and operates the CinderOSS marketplace, NIGRAD (SI) provided the real-world validation environment, IIC (SK) independently verified the Gaia-X trust chain, CZGBC (CZ) contributed to compliance and dissemination, TUW (AT) and HM (DE) contributed quality certification and value chain use cases, and ZAG (LP, SI) coordinated the co-creation process. Cross-border verification between Italy, Slovakia and Slovenia demonstrated joint implementation and trusted transnational exchange of material data.

Results - expected change and lasting effects in the territories generated specifically by the output, its uptake by relevant organisations and benefits for target groups
(max. 1000 characters)

The solution establishes a secure, cross-border digital value chain for circular construction materials and products without precedent in the programme area. Expected changes include increased trust in SRM-based products and materials through independently verifiable Digital Product Passports (DPPs), operational cross-border trading of secondary materials and products via the CinderOSS marketplace, and readiness of construction sector organisations for the forthcoming EU Digital Product Passport regulation, to which the UN/CEFACT- and Gaia-X-based data model provides a forward-compatible path. As a GAIA-X case study, the solution offers a replicable template for construction platforms joining European data spaces, including a proposal for a new circular economy sector in the GAIA-X community. It forms the digital backbone of the Regional Circular and Digital Construction Hubs (Action A3.3) and supports the implementation of the Common Strategy for Circular and Digital Construction in central Europe (Action A3.2).

Ownership and durability of the output after the project end, considering financial and institutional support including, if applicable, maintenance
(max. 700 characters)

The traceability platform is operated by INFORDATA and deployable as Software as a Service (SaaS), following CINDERELA project ZAG has commercial ownership of marketing the product; certificate and credential lifecycle management (eIDAS certificate renewal, Gaia-X credential refresh) is integrated into platform operations to ensure continuity of Gaia-X participation beyond the project period. The CinderOSS marketplace remains operational under Opencontent, and planned scale-up covers partner organisations in the Czech Republic, Slovakia, Slovenia and Italy, including commercial operation. The network of Regional Circular and Digital Construction Hubs (operated under umbrella by ZAG) provides the institutional framework for continued use, maintenance and further development of the solution.

Transferability of the output to other territories, sectors or target groups and planned measures for supporting such transfer
(max. 700 characters)

Built on open standards (W3C DID and Verifiable Credentials, UN/CEFACT DPP 0.6.0, IFC/ISO 16739, EWC classification, Gaia-X Trust Framework), the solution is a replicable template for other construction platforms, sectors and territories seeking to participate in European data spaces. Transfer is supported by the documented GAIA-X use case (D.2.3.5), API integration guidelines for hub operators and the modular architecture allowing incremental adoption. The long-term vision is EU-wide deployment as a reference implementation for Gaia-X-aligned circular construction data infrastructure, extending to smart city and national CDW monitoring systems.

Related final deliverable(s) (Number(s) and title(s) to be included)	D.2.3.5 - Development of GAIA-X use case
Output web link (if applicable)	https://circularconstruction.zag.si/digital-tools/
GPS coordinates (if applicable)	n/a