Demo Blog

THE BUSINESS CASE FOR DIGITAL BUILDING LOGBOOKS

CIRDAX

Insights on the business ecosystem,
and financial & non-financial performance

Co-funded by
the European Union

What is a Digital Building Logbook?

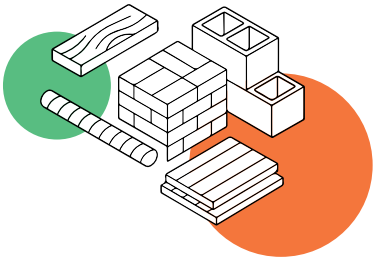
Digital Building Logbooks (DBLs) are digital repositories where data about a building's design, construction, materials, the land it's built on, as well as its environmental, social and financial performance are collected.
DBLs are used by various stakeholders—such as building owners, regulators, service providers, and financial stakeholders—to support decision-making, ensure regulatory compliance, assess investment risks, and improve building performance.

Cirdax

Cirdax is a digital materials database which stores all kinds of information on building components and materials. The data is provided via an inventory of components and materials, partly obtained by 3D-scanning and manual additional services. It offers a complete solution that allows real estate owners to easily resell or reuse raw materials, significantly reducing carbon impacts.

By finding out which materials are in a building and giving them a value, the database seeks to determine the effective and efficient use of raw materials, supporting a circular ecosystem. Further, by linking demolition and construction, the materials released in the dismantling of old buildings are then reused in a new building to a high standard. And during the real estate management process, Cirdax supports the maintenance of materials already present in a building, so they last as long as possible, and thus extend the life of the building.

Cirdax is one of the two most used systems for Building Material Management in the Netherlands. It is used by government organisations (as part of European Programmes, like Demo-Blog and SUM4RE) to explore the Circular Building agenda and private (real estate) organisations as a business support module for maintenance and renovation.



Value proposition

Cirdax addresses the lack of reliable, accessible data on reusable components, which is a major obstacle to circular construction. Cirdax helps demolition companies, architects, and municipalities support circular economy goals by mapping and valorizing reusable building materials. Based on years of operational deployment in Netherlands and Belgium, it supports the creation of a legal, traceable marketplace for reusable materials in the Maas-Rhein Euroregion.

Key features include:

- Digital materials logbook for demolition projects with CO_2 and market value tagging.
- Enhancement with blockchain to ensure ownership and traceability of materials.
- Integration with the ANT software ecosystem for seamless use in architectural workflows.

Business model and ecosystem

Cirdax is owned by Block Materials, an SME based in the Netherlands.

Its partners are ReUseMaterials BV, Dutch Metropolitan Infrastructure (DMI) Circular BuildHub, European Centre for Circular Building and Transformation (ECCBT).

Main users:

- **Demolition Companies**
  They struggled to recover materials due to data gaps and missing market infrastructure.
  → They are the primary users of Cirdax, entering data and recovering value from materials.
- **Architects & Builders**
  They lacked integrated tools to select and source secondary materials, due to the underdevelopment or even non-existence of the market for reuse tools.
  → They are users of Cirdax's demand wizard, selection tools and marketplace.

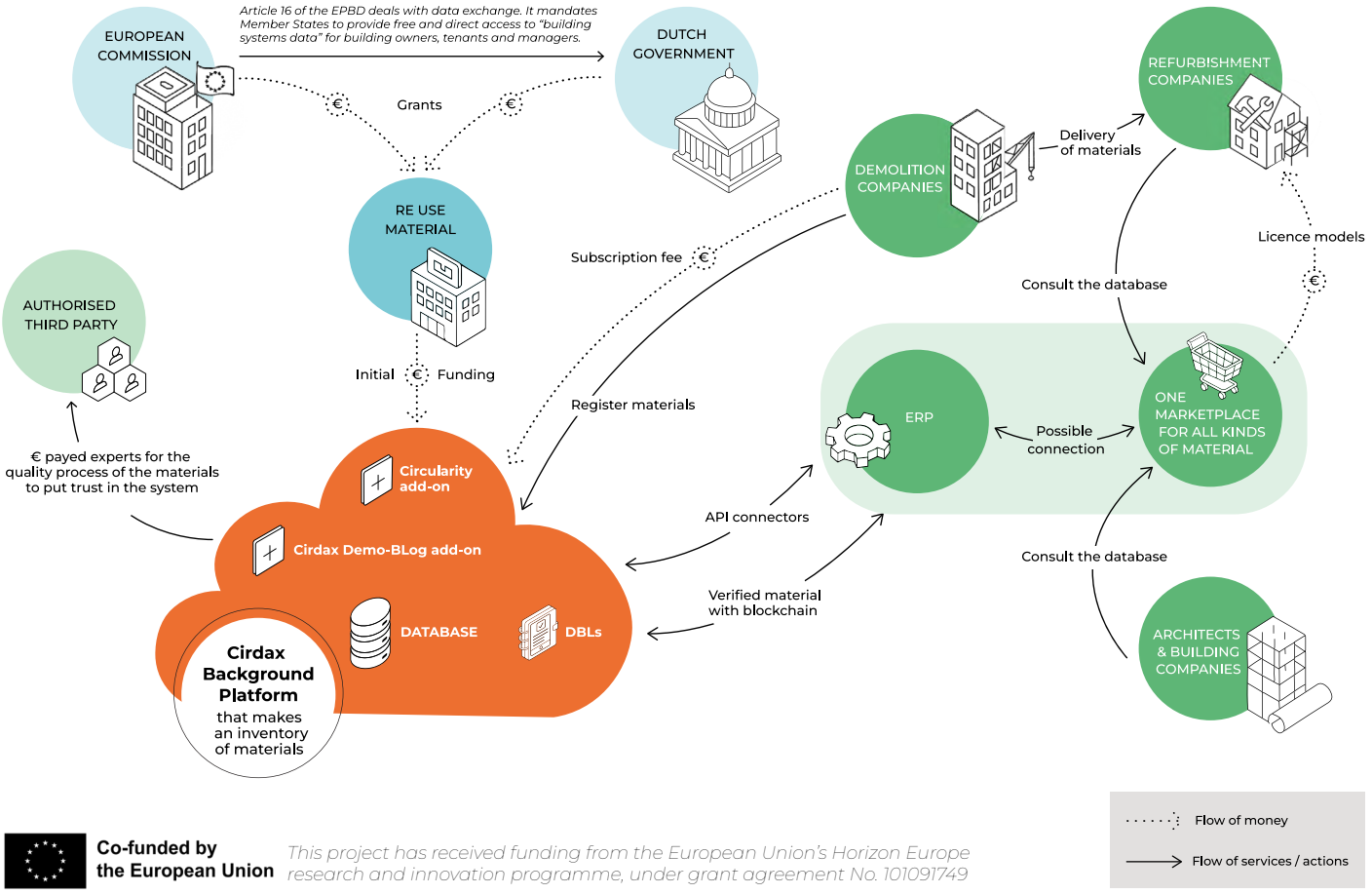
Financial model:

- Initial development: Grants and co-funded public-private development at European and regional levels.
- Emerging revenue streams: fees for material inventories, marketplace transactions, licenses.

Implementation challenges

- **Lack of functioning eco-systems for circularity:** large scale reuse of building materials is only possible if regional eco-systems for this purpose are developed. Then marketplaces can really function without additional support of public money.
- **Production of material passports:** Cirdax is not only a tool and logbook to provide data about materials in buildings, it can also be used as an inventory tool for material information for other digital logbooks. This support function is not used yet, but could be operational if the demand for such use is present. Material data in Woningpas would be an opportunity.
- **Lack of time:** Understanding circularity and the use of Cirdax for professionals requires precious time from those professionals. Time which is very scarce, but also restricts these professional to be aware of all the opportunities in a circular economy.

Cirdax Business Ecosystem Mapping



Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme, under grant agreement No. 101091749

Financial and non-financial KPIs

Cost structure:

- Marketplace and demand-side modules under development with Demo-Blog, DMI and ECCBT
- Direct cost tracking not separated by CAPEX/ OPEX but covered through external funding. Cirdax's infrastructure can be considered as a public good enabling long-term macro-economic value in circularity.

Non-financial KPIs & Co-benefits:

- Circular material tracking and reuse potential
- CO_2 avoidance through secondary material valorization
- Marketplace integration for architects and developers
- Legal traceability of materials via blockchain
- Enhanced awareness and education through stakeholder workshops

Return-on-Investment Scenarios:

- For demolition companies: higher material value recovery (financial + environmental)
- For architects and builders: access to lower-cost, circular materials with reduced carbon impact
- For governments: activation of regional circular economies and alignment with EU Green Deal goals
- For all: indirect payback, through systemic circular economy value creation

About the Demo-BLog project

Demo-BLog is a Horizon Europe project that is testing and further developing five existing Digital Building Logbooks (DBLs).

We are a consortium of 14 partners coming from Belgium, France, Germany, the Netherlands and the UK.

The project addresses key gaps in building data availability, accessibility and usability that hinder progress towards EU goals such as climate neutrality, digitalisation and affordable housing.

Transparent and accessible data

Transparency and access to information are critical to ramp up building renovation at the scale and pace needed to achieve a climate-neutral building stock. The extremely limited availability of information, combined with a lack of a common repository of data directly leads to additional costs and inefficiencies in designing, constructing, operating and financing buildings.

Demo-BLog gathers all related data from building Renovation Passports, smart readiness indicators, Level(s), EPCs (Energy Performance Certificates), and other sources, to drive net-zero carbon building design, construction, management and renovation. By promoting interoperable, user-friendly DBLs, the project enables better data-driven decisions, supports renovation, energy efficiency and whole-life carbon assessments – advancing a transparent, circular and high-quality sustainable European building stock.

Demonstrating four functionalities

Demo-BLog aims to demonstrate capturing, integrating and storing building data, as well as converting this data into actionable information for relevant stakeholders across the construction market value chain.

The project is further developing four functionalities in terms of automation, digital and ICT (Information Communication Technology) tools, APIs (Application Programming Interfaces) and software applications, and is demonstrating their implementation in five front-runner DBLs – **Cirdax is one of these DBLs.**

CIRDAX

Re Use Materials

www.cirdax.com

Contact:

Simon Duindam
simon@blockmaterials.com

Demo Blog

demo-blog.eu

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme, under grant agreement No. 101091749