

DIGITAL DECONSTRUCTION

DECONSTRUCTING

COMMON SENSE REDISCOVERED

PATRICIA SAVIN, PRESIDENT OF OREE, ASSOCIATE
LAWYER DS AVOCATS (FR)

Depletion of natural resources, loss of biodiversity and global warming: so many global challenges to be met at the same time. According to the International Resource Panel, the global annual extraction of materials increased from 27 billion tonnes in 1972 to 92 billion tonnes in 2017. In Europe, the construction sector is one of the largest consumers of resources, with half of the raw materials extracted, half of the energy consumption and a third of the water consumption... not to mention the impact on land.

This is how the law of 17 August 2015 relating to energy transition for green growth had set the objective of recovering 70% of construction waste in material form by 2020. The law of 10 February 2020 relating to the fight against waste and the circular economy (AGEC) has reinforced this objective by emphasizing sorting, reuse and recovery. The players in the construction industry are thus fully involved with the establishment of an Extended Producer Responsibility (EPR) sector for construction products and materials (PMCB). Beyond the difficulties associated with all PWRs, the key issue of deconstruction operations is definitively confirmed. Deconstruction is thus fully in line with circular economy approaches, avoiding waste and better managing the end of life of products, equipment and materials.

Read the **full article on the website**.

Orée is a non-profit organization in France, founded in 1992, that brings together companies and local authorities to develop a thinking process on their environmental impact and in particular on environmental management and its practical implementation at landscape level.

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USABLE MATERIALS FROM HERITAGE

PILOT HOF TER LAKEN (B)

Heritage buildings and sustainability go hand in hand. Yet it is not an easy task to draw up an inventory of the materials in a historic building and then deconstruct them effectively. In order to achieve this ambition in the restoration of the outbuildings at castle estate Hof Ter Laken, the Belgian foundation Kempens Landschap could count on the support of a whole range of digital tools from the Digital Deconstruction project.

Tine Van den Broeck, project coordinator at Kempens Landschap, "Heritage is already sustainable in its core, because we don't tear it down, but rather want to preserve it. But if, as in this project, it is necessary to demolish certain buildings, we want to carry out those works from a sustainability perspective. We want to reuse the materials as much as possible in the restoration of the other buildings. So when we got the chance to participate in the Digital Deconstruction project, we didn't hesitate for a second. After all, this allowed us to apply the principles of circular demolition and construction during the works on the depot."

Read more: Digitally mapped Heritage Hof ter Laken.



"Digitally mapped heritage for circular demolition and construction"



Background Hof ter Laken

This extensive castle domain is located in Booischoot, south of the Grote Nete. Its history goes back to the twelfth century. The 30-hectare park features a neo-Flemish Renaissance style castle, a depot and a forester's house. These buildings can be reached via a monumental double Lindendreef. In addition, there is also an old, partly walled orchard in the domain and there is a small forest chapel hidden between the trees, which used to serve as an ice cellar. Because of its beautiful location along the meandering Grote Nete and its beautiful old beeches and other ancient trees, this domain is definitely worth a visit.

Role of Kempens Landschap

Kempens Landschap has long been involved in the case of Hof ter Laken, which until recently was owned by a noble family. In July 2018, Kempens Landschap, together with the municipality of Heist-op-den-Berg, was able to effectively secure the domain! Kempens Landschap took over the domain on a long lease and the municipality then bought it from the De Gruben family. Kempens Landschap is a partner in the project for the pilot to inventory and secure building materials from the depot (coach house). **The research can be read on our website.**

MODULE: CIRDAX, THE SMART SOFTWARE TOOL FOR CIRCULARITY IN CONSTRUCTION

Project partner Blockmaterials (NL) has developed the digital infrastructure to assign validated property rights to materials via blockchain technology. They use the Cirdax data system to properly organize long-term contracts relating to the reuse of materials in buildings and to provide them with legal and economic guidance. With the Cirdax data system, materials are inventoried in existing buildings for more efficient reuse of materials. This data gives substance to various value propositions for clients, such as being able to use residual values of buildings, reducing various management and maintenance costs (transaction costs) associated with the materials, reducing CO2 issues, in addition to being tradable making the materials.

Cirdax is an important part of the digital software platform that is used within the Digital Deconstruction project for the construction, design and demolition industry. Companies in these sectors can use the digital software platform to find out which materials are in a building and to assign a value to this. By linking the modules 3Dscan, RBIM and the database system in one software platform, effective and efficient use of raw materials can be given concrete substance, resulting in: A circular ecosystem for building materials.

For more information about **Cirdax**



INTERVIEW

Yannick Pau, project manager at the Luxembourg Ministry for the Environment, Climate and Sustainable Development.

How does Luxembourg address the concepts of the circular economy and more specifically in the field of construction?

In June 2022, the Luxembourg government adopted a law that amends the waste law from 2012. As a result, the notions of reuse and re-cycling are more present in the "waste" law, in order to privilege a more globalized management of waste and resources.

This paradigm shift is also supported by two national strategies:

1. the "Zero Waste Strategy" ("Null Offall Lëtzebuerg"), which aims to adopt a forward-looking approach towards resource conservation through the principles of the circular economy, and
2. the "Strategy for a Circular Economy Luxembourg" which is part of the efforts to define a common vision for Luxembourg's transition to a fully circular country. The latter brings together tools for the authorities to accelerate the implementation of the circular economy at the national level across several sectors, including the construction sector.

What concrete steps have been taken? What are the next steps?

In Luxembourg, the construction sector is responsible for the largest part of the overall waste stream with 9 million tons generated in 2020. Considering that most of this waste is disposed of, it is important to avoid wasting resources that are largely non-renewable. In order to address an element of this theme, concrete initiatives have been launched in close exchange with public and private actors. These initiatives are described below.

Read the detailed article on our website.



REGIONAL INNOVATION HUBS

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REGIONAL INNOVATION HUB HEERLEN CO-DESIGN LAB/BREAK OUT SESSIONS

NOVEMBER 22, 2022

More than 25 people joined the Co-Design Lab/ Break out sessions Reversible BIM and Digital Deconstruction software platform on November 22, 2022, at Brightlands Smart Services Campus in Heerlen.

The audience of frontrunners, decision makers and (technical) designers in the construction and demolition industry, join the conversation about circular construction, the development of a software platform and to share experiences with the project partners. Overall the opinion was good and some points were noted for the changes for implementation of RBIM in de building industry.

- INSIGHT IS OVERVIEW, MAKE IT BROADER, NOT ONLY BUILDINGS.
- IN ALL EU RENOVATION PROJECTS.
- EASY IMPLEMENTATION FOR EVERYONE, MAKE IT UNDERSTANDABLE.
- ALSO IMPLEMENTATION IN NEW BUILDING PROJECTS FOR FUTURE REUSE OF MATERIALS.
- GIVE DESIGNERS AND OWNERS OF NEW BUILDINGS DE NECESSARY TOOLS.
- IT IS ALMOST TOUCHABLE.



REGIONAL INNOVATION HUBS

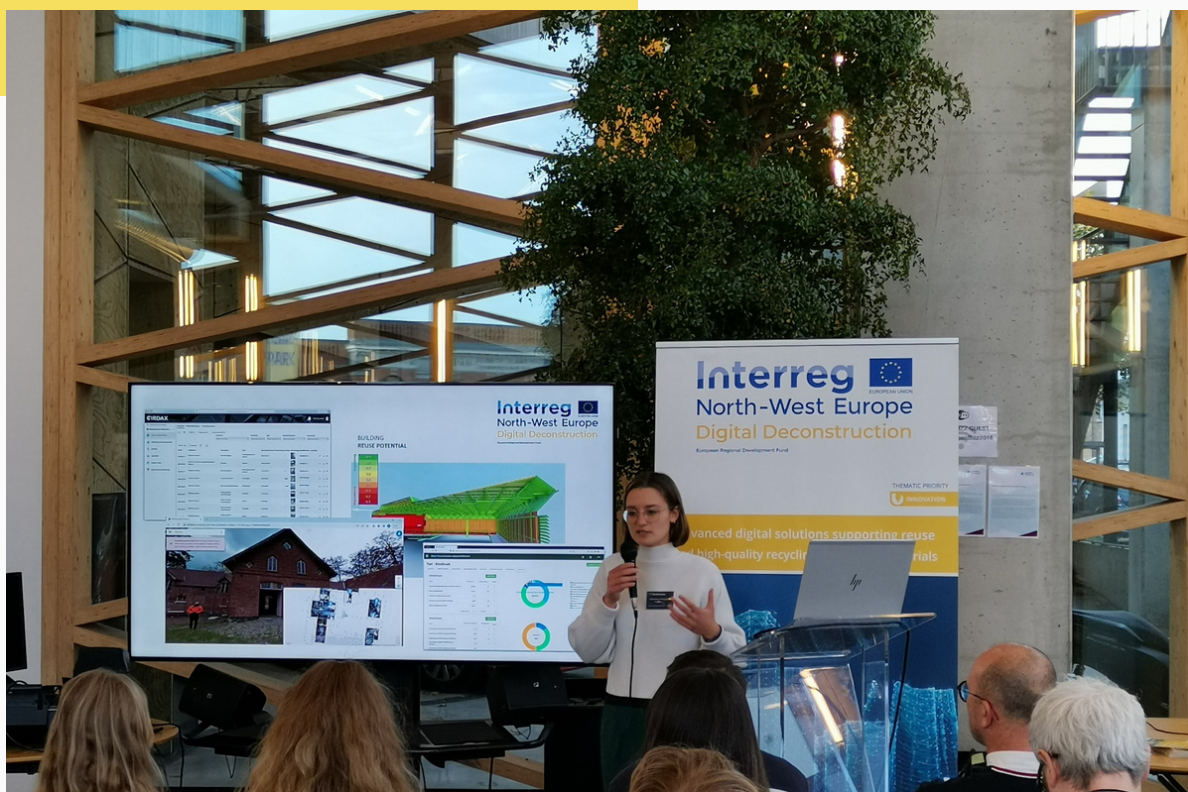
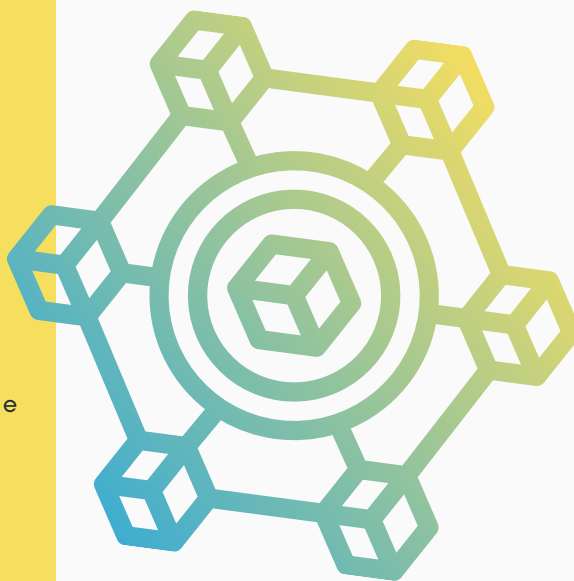
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FORUM ON REUSE AND DEMOLITION INVENTORIES

NOVEMBER 24, 2022

On the 24th of November, Buildwise (formerly BBRI) organised a Forum on reuse and demolition inventories as part of the Interreg project Digital Deconstruction.

Over 80 construction & demolition professionals came to discover which solutions are being developed or already exist in this field. 10 companies presented their services and/or digital tools to facilitate the inventory process before demolition. A great opportunity to learn, network and exchange views. On the **DDC website** Buildwise gives a review on this day.



REGIONAL INNOVATION HUBS

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REUSE INNOVATION HUB FRANCE

NOVEMBER 30, 2022

On November 30, the third edition of the Reuse Innovation Hub took place, organized by GreenFlex and Vilogia, in Villeneuve d'Ascq. That afternoon was an opportunity to discuss the issue: "How to improve the quality of the supply of reusable materials by project managers and supply players in deconstruction and/or renovation projects?"

On the program: many testimonials and inspiring feedback! We had the pleasure of talking to AREP, one of our project partners, who told us about the selective deconstruction of the Gare du Nord. We also had the chance to welcome speakers from Renard, META, and ELAN around a rich and lively round table!

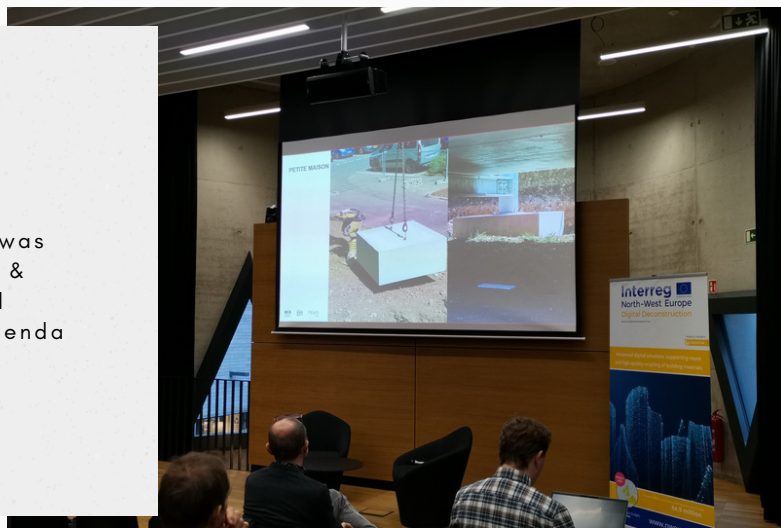
"In order to take advantage of the complementary knowledge of the members of the ecosystem present during this event, we led a collaborative workshop on the accessibility of the reuse of materials in order to address the potential barriers to reuse and to question the multiple solutions that offer the circular economy. The afternoon ended with a cocktail at the Maison Métropole, an emblematic place for the circularity of buildings."



REGIONAL INNOVATION HUB LUXEMBOURG

DECEMBER 8, 2022

On December 8, 2022, the Regional Innovation Hub was held by project partners LIST, BIM-Y and Schroëders & Associates. It was well visited, 30 participants in total (online and present in Belval). **Click here** for the agenda and a summary of the interventions of that day.



DDC EVENEMENTEN

FINAL EVENT | JUNE 8, 2023 | BRIGHTLANDS SSC

More information follows



Development of a digital software platform to make circular building possible and the environment green



THANKS FOR SHARING



You have received this Digital Deconstruction newsletter from one of the project partners involved as a valued contact in the field of construction, circular economy, circularity, construction and design industry and reuse of building materials. Feel free to forward this newsletter to people from whom you know may also be interested in the project.



It is possible to register for the following editions via the **registration form** on the website. If you would like to share your knowledge and experience in the field of digitization for the construction and deconstruction sector, please contact one of the project partners in your country.

Follow us on **LinkedIn** and **Twitter** to stay informed about the latest DDC developments, events, seminars, pilot visits and information about the Regional Innovation Hubs.

The next newsletter will appear in March 2023.

