BUILD REVERSIBLE IN CONCEPTION

efp - an apprenticeship training centre in the Brussels-Capital Region

An educational transformable wooden building

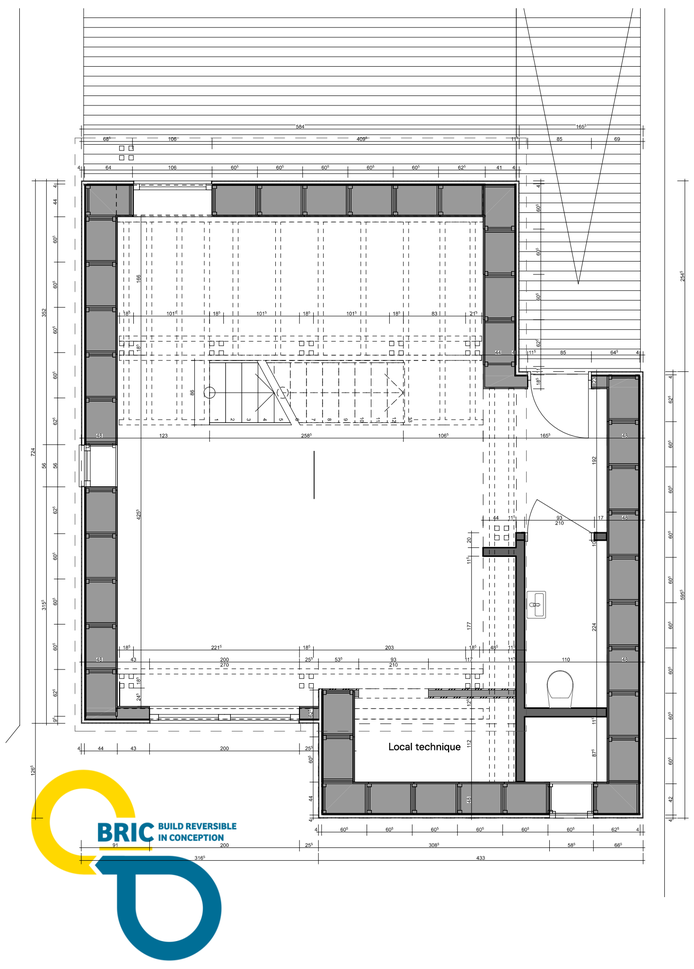
The BRIC project is an educational tool to raise awareness and build capacity within the construction sector about the circular economy.

Entirely built by young trainees, the BRIC building is a **sustainable, scalable and reversible construction** developed by the interdisciplinary Brussels training centre, **efp** during three consecutive academic years, since autumn 2017.

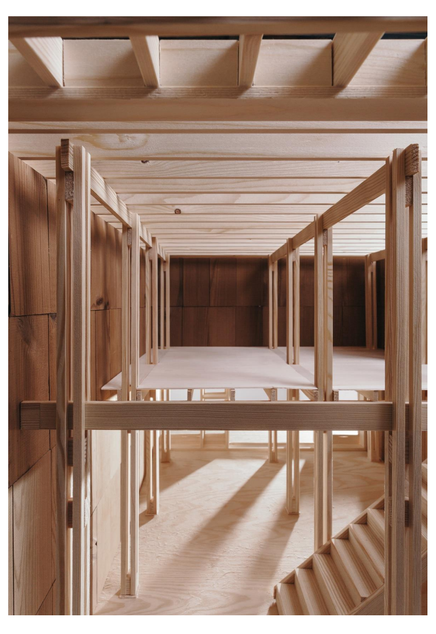
The BRIC is being assembled and disassembled on yearly basis. Each transformation is accompanied by a change in function: from an office (2018) to a shop (2019) and eventually an acoustic laboratory (2020) for training EFP students.

By the end of 2018, more than 180 students had participated in the construction and disassembly of the first BRIC module. 12 trades are involved including: joiners, plumbers, heating and cooling specialists, gardeners, house painters, roofers, electricians, cabinet makers, interior decorators, estate agents, and insurance agents.

The site is open for visits for construction professionals.



BRIC1 ❯ ***BRIC2*** ❯ ***BRIC3***



Office / meeting room ❯ ***Shop / exhibition space*** ❯ ***Acoustic laboratory***

Contact us info@bric-efp.be

Or visit Bric-efp.be

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 642384.

BAMB BUILDINGS AS MATERIAL BANKS

www.bamb2020.eu

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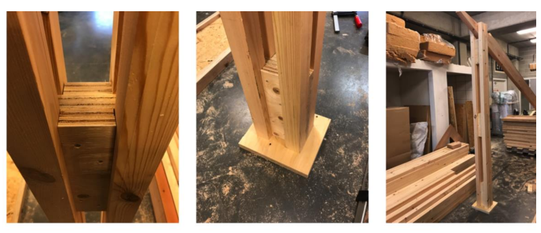
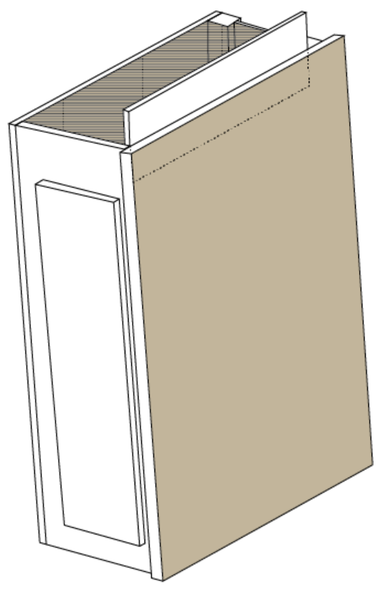
Reversible System

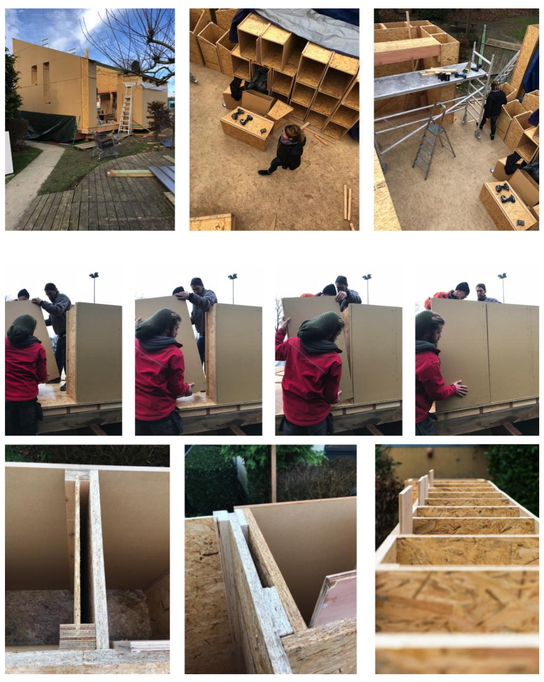
BRIC is testing a set of constructive elements in a circular configuration. Bidirectional structural columns, interchangeable insulation boxes, screwable foundation …

The removable **screw-based foundations** are conceived to bear the load and adapt to the shape of the future transformations**. The bi-directional columns** are realised by assembling four single wooden profiles. In a system capable to adapt and be connected very fast.

The walls are made of interchangeable, self-supporting **prefabricated wooden cassettes** insulated with cellulose.







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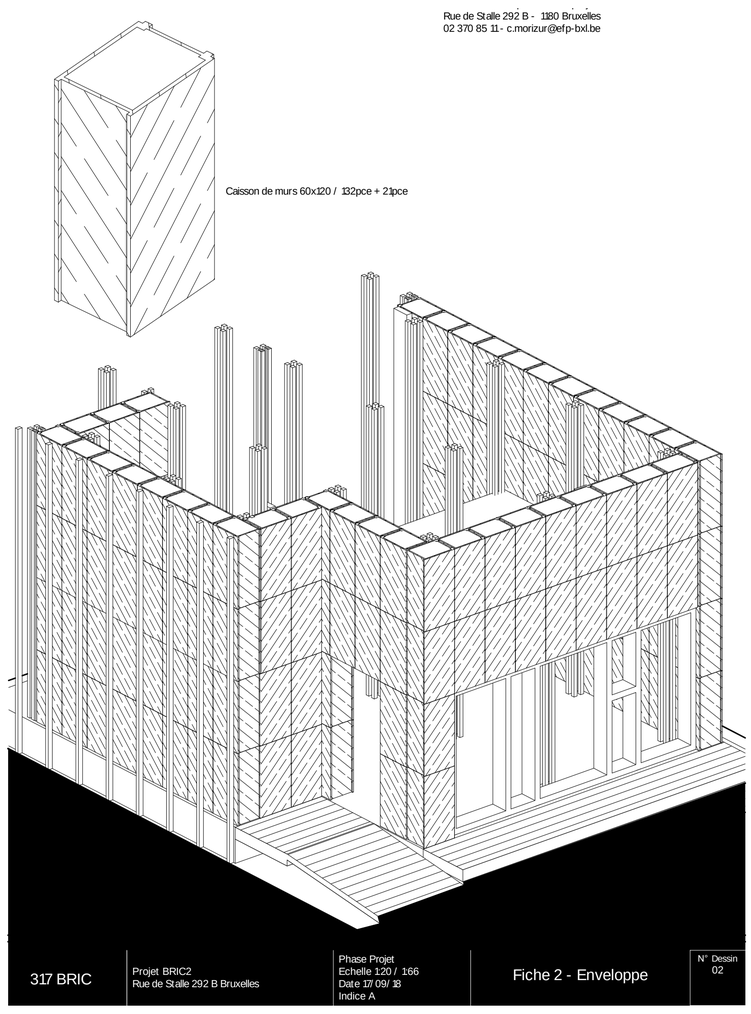

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Transformation & deconstruction

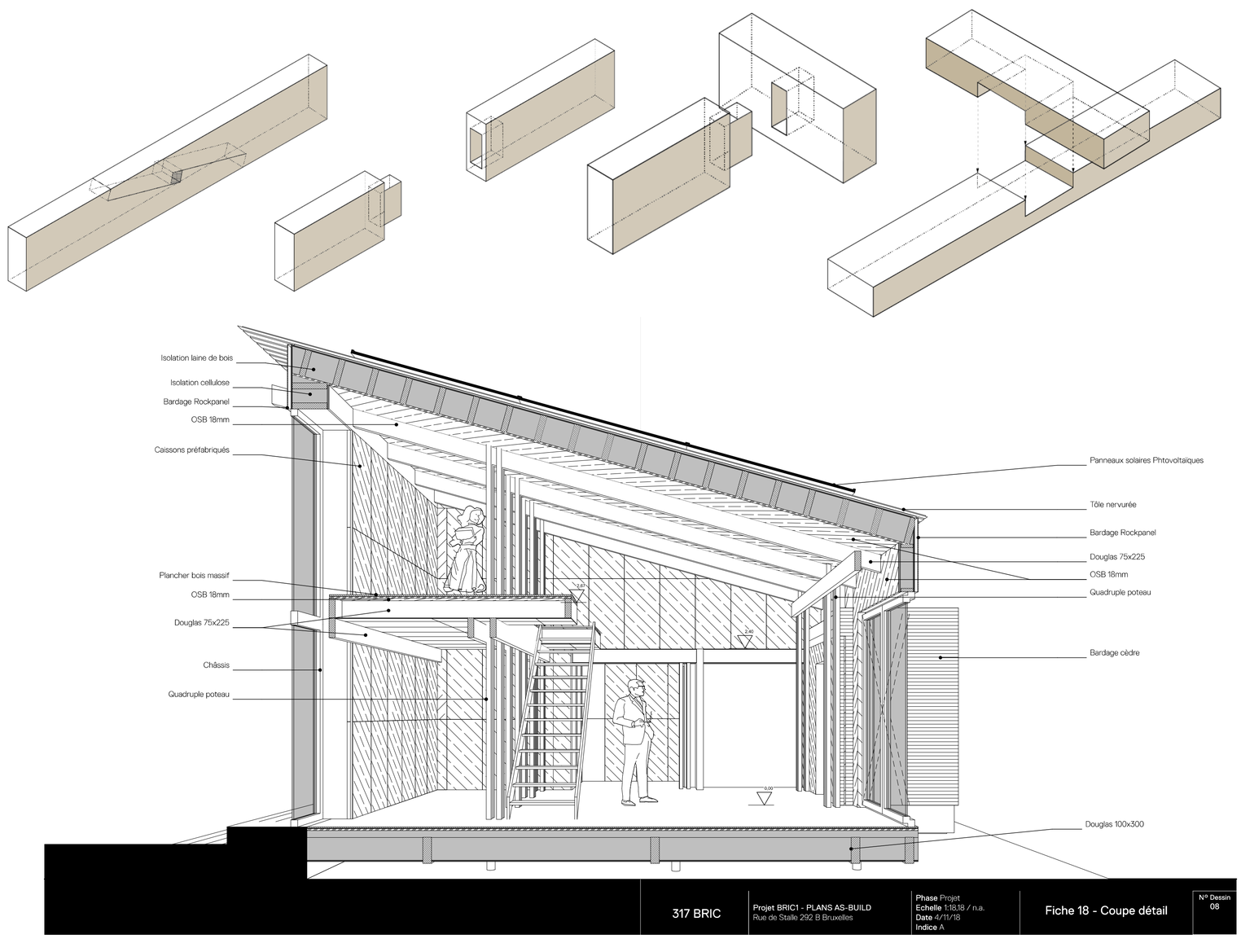
While each successive version of BRIC has a different volume and function, all use the same materials and maximize their reuse potential.

Screwed together or interlocked connections create the opportunity to recover, sell, or re-use materials at the end of the project.

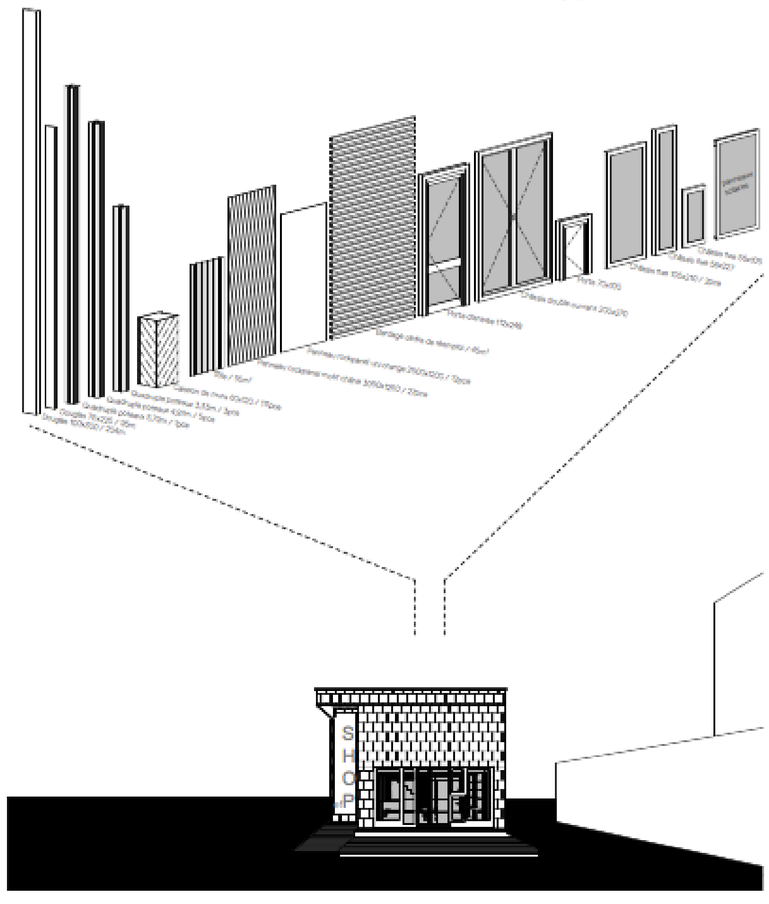
The BRIC building is considered as a material bank.

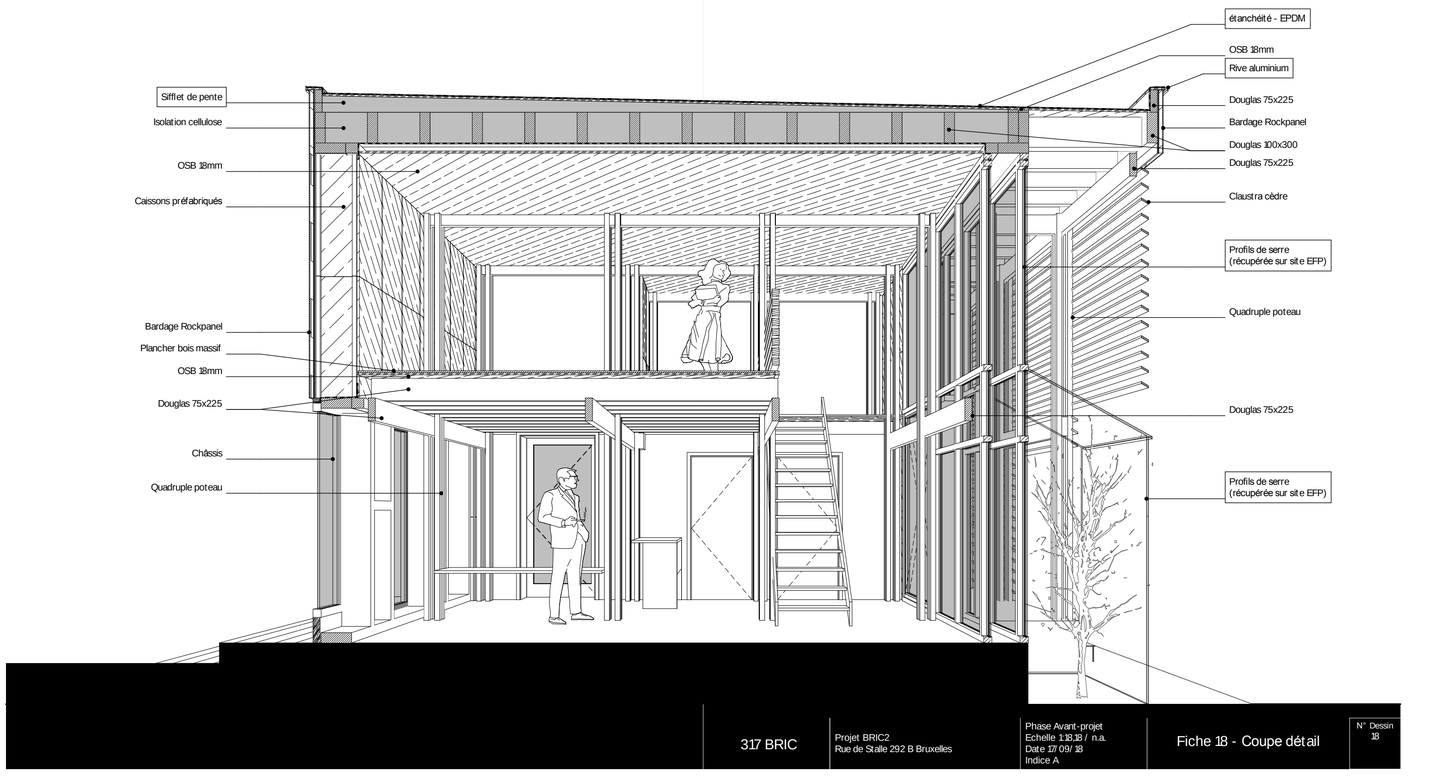
All the materials can be reclaimed and up-cycled.

This circular construction site also aims for zero waste.



Office / meeting room ***Shop / exhibition space***





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BRIC 1

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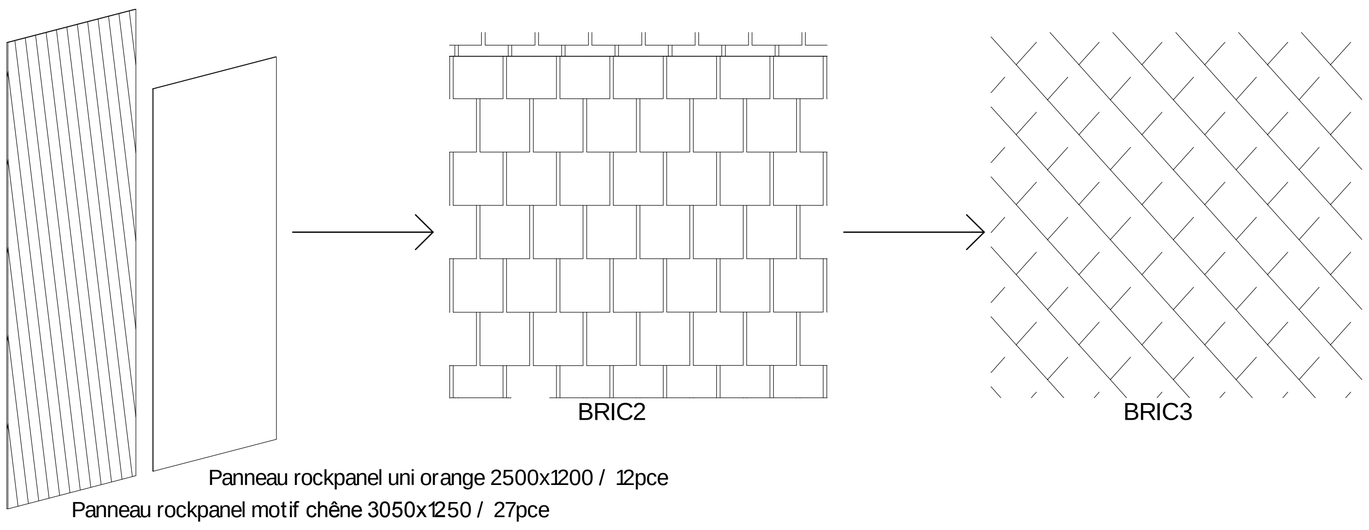
Process & value chain

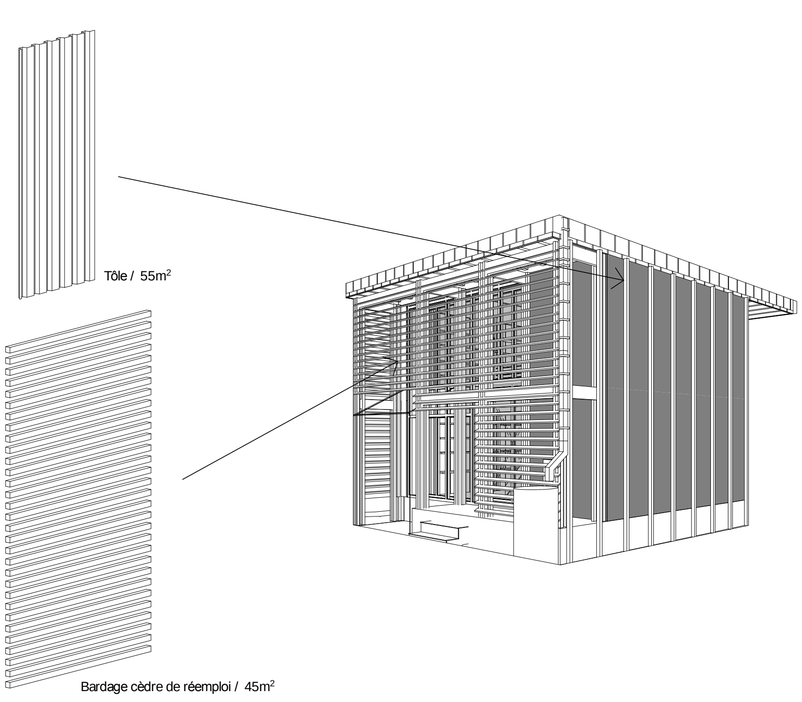
The reversible building design allows the re-use of materials without loss of value of the base product. The BRIC1 material bank will be reused in the subsequent BRIC2 and then BRIC3. Each material will be used 2-3 times without loss of value up to 2020.

The file listing all the materials (from the foundations to the interior finishings) lists 950 pieces for the construction of BRIC1. These are potentially 950 "materials passports" available for future buildings.

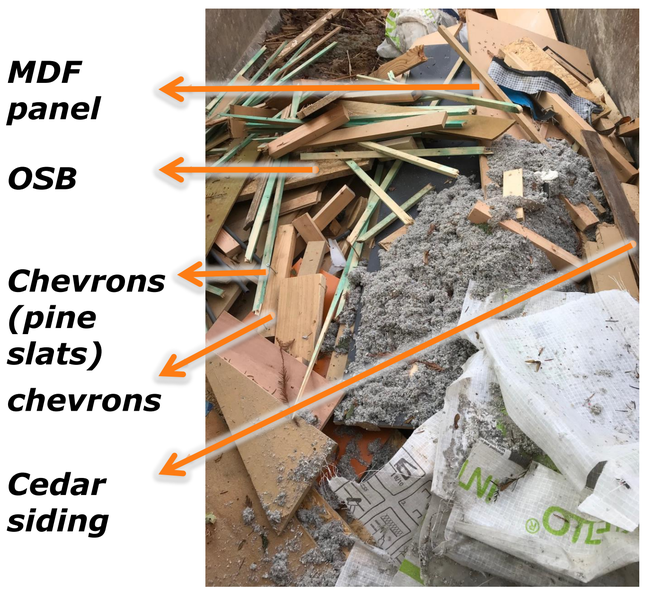
The amount of material that has become waste (thrown into a mixed container) is only **3,40m³**.

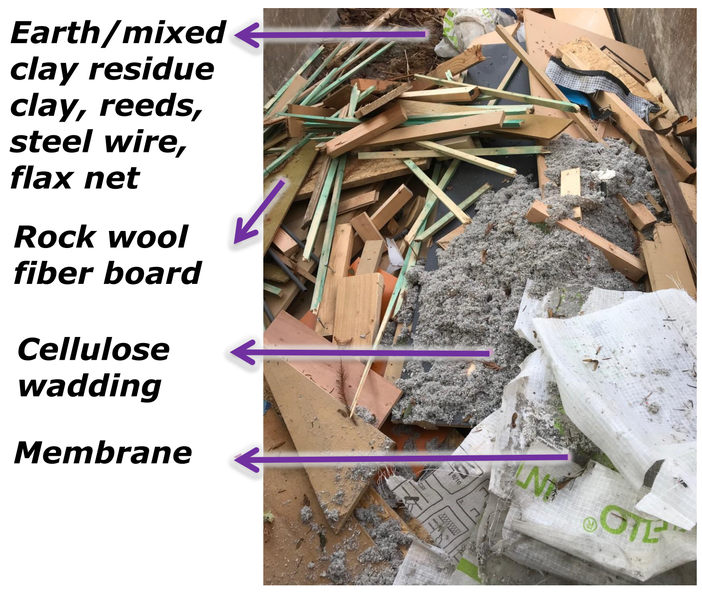
Transformation capacity





Examples of materials used from BRIC 1 to BRIC 2





Reuse potential ***Wooden waste*** ***Other waste***

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