REUSE S TO XL
A network of hubs for research and resale of second hand architectural components and materials, as an active strategy for sustainability and circular economy

ISSUES: SCARCITY OF REUSE AND POTENTIAL IN SWITZERLAND

REUSE
Faced with waste accumulation and natural resource consumption, the construction sector is now seeking practical strategies which would rethrive the current cycle of material use. Among these strategies is the reuse of construction materials and architectural elements, a design and construction process which aims at extending material life-cycle after their first use for further uses.

In contrast to recycling, reusing seeks to maintain the shape of construction components as well as their embodied culture, history, craft, and technology. The architecture of reuse holds a very high potential as an active practice participating in the circular economy, allowing conservation and flow of tangible and intangible local resources in regional territories.

IN SWITZERLAND
Although reuse is a long-standing practice, no significant project of this kind has been built in Switzerland since the mid-1960s. Nationally, the construction sector consumes nowadays between 70 and 80 million tons of material per year, of which 90% is new material. 10% is recycled materials and a minute part of reused components.

IMPACTS: INNOVATION, PLANET, PEOPLE, CULTURE & CIRCULAR ECONOMY

1. An economic and social drive
   - Synergies emerging from pooling experiences accumulated in and outside of the hub.
   - A regional supply
     - The housing stock and the hubs are suppliers to each other, in a regional distribution channel.
   - An opportunity for architecture of reuse
     - The hub itself would be designed with second-hand components.
   - A link in a territorial strategy
     - Three hubs covering Switzerland in a 60-kilometer market reach.
   
2. An Innovation drive
   - Exception for mountainous areas
   - Innovation does not mean an innovation of itself, but an innovation of its reality.
   - An innovation to a more recycled reality.
   - An innovation that leads to a more sustainable reality.

3. A network of hubs for reuse
   - A network of hubs for reuse is modelled as a digital platform (e.g. a digital database, experimentation-adapted legal framework) and handle synchronisation issues between de-construction and construction sites.
   - The new model of hub would act at the same time as a reselling-store and as a research center.
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4. An opportunity for architecture of reuse
   - The hub is designed to offer a flexible space in order to match the constantly changing material flow.
   - The hub is progressively constructed by groups of spans, according to the development of the reuse sector.
   - The project stands on underused land and makes the most of existing infrastructures.
   - The project is designed to be fully disassembled and materials selected are about to be recycled or landfilled.

5. Certification and traceability
   - Experience and catalogue recollection
   - Certification and traceability

6. Supply-chain issues
   - Besides the supply-chain issues, obstacles were identified as construction habits and culture (e.g. collective repulsion for DIY appearance), norms and performance (e.g. normative incompatibility), and economic constraints (e.g. extra workforce costs).
   - The research work devises a "hub for reuse", a new platform model that would act as a physical carrier for the development tools (e.g. digital database, experimentation-adapted legal framework) and handle synchronisation issues between de-construction and construction sites.
   - The new model of hub would act at the same time as a reselling-store and as a research center.

7. Professional conferences
   - Professional conferences.
   - Educational programs, repair stations and professional conferences.

8. Work directed by: Prof. E. REY (LAST, EPFL), Prof. C. FIVET (SXL, EPFL) and A. DIND (LAST, EPFL)
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REUSE S TO XL: DESIGN OF WETSENR SWITZERLAND'S HUB

GOAL
Faced with this situation, the first goal of this research is to identify the main obstacles of reuse in Switzerland. The second goal is to design a strategy for the future development of the practice. The research is based on experiments realised in comparable economic contexts, a specific literature review and interviews.

STATEMENT

1. An economic and social drive
   - Participation in local resources conservation, not relocatable job creation in and outside of the hub.
   - Professional-reintegration opportunities.
   - Participation in local resources conservation, not relocatable job creation in and outside of the hub.
   - Professional-reintegration opportunities.

2. An Innovation drive
   - Synergies emerging from pooling experiences accumulated in and outside of the hub.
   - A regional supply
     - The housing stock and the hubs are suppliers to each other, in a regional distribution channel.
   - An opportunity for architecture of reuse
     - The hub itself would be designed with second-hand components.
   - A link in a territorial strategy
     - Three hubs covering Switzerland in a 60-kilometer market reach.

3. Temporal strategy
   - The project is designed to be fully disassembled and materials selected are about to be recycled or landfilled.

4. Material selection
   - The project is designed to be fully disassembled and materials selected are about to be recycled or landfilled.

5. Energetic strategy
   - Heating with low-tech thermic panels made of repurposed materials.

6. Certifications and traceability
   - Experience and catalogue recollection
   - Certification and traceability
   - Experience and catalogue recollection
   - Certification and traceability

7. Learning platforms
   - Learning platforms.
   - Educational programs, repair stations and professional conferences.

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