



Research & Durability Symposium
16.05.2024

What is rebuiLT ?



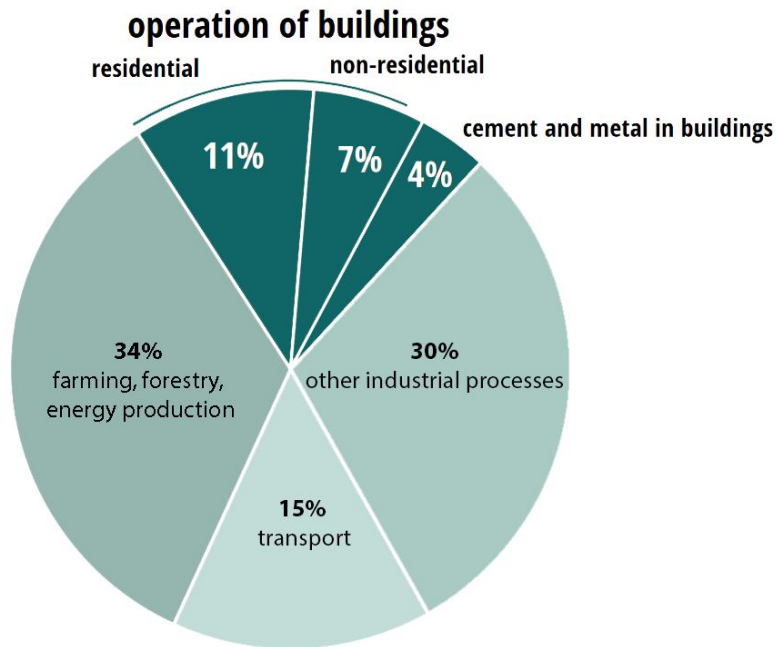
EPFLMAKE



ensemble pour
une écologie
solidaire

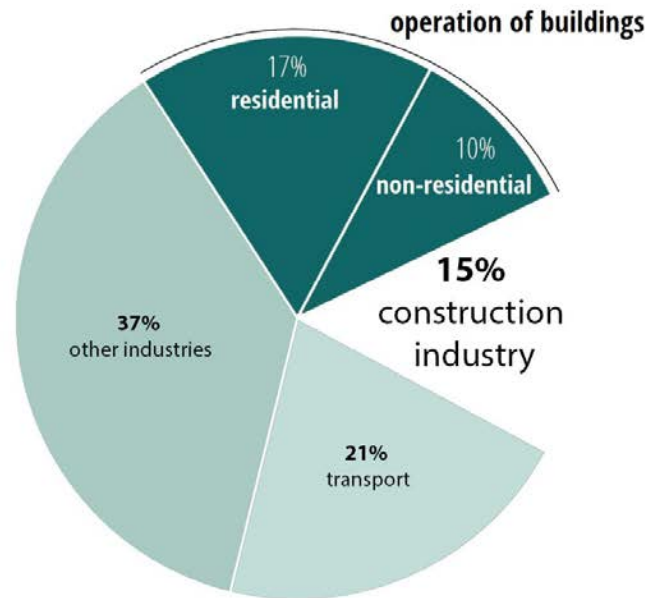


All greenhouse gas emissions



Source: IPCC AR6 – WGIII (2022)
 Technical summary 24 + Full Report 9-7

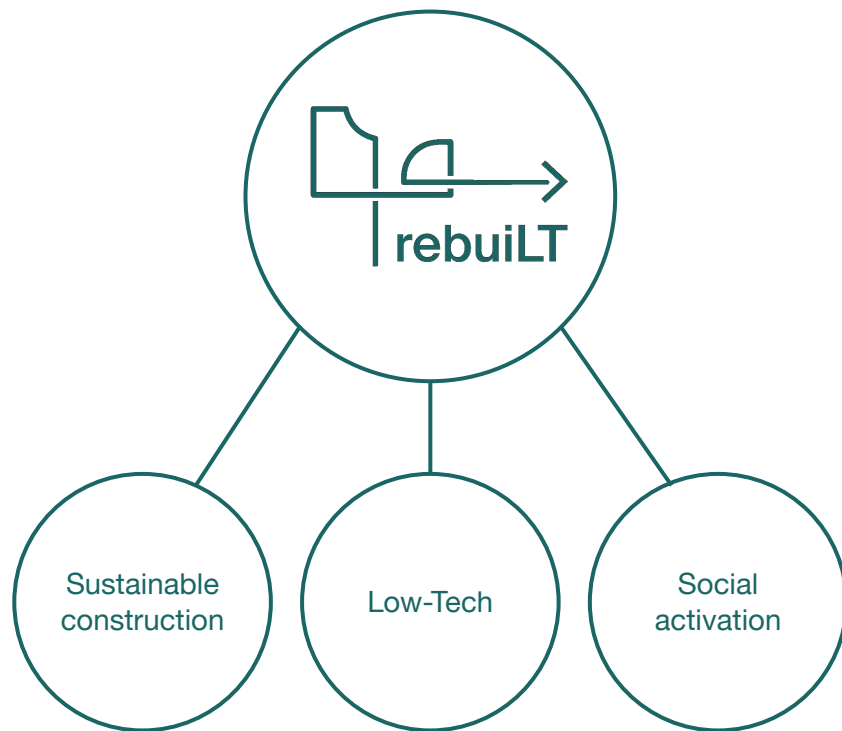
Global CO2 emissions

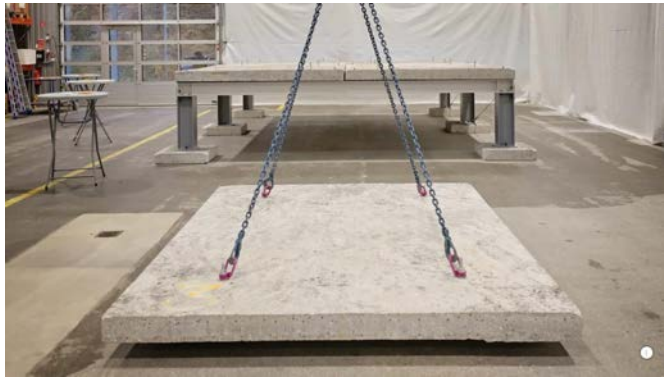


Source: Global Status Report for
 Buildings and Construction · p.42 ·
 GABC-IEA-UN · 2022



ensemble pour
une écologie
solidaire





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© SXL

Reinforced concrete reuse



STEINER

CAND-LANDI

Non-structural reuse, material hunting



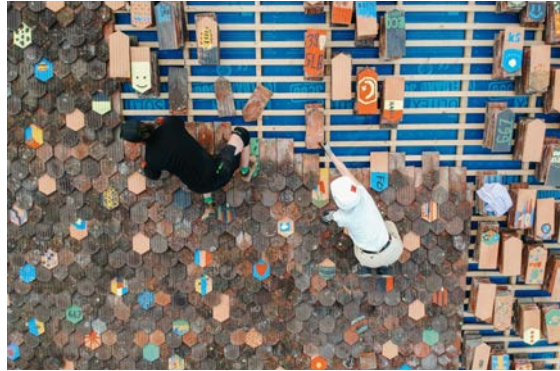
Bio-sourced materials and construction methods



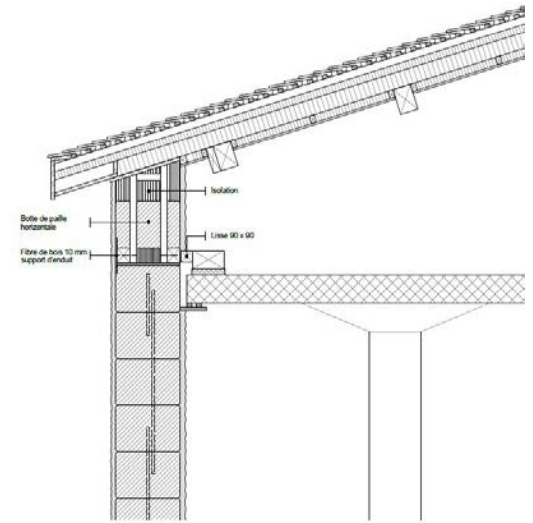
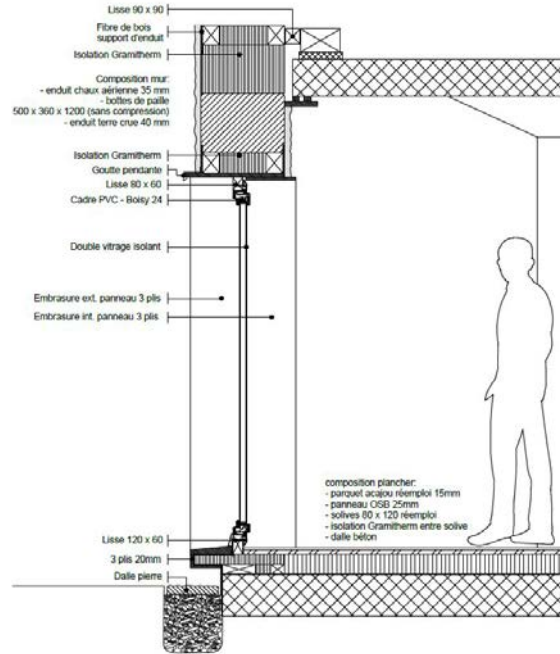
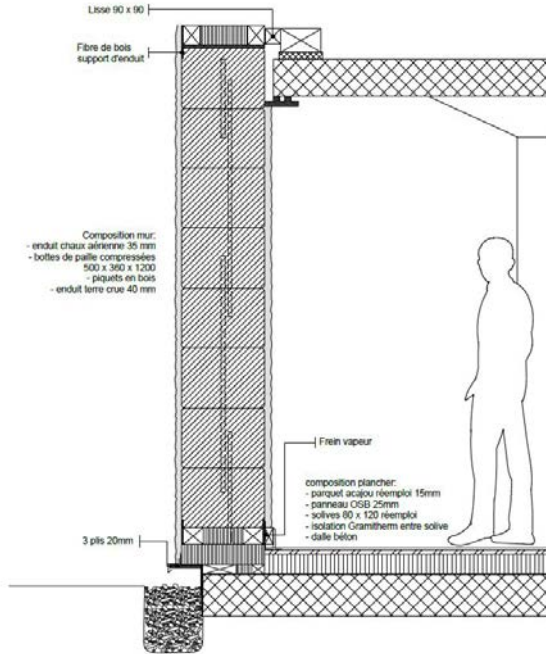
Bio-sourced materials and construction methods



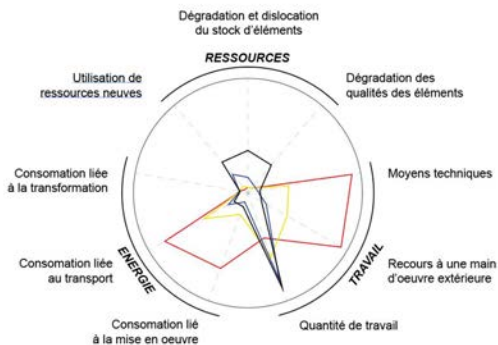
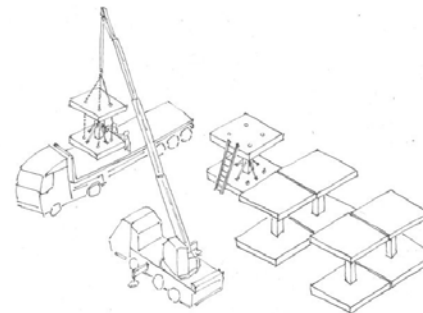
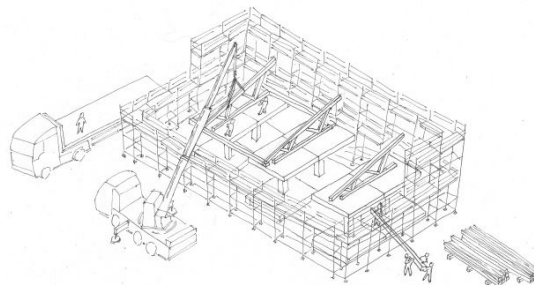
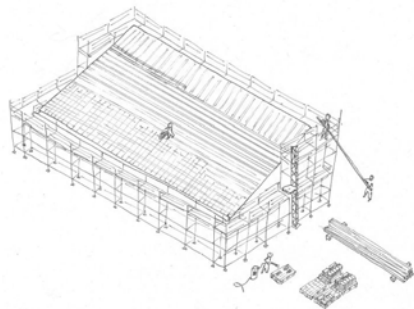
Roof construction: Reused and bio-sourced materials + participation



Design for sobriety

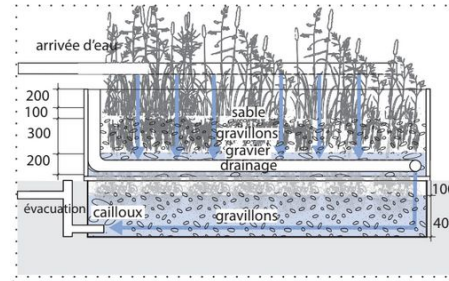


Design for disassembly



| Eléments | matérialité | quantité | dimension | unité | Poids | unité | transport? qualité* | provenance principale | nombre de potelet de déconstruction** | polluant | commentaire | |
|----------------------------------|------------------|------------|------------|----------------|-------------------|-------------------|---------------------|-----------------------|---------------------------------------|--------------------------|-----------------|--|
| Couverture | | | | | | | | | | | | |
| tate | terre cuite | ± 6000 | 15°40'2 | cm | 38 | Kg/m ² | !! - bonne | Valtaire 2 Ecublens | 2 | déconstruction partielle | pas de polluant | |
| lattice | bois (sapin?) | 174 | 4°5'550 | cm | 450 | Kg/m ³ | ! - excellente | Simon Von Stürler | 1 | déconstruction totale | pas de polluant | |
| contre-lattice | bois | 2,7°50'550 | cm | 450 | Kg/m ³ | | ! - excellente | Simon Von Stürler | 1 | déconstruction totale | pas de polluant | |
| planche de rive | bois | x | 3°40'x | cm | 450 | Kg/m ³ | ! - excellente | Simon Von Stürler | 1 | déconstruction totale | pas de polluant | |
| pare-pluie | PVC | 3 | 65 | m ² | 80 | g/m ² | ! - excellente | inconnu | 1 | déconstruction partielle | risque | |
| chêneau | couvre | 4 | 33°33'420 | cm | 9 | g/m ³ | ! - excellente | Claude Mumenthaler | 1 | déconstruction totale | pas de polluant | |
| vis | acier galvanisé | ± 2000 | cm | 7800 | Kg/m ³ | | ! - excellente | inconnu | 1 | déconstruction partielle | pas de polluant | |
| Charpente | | | | | | | | | | | | |
| chevron 1 | bois (sapin?) | 8 | 8°12'450 | cm | 450 | Kg/m ³ | ! - excellente | Simon Von Stürler | 1 | déconstruction totale | pas de polluant | |
| chevron 2 | bois (sapin?) | 40 | 8°12'450 | cm | 450 | Kg/m ³ | !! - bonne | inconnu | 2 | déconstruction totale | pas de polluant | |
| panne 1 | bois (sapin?) | 4 | 20°20'850 | cm | 450 | Kg/m ³ | ! - excellente | Simon Von Stürler | 1 | déconstruction totale | pas de polluant | |
| panne 2 | bois (sapin?) | 6 | 14°20'850 | cm | 450 | Kg/m ³ | ! - excellente | Simon Von Stürler | 1 | déconstruction totale | pas de polluant | |
| bois (sapin?) | 3 | 14°20'700 | cm | 450 | Kg/m ³ | | ! - excellente | Simon Von Stürler | 1 | déconstruction totale | pas de polluant | |
| bras des fermes | bois (sapin?) | 2 | 14°20'600 | cm | 450 | Kg/m ³ | ! - excellente | Simon Von Stürler | 1 | déconstruction totale | pas de polluant | |
| brs des fermes | bois (sapin?) | 1 | 14°20'700 | cm | 450 | Kg/m ³ | ! - excellente | Simon Von Stürler | 1 | déconstruction totale | pas de polluant | |
| feuilard perforé | acier galvanisé | 4 | 1200°0,5°4 | cm | 7800 | Kg/m ³ | ! - excellente | inconnu | 17 | déconstruction totale | pas de polluant | |
| isolation | laine de mouton/ | 210 | 12°60°100 | cm | 40 | Kg/m ³ | ! - excellente | Simon Von Stürler | 1 | déconstruction partielle | pas de polluant | |
| panneau GUTEX DV | laine de bois | 10 | 255°60°6 | cm | 150 | Kg/m ³ | ! - excellente | IS WOOD | 1 | déconstruction totale | risque | |
| vis filetage complet | acier galvanisé | 60 | 0,85°35 | cm | 7800 | Kg/m ³ | ! - excellente | inconnu | 1 | déconstruction partielle | pas de polluant | |
| vis pour chevron | acier galvanisé | 150 | 0,6°20 | cm | 7800 | Kg/m ³ | ! - excellente | inconnu | 1 | déconstruction partielle | pas de polluant | |
| Faux plafonn et isolation | | | | | | | | | | | | |
| pare vapeur | | 1 | 150 | m ² | | | ! - excellente | inconnu | 1 | déconstruction partielle | risque | |
| lambourde techn | bois (sapin?) | | 4°6°500 | cm | 450 | Kg/m ³ | ! - excellente | Simon Von Stürler | 1 | déconstruction totale | pas de polluant | |
| isolation | laine de mouton/ | 168 | 6°60°100 | cm | 40 | Kg/m ³ | ! - excellente | IS WOOD | 1 | déconstruction partielle | pas de polluant | |
| vis | acier galvanisé | | | | 7800 | Kg/m ³ | ! - excellent | inconnu | 2 | déconstruction partielle | pas de polluant | |

Low techs in an urban environment



Collaboration with future users



Collaboration with future users

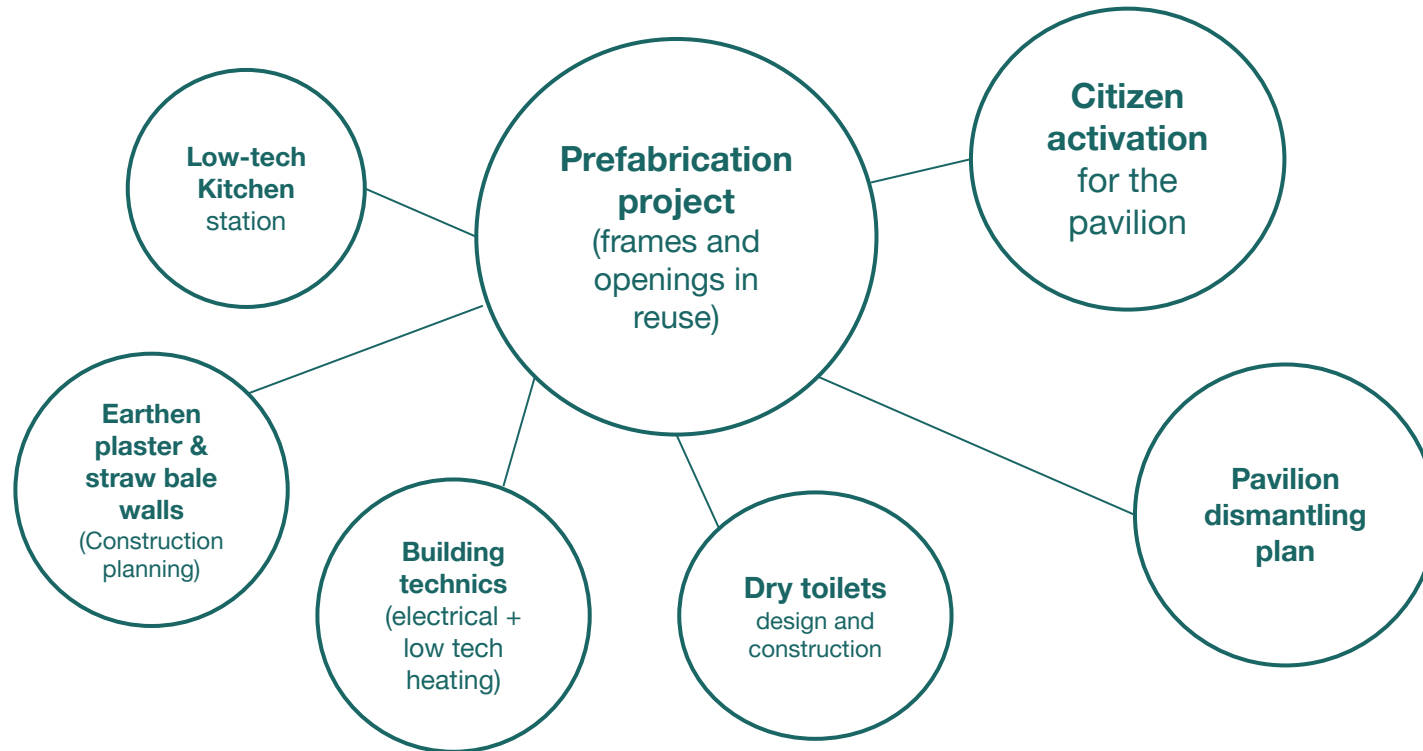


REBUILT PROJECT

Construction progress



This semester's projects



What's next?

→ Participative worksite during 4 weeks in July and August

- End of the straw walls and plasters
- Reused windows
- Reused flooring

→ Building operation for 1 year (possibly more)

→ Reconstruction of the pavilion in another site ?



08.07.24
> 19.07.24
place du Pontet,
Ecublens

construction de
murs en paille
4 ECTS

n°1



pose d'enduits
de terre
4 ECTS

19.08.24
> 30.08.24
place du Pontet,
Ecublens

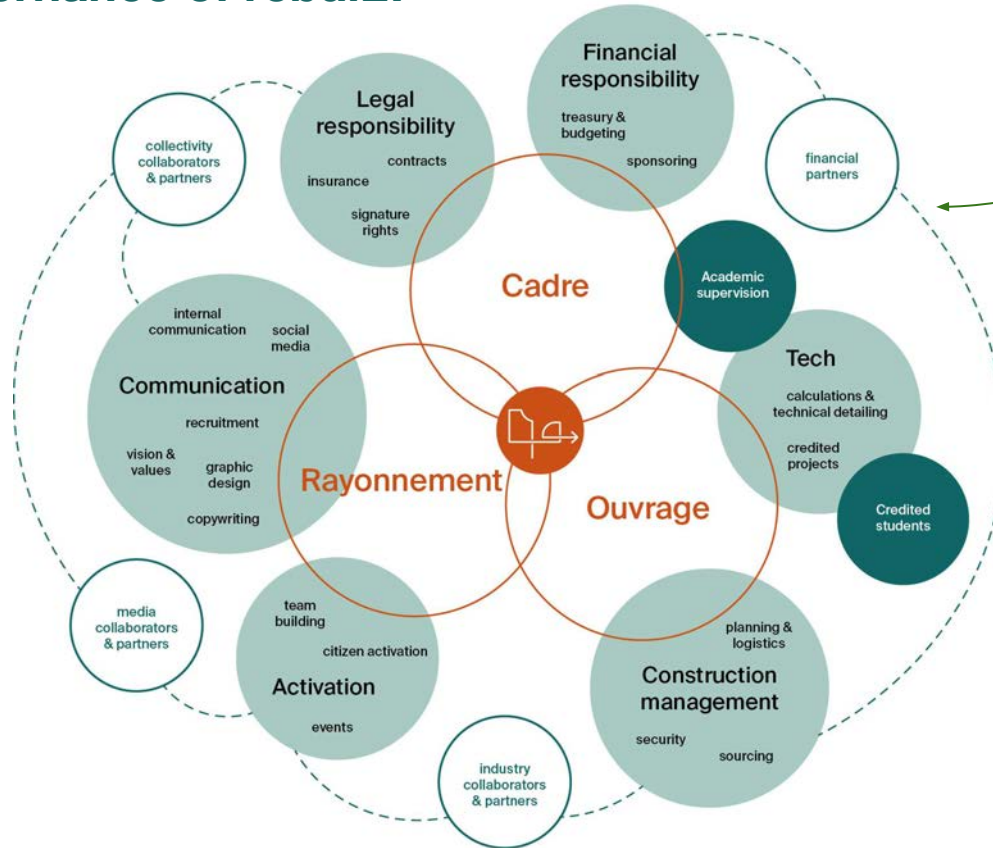
n°2

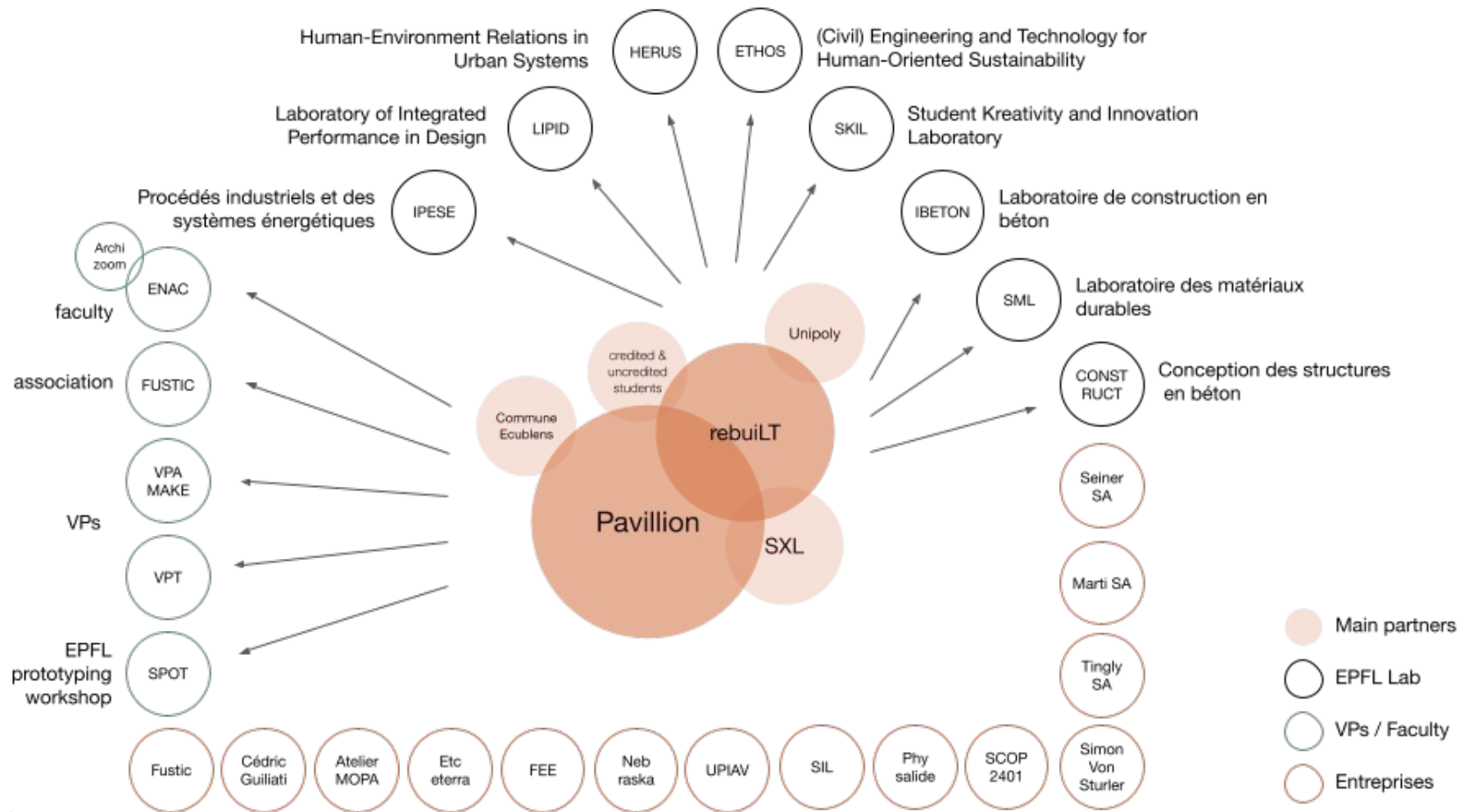


Shared governance of rebuiLT



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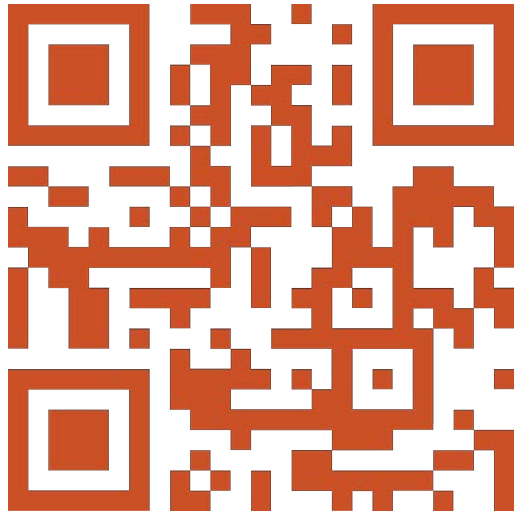




Work with a great team and have fun!



More info on the project



website:

go.epfl.ch/rebuilt

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rebuilt@unipoly.ch

gram:

[@rebuilt_epfl](https://www.instagram.com/rebuilt_epfl)

EPFL

**STRUCTURAL
XPLORATION
LAB**

STEINER

ECUBLENS
ville et campagne



physalide
ARCHITECTURE
DURABLE



**etc
etera**



**Marti
Construction SA**

**DURABILITÉ
EPFL**



scnat
akademie der naturwissenschaften
académie des sciences naturelles
swiss academy of sciences
accademia di scienze naturali

Makita

Tinguely

Gaston MILLE

SIL
SERVICES INDUSTRIELS LAUSANNE

FORUM EPFL

UPIAV

union patronale des ingénieur-e:s
et architectes vaudois-es