

A stylized graphic of a straw bale, composed of vertical yellow lines of varying heights, located on the left side of the slide.

ESBG 2015

EUROPEAN STRAWBALE GATHERING MONTARGIS | PARIS

A decorative horizontal band consisting of seven parallel yellow diagonal stripes.

aPROpaille

Recognition of straw-bales use in buildings

Arnaud Evrard – UCL / Architecture et Climat

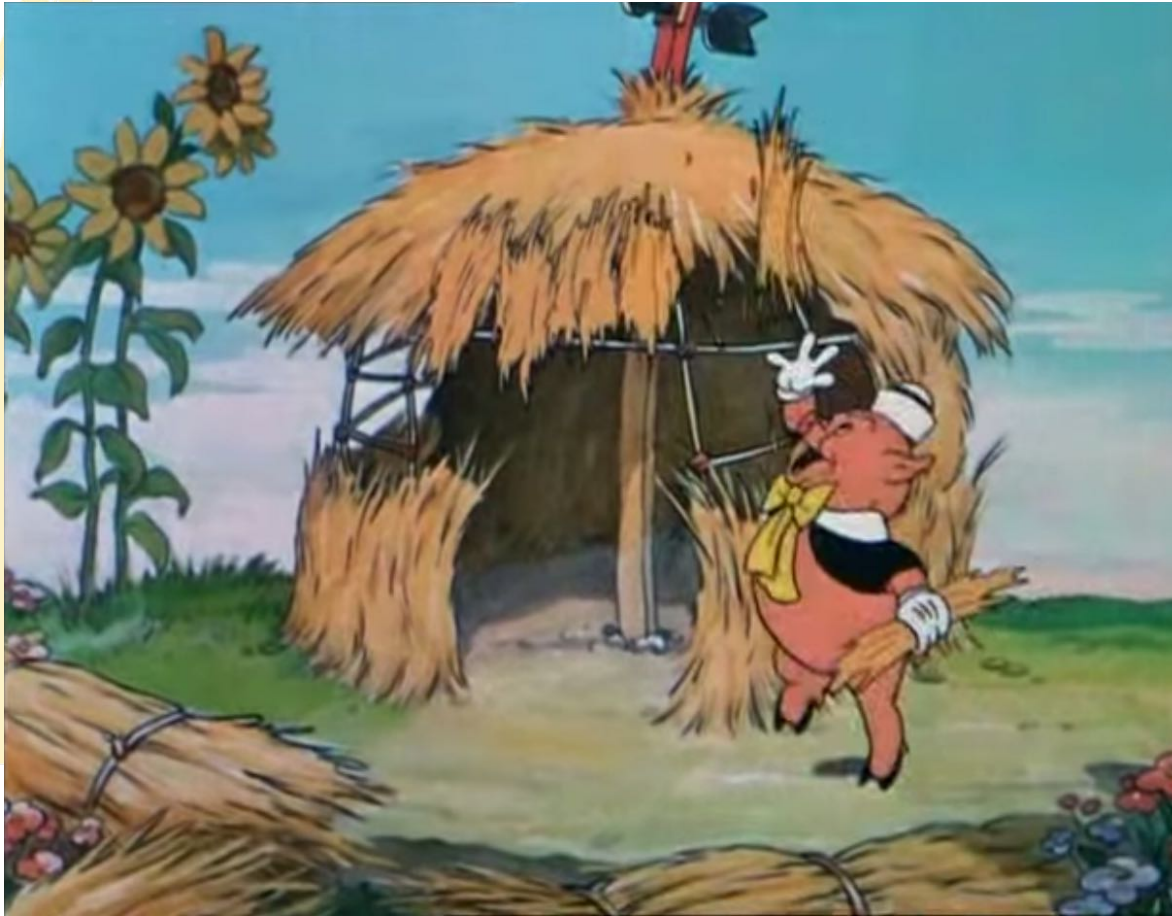
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A local resource in Belgium and elsewhere



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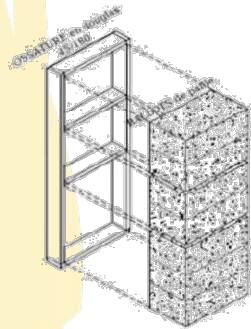
Combat bias and prejudices and promote a fair appreciation



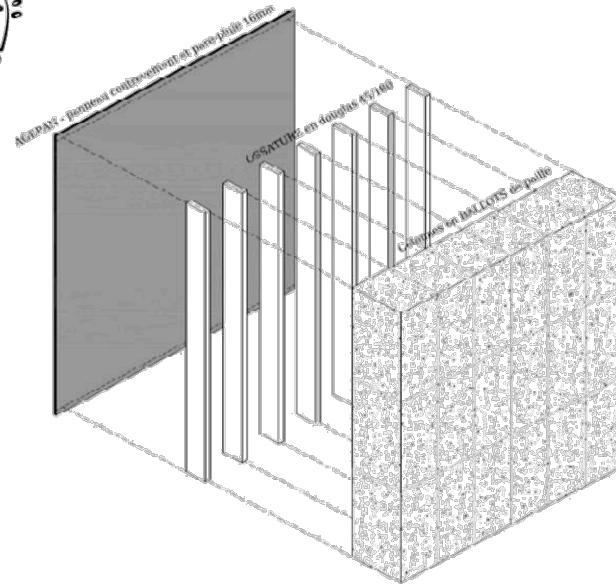
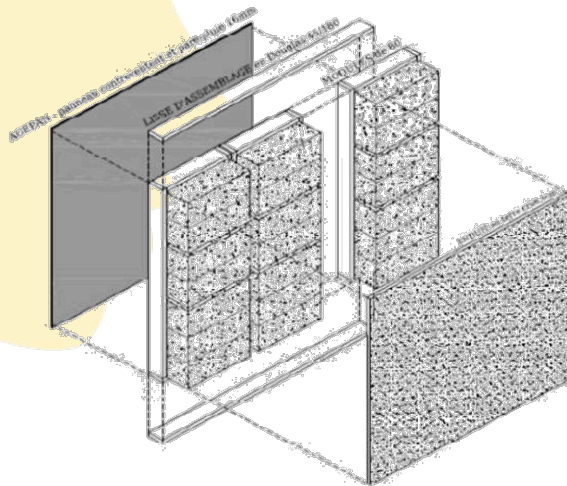
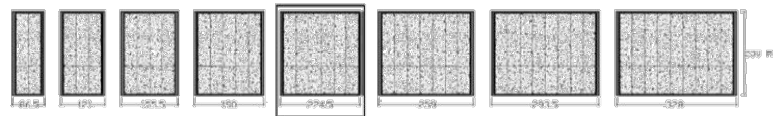
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A promising company in Belgium: Paille-Tech

Phase 1 : Module of 80 cm



Phase 2 : Wall of 2 to 10 columns



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Research partners

- Dr Ir Arch Arnaud Evrard and Prof André De Herde
Architecture et Climat / LOCI / SST / UCL, Louvain-la-Neuve



- Ir Gauthier Keutgen and Arch Benjamin Biot
Institut de conseil et d'étude en développement durable – ICEDD, Namur



- Prof Frédéric Lebeau and Ir Arnaud Louis
Biose / ULg, Gembloux



- Prof Luc Courard and Ir Arnaud Louis
GeMME / ULg, Liège



- Arch Antoine Bonnert
Paille-Tech, Franière



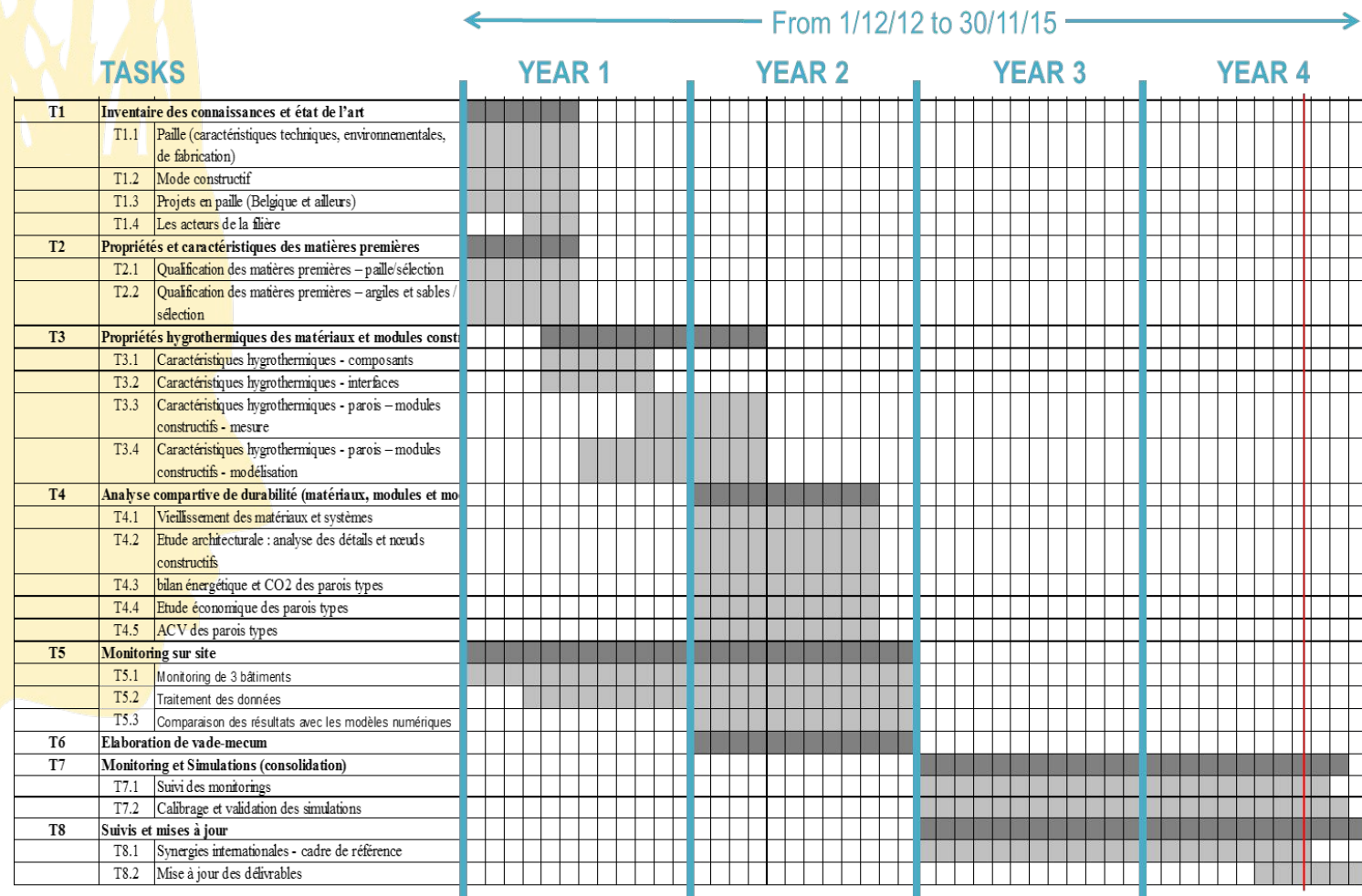
-
- Laurence Polain
DGO4 / SPW, Jambes
 - Olivier Dierckx
DGO6 / SPW, Jambes



Wallonie

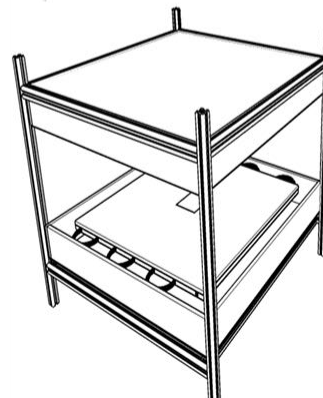
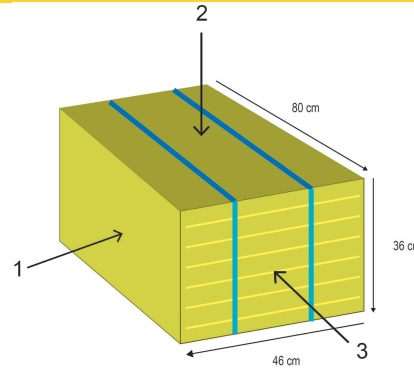
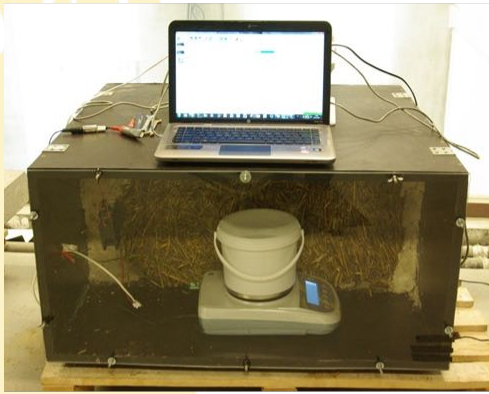
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A 4 years research project financed by Walloon Region



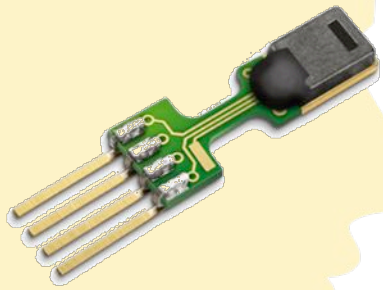
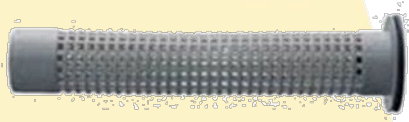
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Measuring thermal conductivity and other hygrothermal parameters

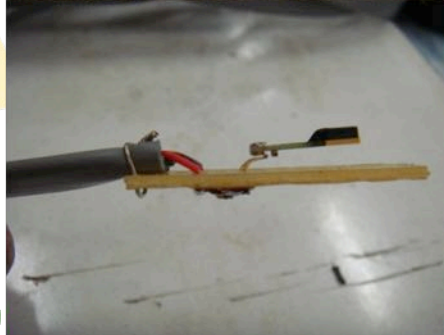


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Developing new chains of sensors adapted to straw-bale walls

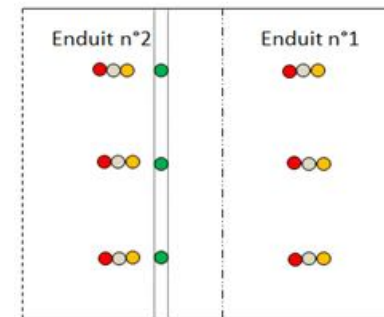
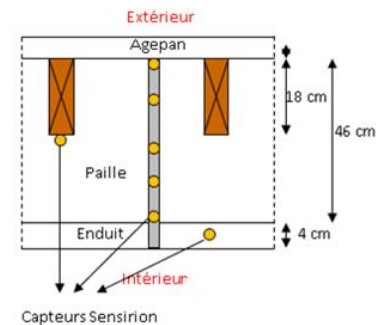
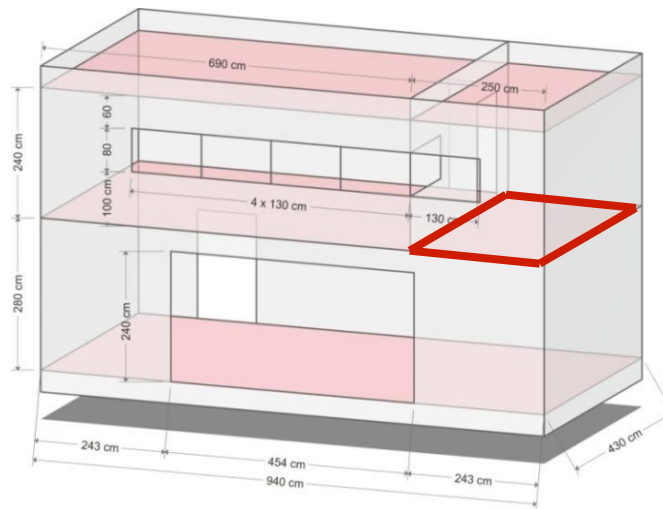
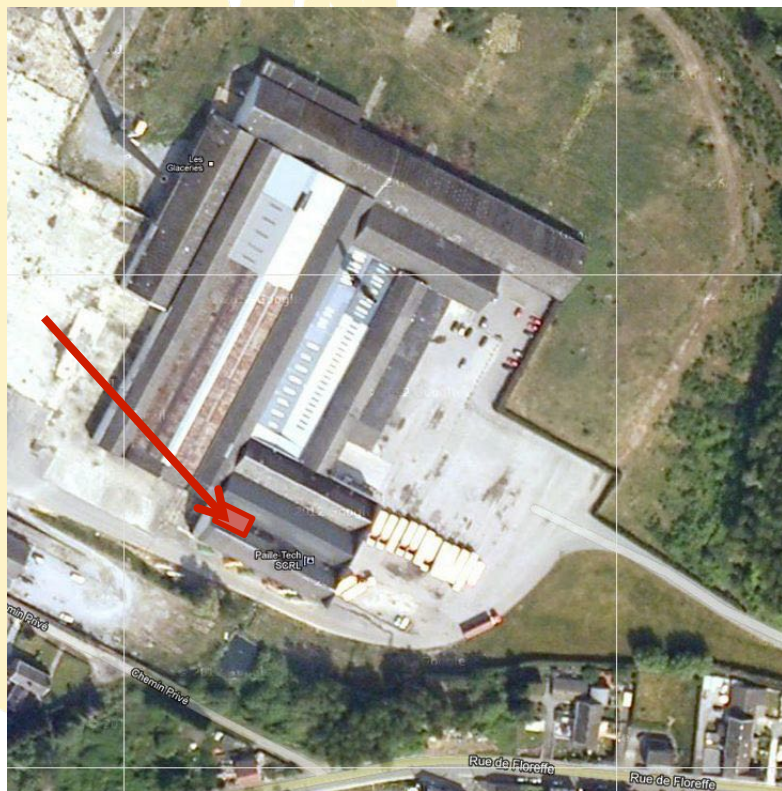


SENSIRION
THE SENSOR COMPANY
SHT75 - Digital Humidity Sensor (RH&T)

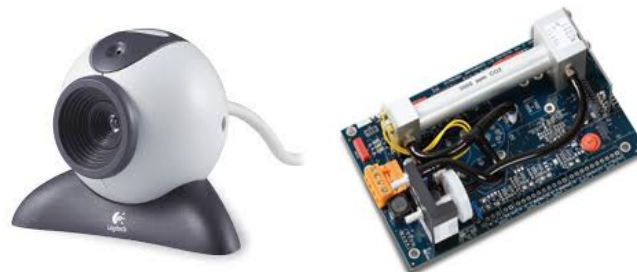


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Monitoring of 3 buildings: 1. Offices of Paille-Tech in Franière

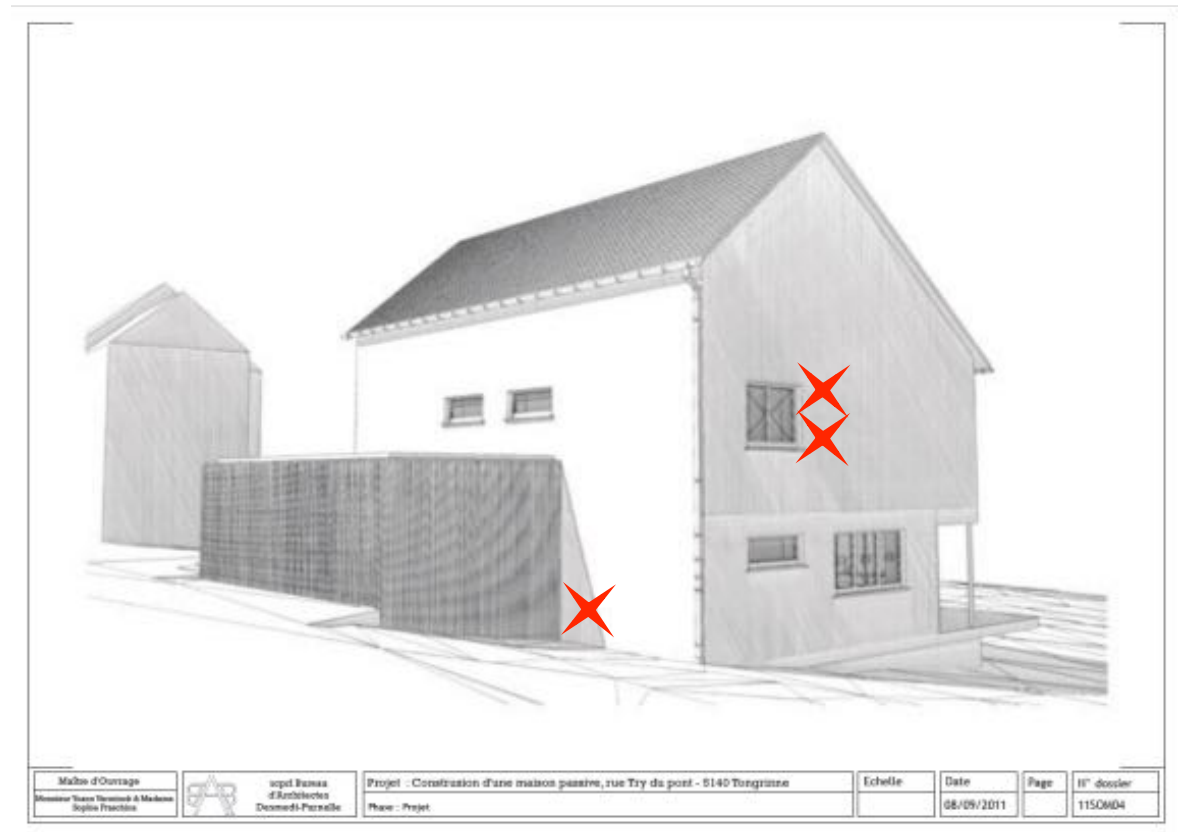
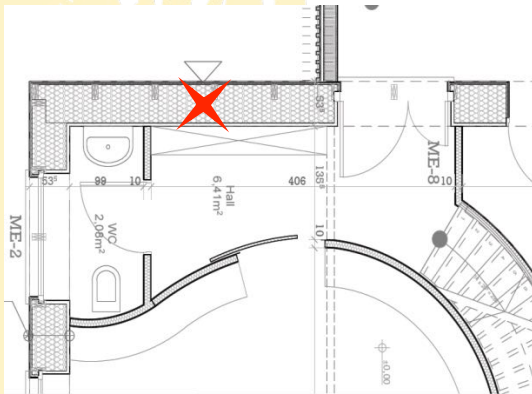


- Tubes PVC (5 capteurs)
- Capteurs dans l'enduit
- Capteurs sur l'enduit
- Capteurs sur l'ossature



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Monitoring of 3 buildings: 2. Low energy house in Tongrinne



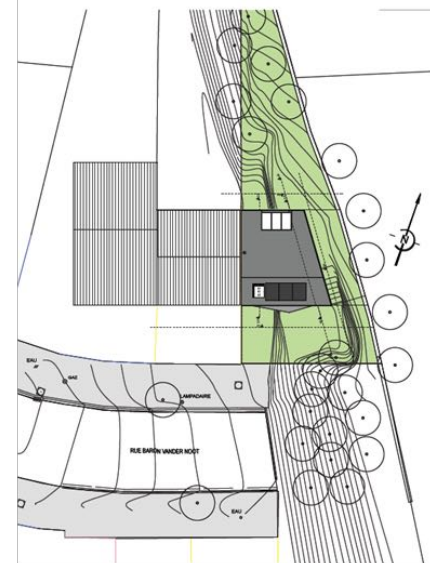
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Monitoring of 3 buildings: 3. Low carbon house in Uccle

PAILLE



PAILLE-TECH
la maison positive



BETON DE
CHANVRE



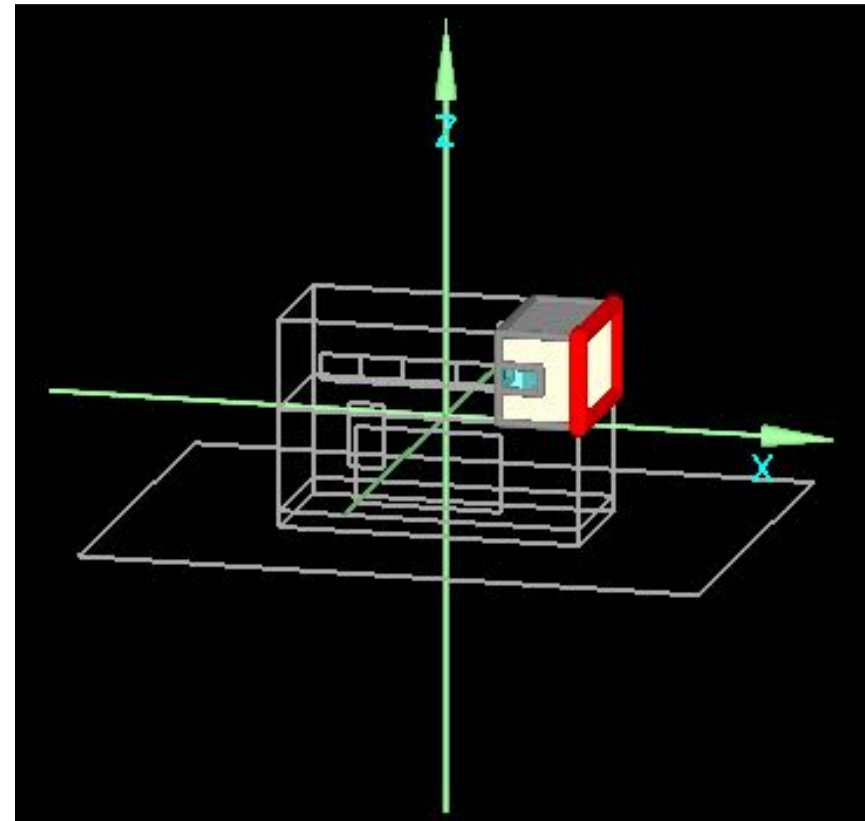
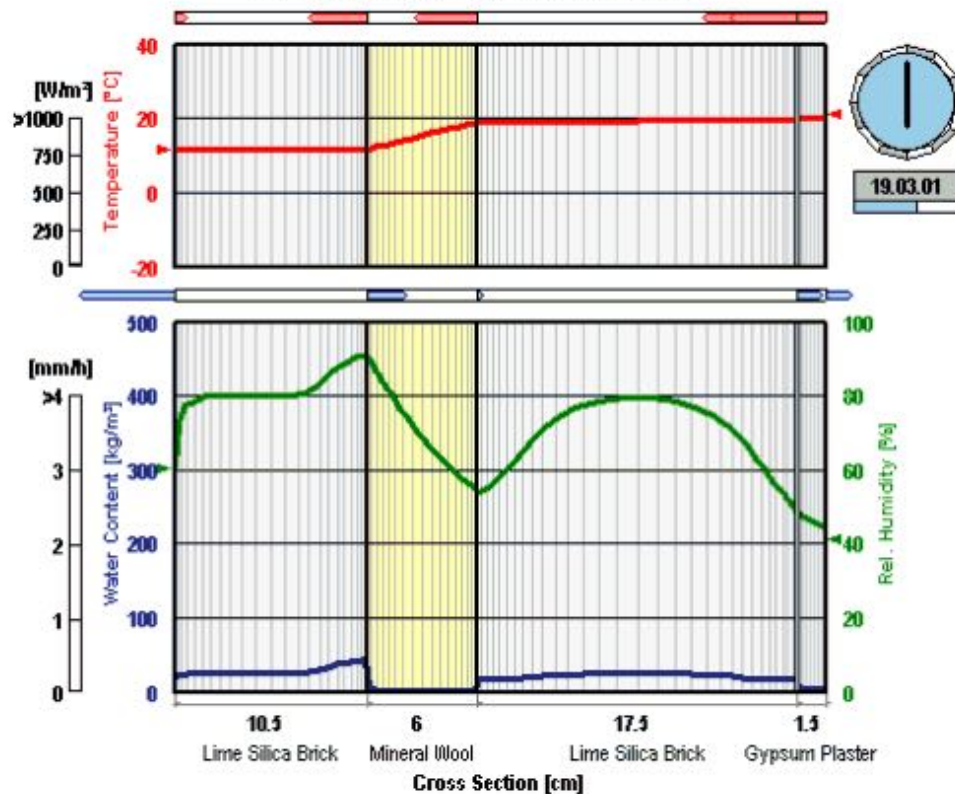
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Using WUFI-family software to assess performances and comfort

Location: Holzkirchen

double-leaf masonry wall exposed to driving rain

WUFI®



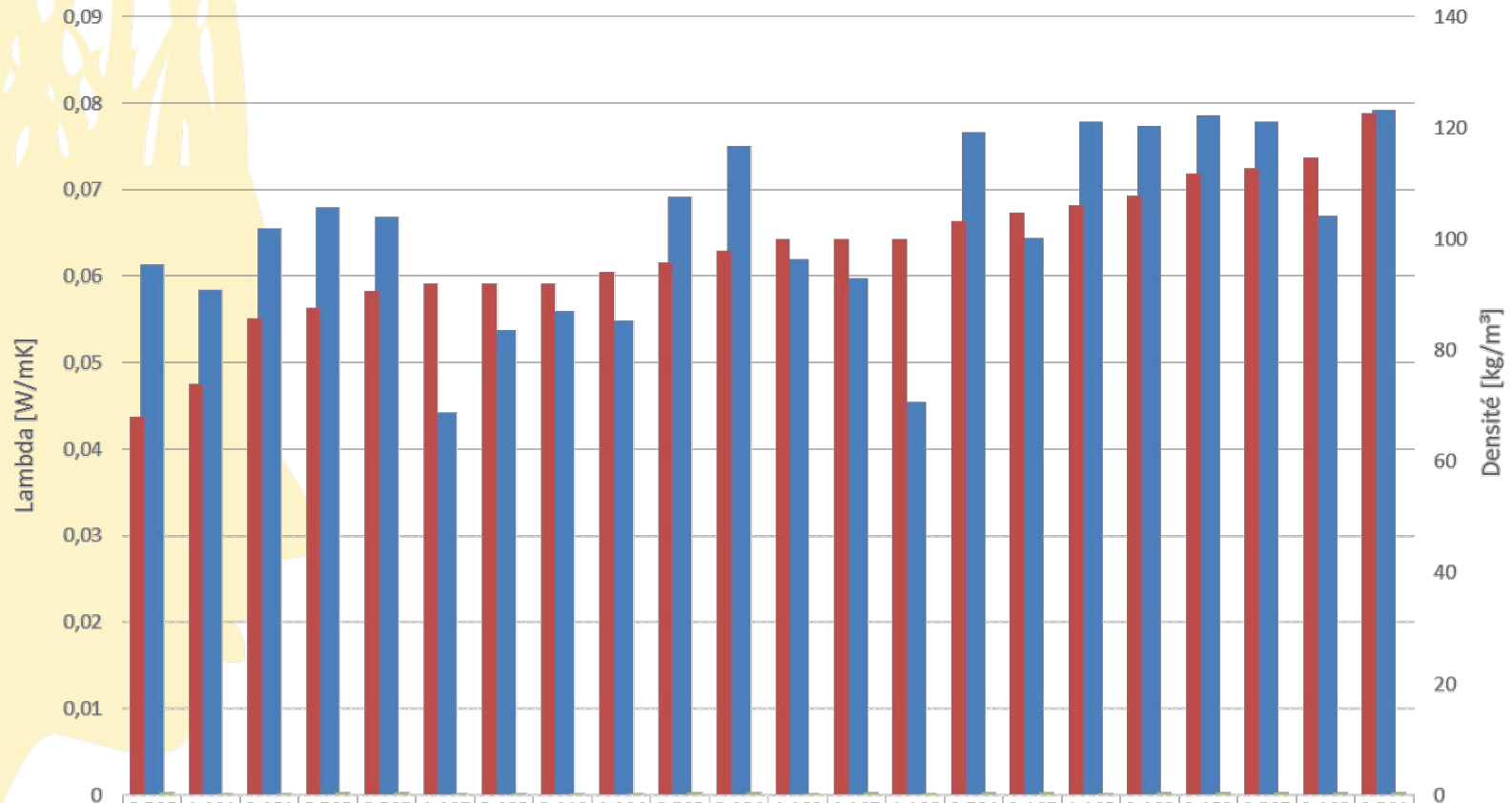
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Life Cycle Analysis



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Thermal conductivity results



■ Lambda [W/mK]	0,061	0,058	0,066	0,068	0,067	0,044	0,054	0,056	0,055	0,069	0,075	0,062	0,06	0,045	0,077	0,064	0,078	0,077	0,079	0,078	0,067	0,079
■ Densité [kg/m³]	68,1	74	85,72	87,7	90,6	91,9	91,9	91,9	94	95,8	97,8	100	100	100	103,2	104,7	106	107,8	111,8	112,7	114,6	122,7
■ Epaisseur [m]	0,481	0,3	0,3	0,486	0,484	0,32	0,327	0,327	0,36	0,485	0,485	0,36	0,46	0,36	0,495	0,462	0,36	0,386	0,471	0,476	0,488	0,485

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3 Vademecums

La paille matière première

Recherche aPROpaille

Vers une reconnaissance de la paille
comme matériau isolant dans la construction

- Vademécum 1 -



La paille parois performantes

Recherche aPROpaille

Vers une reconnaissance de la paille comme matériau isolant dans la construction

- Vademécum 2 -



La paille parois performantes

Recherche aPROpaille

Vers une reconnaissance de la paille comme matériau isolant dans la construction

- Vademécum 2 -



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Internet platform

aPROpaille

FR EN Bonjour AE DÉCONNEXION

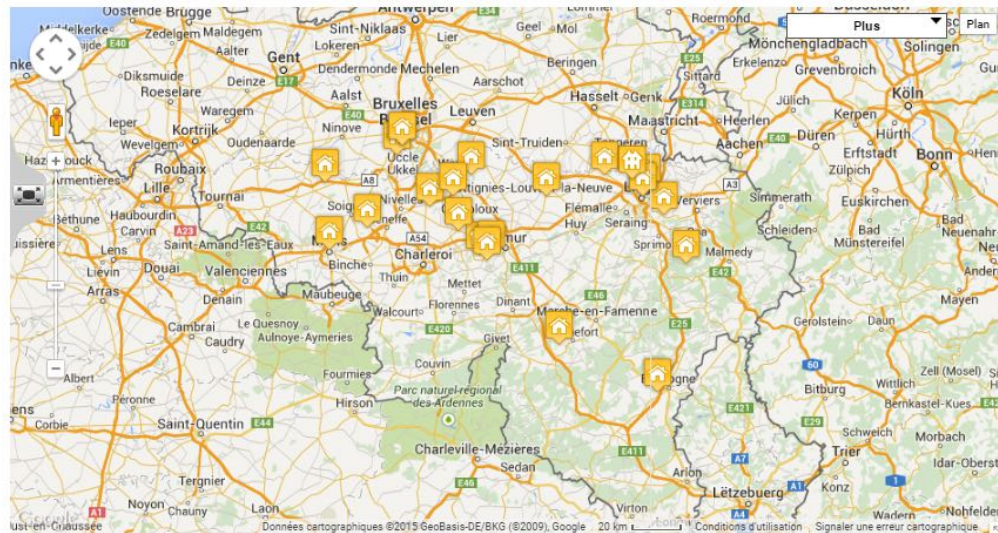
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Rechercher un projet

Filtre: **FILTRES** **RÉINITIALISER**

-- Type de travaux -- -- Année de construction --
-- Année d'occupation --
-- Standard énergétique --
-- Choisir une ville -- -- Choisir une catégorie --



www.apropaille.be