Interreg
EUROPEAN UNION
France (Channel Manche) England
CobBauge
European Regional Development Fund

Introduction and Welcome

Agenda

Time	Subject	Speakers
17:00	**Registration and Coffee**	**The Rolle Marquee, University of Plymouth**
17.30	**Welcome Speech**	**Steve Goodhew**
17.40	**Introduction**, Why CobBauge? The journey so far	**Steve Goodhew**
17.50	**Use of the wall in CobBauge buildings** The different possible wall configurations, different thicknesses, thermal layer inside or outside?	**Jim Carfrae**
18.00	**Hudson Architects** Ethos, design principles, and case studies of previous designs, aspirations for using the CobBauge material.	**Anthony Hudson** **Hudson Architects**
18.15	**Introduction to the workshop**, 'the devil is in the detail', buildings tend to work or fail because of the details we use in them. Cob and CobBauge are probably more dependent on these details than modern building techniques and as reliant on them as other buildings made from natural materials. As well as a 'gud 'at and bouts' what other details do we need to propose?	**Matthew Fox**
19.45	**Wine and Canapés** Cob Wall - Show and Tell Thermo-regulatory display with cob samples	**Steve Goodhew, Jim Carfrae,** **Matthew Fox, Kevin Owen, Anthony Hudson and Karen Hood-Cree**

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CobBauge the 1st Phase;

Cob Mixes; thermal and structural

Project partners

Academics from Plymouth are working alongside;

- Ecole Superieure D'ingenieur des Travaux de la Construction de Caen (ESITC)
- Syndicat Mixte du Parc naturel régional des Marais du Cotentin et du Bessin (PnrMCB)
- Earth Building UK and Ireland (EBUKI)
- Université Caen-Normandie (UCn), and
- Hudson Architects, Norfolk, UK (HA)

The Material

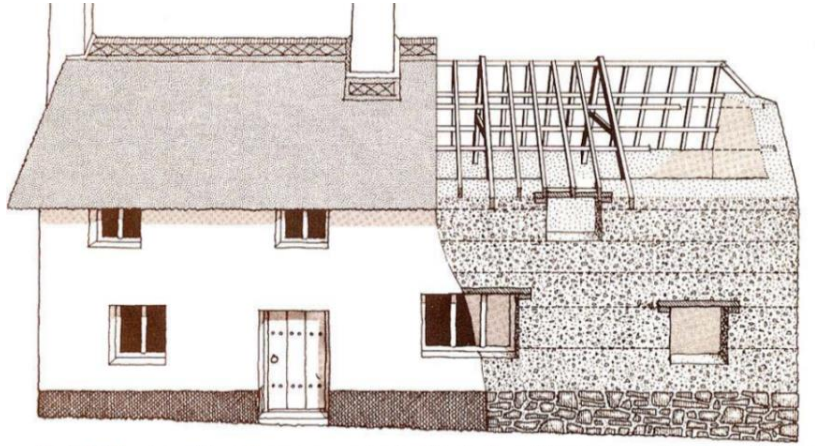
Cob

Layer of subsoil mixed with straw, laid upon a plinth in layers of approx 700mm high.

Allowed to dry before the next layer is laid and the windows and doors cut out afterwards.

ALWAYS needs '*gud 'at and boots*'

Traditional method of cob construction showing mixing, placing material on the wall, compaction by treading and paring back the wall face.



A typical 17th century cob house showing some constructional details. The wall is built off a stone plinth in several layers, or lifts, and lintels and roof timbers are supported on the cob, using timber pads or cross pieces where necessary.

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The Project

The CobBauge project (a merging of the English and French words for the technique) will run until the beginning of 2023 and has received funding from the Interreg VA France (Channel) England Programme, co-financed by the European Regional Development Fund (ERDF).

The CobBauge project aims to improve the thermal performance of Cob whilst still maintaining its structural and moisture related properties.

What happened next?

- 20 mixes of Cob that show ‘promise’
- 4 mixes, 2 French and 2 UK that are optimal
- 2 mixes selected for a potential stage 2 project.

This lead to a series of design calculations that established that the most efficient method of producing a Cob wall to satisfy the thermal regulations is to **use a thermal and a structural mix in one single system**.

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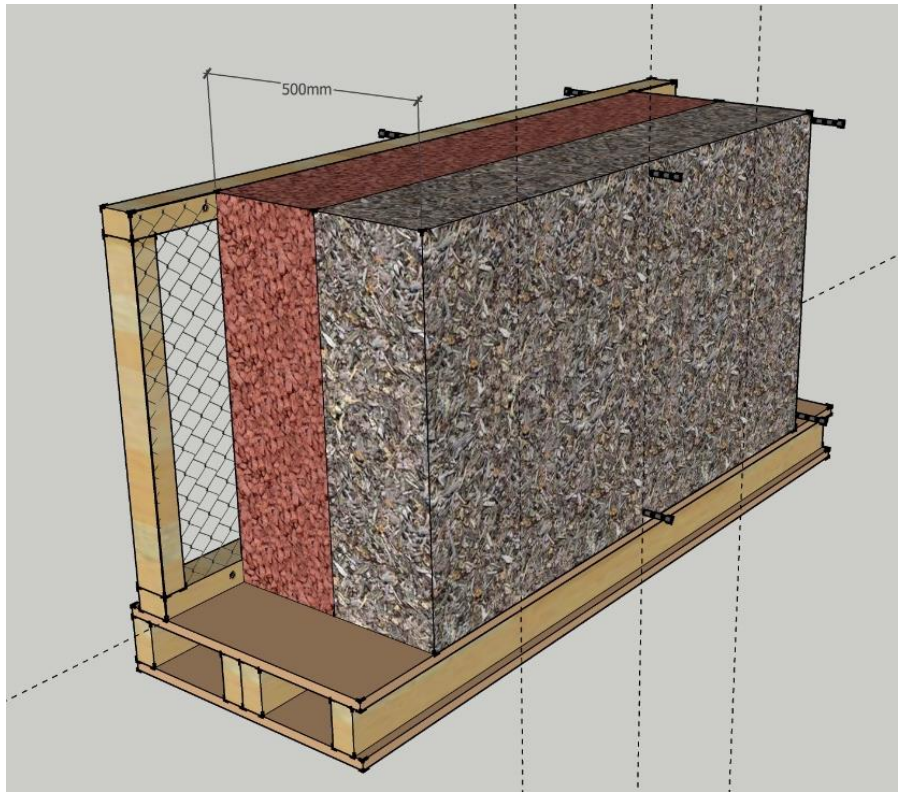
2-layer wall

Composit Cob + finishes	Density kg/m3	Thickness m	Cond. W/m.K	Resistance m2 K/W
Internal surface		n/a	n/a	0.12
Internal insulated plaster		0.03	0.60	0.05
Dense Cob UK6 2.5% Hemp straw	1423	0.250	0.42	0.60
Lightweight Cob UK3 50% Hemp shiv	340	0.250	0.10	2.50
Insulated render		0.03	0.60	0.05
External Surface		n/a	n/a	0.06
Total Resistance				3.38
U-Value W/m2K				**0.30**



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The CobBauge Wall

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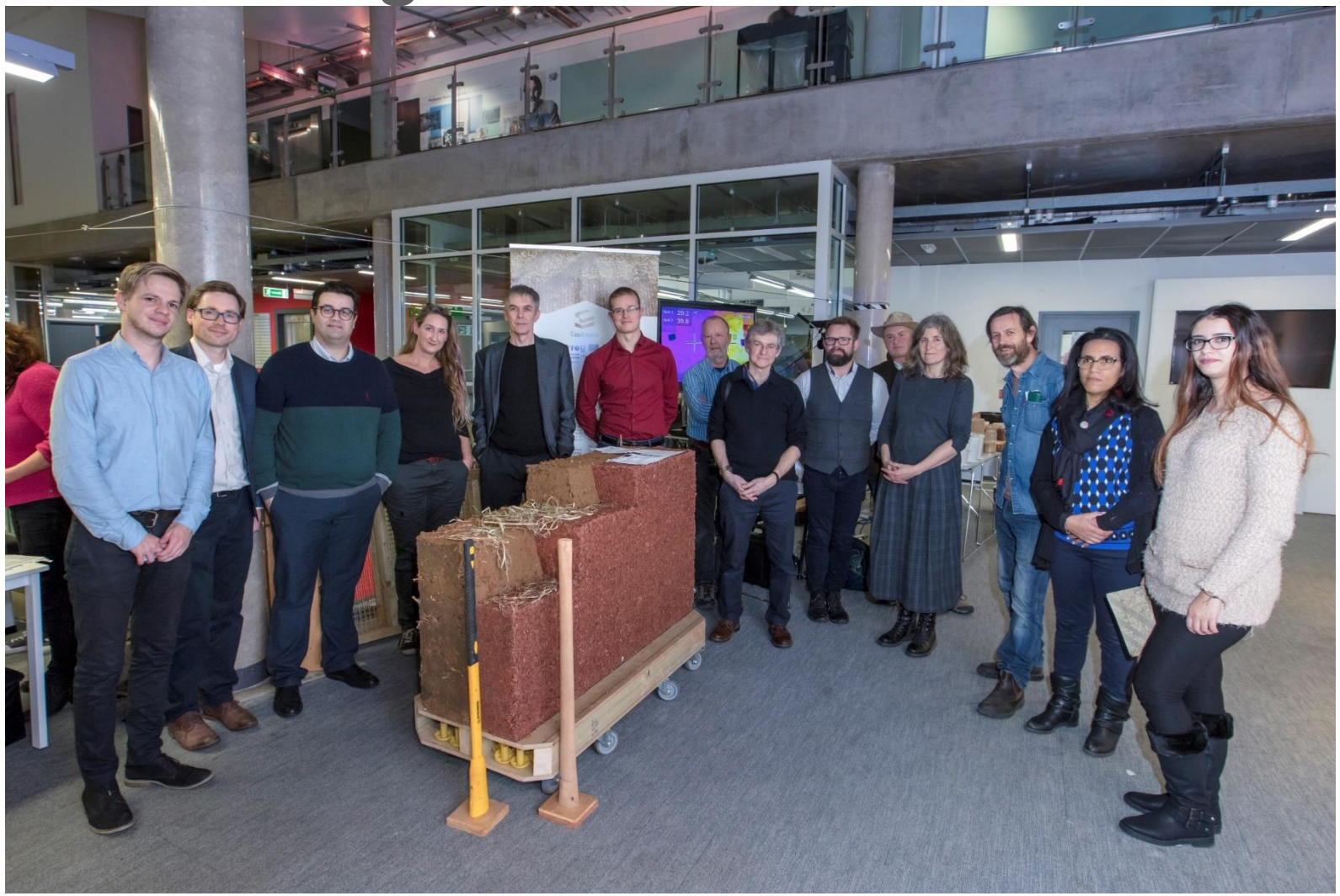
The CobBauge Wall and Partners



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CobBauge the 2nd Phase;

Building, monitoring, networks and training

Building

- Construction
- Why? The need to prove the new CobBauge technology
- Two buildings to be constructed, one in France and one in the UK.
- Both buildings need to be occupied to give valid comparisons with non-CobBauge buildings

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Networks and training

- Réseaux et formation

  - Why networks and training? For any innovation to succeed it needs to be accepted by industry and have people who understand how to use the product.

  - The initial network will be extended, more professionals and practitioners included including SMEs and local and national authorities.

  - The two newly completed CobBauge buildings will be the centre point of training activities, both on-site and online materials.

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Monitoring of the buildings

- Surveillance (des mesures) des bâtiments des mesures

- Why monitor/measure? To provide evidence that the buildings perform as expected.

- Monitoring/measurements to be undertaken over at least two heating seasons

- Measurements taken of Energy, internal air quality and thermal performance.

Thank you …and let us have a look at some of the options that a double-layer wall system affords.

Over to Jim