

EURBAN – Leaders in Solid Timber Construction: The UK experience and lessons for the developing Polish market

Britische Erfahrungen und Lehren als Basis für die Entwicklung des polnischen Holzbaumarktes

Le retour d'expérience britannique comme base de travail pour le développement du marché polonais de la construction bois

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“When is the best time to plant a tree? — Twenty years ago.
When is the second best time? — Today.”
Chinese Proverb

Introduction

Since 1979 Jadav Payeng has single-handedly planted a forest in the middle of a barren wasteland on the Majuli Island in the Brahmaputra River. His forest is now larger than Central Park providing significant protection against land erosion from regular flooding.

Since 2003 EURBAN have been working on re-introducing timber as a mainstream building material to the UK market. We hope that our experience, will be able to inform the CLT pioneers on the Polish market.

In this presentation, I would like to take a brief look at the Polish timber heritage and examples of successful timber and forest conservation.

Furthermore, I will outline the joined development of EURBAN and the CLT market-space in the UK. In this way, I hope to illustrate how timber can deliver on the requirements of modern construction whilst being fully sustainable.

Lastly, we will take a conclusive look at the lessons-learned in the context of passive timber conservation.

1. The Polish Timber Heritage

Timber is a material we know very well. We have worked and built with it for centuries, we know how it grows, how to harvest it, treat it and how it ages. But somehow it was forgotten with the advent of industrial revolutions dominated by iron and later steel.

We now have to bridge over these 250 years. We can do this with the help of historic timber sites and the know-how of specialists who care for them. Timber sites are great examples for passive timber conservation. In the presentation we will take a look at some of many historic examples in Poland.

2. The Joined Development of EURBAN and the CLT Market-Space in the UK

Every forest starts from the first seed. In 2003 Liam Dewar and Jonathan Fovargue founded EURBAN and prepared the ground for CLT. Whilst building the first timber structures, they started developing:

- in-house engineering
- material supply, and
- in-house installation

and joining these up to provide a seamless and easy-to-use, local, i.e. UK-based service.



Figure 1: Caldicott School in Buckinghamshire, Picture ©

In 2003 the first seed was planted with completion of the first CLT building in the UK: the 65 m² extension of Caldicott School in Buckinghamshire.

In the presentation we will look at a series of examples of EURBAN's projects that track the development of the CLT market-space in the UK and highlight the typological evolution of CLT from:

Small Scale Interventions, Problem Solving Solutions,

that thanks to CLT properties they filled a market niche where other structural materials could not perform and became evangelists for a resurgence of timber as modern, smart structural material.



Figure 2: Carlisle Lane Lofts, Picture © EURBAN

Private Houses,

which became fantastic marketing vehicles for CLT. Driven by renowned architects they received much publicity and well-earned awards, which also means awards for a sustainable timber construction philosophy.



Figure 3: Sunken House, Picture © Ed Reeve

Schools,

that served greatly in pushing modern timber technologies towards becoming a mainstream material. The demand for short programme and cost savings contributed to the improvement of logistics, efficiency, detailing and all related processes.



Figure 4: Ickburgh School, Picture © Storaenso

Multi-storey Residential Buildings,

which in the dense urban fabric of London firmly established the main stream market-space for CLT. Developing multi-storey residential structures is probably the ultimate crash-test for all aspects of modern timber structures. Here, all key misconceptions, fears and reservations come out at every step of the process. Being a challenge, multi-storey residential developments helped to synthesise and sharply highlight that CLT can answer to the requirements of the modern housing market whilst being fully sustainable and offer a vision of the future of our cities as densified, sustainably built and well managed settlements.

Given that all the projects shown were PEFC / FSC certified, it means that the volume of timber used contributed to planting an amount of trees that is approximately equivalent to half of the area of Javad Payeng's forest.

3. Eurban's Lessons-Learned in the Context of Passive Timber Conservation

"Trees anchor our ability as human beings to be able to live on this planet."

David Milarch, Arborist



Figure 5: Picture © Jens Schaumann

This statement by arborist David Milarch is in so far significant as trees cater to so many crucial aspects of [not only] our life: they filter the air and shape the climate, they store carbon, they purify water and provide us with energy and building material.

Looking at this last aspect in isolation for a moment and considering how quickly a sustainably managed forest regrows the timber, we can see that sustainable timber construction actually contributes to re-forestation, rather than the opposite.

As a mainstream building material timber has to adhere to the same codes and guarantees as other structural materials. We know that it can be achieved by applying the basic principles of passive timber conservation — material selection, detailing and maintenance — whilst being sustainable.

Nowadays we have to engineer the timber, which comes from in average 80-years old trees, so that it emulates and improves the performance of the two centuries old trees that were used in the Gothic churches in the past.

Fire and bio-corrosion are the main threats to timber. Bio-corrosion can occur when the timber is exposed to excessive moisture. From historic timber buildings, we have learnt that an interplay of the following (list below) is the key to successful timber conservation:

- material selection
- moisture monitoring and management during and after construction
- the base detail
- the wall detail
- the roof detail

In fact, this is not any different with other structural materials, which need to be protected against fire and moisture.

In the presentation we will take a look at these basic details and show how they have developed from 1459 until today. It will become evident that not too much has changed in principle.

One should therefore not forget about the know-how that is preserved within the Polish historic timber sites; a striking argument to support conversations with new clients, designers and contractors who consider the use of CLT on the Polish market. It is also an argument for conservation: well conserved timber buildings can inform modern timber technologies and design and thereby contribute to the conservation of the Polish natural heritage – and re-forestation.

It is simple and effective, like the persistence of Jadav Payeng preparing the ground and single-handedly planting a forest – starting from the first seed.