

PITCH DECK

Bernd Oberacker

EUROMBAO

Our company named EuroMbao is a Ltd founded in 2014 in Nairobi.

ABOUT US



Our company named EuroMbao is a Ltd founded in 2014 in Nairobi.

Purpose: to bring experience, technology and quality.

Mission statement: we develop high performing people that deliver successful project.

Vision statement: to be the builder of choice for value minded our environment and clients.

Our management has more than 30 years of professional experience in this area.

We have Branches in Rwanda and Tanzania

EUROMBAO

We are an Eco-friendly Construction Company that builds with CLT and renewable energies. (CLT Cross-Laminated-Timber)



The portfolio ranges from shell construction with CLT to turnkey houses with solar energy and waste water recycling.

We would like to train local workers in our technology in the future.



WHAT IS CLT

Cross-laminated timber (KLH®, BSP, CLT, X-LAM, Cross-Lam) is made from spruce slats stacked atop of each other which are bonded using high press force and formaldehyde free adhesives to form large-format building elements.



In accordance with the European Technical Assessment, technically dried timber with a wood humidity of 12% (+/- 2%) is used for:

- the manufacture of KLH® solid timber boards.
- Destructive vermin, fungi or insect infestation is thus excluded.

KLH® solid timber boards are regarded CE certified building materials. The raw status used are sourced from sustainably forestry and are either PEFC or FSC® C119602 certified.



CROSSLAM TIMBER / CLT- FIRE RESISTANCE AND RATING

One of the major advantages of Cross Laminated Timber is it's the fire resistance.

The fear of wooden buildings is often based on the fear of fire. However, this is completely unfounded: Stronger solid wood such as our CLT components only char very slowly. While iron or reinforced concrete beams collapse quickly in the event of a fire, solid wood is much more fire-resistant. This is due to the moisture content of around 12%. Before the wood starts to burn, the water first has to evaporate, which leads to a charred surface, but not to the collapse of the components. Our CLT solid wood panels have been tested for fire resistance by Holzforschung Austria.



For your information If there is a fire at around 1,210 ° C on one side of the solid wood panel, only 9.5 ° C penetrates through the 10 cm thick wall to the other side in 60 minutes.

CROSSLAM TIMBER / CLT- HEAT PROTECTION

In the same time, 2 - 5 times as much heat flows through wood-based materials, and 60 times as much heat flows through concrete as through a thermal insulation layer of the same thickness.

CROSSLAM TIMBER / CLT- EARTHQUAKE PROTECTION

In terms of various earthquake aspects, wood is the better building material compared to conventional construction with steel or concrete

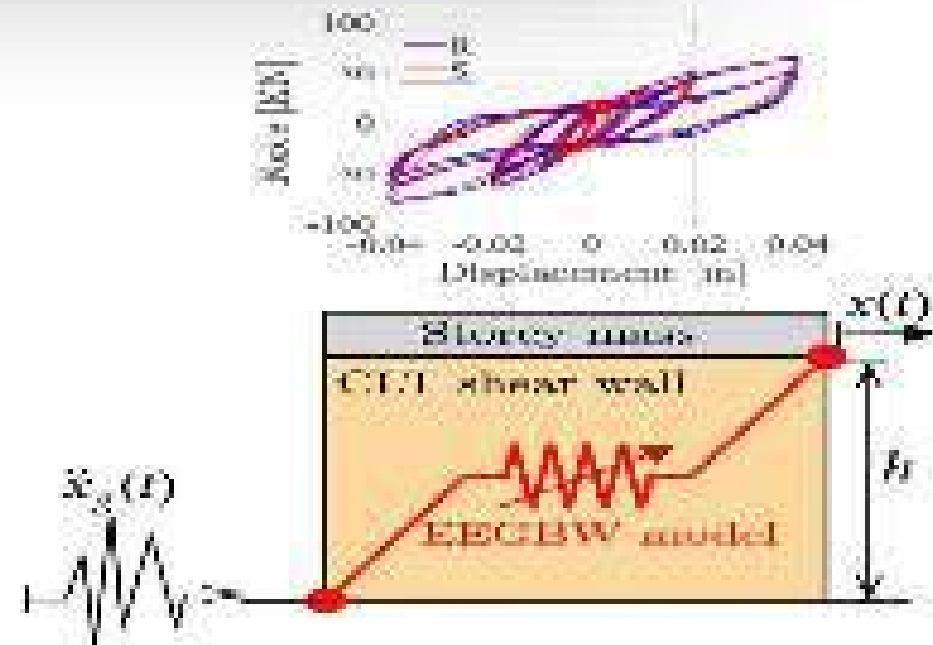
Assessment of the Seismic Response of CLT Shear Walls using the EEGBW, a Bone-Wen Class Predictive Model

Experimental cyclic tests on sixteen Cross-Laminated Timber (CLT) panels

Calibration of the Extended Energy-dependent Generalised Bone Wen model (EEGBW)

Covariance based sensitivity analysis of EEGBW

Nonlinear dynamic analysis of a structural archetype under seismic excitation



See follow movies about Fire – and earthquake protection

What Is Green Building?



Green Building is the construction and renovation of buildings to reduce their impact on the environment. These buildings are built to be more energy efficient, use fewer natural resources, and reduce waste and pollution.

Components of Green Building

- Energy Efficiency and Renewable Energy.
- Water Efficiency.
- Environmentally Preferable Building Materials and Specifications.
- Waste Reduction.
- Toxics Reduction.
- Indoor Air Quality.
- Smart Growth and Sustainable Development.



09.02.2022



Here following a comparison between the traditional concrete building method and its consequences and the innovative approach of CLT.

The advantages of using CLT for innovative and low-impact buildings are clear on many different levels.



Extremely slow process: it requires up to **28 days** only to dry up for each storey. It proceeds to the following step, and for mention the erection of walls and ceilings.



TIME

A CLT multi-storey building takes an average of **7 days per storey** to come to the whole completion of the structure.

The design of concrete construction is **limited by the pillars** and the resulting lay out could be hardly changed between the floor level.



DESIGN CAPABILITIES

CLT gives the design of construction a powerful tool to **expand** the boundaries of the **space between walls and ceilings** because every panel plays a **self-bearing structural role** and also requires fewer interior support elements.

Concrete has a thermal conductivity (λ) of **0,8 W/(mK)**



THERMAL INSULATION

CLT has a thermal conductivity (λ) of **0,12 W/(mK)**, meaning 6 times more than efficient than concrete.

To achieve the same seismic performance of CLT a concrete bearing wall calls for about a **30% wider section**



SEISMIC PERFORMANCE

CLT and mass timber structures can meet or exceed the most demanding earthquake and seismic design requirements. Because of their dimensional stability and rigidity, combined with modern connection engineering, CLT panels create an **effective lateral load resisting system**.

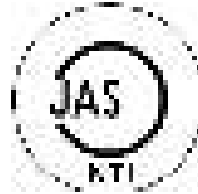
EuroMbao – CROSS LAMINATED TIMBER – THE ADVANTAGES

- Ecologically sustainable construction material
- Healthy, comfortable room climate
- Stable value with elements manageable in terms of building physics
- Highest-possible freedom in architectural implementation
- Simple planning of individual structures
- Optimal utilisation of the enclosed plot area by using slim construction elements

- Statically highly stable, large-format and thus assembly-friendly elements
- Short construction period, dry construction method and quick readiness for occupancy
- Quality-controlled production internally as well as externally
- High dimensional accuracy with CNC-controlled cut
- Technically approved and CE-marked construction product
- Delivery of the elements pre-manufactured under weather-protected conditions directly to the construction site



TECHNICAL APPROVALS | CERTIFICATES | ECO LABELS



European Technical Assessment ETA – 06/0138 | Japanese Approval NTI-301 | Product Approval for USA & Canada ANSI/APA PRG 320



General Building Approval for Germany Z-9.1-482 | French Approval AT-3/12-731 | Quality Approval for Spain AITIM 31-01



Quality Management ISO EN 9001:2015 | Environmental Management ISO EN 14001:2015



PEFC Certification | FSC® C119602 Certification

EuroMbao

Presents

Timber Twin Towers.



DAVE JI
WD-R MULTIFUNKT. 760/760



Das ist ein...
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Our Twin Towers project will be the tallest twin wooden building in the world.

Made from prefabricated CLT wood from Europe.

- We build it in the high-end upper class.
- We want build it near the new Kigali Airport.
- Calculated project costs amount to around : 80,000,000.– Euro

Below are some project data :

As you can see on plan we want twin towers.

- In one tower we plan on the ground floor and first floor different shops from small to big
- From 2nd floor to 5th floor offices, medical practices, etc.
- Serviced apartments are planned from 6th to 12th floor.

A 5-star hotel is being planned and built in the other tower

1. Tower has 12 floors.

2. Tower (hotel) has 8 floors.

1. Tower

There are 6 serviced apartments per floor,
from 1 bedroom apartment up to 3 bedroom apartment.

More information after finished planning

We plan a fully automated computerized parking system on the property. For cars and cycles.

We install solar panels on our roof.





**6* Hotel with 1
and 2 bedroom,
Suites,
Conference
room,
Restaurant,
Gym,
Swimming pool
Electr. Parking
system**



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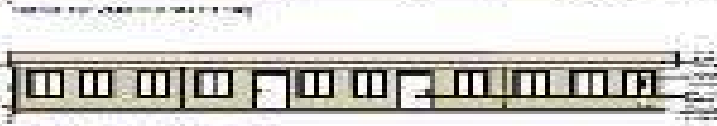
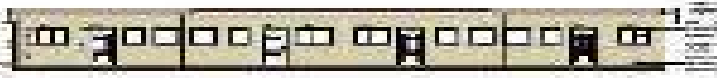
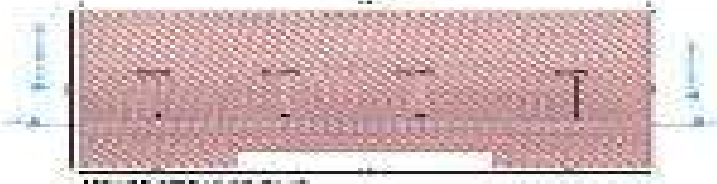
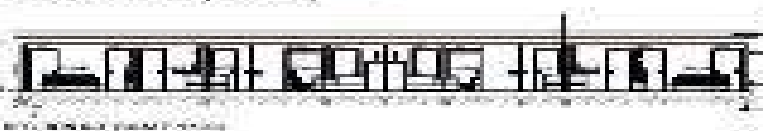
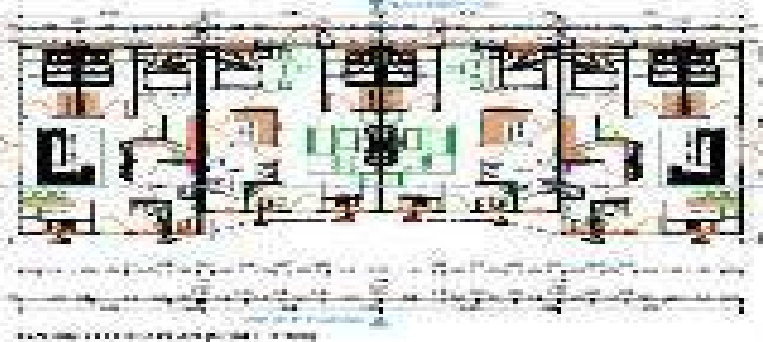
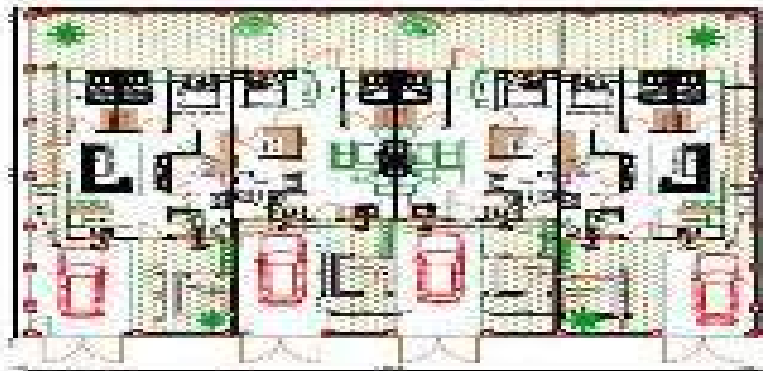
Eurombao Ltd.

**Affordable 2 bedroom
house incl. plot
4,500,000. - rwf
in Kenya**

Our Affordable House Project in Rwanda

Row Houses

Middle house 2 Bed room, End house 3 Bed room



Notes

1. All works shall be carried out in accordance with the relevant standards and specifications.
2. All materials shall be of good quality and shall be approved by the relevant authorities.
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Simple affordable 2 bed room House





**Simple affordable 2 bed room House
For this house version
compared to the other Simple House offer,
a surcharge some more has to be paid**

SOME REFERENCES

Residential Buildings

Some Buildings what I build in Europe



20 Student Houses built in Karlsruhe (Germany)
Building volume around 450k €



10 Holiday Resort Houses built in Giesen (Germany)
Building volume around 1.5m €



Family Houses built in Östringen (Germany),
Building volume around 690k €



Town House built in Ravensburg (Germany)
Building volume around 650k €



48 Apartment Houses built in Obert. (Germany)
Building volume around 27.85m €



Exclusive Town Houses built in Barcelona (Spain)
Building volume around 2.65m €

Commercial Buildings



Shopping Center built in Freiburg (Germany)
Building volume around 12.5m €



Restaurant built in Konstanz (Germany)
Building volume around 730k €



Restaurant built in Karlsruhe (Germany)
Building volume around 3.5m €



Solar Exhibition hall and warehouse
built in Pforzheim (Germany)
Building volume around 1.35m €



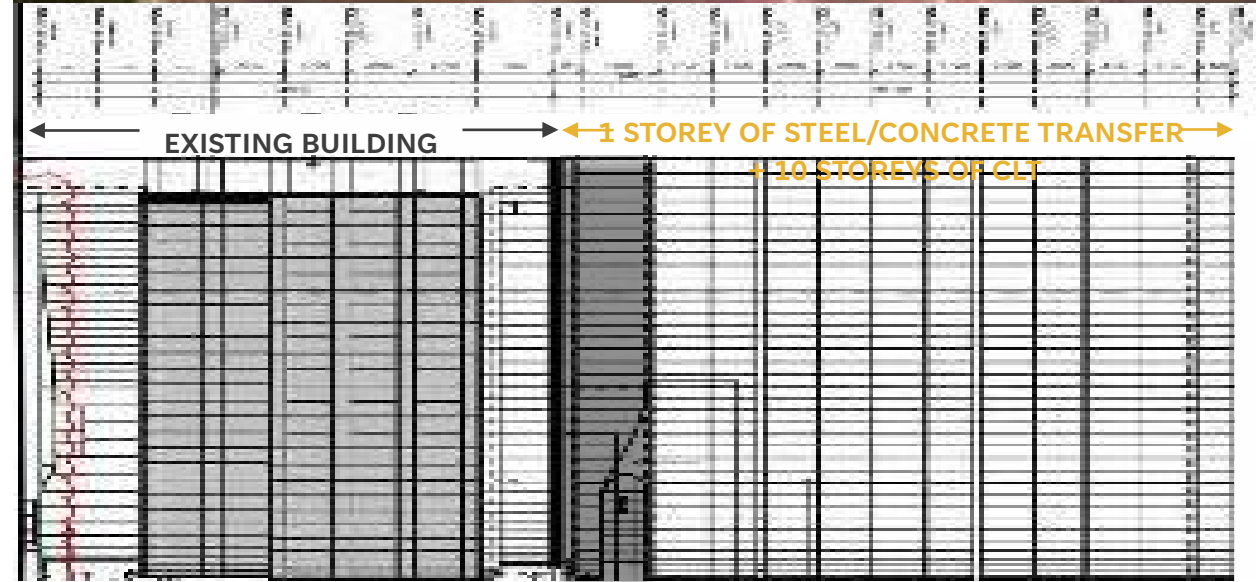
Church built in Frankfurt (Germany)
Building volume around 850k €

**ANY CLT building around
the world**



the vertical extension

- 6 levels existing office building (1989)
- 10-storey CLT extension
- 220 serviced apartments
- Delivery period end of August 2018 – end of February 2019
- One level every 10 days (incl facade)





Forte Living is a 10 storey apartment building made from cross laminated timber (CLT). Standing at 32.2m it is the world tallest modern timber apartment building and highest made from CLT. It is also the first Australian building to be made from CLT.

The building comprises 759 CLT panels of European spruce (*picea abies*), weighing a total of 485 tonnes. The spruce for the CLT panels was grown and harvested in Austria, the panels were manufactured then shipped to Australia in 25 shipping containers.

The building arrived like flat pack furniture, including the 5,500 angle brackets and 34,550 screws required for erection.

Forté will positively affect the environment by directly storing (sequestering) 761 tonnes CO₂. When considering the emitted CO₂ that would occur if an equivalent concrete or steel buildings was used, the advantage would increase to 1,451 tonnes of CO₂ or the equivalent of taking 345 cars off the road for a year.

Using timber is also estimated to save 7.7 ML of water and also lower eutrophication (the supply of excess nutrients to the water system) by 75%. In addition, the smart design and efficient systems of the building could save residents an average over \$300 per year on energy and water bills. The building is targeting a 5 star green star As Built rating.

You can view a short time lapse video of the building of Forte [here](#).

Fire engineering solutions are described in Structure and Interior tabs. Acoustic advantages and environmental benefits are described in the Exterior tab.

Building Time : 6 workers in 3 month

SCREW FOUNDATION

WHY SCREW FOUNDATION

Sustainable, durable, revolutionary
Our company philosophy



➤ Sustainability

➤ Foundation designed to minimize waste and environmental impact.

➤ the result: a foundation that can be removed and that barely damages the landscape and soil structure.

➤ Durability

we continuously work on optimizing our range of products, accessories and services and we guarantee a future-oriented portfolio with secure sales and marketing prospects.

➤ Revolutionary

Each ground screw contains a bit of the KRINNER revolution.

This means that our customers and partners can be sure that they are getting the best product on the market and that they are kept up to date with all of our latest products.

Areas of application:





EuroMbao TEAM



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SOON BOTSWANA



FUTURE PROSPECTS

At EuroMbao we believe in giving 110%. By using our knowledge and experience we will achieve a lot and would like to pass this on to the youth of Rwanda. We want to become more involved in training young people and also create jobs. Our dream is to build a factory for the production of CLT walls here in Rwanda in the near future. But this requires a large, good customer base and many orders in Rwanda and in East and the rest of Africa.

This can only happen if the government stands behind it and supports us. Due to our endangered environment, much more ecological construction will have to be done in the future, so we are in good spirits and see our company on the way to growing and with our young dynamic team we will also succeed.

**THANK YOU
ASANTE SANA
MURAKOZE**

Eva Kalekye
and
Team

EuroMbao

www.euombao.com



EUROMBAO