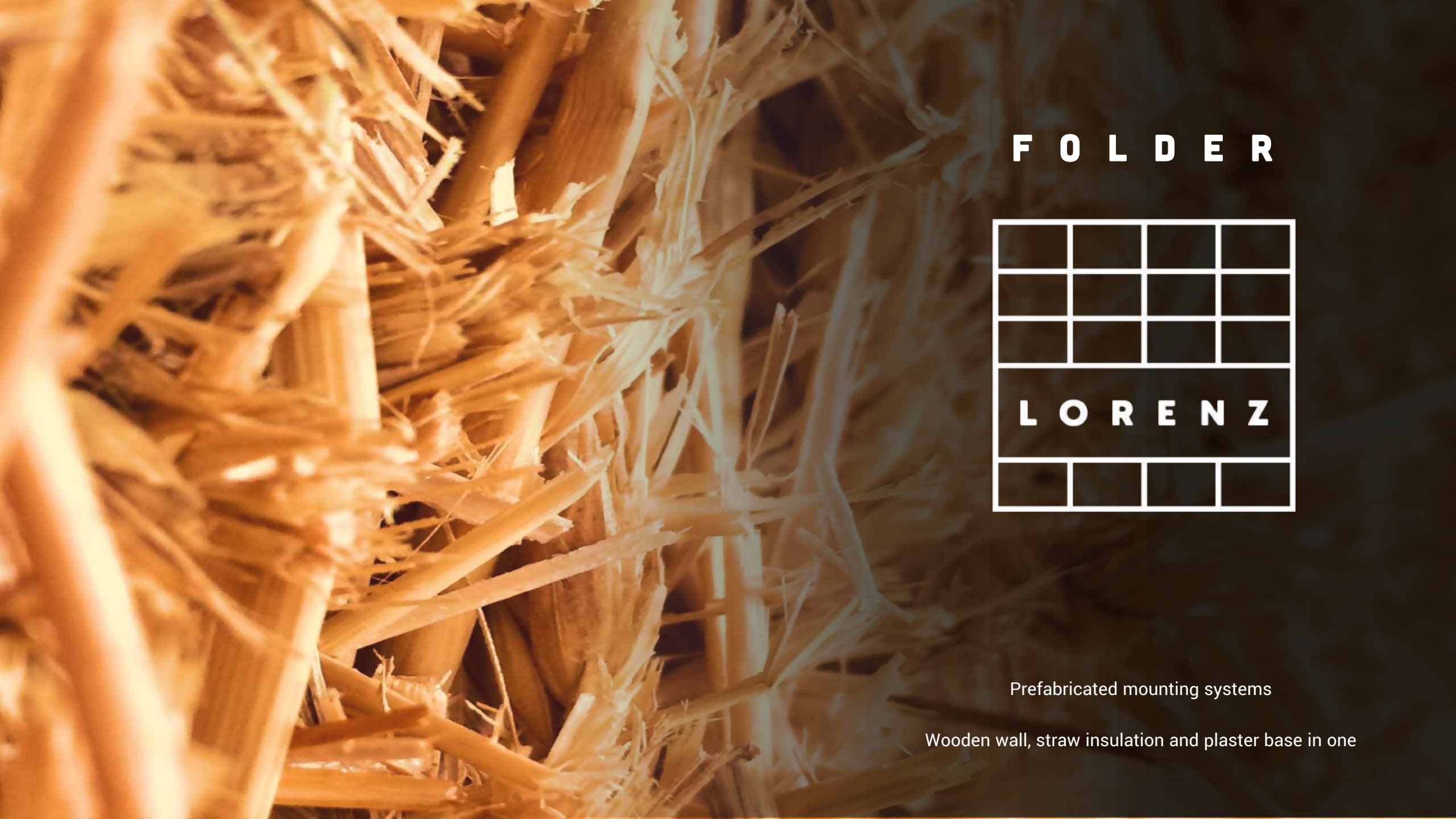


FOLDER

LORENZ

Prefabricated mounting systems

Wooden wall, straw insulation and plaster base in one

What does LORENZ offer?

Wood-straw elements that are **flexibly configurable and scalable** and are delivered to the construction site **fully assembled** with machine-pressed straw.

In accordance with the construction plans, we **custom-manufacture** area elements in advance. Compared to the on-site installation of straw bales, this significantly optimizes planning and construction time, allowing for consistent high-quality results and precise alignment.

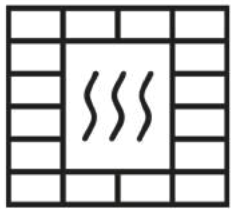
Even **gables, floors or e.g., the roof** can be prefabricated according to your specifications and assembled in no time!

Roof element

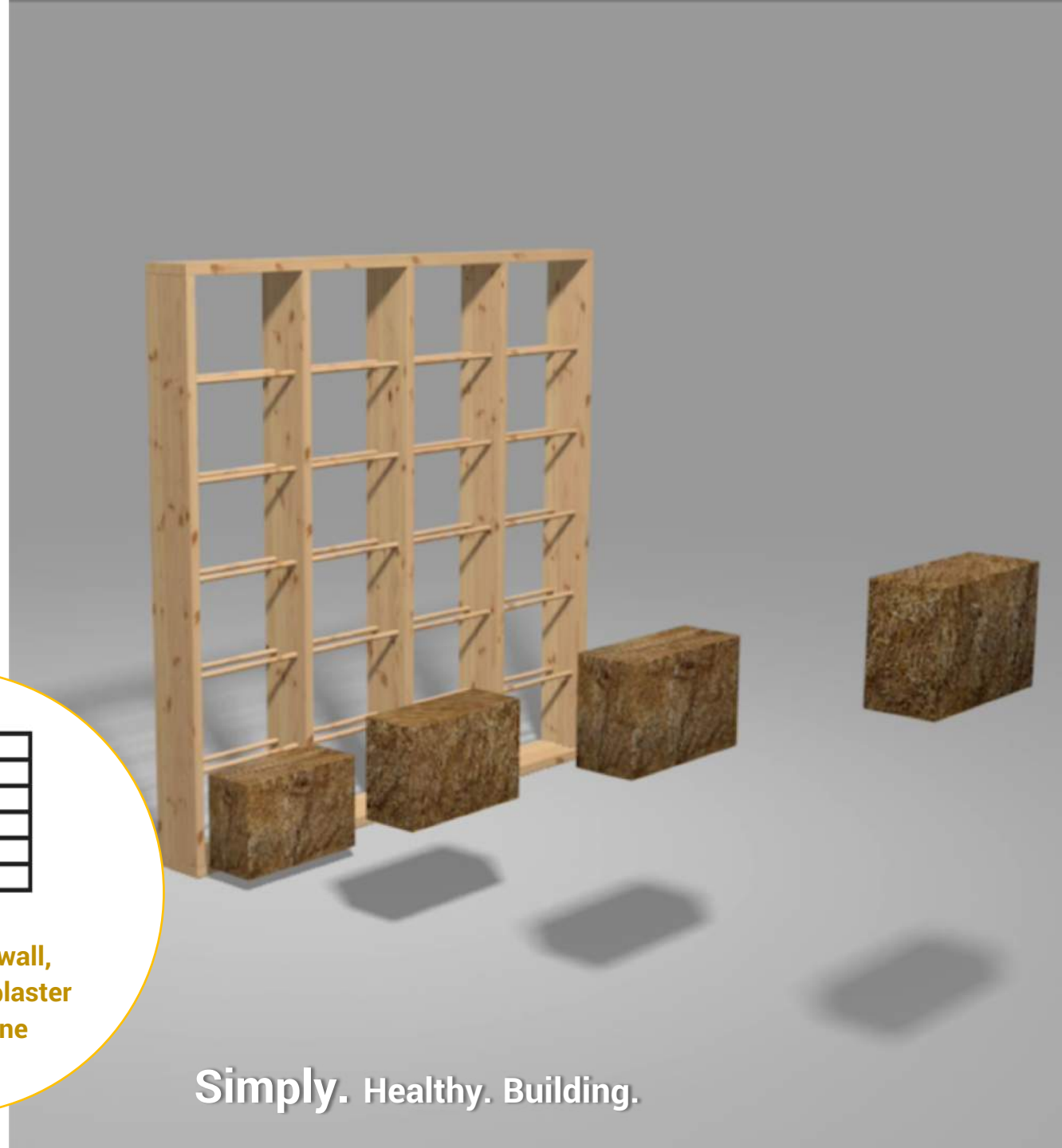
Wall element with openings

Gable element

Wall element with cross braces



Load-bearing wall, insulation and plaster base all in one



Serial production and prefabrication

...offers these construction-specific advantages:

- Due to the machine shaving, straw and wood **form a (!) flat surface**, ready for planking or directly for plastering. This significantly reduces construction time and costs.
- All modules offer **homogeneous and excellent** insulating behavior, which opens up completely new planning and funding perspectives.
- The serial prefabricated construction does not require **any further on-site processing**, which further facilitates on-site handling. The **62.5 cm width of the partition** is well suited for interior work.
- Openings for windows and doors, angles and millings, braces or panels are pre-installed at the factory. Custom dimensions are taken into account.

For example, the closed shell of a cozy weekend house stands in 2 days.

Reduction in construction time

A consistently **ecologically innovative** technology platform

DTX

DD 18

DD 24

DD 34

Heat transfer coefficient (U-value according to EnEV)			
Depth variable, U-value depends on wall	0.288 W/m2*K	0.219 W/m^2*K	0.162 W/m^2*K
Thermal conductivity coefficient (λ): 0.049 W/(m*K) for straw (0.13 for softwood)			
Building straw (with bulk density: 100kg/m^3 ±15) from regional origin			
Fire behavior: E (according to EU standard EN 13501-1)			

Meets fire protection standard

LORENZ systems are normally flammable. They are classified in fire protection class E according to EU standard EN 13501-1.

Recognized building material

Building straw is a building material recognized in Germany by the German Institute for Building Technology.

Excellent insulating properties against external heat and cold

Phase shift: Due to the delayed temperature passage in straw, the summer heat is released back into the cool night air before it can warm the room.

Open to diffusion: Clay and lime, moisture accumulation and thus damage to the building is prevented - maintaining a healthy indoor climate at a constant level.

High thermal insulation capacity: The outstanding insulation properties of wood-straw elements are a natural quality of the material and are fully evident in the DD technology platform.

Use of natural building materials

Confirmed by independent laboratories to be free of harmful substances

Effective protection against subsidence/settling

Flexible for planners.

Multiple planning options

18 depth

The slimline

for all rooms where every usable centimeter counts.

E.g. for exterior walls of gazebos, summer houses, sheds, saunas, or interior walls, room dividers (e.g. open-plan offices)

24 depth

The all-rounder

A versatile and adaptable element that can effectively be used in buildings of all types.

E.g. for exterior wall insulation, residential and commercial buildings for year-round use, agricultural buildings, and tiny houses

34 depth

The strong

For the highest insulation requirements and excellent cold and heat protection.

E.g. for exterior walls in high-energy insulated new buildings, passive houses or roofs

DTX

The special

Insulation panel, whose depth is precisely adapted to the existing wall to the existing wall

Simply. Healthy. **Building.**

Useful for builders.

CO_2 safe

The environment is relieved of tons of CO_2 throughout the lifetime of a straw-insulated wooden house. **This is how we build for future generations!**

Feeling at Home

Pollutant-free, natural building materials enhance well-being. **You can feel the "Straw-Living Comfort Oasis"!**

Enjoy

Breathable, vapor-permeable walls regulate indoor humidity and temperature. **No more mold ever again!**

Temperature control

In winter, it retains heat inside the building, while in summer, it protects against external heat. **Straw acts as a natural air conditioner all year round!**

Creating financial freedom

Fast and clean installation reduces construction costs. Straw insulation requires neither maintenance nor repairs. **Heating costs decrease, and nature takes care of disposal!**

Simply. Healthy. Building.

With growing future relevance.

Environment

Straw sequesters greenhouse gases and is renewable annually. Carbon capturing – the process of sequestering CO_2 in the building structure – is possible with any material combination due to the excellent environmental footprint of the raw material.

Society

The fundamental need for housing continues to be fulfilled without restrictions. Environmental protection can be perceived as enjoyment and a lifestyle choice.

Economy

The procurement of the raw material poses no risks and is unproblematic. The high availability allows for price stability. As financing of construction projects is increasingly tied to environmental and end-of-life criteria, straw construction becomes a profit-maximizing investment.

Consumers

Building or renovating with serially manufactured wood-straw modules is time and cost-saving. The insulation properties of straw result in low energy costs. Disposal costs are reduced to a minimum.

Politics

Climate goals are achievable through large-scale deployment.

Simply. Healthy. Building.

Unique features

Why build with straw?

Living comfort, top CO_2 footprint and financial advantages due to straw walls:

- Delayed heat transfer
- Energy saving
- Soundproofing
- Moisture-regulating
- Diffusion-open
- Less foundation
- Optimal heat transfer
- Compostable
- Available everywhere

Why with LORENZ?

Planning and assembly advantages due to machine-prefabricated, scalable wall elements:

- Wall, insulation, plaster base in 1
- Highest dimensional accuracy
- Compartment width 62,5 cm
- Flat surface

Simply. Healthy. Building.

Climate positive

Tons of CO_2 secured for life*

* You can rely on nature - smart, individual, responsible! Every year LORENZ binds more CO_2 in straw building products!

resource-conscious

Zero Waste Production

LORENZ was a finalist for the German Sustainability Award.

FINALIST

German Sustainability Award Local Heroes 2023

Simply. Healthy. Building.

Expertise in straw.

Renovate existing buildings naturally

New construction projects building climate-positive.

Expansion of a multi-generational house in Kassel, 7 tons of CO_2 secured.

Oberhausen teacher's swimming pool, 149 tons of CO_2 secured.

Gersdorf school building, 12 tons of CO_2 secured.

Achim private residence, 6 tons of CO_2 secured.

Ronchamp care facility, 37 tons of CO_2 secured.

Gackenbach private residence, 23 tons of CO_2 secured.

Simply. Healthy. Building.

With room for innovation!

"NOMADE": Mobile Tiny House with DD24 modules.

"SUBITO": Crane-liftable EH55 Tiny House shell construction with DD24 modules.

DD module as wall

Solar façade as generator

Special modules with aesthetic variance

"TESTUDO": Energy-Plus row house concept with DD34 modules.

Two-family house (2 x 130 m2 living space)

Efficiency house standard

Q_H =28 kWh/m

50 kWp solar plant

Simply. Healthy. **Building.**

@lorenzsysteme

Plan with straw. Build with LORENZ!

Simply. Healthy. Building.

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