

# VACUUM WOOD. TECH

A formula into sustainable and healthy buildings never seen before



It's called a  
Blue Planet



Water is  
everywhere

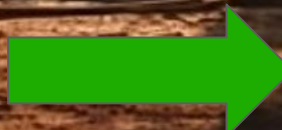
Climate is  
unbalanced



40% of CO2  
emissions &  
**energy**  
consumption



“A new Paris build  
every week”



Wood construction is  
needed more than ever

... but we have a problem with water



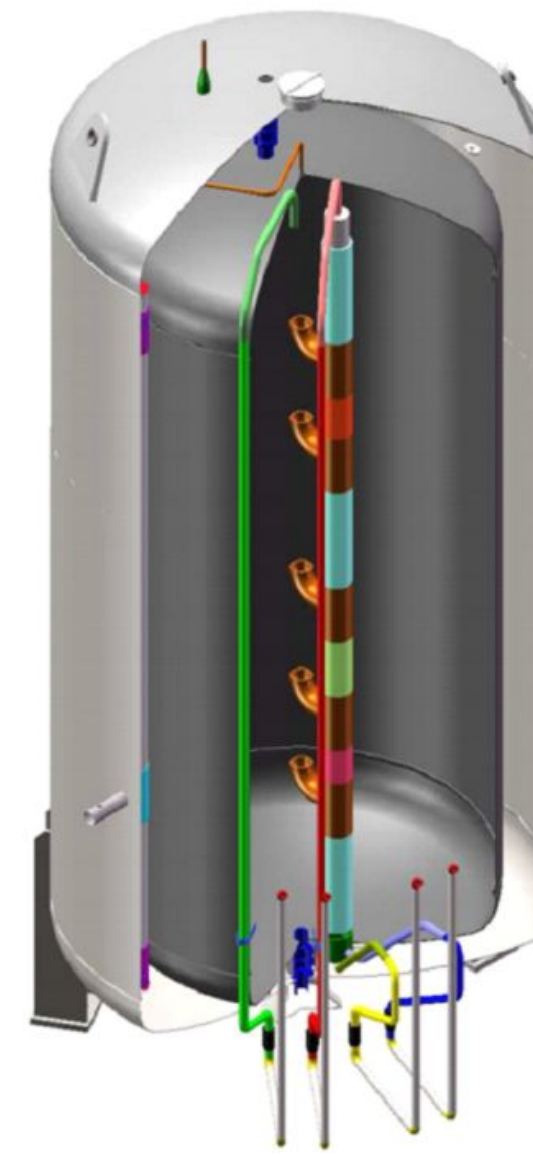


# Moisture problems - a thing from the past by Combining Wood Engineering and Vacuum Technology

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The actual size of modules we are capable of delivering. We can teach local wood module factories for assembly work.

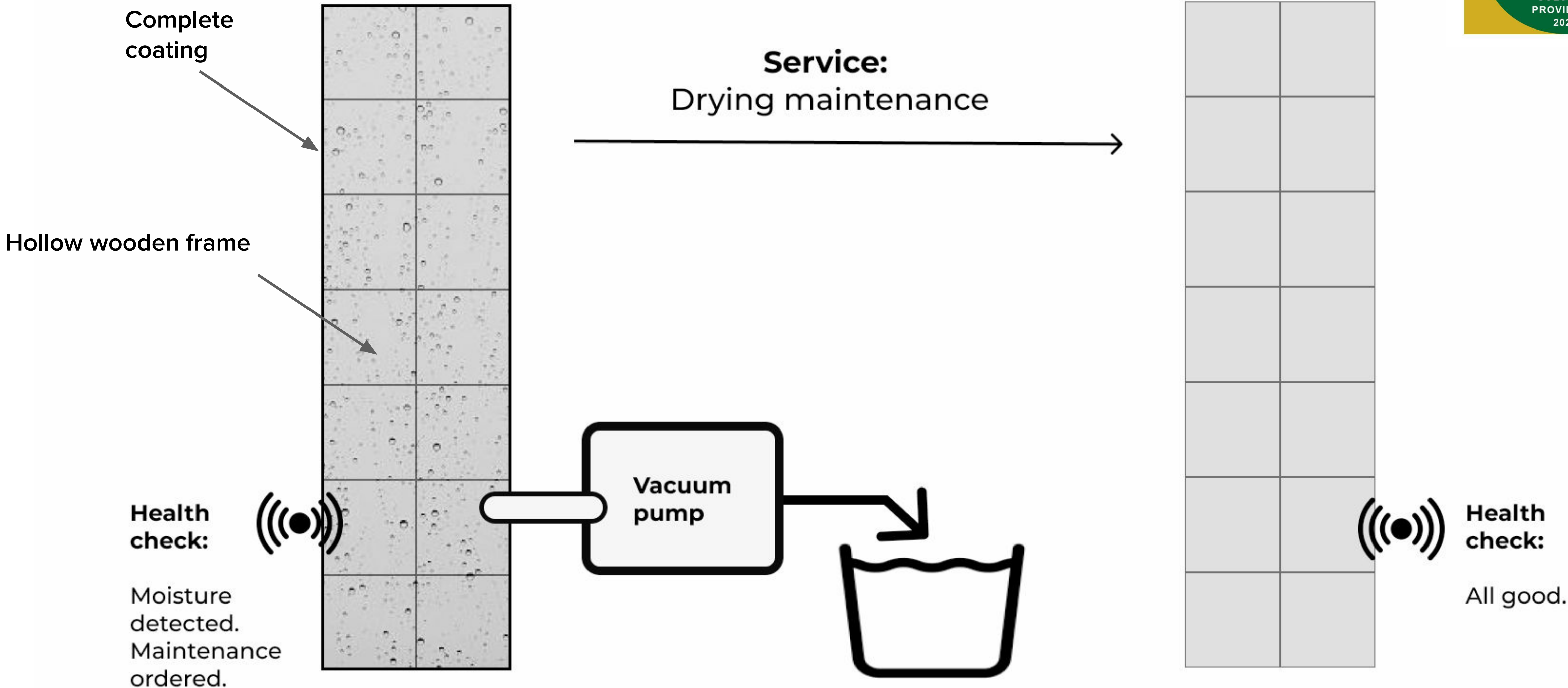


Onsite vacuum dryable construction modules boosted by vacuum insulation

Patents already granted for US and AUS markets.



# Onsite vacuum dryable building modules



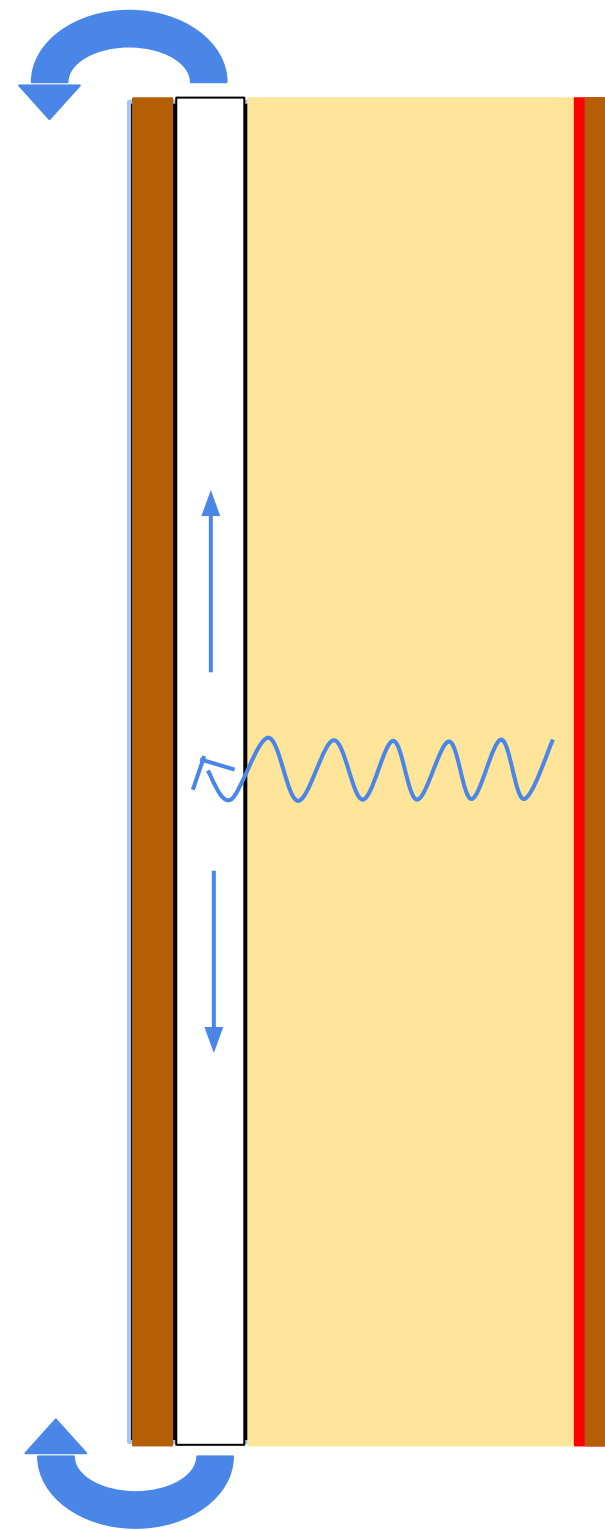
No time for biodegradation & No emissions ruining the indoor air quality  Building **Health**

# The two approaches for designing a building envelope

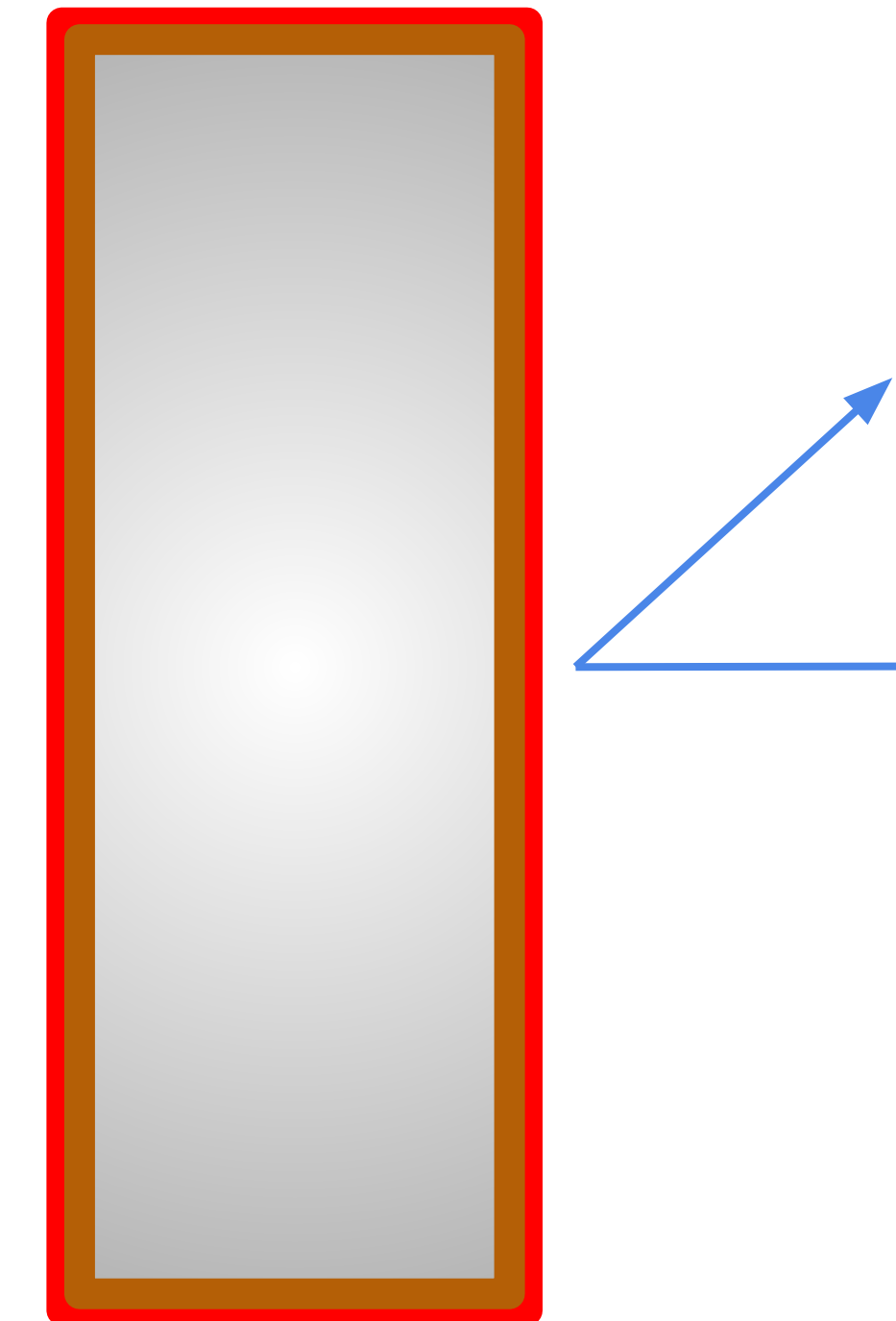
- we have cracked the limitations in building physics

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Permeable structures



Totally encapsulated structures



In the past, generally avoided in wood construction

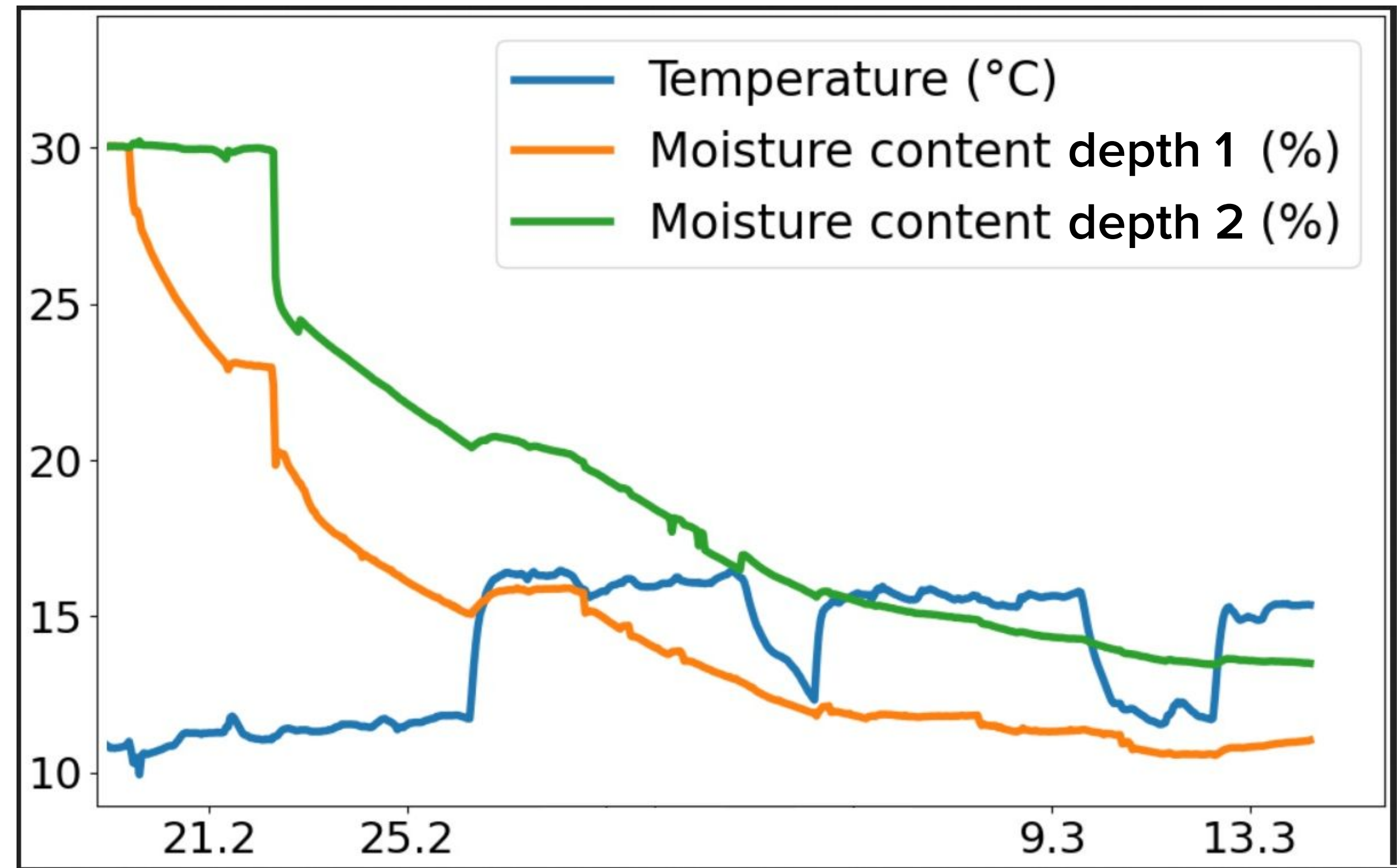
# The fastest drying process out there for load-bearing structures and insulation layer

Vacuum drying when needed =  
step-by-step extendable life-cycle  
(no limitation)

Average vacuum drying maintenance  
interwall is once per 5 years

Every module is equipped with IoT  
moisture content sensors

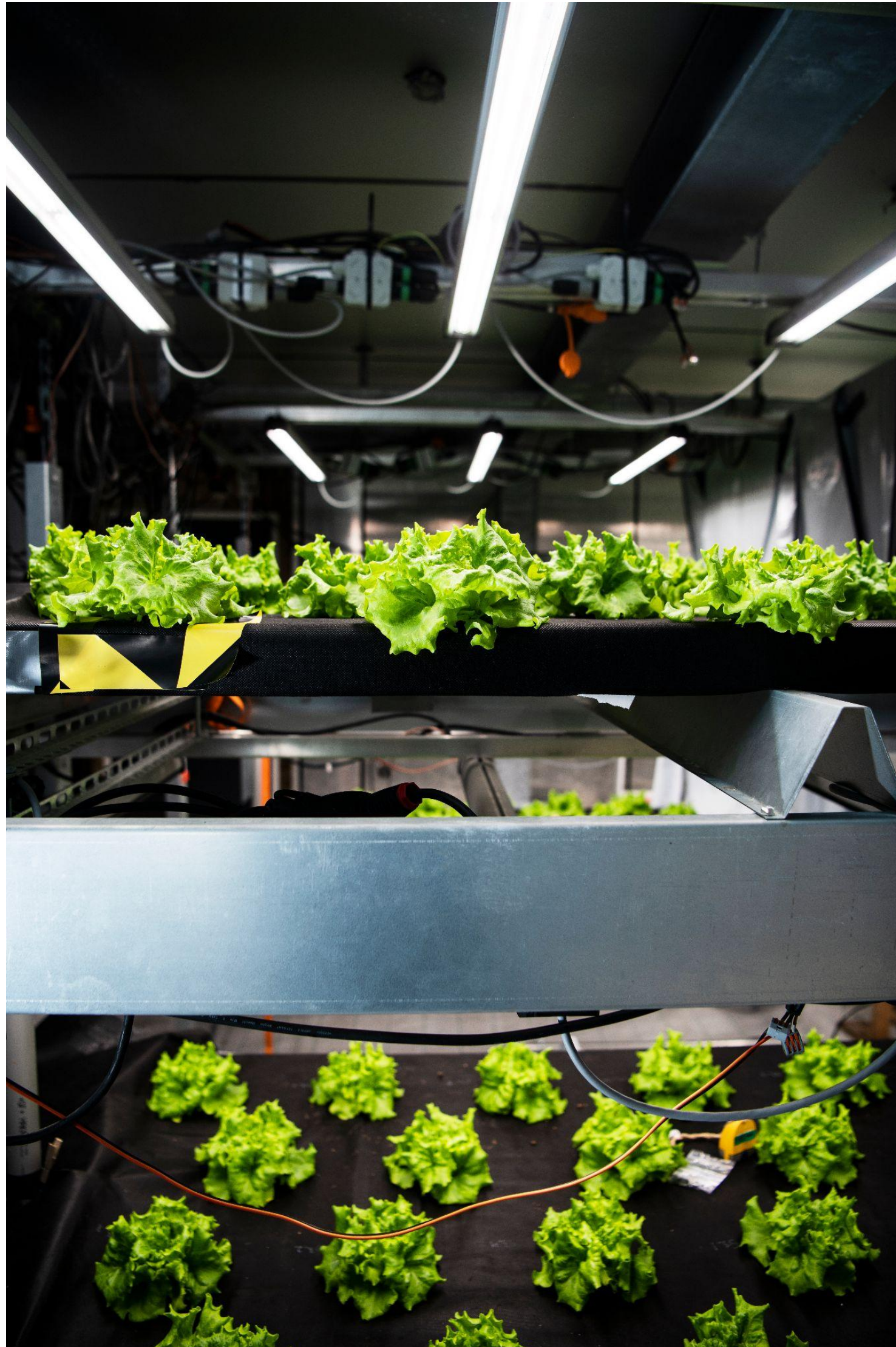
Data collection is the **key** to direct  
reusability in modular construction



Vacuum drying data out of a totally soaked wooden module.



Our pilot facility = **indoor farming science unit** (extremely moist conditions)  
Totally dry structures after 5 years; no need for heating during the coldest Nordic winter day



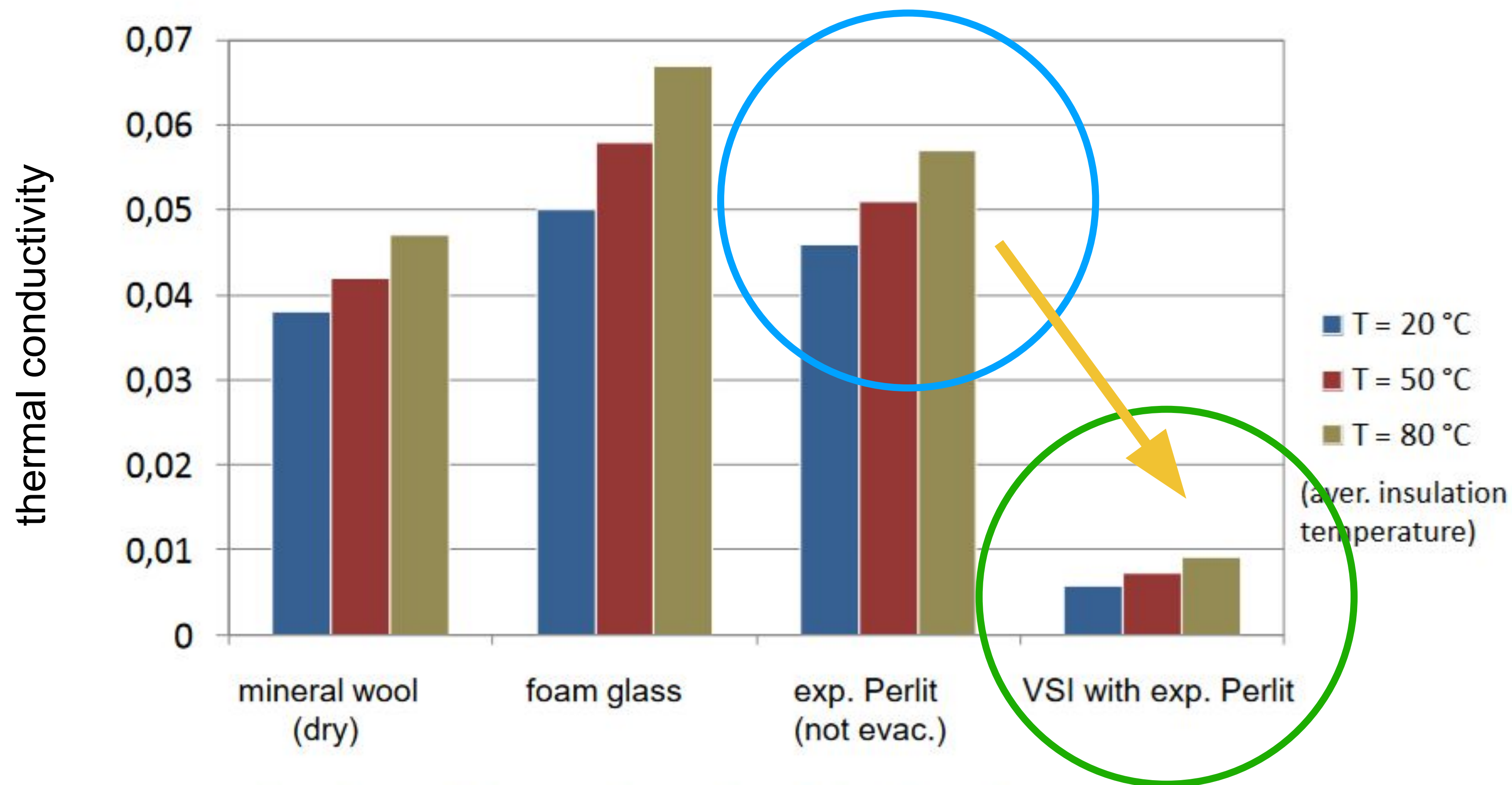
Novel transparent coating of today





# Super insulation feature achieved in December 2024

Aiming for dynamic and intelligent insulation layer for extreme energy efficiency in buildings



The extraordinary feature of expanded perlite, the sustainable insulation material we are using:

## The vacuum effect

Thermal conductivity under 0.010 W/(m²K) measured from our modules by a 3rd party in 12/2024.

⇒ reduction of thermal conductivity by a factor of 5 - 7

Source: VDI-Wärmeatlas, own measurements for VSI insulation



# Impact

Carbon Footprint	(CO <sub>2</sub> -eq/m <sup>3</sup> )
General Concrete:	+ 300
Sandwich panels:	+ 90
VacuumWood.tech:	- 180

Life cycle
Limited
Limited
Step-by-step extendable





# BUILDING HEALTH

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@pasi@vacuumwood.tech

+358468108844

Finland