

# RETHINK CONSTRUCTION

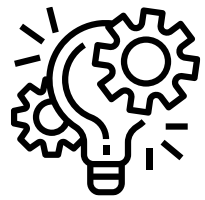


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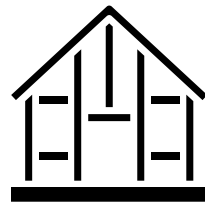
**PREFABRICATED,  
RECYCLABLE  
WOOD-BASED FRAME  
BUILDING SYSTEM**

01

# EVERY GOOD STORY STARTS SOMEWHERE



Frustrated by the Australian housing market, ecokit was born in 2015 as a dream for a small, eco-friendly home.



But as frustrations grew, so did the vision. It evolved into something more: Simple, affordable, adaptable.



Fueled by positive community feedback, the first ecokit house launched in 2018.



Beyond construction: A movement for comfortable, functional, sustainable homes for everyone.



*the construction of the prototype ecokit home in 2018 in AU*

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02

# A NEW GENERATION CONSTRUCTION SYSTEM



The ecokit project is part of a collaborative effort supported by the Czech national grant (TACR), focusing on national priorities in **research, experimental development, and innovation.**

### Project details (2022 - 2024):

- innovate and adapt the ecokit system for the EU market
- conduct necessary testing for CE certification
- explore real-world energy efficiency metrics through experiments



(ES)



(AU, USA, CZ)



UNIVERSITY  
CENTRE FOR ENERGY  
EFFICIENT BUILDINGS  
CTU IN PRAGUE

(CZ)



(CZ)

# 03 A HOLISTIC APPROACH TO SUSTAINABLE CONSTRUCTION

Ecokit® prioritizes the use of chemical-free, sustainable building materials sourced from renewable and responsibly managed forests.

- Structural Plywood
- Timber Framing
- Natural material insulation
- Locally sourced cladding
- Low-VOC Finishes

Our project includes a comprehensive Life Cycle Assessment (LCA) of the ecokit system. This analysis evaluates the environmental impact of ecokit throughout its entire life cycle, from raw material extraction to disposal.

SUSTAINABLY SOURCED

LOW or ZERO VOC

MINIMAL CARBON FOOTPRINT

CIRCULAR

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# 04 **ULTRA-LOW ENERGY USE & SUPERIOR THERMAL COMFORT**

Ecokit homes are designed to meet rigorous energy efficiency standards, including the Passive House standard, which emphasizes ultra-low energy consumption and superior thermal comfort. Key aspects of ecokit's energy efficiency include:



- **PASSIVE HOUSE PRINCIPLES**
- **ACTIVE MEASUREMENTS**
- **RENEWABLE ENERGY**
- **INTEGRATION**
- **HIGH-QUALITY CONSTRUCTION**
- **AIR TIGHTNESS**
- **MECHANICAL VENTILATION**
- **AIR QUALITY MONITORING**

# 05 EMBRACING THE LATEST TECHNOLOGY

Our proprietary digital library is the backbone of ecokit's knowhow. It encompasses digital components, cutting sheets, material specifications, structural calculations, and modeling.

To further facilitate seamless collaboration, we're developing plugins for popular architectural software like Revit and ArchiCAD.



Digital fabrication is allowing us to achieve unparalleled precision and consistency in the production of each component. Advanced technology and automated machinery ensure that every piece is crafted with millimeter accuracy, eliminating any discrepancies and ensuring a perfect fit during assembly.

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# 06 A NEW STANDARD OF CONSTRUCTION

Ecokit offers a comprehensive solution that combines **rapid construction speed** with **self-building opportunities**, catering to both individuals and professional builders.

Through our integrated approach to construction speed and self-building opportunities, ecokit delivers energy-efficient and sustainable housing solutions for all.

**4 PEOPLE**

required, suitable for unskilled labour or inexperienced owner-builder

**5 DAYS**

on-site assembly of structure for an average 3 bed / 2 bath home

**3 WEEKS**

to achieve a lockup stage with full weather protection

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07

# MODERN ARCHITECTURE MADE SIMPLE & SMARTER

- The system has been fully innovated and adapted to the EU market, completed tests on:
  - structural parameters - stiffness and bearing capacity
  - acoustics (air sound insulation, footstep soundproofing)
  - fire resistance (result REI60)
  - airtightness ( 0.31 ACH @ 50Pa)
- A small model house (6x6m) was built at the University site for further experiments
- A 12-month measurement of primarily energy values is underway (diffusion, condensation, VOC, CO2)
- Production in Spain is ready to start as soon as certification is completed.

**The aim is to be certified by the end of 2024 and start serial production in the EU next year.**



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**DAY 1**





