

# Digital Twins Empower the Next Era of Net-Zero Carbon Buildings

Implementing digital twins simulation technology to develop a physical model using software certified by the IEA, the system efficiently collects and analyzes data to calculate energy consumption and carbon emissions across the building's lifecycle. Integrated with the HVAC system, AI models enable long-term energy savings, supporting permanent carbon neutrality and RE100 strategy planning.

## The Advantages of Decarbonization with Digital Twins

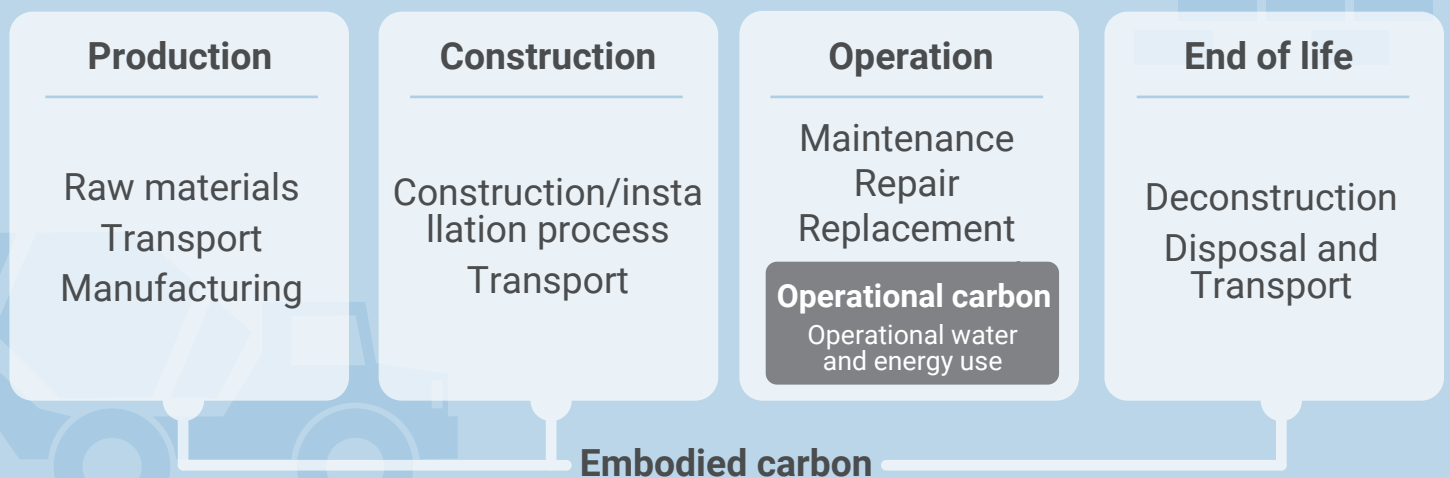
- ✓ Enhance Low-Carbon Building Design Efficiency with Carbon Emission Simulation
- ✓ Optimize Building Design and Management
- ✓ Identify Building Operation Risk
- ✓ AI Digital Twins HVAC Control and Up to 10% Energy and Carbon Savings
- ✓ Enhance Management Efficiency while Saving Time and Cost



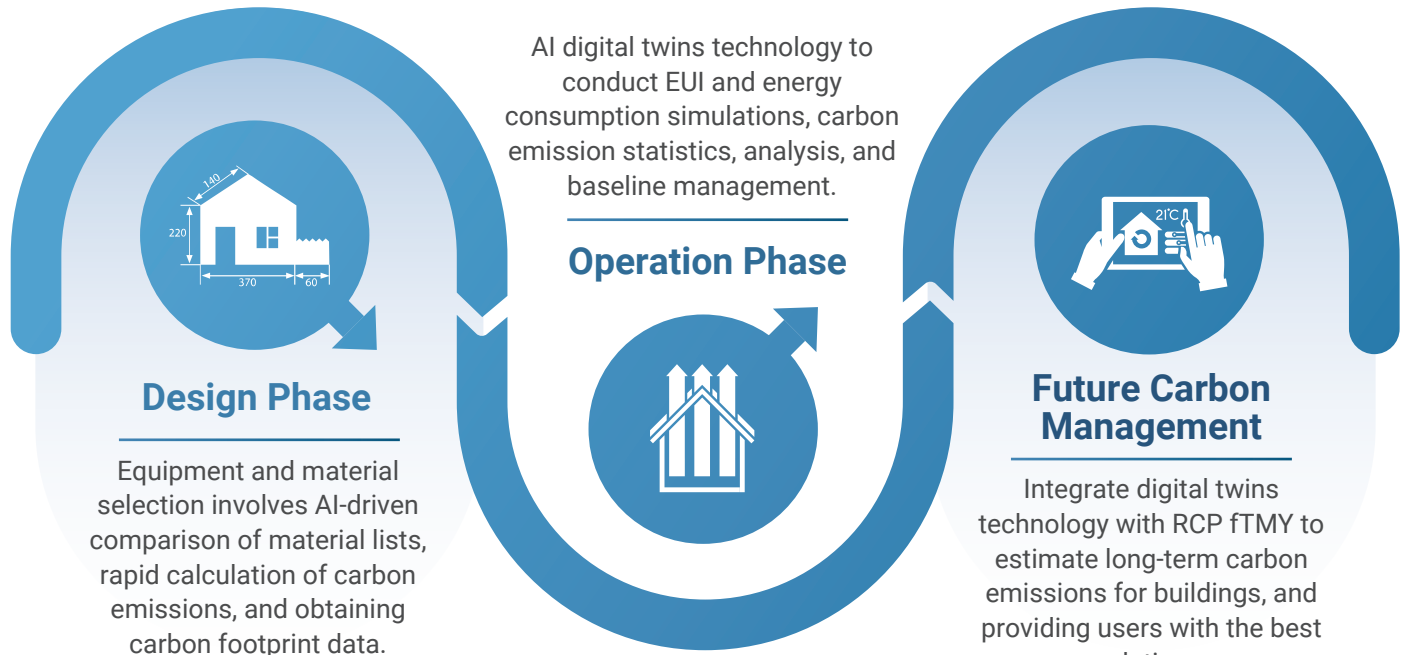
## Digital Twins Net-Zero Building Solution Managing Carbon Footprint Across Building Lifecycles

According to the UNEP, **buildings** contribute around **40%** of global carbon emissions, with one-fourth being embodied carbon hidden in materials up to demolition process, while the remaining three-fourths comes from operational use.

### Carbon Life Cycle of Buildings



Our Building Carbon Management Platform utilizes digital twins simulation for long-term and short-term optimization strategies. It calculates and manages carbon emissions from materials, operations, and future emissions, enabling users to analyze carbon footprints and predict future emission reductions to ensure carbon neutrality across the building's lifecycle.



## The Benefits for Your Business



Reduce carbon report production

**50%** /yearly



Estimation carbon emissions across the lifecycle

**80%** over



Reduce building electricity costs

**10%**



Reduce average building energy consumption

**20<sub>EUI</sub>**  
(Kwh/m2.yr)

## Proven Cases

Tpark- Taipei Far Eastern Telecom Park

New Taipei City Shulin Arts Center

TSMC South, North, and Hsinchu Plant

New Taipei City Government Second Administration Center

Chiayi County Machouhou Industrial Park

Medical Center of Hualien Tzu Chi Hospital

Huayou Factory of Foxconn Headquarters



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