

Resource efficient buildings, infrastructures and building solutions

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Ideen, die bestehen.
Rhomberg Bau



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A global challenge & huge responsibility of the building industry



Polluting &
non-
sustainable



Unproductive
& wasteful



Fragmented &
non-
transparent

- **40%** of the world's CO2 emissions
- **35%** of global waste
- **30%** of the weight delivered on-site is waste

- **Inefficient** traditional project management
- **Prototyping** for every building
- **14%** of revenue spent on mistakes

- **100+** involved parties and new supply-chain every time
- **Non-transparent** value chains based on personal relationships and silo thinking
- **Little** economies of scale

...requires a new approach of thinking



Polluting &
non-
sustainable



Sustainable Timber/Hybrid Buildings

- Ecological footprint with wood as focus component saving resources
- Health, well-being, hygiene & safety
- Life cycle perspective and flexible floor space for changeability



Unproductive &
wasteful



Efficient Modular Pre-Fabrication

- “Construction as a service” workflow → fast, reliable & repeatable results
- Off-site modular pre-fabrication
- Digital twins and BIM



Fragmented &
non-
transparent



Scalable Platform

- Marketplace for pre-approved components, products and services
- User-driven collaborative network that collects and shares best practices & efficient communication tool

...how buildings can be designed & built

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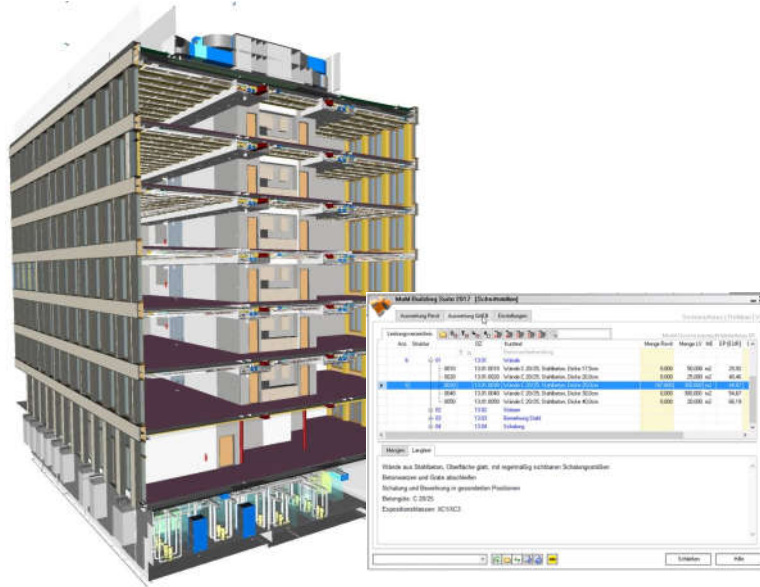
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CFE
BUILDINGS



WOOD[®]
ROCKS
BY RHOMBERG

Technology helps us...



- Digital Twin of the building allows us to extract the exact amount of material & costs

- Simulation of the building process leads to drastically reduced time for completion (high degree of prefab.)

- AI – based optimization process considering thousands of scenarios & parameters

- Automatically generating different solutions which are simulated, evaluated and optimized

... to deal with complexity & find the best solution

Applying a new certificate provided by **RES SCORE**

climate-Score



Life cycle release of greenhouse gas in CO2 equivalents; calculation of „grey“ greenhouse gases as well as the greenhouse gas emissions from operation

energy-Score



Assesses the energy efficiency classes awarded with „grey“ non renewable primary energy as well as the energy needed for the operation of the building

material-Score



Evaluates the life cycle consumption of non-renewable raw materials



Considering the **three** main parameters

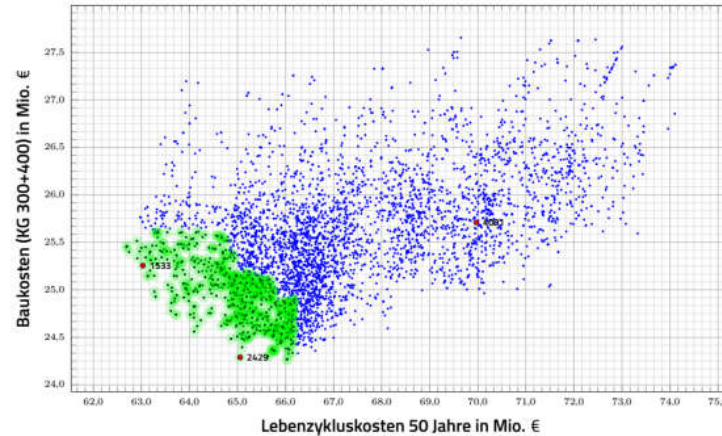


More than focussing on energy efficiency



Easy to handle and apply

AI – based analysis & optimization
1,4 * 10²² Trillions of design options



Range of investment:
2006 – 2032 €/m²



EU – Taxonomie Requirements



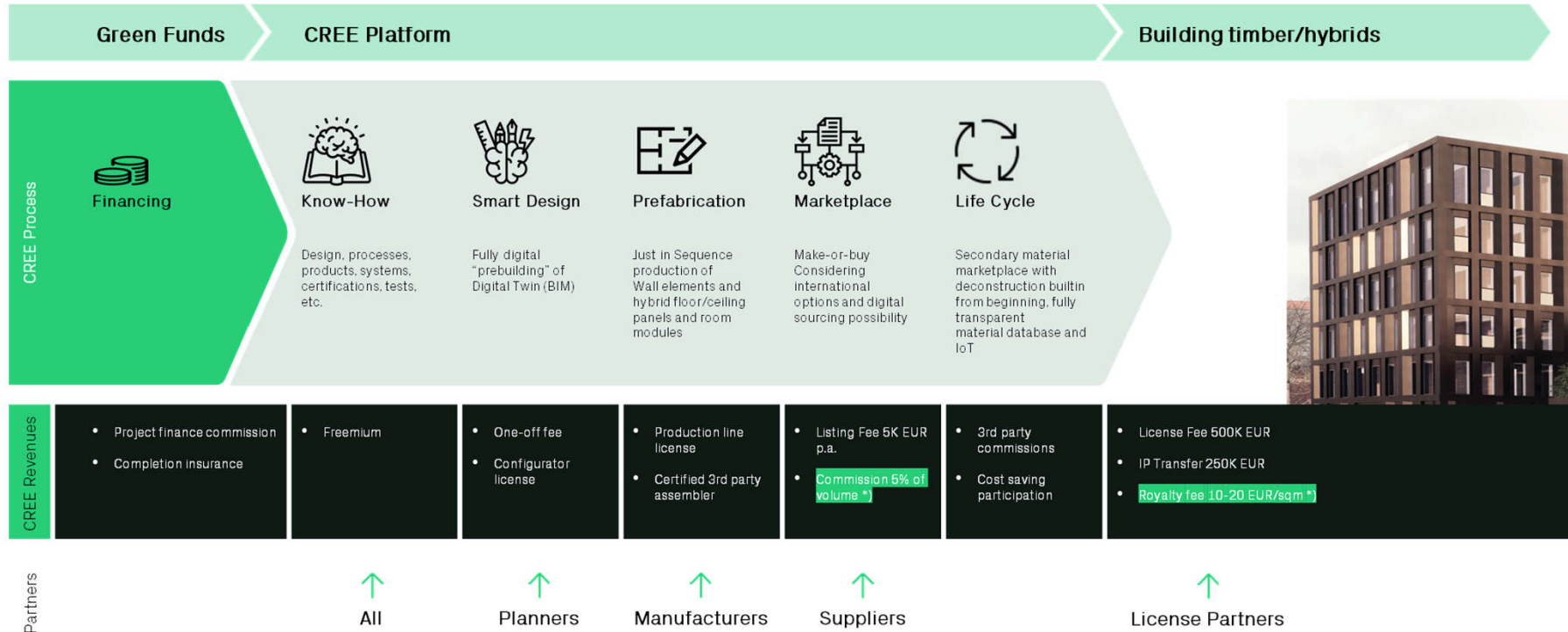
Life-Cycle-Costs - Requirements



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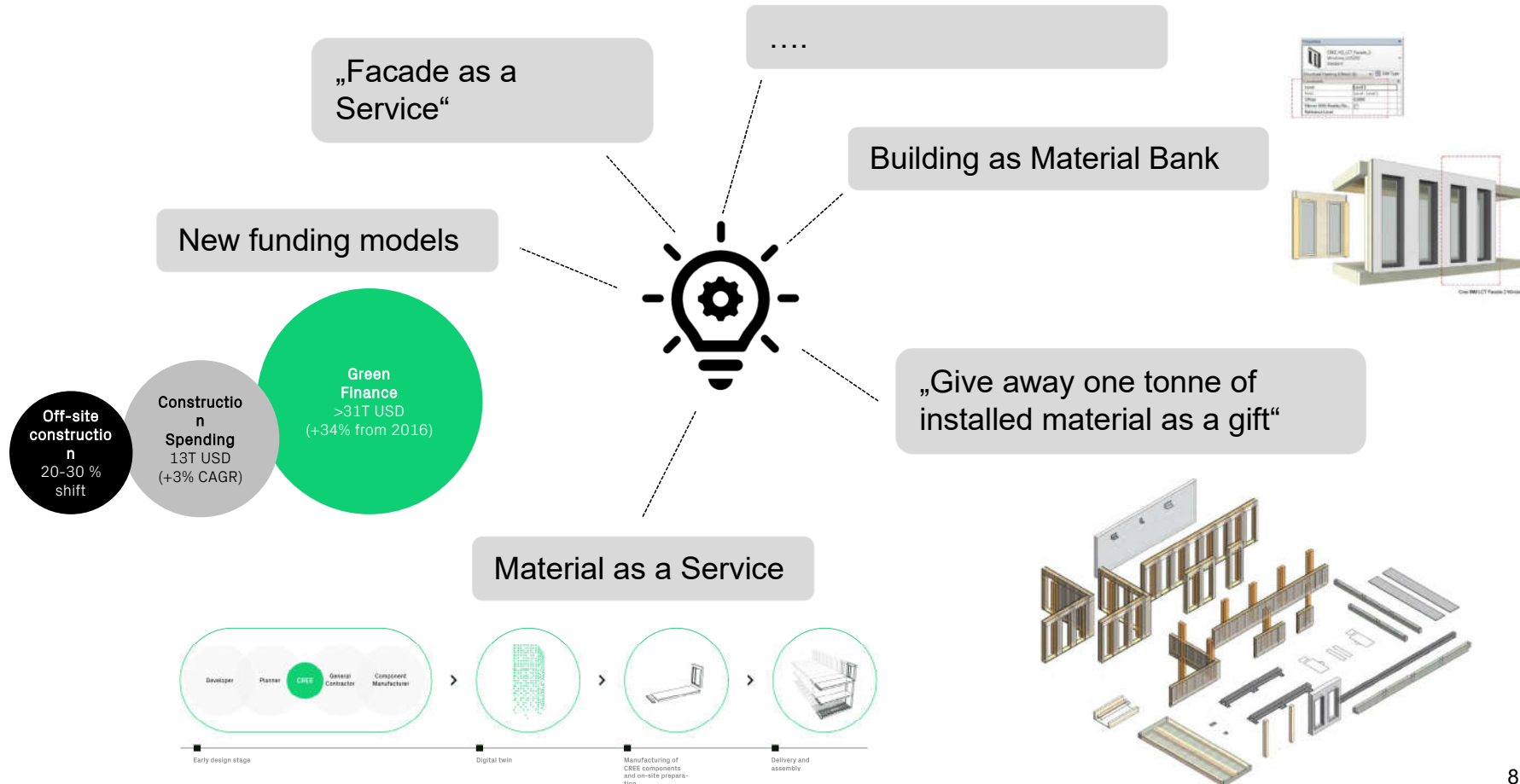
Based on this, new business models emerge...

The CREE platform orchestrates independent construction stakeholders and enables them to develop sustainable modular timber / hybrid buildings globally



„We trust and share what we know“

... and new funding models can be created





Thank you.

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www.rhomberg.com

<https://www.wood-rocks.com/>

<https://www.creebuildings.com/>

