

RENOWATE

SERIAL ENERGY-EFFICIENT REFURBISHMENT
EFFICIENT. ENERGETIC. RENOWATE.



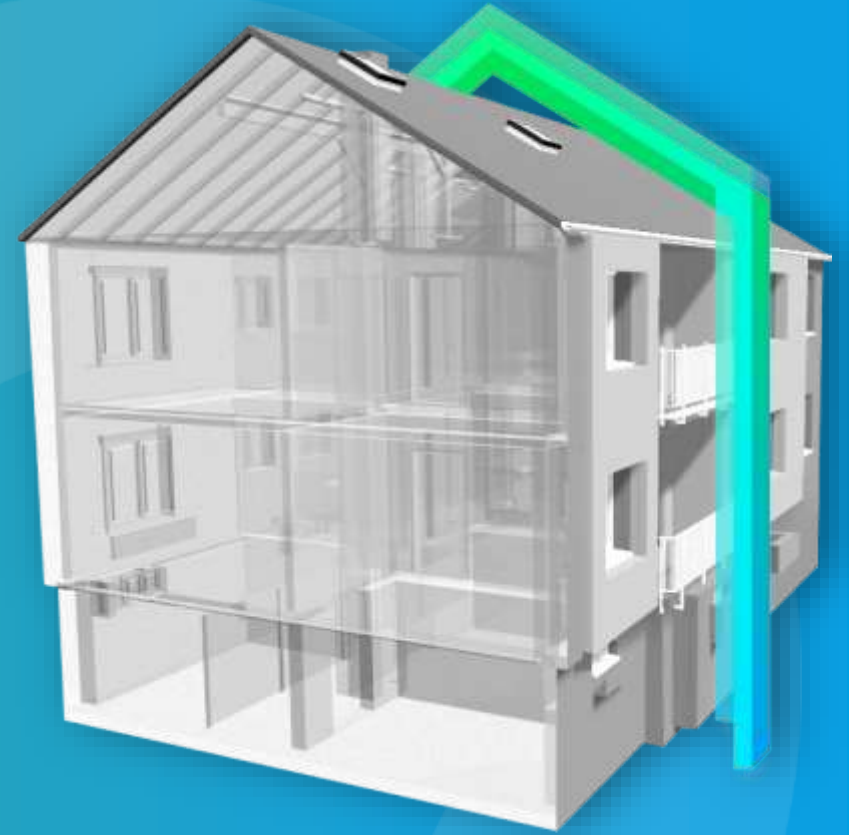
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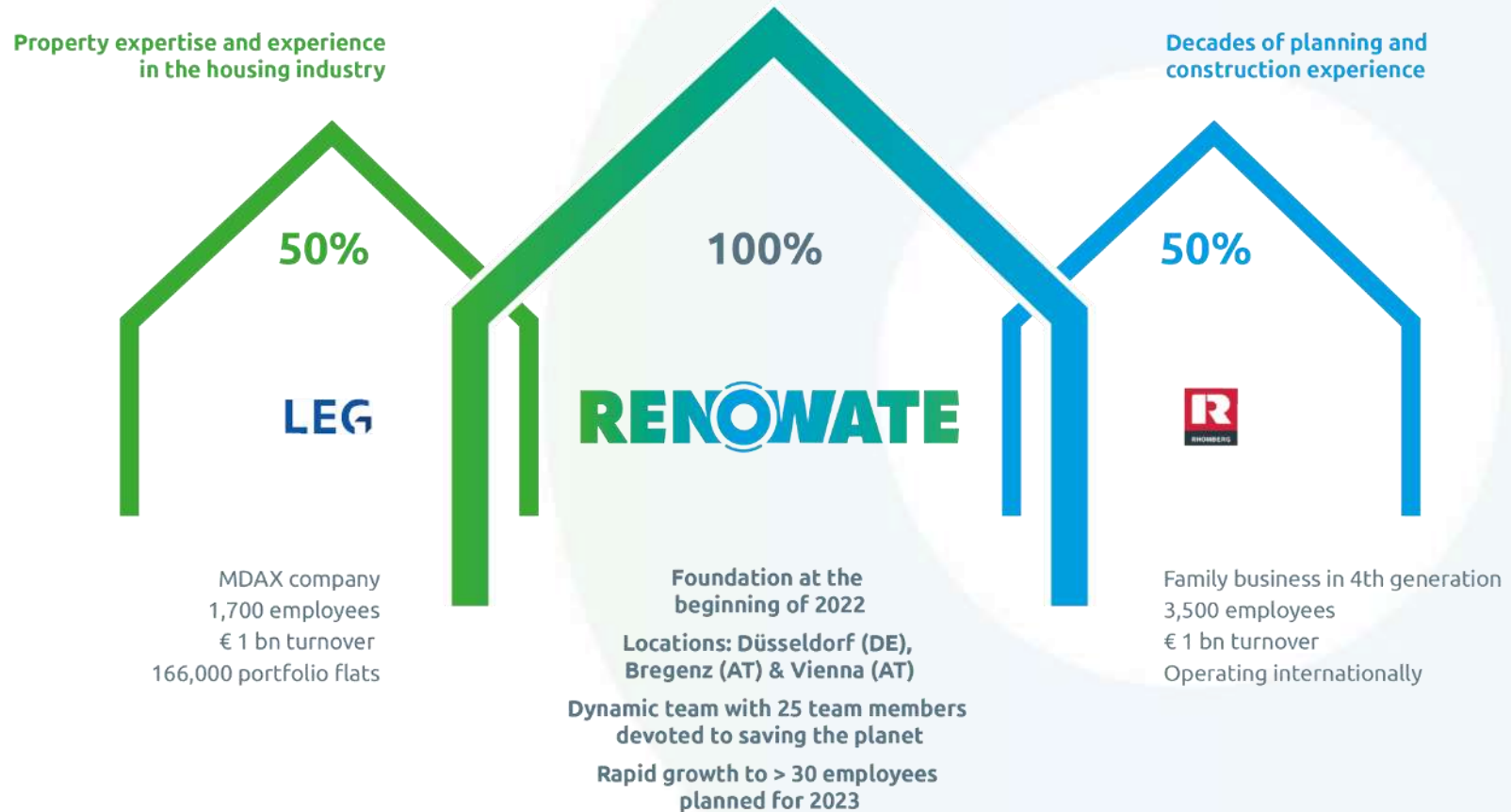


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WHO WE ARE

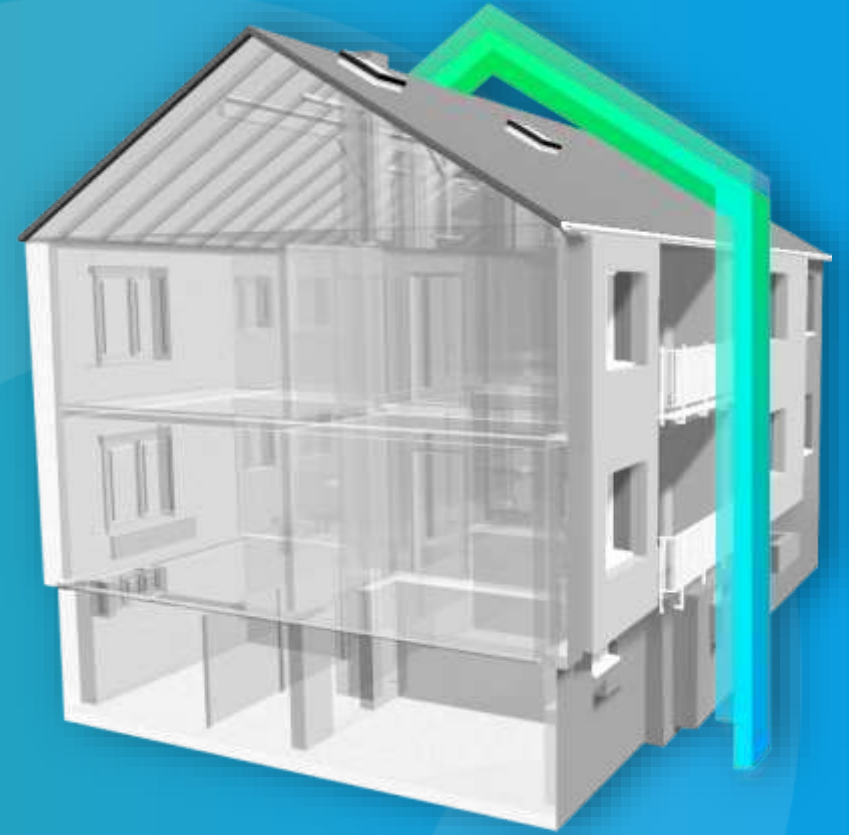


WHO WE ARE



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IDEA & OBJECTIVES



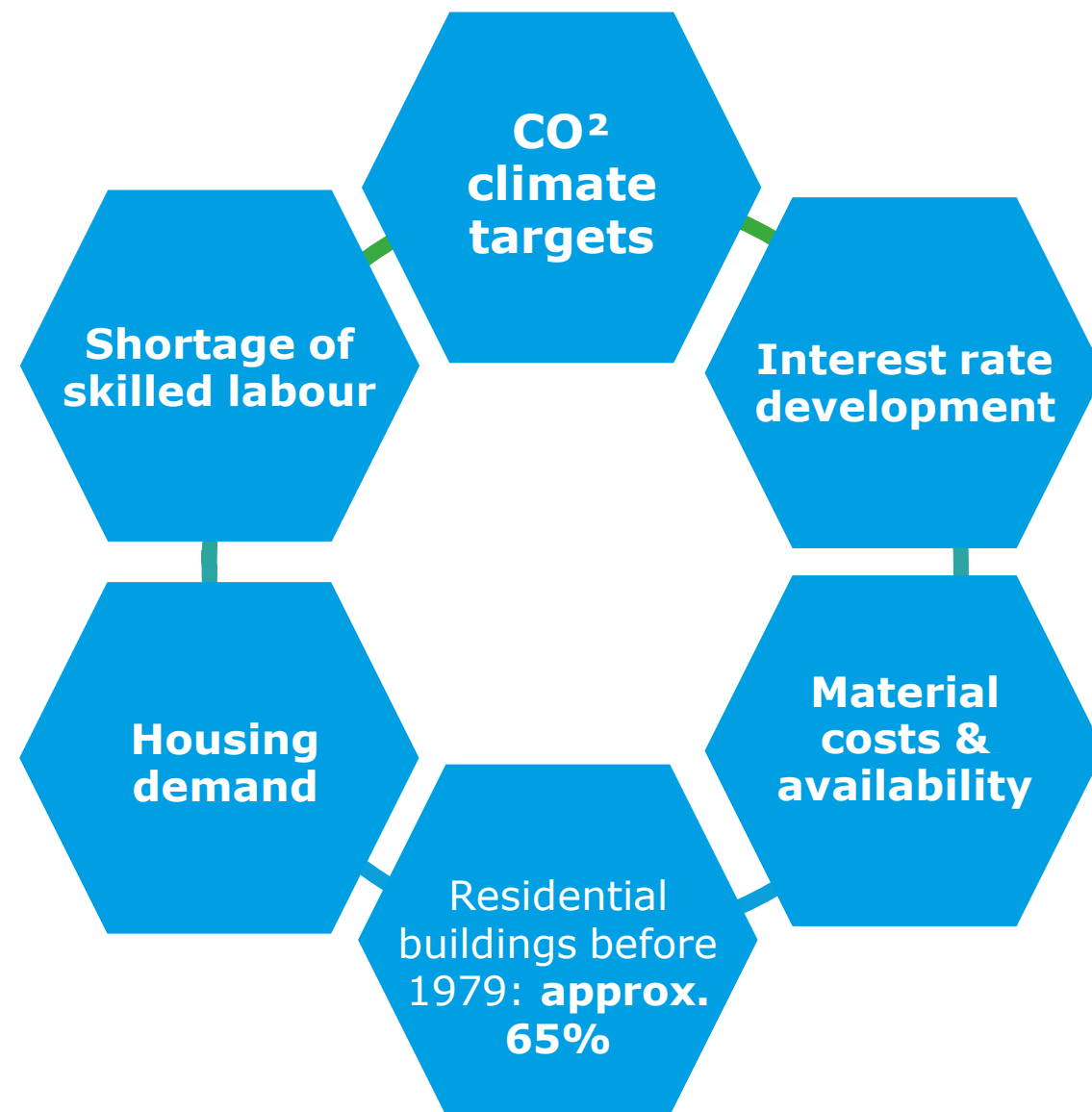
THE CHALLENGES

Possible¹ levers for achieving objectives (extract)

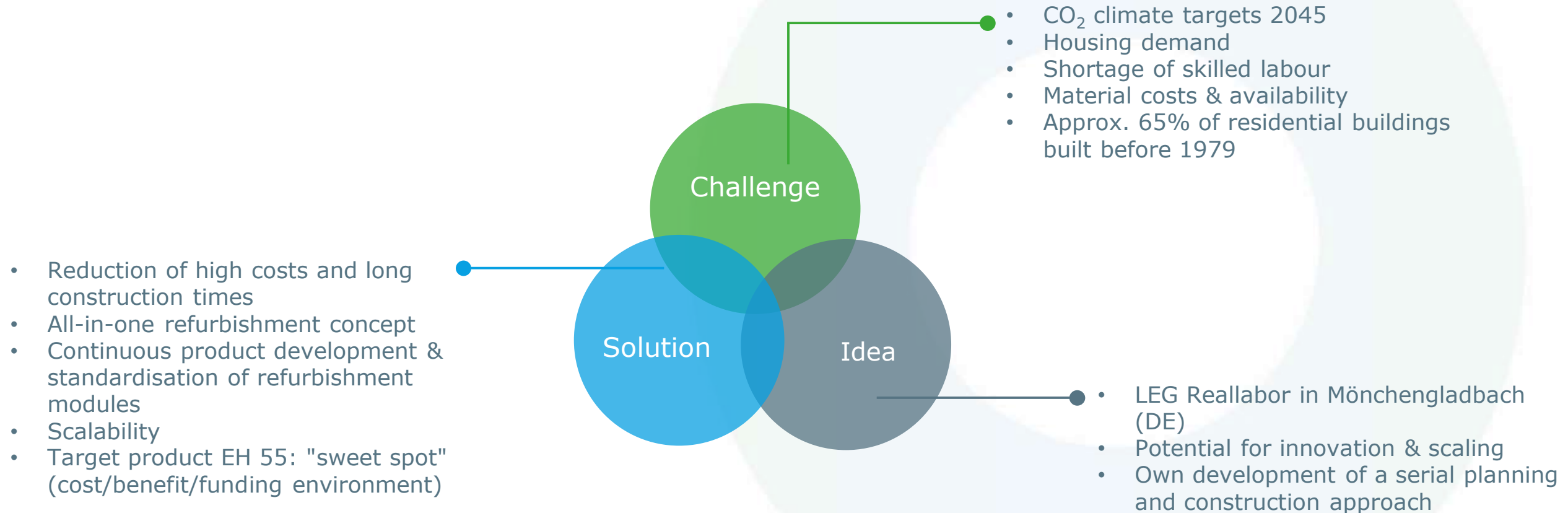
- **+50%** increase in the annual refurbishment rate
- From **2030**, no installation of heating systems with fossil fuels in refurbishments
- Significant increase in subsidies **>12 billion** p.a. for energy-efficient refurbishment²
- Installation of at least **>7 million** heat pumps required for heat supply

¹ Possible levers, some of which are currently not yet enshrined in law - tightening of legislation in the direction of the measures outlined to be expected

² Based on the political demands of Agora Energiewende
Source: Federal Government; dena; Agora Energiewende

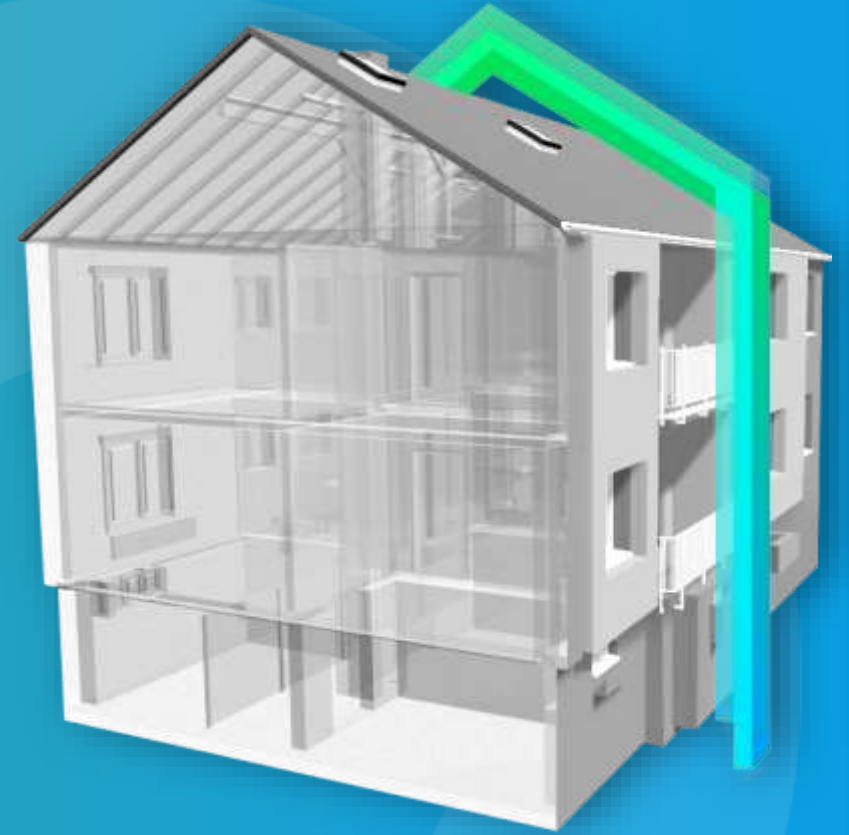


IDEA & OBJECTIVES

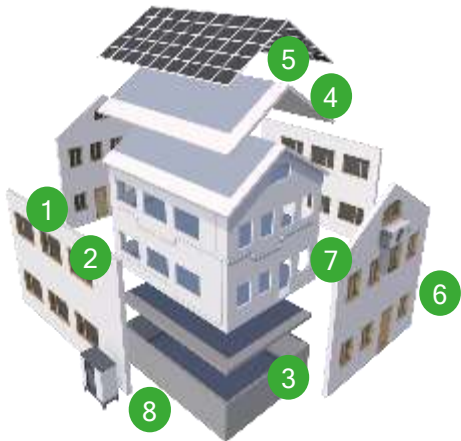


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OUR APPROACH



CLASSIC VS. SERIAL REFURBISHMENT



- | | | | |
|---|-----------------------------|---|--------------------------|
| 1 | Facade insulation | 5 | Structure PV/Solar |
| 2 | Replacement windows/doors | 6 | Inst. ventilation system |
| 3 | Cellar (ceiling) insulation | 7 | Pipework renovation |
| 4 | Roof insulation | 8 | Heating renewal |

Vs.



Building envelope
incl. pipework



Building technology

Integrated in the module

- | | |
|---|-----------------------------|
| 1 | Facade insulation |
| 2 | Replacement windows/doors |
| 3 | Cellar (ceiling) insulation |
| 4 | Roof insulation |
| 5 | Structure PV/Solar |
| 6 | Inst. ventilation system |
| 7 | Pipework renovation |



8

Renewal of heat transfer medium
(incl. hydraulic balancing, smart thermostats, optimisation of operation management & replacement of heating pumps)

CLASSIC VS. SERIAL REFURBISHMENT

Classic refurbishment

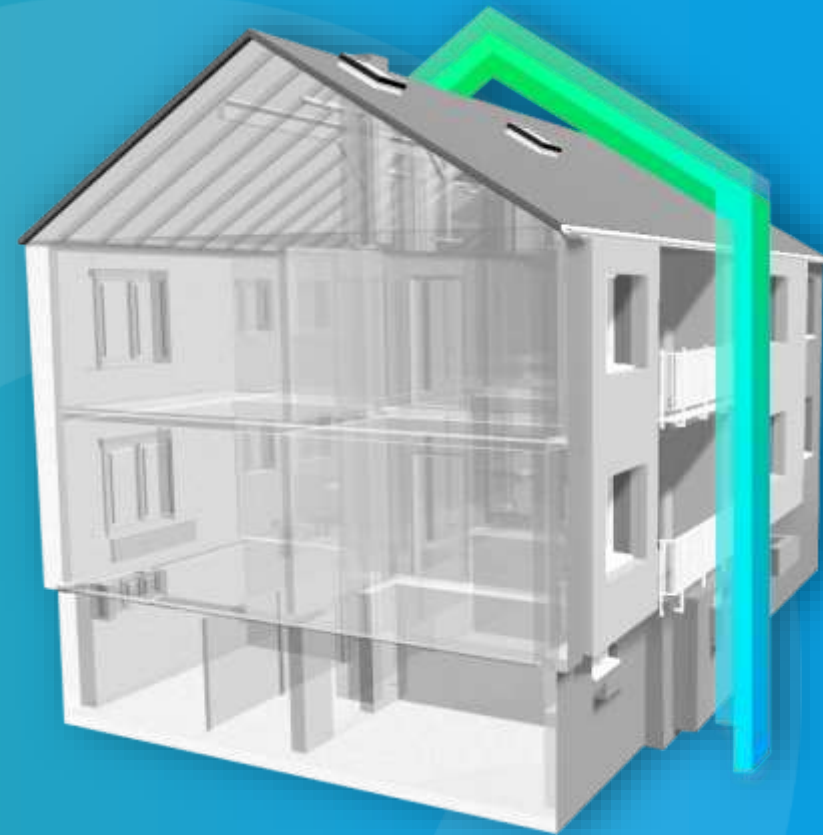
- Long construction times
- High costs
- Process inefficiencies
- Low capacities
- Coordination of individual trades

Serial refurbishment

- Continuous technical product development & standardisation of the serially prefabricated refurbishment modules
- Digitalised value chain
- Building technology is also renovated
- Just-in-time delivery and assembly of the modules on site
- Complete refurbishment approach can be realised in a short time

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PILOT PROJECT

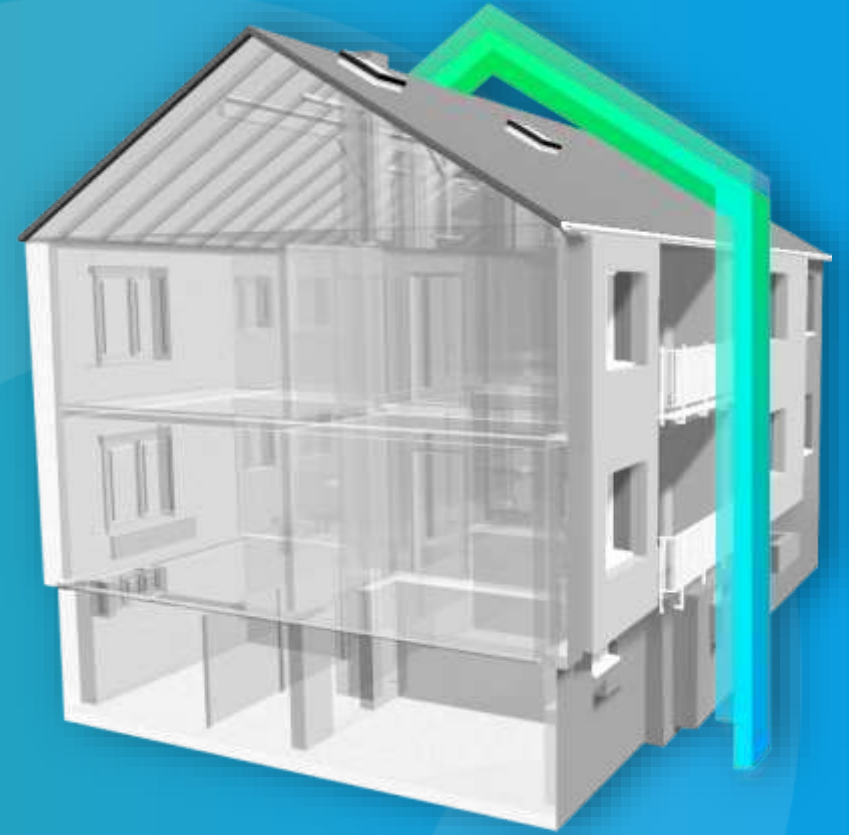


FROM CLASS H TO A IN #RENOWATESPEED



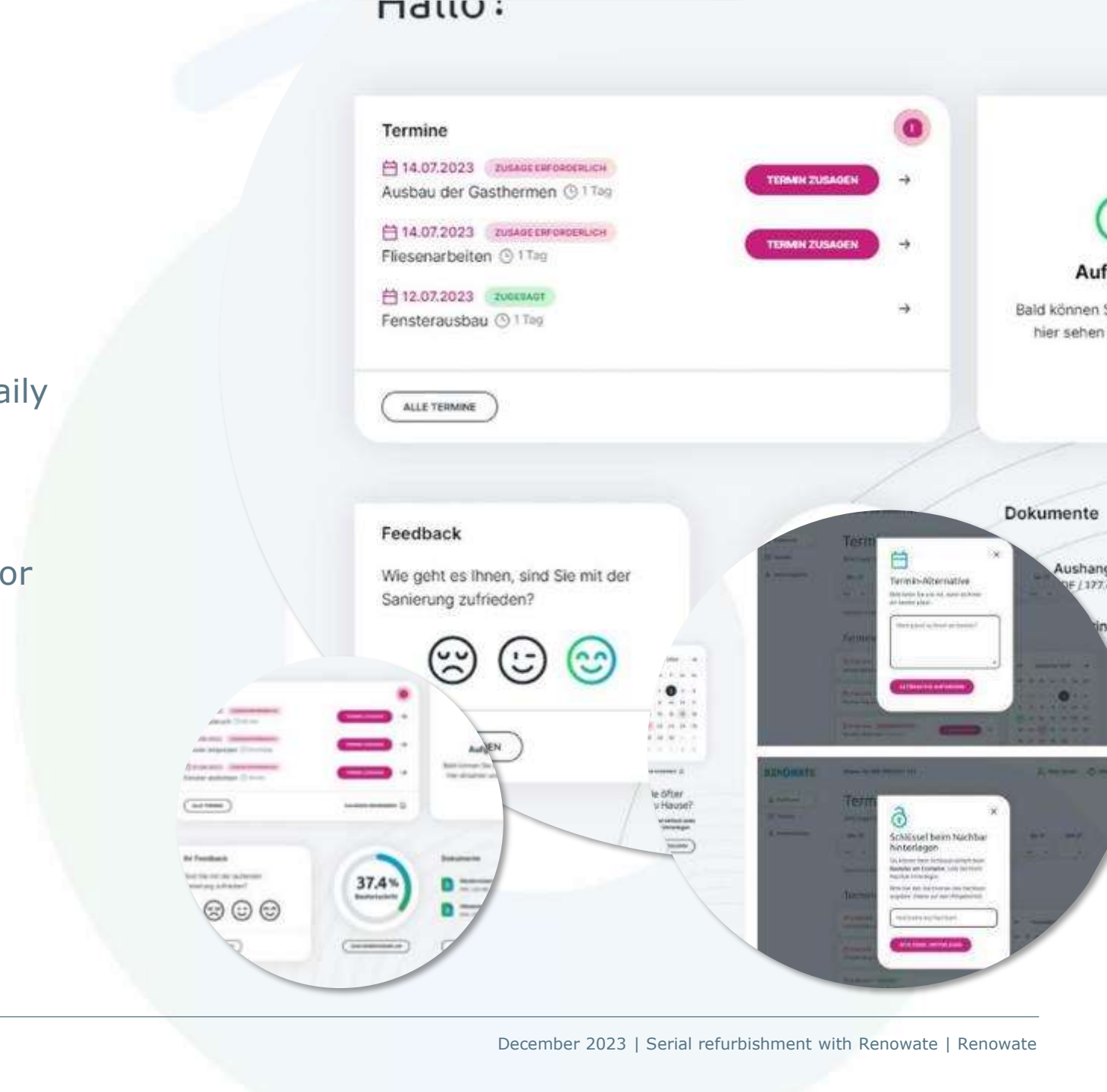
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LEARNINGS



TENANT PORTAL

- Up-to-date renovation plan available on a daily basis and information on upcoming work/ construction progress
- Comprehensive appointment management for work in the flats
- Feedback & contact option for tenant communication
- Receive documents and letters digitally



VENTILATION

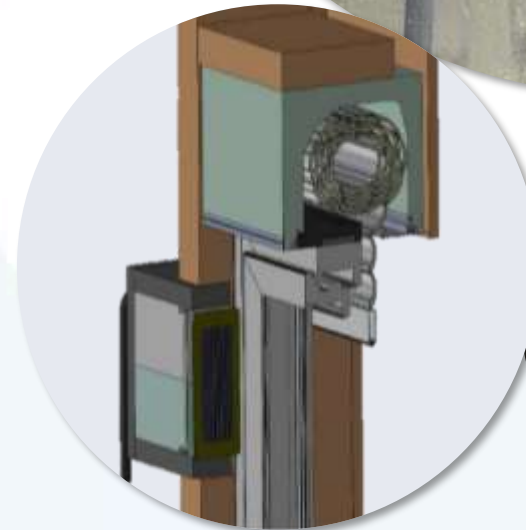
- Decentralised ventilation system per window/room with heat recovery

Pilot:

- Installed in the window reveals
- Windows reduced by approx. 10 cm = loss of light and comfort

Today:

- System developed for/with us installed in the facade



FASTENING

Pilot:

- Oversized brackets/mounted in the base plate
- Statics: no/little experience in the past

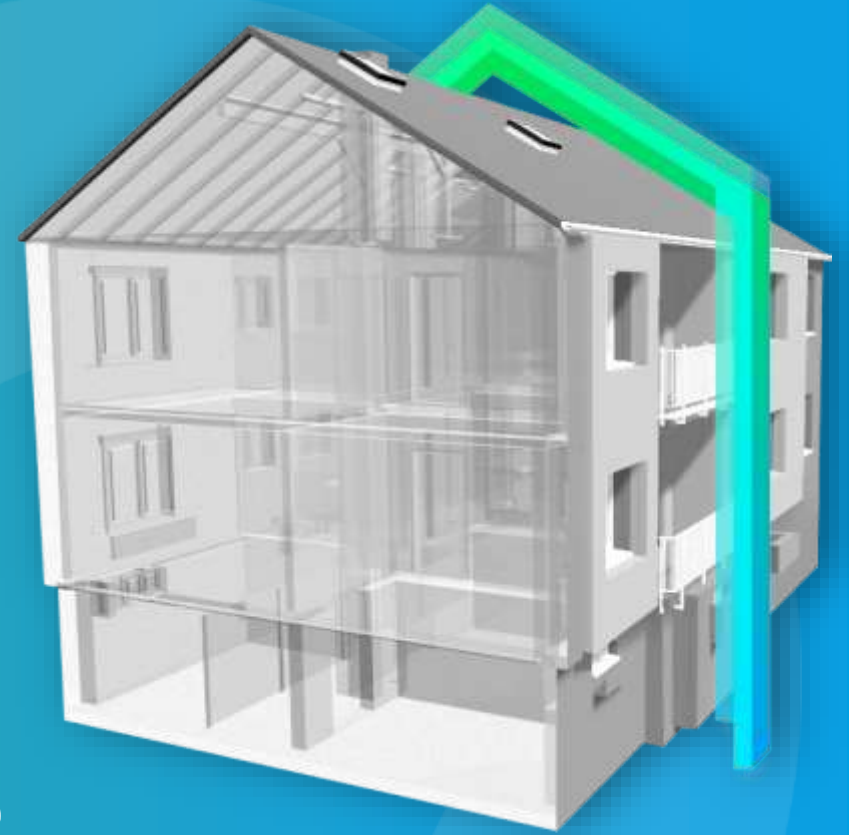
Today:

- Self-developed system for setting up and hanging the elements
- Statically able to go up to a higher number of storeys



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CURRENT PROJECTS



VOSSENBÄUMCHEN + FRANKENFELD, MG

- Start of construction 27 March 2023
- 8 construction phases
- New construction phase every six weeks
- 122 residential units
- 6,000 m² living space
- Year of construction 1954
- Efficiency class H



CURRENT PROJECTS & OUTLOOK



I.F.+

Pilot project Zeppelinstr., MG

47 refurbished units



I.F.+

Vossenbäumchen +
Frankenfeld, MG

200 refurbished units



First external project,
Düsseldorf



Four external projects

>500 refurbished units

>800 refurbished units

2021

2022

2023

2024

2025

Start LEG real
laboratory

Foundation
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Kanadische Siedlung, Soest



I.F.+

Other LEG neighbourhoods



I.F.+



CURRENT PROJECTS



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Düsseldorf
Deutschland
Klaus-Bungert-Str. 9

40468 Düsseldorf
info@renowate.earth
[t +49 211 88230150](tel:+4921188230150)

Bregenz
Österreich
Mariahilfstr. 29

6900 Bregenz
info@renowate.earth
[t +43 5574 73601](tel:+43557473601)

Wien
Österreich
Gertrude-Fröhlich-Sandner-Str. 13/Top 5

1100 Wien
info@renowate.earth
[t +43 664 5492240](tel:+436645492240)



www.renowate.earth