

SPHERE Project Achievements

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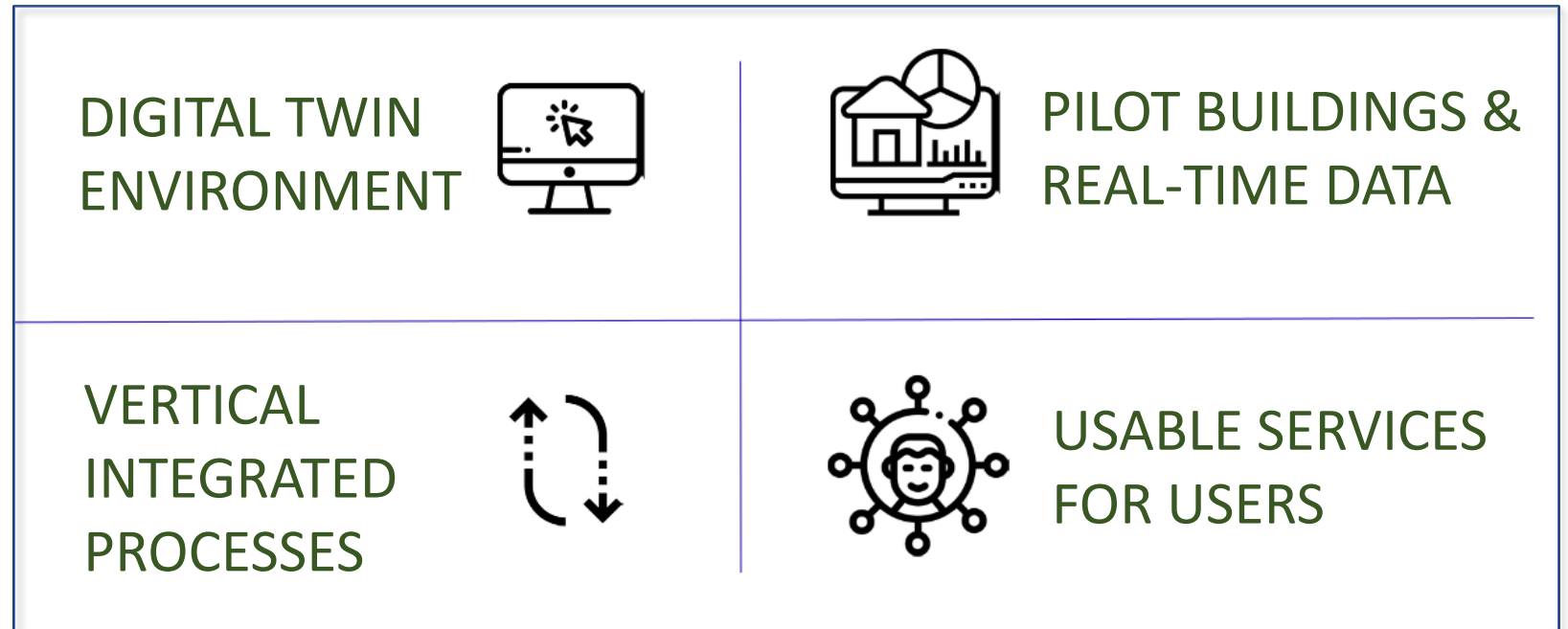
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THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S H2020 PROGRAMME UNDER GRANT AGREEMENT NO. 820805.

European project - Digital Twins - Buildings

A 4-year project that aims to develop a BIM-based Digital Twin Environment (DTE) to optimise the building lifecycle, reduce costs and improve energy efficiency in buildings.



SPHERE Digital Twin ecosystem

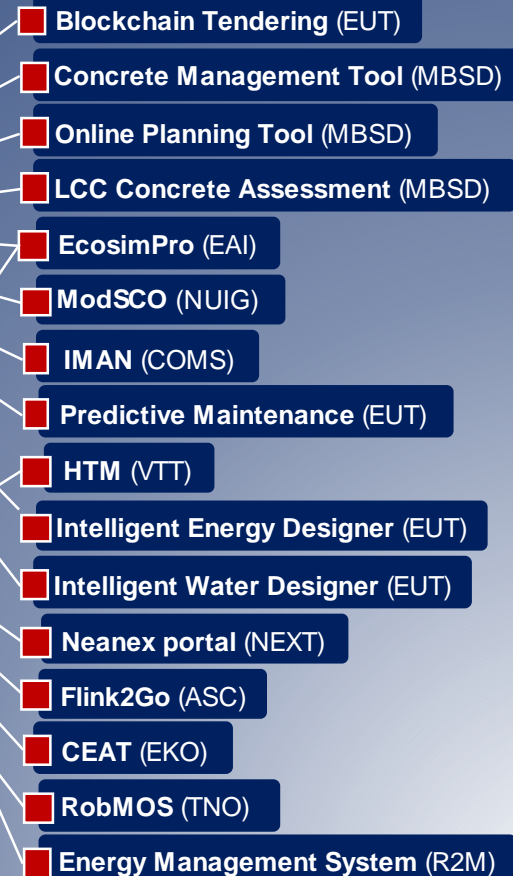
SPHERE Pilots



SPHERE Core Platforms



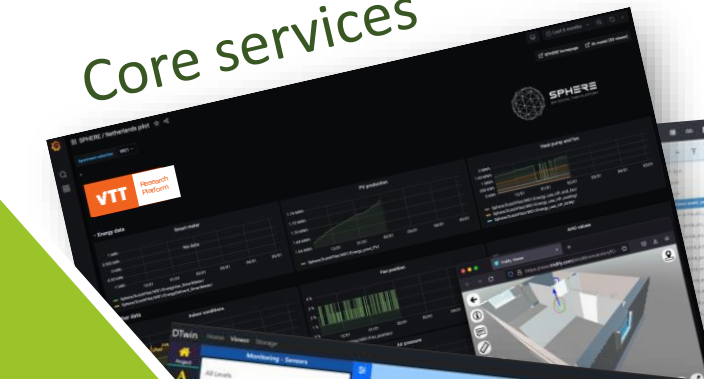
SPHERE Services



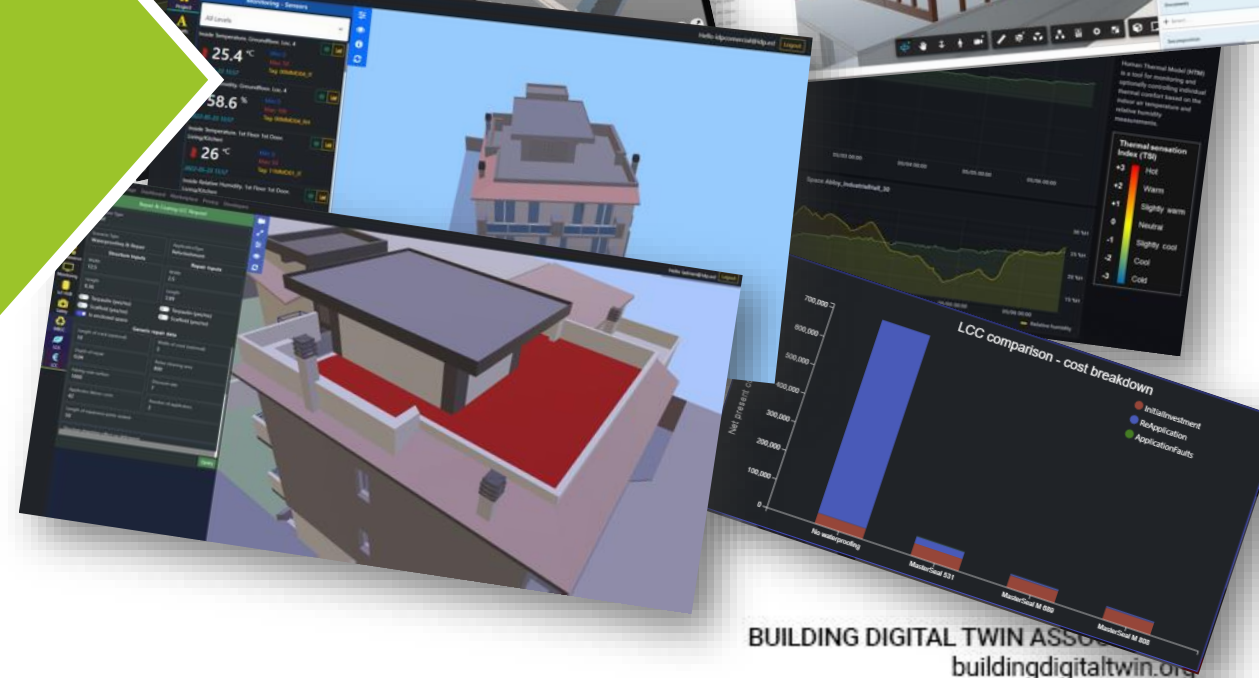
Landing page

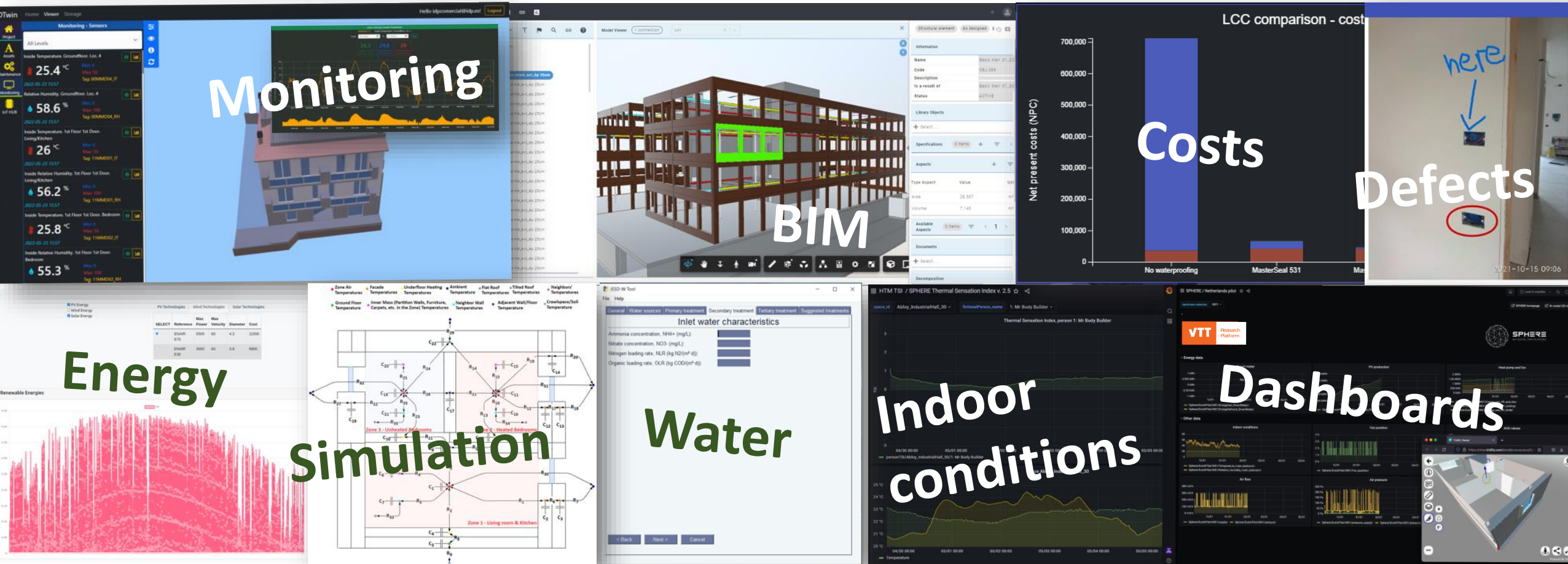


Core services



16 services





SPHERE pilot project achievements

Renovation

Apartment
building

4 apartments

Office

Improve
energy
efficiency

BIM

Life-cycle

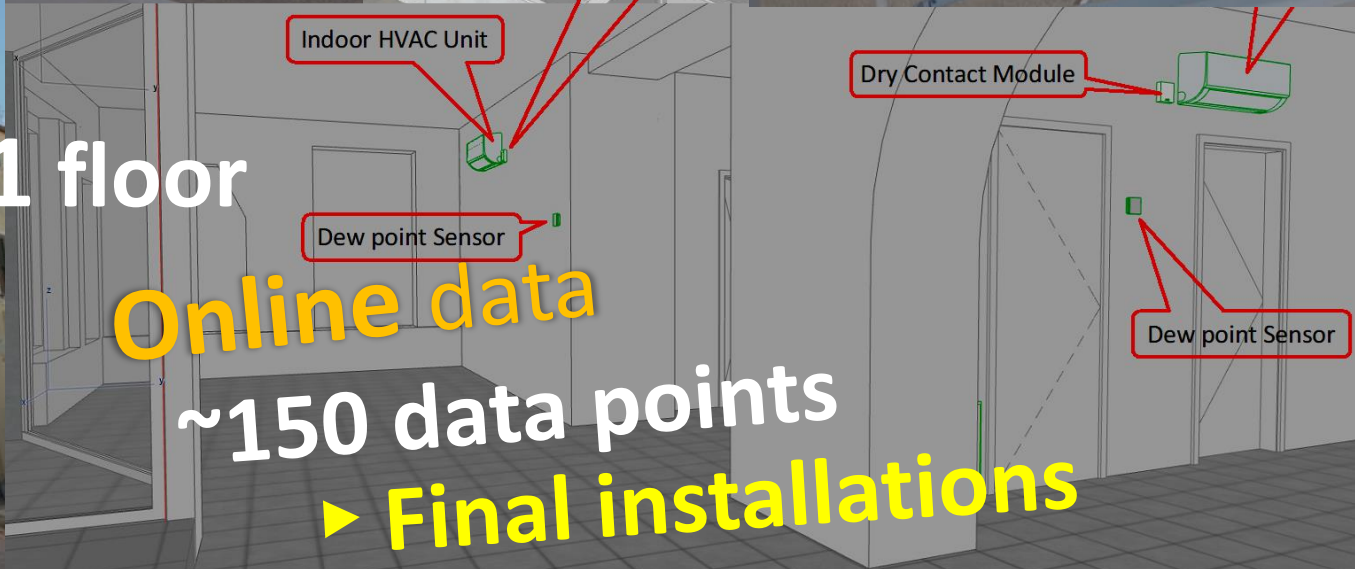
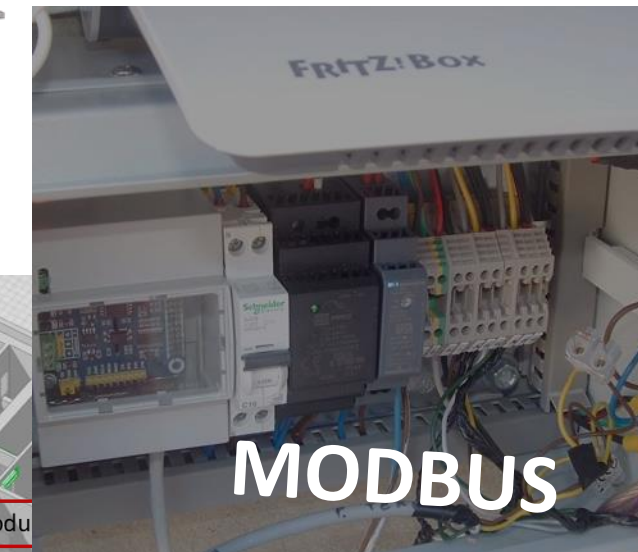
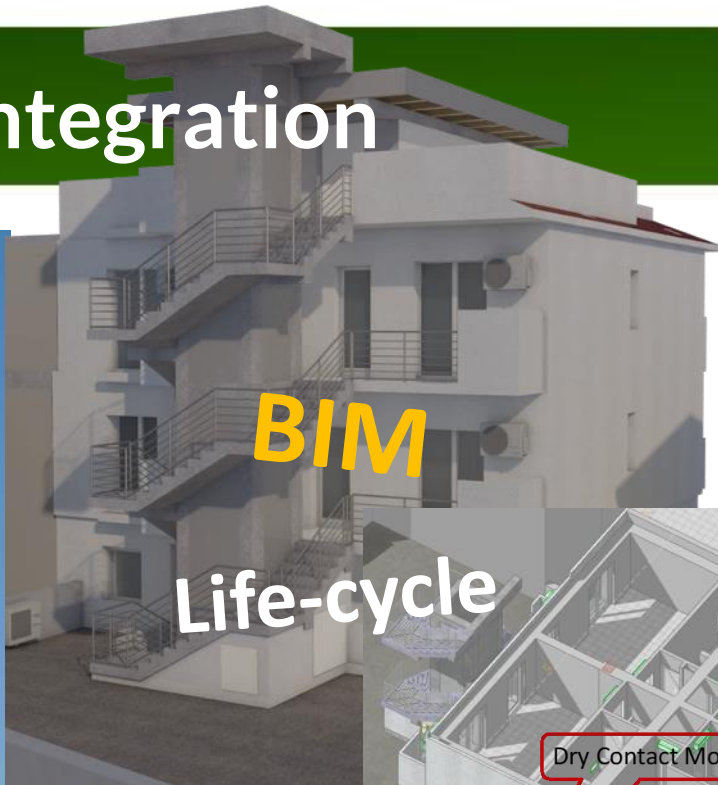
MODBUS

+1 floor

Online data

~150 data points

► Final installations



New construction

Office
6000m²

7 Stories

Reduce
resource &
Energy
consumption

Prefabricated
timber-hybrid
elements

Online data, BAS

~2000+ data points

► BAS interface opened

Planning
Lean



New construction

Rowhouse

Solar panels

**Energy
positive**

**Energy
saving**

Low cost

Monthly data

10 apartments

~400 data points

► Panels produce more
than energy consumed



Refurbishment

Factory

3 buildings

24/7 monitoring

Energy
upgrade

Saving target 1000 MWh/a

▶ 1 626 MWh/a (2021)

▶ 1 305 MWh/a (→2022/05)

Online data

~94 data points
New BAS, sensors

Large building
25 000 m²



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SPHERE
BIM DIGITAL TWIN ENVIRONMENT



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