AEGIR project:
Digit**A**l and physical incr**E**mental renovation packa**G**es/systems enhancing env**I**ronmental and energetic behaviour and use of **R**esources.

AEGIR

Incremental Renovation Package

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AEGIR Project main approach

1. AEGIR develops modular and industrialized solutions for energy-efficient building renovation, reducing costs and time.
2. It integrates renewable components and smart energy management to optimize energy use and enable nearly Zero Energy Buildings (nZEB).
3. Based on four renovation packages, the solution is adaptable to different building types and climates across Europe.
4. A comprehensive ecosystem of digital tools and services ensures a seamless process from design to operation.
5. Sustainability-first approach, using bio-based, recycled materials and circular economy principles to reduce embodied carbon and environmental impact.
6. User-centric design, ensuring affordability, improved indoor comfort, and engagement of end-users in energy efficiency and resource-conscious living.

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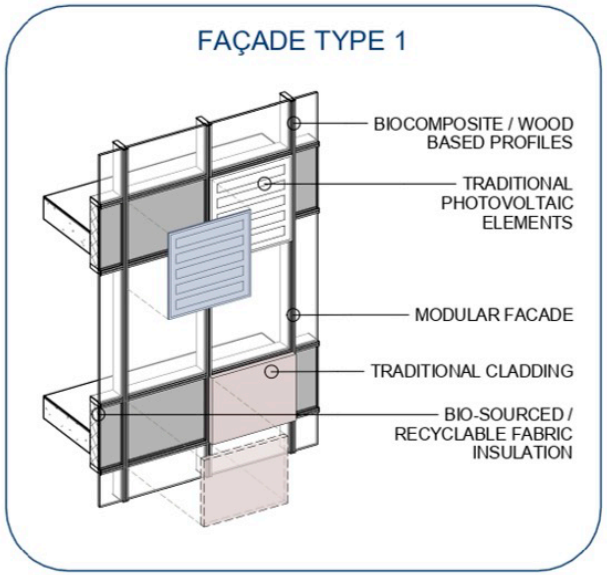
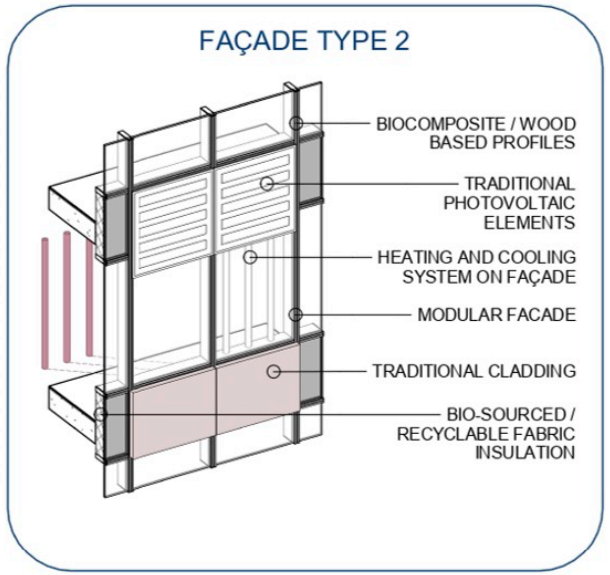
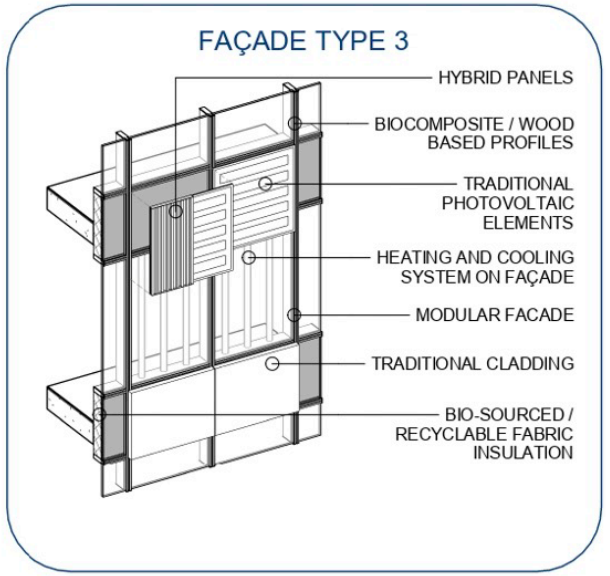
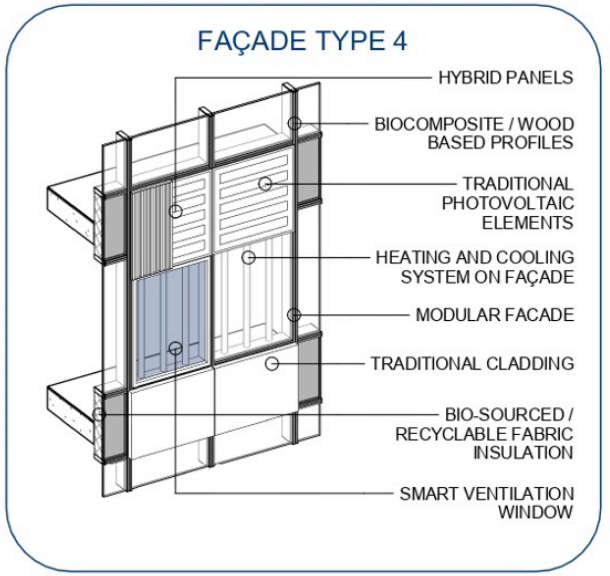
AEGIR Project objectives

1.- Design multifunctional (passive & active) scalable building energy renovation envelope packages to answer to a different range of needs.









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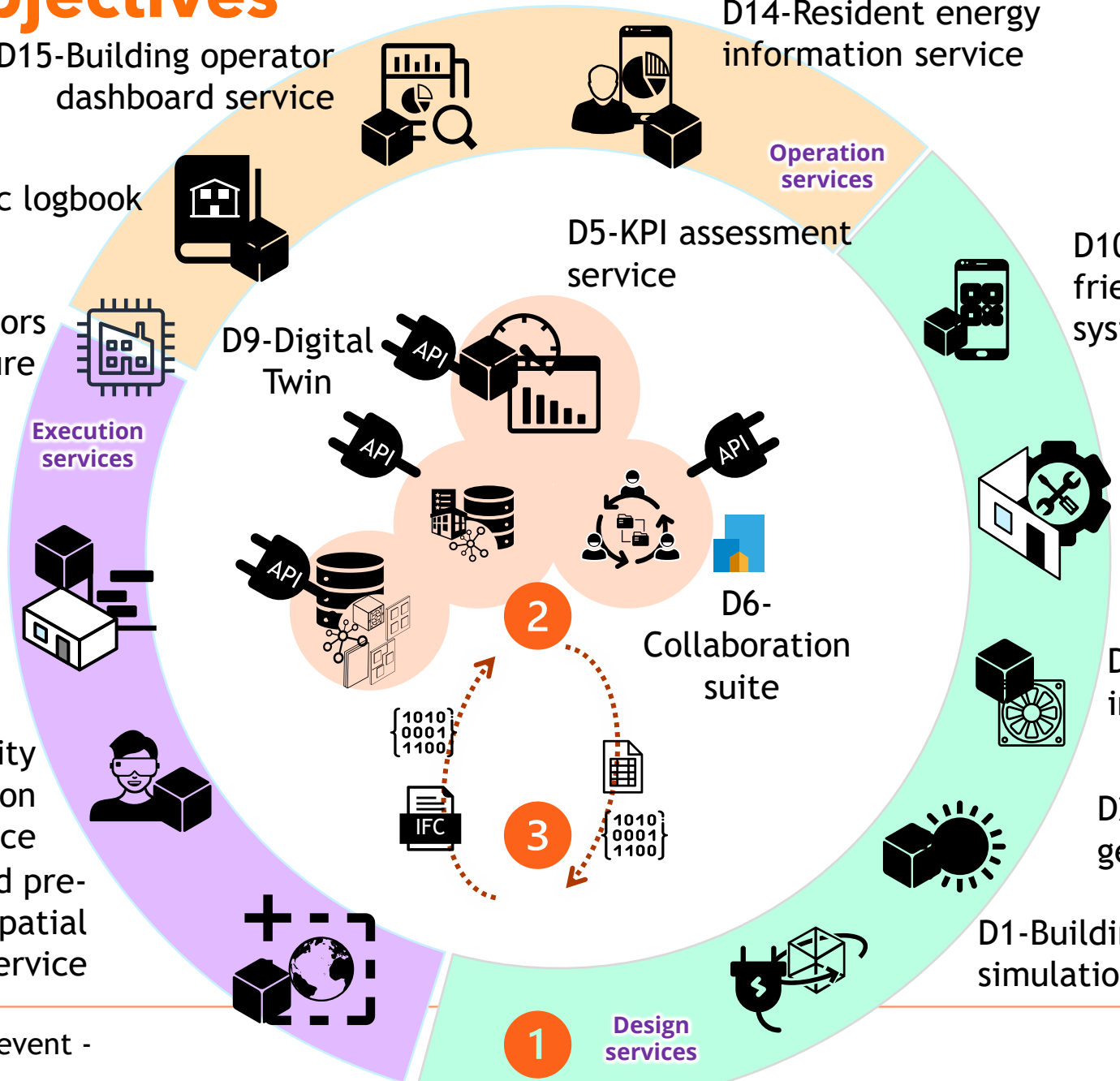
AEGIR Project objectives

2.- Develop and implement an ecosystem of digital services in a common data environment.



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AEGIR Project objectives

3.- Demonstrate AEGIR technical solution through its implementation and monitoring in four different building typologies (residential, office and educational) located in different climatic zones.

SPAIN: Educational building

France: Residential homes for elderly people

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AEGIR Project objectives

3.- Demonstrate AEGIR technical solution through its implementation and monitoring in four different building typologies (residential, office and educational) located in different climatic zones.

Denmark: Social housing

Romania: Single family house

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AEGIR key results

AEGIR will improve...	& How?
1 **The way we DESIGN building renovations**	Using **new digital services to collect the data to reduce time, ease and improve efficiency of design step** . Increase of the percentage of retrofitting actions due to the system.
2 **ENERGETIC AND SUSTAINABLE BEHAVIOR and investments**	**Using industrialized and modular systems, digital tools and new materials, renewable technologies, and systems.** Based in simulations AEGIR project could contribute to trigger an additional 370 M€ in sustainable energy investments on the period 2025-2030.
3 **Operational behaviour during LIFETIME**	Based on **digital twin models allowing the management of the energy generated** at dwelling and building level.
4 **DECREASE of on-site construction / renovation WORK TIME.**	**Reduction of time achieved by the AEGIR process can be around 50%** compared with the initial time (from 19 Months to 9).
5 **Improved AFFORDABILITY of sustainable renovation and RES systems in buildings**	**Reduction of 50% in the costs** of retrofitting the building
6 **Improvement of indoor environment and USER COMFORT and satisfaction**	**CO_2 level in the spaces can be significantly decreased** from values around 2000 ppm to 500 ppm after the retrofitting. Minimum indoor temperatures rising from 17°C to 19°C in winter and maximal indoor temperatures staying below 26°C after retrofit.
7 **Reduction of EMBODIED ENERGY**	**From 10% to 53% depending on the strategy**. Higher buildings' performance with lower environmental impacts through increased rates of holistic renovations -> Long term: Emission savings between 18.000 to 46.000 kilotons CO2 equiv.
8 **Use of RECYCLED AND BIOSOURCED MATERIALS**	Replacing traditional materials for the structure (metals) by **biocomposites** components and for the insulations with **recycled and biosourced insulations** (using fabrics and biobased insulations)
9 **CIRCULAR ECONOMY**	**Designing the use and installation** of the different components of the system considering all the phases of the construction process (**Material production, Design, Construction, Use, End of life/Recyclability**)

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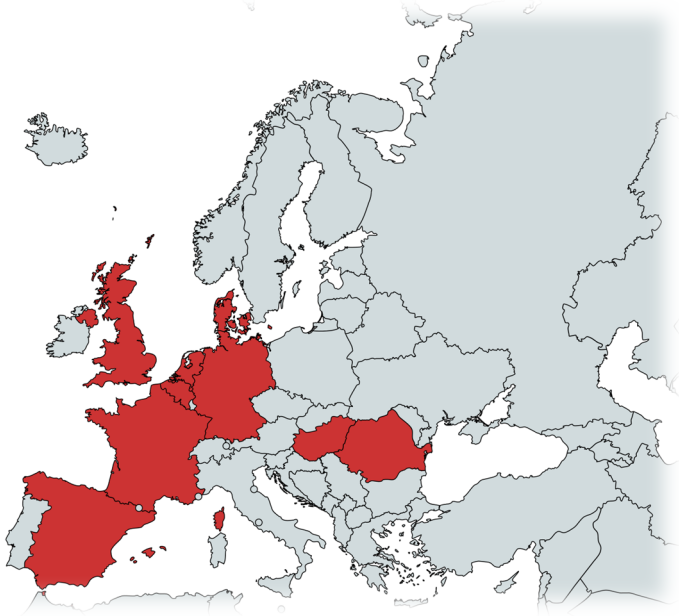
AEGIR consortium

MATERIALS	COMPONENTS	SYSTEMS	DIGITAL	DESIGN	CONSTRUCTION	DEMOS	ASSOCIATIONS / DISSEMINATION	RTOS
COMSA CORPORACIÓN, SOPREMA, OMIKRONDOKK	BeePlanet factory, DUALSUN, westaflex, GEZE	uXAMA FACHADAS SINGULARES, CHAZELLE	IDP ingeniería - medio ambiente - arquitectura, ICM INGENIERIA	UNS UNSTUDIO, ENAR envolventes arquitectónicas architecturalenvelopes	COMSA CORPORACIÓN	BOËN SUR LIGNON, domea.dk, Ajuntament de Malgrat de Mar, TermoLine	INNOVAWOOD, ICLEI, oteis GREEN & DIGITAL ENGINEERING, territoire d'énergie, tenerrdis	tecnalia, CSTB le futur en construction, cea, ines, Fraunhofer ISE, UNIVERSITY OF CAMBRIDGE, TUDelft, DANISH TECHNOLOGICAL INSTITUTE

- **WebPage:** https://aegirproject.eu/
- Partners: 29; Countries: 9
- Duration: 48 Months
- Start: 01/10/2022; End: 30/09/2026



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Thank you for your attention!

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