

R&D&i PROJECT



Title of the project

Service Platform to Host and SharE REsidential data

Acronymous

SPHERE

Project content

No one disputes that BIM has represented a breakthrough in the construction sector. Now, improved computing power, better algorithms for modelling physical phenomena, better network deployments for IOT, and other technologies have made possible the emergence of a new paradigm, the Digital Twin applied to the residential construction sector. SPHERE is the first major European H2020 project to address this.

Main objectives

The main objective is to create a Digital Twin platform for live information, both from the drafting phase of the project, starting from its creation in BIM, and from all the information generated in real time by the building's sensors and counting systems. With this, multiple tools that have been developed within the project will allow the digitisation of the static and dynamic phases of the building.

Special mention should be made of the evolution of the concept of Preventive Maintenance towards Predictive Maintenance, in whose efforts, COMSA SERVICE has broadened the horizon of its management tool, IMAN, towards the achievement of these objectives.

Work packages / Tasks

- ICT platform requirements and definition of KPIs
- Design of the data and ICT architecture for the implementation of the Digital Twin
- Development and interaction of design and construction tools
- Implementation of ICT operational tools
- 16 Tools in 4 pilots in 4 countries
- Market analysis, exploitation and impact maximisation
- Communication, dissemination and training to stakeholders

Results and conclusions

- The SPHERE platform developed is a living project, based on a scalable architecture that allows it to grow both in terms of services and the development of new tools to solve new problems as they arise.
- Several demonstrators have been developed where the different tools developed in the project have been validated.
- The extension of IMAN in this new facet of Predictive Maintenance has been applied in the air-conditioning systems of a pilot test in Italy.
- The consortium has created a European non-profit association, the BDTA Building Digital Twin Association, which promotes the development of this new technology <https://buildingdigitaltwin.org/>



BUSINESS AREA

Technical Area and Innovation R&D&i
COMSA INDUSTRIAL

DURATION

2018-2022

BUDGET

Budget Consortium: 12.831.952€
Budget COMSA: 375.000€

KEY WORDS

Digital Twin,
BIM, Energy, LCA, Platform, TIC

PROJECT COORDINATOR

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EXTERNAL FUNDING

