

**A PROJECT TOWARDS THE
ENERGY SAVING AND
SUSTAINABILITY OF PUBLIC
BUILDINGS**





ABOUT

TEDS 4 BEE


TEST OF DIGITAL
SERVICES FOR BUILDING
ENERGY EFFICIENCY

A project led by Ferrovial Servicios towards the energy saving and sustainability of public buildings with the aim to reduce energy consumption in public buildings with the help of the EMMOS (Energy Management and Monitoring Operational System) Digital Service, making it possible to collect, store and analyse consumption data and other parameters that influence energy consumption, such as temperature, humidity, NOx, CO2, comfort level, light intensity, etc.

TEDS4BEE consists of:

12 members from **7 European countries**, in **5 clusters**, with a total of **16 pilot buildings**.

TEDS4BEE is funded by the Competitiveness and Innovation Programme (CIP). It has a budget of approximately 4.4 million euro, where European contribution is more than 2 million euro.



EMMOS Digital Service provides a mechanism for monitoring energy consumption and forecasting energy usage and cost models for buildings. Predictions are based on pre-established guidelines and models, analysing, among other factors, the profitability and efficiency of investments aimed at reducing energy costs.

The TEDS4BEE consortium brings together the full value chain (ICT providers, Energy Service Companies (ESCOs) and public building owners) as well as universities and research centres. The five clusters where EMMOS will be deployed represent a wide variety of building typologies, uses and climates. This variety of partners and buildings will make a very comprehensive set of test cases to enable the replication of the project in the future.

WHAT IS

EMMOS



• Integration and validation of the EMMOS Digital Service in the pilot buildings with all related activities:

- training the local ESCO and user
- adaption and deployment of the service
- analysis of energy data gathered through EMMOS
- validation of EMMOS as a digital service

OBJECTIVES

- Assessment of the collected data in terms of:
 - energy efficiency and savings
 - cost-benefits, defining business and exploitation plans to anticipate sustainability and scalability beyond these pilots
 - user acceptance, through surveys.

The EMMOS Digital Service will be implemented in at least 16 public buildings, which will benefit from increased energy efficiency, sustainability and savings. These pilot buildings are located in 5 different countries (Italy, Poland, Serbia, Spain and the United Kingdom), in order to test very different climatic conditions:

PILOTS

- Buttershaw Business and Enterprise College, Educational Building, West Yorkshire, United Kingdom
- VEGA Scientific and Technology Park of Venice, Italy
- Clinical Centre, Hospital Sanitary Building, Vojvodina, Serbia
- Real Estate Management Wola in Warsaw, Real State Management, Mazowieckie, Poland
- Technical University of Warsaw - Faculty of Power and Aeronautical Engineering, Classrooms and Laboratories, Mazowieckie, Poland
- Marshal's Office of Lodz Region, Headquarters of public administration (offices), Lodz, Poland
 - Public Swimming Pool, Sport Building, Ayuntamiento de Soto del Real, Spain
 - City Hall, Public Administrative Building, Soto del Real, Spain
 - Social Security Provincial Directorate, Government Building, Zaragoza, Spain
 - Financial Control Unit, Government Building, Zaragoza, Spain
 - Social Security Office 50/01, Government Building, Zaragoza, Spain
 - Social Security Office 50/02, Government Building, Zaragoza, Spain
 - Social Security Office 50/03, Government Building, Zaragoza, Spain
 - Social Security Office 50/04, Government Building, Zaragoza, Spain
 - Social Security Office 50/05, Government Building, Calatayud, Spain
 - Social Security Office 50/06, Government Building, Zaragoza, Spain

PARTNERS

ferrovial

servicios
FERROVIAL SERVICIOS SA
Spain
(Project Coordinator)



ENGINEERING

ENGINEERING INGEGNERIA
INFORMATICA S.P.A.
Italy



ion solutions

ION SOLUTIONS
Serbia



centro de
innovación de
infraestructuras
inteligentes

CENTRO DE INNOVACIÓN DE
INFRAESTRUCTURAS INTELIGENTES
Spain



VEGA PARCO SCIENTIFICO
TECNOLOGICO DI VENEZIA
Italy

fbserwis

FBSERWIS SPOLKA AKCYJNA
Poland



Madrid
Network

MADRID NETWORK
Spain



indra

INDRA SISTEMAS PORTUGAL SA
Portugal



Research and Innovation Center
PRO-AKADEMIA
CENTRUM BADAŃ I INNOWACJI
PRO-AKADEMIA
Poland



UNIVERSITY of LIMERICK

UNIVERSITY OF LIMERICK
Ireland

amey

AMEY OW LIMITED
United Kingdom



POLITÉCNICA



CeDint - UNIVERSIDAD
POLITÉCNICA DE MADRID
Spain

**BRITISH & IRISH
CLUSTER**

**IBERIAN
CLUSTER**



**POLISH
CLUSTER**

**SERBIAN
CLUSTER**

**ITALIAN
CLUSTER**

EXPECTED RESULTS

Expected reduction in impact emissions in buildings between 15% and 30%:

- 1.** 2-5% reduction in energy consumption owing to greater user awareness, achieved through environmental campaigns and specific courses catered to specific needs.
- 2.** 5-10% reduction in energy consumption owing to good practices and adjusting the usage schedule to real needs.
- 3.** 10-20% reduction in energy consumption due to EMMOS Digital Services.
- 4.** Up to 35% reduction in specific emissions due to a change in the fuel (from fuel oil to natural gas) used for heating the buildings and the facilities.



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