



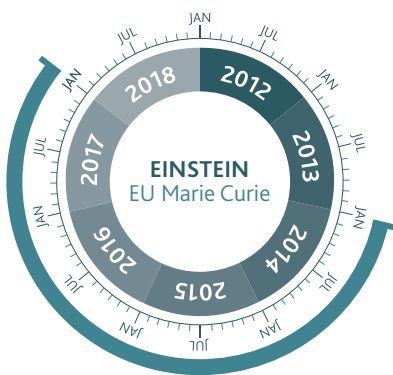
EINSTEIN

Simulation Enhanced Integrated Systems
for Model-based Intelligent Control(s)

R&D SECTORS



PROJECT TIMELINE



EINSTEIN will address the scientific and technical challenges related to the optimisation of energy efficiency in existing buildings.

The main aim is to formulate and integrate a number of different control strategies, taking into account automated fault detection and diagnosis, and optimisation and prediction through a simulation environment to optimise the energy consumption of existing buildings.

It will not only eradicate errors between 'as-built' and 'as-designed' conditions but also include predictive analysis with respect to how the building will perform, taking into account future weather predictions and occupant use. The control strategies will be tested and validated on a number of existing buildings within Trinity College campus.

EINSTEIN will achieve this through the development of a new innovative modular simulation-based building control system which has the ability to:

- exploit real-time holistic building simulation (integrated with diverse building systems);
- directly enable automated control actions of a building and its surroundings (adaptively) and;
- provide considerable energy savings to the building (by an optimized algorithm).

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Get Involved

E research@iesve.com
T +44 (0) 141 945 8500

Developed in Association with:

INTEGRATED ENVIRONMENTAL SOLUTIONS LIMITED (United Kingdom), THE PROVOST, FELLOWS, FOUNDATION SCHOLARS & THE OTHER MEMBERS OF BOARD OF THE COLLEGE OF THE HOLY & UNDIVIDED TRINITY OF QUEEN ELIZABETH NEAR DUBLIN (TRINITY COLLEGE) (Ireland)

EINSTEIN will formulate and integrate a number of new control strategies to be used with the simulation-based building control system. This will provide the building manager with information on occupant energy use as well as the optimum energy efficiency solution for their building.

It will not only eradicate errors between 'as-built' and 'as-designed' conditions but also include predictive analysis with respect to how the building will perform, taking into account future weather predictions and occupant use. The control strategies will be tested and validated on a number of existing buildings.

EINSTEIN seeks to address all building types including Residential, Commercial, Office, Retail, Sports and Leisure, and Domestic.

