Sim4Blocks

Hes·so
Haute Ecole Spécialisée de Suisse occidentale
Fachhochschule Westschweiz
University of Applied Sciences and Arts Western Switzerland

Projet H2020 – SIM4BLOCKS

Nom du projet	Simulation Supported Real Time Energy Management in Building Blocks
Call	H2020-EE-2015-2-RIA (EE-06-2015)
Référence UE	695965
Type de projet	Innovation Action (IA)
Rôle de la HES-SO	Participant
Chercheur impliqué	Prof. Jessen Page (HEVS-HEI)
Participants	Hochschule für Technik Stuttgart (DE) – Coordinateur ; Centre Internacional de Metodes Numerics en Enginyeria (ES) ; Energea Enginyeria en Eficiència Energètica SL (ES) ; S.P.M. Pomocions Municipals de Sant Cugat del Vallès S.A. (ES) ; Wüstenrot Gemeinde (DE) ; Stadtwerke Schwäbisch Hall GmbH (DE) ; Solid Automation GmbH (DE) ; Haute Ecole Spécialisée de Suisse Occidentale (CH) ; Neurobat AG (CH) ; Elimes AG (CH) ; University College Dublin, National University of Ireland (IR) ; AIT Austrian Institute of Technology GmbH (AT) ; REstore NV (BE) ; Wattgo (FR) ; EIFER Europäisches Institut für Energieforschung EDF-KIT EWIV (DE) ; EDF Eenergy R&D UK Centre Ltd (UK) ; Insight Publishers Ltd (UK) University of Applied Sciences and Arts - Western Switzerland (CH),
Budget global	5’563’356 € / financement UE : 3’729’056 €
Durée	48 mois, début le 01.03.2016
Résumé	The growing share of variable renewable energy necessitates flexibility in the electricity system, which flexible energy generation, demand side participation and energy storage systems can provide. SIM4BLOCKS will develop innovative demand response (DR) services for smaller residential and commercial customers, implement and test these services in three pilot sites and transfer successful DR models to customers of Project partners in further European countries. The pilot sites are blocks of highly energy efficient buildings with a diverse range of renewable and cogeneration supply systems and requisite ICT infrastructure that allows direct testing of DR strategies. SIM4BLOCKS' main objectives are to specify the technical characteristics of the demand flexibility that will enable dynamic DR; to study the optimal use of the DR capability in the context of market tariffs and RES supply fluctuations; and to develop and implement market access and business models for DR models offered by blocks of buildings with a focus on shifting power to heat applications and optimization of the available energy vectors in buildings. Actions toward achieving these objectives include: quantifying the reliability of bundled

flexibility of smaller buildings via pilot site monitoring schemes; combining innovative automated modelling and optimization services with big data analytics to deliver the best real time DR actions, including motivational user interfaces and activation programs; and developing new DR services that take into account the role of pricing, cost effectiveness, data policies, regulations, and market barriers to attain the critical mass needed to effectively access electricity markets. SIM4BLOCKS' approach supports the Work Program by maximizing the contribution of buildings and occupants and combining decentralized energy management technology at the blocks of building scale to enable DR, thereby illustrating the benefits achievable (e.g. efficiency, user engagement, cost).

Lien	TbA