



## Welcome to Sim4Blocks



**S**im4Blocks is a four-year, EC-funded project that focuses on the development of innovative demand response services for residential and commercial applications. The project combines decentralised energy management technology at the blocks-of-buildings-scale to enable demand response.

In this newsletter, we look at the second Sim4Blocks factsheet which looks at how the project went about analysing the demand response potential of residential building stock. Sim4Blocks also attended two significant events, Sustainable Places 2018 and “The smarter E Europe” conference, we hear from Ursula Eicker and Dirk Pietruschka who attended and presented the developments and progress of Sim4Blocks at their respective events.

### LINKS TO THE STORIES

1. Factsheet on clustering and classifications methods
2. Sim4Blocks make gains at Sustainable Places 2018
3. Sim4Blocks present communal energy management at EM-Power

### CONTACT DETAILS

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# FACTSHEET ON CLUSTERING AND CLASSIFICATIONS METHODS

The second in line of a number of informative and fun factsheets to highlight some of the research and developments in the Sim4Blocks project in order to promote its work and results, has been published.

**T**he factsheet will explain Sim4Blocks' contribution to understanding methods that can be used to estimate how the EU's building stock can contribute to demand response and the wider stability of the grid: "[Understanding the potential energy flexibility of buildings](#)".

This fundamental, simplified and yet informative piece of communication is a picture of how the project studied two approaches, classification and clustering models to help build the dataset on the DR potential of buildings in the EU based on tests at the pilot site of Wüstenrot in Germany.

The project aimed to find methods that can be up-scaled to see which demand response services are suitable for different building groups.

This is the second in a series of Sim4Blocks factsheets. Keep an eye out on the website for more.

If you wish to find out more about the topic of the factsheet, please contact our editor, Amelia Brice: [amelia@ipl.eu.com](mailto:amelia@ipl.eu.com)



Above: Understanding the potential energy flexibility of buildings fact sheet

## SIM4BLOCKS MAKE GAINS AT SUSTAINABLE PLACES 2018

The 6th Sustainable Places 2018 (SP2018) conference was co-hosted by INES (The French National Solar Energy Institute of France) and the University of Savoie Mont Blanc (USMB) and Sim4Blocks made a strong impression.

**T**he two-day symposium comprised of several keynote speakers, clustering workshops, and presentation sessions. From across Europe, 167 delegates attended [SP2018](#) in Aix-les Bains, France between 27-29 June 2018.

The Contractors' Meeting on Smart Buildings was held during the conference on the 28 June, which looked

at 'Upgrading building smartness – from perceived potential to management of upgraded buildings'.

**Sim4Blocks**, alongside Dr-Bob and InteGRIDy, eDREAM presented on 'Upgrading demand response capability in buildings and districts'. Ursula Eicker from HFT Stuttgart, representing Sim4Blocks, spoke about the new role for a cluster manager which is needed for



blocks of buildings, especially when dealing with complex demand response products such as heat pumps with storage.

Eicker stressed that while such cluster management exists for simple technical systems such as electric heaters or batteries, and aggregators already have such clusters in their portfolio, development is needed for an intelligent cluster management system for more complex building technology.

While other projects deal with higher power systems in commercial applications, Sim4Blocks is one of the very few projects that explicitly addresses small power consumers in residential buildings.

Participant discussions centred around demand response technology readiness levels v demand response organizational readiness levels; Is demand response effective with blocks of buildings or energy communities?; Commercial v residential – which upgrade is easier?

Sim4Blocks was also represented by Restore in the session on: From innovation to markets; matching energy markets, technologies and consumers – Buildings and energy markets. After speaking about ‘Unlocking the value of low voltage connected flexibility’, discussions from this session looked at commercial buildings: low-hanging fruit?; Can buildings create value for electricity markets?; Load shifting or absorbing variable renewable electricity?

Find the full Contracts’ Meeting on Smart Buildings agenda [here](#).

Sustainable Places 2019 will be held from 5-7 June 2019 in Cagliari, Italy. [Find out more](#).

## LOOKING FORWARD TO SEEING YOU AT SP2019

The Comune di Cagliari, Citta Metropolitana di Cagliari and the University of Cagliari proudly welcome you to “the Green Island”  
June 05-07,2019 Cagliari, Italy

195  
Days

19  
Hours

42  
Mins

36  
Seconds

[Call for Proposals](#)

[Registration](#)

## SIM4BLOCKS PRESENT COMMUNAL ENERGY MANAGEMENT AT EM-POWER

Partner Enisyst attended “The smarter E Europe” conference in Munich, Germany and exhibited the Sim4Blocks project at the EM-Power exhibition.

**T**he event, “[The smarter E Europe](#)” is an innovation hub for empowering new energy solutions that brought together four events in June this year: Intersolar Europe, ees Europe, Power2Drive Europe, EM-Power.

[Sim4Blocks](#) partner Enisyst had a booth at the [EM-Power exhibition](#) for intelligent energy use in industry and buildings, and gave a presentation titled ‘Efficient control of energy systems in distributed communal properties – an intelligent operation management system helps to keep the overview’.

### **Presentation**

The presentation was focused on two areas: the integration of the power-to-heat system in the pilot site’s town hall, and the use of buildings’ thermal mass (through intelligent control) to increase the flexibility of the power-to-heat system operation for demand response (DR) applications.

With 30kWh of electrical storage, the school in the pilot site has an area electricity network installed with one connection to the grid. This one connection is to help increase the consumption of its own onsite generated electricity from a large photovoltaic (PV) system and to reduce peak power feed to the electricity grid. The battery will also be used for other DR services including for other flexibility markets.

### **Exhibition booth**

During the event, Enisyst also displayed the Sim4Blocks project in their exhibition booth and visitors showed a great deal of interest in the developments of the Sim4Blocks project. Visitors were particularly interested in the use of local flexibility at building and district level in order to increase the consumption of electricity generated onsite.

The popularity of such systems is developing across Europe, especially when there is a large economic incentive at play. As Dirk Pietruschka, managing director of Enisyst GmbH said, “there is more interest in selling electricity directly to tenants or residents”.

For example, residents can receive export prices for excess electricity they produce which can be sold back to the grid. The use of electricity which has been generated onsite can also reduce energy bills, and there is greater flexibility potential to adjust power output as needed.

More specifically, Pietruschka explained that the new ‘Mieterstrom Law’ in Germany provides additional incentives for electricity from PV systems, as electricity is used directly by the tenants in their buildings or districts. “The tariff for electricity is also much lower than the price normal tenants or small companies pay for their electricity, which makes onsite consumption extremely interesting for market push,” he added. This new system means that there is no use of the grid, no grid charges and the tariff is paid for directly used electricity. In particular, this is most attractive in areas where grid charges are high. “With combined heat and power (CHP) units and PV systems, buildings and parts of buildings, together with intelligent control, can cover 70 to 80 per cent of their own overall electricity consumption,” said Pietruschka. However, the increased use of this type of generated electricity can become detrimental to the economy if left unsupervised.

Such a model has the potential to infiltrate the market and leave grid operators receiving reduced grid utilisation fees, Pietruschka noted. “Business models will need to be changed from consumption fees to connection and peak load fees, otherwise the economic viability of such concepts might be at stake.”

More information can be found at the, [“The smarter E Europe”](#) website.