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# ADRENALIN

dAta-DRivEN smArt buiLDINgs: data sand-  
box, competitions, implementation

” ADRENALIN aims at facilitating a digital transformation of the existing build stock, by creating and implementing data-driven applications that can optimise energy use.

Buildings represent a high share of peak electricity demand, but thanks to their slow thermal inertia they also offer the potential to be one of the lowest cost opportunities for providing the flexible demand needed to support increasing levels of variable renewable energy resources in electricity grids. To activate and scale this latent flexible demand opportunity, new data-driven software services are needed. ADRENALIN aims at facilitating large scale roll-out of data services and smart controls in the existing building stock. By collecting a large and varied pool of measurement data from real buildings (data sandbox), ADRENALIN will crowdsource to data challenge competitions the development of new algorithms. The best-performing solutions will be implemented in real-life conditions on the digital platforms of the partner companies to test their general validity and replicability, and to demonstrate real-life performance.

>> Add a picture or additional text, as appropriate. <<

## Project Duration

01.05.2022 - 01.05.2025

## Project Budget

Total Budget: € 2,175,000.-

Funding: € 1,187,000.-

## Project Coordinator

Sintef (Norway)

## Project Partners

RISE, Sweden

Herrljunga Elektriska AB, Sweden

Akademiska Hus, Sweden

SDU, Denmark

ReMoNi AS, Denmark

NTNU, Norway

IWMAC AS, Norway

AES Innovation, Turkey

Synavision GmbH, Germany

CSIRO, Australia

NUS, Singapore

## Project Website

<https://adrenalin.energy/>

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ERA-Net Smart Energy Systems



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### ERA-Net Smart Energy Systems Joint Call 2020 (MICall20)

This project has been awarded funding within the ERA-Net SES Joint Call 2020 for transnational research, development and demonstration projects. 22 Mio EUR of funding have been granted to 21 projects active in 17 regions and countries.



## Main Objectives

The main objective of this project is to develop ML (Machine Learning) and smart control algorithms that will enable or improve new data services for the building sector.

Objective 1: Gather a large pool of data to allow testing the scalability and reusability of the proposed algorithms.

Objective 2: Organize competitions as a means of crowdsourcing the solutions to the data challenges.

Objective 3: Implement the best solutions on different digital platforms, in real-life applications.

## Main Results

This section will be updated as the project progresses. Competitions will be launched in 2023.

The project is organized in three sequential phases, applying different working methods:

1. **Data Sandbox:** collect measurement data from real buildings from different sources, countries and climates, and prepare them for the competitions. The data will be provided by the partner ICT companies and quality assure and structure by the research partners, who will also establish the data management plan.
2. **Competitions:** are used as a means of crowdsourcing the solutions to the data challenges and are managed by the research partners. The stimulus for the participants is provided by a mix of sponsored prizes, performance-based subcontracting and prospective recruitment for the implementation of the best solutions.
3. **Implementation:** of the best performing algorithms in real-life conditions for a limited period, and evaluate their performance. The selected buildings will be similar to those, or the very same, that provided some of the datasets and/or the emulators. The implementation will happen in different Digital Platforms of the ICT company partners (ReMoni, IWMAC, AES Innovation, Synavision) , in order to demonstrate the general validity and replicability of the algorithms.

**Joint Programming for Flourishing Innovation –  
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**[www.eranet-smartenergysystems.eu](http://www.eranet-smartenergysystems.eu)**

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