Jak z sukcesem pozyskać projekt – doświadczenia Mazowieckiej Agencji Energetycznej

Bartosz Dubiński
Mazowiecka Agencja Energetyczna

MAE – profil działalności (1)

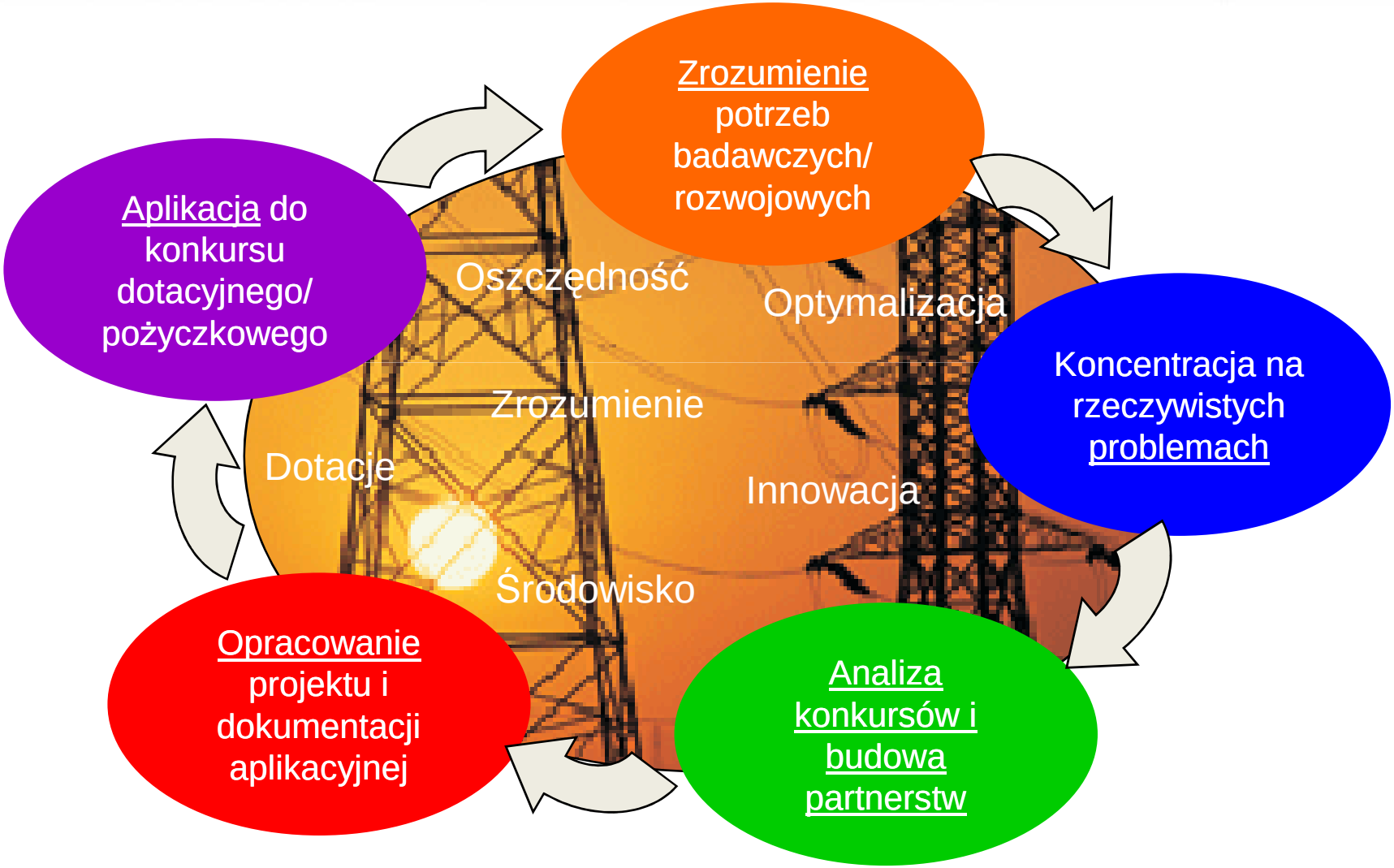
- Założona w 2009 r. przy współfinansowaniu IEE.
- Główny zakres kompetencji: energetyka odnawialna, efektywność energetyczna, planowanie energetyczne.
- Zapewnia eksperckie wsparcie w zakresie programowania funduszy na energetykę, w tym RPO 2007-2013 i 2014-2020.
- Uczestniczy w procesie planowania energetycznego oraz (potencjalnie) monitorowania sektora energetycznego.

MAE – profil działalności (2)

- Regionalna agencja energetyczna na Mazowszu działająca w formule *non-for-profit.*
- „Samorządowa agencja consultingowa” – zarówno od strony inżynierskiej jak i finansowej.
- Platforma współpracy (biznesowej/badawczej) instytucji publicznych – prywatnych – naukowych.
- Szerokie kompetencje w zakresie realizacji projektów EE i OZE (m.in. Intelligent Energy Europe, CENTRAL EUROPE, 7 Program Ramowy, POIG, Działanie 4.3 RPO Mazowsze) + zarządzanie instrumentem JESSICA.

MAE – partner branżowy

- targi energetyczne CENERG i RENEXPO w Polsce
- ManagEnergy Awards
- EUSEW – European Sustainable Energy Week
- OPENDAYS
- CoR – Committee of the Regions
- ECRN - European Chemical Regions Network
- Mazowiecki Klaster EE i OZE
- media - Rzeczpospolita i INFRASTRUKTURA
- EIB – Europejski Bank Inwestycyjny


Zrozumienie potrzeb badawczych/ rozwojowych
Koncentracja na rzeczywistych problemach
Analiza konkursów i budowa partnerstw
Opracowanie projektu i dokumentacji aplikacyjnej
Aplikacja do konkursu dotacyjnego/ pożyczkowego
Oszczędność
Optymalizacja
Zrozumienie
Dotacje
Innowacja
Środowisko

Wybór MAE i BGK (JESSICA)

EBI

Zaproszenie do wyrażenia zainteresowania

Publikacja Zaproszenia do Wyrażenia Zainteresowania na stronach EBI

Kandydat na FROM

Etap 1. Kryteria wykluczające i kryteria kwalifikacji

Deklaracja zainteresowania

Zaproszenie do składania ofert

Oferta, w tym Biznes Plan

Etap 2. Ocena merytoryczna oferty na podstawie kryteriów wyboru

Przedstawienie propozycji RI

Wybór FROM

Negocjowanie Umowy Operacyjnej

Ask your national contact about EINSTEIN

Project coordinator: TECNALIA (www.tecnalia.com)
Sergio Saiz Bombin sergio.saiz@tecnalia.com

Project Partners:

Bulgaria:
ARCHITECTURAL SPIES (www.architecturalspies.com)

Germany:
SIG-solites (www.solites.de)
University of Stuttgart (www.itw.uni-stuttgart.de)

Ireland:
Scandinavian Homes (http://www.scanhome.ie)

Italy:
DAPPOLONIA (www.dappolonia.it)
ICOP (www.icop.it)

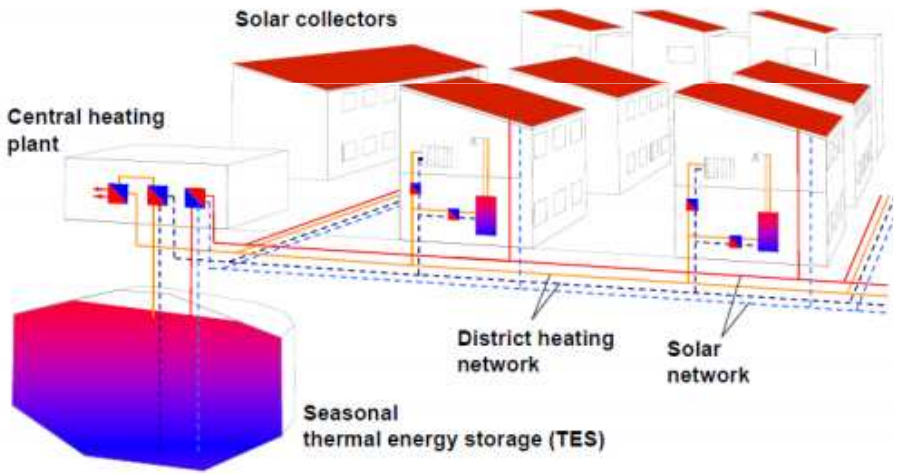
Netherlands:
TNO (www.tno.nl)

Poland:
MAZOVIA ENERGY AGENCY (www.mae.com.pl)
Mostostal Warszawa (www.mostostal.waw.pl)
CIM-MES Projekt (www.cim-mes.com.pl)

Spain:
ACCIONA (www.acciona.es)
Airlan (www.airlan.es)
ARTEAGA FUNDATION (www.kutxasocial.net)
GIROTZE (www.girotze.com)

United Kingdom:
University of ULSTER (www.ulster.ac.uk)

The EU project EINSTEIN Effective INtegration of Seasonal Thermal Energy Storage Systems IN existing buildings



Project Co-funded by the European Commission under the Seventh Framework Program (FP7). Grant Agreement n. 284932

www.einstein-project.eu

The idea

The EU project EINSTEIN is implemented to reduce the consumption of primary energy in buildings using **solar thermal energy** in combination with **heat pumps** and **Seasonal Thermal Energy Storage** (STES) for space heating and DHW requirements.

= Solar Thermal Energy + **STES** + Heat pump

Energy consumption

Energy use in buildings accounts for approximately 40% of EU energy consumption. Energy efficiency in new buildings is important, but **existing building stock** is the main target. Existing buildings, however, are characterized by particular requirements and constraints that are not present in new buildings and that requires new developments and adaptation of existing technologies.

Objectives

The overall objective of EINSTEIN project is the development, evaluation and demonstration of a low energy heating system based on STES concept in combination with heat pumps for space heating and DHW requirements for existing buildings to drastically reduce energy consumption (**primary energy savings up to 70% compared to conventional existing thermal systems**).

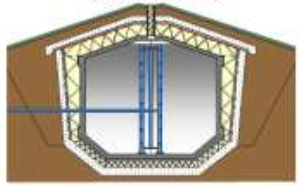
This goal will be achieved by

- Technological developments for **STES systems adaptation for existing buildings**
- Development of a novel, high-efficiency, cost-effective and compact **heat pump suitable for existing buildings and optimized for higher temperature heat sources** such as STES systems
- Development of a **decision support tool** that will help the planners to find the **best technology to install** in each particular case
- Development of **integrated building concept**: which passive and/or active measures (insulation, heat recovery, renewables…) and in which order should be applied for an optimized retrofitting?

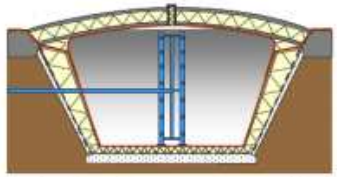
Different types of STES

The decision for a certain type of storage mainly depends on the local requisites like the geological and hydro-geological situation in the underground of the respective construction site. Above all an economical rating of possible storages according to the costs for a kWh of thermal energy that can be used from the storage allows the choice of the best storage technology for every single project.

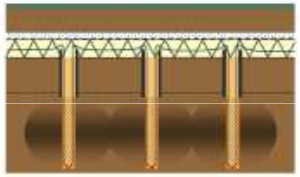
Tank thermal energy storage (TTES)
(60 to 80 kWh/m³)



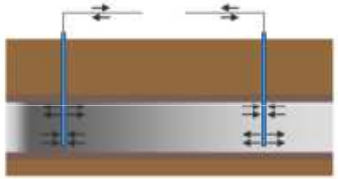
Pit thermal energy storage (PTES)
(60 to 80 kWh/m³)



Borehole thermal energy storage (BTES)
(15 to 30 kWh/m³)

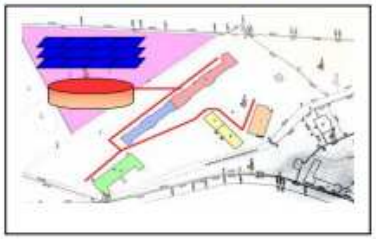


Aquifer thermal energy storage (ATES)
(30 to 40 kWh/m³)



Pilot Plants

Two pilot plants will be built to demonstrate the developed system and concepts:



Pilot plant at district level in Poland (Warsaw)

Pilot plant at building level in Spain (Bilbao)

And monitoring of solar seasonal store installation in an old refurbished apartment building in Lysekil Sweden by Scandinavian Homes.

Streamer

European Research for Innovative Healthcare Districts

Semantics-driven Design through Geo and Building Information Modelling for Energy – efficient Buildings Integrated in Mixed-use Healthcare District

COORDINATOR: Dr. Rizal Sebastian, TNO, The Netherlands; rizal@demobv.nl
TELEPHONE: **+31 15 750 2520 / +31 6 538 141 18**
WEBSITE: www.streamer-project.eu

DURATION: 48 months
EU GRANT: EUR 8 million
PROGRAM AREA: EeB (Energy-efficient Buildings)

SUMMARY

STREAMER is an industry-driven collaborative research project on Energy-efficient Buildings (EeB) with cases of mixed-use healthcare districts. This research will enable architects, contractors, clients and end-users **to design** new EeB. as well as retrofit existing buildings integrated in a healthcare district using enhanced **Semantic BIM-GIS** methods and tools for the holistic optimisation of EeB innovations.

Healthcare-related buildings are among the top EU priorities since they play a key role for a sustainable community, but their energy use and CO2 emissions are among the highest of all building types. The energy use of 1 healthcare district could exceed that of 20,000 dwellings. STREAMER aims at 50% reduction of the energy use and CO2 of new and retrofitted buildings in healthcare districts in the next 10 years.

RESEARCH:

EeB design optimisation in 3 levels/areas:

- **Buildings MEP/HVAC systems** in relation with high-tech medical equipment
- **Building envelope and spatial layout** in relation with new healthcare services
- **Building energy systems** in relation with neighbourhood systems (e.g. electricity, grid, heat storage, etc.)

TARGETED KEY ACHIEVEMENTS:

- **Generic semantic BIM+GIS typology models** of EeB in healthcare districts: adjustable semantic BIM+GIS design models as templates for new design and retrofitting;
- **Framework for BEM (Building Energy Model)** lifecycle model inter-connecting BIM, BAM, BOOM;
- **Design decision-support tool** as an interactive tool which accommodates: interoperable BIM and GIS models; Analysis of energy performance, lifecycle-cost, and functional optimisation and Stakeholder's user's requirements, decision criteria and priorities.

WORK PLAN

The research in STREAMER will proceed in the following 10 work packages:1. EeB building typologies, 2. EeB energy typologies, 3. EeB performance optimization, 4. Participatory design framework, 5. Semantics-driven design method, 6. Interoperable design tools, 7. Demonstration and validation, 8. Dissemination and standardization, 9. Technical management, 10. Project management.

Empirical validation of sustainable EeB solutions and new design tools will be done through 4 real projects/hospitals from 4 different EU countries:

- **NHS, Rotherham, UK (**Upgrade of Building Management Systems and Major improvements in overall building fabric)
- **Rijnstate, Arnhem, NL** (Mid-life renovation to replace MEP systems and 10,000 m2 extension and new buildings)
- **Careggi (AOUC), Firenze, Italy** (Overhaul of electricity and heat distribution and the Optimisation of inter-building functions)
- **AP-HP, Paris, France** (Improvement of logistic and waste systems and Re-arrangement of building spaces).

PARTNERS

The STREAMER consortium consists of 13 industrial partners (6 large companies + 6 SMEs + 1 non-profit private hospital), 4 research organisations, and 3 public bodies (hospital institutions). In total 20 partners from 7 EU members states representing 5 European regions:

- *TNO, the Netherlands*
- *Ipostudio Architetti, Italy*
- *De Jong Gortemaker, the Netherlands*
- *OVE ARUP, United Kingdom*
- *Becquerel Electric, Italy*
- *DWA B.V., the Netherlands*
- *AEC3 LTD, United Kingdom*
- *Karlsruher Institut fuer Technologie, Germany*
- *Demo Consultants, the Netherlands*
- *Bouygues Construction, France*
- *NCC AB, Sweden*
- *Mostostal Warszawa SA, Poland*
- *Stichting Rijnstate Ziekenhuis, the Netherlands*
- *APH Paris, France*
- *NHS Rotherham, United Kingdom*
- *AOC Careggi, Italy*
- *Mazowiecka Agencja Energetyczna, Poland*
- *Commissariat a lénergie atomique, France*
- *Centre Scientifique et technique du batiment, France*
- *Locum AB, Sweden*

TARGETED KEY ACHIEVEMENTS

- Generic semantic BIM+ GIS EeB, typology models
- Framework for BEM (Building Energy Model)
- Design decision-support tool focused on energy

FLAGSHIP PROJECTS

- NHS, Rotherham, UK
- Rijnstate, Arnhem, NL
- Careggi (AOUC), Firenze, IT
- APH Paris, FR

DZIĘKUJĘ ZA UWAGĘ!

www.mae.com.pl