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

Project details

<table>
<thead>
<tr>
<th>Total cost:</th>
<th>Topic(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR 10 976 993,09</td>
<td>EeB.NMP.2013-5 - Optimised design methodologies for energy-efficient buildings integrated in the neighbourhood energy systems</td>
</tr>
<tr>
<td>EU contribution:</td>
<td>Call for proposal:</td>
</tr>
<tr>
<td>EUR 8 000 000</td>
<td>FP7-2013-NMP-ENV-EeB</td>
</tr>
<tr>
<td>Coordinated in:</td>
<td>Funding scheme:</td>
</tr>
<tr>
<td>Netherlands</td>
<td>CP-IP - Large-scale integrating project</td>
</tr>
</tbody>
</table>

Objective

STREAMER is an industry-driven collaborative research project on Energy-efficient Buildings (EeB) with cases of mixed-use healthcare districts. Such districts are the best real examples of neighbourhood with integrated energy system consisting of mixed building types (i.e. hospitals and clinics; offices and retails; laboratories and educational buildings; temporary care homes, rehabilitation and sport facilities). The energy use of 1 healthcare district could exceed that of 20,000 dwellings. In almost every European city there is at least one healthcare district making a huge impact on the whole city’s energy performance.

STREAMER aims at 50% reduction of the energy use and carbon emission of new and retrofitted buildings in healthcare districts. Healthcare-related buildings are among the top EU priorities since they play a key role for a sustainable community, but their energy use and carbon emission are among the highest of all building types. Take for instance a typical hospital building that is part of the healthcare district. It uses 2.5 times more energy than an office. In the EU, there are some 15,000 hospitals producing 250 million tonnes of carbon per annum.

The EeB design complexity is extremely high; and therefore, both holistic and systemic approaches are crucial. STREAMER will resolve this by optimising Semantics-driven Design methodologies with interoperable tools for Geo and Building Information Modelling (Semantic BIM and GIS) to validate the energy performance during the design stage. STREAMER will enable designers, contractors, clients and end-users to integrate EeB innovations for: 1) building envelope and space layout; 2) medical, MEP and HVAC systems; and 3) building and neighbourhood energy grids.

STREAMER results will be validated in the 4 real projects involving the Implementers Communities. The outcome will be used to extend the standardisation in EeB design and operation, open BIM–GIS (IFC-CityGML), and Integrated Project Delivery (IPD).

Related information

Report Summaries

Final Report Summary - STREAMER (Semantics-driven Design through Geo and Building Information Modelling for Energy-efficient Buildings Integrated in Mixed-use Healthcare Districts)
Coordinator

NEERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO
ANNA VAN BUERENPLEIN 1
2595 DA DEN HAAG
Netherlands

Activity type: Research Organisations

Administrative contact: Freek Bomhof
Tel.: +31 888667046
Fax: +31 888663024

Contact the organisation

Participants

IPOSTUDIO ARCHITETTI SRL
PIAZZA POGGI 1
50125 FIRENZE
Italy

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

Administrative contact: Roberto Di Giulio
Tel.: +39 3483856993
Fax: +39 055244041

Contact the organisation

DE JONG GORTEMAKER ALGRA ARCHITECTEN EN INGENIEURS BV
WILHELMINAKADE 310
3072 AR ROTTERDAM
Netherlands

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

Administrative contact: Maurits Algra
Tel.: +31 102973030
Fax: +31 102973031

Contact the organisation
OE ARUP & PARTNERS INTERNATIONAL LIMITED

FITZROY STREET 13
W1T 4BQ LONDON
United Kingdom

EU contribution: EUR 63,720

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

Administrative contact: Phil Nedin
Tel.: +44 2077555196
Fax: +44 2077553676

Contact the organisation

BECQUEREL ELECTRIC SRL
VIA LIVATINO 9
42124 REGGIO EMILIA
Italy

EU contribution: EUR 220,320

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

Administrative contact: Enrico Matcovich
Tel.: +39 05221698245
Fax: +39 05221697345

Contact the organisation

DWA BV
DUITSLANDWEG 4
2411 NT BODEGRAVEN
Netherlands

EU contribution: EUR 287,520

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

Administrative contact: P.M. Van Den Hil - Van Der Bas
Tel.: +31 88 163 53 64

Contact the organisation

AEC3 LTD
St Margaret’s Grove, Great Kingshill 46
HP15 6HP High Wycombe
United Kingdom

EU contribution: EUR 364,312

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

Administrative contact: Thomas Liebich
Tel.: +49 8918703223
Fax: +49 8918703224

Contact the organisation
KARLSRUHER INSTITUT FUER TECHNOLOGIE
KAISERSTRASSE 12
76131 KARLSRUHE
Germany
Activity type: Higher or Secondary Education Establishments
Administrative contact: Irina Schott
Tel.: +49 721 608 25414
Fax: +49 721 608 25403
Contact the organisation

DEMO CONSULTANTS BV
DELFTECHPARK 10
2628 XH DELFT
Netherlands
Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Administrative contact: Ton Damen
Tel.: +31 643648389
Contact the organisation

BOUYGUES CONSTRUCTION
avenue Eugène Freyssinet 1
78280 GUYANCOURT
France
Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Administrative contact: Thierry Juif
Tel.: +33 130601450
Contact the organisation

NCC SVERIGE AB
VALLGATAN 3
170 80 SOLNA
Sweden
Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Administrative contact: Christina Claezon-Jonsson
Tel.: +46 317715118
Contact the organisation
MOSTOSTAL WARSZAWA SA
UL KONSTRUKTORSKA 12A
02 673 WARSZAWA
Poland

EU contribution: EUR 309 000

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

Administrative contact: Pawel Poneta
Tel.: +48 662021541

Contact the organisation

STICHTING RIJNSTATE ZIEKENHUIS
WAGNERLAAN 55
6815AD ARNHEM
Netherlands

EU contribution: EUR 310 404

Activity type: Other

Administrative contact: Marc Koster
Tel.: +31 880055645
Fax: +31 880057885

Contact the organisation

ASSISTANCE PUBLIQUE - HOPITAUX DE PARIS
3 Avenue Victoria
75004 PARIS
France

EU contribution: EUR 267 280

Activity type: Research Organisations

Administrative contact: Didier Bourdon
Tel.: +33 630919925
Fax: +33 140275545

Contact the organisation

THE ROTHERHAM NHS FOUNDATION TRUST
MOORGATE ROAD
S60 2UD ROTHERHAM
United Kingdom

EU contribution: EUR 257 446

Activity type: Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)

Administrative contact: John Cartwright
Tel.: +44 1709424003

Contact the organisation
AZIENDA OSPEDALIERO-UNIVERSITARIA CAREGGI
via delle Oblate 1
50139 FIRENZE
Italy

**Activity type:** Higher or Secondary Education Establishments

**Administrative contact:** Filippo Terzaghi
Tel.: +39 0557947716
Fax: +39 0557947086

Contact the organisation

MAZOWIECKA AGENCJA ENERGETYCZNA SPZOO
UL. BITWY WARSZAWSKIEJ 1920 R.3 LOK 300
02 362 WARSZAWA
Poland

**Activity type:** Private for-profit entities (excluding Higher or Secondary Education Establishments)

**Administrative contact:** Bartosz Dubiński
Tel.: +48 222902942

Contact the organisation

COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES
RUE LEBLANC 25
75015 PARIS 15
France

**Activity type:** Research Organisations

**Administrative contact:** Brigitte Nicolas
Tel.: +33 1 69 08 21 19

Contact the organisation

CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT
AVENUE JEAN JAURES 84
77420 CHAMPS SUR MARNE
France

**Activity type:** Research Organisations

**Administrative contact:** Christiane Pujol
Tel.: +33 49 3956705
Fax: +33 49 3956733

Contact the organisation
LOCUM AB  
BOX 17201  
10462 STOCKHOLM  
Sweden  

EU contribution: EUR 185 616

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

Administrative contact: Saija Thacker  
Tel.: +46 812317070  
Fax: +46 86947210  
Contact the organisation

NCC AB  Participation ended  
VALLGATAN 3  
170 80 SOLNA  
Sweden  

EU contribution: EUR 184 000

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

Administrative contact: Christina Claeson-Jonsson  
Tel.: +46 317715118  
Contact the organisation

Subjects

Scientific Research

Last updated on 2017-08-27  
Retrieved on 2019-08-14

Permalink: https://cordis.europa.eu/project/rcn/109594_en.html  
© European Union, 2019