

**DELIVERABLE REPORT**

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TITLE: FINAL REPORT OF THE STREAMER PROJECT

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GRANT AGREEMENT NUMBER: 608739
PROJECT TYPE: FP7-2013-NMP-ENV-EEB
PROJECT ACRONYM: STREAMER
PROJECT TITLE: SEMANTICS-DRIVEN DESIGN THROUGH GEO AND BUILDING
INFORMATION MODELLING FOR ENERGY-EFFICIENT BUILDINGS
INTEGRATED IN MIXED-USE HEALTHCARE DISTRICTS
PROJECT START DATE: 01/09/2013
PROJECT WEBSITE: WWW.STREAMER-PROJECT.EU
TECHNICAL COORDINATION: TNO (NL) (WWW.TNO.NL)

Publishable summary

Both in terms of societal as well as environmental impact, the healthcare buildings sector plays a key role as the world faces demographic and climate changes. Ageing population aged over 60 years will be nearly tripled, leading to major increase in the number of potential patients. This phenomenon places the healthcare building sector among the top EU priorities; it plays a key role for a sustainable community. However, their energy use and carbon emission are among the highest of all building types. In order to cope with the energy, financial, political, societal and environmental crises, all healthcare districts in Europe are seeking to substantially reduce their energy consumption and carbon emission by 30-50%. Therefore, they are planning new energy-efficient building projects as well as energy-efficiency retrofitting of the existing buildings. There is a strong need of a breakthrough in designing energy-efficiency buildings integrated in the healthcare districts.

STREAMER is an industry-driven collaborative research project on Energy-efficient Buildings (EeB) with cases of mixed-use healthcare districts that aims to reduce the energy use and carbon emission of new and retrofitted buildings in healthcare districts in the EU by 50% in the next 10 years. Such districts are the best real examples of neighborhood with integrated energy system consisting of mixed building types (i.e. hospitals and clinics; offices and retails; laboratories and sport facilities). The main objects are:

- To substantially optimize the energy-efficient design of both new and retrofitted buildings in the healthcare districts.
- To provide the multidisciplinary design teams with advanced design tools by improving the open interoperability between the Building Information Modelling (BIM) and Geographical Information System (GIS) in a Sematic Web (SW) environment, and by enabling model-based analysis of the energy performance.
- To effectively manage information flow, knowledge integration, communication and design-making in the participatory semantics driven design process according to the principles of the Integrated Project Delivery (IPD).

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