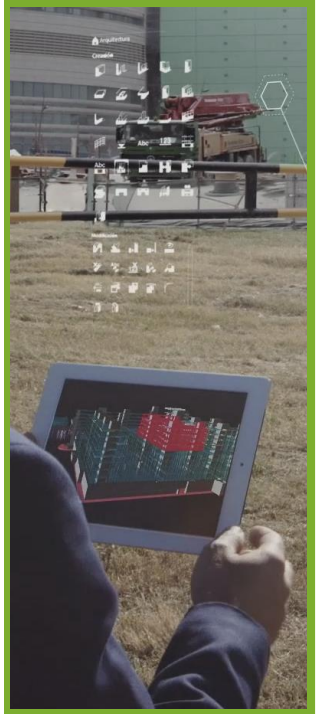

BUILT2SPEC

Tools for the 21st Century Construction Worksite

Sihem Guernouti –Marjorie Musy- Aurélien Hénon

30 October 2015 | Porticcio| Simurex3

www.built2spec-project.eu

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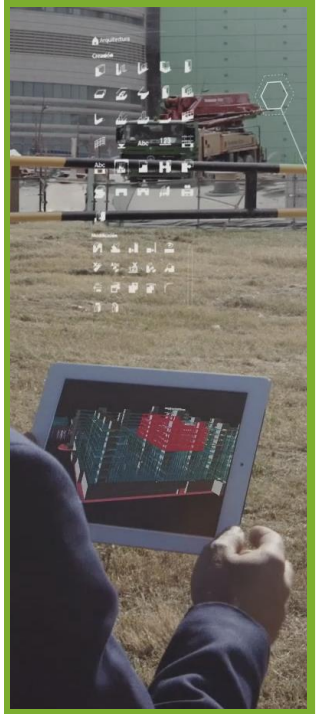

Funded by the European Union's Horizon 2020 research and innovation programme

Coordinator: Nobatek

Start: January 2015

Duration: 4 years

20 European partners:
Universities, research institutions and technological centers, industrials and SMEs from France, Germany, Spain, Ireland, Netherlands, Italy, Switzerland and Great Britain

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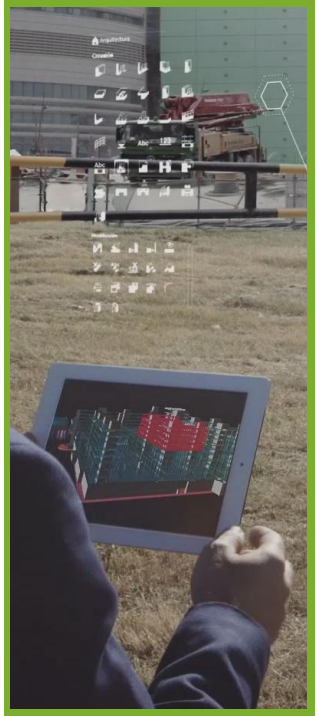

Objective

Reduce the energy performance gap between
a building's designed and as-built energy performance.

Self-Inspection, 3D Modelling,
Management and Quality-Check Tools
for the Construction Worksite

Portable and easy to use!

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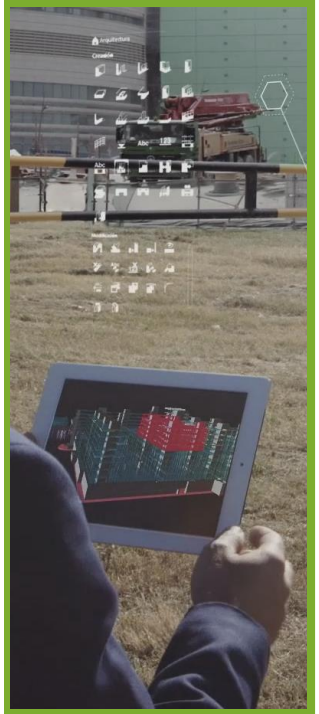
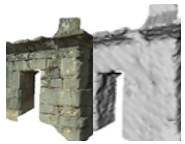
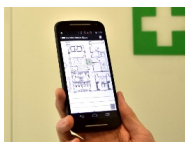


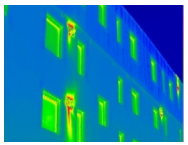
- Energy efficiency quality checks
- Indoor air quality tools
- 3D and imagery tools
- Smart building components
- Building Information Modelling
- Acoustic tools
- Airtightness test tools
- Thermal imaging tools

Virtual Construction Management Platform







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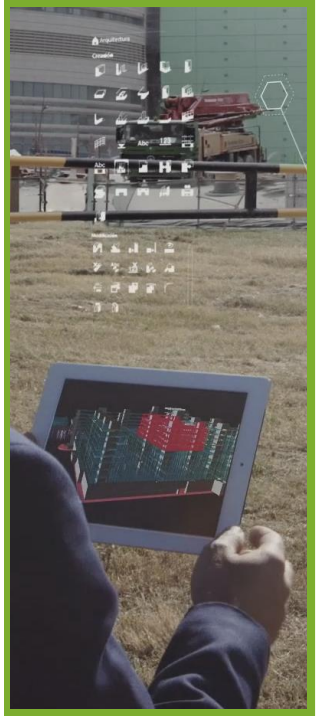


WP2 - Next Generation Thermal Self-Inspection Techniques

nantes ensa architecture

ECN Centrale Nantes

IFSTTAR

Cerema

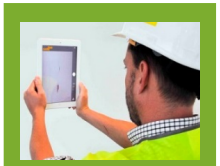
Nobatek

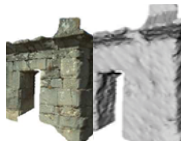
I2M BORDEAUX

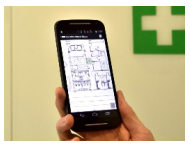
R2M RESEARCH TO MARKET SOLUTION

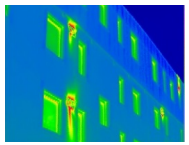
BSRIA

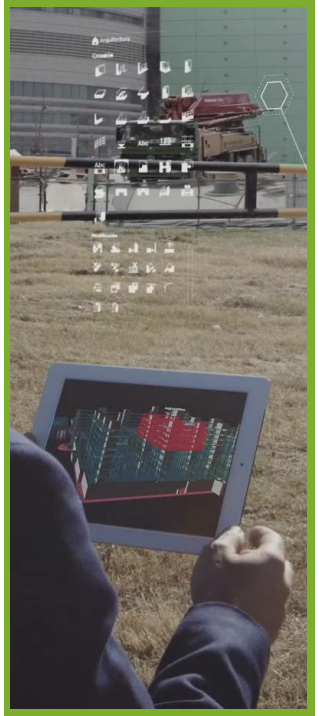
eurecat







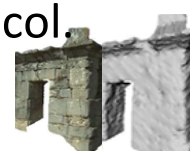


WP2 - Next Generation Thermal Self-Inspection Techniques

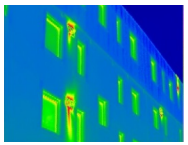
Objectives

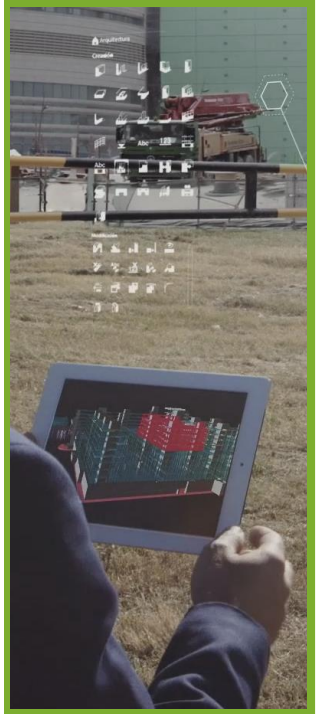
- Develop analysis tools necessary to exploit all the potential of market-ready measurement devices in terms of thermal inspection of buildings.
- Propose an overview of the operational methods (available at laboratory scale) for the assessment of local thermal properties values.
- Develop, adapt and validate new quantitative analysis methods to apply to non-intrusive on-site measurements.
- Propose an implementation of the methods in a construction process inspection protocol.









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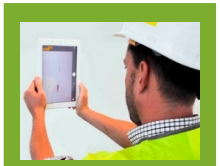
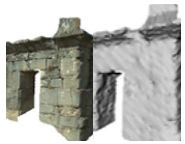
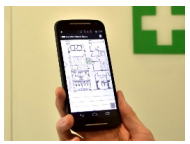
WP2 - Next Generation Thermal Self-Inspection Techniques

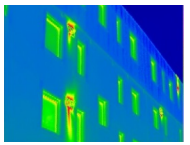
Challenges

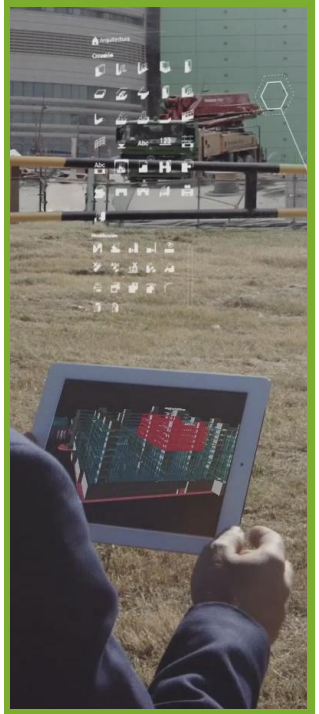
- Simplify the acquisition-modelling chain using AR.
- Determine the necessary and sufficient details level for correct wall identification.
- Inverse modelling to determine the building thermal parameters from TIR & and complementary measurments.
- Direct modelling of building and use of “detailed” thermal models for external and internal conditions.









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WP2 - Next Generation Thermal Self-Inspection Techniques

3 Scales

From laboratory to outdoor scale experiment and real building.