

NOBATEK

French RTO specialised in
Sustainable Built Environment

Brokerage Event
on Energy Efficiency in Horizon 2020

27th October 2016
8.45 am – 5.00 pm

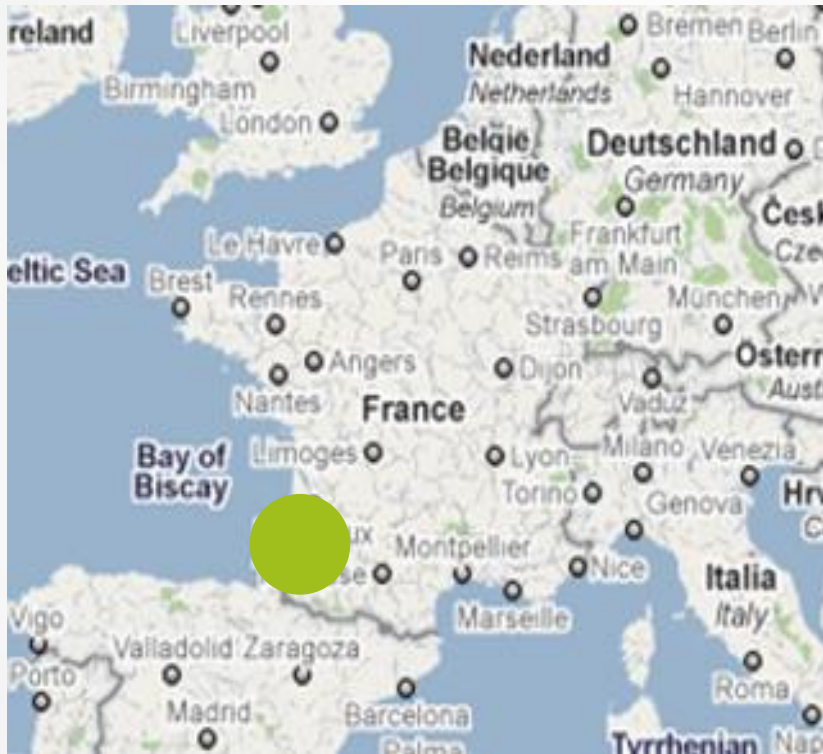
HORIZON 2020

LE PROGRAMME DE RECHERCHE ET
D'INNOVATION DE L'UNION EUROPÉENNE

Polytech Lyon
Campus de la Doua
15 boulevard Latarjet
69622 VILLEURBANNE

nobatek

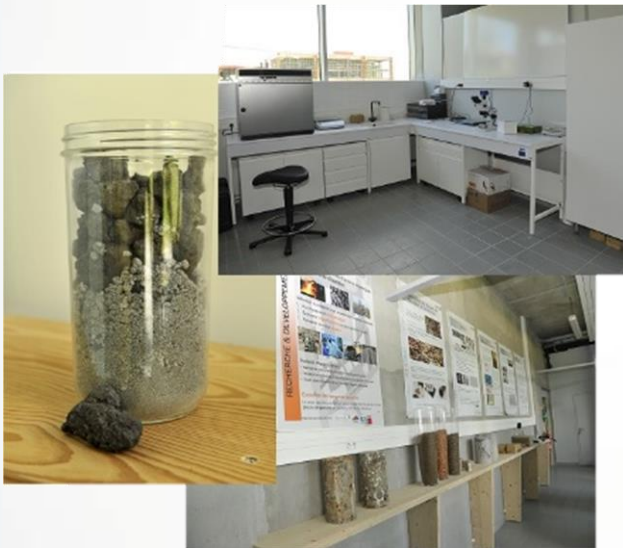
A private non profit technology centre



- Two locations:
- > Headquarters in Anglet (Basque country)
 - > 35 people
 - > Office in Talence (Bordeaux University Campus)
 - > 25 people

Our model

RESEARCH

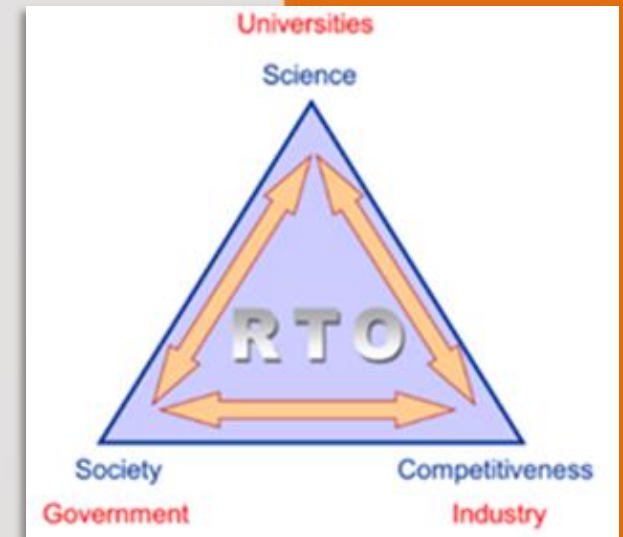
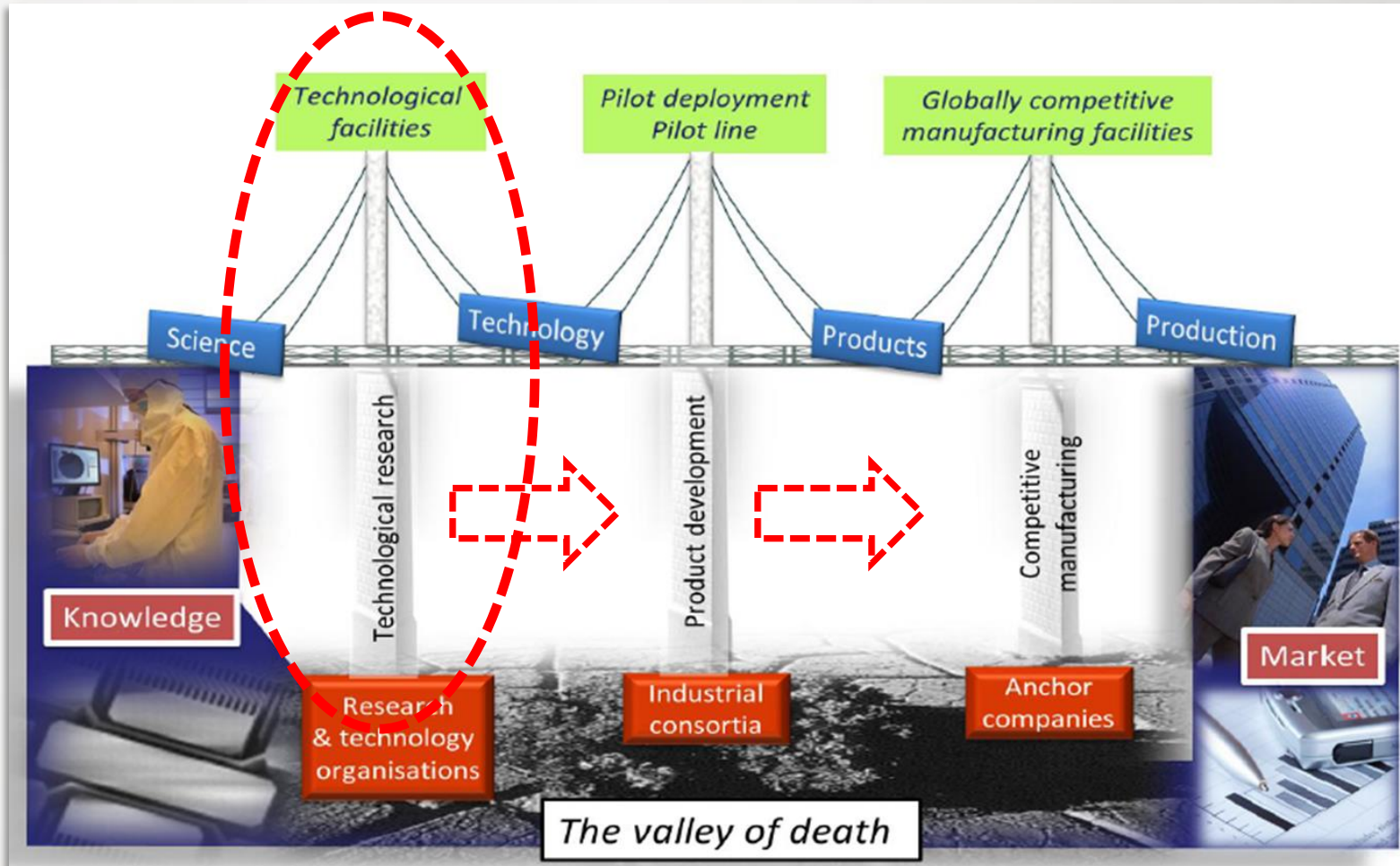


EXPERTISE for the market

TECHNOLOGY assets



What we do as an RTO



3 Departments and typical clients

Innovation for Sustainable
Architecture & Urban
Planning

ARCHITECTS & PLANNERS

Sustainable Building
Technologies

INDUSTRIALS & TECHNOLOGY DEVELOPERS

Energy & Environmental
Efficiency

BUILDING OWNERS & MANAGERS

EU funded R&D Projects



2020



HORIZON



14 ongoing projects (5 as coordinators) / French leader on E2B / H2020





BUILT2SPEC

Tools for the 21st Century Construction Worksite

www.built2spec-project.eu



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Nobatek

OHL

NUI Galway
OÉ Gaillimh

OP ORAN
PRE-CAST LTD
011 916 022904

ecofix

VRM
TECHNOLOGY

The University of Nottingham
UNITED KINGDOM - CHINA - MALAYSIA

TNO innovation
for life

eurecat
Centre for Energy Efficient Buildings

R2M
RESEARCH TO MARKET
SOLUTION

Passive House Institute

ensà
→ nantes
→ architecture

LogiRep
Smartlogistics

blue
ENERGY

Lakehouse

ETH zürich

BSRIA

université de BORDEAUX

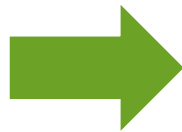
laSalle
Rennes LaSalle University

DE5
DE CINQUE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 637221. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

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!



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

Coordinator: 

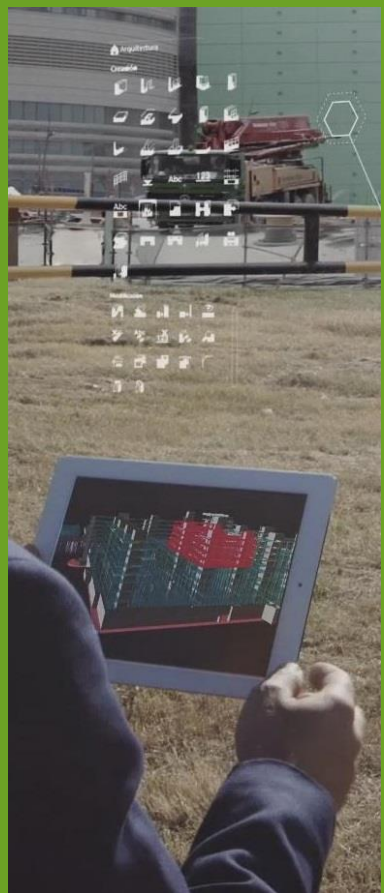
Start: January 2015

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

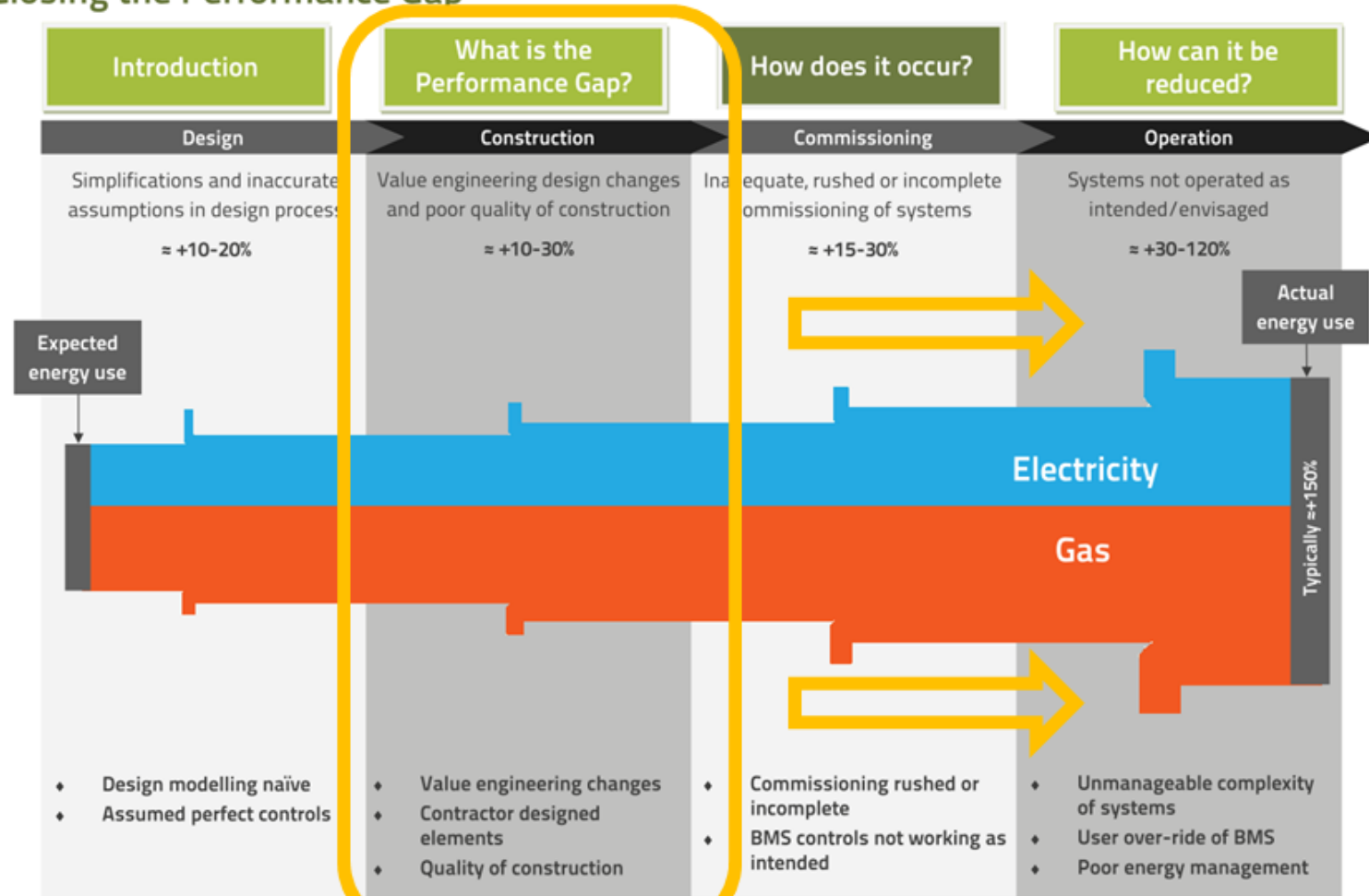




- 5 universities
- 4 RTO
- 1 SHO
- 2 LE
- 8 SME

Tools for addressing the construction phase and beyond

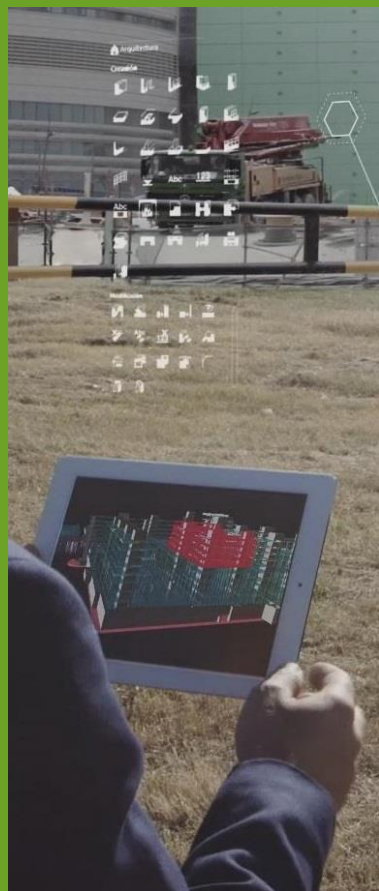
Closing the Performance Gap



All percentages are indicative of the typical ranges found in non-domestic buildings



The BUILT2SPEC approach



The future is awesome.









We can build it faster together.

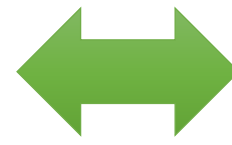
As we walk through our daily lives, we use visual cues to navigate and understand the world around us. We observe the size and shape of objects and rooms, and we learn their position and layout almost effortlessly over time. This awareness of space and motion is fundamental to the way we interact with our environment and each other. We are physical beings that live in a 3D world. Yet, our mobile devices assume that physical world ends at the boundaries of the screen.

Project Tango


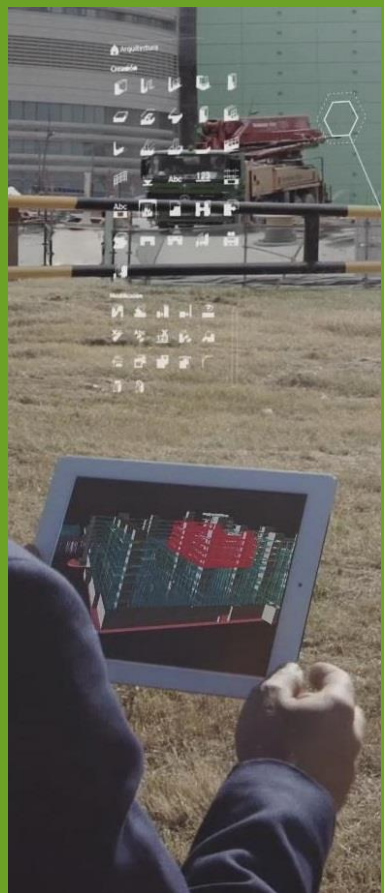


The BUILT2SPEC approach

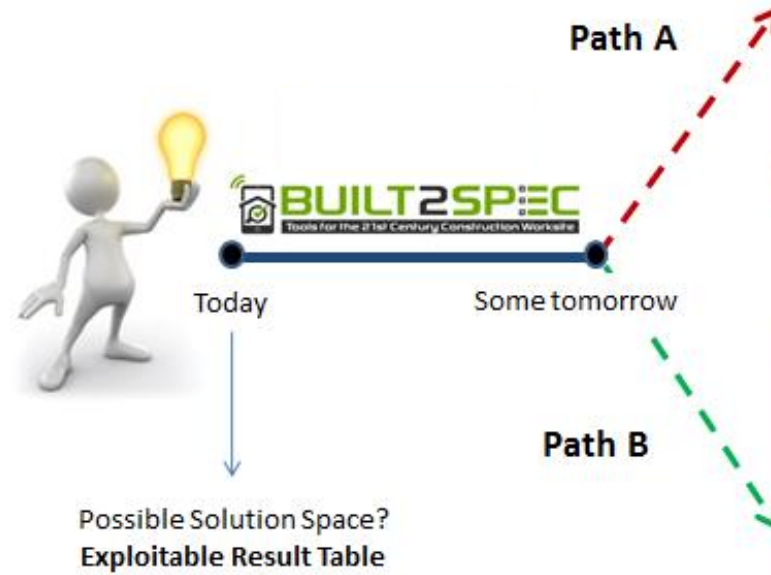
-  Energy efficiency quality checks
-  Indoor air quality tools
-  3D and imagery tools
-  Smart building components
-  Building Information Modelling
-  Acoustic tools
-  Airtightness test tools
-  Thermal imaging tools



Virtual Construction Management Platform

The exploitation approach



THE GRAVEYARD OF GOOD IDEAS

"But why?"

Promised Land

OPPORTUNITY





Products and equipment

- Air pulse device and procedure (Airtightness)
- Portable acoustic Omnidirectional Parametric Loudspeaker (OPL)
- Portable Acoustic Test device and related procedure for data acquisition on site including user-friendly GUI for data management
- Portable IAQ Test device and related procedure



Knowledge and IP

- Non-destructive technique coupled with inverse method for thermo-physical properties characterization of multi-layer opaque wall
- Direct thermal modelling tools and procedure, applied uncertainty/sensitivity analysis tools
- Labscale material properties characterization method, material database
- IAQ Key Indicators
- Semantic algorithm approach for 3D point cloud recognition
- Environmental and structural data analysis
- Algorithms for transformation of BIM data for simulations and inspection
- Strategies and procedures for automated quality assurance and compliance checks
- Building automated form generation for quality assurance and compliance checks



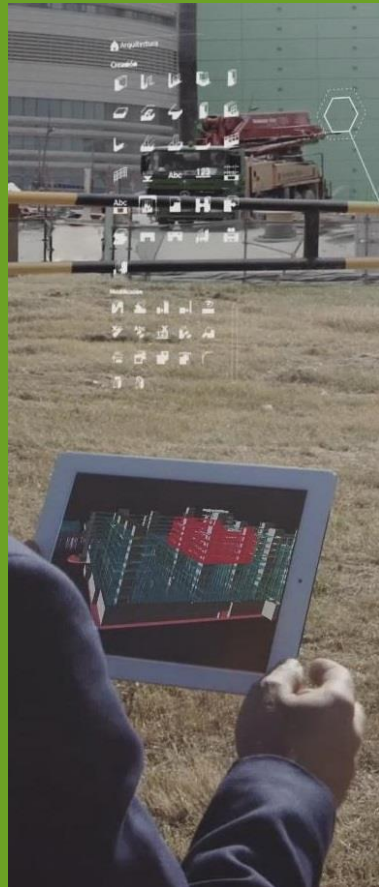
Services

- On-site “U-Value Assessment” and building thermophysical properties characterization
- IR camera image acquisitions on-site
- Air Pulse test on-site
- Acoustic test on-site
- IAQ test on-site
- Design of environmental and structural monitoring systems
- Analysis of environmental and structural data
- Integrated online WebGL viewer for making BIM models available on-site
- Buildings 3D scan by using drones and/or portable devices and 3D reconstruction by processing imageries and point clouds
- System for object-oriented Issue Management on-site



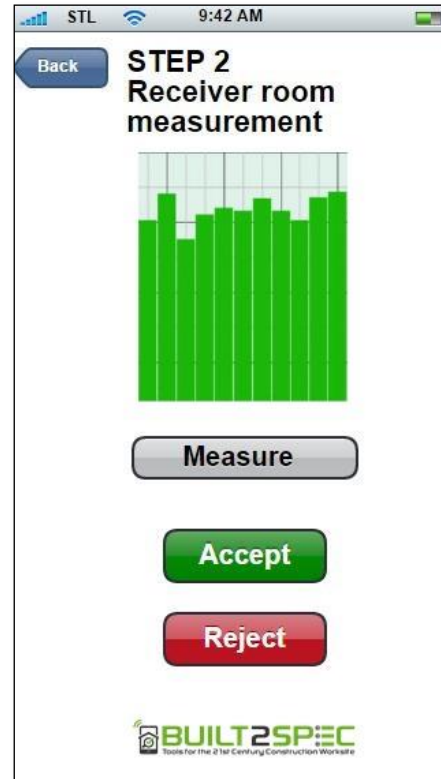
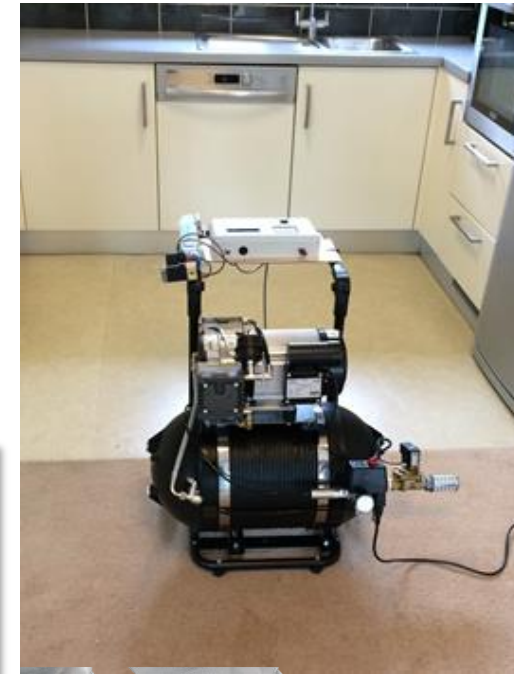
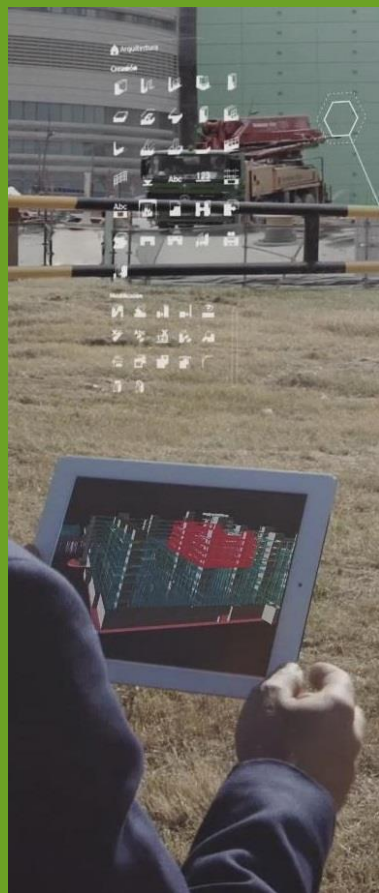
Other

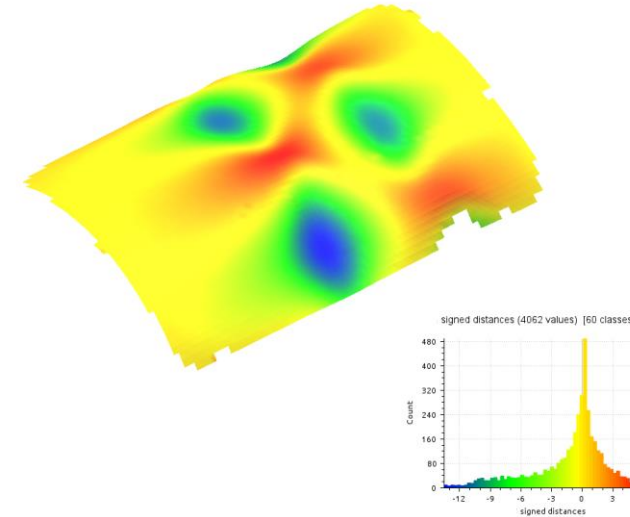
- **VCMP: Virtual Construction Management Platform**
- Stakeholders Community and International Research Network
- Publication and dissemination regarding thermal inspection techniques
- Publication and dissemination regarding IAQ, acoustic and airtightness tests (e.g. commercial guidance)
- Publication and dissemination regarding 3D Scanning Technology and Aerial Imagery
- Publication and dissemination regarding quality assurance
- Data exchange between BIM-model and other standards via IFC format



Products and equipment

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- Portable **IAQ Test device** and related procedure

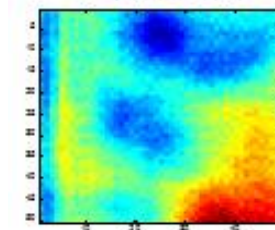




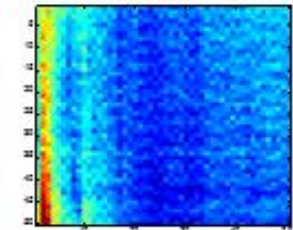
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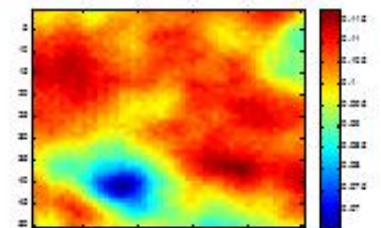
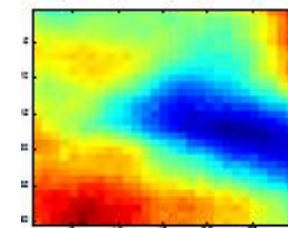
glass fibre



Extruded polystyrene (XPS)

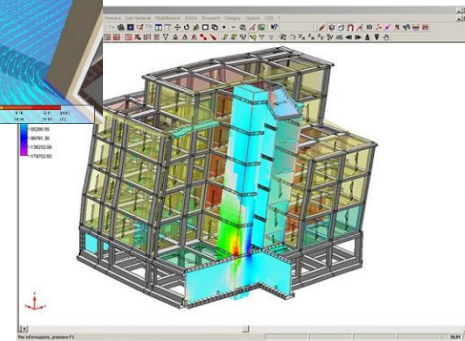
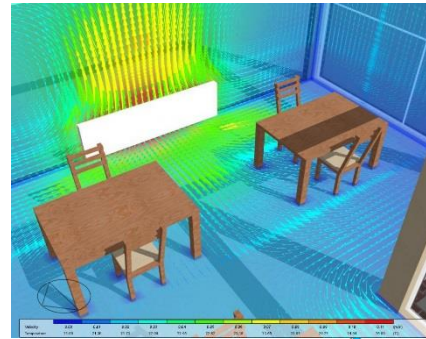


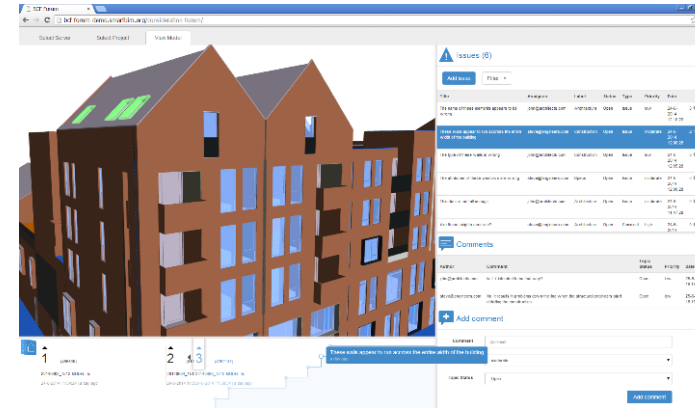
wood



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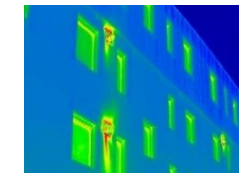
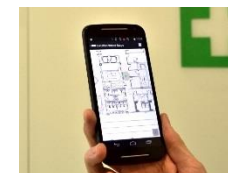
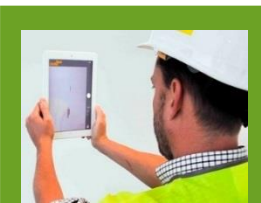
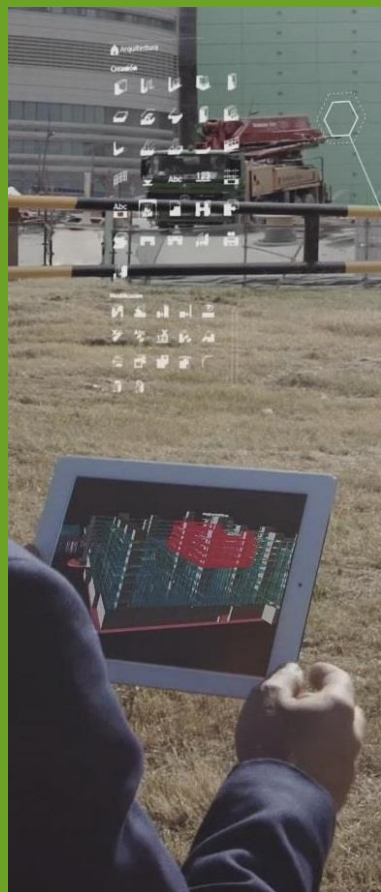


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Towards an exploitation plan

- **How innovative/exploitable** is each result
- Propose a more complete **vision of the exploitation** within and outside the consortium.
- **Shaping/development** in line with market size, market trends, regulation, normatives, IPR, partners expectations,...
- Next steps: market analysis, route to market, risks, business models, IP management...





BUILT2SPEC

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