



Cross collaboration workshop “GAP” – morning session
June 27th 11:00 – 12:30

Presenter	Projects
Fergal Purcell/Suzanne Lesecq	TOPAs
Dawid Krynski	MOEEBIUS
Dawid Krynski	HOLISDER
Federico Noris	HIT2GAP
Martin Klepal/Christian Beder	Energy2District
Rizal Sebastian	INSITER
Jo Southernwood	NOVICE
Jo Southernwood	RECO2ST
Wilmer Pasut	ExcEED

Brief introduction of the presenter: Dr Rizal Sebastian

- Background and affiliation
 - Education in architecture, design and construction management
 - Present: Director of Research at DEMO (NL). Past: TNO (NL) and ARCADIS (NL)
- Project Coordinator roles
 - H2020 INSITER (presented in this workshop)
 - H2020 P2ENDURE (Plug-and-Play renovation; presented in the parallel session to this workshop)
- Scientific Coordinator roles
 - H2020 SAFEWAY (Big Data for resilience of transport infrastructure)
 - H2020 BIM-SPEED (BIM for deep renovation)
- Former project & scientific coordinator of FP6 and FP7 projects in BIM, EEB, urban infrastructure

Project overview



www.INSITER-project.eu



- Start date : 1 December 2014
- Duration : 48 months
- Partners :

Large construction firms	Architectural, engineering, ICT firms	University, research institutes, knowledge platform
Dragados (Spain) Hochtief ViCon (Germany)	Ipostudio (Italy) 3L (Germany) AICE (Italy) DWA (Netherlands) RDF (Bulgaria) Siemens SW (Belgium) DEMO (Netherlands) --Coordinator--	UNIVPM (Italy) Fraunhofer IPA (Germany) CARTIF (Spain) ISSO (Netherlands)

- Budget : EUR 5,936,010

Project summary



Key objectives (addressing challenges in H2020-EeB-3-2014)

- New self-inspection techniques and quality check measures for efficient construction processes
- Portable and robust systems easily handled in the construction site
- To avoid the presence of thermal bridges or to ensure and control proper air-tightness
- To avoid or reduce economic and time deviations of the construction processes
- Solutions validated in a relevant construction environment (TRL 6)

Project summary



Current status

Real Problems	Research challenges	Developed results	Achieved objectives
As-built ≠ As-designed	Improving reliability & time-efficiency of measurement during construction	Optimised laser, thermal and acoustic scanning procedures with BIM interoperability	Enabled professionals (blue & white collars)
Actual performance ≠ Energy simulation	Developing user-friendly & cost-effective IT tools	BIM-based Augmented Reality and mobile applications for construction stage	Prevented or minimised performance gap
Delays and budget overruns	Generating practical method for high-quality construction process	INSITER 8-step guidelines for construction workers & technical specialists	Resolved fragmentation in value-chain

Key innovation

Building Performance Optimisation & Gap Reduction

- Optimised & faster thermal, acoustic, ultrasound, laser measurement procedures during on-site construction
- Integration and interoperability of measurement output data to BIM and Clash Detection
- BIM-based Augmented Reality on Microsoft HoloLens and tablets with Clash Cubes in AR
- 8-step Process Method and Mobile App for Self-Instruction & Self-Inspection for construction workers

INSITER

INTUITIVE SELF-INSPECTION TECHNIQUES



Key innovation



Business/delivery models and market opportunity

- Awareness and skill trainings for workers and technicians through synergies with Build Up Skills and CSA projects
- Recommendations for standardisation:
 - Quality protocols in relation to EPBD
 - BIM interoperability to measurement devices and real-time data
 - Guidelines for Self-Instruction and Self-Inspection
- Business exploitation opportunities:
 - Spin-off SME to support construction firms and clients in EEB performance and quality assurance
 - Support to government and industry in the new law in the Netherlands for Self Quality Assurance

