Projekty HORIZON 2020

NOVITECH a.s.

Bohuš Belej, Riaditeľ pre priemyselné aplikácie

Novitech
NEW INFORMATION TECHNOLOGIES

Novitech Group

Novitech
NEW INFORMATION TECHNOLOGIES

Novitech TAX
NEW INFORMATION TECHNOLOGIES

BPM Consulting
BUSINESS PROCESS MANAGEMENT SOLUTIONS & CONSULTING

121VIEW
EUROPE OBJECTS IN MOTION

eContent
Store Sàrl

Novitech Partner s.r.o.

www.TeleDom.sk
Conference Center

Novitech
NEW INFORMATION TECHNOLOGIES

BIMERR
RENOVATION 4.0

BIM-based holistic tools for **E**nergy-driven **R**enovation of existing **R**esidences

Call: H2020-NMBP-ST-IND-2018-2020 (Industrial Sustainability)
Grant: 820621
Trvanie: 45 mesiacov
Stav: ukončený 12/2022

COGITO

COnstruction-phase diGItal Twin mOdel

Call: H2020-NMBP-ST-IND-2018-2020 (Industrial Sustainablity)
Grant: 958310
Stav: prebieha 3. rok projektu (26. mesiac)

Building Renovation: Digitalisation in 3 Phases

Collect as-is Static data

1. Scan-to-BIM
2. BIM-based AR
3. BIM Data Management

Collect as-is Dynamic data

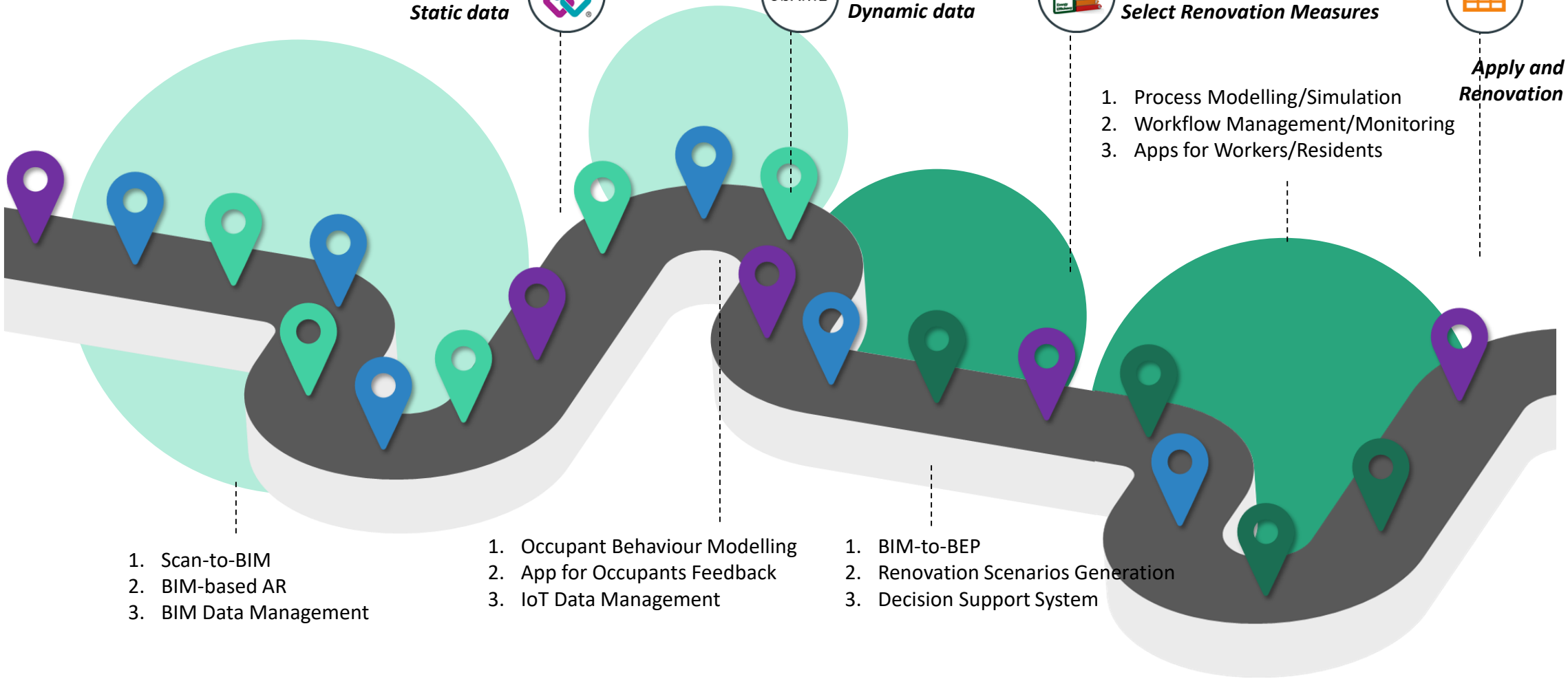
1. Occupant Behaviour Modelling
2. App for Occupants Feedback
3. IoT Data Management

Perform Energy Audit and Select Renovation Measures

1. BIM-to-BEP
2. Renovation Scenarios Generation
3. Decision Support System

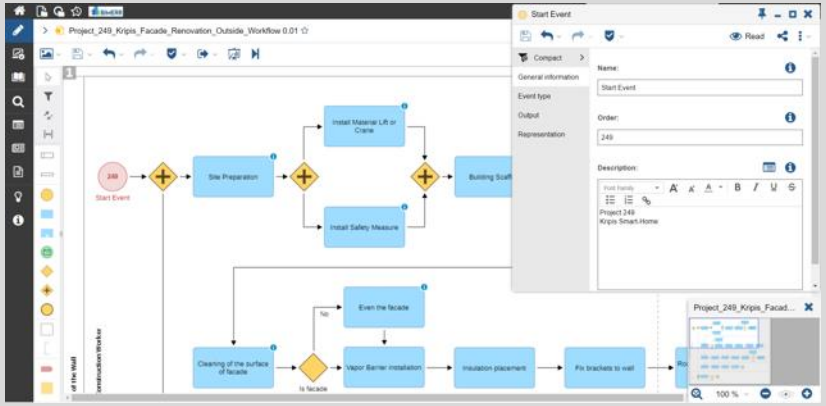
Apply and Monitor Renovation Measures

1. Process Modelling/Simulation
2. Workflow Management/Monitoring
3. Apps for Workers/Residents



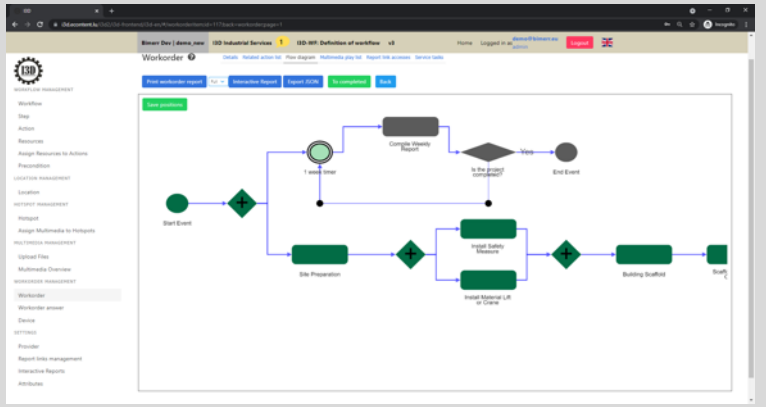
Planning & Construction Phase: WP6

Process Modelling and Simulation



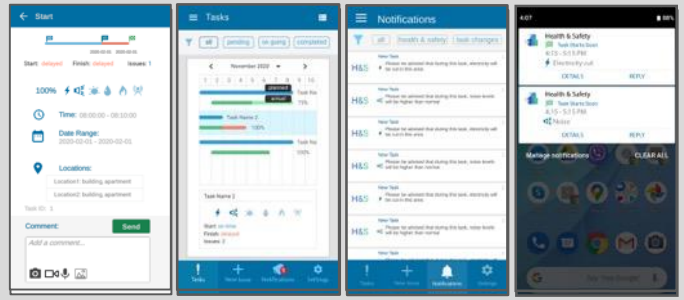
- ✓ Developers: Reuse of Renovation Process Model templates reduces the time required for the BPMN preparation for a renovation project.
- ✓ Users: Added value in large renovation projects.

Workflow Management & Monitoring



- ✓ Developers: Make the BIM-based Workflow M&M services compatible with existing tools.
- ✓ Users: not-ready to replace as-usual practices

Workers and Residents Support

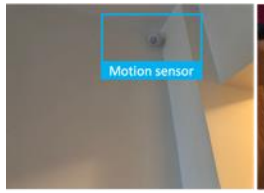


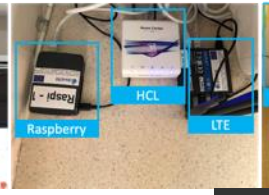
- ✓ Users: Apps for workers -> Mobile apps instead of Smart Glasses; Apps for residents -> Notifying residents about upcoming renovation works near their apartments is important

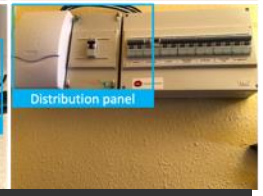
BIMERR
RENOVATION 4.0

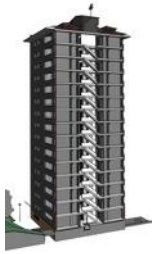
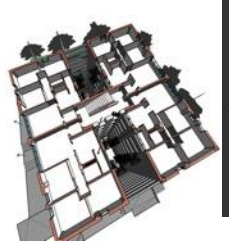
Novitech®
NEW INFORMATION TECHNOLOGIES

Bilbao, Spain

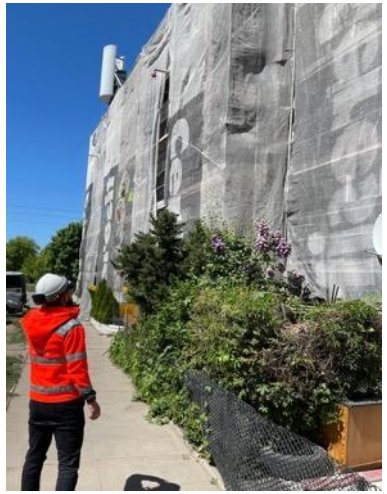


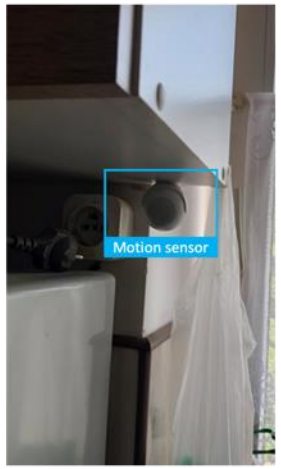




Warsaw, Poland



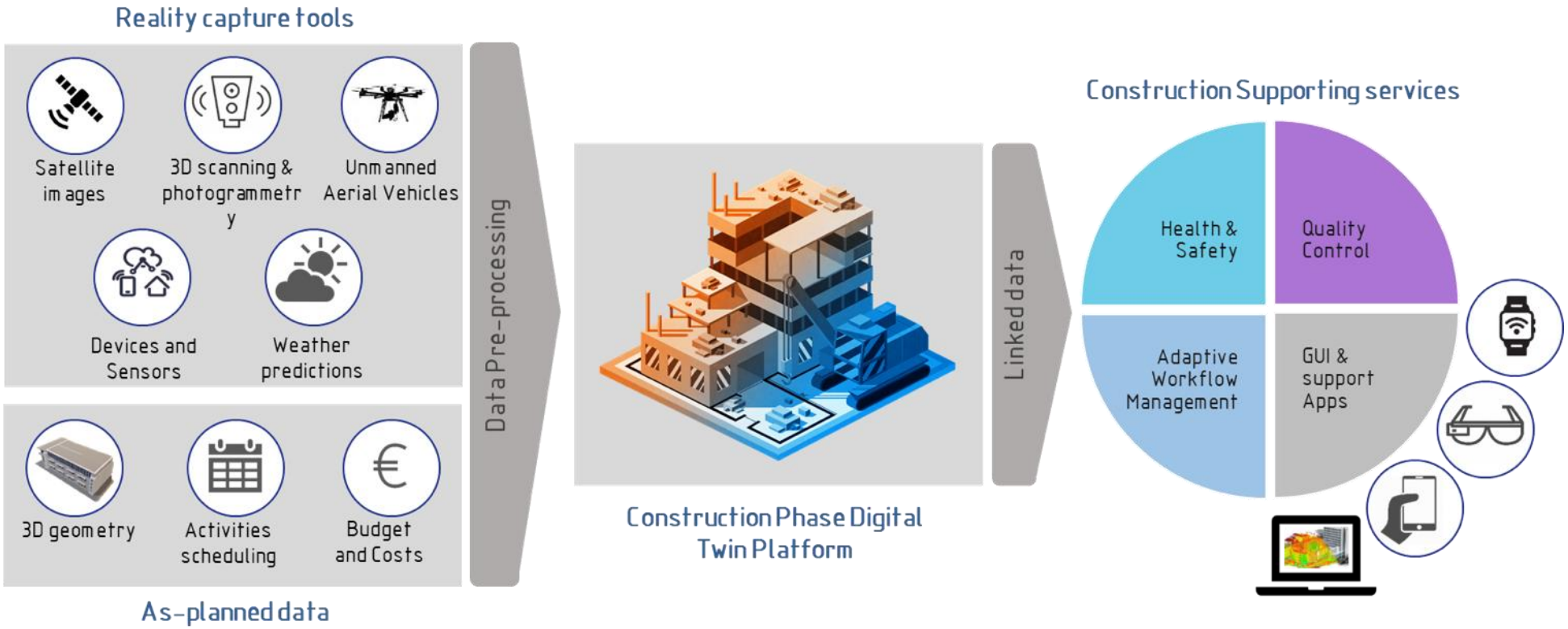


BIMERR partners

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 820621
Call identifier: LC-EEB-02-2018

Digital Construction 4.0 toolbox

- **Digital Twin** methodology encompassing:
  - **As-planned information,** such as the project Building Information Model (BIM);
  - **As-is information** captured using Reality capture technology;
  - I**ntegrated data management**
  - **Software Solutions and Digital Services** to optimize site operations.



Integration and validation activities

WP8

Pre-validation on Autodesk school project and an actual construction project for early testing of algorithms and components on real environments.
Validation on two actual construction sites for full experimentation with the COGITO tools and quantification of the benefits.

School project

T8.2

Partner: UEDIN/UCL
Site: Autodesk project

O4

T8.4

Pilot site I - Denmark

Partner: RSRG
Site: Copenhagen Metro Network Extension

O4

T8.2

Pre-validation site - Germany

Partner: RSRG
Site: Public transport infrastructure project in Karlsruhe

O4

T8.4

Pilot site II: Spain

Partner: FER
Site: High-Speed Underground Station

O4

COGITO

Project Partners

HYPERTECH energy labs

UCL

AARHUS UNIVERSITET

THE UNIVERSITY of EDINBURGH

BOC www.boc-group.com

iti

POLITÉCNICA

QUE TECHNOLOGIES

Novitech NEW INFORMATION TECHNOLOGIES

ASM

ferrovial construction

OLYMPIA ODOS

RHOMBERG SERSA RAIL GROUP

www.cogito-project.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 958310

COGITO

Skúsenosti s projektami Horizon EU 2020

+ Jednoduchá administrácia projektov (ako partner)
+ Finančné vykazovanie je veľmi jednoduché
+ Partneri z rôznych segmentov (univerzity, výskumné centrá, komerčné subjekty)
+ Pre komerčné subjekty dobrá možnosť implementácie technológií ostatných partnerov
+ Možnosť komercializácie
+ skvelá možnosť pre zamestnancov pracovať v medzinárodnom prostredí

Výzvy:

- Je potrebné dobré plánovanie už počas proposalu – odhad kapacít
- COVID impakt bol drastický (LivingLabs, implementácia)
- Sú potrebné kvalitné „writing“ schopnosti v angličtine (ChatGPT pomáha), deliverable môžu byť veľmi rozsiahle
- Riziká pri implementácii – akékoľvek meškanie môže ohroziť projekt ako celok
- Dobre zvolené KPI
- Komercializácia projektu so 14 partnermi môže byť komplikovaná
- Relatívne časté zmeny - odstúpenia alebo pristúpenia partnerov

Novitech®
NEW INFORMATION TECHNOLOGIES

Ďakujem