TIMEPAC: Towards Innovative Methods for Energy Performance Assessment and Certification of Buildings

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Consortium

14 partners from 7 EU countries (Austria, Croatia, Cyprus, Germany, Italy, Slovenia, and Spain)

- La Salle - FUNITEC (Coordinator), Spain
- Jožef Stefan Institute, Slovenia
- Politecnico di Torino, Italy
- Institut Català d’Energia, Spain
- CYPE Soft S.L., Spain
- Ministrstvo za infrastrukturo, Slovenia
- Goriška Lokalna Energetska Agencija, Slovenia
- European Science Communication Institute, Germany
- Edilclima, S.r.l., Italy
- Regione Piemonte, Italy
- Institute for Sustainable Energy and Resources Availability, Austria
- Energy Institute Hrvoje Požar, Croatia
- Cyprus Energy Agency, Cyprus
- Cyprus University of Technology, Cyprus

certification public bodies - local energy agencies and consultancies - software developers - research groups - communication agency
A holistic approach to EPC

Continuous certification processes (Building Renovation Passports)

BUILT ENVIRONMENT

Buildings integrated in urban environment, connected to energy networks, and transport systems

DATA

- SMART METERS
- BIM REPOSITORIES
- ENERGY PRODUCTION
- EPC DATABASE
- CADASTRE
- ENERGY CONSUMPTION
- MOBILITY

ENERGY PERFORMANCE CERTIFICATION

- SMART READINESS INDICATORS
- SUSTAINABILITY INDICATORS

Data obtained from multiple sources, domains and scales

Enhanced EPC with distributed data, from multiple scales and domains

EPC as effective tool to foster sustainable development
A new ecosystem for certification

Challenges:

- innovative approaches to building energy performance assessment -> integrating the different methods and tools
- shared language based to access information -> policies adapted to national contexts
- involvement of multiple stakeholders -> training in new methods
Enhanced EPC

Envisioning future scenarios to exploit EPCs enhanced with interlinked data
Next Gen EPCerts cluster

3 Coordination and Support Actions started in 2019 (H2020_LC-SC3-EE-5-2018)

4 Innovation Actions started in 2020 (H2020_LC-SC3-EE-5-2019)

4 Coordination and Support Actions started in 2021 (H2020_LC-SC3-EE-5-2018)
EPC work and data flow

- User-friendly environments to access EPC databases, interlinked to other data repositories (BIM, cadastre)
- Analysis of EPC repositories to identify potential areas for building renovation
- Enhanced EPC schemes with SRI and sustainability indicators, generated from BIM models
- Procedures and tools for large scale statistical analysis of EPC databases
- BIM models used to generate EPC to be used in future renovation projects
- Identifying customers for building components and equipment in areas with a potential for renovation
- New services for professional certifiers, ESCOs, consultants, building companies, to exploit EPC data in combination with other data sources
Methodology

1. Analysis of current certification procedures and tools in six partner countries
2. Proposals for enhanced certification procedures and tools (residential, non-residential buildings)
3. Training on enhanced certification, at the EU level - TIMEPAC Academy
Methodology

1. TRANSVERSAL DEPLOYMENT SCENARIOS
   - BIM-EPC
   - Building Renovation Passport
   - EPC Analysis
   - Operational data
   - Smart Readiness Indicators / LEVEL(s)

2. DEMOOSTRATION SCENARIOS
   - Improving certification processes
   - Improving building operation
   - EPC exploitation with advanced analysis
   - Building renovation scenarios

3. TIMEPAC ONLINE TRAINING PLATFORM
   - Contents
     - Webinars
     - Documentation
     - Tools
     - Videos
     - Tutorials
   - Users
     - Certifiers
     - Real state
     - Energy consultants
     - Residents
     - Building managers

4. TRAINING SCENARIOS
   - Building renovation
   - Analysis and visualisation
   - National/regional energy planning
   - Data collection and exploitation
   - Innovative energy services
   - Energy savings

Austria · Croatia · Cyprus · Italy · Slovenia · Spain

1. To deploy and deliver new methods and tools to implement enhanced EPCs schemas cases in the 6 partner countries with standardized procedures and tools, which can be extended at the EU level
Methodology

TDS 3 - Creating Building Renovation Passports from data repositories
Methodology

2. To demonstrate how the enhanced procedures contribute to improve reliability, effectiveness, user-friendliness, cost-effectiveness, etc. with regard to existing procedures in the participating countries.
Methodology

1. **Transversal Deployment Scenarios**
   - BIM-EPC
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   - Smart Readiness Indicators / LEVEL(s)

2. **Demonstration Scenarios**
   - Improving certification processes
   - Improving building operation
   - EPC exploitation with advanced analysis
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3. **TIMEPAC Online Training Platform**
   - **Contents**
     - Webinars
     - Documentation
     - Tools
     - Videos
     - Tutorials
   - **Users**
     - Certifiers
     - Real estate
     - Energy consultants
     - Residents
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4. **Training Scenarios**
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3. The platform will act as a showcase of the enhanced EPC schemas and associated methods and will help to disseminate the project results, increase awareness, and demonstrate possibilities of EPC development to other countries.
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4. To produce and deliver training materials for the target groups involved in the EPC workflow and to train them on enhanced EPC schemas

Austria · Croatia · Cyprus · Italy · Slovenia · Spain
Methodology

TIMEPAC: Towards Innovative Methods for Energy Performance Assessment and Certification of Buildings

TIMEPAC Academy

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TIMEPAC Workshop 2021 - Ljubljana

Dynamic EPC as enabler of Smart Energy Services – Energy Efficiency, Integration of RES in Buildings and Demand Response

International Workshop, December 14 and 15, live in Ljubljana, Slovenia and virtual

Join us in the next TIMEPAC workshop in Torino, December 2022
Thanks for your attention!

If you would like more information, please visit www.timepac.eu or contact us at leandro.madrazo@salle.url.edu