

Project idea/ Field of expertise:

Building envelopes, SmartHome, LCA, transport infrastructures, off shore

Organisation Name:

**Materials Testing Institute
University of Stuttgart**



**Adressed challenge(s)/
PPP(s):**

- LC-EEB-04-2020: Industrialisation of building envelope kits for the renovation market (IA)
- LC-EEB-07-2020: Smart Operation of Proactive Residential Buildings (IA)
- DT-NMBP-05-2020: Open Innovation Test Beds for materials for building envelopes (IA)
- Several calls under LC-SC3-B4E (energy topic)
- CE-NMBP-42-2020: Materials life cycle sustainability analysis
- NMBP-36-2020: Monitoring and safety of transport infrastructures (CSA)
- LC-NMBP-31-2020: Materials for off shore energy (IA)

**Adressed topic(s) in
Work Programme:**

Institutional information and expertise:

- Central university institute
- 300 employees, 75 % funding from industry
- Notified body according to construction product regulation (CPR)
- Contacts to SMEs in construction sector
- Expertise on infrastructure assessment

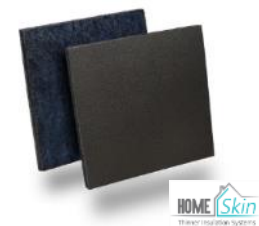
European projects:

- Wall-ACE <https://www.wall-ace.eu/>
- HomeSkin - HOMES Key INSulating material – (<http://homeskin.net/>)
- AMANAC cluster <https://www.amanac-cluster.eu/>
- Infravation-project FASSTbridge <https://fasstbridge.eu/>
- CETIEB - Cost-effective Tools for Better Indoor Environment in Retrofitted Energy Efficient Buildings (www.cetieb.eu) (Coordinator)
- LEEMA - Low Embodied Energy Advanced (Novel) Insulation Materials and Insulating Masonry Components for Energy Efficient Buildings
- 3encult - Efficient Energy for EU Cultural Heritage (www.3encult.eu)
- EFFESUS - Energy Efficiency for EU Historic Districts Sustainability (www. effesus.eu)
- Smart Monitoring of Historic Structures SMooHS (Coordinator)



LC-EEB-04-2020: Industrialisation of building envelope kits for the renovation market (IA)

- Experience from H2020 projects HomeSkin and Wall-ACE on highly efficient insulation materials (aerogels)
- Industrial partner with experience on application technologies in Switzerland



- Aim: Highly efficient, lightweight envelope kits for “thinner” and “faster” solutions

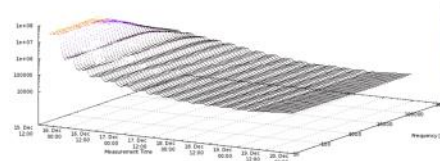
LC-EEB-07-2020: Smart Operation of Proactive Residential Buildings (IA)

- Experience on Indoor environment Quality from FP7-project CETIEB (www.cetieb.eu)
- Member of regional cluster Smart Home&Living <https://www.shl-bw.de/home/>
- Aim: Smart monitoring for improved comfort and control



DT-NMBP-05-2020: Open Innovation Test Beds for materials for building envelopes (IA)

- Large scale national project on: Adaptive skins and structures for the built environment of tomorrow <https://www.sfb1244.uni-stuttgart.de/en/index.html>
- A high-rise building will be ready end of 2019 for envelope installations. Managed by partner institute **ILEK** <https://www.ilek-uni-stuttgart.de/>
- All necessary competences for assessment and testing of indoor climate, comfort (including visual comfort) and power consumption for conditioning by ILEK/SFB1244
- All necessary competences for assessment, testing (including fire behaviour) and certification at MPA



SFB1244 © ILEK <https://www.ilek-uni-stuttgart.de/>

LC-SC3-B4E-1-2020: Towards highly energy efficient and decarbonised buildings

LC-SC3-B4E-3-2020: Upgrading smartness of existing buildings through innovations for legacy equipment

LC-SC3-B4E-8-2020: Renewable and energy efficient solutions for heating and/or cooling, and domestic hot water production in multi-apartment residential buildings

LC-SC3-B4E-9-2020: Support to the coordination of European smart buildings innovation community

LC-SC3-B4E-10-2020: Self-assessment and self-optimisation of buildings and appliances for a better energy performance

- Experience with IEQ monitoring and smart buildings
- Member of regional cluster Smart Home&Living
<https://www.shl-bw.de/home/>
- Cooperation institute ITGE (storage, HVAC, smart control, etc.)



CE-NMBP-42-2020: Materials life cycle sustainability analysis

- Aim: Enhance Life Cycle Analysis at early stage product development for construction products. Additional inclusion of cost (LCCA) and sustainable (LCSA) aspects. Design for recycling.
- Experience from two EU projects: HomeSkin (<https://homeskin.net/>) and Wall-ACE (<https://www.wall-ace.eu/>) with early stage LCA and LCCA of innovative construction products.
- Member of LCA-group within the AMANAC cluster (<https://www.amanac-cluster.eu/>)
- Focus: Increased reliability and usability of analysis.



Advanced Materials and
Nanotechnology for Construction Cluster

Branding innovations beyond the technical

Life Cycle Assessment and the trade-offs of sustainable growth



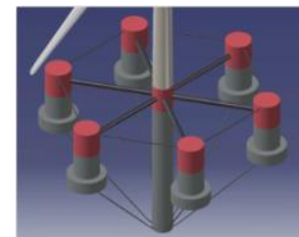
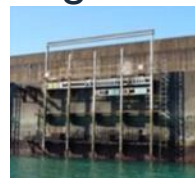
NMBP-36-2020: Monitoring and safety of transport infrastructures (CSA)

- Experience with monitoring of bridges from Infravation-project FASSTbridge <https://fasstbridge.eu/>
- National project with glass fibre-sensors at a road bridge
- Two projects with national road agency
- Contacts to Brasil



LC-NMBP-31-2020: Materials for off shore energy (IA)

- Aim: Material development for new designs for offshore wind
- Cooperating institute SEW <https://www.ifb.uni-stuttgart.de/en/research/windenergy/index.html>
- Large scale testing facilities for floating and bottom fixed plants
- Sea water testing facility at isle of Helgoland



Contact details

Contact person	Juergen Frick
Organisation	Materials Testing Institute University of Stuttgart
Adress	Pfaffenwaldring 32, 70569 Stuttgart, Germany
Phone	+49-711-685-63381
E-mail	Juergen.frick@mpa.uni-stuttgart.de
