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Project MEZeroE: Measuring Envelope products and systems contributing to next generation of healthy nearly Zero Energy Buildings, Horizon 2020 No. 953157 aims to create an EU distributed open innovation ecosystem for: developing nearly Zero Energy Building (nZEB) Enabler Envelope Solutions; transferring knowledge; matching testing needs with test facilities; providing monitoring in real buildings used as living labs; standardizing cutting-edge solutions coming from Small and Medium Enterprises (SMEs) and larger industries.

The main goal of the project is to build a European platform MEZeroE, which will support the placing on the market of innovative products and building systems contributing to the construction of healthy new-generation buildings with almost zero energy consumption. MEZeroE platform as an online, multi-sided, single entry point (SEP) virtual market includes: 9 pilot measurement and verification lines (PM&VL), 3 Open Innovation Services (OIS: OIS1 - Framework procedures for certification and CE marking, OIS2 - Cost-effective measurement & verification smart kit for living labs, OIS3 - Get access to expert guidance on open innovation, using a digital platform, on the life cycle management of your products), Access to real buildings as living labs (LL), Additional resources and support, including training, business model development, systematic intellectual property and knowledge management, and more. MEZeroE will enable prototypes to be quickly placed on the market as fully characterized with CE mark (with their full potential used).

MEZeroE project at Faculty of Civil Engineering, Cracow University of Technology (CUT) is implemented under prof. Arkadiusz Kwiecień supervision from January 2021 to January 2026. The first stage of the project consisted in creating the PM&VL7 research line. For this purpose, an eighteen-person, inter-unit research team was established at the Faculty of Civil Engineering, coordinated by Aneta Nowak-Michta. The PM&VL7 research line of CUT has been divided into four sublines: durability, mechanical, thermal and vibroacoustic. As part of the task of testing the research line using the equipment purchased under the project, research programs for ten innovative construction products of four European industrial partners: Rothoblaas, Flexbrick, Indresmat, and Flex&Robust. The tests scope were agreed with partners based on existing requirements for the CE marking of products. The tests were performed in accordance with accreditation standards consistent with EN ISO/IEC 17025 and provide an opportunity to expand the scope of accreditation of research laboratories. In the project, the MEZeroE CUT team cooperates with researchers from 8 European research institutes and universities.

The second stage of the project consists of testing the products of industrial partners in living laboratories (LL). On the CUT campus, LL was established under the coordination of Katarzyna Nowak-Dzieszko. Products of three project partners: Flex&Robust, Indresmat and Polini were built into LL, and thermal renovation and repair works were carried out. In addition, continuous monitoring of air quality and thermal comfort is carried out before and after renovation.

The grant for MEZeroE from European Commission funds allocated for innovative activities under the Horizon program is EUR 14,728,371, of which EUR 817,375 (5.5% of the EU contribution) goes to the CUT.

Websites and publications related to the MEZeroE project:

www.mezeroe.eu

https://mezeroe-platform.eu/

www.wil.pk.edu.pl

https://doi.org/10.3390/ma17225503

https://doi.org/10.3390/materproc2023013031

https://doi.org/10.3390/ma16082960