

SUSTAINABLE CONSTRUCTION, VARIOUS WAYS OF SHAPING ATTITUDES IN THE BUILT ENVIRONMENT

The effects of harmful human activities on our environment and beyond, the entire Earth, have now become an unalterable part of our everyday life. It is no longer a question that we have to reduce these effects in some form. The change in our world has been greatly affecting our living. Regarding the importance of social and environmental problems, as well as the multifaceted relations between their solutions and economic development, the views, that these three areas should be examined together and that a joint approach to environment and development issues is essential, have increasingly gained ground. These three aspects therefore give the 3 pillars of sustainability. Architecture and construction are undergoing a vivid transformation. Building industry faces new challenges. In this case, sustainability depends on achieving the smallest possible environmental impact. Society expects new infrastructure, the reduction of energy and resource consumption, and the implementation of sustainable or "green" construction. As engineers and researchers, our goal is to do as much as possible to reduce the environmental burden. It is not enough to do this only within our narrow professional circle, but our job is also to involve the ordinary people and draw attention to the impact of the decisions. When designing the building and the living spaces, the outcome relating to dimensions, shape, orientation and connecting spaces, as well as the relationship between the people using the building and their environment determine that impact.

The aim of my presentation is to introduce the purpose and possibilities of attitude formation, and through the given examples, we can understand the importance of the role of the engineering profession. Climate change forces us all to rethink our relationship with the environment and life as a whole. Implementing the concept of circular economy in the built environment requires a holistic approach that includes government policies, technology and infrastructure availability, societal perception and business innovation. While living in a building, people constantly come across the issues of energy awareness and life cycle in such a way that they do not even notice it. A lot can be done for sustainability with small actions which they do not even consider remarkable, and consequences are unknown to them. The environmental impact of buildings is significant in terms of energy consumption, greenhouse gas emissions, and waste production. This is especially true if we look at the entire life of the building (from the production of building materials, through construction and use to demolition). My presentation focuses on Hungarian characteristics. By demonstrating the projects of our research groups, one can get a glimpse of our results so far and get to know good practices done in a Central European country with special architectural traditions and geographical features.



ANITA TERJÉK, PHD

CIVIL ENGINEER
CIB BOARD MEMBER
ÉMI NONPROFIT LLC. HUNGARY

Anita Terjék is a senior research fellow, holds a master's degree in civil engineering and got her PhD in the field of knowledge of Engineering and Technology in 2017. She has been working for ÉMI Nonprofit Llc. since 2006. She has more than 12 years of experience as a test engineer and more than 10 years of experience in educational activities. She was an associate professor at Budapest University of Technology and Economics, Faculty of Civil Engineering. She has proficiency in activities of research, innovation, standardization, approval, expertise, testing (laboratory and on-site) regarding several construction materials and structures. As an inspector she was involved in initial inspections and continuous surveillance of manufacturing plants and factory production control systems throughout Europe. She participates in national and international R&D&I projects focusing on sustainability, innovative and environmentally friendly elements, the use of secondary raw materials and the energy efficiency of buildings.

She is the member of the Materials Science and Technology Scientific Committee of the Technical Sciences Department of the Hungarian Academy of Sciences. She has membership in the Hungarian Institution for Standardization serving as the chair of two Technical Committees. Her major research areas are materials science, LCA-based product development, environmentally conscious, circular and modular construction solutions, as well as the analysis of the environmental effects of construction products.

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