



Delft University of Technology

## Editorial

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## EDITORIAL

**Thaleia Konstantinou<sup>1</sup>, Ulrich Knaack<sup>1</sup> (Eds.)**

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The first issue of volume 11 of JFDE elaborates on several topics related to façade design and engineering, focusing on façade systems, their construction, properties, and performance.

The topic of prefabrication in façade construction is one of the themes emerging from this issue. The importance of prefabrication is growing in the building industry as it has the potential to improve productivity by allowing faster, high-quality, and cost-effective construction while reducing risks related to onsite construction. Different articles touch on this topic from varying perspectives. In the context of decarbonization and the large number of buildings to be renovated, prefabrication for energy retrofits is a relevant topic. One notable article presents the development and evaluation of prefabricated timber-based façade modules. The results showed significant energy savings and effective vapor release of the prefabricated façade system. Furthermore, prefabrication and pre-engineering of systems require a paradigm shift in design and engineering practices towards more integrated approaches. A Kit-of-Part (KoP) approach to façade design employed by the authors of a different article enables an architect-led design team to validate design options through digital design tools based on a pre-engineered set of components. Information about the products included in the tool includes performance, cost, and environmental impact.

Focusing further on the properties of façade components, a paper in this issue investigates large-scale applications in building design regarding the aluminum used in façades and underlines the environmental benefits to be gained from reducing the use of raw materials, with particular emphasis on a sustainable approach to façade design. Finally, the issue addresses shading as an essential component of façade function, examining the influence of different shading devices on both performance and aesthetic aspects of the façade.

Overall, the issue provides insights into contemporary trends in façade design, emphasizing the role of pre-engineering and evaluating façade components in contributing to the future of the construction industry.

The Editors-in-Chief,  
Thaleia Konstantinou and Ulrich Knaack

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