

TOP-Forschungsprojekte 2015

LaWin - Large Fluidic Windows

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Beschreibung:

An important target of Europe 2020 is climate change and energy sustainability. To reach the ambitious aims, it is necessary to improve the energy performance of buildings in operation. Embodied energy in materials presents a high percentage of the energy spent in the whole life cycle of a building, so new materials are needed.

Therefore we will develop within this project a novel material solution for ultra-efficient solar energy harvesting and heat exchange through an active building envelope. We thereby address the two technical applications of windows and facades, into which we will implement LARGE AREA FLUIDIC WINDOWS (LaWin). LaWin represents the vision of large-area microfluidic windows and façade elements which are based on four types of new materials: low-cost thin and strong cover glasses, microstructured rolled glasses of architectural quality, a glass-glass compound comprising microfluidic channels and a heat storage liquid designed for transparency and/or active functionality in facade and window implementation. LaWin devices will be designed to build on existing platforms and geometries used in triple glazing and facade elements to enable rapid market access and acceptance.

Weitere Informationen: [Juniorprofessur Simulation und Experiment](#)

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