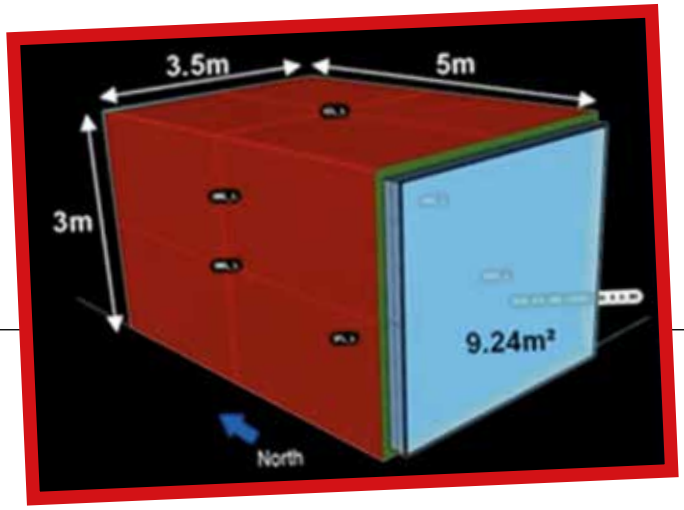
New façade benchmarks set with WICONA's TEmotion NG

Developed in collaboration with Water-Filled Glass Ltd, WICONA's TEmotion NG has introduced its groundbreaking façade system that combines energy efficiency and retrofit potential. Significantly reducing energy consumption and CO_2 emissions, the glazing technology was on display at the international 'Future Facade' event in Utrecht on 7 and 8 May.

Wicona is once again at the forefront of façade innovation, shaping the future of building technology with groundbreaking solutions. As a pioneer in the construction sector, the company continues to push boundaries under the guiding principle 'Technology for ideas.' In partnership with Water-Filled Glass Ltd, Wicona recently unveiled TEmotion NG - a forward-thinking façade concept. Introduced to the public for the first time at BAU 2025, the study redefines energy performance benchmarks and offers a new level of sustainability, underscoring Wicona's reputation for visionary engineering.

ACHIEVING ENERGY SAVINGS OF UP TO 72 PERCENT THROUGH INTEGRATED TECHNOLOGIES

TEmotion NG integrates a series of advanced technologies aimed at realizing façades that are CO_2-neutral or even climate-positive. Central to the design is an innovative insulating glass unit with a circulating water layer, which actively influences heat radiation. "TEmotion NG does more than insulate - it also absorbs radiant heat, which constitutes approximately two-thirds of energy transmission," notes Matyas Gutai, co-founder of Water-Filled Glass Ltd. This principle supports an intelligent thermal storage function. During warmer months,



surplus heat can be redirected for use elsewhere in the building, while in winter, escaping warmth is captured and repurposed for heating or hot water. The result is a potential energy saving of up to 72 percent compared to standard double glazing. Added benefits include enhanced acoustic insulation -up to 15 percent better soundproofing- and optimal daylight use, improving thermal comfort and indoor air conditions. If desired, the opaque sections of the façade can be fitted with building-integrated photovoltaics (BIPV), transforming the structure into an energy-generating envelope.

SMART RETROFIT POTENTIAL FOR EXISTING BUILDING STOCK

TEmotion NG is not only suited to new construction - it also presents a highly efficient retrofit option for existing buildings. Designed for minimal disruption, the system can be installed from the interior by metalwork specialists, acting as a secondary skin that preserves the original façade. “This method can reduce replacement costs by as much as 30 percent, since there’s no need for time-intensive removal, external scaffolding, or special permits,” says Marco Theisinger, project lead at Wicona. Moreover, work can proceed while the building remains occupied, eliminating the need to relocate tenants or interrupt daily operations.

REDUCING THE CARBON FOOTPRINT BY UP TO 66 KG OF CO_2 PER SQUARE METRE

Wicona is also making a tangible contribution to decarbonizing the building industry. The TEmotion NG façade incorporates Hydro CIRCAL aluminum, which contains up to 100 percent post-consumer recycled content. Ideally, the glazing is paired with CO_2-reduced glass, and sealing or insulating components are also sourced from recycled materials. These choices lead to a notable reduction in embodied carbon - up to 66 kilograms of CO_2 per square metre compared to traditional double glazing.

HELPING MEET CLIMATE GOALS THROUGH SCALABLE INNOVATION

Following its debut at BAU 2025 back in early May, the system is currently undergoing further refinement to allow adaptation to various building scenarios. “The feedback we received was incredible,” reports Theisinger. “We’re now seeking strategic pilot projects to bring TEmotion NG to market on a broader scale.”

WICONA
By Hydro

Hydro Building
Systems Germany GmbH
Einsteinstraße 61
D-89077 Ulm - GERMANY
+49-0-731-3984 - 0
info@wicona.de
www.wicona.com