

Environmental Micro- Architecture

**ARCHITECTURAL COMPONENT FOR HIGH-RISE FACADES WITH
THE CAPACITY TO REMOVE ATMOSPHERIC POLLUTION**

KEY WORDS

MICRO-
ARCHITECTURE,
AIR POLLUTION,
PHOTOCATALYSIS

DESCRIPTION

Development of an environmental micro-architecture component designed for high-rise building façades, aimed at contributing to the removal of atmospheric pollutants in urban environments. Through architectural design, material selection, and the integration of photocatalytic and passive ventilation principles, constructive solutions can be generated in order to actively improve air quality while integrating seamlessly into the building envelope without compromising structural or aesthetic performance.

POTENTIAL BENEFITS OR IMPACTS

Improvement of air quality in dense urban areas;
Integration of environmental functions into architecture;
Innovation in active building envelopes;
Contribution to urban pollution mitigation strategies

TECHNOLOGY MATURITY LEVEL (TRL)

TRL 4: laboratory validation

AREA OF APPLICATION

Plastics, Architecture
Sustainable construction
Urban design
Building envelopes

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