

Laboratorio di Simulazione Urbana Fausto Curti

The laboratory is a research facility of the Department of Architecture and Urban Studies at the Politecnico di Milano. Founded in 2007 by Fausto Curti and Peter Bosselmann, the laboratory applies **urban simulation** techniques for supporting the **design and evaluation of urban transformation projects**, enabling a better control of design outcomes, according to an integrated investigation of two main aspects:

- (1) design and evaluation through **experiential simulation**;
- (2) design and evaluation through **environmental and energy simulation**.

Through an interdisciplinary approach centered on the experiential aspects and environmental issues, the different activities of the laboratory contribute to (i) the cross-reading of the complex relationships occurring between design and physical context; (ii) the co-design and communication of urban transformation involving stakeholders and citizens.

Three main **research streams** best describe our current activities, in particular:

- **Simulation for (Experiencing) Urban Transformation** \ human and environment relationship; well-being and comfort studies; multi-sensory urban design and masterplan; social impact assessment; experiential walks.
- **Simulation for Social Innovation** \ Novel tools for urban design, simulation and visualization in the practice: augmented and virtual reality; co-design applying novel tools for design and decision-making; innovative design teaching and design thinking implications; innovation in design contests.
- **Simulation for Urban Transition** \ Future environmental and energy challenges towards the Agenda 2030 and the SDGs; urban resilience and adaptation to climate change; urban morphology and urban morphometrics; urban and community metabolism; collaborative cities and urban shaping implications; strategic planning for campus sustainability.

The laboratory is actively involved in several **research projects**, among others:

- **Clever Cities** (2018-2022), H2020 SCC project. Labsimurb is responsible for establishing the method for diffusing nature-based-solutions through the promotion of living labs and digital platforms.
- **EnerPop** (2018-2020), Polisocial Award funding. EnerPop promotes social and environmental sustainability practices for social housing in Milan; Labsimurb engages the residents in a multi-scalar process of technological training and social connection, in which the targeted environmental and energy challenges are opportunities to generate empowering and inclusivity impact.
- **Sharing Cities** (2016-2020), H2020 Lighthouse project. Labsimurb is responsible for the co-design activities for designing new urban services to support sharing practices and smart measures, including the energy retrofitting of private multi-property buildings for the Milan partnership.
- **Climate change and territory** (2017-2018), Fondazione Cariplo funding. Guidelines and operational proposals for the Metropolitan City of Milan and aiming at initiating a path towards the construction of a resilient metropolitan area.
- **Città Studi Cambia** (2017-2018) Technical and scientific support for the exploration of urban regeneration scenarios for the university district of "Città Studi" in Milan.