

| Description of the Lab's Role and Activities

What Makes CT Lab Unique?

- Integrated Urban Focus: CT Lab specializes in urban studies, cultural heritage conservation, and circular environmental design, offering context-sensitive solutions rooted in local needs.
- Dynamic & Flexible Environment: The lab is designed to support collaborative and individual work, encouraging innovation, critical thinking, and hands-on learning.
- Expert-Led Structure: A dedicated scientific committee, lab manager, three field leaders, technical specialists, and support staff ensure seamless operation and high-quality academic output.

Activities & Services:

- Advanced training workshops for undergraduate and postgraduate students in sustainable design, spatial analysis, and heritage reuse.
- Applied research projects in partnership with academic, industrial, and cultural institutions, both locally and internationally.
- Technical and logistical support for experiments, simulations, and environmental material testing.
- Well-equipped lab spaces with up-to-date tools and technologies, supported by an efficient booking and management system.



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Alexandria University
CITY TRANSFORMATION LAB (CT LAB)



| Project Partners



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| Thematic Focus

City Transformation Lab (CT Lab) – Alexandria University

A Leading Hub for Urban Innovation and Sustainable Design.

Located within the Faculty of Fine Arts at Alexandria University, the City Transformation Lab (CT Lab) is an advanced research and training space that serves as a living laboratory for reimagining urban environments in response to today's pressing environmental, cultural, and spatial challenges.

The lab acts as a cross-disciplinary platform connecting architecture, urban studies, heritage preservation, and sustainable design—fostering collaboration, applied research, and meaningful knowledge exchange.

| Mission and Vision

Mission:

Our mission is to foster a dynamic and growth-oriented environment that motivates esteemed professional researchers and practitioners from diverse architectural and urban backgrounds to benefit from our facilities and academic activities. We are also committed to supporting young and undergraduate architects and researchers, guiding them in clearly and confidently shaping their career paths. By focusing on mapping and urban studies, Cultural Heritage Preservation, and environmental studies and materials, we aim to advance innovative research and promote interdisciplinary collaboration.

Vision:

We aspire to the CT Lab to be a leading research hub for urban and architectural innovation and academic excellence. Our goal is to adopt interdisciplinary collaboration, inspire critical thinking, and advance sustainable urban solutions. We aim to preserve cultural heritage, enhance environmental resilience, and create sustainable urban environments. We are committed to engaging with the local community to ensure our research has practical benefits and supports urban development.

| Lab Equipment

The City Transformation Lab (CT Lab) is now fully equipped with a diverse range of high-performance tools and technologies that empower students, researchers, and professionals to lead change in urban design, environmental innovation, and heritage preservation.

1. Environmental Monitoring & Green Assessment:

- Indoor Air Quality Analyzer
- U-Value Measurement Kit
- Laser & GPS Meters
- People Counters

2. Urban Mapping & Spatial Analysis

- 5x ArcGIS software Licenses
- Agisoft Metashape Software
- High-resolution A3 Scanner–Printer–Copier
- Projector for visual presentations

3. Heritage Documentation & Digital Archiving

- Canon 6D Mark II DSLR with full accessories
- Canon EF 70–24mm f/2.8L II Lens
- Insta360 Camera for immersive °360 documentation
- Zoom Sound Recorder

4. Immersive Tech & Digital Prototyping

- VR Sets (headsets + controllers + accessories)
- 3D Printer for design modeling and innovation

5. Smart Tools for Creative Experimentation

- iPad Pro 11" for on-site interaction

| Lab Photos

