



Atlas Living Lab – Exploring the Future Together

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TU/e
EINDHOVEN
UNIVERSITY OF
TECHNOLOGY

Van hoofdgebouw naar Atlas



Gebouwd 1959 - 1963



Renovatie 2016 - 2018

BREEAM Outstanding Certificaat
(93.86% - hoogste score wereldwijd voor onderwijsgebouwen)

Living Lab

A living Lab is a measuring infrastructure for scientific experiments on and observation of human subjects in interaction with technology in everyday, realistic environments



Typical challenges:

- ✓ Methods for reliable claim validation in real contexts
- ✓ Co-creation with users and enables innovation ecosystems

The Future of Living Labs

Living Labs 2.0:

Enabling innovation in the context of:

- 4th industrialisation revolution
- 3rd wave of the Internet of Things
- grand societal challenges & transformations in society
- ecosystem centric open innovation



<https://research.tue.nl/en/publications/exploring-the-future-of-living-labs-research-report-february-2016>



The Future of Living Labs

co-learning in an
ambitious ecosystem

a challenging and
interdisciplinary
program

jointly developing a
sustainable platform

sustainable innovation

boosting prosperity and
welfare in the region

creating a social
and physical
'meeting place'

transferability

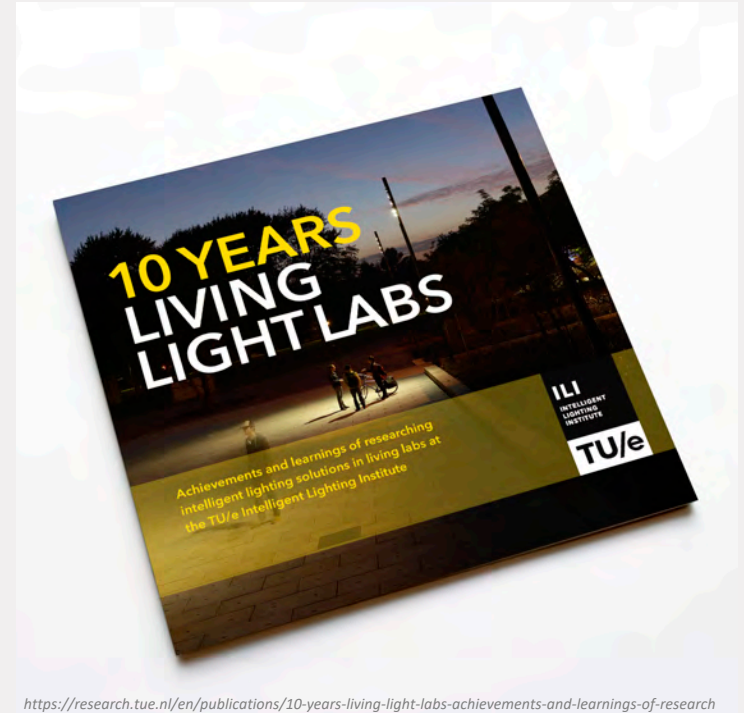
connectivity

connectivity

orchestrating innovation 2.0

prerequisites

TU/e Living Light Labs – since 2009



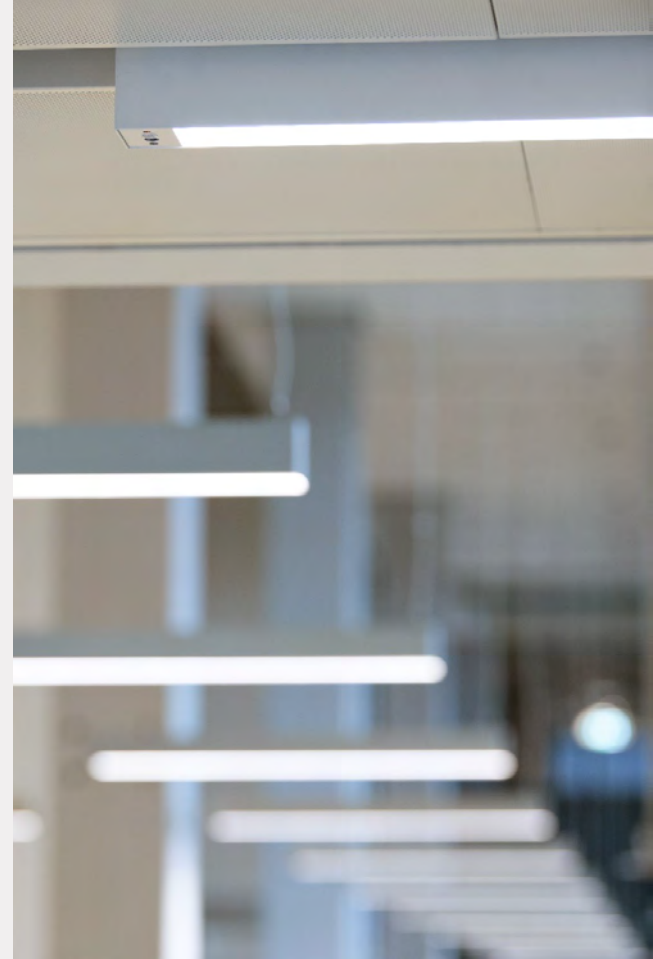
The Atlas Living Lab

The largest indoor Living Lab (as far as we know)

- Has a connected lighting and climate control system
- Combines smart technology with user-friendly interactivity for individual control
- Supports sustainability, comfort and well-being of the inhabitants
- Will be used for experiments in daily-life office conditions
- Based on an established Data Use Policy

Atlas Living Lab: Interact Office

- Lighting infrastructure as the backbone: the sensing and communication platform
- 4.400 TrueLine LED luminaires with an IP-address form an IoT network
- Built-in sensors can measure energy consumption, (day)light intensity, temperature and motion
- Additional sensors and luminaires may be added for future experiments



Atlas Living Lab: Research

With the purpose to further improve the environment for students and staff

Possible research questions:

- Impact of light on perceived climate
- Impact of light on human behavior, emotions and performance
- Context-aware optimal lighting
- Self-learning infrastructure
- Crowd management

DYNKA – Dynamische licht- en temperatuurcondities in een kantooromgeving



ENERGIE BESPAREN
MET EEN GEZONDE
KANTOOROMGEVING





RESEARCH LABS

Innovation begins with people. People who are open, passionate, curious, professional and connected. People who nourish dreams and ideas. It results in a lively community where knowledge and brilliant minds from inside and outside the campus actually meet and work together in order to do pioneering research on societal challenges and issues. In order to conduct this groundbreaking research, to attract outstanding scientific talent, and to train new generations of engineers, we have state-of-the-art research labs and facilities at our disposal, of which some are unique in the Netherlands, or even in the world.



RESEARCH LAB

Atlas Living Lab

Research into intelligent lighting and energy savings provides a significant contribution to a sustainable world and a comfortable working...



RESEARCH LAB

Center for Multiscale Electron Microscopy

The CMEM offers unique facilities for the study of soft materials and uses the knowledge gained to develop



RESEARCH LAB

Center for Wireless Technology

The CWTe facilitates research on wireless systems and antennas, raising the Internet of Things to a higher level.

www.tue.nl/atlas

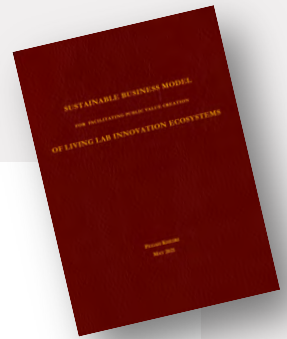
Integrating a living lab of this scale
in a building requires early
involvement of all stakeholders.

ATLAS LIVING LAB

The Atlas Living Lab is our newest and most sophisticated living lab, in which 10 years of experience with living labs accumulated in a flexible infrastructure and accompanying processes to conduct ground breaking research while respecting the privacy and comfort of the residents.

Photo: © Bart van Overbeeke

Researching Atlas Living Lab Ecosystem



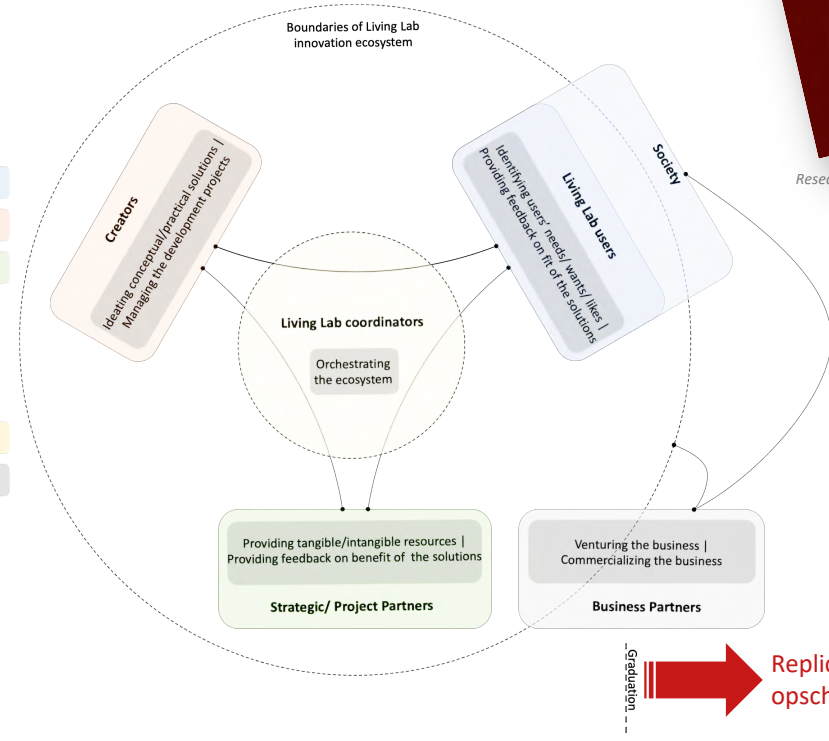
Research: Pegah Khouri (TU/e PDEng)

WHAT ARE THE ACTIVITIES?

1. Identifying users' needs/ wants/ likes
2. Ideating conceptual/practical solutions
3. Providing tangible/intangible resources
4. Managing the development projects
5. Providing feedback on fit of the solutions
6. Providing feedback on benefit of the solutions
7. Orchestrating the ecosystem
8. Venturing | Commercializing the business

WHO PERFORMS THEM?

- Living Lab users | Society
- Creators
- Strategic/ Project Partners
- Living Lab coordinators
- Business Partners



Pushing the limits of our infrastructure...

GLOW 

THANK YOU

More information & publications:

www.tue.nl/ili

<https://www.tue.nl/en/research/researchers/elke-den-ouden/>