Interreg
European Regional Development Fund
EUROPEAN UNION
Hungary-Croatia
Cross-border Co-operation Programme

Green AURA

GREEN Communities with AUgmented Reality Assisted living labs

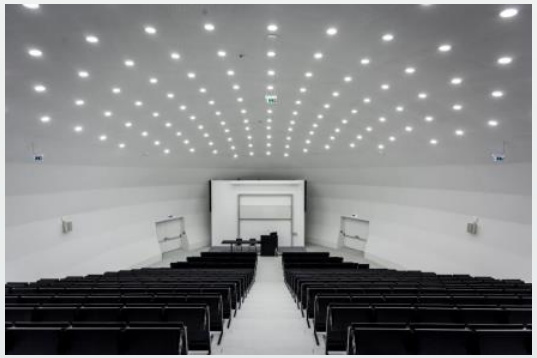
Balázs Borkovits, project coordinator

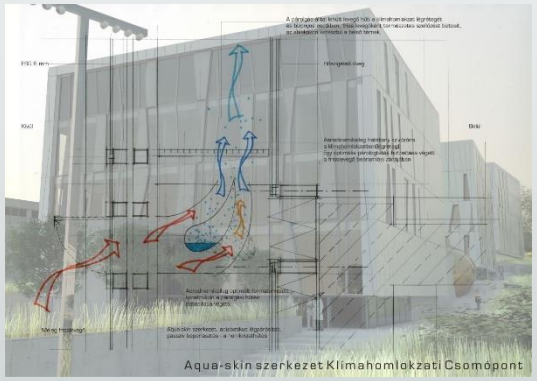
31 March 2021, Green AURA kick off conference

University of Pécs

- Its roots date back to 1367
- 10 faculties, 22 doctoral schools
- 20.000 students, more than 4.000 international students
- 2.000 lecturers and researchers
- Szentágothai János Research Centre - biomedical, natural, engineering and environmental sciences
- Project based developments are supported by the Directorate of Grants of the Chancellery

Green developments at UP



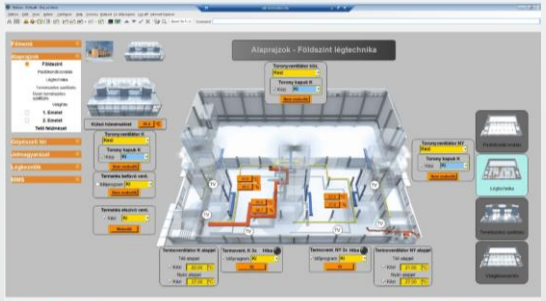


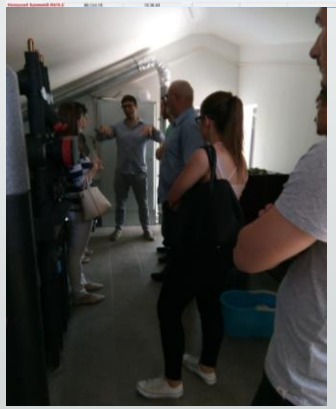
Setting up a 7700 m2 research center (Science Building) - innovative ecological, passive house and smart house solutions, 30-40% lower maintenance cost compared to a traditional building. Building Physics Simulations and Building Management System. (2012)

Development of more advanced and cost-effective geothermal re-injection well technology that the currently used wells. (2021)

Installing PV panels, solar collectors, LED lighting at different premises

Green developments at UP



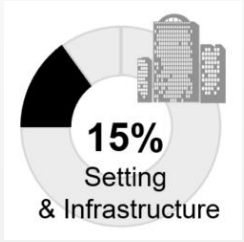


Joint researches on raw material management, waste and residues (2021)

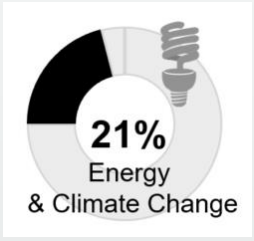
Elaborating educational program for designing and operating nearly zero energy buildings [**V-educa 2**]

Procuring electric vehicle (Nissan Leaf 2018) and charging station to promote e-mobility at Pécs [**EVCC**]

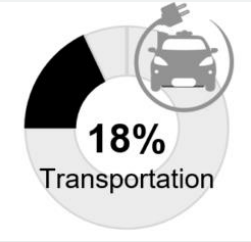
Green University Program



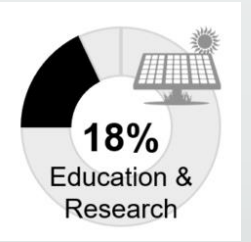
- Started in 2016
- Complex system including built environment, ecologically conscious operation, behavioral change, creation of an educational and research background



- Voluntary cooperation of University employees, students
- Testing achievements in international environment: ranking of green universities launched by the University of Indonesia in 2010: http://greenmetric.ui.ac.id/



- Campaigns and project based developments
- Virtual Power Plant Program



UI Green Metric

Initiative of Universitas Indonesia, launched in 2010

Uniform system, suitable to attract the support of thousands of the world's universities - results are based on a numerical scores that allows ranking

Universities submit data via online surveys

Setting & Infrastructure, Energy & Climate Change, Waste Water, Transportation, Education & Research

2. RESULTS SUMMARY

World Ranking	SI Ranking	EC Ranking	WS Ranking
59	120	88	123
	WR Ranking	TR Ranking	ED Ranking
	177	18	123

3. WORLD RANKINGS HISTORY

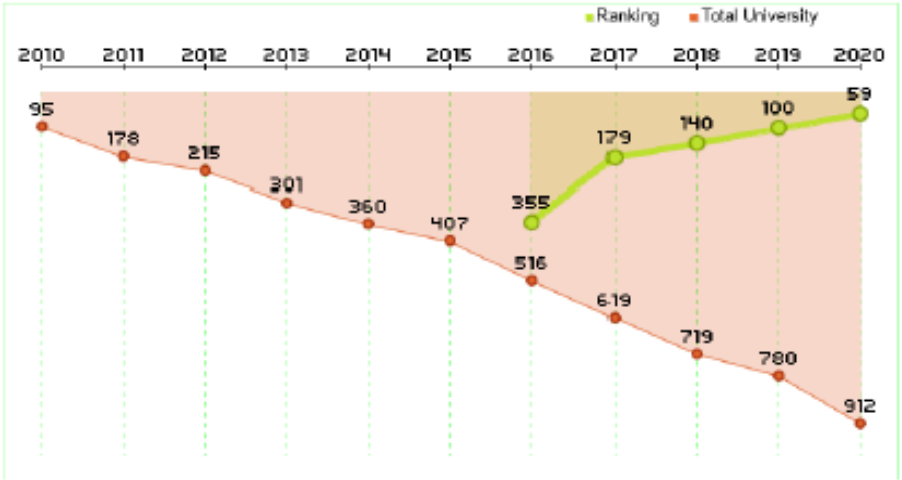
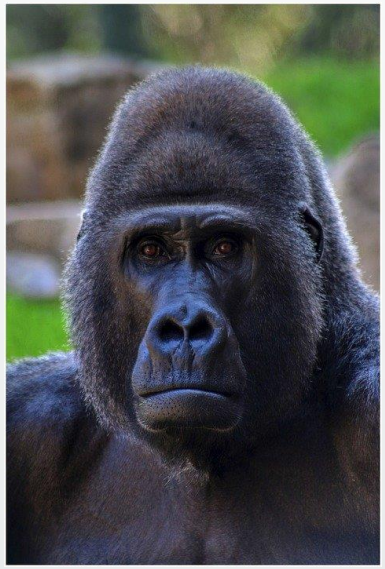


Figure 3.1 World Rankings History Diagram

4. RANKING IN HUNGARY

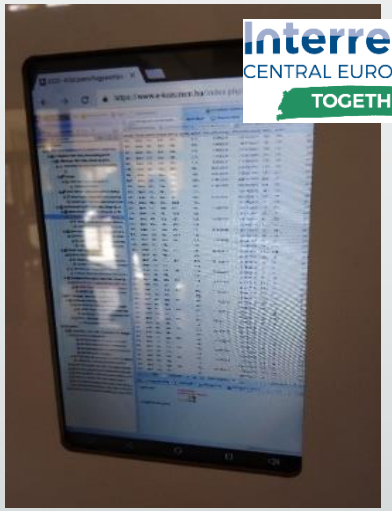
Country Ranking	SI Ranking	EC Ranking	WS Ranking
1	2	1	4
	WR Ranking	TR Ranking	ED Ranking
	2	1	1

Awareness raising - waste



Awareness raising - transport

Awareness raising - energy



Solar Decathlon 2019
(architecture: 2nd place, energy efficiency: 3rd place, viewer's choice award)

Awareness r. – water, nature

Jubileum Park – planting 650 trees

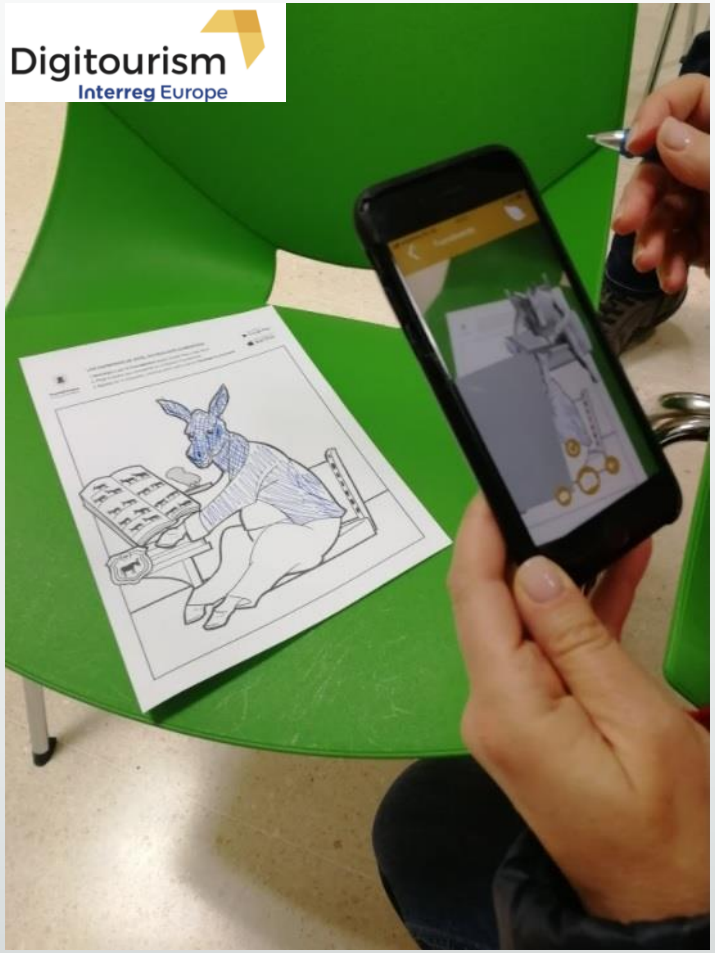
How can we reach students?

Involvement

Prizes

Simple actions

Attractive communication tools



http://v4gu.pte.hu/

The concept

Green AURA

To change people's behavior, they have to be aware of their personal possibilities

We need to apply attractive means of communication to grab their attention

Students/employees live in the city, so we have to widen the scope of the project to city level

We must learn from other cities, experts and share our experiences to achieve better results

Partnership

Integrating the Living Lab approach

Living Lab
Koprivnica

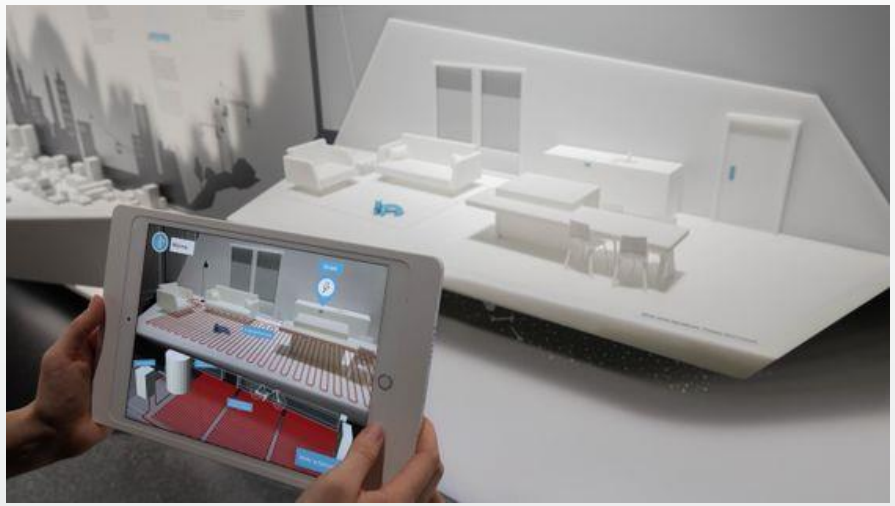
City of Koprivnica (CR): Test field for public lighting industry

Possibilities:

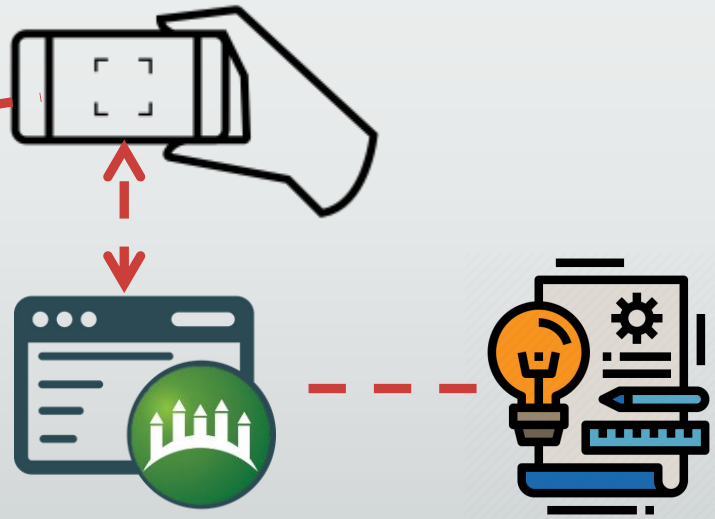
- Widening the scope of the LL by involving other sectors
- Adapting the LL concept for involving target groups, stakeholders into the researches of the University on the field of climate protection

AR/LL

Source: uniqueat.com



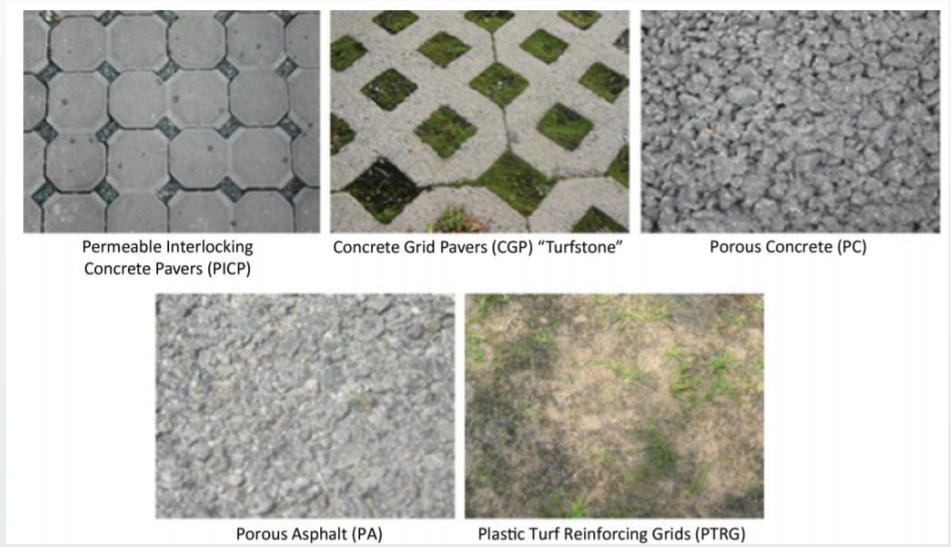
Source: artcom.de



Involving target groups

Participative planning

Feedbacks for researchers
- marketability



Source: N.C. State University

The project

- Duration: 1 Jan 2021 – 31 Aug 2022
- Budget: 270.134 EUR
- Activities: AR supported exhibitions (diverse locations in Croatia, mobile exhibition in Hungary)

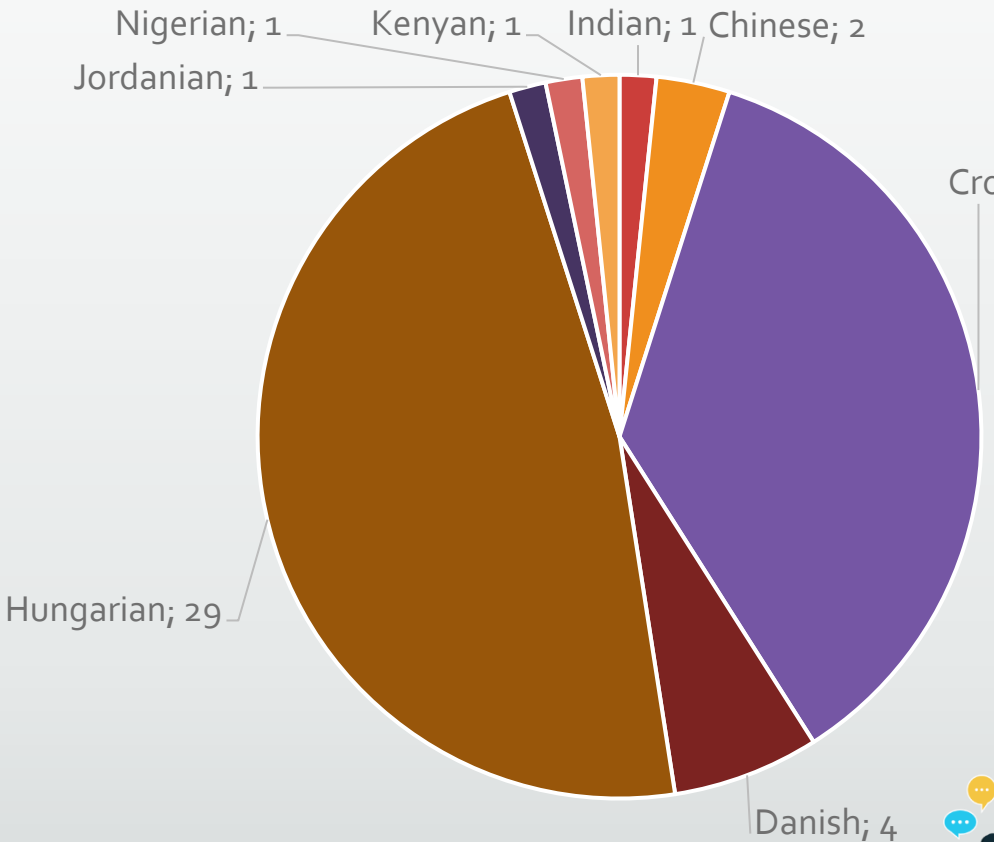
  Webinars with at least 6 living labs

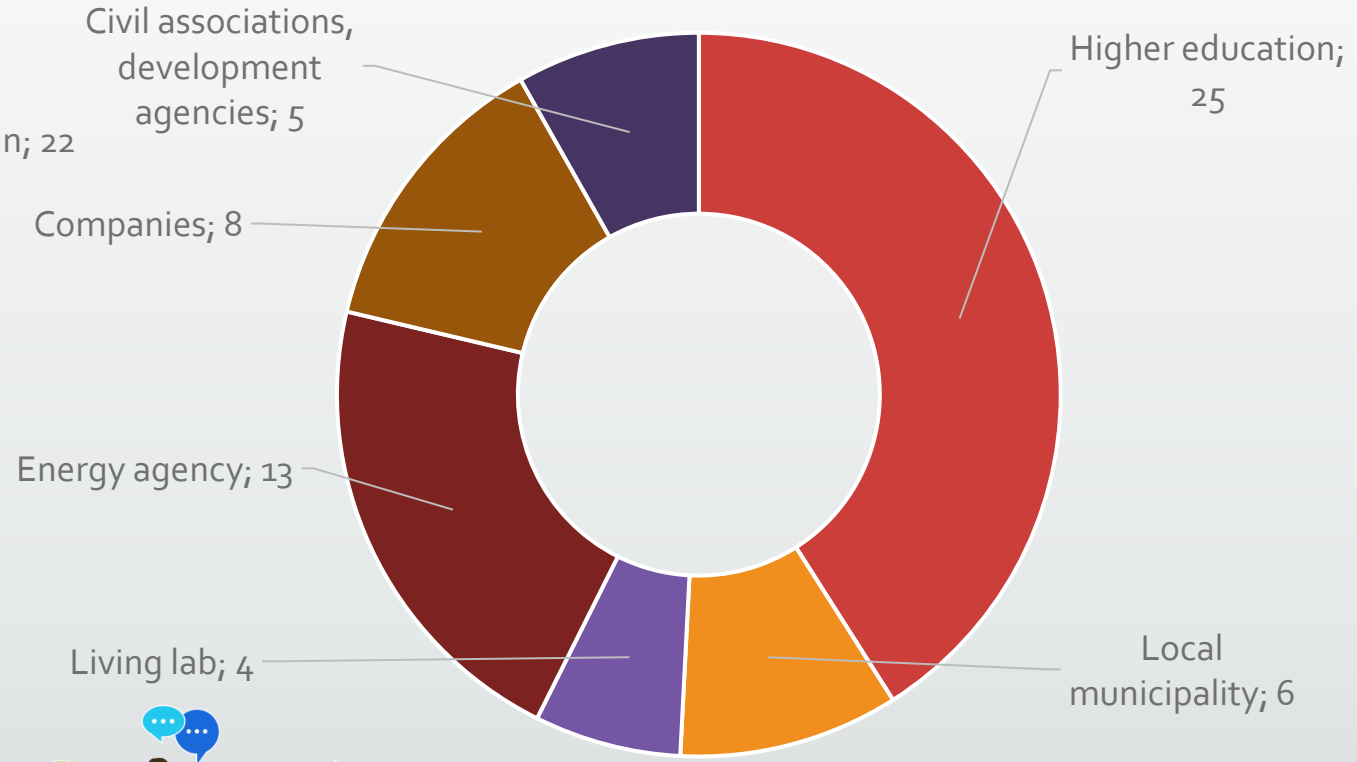
  Plenty of events (2 conferences; 8 living lab workshops for HEIs, companies, municipalities, civil organisations; 16 awareness raising events for wider public)

  Cross-border studies: available AR technologies, LL cooperation models

  Improving the Croatian LL, setting up Hungarian LL
- Indicator: Reaching 2000 citizens

Getting started...





THANK YOU FOR YOUR ATTENTION !

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