

<https://iot-eco.eu/>

IoT-Eco project: From needs analysis to implementing a virtual IoT hub in Western Balkans HEIs

DAAD 2023 Workshop

"The impact of pandemic years to informatics education: review and next steps"

Shkodra, Albania, 3rd - 9th September 2023

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Project details (1):

- *Title:* IoT Green Transformation for Academic Society and Business Oriented Ecosystem in Western Balkans.
- *Acronym:* IoT-ECO
- *Project No:* 101083018
- *Call:* ERASMUS-EDU-2022-CBHE
- *Topic:* ERASMUS-EDU-2022-CBHE-STRAND-2

Project details (2):

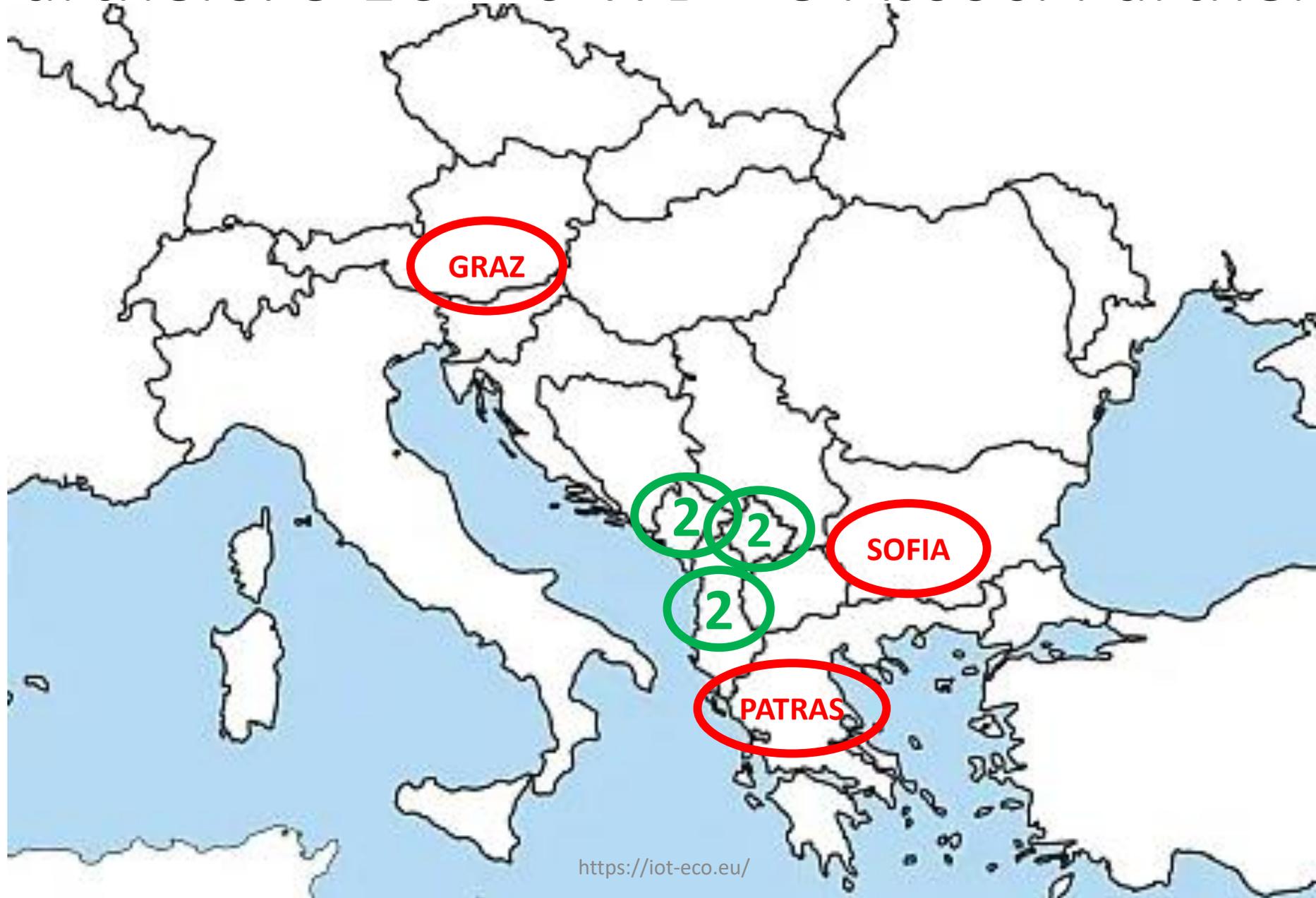


- *Budget: 781,951 Euro*
- *Funded with the support of the ERASMUS+ of the European Commission.*
- *Project duration: 3 years*
- *Timeline:*

December 2022 – November 2025



Partners: 3 EU + 6 WB + 3 Assoc. Partners



Partners

- **Technical University of Sofia (TU-Sofia), Bulgaria. Coordinator**
- **Technical University of Graz, Graz, Austria**
- **University of Patras, Patras, Greece**
- **Polytechnic University of Tirana, Tirana, Albania**
- **University “Alexander Moisiu”, Durrës, Albania**
- **University of Pristina, Pristina, Kosovo**
- **University for Business and Technology, Pristina, Kosovo**
- **University of Montenegro, Podgorica, Montenegro**
- **Mediterranean University of Podgorica, Montenegro**
- **Three associate partners – an innovation fund, a port and an ICT company**

IoT-ECO as a capacity-building project will support WB HEIs to:

1. Assist academic staff and students in improving their knowledge and expertise on IoT and green ecosystem – energy efficiency, air pollution, Industrial IoT, etc.
2. Introduce IoT to society and raise awareness of its potential for green transformation.
3. Establish IoT-ECO hub in the WB HEIs network to facilitate creative projects, design, and technology transfer.
4. Develop a virtual prototype of Green transformation ecosystem model of the Port of Durrës and make it available at the IoT-ECO hub.
5. Develop new and updated courses and integrate them in the syllabus for providing the skills and competences that future engineers and the industry need in relation to IoT and green transformation.

Targets:

- The main target beneficiary with mobilities courses and trainings are the staff and students in the WB HEIs.
- Larger impact on society will be obtained through networking and dissemination activities with focus to business representatives and governmental institutions.

Work packages

- WP1: Management
- WP2: Preparation, needs analysis for each WB University
- WP3: Experience and know-how sharing from EU to WB countries
- WP4: Establishing IoT-Eco hub platform
- WP5: Prepare and update teaching/training materials on IoT
- WP6: Networking
- WP7: Quality assurance
- WP8: Dissemination

WHAT IS ALREADY DONE



Kick-off meeting: Sofia, Bulgaria

**Hosted by
Technical University of
Sofia (TUS)**

25th-28th January 2023

**6 countries
24 participants**



Preparation Meeting, Tirana, Albania

**Hosted by
Polytechnic
University of Tirana**

24th-26th May 2023

26 attendees





You Can't Improve

What You Don't Measure

Michael Hyatt



Preparation Phase: Leader – Polytechnic University of Tirana

- 3 questionnaires were prepared by Polytechnic University of Tirana, to report
 - the current knowledge/application of IoT and green transformation in their study/work environment,
 - as well the willingness to be involved in IoT classes/trainings;
- targeting:
 - IT Students (15 questions)
 - IT Professors (16 questions)
 - Companies (13 questions)
- The same questionnaires were distributed by 6 partners of WB during March-April 2023.

Data

WB Partner	Students Respondents	Professors Respondents	Companies Respondents
Polytechnic University of Tirana	242	34	21
Aleksander Moisiu, Durrës	121	30	13
University of Pristina	131	20	14
UBT	41	12	-
University of Montenegro + UniMED	176	58	38
TOTAL	711	154	86

Results of Preparation Phase

- The results were nearly the same for the 6 partners (except UBT which already has IoT implementations and rated higher).
- The level of current knowledge varies from 3 to 3.8 out of 5.
- The willingness for further training on IoT and importance to their future career is rated high among 4 to 5 / 5, for each partner.

Visits and social events

Tirana and Durrës visit



Visit at the Port of Durrës (Associated partner)



Visit at the University of Durrës labs



MULTIMEDIA LABORATORY

VIRTUAL REALITY LABORATORY



Next in-person meetings

- **Graz, Austria: November 2023**
- Experience and know-how sharing by EU partners on the establishment of a joint IoT-ECO hub for WB partners, + trainings and workshops with different stakeholders.
- **Patras, Greece: May 2024**
- Establishing IoT-ECO hub platform
- **Pristina, Kosovo: November 2024**
- Networking of WB HEIs on IoT-ECO
- Organizing roundtables and workshops with universities (academic and administrative staff), Professional High Schools, businesses, organizations, and local government.
- Organizing open days for informing citizens regarding IoT technology.
- **Sofia, Bulgaria** – Closure meeting, 2025

1. IoT-Eco hub establishment

Leader of this task: University of Patras, Greece.

WB HEIs will create an online platform to network with each other for:

- Sharing teaching/educational materials
- Collaborating on common projects for IoT and green transformation.
- Already implemented at the University of Patras by using the open e-class platform.
- https://docs.openeclass.org/en/3.14/short_description

Open eClass

- A model recommended for the next phase of the project, to host educational materials for all WB partners.
- Still to be decided.
- Open eClass platform is a complete Course Management System, used to store and present educational materials.
- The solution is offered by the Greek Academic Network (GUnet) to support asynchronous e-learning services.

2. Networking

- Leader: University for Business and Technology, Kosovo.
- Roundtables, workshops, info days, with
 - Universities
 - Professional high schools
 - Business
 - Society

*More Work and Photos
To be continued...!*

