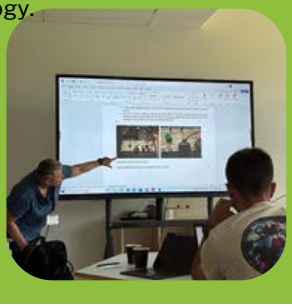
AI &SUSTAINABILITY IN VET EDUCATION



ERASMUS titled "AI&Sustainability in Vet Education" (AISVE), with Lithuania Kaunas University of Technology as project coordinator and Darıca District Directorate of National Education as partner The International Project Meeting for the Erasmus+ KA220 vocational project, numbered 2023-1-LT01-KA220-VET-000155506, took place on June 26-27. Liepa BIKULCIENE welcomed the project partners and opened the meeting by providing information about the meeting process. Representatives from vocational high schools in Lithuania met with participants, and discussions were held on possible applications for vocational high schools. Presentations prepared by the project partners, based on practical and theoretical knowledge, were evaluated, and questions about the projects were discussed. The first project presentation was given by Lina NARBUTAITE on behalf of Kaunas University of Technology.







The presentation of the projects prepared on behalf of POLITEKNIKA IKASTEGIA TXORIERRI S.COOP was made by Aitor Rey PRESA. The project focused on IoT-based Smart Home Systems. It aims to develop a smart security and home automation system designed for use in buildings. It also promotes energy efficiency and sustainability. The other project is Artificial Intelligence-AssistedVisualRecognitioninVocationalEducation.It consistsof a smart access control system developed using a Raspberry Pi and a camera thatautomaticallydetectsaperson'spresence.







Funded by the European Union

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Mesleki Eğitimde Yapay Zeka ve Sürdürülebilirlik

On behalf of Darıca District Directorate of National Education, Informatics Teacher Damla YILMAZ made the presentation of our projects. Our projects are; Handwriting Recognition and Traffic Light Recognition and Controllable Vehicles. The Handwriting Recognition Project aims to create a system that can recognize handwritten numbers by using Google colab, Python programming language, TensorFlow and Keras libraries, and the MNIST dataset and can accurately classify numbers in digital images with artificial intelligence development and deep learning techniques. The Traffic Light Recognition Vehicle aims to develop an autonomous vehicle that can recognize traffic lights and can stop at red lights and move at green lights with artificial intelligence by using Raspberry Pi5 and Raspberry Camera V2. Applied studies will be carried out as an introduction to the field of artificial intelligence and robotics, and basic concepts will be taught through traffic light recognition and vehicle control systems.









- Project coordinator: Lithuania, Kaunas University of Technology Dde B Athinas ,Yunanistan Creative Successes, Ltd, Portekiz Darıca District Directorate of National Education, Türkiye Instituto Politecnico Do Porto, Portugal Polytechnic Institute Txorierri S.Coop,Spain European Vocational Training Association, Belçika Secondary Electrical Engineering School in the City of Skopje Mihajlo, North Macedonia

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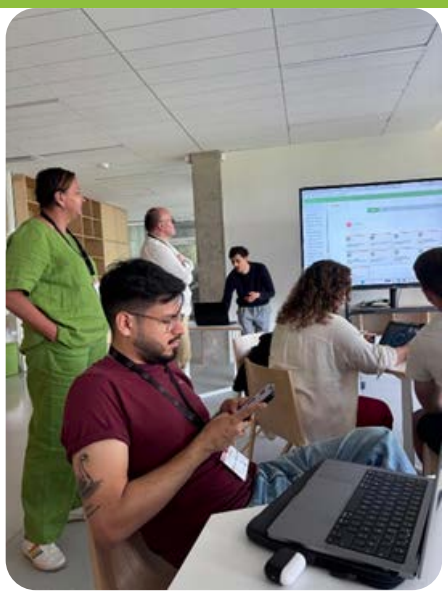
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Artificial Intelligence and Sustainability in Vocational Education

Second day;

Filipe SANTOS and Luis SOARES presented the project on behalf of the INSTITUTO POLITECNICO DO PORTO and Sucessos Criativos. The Artificial Intelligence-Assisted Plant Health Monitoring System (AIMS) project aims to develop an automated system for monitoring plant health. Leaf diseases are detected through the integration of computer vision and AI, and soil moisture and environmental conditions are assessed. It contributes to sustainability by optimizing water use. Raspberry Pi-based image capture and ESP 32-based soil moisture sensors are used. The second project, titled "Automatic System for Waste Identification and Separation, " was presented. To address the need for a sustainable waste system, the project aims to develop an automated system that can identify and classify recycled materials using computer vision and AI







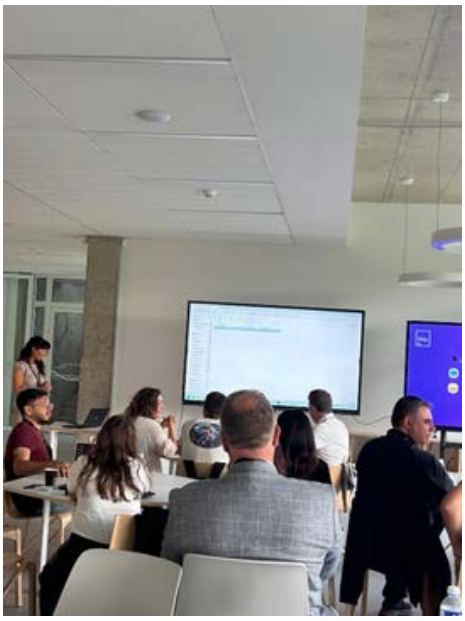
The projects carried out on behalf of EVTA were introduced by David Vanegas. The projects were presented as a Real-Time Waste Segmentation System with Raspberry Pi and YOLO V11 and a Smart Waste Classification with IoT Integration and Computer Vision Support. The aim of the project is to develop an advanced computer vision system that performs real-time waste detection and segmentation from camera images using Raspberry Pi and Yolo V11 neural network. The other project aims to create a system that can automatically detect, classify, and manage waste using IoT sensors, computer vision, and artificial intelligence. The Raspberry Pi is equipped with ultrasonic sensors, light detection sensors, LED displays, and a YOLO V11 neural network. The system features efficient resource management with motion detection, automatic lighting in low light, real-time waste categorization, and an OLED display that provides visual feedback.

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Mesleki Eğitimde Yapay Zeka ve Sürdürülebilirlik

Angelka ANDRESKI gave the presentation on behalf of our North Macedonian partner, Sredno Elektrotehnicko Uciliste na Grad Skopje Mihajlo Pupin. The AI-Powered Dog Deterrent System aims to develop a smart surveillance system that prevents stray dogs from entering restricted areas using Raspberry Pi and object detection technology. The system uses a continuously rotating camera to recognize the surrounding environment. When a dog is detected, the camera stops. A high-frequency sound and a visual LED light are activated to warn the animal away. When the dog leaves the area, the system continues its scanning routine. Smart Throw is a smart trash bin that automatically recognizes the type of waste thrown in and separates it into the appropriate compartment. This project aims to reduce pollution and make the recycling process easier and more efficient.





The evaluation of the prepared projects and the planning of the next transnational project meeting were discussed. After the certificate ceremony, a cultural tour of Kaunas was carried out with the project team.



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AIVET PROJECT TEAM IN LITHUANIA











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