



Minutes

Project Name: **Using Arduinos in Vocational Training**

Project No: **2023-1-RO01-KA210-VET-000156616 KA210-VET** - Small-scale partnerships in vocational education and training

Coordinator School/Place: **LICEUL TEHNOLOGIC „ELENA CARAGIANI”, TECUCI**

Period: **18th-19th of March 2024**

Development of the Topics under Discussion

18th of March 2024

The activities started with welcoming guests from Turkey, Greece, Spain, and Italy by teachers and students of "Elena Caragiani" Technological High School, along with Mrs. Deputy Director, Alina Mihaela Munteanu. The main activity of the day was a visit to the Liberty Galați Steel Plant, the largest integrated steel producer in Romania, emblematic for the city of Galați, the capital of the county, located 87 km away from Tecuci.

After the teachers were welcomed by representatives of Liberty Galați, an instruction was given regarding the health and safety regulations to be followed throughout the visit.

During the visit, company representatives/engineers presented the history and evolution of the company, its main production activities, and its position in their sector. With a rich history, the company started producing steel over 55 years ago, being a key pillar of the Romanian economy.

Activities from the following departments were presented:

- Automation and Digitalization Department – Area where participation in internal automation projects takes place, as well as preventive and corrective maintenance activities.
- Automation and Digitalization Department – Area where participation in various projects occurs, namely: software development (PLC+HMI), process simulations, and commissioning with possible adjustments.
- Central Maintenance Department – This department plays an important role in implementing new modernization projects within LIBERTY Galați.

Additionally, we were provided with details about the company's partnership with the educational environment in Galați County, aiming to develop educational projects and encourage young people to join the steel industry to contribute to the development of sustainable production methods. These learning programs are designed to involve students in solving real problems in their local communities, thereby contributing to the creation of emerging skills, especially in the field of science and technology.

Following this presentation, the invited teachers asked questions, to which they received answers and details regarding the purpose of our visit, namely activities in the IT and electrical development sector.

After the company presentation, we visited laboratories and testing areas for the equipment necessary for production maintenance and development.

In the second part of the day, after lunch, a cultural visit of Galați city took place, including: the Danube promenade, Danube University of Galați, and the historic center.

19th of March 2024

The invited teachers were accompanied by students from "Elena Caragiani" Technological High School from the hotel to the school where the activities took place.

The working visit on the first day of the mobility led the school activities to take place on the second day of the mobility.

The activities began with a welcome speech by Mrs. Director, Professor Gina Lăcrămioara Botez, followed by presentations about the school, the city of Tecuci, and Romania, presented by the school's students.



During the first part of the day, two workshops on the theme of our project were held.

The first workshop, "Button and LED Module & Kit," organized by Mr. Professor Ilie Arghire together with the students, was the first teaching-learning module on Arduino I/O systems. The button and LED module set was presented during this workshop.

In the second workshop, "Lego robot," organized together with the students by Mr. Professor Arghire Ilie and Mrs. Mardare Liliana, previously completed projects were presented. After the presentations, the students, along with the participating teachers, built a new Lego robot.

Also in the first part of the day, the school workshops, classrooms, and laboratories were visited.

During lunch, the guests had the opportunity to enjoy traditional Romanian food.

In the second part of the day, organizational aspects related to the project were discussed:

- Mrs. Dragomir Mirela presented the purpose and objectives of the project, the expected results, and assigned responsibilities to each partner.
- The date of the next mobility, organized in Ankara, Turkey, was set: May 27-28, 2024.
- Mrs. Dragomir Mirela presented the project's website.
- Details regarding the e-Twinning project initiated by the Spanish partners were established.
- Initial details were set for the development of the "ARDUINO in vocational training" teaching and learning guide, related to our project.
- The Greek partners presented a dissemination plan for the project activities.
- The Greek partners also initiated a Google Drive where we will share all project materials and organizational activities.

At the end of the day, certificates of participation were ceremonially awarded.