Co-funded by the
Erasmus+ Programme
of the European Union

Lixie Clock

	Poland	Slovakia
Suitable for grade:	**2 - 3**	**3 - 4**
Specialization:	**Mechatronics or IT**	**Electrotechnics**
Responsible teacher:	**Organ Beata**	**Ingrid Kolembusová**

Project description:
Goal of the project is to construct lixie clock that will display the time in the form of HH:MM. Clock will be driven by microcontroller. Whole project will be divided into two parts – display and control.

Project tasks:
Student #1 (PL):

- Prepare program for microcontroller to:
  - realize a 12 or 24-hour clock
  - switches of control
  - control 1 of 10 each digit
  - RTC operation on the battery in the absence of power
- Prepare circuit to send output to display module made by student #2
- Design and make PCB based on circuit
- Test displaying time
- To write documentation in both English and Polish language

Student #2 (SK):

- Design and make display
- Design and make PCB for connecting lights to power source
- Test displaying
- Prepare the circuit to receive data from the display control module made by the student #1
- Interconnect lights PCB with outputs of microcontroller
- To write documentation in both English and Slovak language

Success criteria:
Project will be successful after construction of working lixie clock with displayed. All project parts should be cost efficient and computer code should be well designed (time and memory efficient, without bugs). Project documentation has to be prepared based on given template in the range of 15-25 in English and native language.

Developed hard skills: Programming, debugging, soldering, drilling, designing and making PCB, electronics, electronic measurement, working with datasheets, mechanical treatment of materials, choosing materials, computer graphics, CAD systems
Developed soft skills: Cooperation, working with computer, planning, teamwork, tracking progress, communication in foreign language, responsibility, compliance with agreements, respect deadlines, problem solving, finding and processing information, design thinking, following safety and ergonomic rules