

## Vitalis – host organisation for Erasmus KA1 projects

VITALIS, as host organisation, receives participants from all European countries. Over the last 25 years we gained experiences from more than 1000 projects we realised in different fields of profession.

We develop model projects in the framework of Erasmus and ESF, also in cooperation with small and medium-sized enterprises in the region Leipzig and Halle.

We support the mobility of the participants in the European Community and the communication between people from all over Europe.

### Our project proposal for your stay in Germany:

Title: E-Buggy

Duration: 2 weeks

### Learning outcomes common to all professions:

- Health and safety at work - observes health and safety rules
- Professionally oriented foreign language - improved the ability to use a foreign language (English/German) in the execution of tasks and the ability to formulate short and comprehensible statements to communicate in the workplace.
- Personal and social competences - has a culturally and ethically sound approach, has increased creativity and consistency in its actions, copes with stress and cooperates in a team.
- Organization of work of small teams - has increased the ability to communicate with colleagues, organize work in a team

### Learning outcomes in the field of Metalwork - E-Buggy:

The student learns/knows:

- What the most important metal materials are called and what characteristics they have
- What basic manual metalworking techniques are available, e.g. chipping, sawing, filing or bending
- Which mechanical metalworking techniques are available, e.g. drilling, milling, grinding or turning
- How to read technical drawings and tables
- How to make simple sketches
- How to transfer measurements to the workpieces
- What the basic terms of standardisation are
- How to operate testing and measuring tools
- How to operate and monitor machinery
- How to maintain and care for machines, equipment and tools
- How to select machinery according to workpiece requirements and define tools or cutting materials, taking into account the manufacturing processes, the material to be machined, the machining stability and the workpiece geometry
- How to define and set production parameters in relation to the workpiece, material, tool and cutting material
- How to test and prepare, assemble and disassemble components and assemblies in compliance with their function, according to technical documents for assembly and disassembly

## General tasks

The student develops their understanding of:

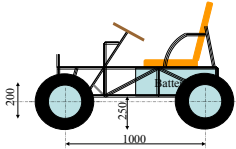
- Basic exercises in metalworking
- Basic exercises in welding
- Basic exercises in forging
- Basic exercises in metal sheet working and finishing
- Basic exercises in parts manufacturing
- Assembly of parts
- Connecting electronic parts
- Care and maintenance of machines, tools, measuring instruments and other work equipment

## **Examples of possible placements:**

- Workshop at Gut Wehlitz in Schkeuditz

**All the above and below mentioned modules can be seen as examples. It's possible that we have to modify or adapt them due to the abilities of the participants or the capacities of the host company. The tasks and the activities vary and depend on the practical and the linguistic skills of the beneficiaries and on the needs and business volume of the companies.**

## ***Detailed training program - Metalwork - E-Buggy***

1 <sup>st</sup> week Monday	<p><b>Practical training in the workshop at Gut Wehlitz</b></p> <p><b>Design and construction of a single-seat buggy with electric drive and a solar energy supply system (the vehicle will be equipped with two electric motors on the rear wheels)</b></p>  <p><b>Program for Monday:</b></p> <ul style="list-style-type: none"><li>- Introduction to the placement company and the daily working time</li><li>- Information about the structure of the company</li><li>- Getting to know the fields of working</li><li>- Introduction to occupational health and safety</li><li>- Introduction to the daily work activities, needed materials and tools</li></ul> <p><b>Program for Tuesday:</b></p> <ul style="list-style-type: none"><li>- Getting to know the schedule of the day, preparing workstations and performing preliminary exercises in metalworking</li><li>- Getting to know the design of a single-seat e-buggy electric vehicle</li><li>- Selection of appropriate tools for metalworking (saws, files, screwdrivers, angle grinders, etc.) and cutting metal pipes for building the vehicle's frame according to the drawings</li><li>- Plan and carry out the tasks with the team</li></ul> <p><b>Program for Wednesday:</b></p> <ul style="list-style-type: none"><li>- Introduction into manual metal processing</li><li>- Practical exercises in reading and applying technical drawings and sketches</li><li>- Manual production of the parts needed to build the e-buggy, such as tubes and plates</li><li>- Welding of prepared metal parts - introduction, health and safety preparation and practical exercises with the use of protective clothing and glasses</li><li>- Maintenance of tools to prevent corrosion and excessive use of material</li></ul>
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<p>1<sup>st</sup> week Tuesday - Friday</p>	<p><b>Program for Thursday:</b></p> <ul style="list-style-type: none"> <li>- Performing basic activities in the vehicle parts assembly department - practical exercises</li> <li>- Welding of prepared metal pipes - continuation</li> <li>- Carrying out quality control of the work performed and strength tests of welded joints</li> <li>- Chassis installation - practical exercises</li> </ul> <p><b>Program for Friday:</b></p> <ul style="list-style-type: none"> <li>- Chassis adjustment</li> <li>- Removal of material, cut-out and installation of the vehicle's sheet metal floor</li> <li>- Preparation of electric motor holders</li> <li>- Construction and installation of the battery support structure</li> </ul>
<p>2<sup>nd</sup> week Monday - Friday</p>	<p><b>Program for Monday:</b></p> <ul style="list-style-type: none"> <li>- Basic activities in the vehicle parts assembly department - working in small groups on the basis of technical drawings</li> <li>- Installation of motors in the wheels of the vehicle, adjustment of the holders holding the electric engines</li> <li>- Introduction to the construction and installation of a vehicle control system</li> </ul> <p><b>Program for Tuesday:</b></p> <ul style="list-style-type: none"> <li>- Selection of suitable tools for metalworking and finishing work on the vehicle chassis</li> <li>- Self-maintenance of tools to prevent corrosion and excessive use of the material</li> <li>- Become familiar with environmentally friendly disposal of industrial waste (grease and coolant residues, metal chips, etc.)</li> </ul> <p><b>Program for Wednesday:</b></p> <ul style="list-style-type: none"> <li>- Basic activities in the vehicle parts assembly department - small group work</li> <li>- Installation of motors in vehicle wheels</li> <li>- Fitting the holders holding the electric motors</li> <li>- Construction and installation of the vehicle control system - introduction and familiarisation with the technical documentation</li> </ul> <p><b>Program for Thursday:</b></p> <ul style="list-style-type: none"> <li>- Ventilating the brakes</li> <li>- Integration of the seat into the vehicle in a way that enables batteries to be retrofitted</li> <li>- Regulation of the vehicle control system and basic technical documentation of the activities carried out</li> <li>- Integration of the accelerator pedal - selection and preparation of the material, self-made with the help of technical drawings</li> </ul> <p><b>Program for Friday:</b></p> <ul style="list-style-type: none"> <li>- Carrying out tests on the vehicle's axles and adjusting the wheel alignment</li> <li>- Carrying out quality control at the test stand, carrying out a brake test</li> <li>- Getting to know the electronic modules - construction, method of installation, practical exercises</li> <li>- Summary and end of the practical training at Gut Wehlitz</li> </ul>