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International competition 8 – 9th September 2023, Jelgava, Latvia

Professional skills competition for metalworking and mechanical engineering students of vocational education institutions in Baltic Countries REGULATIONS

The competition is organized by: Association of Mechanical Engineering and Metalworking Industries of Latvia (MASOC) in cooperation with Federation of Estonian Engineering Industry (Estonia), Lithuanian engineering industries association (Lithuania), Tehnobuss Latvia (Latvia), Vilnius Technology and Engineering Training Center (Lithuania) (Lithuania), Merkuur OÜ (Estonia), Zemgale Region Human Resource and Competences Development Centre (Latvia).

The purpose of the competition: to promote the development of students' theoretical knowledge and professional skills in metalworking and mechanical engineering industry professions, in cooperation with industry companies.

These skills are:

- the ability to cooperate with the company in the development of tender work;
- ability to demonstrate their skills, knowledge and achievements;
- correct understanding and accurate implementation of the drawing and the written information attached to it,
- planning the optimal sequence of work operations, choosing and using appropriate work techniques, materials and tools,
- effective planning of one's working time,
- ability to work individually and in a team,
- ability to observe work safety and protection in the execution of work and during the competition;
- creativity and the ability to apply it during the competition.

Participants of the competition: students of vocational secondary education institutions in the field of metalworking and mechanical engineering industry in the Baltic countries (Latvia, Lithuania, Estonia).

International competition:

- A team consisting of 3 students from the same qualification can participate in the competition: mechanical engineering technician/locksmith, CNC setter or welder, one of students is the team captain.
- From each country will participate 3 teams (9 teams in total): 1) the best team of mechanical engineering technician /locksmith of national competition; 2) the best team of CNC setter of national competition 3) the best team of welder of national competition.
- Each team announces a team name.
- Each team is assigned a teacher responsible for the team.
- The competition will take place between students of the same qualification.
- Language of the competition: English (practical tasks and questions will be provided in national languages).

International competition:

The competition will take place in 3 parts:

1. Presentations of the competition work. Before the competition, each team has to make a freely chosen product using 5 to 15 components/ original parts (number of original parts can be more than 1), applying the knowledge, skills and technologies that are in the curriculum of the specific qualification. The work of the competition must be presented with a pre-prepared video demonstration (1-3 min), in which the stages of product development (planning, material selection, processing, quality control, measurement) are filmed and in which the team explains what materials were used, the purpose or usage of the product, the company's involvement, manufacturing technological process and compliance with work safety and protection during product manufacturing. The competition work must be created by a team, involving the company in the creation of the product. The video is sent 3 working days before the competition to **lab4stem@masoc.lv**. The work of the competition is delivered to Jelgava, Latvia on the day of the competition. Maximum number of points: 50.
2. Theoretical part: questions in the form of tests and open questions on knowledge relevant to the qualification. Maximum number of points: 20.
3. Practical part: Practical part is performed only by the team captain:
 - 3.1. CNC setters perform the creation of the part with processing program on the "CncSimulator" (ISO programming);
 - 3.2. The mechanical engineering technician describes the sequence of technological processes and operations of manufacturing the product, according to the drawing; makes drawing and measurement of detail;
 - 3.3. A welder performs a practical welding task.Maximum number of points: 30.

Each educational institution appoints a **responsible teacher** who:

- applies the team - three students from one qualification - for participation in the competition;
- before the competition, provides support to the team for the development of the competition work and ensures cooperation with the company (material for the competition work, ideas, consultations);
- monitors compliance with work safety and protection requirements during the production of competition work;
- ensures delivery of the completed competition work to Jelgava, Latvia on the day of the competition.

Competition evaluation:

- Evaluation criteria for the competition work: 1) creativity of the product idea, 2) accuracy of the manufactured product, 3) attractiveness of the video, 4) applicability (the product must be practically applicable) 5) complexity of product manufacturing 6) compliance with work safety and protection requirements when manufacturing the object 7) cooperation with the company. Maximum number of points: 50.
- Theoretical part: points for correct answers. Maximum number of points: 20.
- The performance of the practical work will be evaluated by experts by filling in detailed objective and subjective evaluation sheets. Maximum number of points: 30.
- All points are added up. The team with the highest number of points wins each qualification.

Place and time

of the competition: the professional skills competition for Baltic countries metalworking and mechanical engineering students of vocational education institutions will take place: in 8 – 9th September 2023, Svētes str.33 Jelgava, Latvia.

The organizers provide:

- Materials for performing the contest tasks in person.
- Rooms for in-person evaluation, evaluation sheets, measuring instruments and other

accessories for evaluation commissions.

- Catering for competition teams and responsible teachers.
- Transport costs, according to the submitted fuel receipts.
- Accommodation.

Educational institution provides its team(s) with:

- Workplace, tools and equipment, materials for the preparation of the competition work;
- Welders are invited to take their own work safety tools and clothing with them.
- Delivery of the team and the competition task to the competition venue to Jelgava, Latvia on 8 – 9th September 2023.

Awarding of contest winners:

- All participants will receive diplomas from associations for participating in the competition.
- The first, second and third place in each qualification receive prizes (to be specified) and medals provided by the sponsors of the competition.

Draft agenda

8th September 2023, Svētes str.33 Jelgava, Latvia.

Time	Activity	address
11:30-12:00	Arrival of teams	Svētes str.33 Jelgava, Latvia.
12:00-12:30	Lunch	Svētes str.33 Jelgava, Latvia.
12:30-13:20	Competition opening, speeches introduction to the rules of the competition, the commission, video demonstrations	Svētes str.33 Jelgava, Latvia.
13.20-15:30	Performance of practical tasks (by leader of the team)	K. Barona str.40, Jelgava
	Theoretical questions and tasks (by 2 people of the team) and activities in Merkuur	Svētes str.33 Jelgava, Latvia.
15:30- 16:00	Evaluation of homeworks, practical tasks by jury	
15:30- 16:00	Coffee break	
16:00- 17:45	Excursion to the companies (MASOC)	
18:00	Dinner	
	Partners' dinner in Masti Grill&Chill in Ozolnieki http://www.mastigrill.lv/nachalo/	Ozolnieki, Ozolnieku pagasts, Jelgavas novads, LV-3018
	Accommodation: 1) Sport school's dorms, Stadiona street 5, Ozolnieki - https://www.ozolniekusportaskola.lv/kontakti/viesnica/ 2) LLKC hostel - Rīgas iela 34, Ozolnieki https://new.llkc.lv/lv/viesnica	

9th September 2023, Pasta sala, Jelgava, Latvia.

Time	Activity	address
	Breakfast (vouchers will be given)	LKC hostel - Rīgas iela 34, Ozolnieki

		https://new.llkc.lv/lv/viesnica
10:00- 12:00	Homework presentations	Pasta sala, Jelgava
12.40-13.00	Award ceremony	Pasta sala, Jelgava
From 13.00	Participation in Mehatrons, departure home	

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