УНИЈА ПОСЛОДАВАЦА СРБИЈЕ

SERBIAN ASSOCIATION OF EMPLOYERS

"Fostering partnerships for high-quality, inclusive, and excellent VET and LLL, including good practices for delivering vocational training through work-based learning”

Good ideas drive great change:

Multidimensional collaboration between schools and companies as a path to achieving the best outcomes in work-based learning

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About us

- National employers' organization
- Representing employers in social dialogue
- The Serbian Association of Employers (SAE) was established in 1994

Development of Dual Education in Serbia: Timeline and Key Facts

- **2013 - Start of pilot projects: First elements of dual education were introduced un secondary vocational schools**
- **2014 - Students from three vocational profiles were given the opportunity to learn in a real working environment: industrial Mechanic, Electrician, Welder-Locksmith**
- **2017 - Adoption of the Law of Dual Education**
- **2019/2020 - Dual model was officially implemented in secondary vocational education**
- **2023 - Training centers and training alliances were introduced through amendments to the law**

Development of Dual Education in Serbia in Numbers

year	students	companies	educational profiles	schools
2013-2016	400	40	3	16
2016/2017	1000	60	5	19
2017/2018	3000	200	19	60
2018/2019	4500	600	33	80
2019/2020	6100	800	35	72
2020/2021	6900	880	47	74
2021/2022	8000	700	52	150
2022/2023	10000	850	65	180
2023/2024	15890	950	73	186
2024/2025	19191	1100	86	206

Dual education in numbers - current situation

Source:Chamber of Commerce and industry of Serbia

companies

schools

educational profiles

students

current statistics

Source:Chamber of Commerce and industry of Serbia

- **23% of companies participating in dual education are “foreign,” and 77% are “domestic.”**

- **Small and medium-sized enterprises dominate:**
  16.64% are entrepreneurs, 15.31% are micro enterprises, 33.94% are small enterprises, 23.04% are medium-sized, and 11.06% are large enterprises.

- **Dual education is most prevalent in the sectors of metal and mechanical industries** (especially the automotive industry), **food, textile, and wood industries, construction, tourism and hospitality, trade, and transport** (logistics and freight forwarding, air transport)

- **The labor market most frequently demands the following profiles**:
  metalworker-welder, industrial mechanic, machine processing operator, but also sales workers, cooks, and waiters. Mechatronics technicians, CNC machine operators, and motor vehicle mechanics are also in demand.

Key Stakeholders in Dual Education in RS

Schools
Employers
Ministry of Education
Office for Dual Education and National Qualifications Framework
Chamber of Commerce and industry of Serbia
Institute for the Improvement of Education
Institute for the Evaluation of the Quality of Education
The Qualifications Agency
Councils and bodies at the national level responsible for education

The Role of the Chamber of Commerce of Serbia:

- Prepares a proposal plan for the inclusion of employers in dual education Establishes a commission to determine whether the conditions for conducting learning through work at the employer's premises for a specific educational profile are met.
- Issues a certificate to an employer who meets the conditions for conducting learning through work.
- Also makes decisions stating that an employer does not meet the conditions, or has ceased to meet the conditions.
- Maintains a register of employers who meet the conditions for implementing learning through work.
- Maintains a register of dual education contracts.
- Organizes training for instructors and forms a commission for administering instructor qualification exams.
- Issues licenses for instructors.

The Role of the SAE

Our members — employers/companies are actively involved in dual education

Indirect impact and role of SAE:

- NQF Council
- Education Councils
- Sector Skills Councils
- Partnership with ministries and chambers
- Input and monitoring in policy cycles

Involvement in dual education reform process

- Contributions to amendments of Dual Education Law
- Advocacy for:

  - Safety standards for students
  - Financial incentives for employers and students
  - Flexible instructor arrangements

- Involved in Youth Guarantee and internship legislation

This is how it all began

The Secondary Technical School 'Milenko Brzak-Uča’ from Ruma

- The school currently has three fields of work: electrical engineering, mechanical engineering and metal processing, and traffic, with a total of eight educational profiles.
- The dual education model has existed almost since the beginning of its introduction in Serbia. The school currently has 436 students, with about 30 enrolled in the dual program.
- interest is growing
- Each class, which currently has around 28 students, includes about 3 to 4 students in the dual education model.
- All of them complete their practical training with an employer.
- In the municipality of Ruma, it is the only institution implementing the dual education program. Each year, five classes are enrolled in the dual program — three at level IV (computer electrician, mechanical technician for computer design, and road traffic technician) and two at level III, which are combined

What are the current challenges

- To establish good communication with the instructors at the companies (requirement that a person must register, attend training, and obtain the necessary certificates.)
- Additionally, the school had to provide the Chamber of commerce with teaching plans and programs to determine what part of the dual system curriculum the student can actually complete at the employer’s site, measure this proportionally in terms of the program parts and the number of working hours, and see if any adjustments are possible.
- It was also initially difficult for the companies to accept paying 30% of the student's minimum wage, proportionate to the number of hours the student spends at the company.

Things are beginning to change

- The dual education model is evolving depending on the involvement of companies, as there is interest from students.
- Companies are starting to change their mindset, largely due to the growing problem of labor shortages.
- They now see the solution to this issue in high-quality an excellent secondary vocational education.

Our friend MR ROOBOT

The cooperation began in 2020 with a project called *"our friend mr. Robot"*, in which the Technical School in Ruma was the project leader. A teacher from the school was responsible for preparing a large portion of the programming materials. The idea was to connect three schools — from Serbia, Slovenia, and Portugal. The goal was to build a robot capable of picking strawberries, which is a very complex task, as this type of fruit is extremely delicate and requires highly precise robot calibration.

The school from Slovenia designed the robotic arm. Students from the school in Portugal programmed the robotic arm to pick strawberries, while the drone from the Technical School in Ruma monitored the strawberry fields and sent precise data for the robot's operation.

The project lasted about three years and involved several companies, including the IT company *Center for New Technologies* from Ruma, which enabled knowledge transfer and training.

Why was this important for the students and for the school?

The first time the school engaged in drone programming.

From this experience, a competition for programming drones and mBots in primary schools was born.

Other organizations donated drones and mBots — small, car-like robots made of modular components that can be programmed for various tasks — to the majority of schools in Serbia.

The initiative has since grown into a well-organized program. Today, many primary schools across Serbia participate in the competition, and the finals are held at the *Branko Žeravica* school in New Belgrade.

In 2025 alone, more than 400 children from across Serbia took part in the competition.

This idea also led to the development of accredited teacher training programs, enabling teachers to learn how to program mBots themselves.

The plan for the upcoming period includes another round of donations to schools — including mBots, 3D printers, and 3D scanners.

Teachers from the Technical School in Ruma will act as instructors and training facilitators, and they are officially listed in the Ministry of Education’s training catalog through the Institute for the Improvement of Education.


ADMIRAL
ADMIRAL


СТШ „Милєнко Брзак Уча"

In 2025, the company *Haitian Machinery Ruma d.o.o.* came to Ruma, in part because they needed professional profiles that the school offers. Also in 2025, one of the educational profiles was adapted to the specific needs of this company.

Haitian is known as the world's largest manufacturer of CNC plastic injection molding machines, with an annual production of over 35,000 machines. The company operates nine factories in China and an additional nine major logistics centers worldwide. As of 2025, Haitian has launched production in Serbia — in the largest factory outside of China, located in Ruma.

Over the past year, in cooperation with the Office for Dual Education and the National Qualifications Framework, the profile of *industrial mechanic* was accredited and adjusted to meet the company's needs. In August, the company began operations and has already employed around 200 people, with plans to significantly increase that number in the near future.

Positive outcomes

Some of the educational profiles, show excellent progression to higher levels of education.

In the past year alone, three of her former students returned to the school to work as teachers, which she considers a personal success.

They also track the employability of their students after completing university, which is exceptionally high. Even after finishing secondary vocational school, employability remains strong, as these are profiles that are currently in high demand on the labor market.

The arrival of larger companies will expand the opportunities for students to engage in work-based learning directly with employers.

Support from Local Government

The local government has been very supportive. Around 3–4 years ago, they purchased approximately 15 high-performance computers for the school, which were top-of-the-line at the time. Thanks to an excellent partnership with the municipality, the school building was also renovated — a renovation that had not taken place since the building was originally constructed in the 1960s.

The municipality also purchased a car for the school and initiated the introduction of a new educational profile — *Road Traffic Technician*

challenges

Awareness and motivation need to change.

Once the school began organizing competitions and gaining recognition, more teachers started to get involved.

She believes that the learning outcomes — at least in the curricula related to the subjects she teaches — are too demanding and set at a level that is too high for students in vocational secondary schools. Some of the knowledge and skills expected are typically acquired only at the end of university studies. She says this based on her 15 years of experience teaching in the *Computer Electrician* profile.

One of the main issues is outdated equipment. She would like to see more educational profiles at the school transition to dual education, as this would give students the opportunity to learn directly from employers using modern equipment. For example, she mentions that they are still using Windows 7 in some subjects and that they lack access to licensed software programs.

Faith in partnerhips for high-quality, inclusive and exellent VET and LLL

1. **Regional Challenge Fund**
   The school is currently applying for funding through the **Regional Challenge Fund** to acquire modern equipment. In this project, they were supported by the previously mentioned company, *Center for New Technologies*, with whom they have had a long-term collaboration, as well as other companies where students take part in work-based learning. A key requirement was to form a consortium of educational institutions and companies.

The goal of the project is to acquire modern equipment, including:

- new CNC machines,
- a lathe,
- state-of-the-art welding equipment,
- smart home model systems (since students learn how to program smart homes),
- and approximately **150 new computers**.

2. **Future Training Center in Ruma**
   In addition, the **Office for Dual Education and the National Qualifications Framework** has recognized the school as a promising educational institution and has nominated the town of Ruma to host a future **Training Center for Vocational Education**. The center would be located within the school itself.

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Thank you