Virtual Learning Environment built on Moodle becomes an integral part of teaching and learning processes in higher education in Croatia.

University of Zagreb University Computing Centre (SRCE) (https://www.srce.unizg.hr/en/) is the oldest infrastructural institution of the Academic and Research community in the area of application of information and communication technologies (ICT) in Croatia.

SRCE is the key institution in planning, designing, building, and maintaining the e-infrastructure for the Croatian Academic and Research community.

Today, SRCE is the main computing centre and architect of e-infrastructure, servicing both the University of Zagreb and the whole research and higher education system in the country.

The central unit at the university level which provides assistance in implementation of e-learning is the E-learning Centre at the SRCE (www.srce.hr/elc). The E-learning Centre (ELC) provides support to higher education institutions, teachers and students in the use and application of new technologies into teaching and learning. These include e-learning platforms and centralised resources, support in the process of implementing e-learning technologies into the educational process, help with the e-course and content creation and facilitation of training courses and orientation on regular basis.
Challenge

In 2007, University of Zagreb established the E-learning Centre at SRCE with the aim of starting a systematic implementation of e-learning and enhancing the quality of university education. The ELC would be the focal point for e-learning adoption and support across the University. The ELC provided a virtual learning environment (VLE) for all institutions of University of Zagreb, including faculties and academies, and thousands of students and professors.

SRCE faced a series of challenges:
- Institutions at the University of Zagreb were very diverse and varied
- Many faculties at the University of Zagreb did not have the knowledge or capacity to create and maintain their own learning platforms
- Many teachers did not believe that e-learning technologies could improve their teaching
- Many Institution managements did not see how e-learning could fit in their strategy
- They needed to securely connect the VLE to other services and systems in Higher Education in Croatia
- They needed to maintain a high level of service to support thousands of students and teachers
- They needed to be able to provide 7/24/365 support and training for the instructors
- They needed to establish an easy to use and reliable learning platform that could host many institutions and their e-courses

To do this successfully, they needed to ensure that their virtual learning environment met a series of requirements. Moodle was their strategic choice to build their VLE because Moodle:
- Was easily accessible, user friendly and could be translated into Croatian
- Was stable and reliable and could be installed in ELC’s existing IT infrastructure
- Enabled ELC to have one installation servicing more than 40, and later more than 100, institutions
- Could be customised and branded for each of the institutions
- Could be modified to their needs and the needs of their users
- Was regularly updated with new features and maintained with bug fixes and improvements
- Had a big and supportive community of users worldwide
- Allowed login through AAI@EduHr (Authentication and Authorisation Infrastructure of science and higher education in Croatia) that enables Single Sign-On access to all external systems connected to Merlin.

They chose a flexible, secure and reliable VLE that could be modified to meet their needs.
The E-learning Centre at SRCE developed their own virtual learning environment called VLE Merlin (merlin.srce.hr), based on Moodle Core and connected with Mahara (e-portfolio), Adobe Connect (webinars) and Information System of Higher Education Institutions (ISVU). ELC not only had to develop the virtual environment, but also provide teachers and students with training and support to use it.

Moodle’s flexibility and modular architecture supported the development and integration of several add-on plugins and components into VLE Merlin to meet the University’s teachers’ needs. To facilitate an easier onboarding and adaptation to the new environment, ELC localised the interface into Croatian.

At the beginning, ELC started pilot projects with some faculties at the University of Zagreb using the Moodle-based VLE Merlin. They worked with teachers to find out what their needs and concerns were, and invested time into further adapting Merlin to them. After some time, more faculties and teachers from the University of Zagreb joined and started to use VLE Merlin.

Hearing about the good and reliable platform and quality support, other universities and higher education institutions in Croatia started to use Merlin, making it today’s largest e-learning platform in Croatia.

ELC developed a system for teachers to easily create courses, allowing them to use a Moodle test site to work on their courses so that later they could transfer the prepared courses into the production environment. ELC also built a MoodleDemo site with resources, activities and content in Croatian language to enable teachers to get ideas on how they could use the features in Merlin to enhance their teaching strategies.
Results

The number of teachers and institutions satisfied with the new Moodle-based VLE Merlin is growing every day.

In 2019, VLE Merlin is an integral part of teaching and learning processes in the majority of Universities, Polytechnics and Colleges in the country, making ELC the biggest provider of on-line learning environments for higher education institutions in Croatia. VLE Merlin is used at the moment by 117 higher education institutions, with more than 59,000 students and 6,500 teachers enrolled in 12,200+ courses at the VLE.

ELC has become the main point of reference for e-learning in higher education in the country. With their extensive Moodle and e-learning experience, they develop and impart training courses about Moodle, webinars, e-portfolio, instructional design and course design focused on learning outcomes. They also organise MoodleMoot Croatia on annual basis.