

DIGISKILLS

NEWSLETTER

NO.1

The DIGISKILLS project is driving the digital transformation of water technology education across a diverse consortium of universities. By integrating modern digital tools and innovative teaching methods, the project aims to enhance the quality of higher education and equip students with the practical skills needed in the evolving water sector.

Building on best practices from EU member states, DIGISKILLS will introduce advanced equipment, simulation software, and interactive learning resources to support both in-person and independent study. These efforts are designed to modernize water technology training and boost the competencies and competitiveness of future professionals in the field.

Stay connected with us as we work together to shape a smarter, more sustainable future for water education.



**INNOVATING
WATER
TECHNOLOGY
EDUCATION
WITH DIGITAL
SOLUTIONS**

EXPERIENCES



KICK OFF IN NIŠ

The DIGISKILLS Erasmus+ project – Strengthening Digital Skills in the Water Sector Higher Education – officially launched with a vibrant kick-off meeting in Niš, Serbia (10–12 February 2025). Hosted by our partner, the University of Niš, the event brought together representatives from nine universities across five European countries, both onsite and online.

Over three days, participants had the opportunity to:

- Connect and introduce their institutions
- Discuss the project's three-year implementation plan
- Address key administrative and coordination topics
- Take part in a hands-on training on digital teaching tools, led by Prof. Milan Gocić and his team

Beyond the working sessions, our hosts also shared the history and charm of Niš, making the meeting an inspiring and memorable start to the project.

Why DIGISKILLS matters

Countries such as Moldova and Ukraine have made digital skills development in higher education a priority. However, a clear gap persists between the competences of graduates and the demands of the labor market. DIGISKILLS addresses this challenge by promoting innovation, strengthening digital competences, and aligning higher education with future workforce needs.

The project also supports the implementation of the EU Digital Education Action Plan and the ET 2020 Strategic Framework for European cooperation in education and training, contributing to innovation and lifelong learning. Partner universities will gain access to modern digital equipment and innovative teaching methods, designed to respond to the requirements of tomorrow's education and water management practices.

Main objectives of DIGISKILLS

- Develop digital competences of university teaching staff
- Optimize water resource management through the use of digital solutions
- Modernize study programs in line with Bologna Process standards
- Invest in digital infrastructure for higher education institutions
- Support graduates in professional integration and promote lifelong learning

DIGISKILLS is more than a capacity-building project: it is a long-term investment in the digital transformation of higher education and in preparing graduates for the challenges and opportunities of a rapidly evolving labor market.

EXPERIENCES



14TH IWA INTERNATIONAL CONFERENCE ON INSTRUMENTATION, CONTROL AND AUTOMATION

Members of the DIGISKILLS Erasmus+ consortium took part in the 14th International Conference on Instrumentation, Control and Automation (ICA2025OSLO), organized under the umbrella of the International Water Association (IWA) in Oslo, Norway, from June 29 to July 2, 2025. This flagship event, convened every four years, is recognized as one of the most important global forums for innovation in the water sector. Previous editions were hosted in Beijing (2022), Quebec (2017), Narbonne (2013), and Cairns (2009), each time providing a platform for advancing efficiency, reliability, and sustainability in water and wastewater management.

As the water sector undergoes a profound digital shift—driven by the Internet of Things (IoT), rapid advances in smart applications, and the explosion of data generation—the role of instrumentation, control, and automation (ICA) has become more crucial than ever. This year's conference provided a global stage to share insights, methodologies, and lessons learned on how ICA can support water and wastewater treatment as well as system management in this evolving environment.

Main themes

Discussions and technical sessions were structured around five overarching themes:

- Greener Utilities – Using ICA to enable energy-neutral and zero-waste operations, while cutting greenhouse gas emissions.
- Water Quality Monitoring – Developing physical, virtual, and hybrid sensors for improved water quality assurance, including detection of emerging contaminants and microbiological risks.

- Performance Optimization – Leveraging AI, machine learning, digital twins, and big data integration with SCADA systems to improve utility performance and process management.
- Asset Management – Applying IoT and analytics for predictive maintenance, leakage management, and long-term infrastructure resilience.
- Risk Management – Harnessing ICA for early warning, decision support, and protection against both natural and cyber-related threats.

Other areas of focus included online monitoring and control, simulation and modeling, smart water systems, and decision-support tools.

Distinguished keynote speakers

Plenary lectures were delivered by internationally recognized experts:

- Gustaf Olsson, Lund University, Sweden
- Dragan Savić, KWR, Netherlands & University of Exeter, UK
- Peter Vanrolleghem, Université Laval, Canada
- Pernille Ingildsen, CEO, Odsherred Utility, Denmark

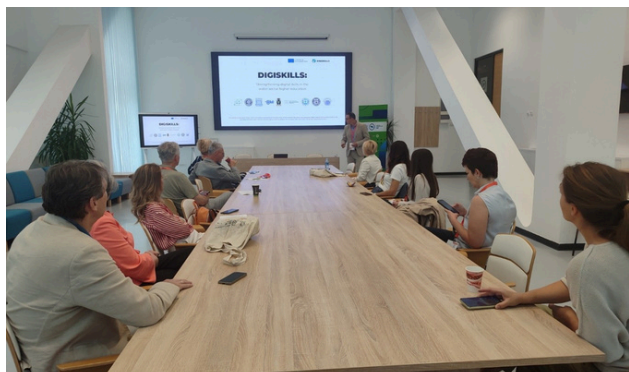
Organized in Norway, built on long-term cooperation

The conference was hosted by the Norwegian University of Life Sciences, which has a long history of collaboration with the Department of Inorganic Materials Technology and Ecology of the Ukrainian State Technical University. The event was chaired and coordinated by Professor Harsha Ratnavira, a faculty member at the Norwegian University of Life Sciences and founder of DOSCON AS (Norway). His leadership also reflected more than 15 years of fruitful cooperation with colleagues in Ukraine.

Driving the sector forward

ICA2025OSLO successfully highlighted the challenges and opportunities facing the global water sector in a digital era. By combining scientific knowledge with practical case studies, the conference reinforced ICA's role in making water utilities more resilient, efficient, and future-ready.

EXPERIENCES



DIGISKILLS PRESENTED AT SINARG 2025 IN NIŠ

On September 12, 2025, during the SINARG 2025 International Conference in Niš, Serbia, a dedicated meeting was held at the Science and Technology Park Niš, bringing together representatives from both national and international projects.

The face-to-face gathering welcomed around 20 participants and served as a valuable forum for exchanging experiences, strengthening cooperation, and sharing project results across different initiatives.

As part of the event, Prof. Dr. Milan Gocić presented the outcomes of the DIGISKILLS Erasmus+ project – Strengthening Digital Skills in the Water Sector Higher Education. His presentation highlighted the project's progress, impact, and key achievements since its launch, including advances in digital competences for academic staff, the modernization of curricula, and the integration of innovative teaching methodologies.

The session provided an excellent opportunity to showcase how DIGISKILLS contributes to bridging the digital skills gap in higher education, while also promoting innovation, sustainable water resource management, and the use of modern digital tools.

By participating in SINARG 2025, DIGISKILLS not only shared its own successes but also strengthened ties with other projects and partners, reinforcing its role in advancing digital transformation across the region and beyond.

CONSORTIUM



The Norwegian University of Life Sciences (NMBU), founded in 1859 in Ås, is a leading institution in sustainability, life sciences, and environmental management. With 7,700 students and 2,000 staff across seven faculties, NMBU is a national leader in water and wastewater engineering education and research.



The Technical University of Moldova (UTM) is the country's leading technical university, offering 68 Bachelor's, 63 Master's, and 43 PhD programs. Known for academic excellence and a strong international profile, it participates in global networks and Erasmus+ projects, fosters innovation and sustainability, and supports Moldova's technological and economic development.



Moldova State University (MSU) in Chisinau, the country's oldest and largest university, offers 60+ Bachelor's, 64 Master's, and 66 PhD programs to 13,000 students. Known for high-quality teaching and research, MSU engages in national and international projects, preparing graduates to excel across diverse fields.



National University of
Water and Environmental
Engineering



Igor Sikorsky Kyiv Polytechnic Institute (KPI) hosts over 25,000 students across 14 faculties, 10 research institutes, and multiple centers and labs. As Ukraine's leading technical university, KPI fosters students' professional, intellectual, and creative development through internationalization, innovation, and participation in national and international projects.



Lviv Polytechnic National University (LPNU), the oldest technical university in Ukraine and Eastern Europe, educates over 35,000 students in 300+ Bachelor, Master, and PhD programs across 16 institutes. With 2,500+ faculty, including 470 professors, LPNU fosters future leaders through a strong educational and research infrastructure and active participation in national and international projects.

WATER COMMUNITY



E-LEARNING IN WATER ENGINEERING: CHALLENGES & OPPORTUNITIES

The shift toward e-learning in water engineering has opened up exciting possibilities—but it also brings unique challenges. As digital tools become more central to education, institutions must find the right balance between theory, hands-on experience, and interactivity.

One of the main opportunities of e-learning is accessibility. Students can learn anytime, anywhere, and revisit complex topics through interactive simulations and recorded lectures. This flexibility supports a broader range of learners and helps universities reach students in remote areas or across borders.

However, the practical nature of water engineering poses challenges. Replicating laboratory experiments and fieldwork in a virtual environment requires innovative solutions. That's where projects like DIGISKILLS come in—by introducing advanced simulations, virtual labs, and modern software, they bridge the gap between traditional hands-on learning and digital convenience.

Ultimately, the future of e-learning in water engineering lies in blending the best of both worlds: leveraging technology to enhance education while maintaining the depth and rigor of real-world experience.

Written by: MSU



HOW DIGISKILLS SUPPORTS THE SDGS (ESPECIALLY #4 & #6)

The United Nations Sustainable Development Goals (SDGs) serve as a global blueprint for a better and more sustainable future. Among the 17 goals, two are especially relevant to the mission of the DIGISKILLS project:

SDG 4 – Quality Education and SDG 6 – Clean Water and Sanitation.

Supporting SDG 4: Quality Education

DIGISKILLS is committed to transforming water education through modern, accessible, and inclusive digital tools. By equipping universities with virtual labs, advanced software, and interactive learning platforms, the project ensures students across different regions receive high-quality training—regardless of physical or economic barriers. This promotes lifelong learning, digital literacy, and improved career readiness in the water sector.

Advancing SDG 6: Clean Water and Sanitation

To achieve universal access to safe water, the world needs skilled professionals who understand both the science and systems behind water management. DIGISKILLS helps meet this need by modernizing education in water technology and preparing students to tackle water-related challenges with innovation and expertise. These efforts directly support the goal of sustainable water and sanitation for all. By aligning its actions with global priorities, DIGISKILLS not only enhances education and technical training—it contributes to building a more resilient and sustainable future.

Written by: MSU



Closing Thoughts

As the DIGISKILLS project continues to unfold, we're seeing real change take root—in classrooms, in communities, and across borders. The journey toward a more digitally skilled, future-ready generation in Moldova and Ukraine is just beginning, but the impact is already visible.

Thank you for being part of this shared mission. Together, we're building stronger connections between education, innovation, and sustainable development.

Stay tuned for more updates, stories, and opportunities to get involved!

Digital Technologies

Applying modern digital tools, equipment, and software in water technology education.

Innovative Teaching

Using simulations, visualizations, and best pedagogical practices to enhance learning experiences.

Skills & Education Modernisation

Updating curricula and infrastructure to improve student competencies and align education with industry needs.



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