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# University to Society Collaborations for Inclusive Digital Transformation in the Western Balkans (U2SID)

## Project 101083131 – U2SID

## Erasmus+ Capacity Building Project

## MEETING MINUTES

## Inclusive Digital Transformation in Higher Education

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| **Title of the Event** | U2SID Workshop: Inclusive Digital Transformation in Higher Education |
| **Partner organizing the event** | The University of Belgrade, |
| **Venue, date, time** | Faculty of Organizational Sciences, Jove Ilića, 154, Voždovac Municipality<br>December 13-16, 2023, Belgrade, Serbia |
| **Attendees and affiliation** | • Dr. Sladjana Benkovic, manager, the University of Belgrade<br>• Bojana Ivanovic, project secretary, the University of Belgrade<br>• Nikolina Bozic, the University of Belgrade<br>• Dr. Sandra Jednak, vice-dean for international relations, the University of Belgrade, Faculty of Organizational Sciences<br>• Dr. Jelena Jovanovic, the University of Belgrade<br>• Dr. Vladan Devedzic, the University of Belgrade<br>• Filip Milosevic, The Share Foundation<br>• Dr. Marijana Despotovic Zrakic, the University of Belgrade<br>• Dr. Aleksandra Labus, the University of Belgrade<br>• Dr. Zorica Bogdanovic, the University of Belgrade<br>• MSc. Tamara Naumovic, the University of Belgrade<br>• MSc. Petar Lukovac, the University of Belgrade<br>• Dr. Brikene Dionizi, Project Manager for U2SID, the University of Shkoder<br>• Dr. Adrian Leka, the University of Shkoder<br>• Dr. Suzana Golemi, the University of Shkoder<br>• Klajdi Kraja, student at the Economic Faculty<br>• Dr. Erida Curraj, SCiDEV Center<br>• Marsela Robo, National Agency for Scientific Research, and Innovation<br>• Dr. Nataša Krivokapić, the University of Montenegro<br>• Dr Goran Ćeranić, the University of Montenegro<br>• MSc. Željko Lućić, the University of Montenegro<br>• Dr. Dhimitri Bello, Universiteti "Fan S. Noli", Korçë<br>• Dr. Benita Stavre, Universiteti "Fan S. Noli", Korçë<br>• Dr. Ardian Cerava Universiteti "Fan S. Noli", Korçë<br>• Prof. Assoc. Orkida Ilollari, Mediterranean University of Albania<br>• Prof. Assoc. Roland Lami, Mediterranean University of Albania |

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| | • Erdet Lalaj, Mediterranean University of Albania<br>• Dr. Ajkuna Mujo, Mediterranean University of Albania |
| **Number of participants** | 28 |
| | **University to Society Collaborations for Inclusive Digital Transformation in the Western Balkans**<br><br>This workshop was hosted at **the University of Belgrade, Faculty of Organizational Science** as one of the partners responsible for horizontal knowledge transfer. The workshop gathered representatives of all project partners. All presents were greeted by **professor Dr. Sladjana Benkovic**, who together with the **project secretary Bojana Ivanovic** worked on the organization of the workshop.<br><br>The meeting started with a welcome note **from Professor Sandra Jednak, P.D., Vice Dean at the Faculty of Organizational Sciences, University of Belgrade**, who greeted all participants of the first U2SID workshop. She thanked the participants for a visit to the faculty and delivered a short presentation of the faculty to project members.<br><br>Work activities on the project continued according to the agenda, i.e. the first topic that was opened was the issue of ***Challenges and Ethical Considerations of Artificial Intelligence in Higher Education***, which was discussed with the participants of the workshop by **professors and experts Vladan Devedžić and Jelena Jovanović.** They pointed out that AI has the potential to revolutionize the education sector by providing personalized learning experiences, automating the grading of student work, and facilitating administrative tasks. However, the implementation of AI in education requires careful consideration of ethical, legal, and social implications.<br><br>One of the most impactful areas of AI in education is generative AI, particularly tools like ChatGPT and Google Bard. This technology allows users to generate text, translate languages, write different kinds of creative content, and answer questions informally. While this offers exciting possibilities for personalized feedback, adaptive learning, and accessible education, the content produced by generative AI could be inaccurate, inappropriate, biased, taken out of context, or without permission.<br><br>Initial reactions to the use of ChatGPT in education have been mixed. Some educators see it as a powerful tool for fostering creativity, critical thinking, and collaboration. Others fear its potential for academic dishonesty, bias, and a decline in student engagement. Despite these concerns, ChatGPT is already being used by educators in various ways. For example, ChatGPT can offer students individualized feedback on writing assignments, helping them identify areas for improvement and refinement of their skills. Furthermore, AI can adapt to each student's learning pace and style, providing them with personalized learning pathways and resources. It can also translate languages and simplify complex concepts, making education more accessible to students with disabilities or language barriers.<br><br>Tools like ChatGPT can play distinct roles in supporting learners by taking on the role of a tutor (offering direct instruction), coach (supporting the development of metacognitive skills), teammate (helping student teams be more effective), and others. However, both teachers and students need to be aware that the content produced by ChatGPT can be inaccurate, inappropriate, and not aligned with learning objectives.<br><br>The debate about generative AI often centers around the question: ban or enforce? Instead of a binary approach, we need to consider more nuanced solutions. One crucial step is revisiting the concept of plagiarism in the context of AI-assisted learning. Instead of focusing solely on the content source, we should emphasize understanding, critical thinking, and the ability to evaluate and synthesize information. There is also the question of trust: can we trust generative AI in education? Concerns about plagiarism, bias, and the potential for misuse are valid and require careful consideration. To build trust, it is crucial to raise awareness among both educators and |

students about the capabilities and limitations of AI tools. They should also be provided with guidance on how to use generative AI effectively and responsibly. Furthermore, educational institutions should establish policies on the responsible development and use of AI in education.

In conclusion, they have highlighted that AI in education presents both exciting opportunities and significant challenges. By embracing a proactive and ethical approach, we can harness the power of AI to transform learning while safeguarding the integrity of education and ensuring equitable access for all students. The journey ahead requires open communication, collaboration among educators, policymakers, and tech developers, and a continuous commitment to responsible innovation. Only then can we ensure that AI becomes a truly positive force in the educational landscape.

After a short break, the workshop continued by opening a new topic: ***Strengthening Cybersecurity: The Critical Role of Academia in Advancing Awareness and Competency Development***, which was discussed by expert **Filip Milošević, from the Share Foundation**. He pointed out that in today's hyperconnected world, our digital footprint is vast and ever-expanding. Therefore his presentation delves into the fundamentals of personal digital security and explores the ever-evolving landscape of cyber threats.

By understanding the core principles of secure passwords, multi-factor authentication, data encryption, and awareness of phishing and social engineering tactics, individuals can significantly enhance their digital security posture. Implementing these practices, along with regular software updates, anti-virus and anti-malware software, and control over privacy settings, empowers individuals to navigate the digital landscape safely and protect themselves from harm.

According to the Agenda, after the lunch break, the workshop participants reflected on the activities related to the progress of the project, as well as on the activities that are expected in the coming period. In this sense, **Erida Curraj**, in front of **the SDiDEV Centre**, first addressed the participants of the workshop with the need Assessment objective to evaluate the current state of digital literacies among two primary groups within the academic sphere, lecturers, and students in 4 partner universities. She pointed out that the quantitative methodology has been used, incorporated with the structured focus group discussions, steered by discussion guides that are informed by SCiDEV's initial literature review and the early results of the questionnaires. Furtherly, the SCiDEV Centre during November 2023 (on a settled timeline) has delivered the document of the methodology for the pred evaluation of need assessment and has designed and developed the guidelines per each focus group lecturers, students, and stakeholders, which has been organized in four HEIs until 15 December 2023. Additionally, on November 11, 2023, SCiDEV developed two questionaries to assess needs for digital literacies, one for lectures and one for students, and it was shared among four HEIs and they shared it among their students and lectures, NASRI also shared it among all university's contacts. Until December 4, 2023. there have been 708 questionaries submitted from the students and 199 from the lectures.

There have been 3 focus groups accomplished by each HEI partner, the last one was from the UMSH on December 14, 2023. Each group had around 10-12 participants, and SCiDEV designed the guidelines of the focus group questions and the template for the report. Each HEIs partner should send the report within December 15, 2023. to be included in the final report from the expert. An expert from SCiDEV is assessing the data from questionnaires, he will **prepare the report for each university**. Upon the deadline, all reports developed by partners for each focus group will be shared with the expert so he can make them part of the report. The SCiDEV Center will compile the draft report on December 17, 2023, and all partners should send their comments before 22nd of December. Erida stressed that **the final repor**t for all data analysis will be shared with partners **on 27 December 2023.**

After Dr. Eride Curraj, the **project coordinator Dr. Brikene Dionizi** addressed the project participants. She presented what has been done so far, the deliverables from the beginning of the project, those regarding WP1, an ongoing work package for the entire period of the project, and WP2, the actual very active work package. It is followed with the tasks and roles for each

of the partners during the following six months, till the end of Work Package 2, Digital Literacy Accelerator Programme. It is emphasized the importance for each of us to respect the deadlines for the respective reports for focus group meetings, as for SCiDEV to prepare the report concerning need assessment to the HEIs. As the tasks are related to each other each of us must organize and deliver the respective reports on time.

There are presented also the deliverables for the next six months of the U2SID project and it is discussed about the importance of sharing all the activities of the project in our institutions and collaborating with stakeholders to improve this relationship. She mentioned that the end of March 2024. will be the end of the first year for the project, concerning the WP1, each of the partners will report all the contributions each had on the project during the first year and the related financial funds' expenditures.

This concludes the first day of the workshop.

The second day of the workshop continued according to the Agenda. **Professor Dr. Aleksandra Labus and professor Dr. Maja Despotovic Zrakic** said something more about Blockchain technologies at the very beginning by throwing a lecture on ***Blockchain technologies in E-business Eco-Systems***. The lecture aimed to get an overview of the basic blockchain components and an analysis of the role of blockchain technologies in modern electronic business ecosystems. The first part of the lecture presented the flow of transactions in the blockchain. After that, basic blockchain components such as blocks, consensus algorithms, and peer-to-peer networks were explained, after which their presentation continued with presenting characteristics of blockchain transactions such as decentralization, anonymity, transparency, security, reliability, and immutability, and they gave an overview of consensus algorithms and blockchain platforms for the realization of transactions. They talked about different blockchain types are presented such as public, private, hybrid, and consortium.

Particularly they explained the role of smart contracts in blockchain-based business systems as well as the process of designing smart contracts, modeling algorithms, and execution of transactions on the Algorand and Ethereum blockchain platforms.

In the second part of the lecture they explained, the possibilities of applying blockchain technology in the e-business ecosystems, e-commerce, digital marketing and social media, loyalty programs, real estate, industry, supply chains in the fashion industries, and healthcare.

In the continuation, the participants of the workshop were addressed by **Professor Dr. Zorica Bogdanovic and MSc. Tamara Naumovic.** They organized their lecture under the title: ***Blockchain Technologies in Industry 4.0*** into two segments.

The goal of the first part of the lecture was to give an overview of Industry 4.0 concepts and technologies and present how they all fit together. They especially analyzed technologies such as blockchain, the Internet of things, Artificial Intelligence (AI), digital twins, and 5G, and explained their role in new industry ecosystems.

The goal of the second part of the lecture was to address the role of blockchain technology in Industry 4.0 more specifically. The focus of supply chain management is where blockchain, in combination with IoT and mobile technologies, can provide new means for tracking information across the supply chain and provide transparency and traceability of data. The concepts were illustrated using the example of the food supply chain and the problems related to data management, transparency of business transactions, trust in data handling, security and privacy, scalability and interoperability issues, stakeholder relationship management, food safety, and fake products.

In this context, blockchain can provide consumers with information on product development, origin, and value. The tracking mechanism increases cooperation between stakeholders through the supply chain: production, processing and packaging, certification, storage, distribution, retailing, and consumption. Further, they presented examples of the application blockchain system for tracking honey production. Besides theoretical concepts, they analyzed the problems

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| | of technology adoption and presented the preliminary results of a study of the readiness of stakeholders to use blockchain technologies.<br><br>The learning outcomes of this lecture were:<br>- Understanding the technology stack of Industry 4.0,<br>- Understanding the role of blockchain in Industry 4.0,<br>- Understanding how blockchain can be used to track information across supply chains,<br>- Understanding how blockchain interacts with IoT technology in the context of supply chains and Industry 4.0,<br>- Understanding the problems of blockchain technology adoption and incentives that motivate stakeholders to use this technology.<br><br>There was a break for lunch, after which the practical workshop continued, carried out by the **MSc. Tamara Naumovic and MSc. Petar Lukovac** who introduced participants of the workshop to the world of PyTel.<br><br>It was a practical lecture where participants could explore key aspects of blockchain technology and smart contracts. The main goal of the lecture was to familiarize participants with blockchain technologies, features, and components. ***This was demonstrated by applying blockchain technologies in real systems on the Algorand platform***. The participants had the opportunity to create a small smart contract, which will enable them to better understand the role of smart contracts in process improvement. During implementation, different technologies were used. This includes PyTeal library for smart contract development and Beaker framework. Testing was done using the Algorand platform's test environment. Explanation of architecture.<br><br>During the practical exercise, participants had an opportunity to create the first smart contract application for incrementing and decrementing values. They learned how to build and deploy newly created smart contracts. The contract was tested through a client-side interface called DappFlow, where a simulated crypto wallet is used to digitally sign and execute transactions.<br><br>Lastly, an example of a client-side application implemented using the React library was explained alongside its connection to smart contracts. The application was moved to a live public network. Opening a crypto wallet was demonstrated, as well as connecting the wallet. The learning outcomes of the practical exercise were:<br>- Understanding of the blockchain fundamentals,<br>- Real-world application knowledge,<br>- Hands-on experience in writing and deploying smart contracts,<br>- Understanding the role of smart contracts in future process improvement.<br><br>At the end of the second day, the workshop was closed by the host and leader of the U2SID project, in front of the University in Belgrade, **Professor Dr. Sladjana Benkovic**. |

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# Agenda of the first U2SID Workshop

## Inclusive Digital Transformation in Higher Education, December 13-16, 2023

## The Faculty of Organizational Science, University of Belgrade

## Jove Ilića 154, Voždovac Municipality, Belgrade, Serbia

The U2SID project, "University to Society Collaborations for Inclusive Digital Transformation in the Western Balkans," is an Erasmus+ Capacity Building Programme that promotes a comprehensive and inclusive digital transformation in the region. The U2SID 2-year Erasmus+ project is led by the University of Shkoder "Luigj Gurakuqi" in a consortium of 9 institutions from 4 different countries. Building on the successes of USIA project "University to Society Innomediaries in Albania: Co-Production of Knowledge and Research that Matters" Erasmus+ Project (2021-2023), we've joined forces with our partners to take the next step in fostering Quadruple Helix with a focus on inclusive digital transformation across the Western Balkans. USIA Project strengthened institutional and human resources capacities in Albanian universities by establishing Knowledge Transfer and Innovation Brokerage units, bridging the gap between university, business, government, civil society, and media. Now, it is time to leverage these achievements with U2SID! U2SID aims to foster inclusive digital transformation in the Western Balkans by enhancing collaboration between universities, businesses, policy makers, civil society, and media.

U2SID contributes to innovation in higher education, enhancing its relevance to the labor market, regional development, and society. The project not only facilitates knowledge transfer but also creates economic and social value through the dissemination of teaching and research outcomes to the community and society. With a focus on regional HEIs, U2SID fosters strong collaboration between universities and other stakeholders, such as the private sector, policy, civil society, and media, ultimately increasing the digital competence of students and staff. and then about the workshop and how it links to the project.

The "Inclusive Digital Transformation in Higher Education U2SID Workshop in Belgrade" scheduled for December 13-15, 2023, in Belgrade is a mobility and training event aimed at bringing together the U2SID project participants for an in-depth exploration of contemporary technological advancements impacting the academic sphere based on exchanges with the partner at the University of Belgrade. Participants will delve into the critical issues surrounding artificial intelligence, with a focus on its ethical application and the challenges it presents in higher education, under the guidance of notable experts' professor Vladan Devedžić, Ph.D., and professor Jelena Jovanović, Ph.D. This will be an engaging session calling for active involvement and pre-prepared contributions from all U2SID partners.

Another session conducted by Filip Milošević, the Share Foundation representative, will enlighten attendees on strengthening cybersecurity, emphasizing the pivotal role academia plays in heightening awareness and building essential competencies. The agenda also includes practical engagements, such as the Blockchain Exercise with MSc. Petar Lukovac, which promises to be a hands-on experience for participants to acquire direct insights into the application of blockchain technologies in both the e-business ecosystem and Industry 4.0, under the guidance of notable experts Professor Marijana Despotović Zrakić, Ph.D., Professor Aleksandra Labus, Ph.D., Professor Zorica Bogdanović, Ph.D., and MSc Tamara Naumović.

Additionally, the workshop dedicates time for project meetings to discuss progress and chart further steps. This intensive workshop is designed not only to educate but also to foster collaboration among educators, encouraging the exchange of ideas and strategies for navigating the ever-evolving landscape of digital transformation in higher education. The workshop concludes on December 16, allowing the participants to reflect on the knowledge gained and connections made as they depart from Belgrade.

## THE FINAL AGENDA OF WORKSHOP

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| **December 13, 2023** | [Arrival of the U2SID project participants in Belgrade] |
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| **December 14, 2023** | [First working day of the training] |
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| **9.00 – 9.30** | **Registration of participants – Classroom 62 – New building** |
| **09.30 – 09.45** | Opening remarks by Vice Dean for International Cooperation of the Faculty of Organizational Sciences - *Professor Sandra Jednak, PhD* |
| **09.45 – 11.15** | Challenges and Ethical Considerations of Artificial Intelligence in Higher Education – *by professor Vladan Devedžić, PhD &professor Jelena Jovanović, PhD.*<br>*This is a working session that requires the active participation of all participants from all U2SID Partners. All are encouraged to prepare beforehand and be able to provide input during the discussion regarding the challenges of the usage of AI in higher education and suggestions for ethical principles.* |
| **11.15 – 11.30** | Coffee break |
| **11.30 - 13.00** | Strengthening Cybersecurity: The Critical Role of Academia in Advancing Awareness and Competency Development - by Filip Milošević representatives of Share Foundation |
| **13.00 - 14.00** | Lunch break |
| **14.00 – 15.30** | Project meeting – progress and further steps<br>Brikene Dionizi, University of Shkodra<br>*All partners should be prepared and present their activities/tasks conducted during the project implementation so far and plan of activities and tasks for January – April 2024* |
| **15.30 – 16.00** | AOB |
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| **December 15, 2023** | [Second working day of the training] |
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| **09.00 – 09.30** | **Registration of the participants - Classroom 62 – New building** |
| **09.30 – 11.00** | Blockchain technologies in E-business Eco System – *by Professor Marijana Despotović Zrakić, PhD & professor Aleksandra Labus, PhD* |
| **11.00 – 11.15** | Coffee Break |
| **11.15 – 13.00** | Blockchain technologies in Industry 4.0 – *by Professor Zorica Bogdanović, PhD & MSc Tamara Naumović* |
| **13.00 - 14.00** | Lunch break |
| **14.00 – 15.30** | Blockchain Exercise: PyTeal - *by MSc. Petar Lukovac* |
| **15.30 - 15.45** | AOB |
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| **December 16, 2023** | [Departure of the U2SID project participants] |

Photos

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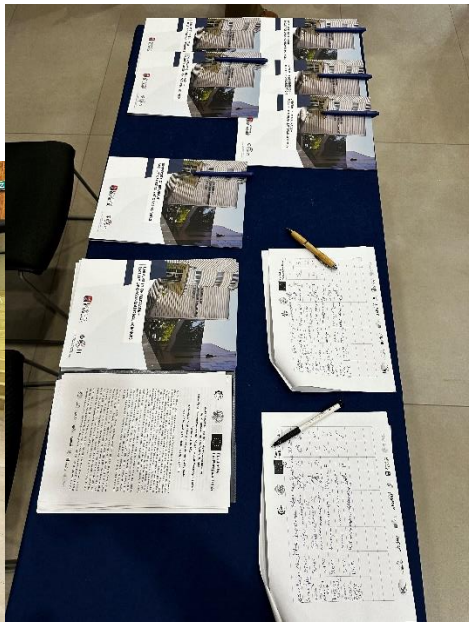

Challenges and Ethical Considerations
of Artificial Intelligence in
Higher Education

DIGITAL
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AND THREATS

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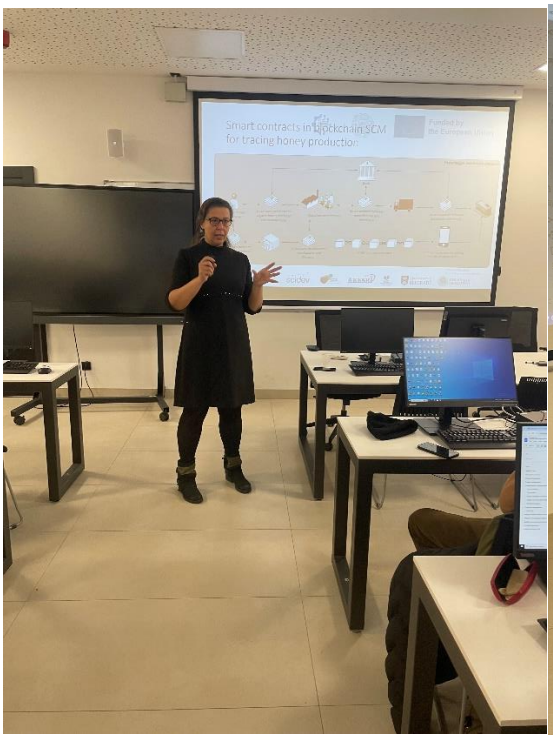
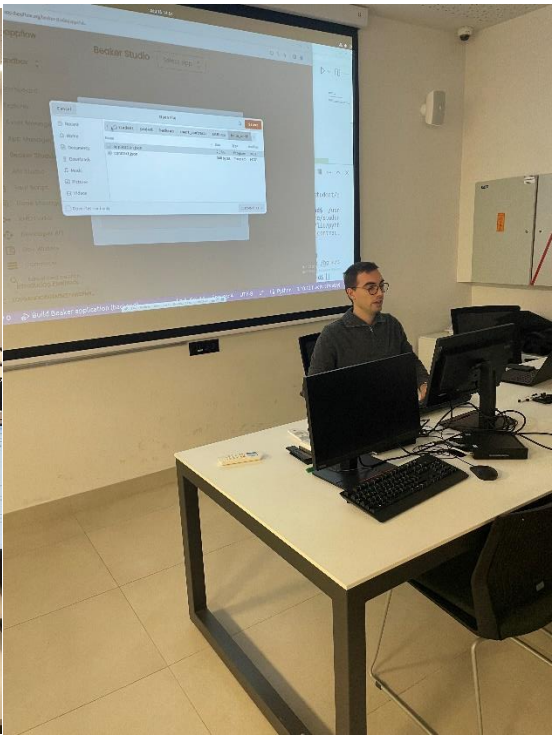
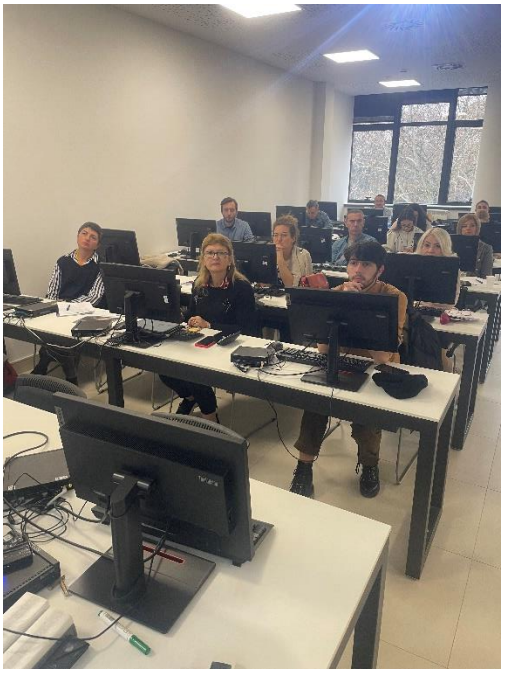
BLOCKCHAIN IN E-BUSINESS
ECOSYSTEMS

AI and Machine Learning
Predictive Maintenance
Quality Control
Process Optimization
Supply Chain Optimization
Natural Language Processing


Smart contracts in blockchain SCM
for tracing honey production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