



University of Novi Sad
Faculty of Technical Sciences

overview of
***INTERNATIONAL
PROJECTS***

2024/2025

ISBN 978- 86- 6022- 540- 7

СIP - Каталогизација у публикацији
Библиотека Матице српске, Нови Сад
378.014.242:[378.6:62(497.113 Novi Sad)]"2024/2025"

OVERVIEW OF INTERNATIONAL PROJECTS

University of Novi Sad

Faculty of Technical Sciences

ISBN 978-86-6022-136-2

Editorial Board Trg Dositeja Obradovića 6, 21000 Novi Sad, Serbia
Board Phone: (381-21) 485-2056
Address e-mail: iro.ftn@uns.ac.rs

Editorial Board International Relations Office – Olivera Stojšin Šulc, Biljana Bradić, Marijana Radišić, Jovana Pajić, Danijela Kiza, prof. dr Darko Stefanović, prof. dr Milan Vidaković

Technical Design Olivera Stojšin Šulc, prof. dr Milan Vidaković, prof. dr Ivan Pindjer

Printing approved by Publishing Council, Faculty of Technical Sciences

Printed by Graphic Center – GRID, Faculty of Technical Sciences
in 70 copies, 2024 (Novi Sad: GRID). - [103] str.; 24 cm,
December 2024.

a) Факултет техничких наука (Нови Сад) – 2024-2025 – Пројекти

COBISS.SR-ID 327385607

OVERVIEW OF INTERNATIONAL PROJECTS

University of Novi Sad
Faculty of Technical Sciences
2024/2025

CONTENTS

Foreword	5
H2020	7
HORIZON EUROPE.....	15
INTERREG Danube Transnational Programme	32
INTERREG IPA Adrion	38
INTERREG IPA Hungary-Serbia	40
ERASMUS+ Strategic Partnership.....	43
ERASMUS+ Capacity Building	45
ERASMUS+ Cooperation Partnership	51
ERASMUS+ Jean Monnet	55
CEEPUS.....	60
COST.....	97
The Baden-Wurttemberg Foundation - Danube Perspective.....	113
THE ROYAL SOCIETY, UK.....	115
EU4DIGITALSME.....	117
United Nations Development Program (UNDP).....	119
Bilateral Cooperations	123
ERASMUS+ (Key Action 1)	128

INTERNATIONAL COOPERATION PROJECTS
2024-2025



Foreword

In an age defined by rapid transformation, we find ourselves navigating a landscape where everything changes as stated by the famous Heraclitus. This truth resonates deeply within the realm of science, which serves as a guiding light in turbulent times. The Faculty of Technical Sciences embodies this ethos, acting as a catalyst for innovation and understanding that shapes our future.

As the world grapples with unprecedented challenges, it is science that carries the weight of responsibility. It shines brightly in darkness, provides comfort in difficult times, and stands firm amid uncertainty. Our commitment to comprehensive research fuels our mission: to bridge the gap between knowledge and practical application. We strive to cultivate a culture of science as a service to society, ensuring that our findings not only advance academic pursuits but also enrich our lives.

We recognize that the challenges of the past and future demand rapid adaptation and collaboration. By fostering synergies among experienced professors, doctoral students, and young researchers, we cultivate an environment ripe for discovery and success. Our achievements are not merely quantified by papers and patents but measured by the quality and impact of our work, which resonates far beyond the confines of our laboratories.

As we continue to build bridges between cultures, ideas, and innovations, we remain committed to a shared destiny, echoing Carl Sagan's insight that we are all aboard the same blue pale dot in the Universe. The Faculty of Technical Sciences stands proud as a beacon of international research, dedicated to shaping a better future for all. We leave a legacy for those who follow, inspiring the next generation to achieve even greater heights.

Prof. dr Milan Vidaković

Vice dean for Science and International Cooperation



European
Commission

Horizon 2020
European Union funding
for Research & Innovation

Horizon 2020 is the biggest EU Research and Innovation programme ever with nearly €80 billion of funding available over 7 years (2014 to 2020) – in addition to the private investment that this money will attract. It promises more breakthroughs, discoveries and world-firsts by taking great ideas from the lab to the market.

Horizon 2020 is the financial instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness.

Seen as a means to drive economic growth and create jobs, Horizon 2020 has the political backing of Europe's leaders and the Members of the European Parliament. They agreed that research is an investment in our future and so put it at the heart of the EU's blueprint for smart, sustainable and inclusive growth and jobs.

By coupling research and innovation, Horizon 2020 is helping to achieve this with its emphasis on excellent science, industrial leadership and tackling societal challenges. The goal is to ensure Europe produces world-class science, removes barriers to innovation and makes it easier for the public and private sectors to work together in delivering innovation.

Horizon 2020 is open to everyone, with a simple structure that reduces red tape and time so participants can focus on what is really important. This approach makes sure new projects get off the ground quickly – and achieve results faster.

The EU Framework Programme for Research and Innovation will be complemented by further measures to complete and further develop the European Research Area. These measures will aim at breaking down barriers to create a genuine single market for knowledge, research and innovation.



1. INnovation and excellence in massive-scale COMmunications and information processing- INCOMING

Description: Massive-scale data acquisition and information processing for large infrastructures, such as smart grids, smart transportation or smart industry, underpins the emerging fourth industrial revolution. 5G mobile networks and mobile edge computing (MEC) will provide communication and computation platform for such intelligent infrastructures to become a reality. Recognizing the need for expertise and leadership in this domain, with onward looking goal to support rapidly growing regional ICT sector, Faculty of Technical Sciences of the University of Novi Sad (Serbia) established the Centre for intelligent COMmunications, Networking and Information proCessing (ICONIC). ICONIC collects strong research team with a vision to become regional hotspot for 5G research and innovation, focusing on massive Machine-Type Communications, Large-Scale Distributed Information Processing, and Reconfigurable Hardware Design. INCOMING project (Innovation and excellence in massive-scale COMmunications and information processING) lays out ambitious research-intensive and innovation-oriented plan to make the ICONIC centre regional 5G lighthouse by twinning it with Aalborg University (Denmark), Chalmers University of Technology (Sweden) and German Aerospace Centre (Germany). INCOMING will use staff exchanges, expert trainings, summer schools and workshops to boost the research excellence of ICONIC staff members focusing on ESRs. The twinning program will gradually shift focus from research to innovation-driven implementation of the promising research outcomes.

Contact person: Prof. dr Dejan Vukobratović

Period of realization: 2020 - 2024

ID: 856967-INCOMING-H2020-WIDESPREAD-2018-03

<https://cordis.europa.eu/project/id/856967>



European
Commission

Horizon 2020
European Union funding
for Research & Innovation

2. Self-sustained customized cyberphysical system experiments for capacity building among European stakeholders and intends to build a network of Digital Innovation Hubs (DIHs) across South and Eastern Europe - SMART4ALL

Description: SMART4ALL builds capacity amongst European stakeholders via the development of self-sustained, cross-border experiments that transfer knowledge and technology between academia and industry. It targets CLEC CPS and the IoT and combines a set of unique characteristics that join together under a common vision different cultures, different policies, different geographical areas and different application domains. SMART4ALL brings a new paradigm for revealing “hidden innovation treasures” from SEE and helping them to find the path to market via new, innovative commercial products. As part of its strategy, the project will develop and maintain an active network of DIHs across SEE for supporting academics, startups, SMEs, and mid-caps entering the digitization era. The mechanisms for achieving this are the design and implementation of 88 cross-border PAEs that will be executed by the consortium members and by 3rd party consortia (academics, companies and mid-caps). The latter will be supported via well-defined regular open calls and will have a day-by-day coaching by SMART4ALL consortium for boosting the research ideas to successful products. PAEs will be actively supported by SMART4ALL DIH cluster throughout and after their execution. The targeted application areas are domains that are not adequately represented in current SAE projects and include digitized environment, digitized agriculture, digitized anything and digitized transport.

Contact person: Prof. dr Boris Antić

Period of realization: 2020 – 2024

ID: 872614-H2020-DT-2018-2020

<https://www.smart4all-project.eu/>



3. A multimodal AI-based toolbox and an interoperable health imaging repository for the empowerment of imaging analysis related to the diagnosis, prediction and follow-up of cancer - INCISIVE

Description: "The increasing amount and availability of collected data (cancer imaging) and the development of novel technological tools based on Artificial Intelligence (AI) and Machine Learning (ML), provide unprecedented opportunities for better cancer detection and classification, image optimization, radiation reduction, and clinical workflow enhancement. The INCISIVE project aims to address three major open challenges in order to explore the full potential of AI solutions in cancer imaging: (1) AI challenges unique to medical imaging, (2) Image labeling and annotation and (3) Data availability and sharing. In order to do that INCISIVE plans to develop and validate: (1) an AI-based toolbox that enhances the accuracy, specificity, sensitivity, interpretability and cost-effectiveness of existing cancer imaging methods, (2) an automated-ML based annotation mechanism to rapidly produce training data for machine learning research and (3) a pan-European repository federated repository of medical images, that will enable the secure donation and sharing of data in compliance with ethical, legal and privacy demands, increasing accessibility to datasets and enabling experimentation of AI-based solutions. The INCISIVE models and analytics will utilize various cancer imaging scans, biological data and EHRs, and will be trained with 1 PB of available data provided by 8 partners within the project. INCISIVE solution will be investigated in four validation studies for Breast, Prostate, Colorectal and Lung Cancer, taking place in 8 pilot sites, from 5 countries (Cyprus, Greece, Italy, Serbia and Spain), with participation of at least 2,600 patients and a total duration of 1.5 year. INCISIVE moves beyond the state of the art, by improving sensitivity and specificity of lower cost scanning methods, accurately predicting the tumor spread, evolution and relapse, enhancing interpretability of results and "democratizing" imaging data"

Contact person: Prof. dr Tatjana Lončar-Turukalo

Period of realization: 2020 – 2024

ID: H2020-SC1-FA-DTS-2019



4. Embedding RRI in Western Balkan Countries: Enhancement of Self-Sustaining R&I Ecosystems – WBC-RRI.NET

Description: "Although Western Balkan countries (WBCs) have improved in terms of R&I performance, research and innovation efforts should be further enhanced for bridging the remaining 'gap' with the rest European regions. RRI principles can act as enablers for the sustainable development of the local R&I systems, enhancing the effectiveness of R&I strategies contributing to the advancement of Western Balkan socio-economic progress in a transparent, open, and inclusive way through active participation of all quadruple helix actors. WBC-RRI.NET aims to foster the application of RRI principles at the territorial level in five (5) Western Balkan -4 region-level and 1 country-level-R&I ecosystems and promote a multi-level steering R&I governance framework in the WBCs. RRI principles will act as enablers to the shared learning and diffusion of R&I governance innovations at territorial level, enhancing R&I planning, including S3 Strategies in the WBCs. The project's approach evolving through an analytical, reflective and implementation thread will operationally address the 5 WB territories (partners represent all parts of the quadruple helix) and subsequently influence the wider WB region, by activating the embedding of RRI into their R&I ecosystems. This will be realised by RRI activities throughout the entire project (horizontal aspect), raising an active dialogue in the wider WB region and fostering the comprehension of all RRI pillars under a holistic framework based on a 'smart directionality' approach, offering stakeholder engagement with a focus on citizen participation. Alongside, 5 RRI 'anchor' initiatives (vertical aspect), as interventions touching in-depth specific RRI keys, territorial features and scientific domains, will allow RRI principles to be rooted in the territorial ecosystems leading to concrete impact to R&I territorial policies and societal regional needs. Finally, impact evaluation and dissemination activities focus on the project's long-term sustainability."

Contact person: Prof. dr Goran Stojanović

Period of realization: 2021 – 2024

ID: H2020-SWIFT-14-2018-2019-2020, no. 101006279

<https://wbc-rri.net/tag/project-description/>



European
Commission

Horizon 2020
European Union funding
for Research & Innovation

5. ERA Chair for emerging technologies and innovative research in Stretchable and Textile Electronics- STRENTEX

Description: Wearable technology is set to supercharge the catwalk. Our clothes are becoming smarter with the integration of stretchable electronic circuits into textiles. The STRENTEX project's ERA Chair action aims to boost the research potential of the Faculty of Technical Sciences, University of Novi Sad (FTN) in Serbia. Building on a network of existing international, regional and national partners, as well as SMEs and stakeholders, the project will contribute to the development of patches to monitor health, sensors in baby slings, theranostic wound dressings and other similar products. A wider aim of the project is to strengthen the economy of Serbia and Europe. The motivation behind this Project is to create a point of excellence of the Faculty of Technical Sciences, University of Novi Sad (FTN), Novi Sad, Vojvodina, Serbia, to continuously advance state-of-the-art research, technological innovation and contribution to broader social goals, in the field of Stretchable and Textile Electronics. The Project is set in the framework of the ERA Chair action to simultaneously reinforce the research potentials of the FTN and to create cutting-edge dynamic and sustainable research environment. These products with a high future market potential, such as human monitoring patches, sensors in baby slings, theranostic dressings, will enable a move from "technology push" to "market pull" and will facilitate involvement of the ERA Chair into "Industry 4.0" revolution. STRENTEX project envisages the following activities: (1) ERA Chair establishment – ERA Chair holder appointment and employment of his/her team members; (2) Implementation of structural changes in FTN, for sustainable excellence; (3) Raising research profile of the FTN and its staff, thanks to ERA Chair; (4) Boosting FTN's innovative capacities and capabilities; (5) Dissemination, communication and exploitation activities. Thanks to this Project, disparities in terms of research and innovation performance between Serbia and innovation leaders in EU will be significantly decreased.

Contact person: Prof. dr Goran Stojanović

Period of realization: 2020 – 2024

ID: H2020- WIDESPREAD-04-2019: ERAChairs

<https://strentexproject.com/about-project/>



6. Multimodal Extreme Scale Data Analytics for Smart Cities Environments- MARVEL

Description: The “Smart City” paradigm aims to support new forms of monitoring and managing of urban resources as well as to provide situational awareness in decision-making to fulfill the objective of servicing the citizen, while ensuring that it meets the needs of present and future generations with respect to economic, social and environmental aspects. Considering the city as a complex and dynamic system which involves different interconnected spatial, social, economic, and physical processes subject to temporal changes and continually modified by human actions, Big Data, fog, and edge computing technologies have significant potential in various scenarios considering each city individual tactical strategy. However, one critical aspect is to encapsulate the complexity of a city and support accurate, cross-scale and in-time predictions based on the ubiquitous spatio-temporal data of high-volume, high-velocity and of high-variety. To address this challenge, MARVEL delivers a disruptive Edge-to-Fog-to-Cloud (E2F2C) ubiquitous computing framework that enables multimodal perception and intelligence for audio-visual scene recognition, event detection and situational awareness in a smart city environment. MARVEL aims to collect, analyse and data mine multimodal audio-visual streaming data of a Smart City and help decision makers improve the quality of life and services to the citizens without violating ethical and privacy limits in an AI-responsible manner. This is achieved via: (i) fusing large scale distributed multimodal audio-visual data in real-time; (ii) achieving fast time-to-insights; (iii) supporting automated decision making at all levels of the E2F2C stack; and iv) delivering a personalized federated learning approach, where joint multimodal representations and models are co-designed and improved continuously through privacy aware sharing of personalized fog and edge models of all interested parties, while performance of the deployed models and local ML adaptations are constantly monitored to achieve continuous system improvement and adaptation.

Contact person: Prof. dr Dragana Bajović

Period of realization: 2021 – 2024

ID: H2020- ICT-51-2020 Big data technologies and extreme-scale analytics

<https://cordis.europa.eu/project/id/957337>



European
Commission

Horizon 2020
European Union funding
for Research & Innovation

7. Innovative bio-inspired sensors and microfluidic devices for saliva-based theranostics of oral and systemic diseases – SALSETH

Description: Oral hygiene is the cornerstone of good oral health and World Health Organization recognizes oral health as an integral part of systemic health. Among the non-invasive organic fluids, saliva is one of the most preferable and practical specimens for oral and systemic health monitoring as it is readily available and easily collected and stored. Saliva is frequently called a “mirror of the body” since it can reflect both the physiological and pathological conditions in the entire human organism. This project promotes international and intersectoral collaboration between participating institutions, bringing experts from different fields of science in a unique research and innovation set up. The SALSETH brings together expertise of the respectable institutions to reach beyond the-state-of-the-art advances in: (1) natural and bio-inspired biocompatible materials; (2) edible food-based sensors which can promptly detect important biomarkers from saliva; (3) external smart electronic device for wireless reading data from sensors; and (4) microfluidic devices for optimal administration of drugs or essential oils as a main part of the intraoral appliances for better oral and systemic health. Through carefully designed secondments, the seconded staff will work on significant technological breakthrough in salivary theranostics for personalized dental bio-medicine. This interdisciplinary project offers an excellent research oriented environment for the personal and professional growth of the involved staff members. The SALSETH will open possibilities of salivary diagnostics for personalized individual medicine applications including clinical treatment options and outcome evaluation predictions.

Contact person: Prof. dr Goran Stojanović

Period of realization: 2019 - 2024

ID: Marie Skłodowska-Curie - (RISE) - 872370

<https://salsethproject.com/>

Horizon Europe

THE NEXT EU RESEARCH & INNOVATION
PROGRAMME (2021 – 2027)



Horizon Europe is the EU's research and innovation programme for 2021-2027 with a budget of €95.5 billion.

It tackles climate change, helps to achieve the UN's Sustainable Development Goals and boosts the EU's competitiveness and growth.

The programme facilitates collaboration and strengthens the impact of research and innovation in developing, supporting and implementing EU policies while tackling global challenges. It supports creating and better dispersing of excellent knowledge and technologies.

It creates jobs, fully engages the EU's talent pool, boosts economic growth, promotes industrial competitiveness and optimises investment impact within a strengthened European Research Area.



1. Towards MXenes' biomedical applications by high-dimensional immune MAPping - MX-MAP

Description: The long-term goal of MX-MAP is to develop a functional pipeline for the immune characterization of new 2D nanomaterials of MXene family, for the qualitative and quantitative assessment of the human immune compatibility and immune activity towards biomedical applications. The immune characterization of the tested materials on the basis of intrinsic physical-chemical and immunological properties, through the combination of the most innovative technologies such as single-cell mass cytometry (CyTOF), will open breakthrough perspectives for the development of new therapeutic approaches applying nanomaterials as immunomodulators, scaffolds for tissue engineering, cancer therapy, and antibacterial agents. MX-MAP will develop key chemistry and immune-based strategies for MXene medical applications. The implication of this project extends beyond the specific nanoscience program greatly advancing the engineering process of 2D materials and their use in biomedicine. The MX-MAP project involves fourteen key players in European and non-European countries, including the United States, Canada, Saudi Arabia, and three partners from Ukraine, coming from academia and SMEs. This program will provide strong support for the development of the careers of young brilliant scientists who want to grow towards an interdisciplinary vision of science.

Contact person: Prof. dr Goran Stojanović

Period of realization: 2022-2025

ID: HORIZON-MSCA-2021-SE-01 (101086184)



2. Rural Environmental Monitoring via ultra wide – ARea networKs And distriButed federated Learning -REMARKABLE

Description: Internet of Things (IoT) technology combined with complementary support for data analytics is the corner stone of today's digital transformation. The societal and economic impact of IoT/ML systems in urban and suburban areas significantly outpaces the one in rural areas due to a limited reach of connectivity infrastructure. To reverse further widening of the urban-rural gap, we need to bring efficient and affordable IoT/ML solutions to deep rural areas, reaching out to applications and use cases ranging from wildlife management, rural tourism, livestock monitoring, water and air pollution control, and others. By identifying main gaps in connectivity and affordable data analytics and through interleaved research, development and validation in a real-world setting, REMARKABLE will address the challenge of bringing IoT and data analytics systems a step closer to seamless, energy efficient and secure deployment in rural areas. The consortium composed of six European academic partners, five companies and five associated partners representing leading academic groups from Africa, will focus on research, development, innovation and demonstration across five use cases with six demonstration sites located in rural areas across the European and African continent. The inter-disciplinary nature of the programme provides a unique opportunity for investigation of smart sensing, IoT and data science technology from non-traditional, holistic perspectives leading to new scientific achievements and innovations. Project outputs like smart IoT sensors and devices, rural IoT digital twinning platforms, ultra wide-area IoT networks, novel data analytics models and architectures will find their routes to the market via active industrial partners. The project will impact EU workforce market via new interdisciplinary skills for young contributors and form new long-lasting networks of European and African institutions in the area of sensing, IoT, big data analytics and rural entrepreneurship.

Contact person: Prof. dr Maja Turk-Sekulić

Period of realization: 2023-2026

ID: HORIZON-MSCA-2021-SE-01 (101086387)



3. Trustworthy and Resilient Decentralised Intelligence for Edge Systems- TaRDIS

Description: Developing and managing distributed systems is a complex task requiring expertise across multiple domains. This complexity considerably increases in swarm systems, which are highly dynamic and heterogeneous and require decentralised solutions that adapt to highly dynamic system conditions. The project TaRDIS focuses on supporting the correct and efficient development of applications for swarms and decentralised distributed systems, by combining a novel programming paradigm with a toolbox for supporting the development and executing of applications. TaRDIS proposes a language-independent event-driven programming paradigm that exposes, through an event-based interface, distribution abstractions and powerful decentralised machine learning primitives. The programming environment will assist in building correct systems by taking advantage of behavioural types to automatically analyse the component's interactions to ensure correctness-by-design of their applications, taking into account application invariants and the properties of the target execution environment. TaRDIS underlying distributed middleware will provide essential services, including data management and decentralised machine learning components. The middleware will hide the heterogeneity and address the dynamicity of the distributed execution environment by orchestrating and adapting the execution of different application components across devices in an autonomic and intelligent way. TaRDIS results will be integrated in a development environment, and also as standalone tools, both of which can be used for developing applications for swarm systems. The project results will be validated in the context of four different use cases provided by high impact industrial partners that range from swarms of satellites, decentralised dynamic marketplaces, decentralized machine learning solutions for personal-assistant applications, and the distributed control process of a smart factory.

Contact person: Prof. dr Silvia Gilezan

Period of realization: 2023-2025

ID: HORIZON-CL4-2022-DATA-01 (101093006)



4. Responsible Territories and Institutions Enable and Foster Open Research and Collaborative Innovation for Transitions Governance – REINFORCING

Description: “The objective of REINFORCING is to become the ORRI (Open and Responsible R&I) central point of knowledge and expertise, easily accessible, up-to-date and tailored to community needs. It will do so by reviewing and exploiting the richness of 10 years of ORRI-related initiatives, including the RRI Tools database. It will make this know-how available in the REINFORCING One-Stop Source platform, together with new community-led resources, and pathways to support navigation through them. REINFORCING is committed to capitalize on EU-funded actions and the proven expertise of its partners in both the theory and the practice of ORRI implementation. REINFORCING will act as catalyzer of quadruple-helix community members, who will co-develop services, including policy recommendations; of ORRI-related initiatives (regional and EU), to support efficient cooperation and adaptation rather than replication; and of ORRI expertise through the creation of a European map of Ambassadors and Facilitators. A key focus is on financial support of institutional and territorial changes towards Fair Transitions governance through cascading grants. REINFORCING will award 96 grants dedicated to boost institutions scaling up their ORRI experience, and to incubate newcomer territories experimenting with ORRI for the first time. Reducing disparities is also a key focus of REINFORCING. Three key gaps (Balkan territories, Open Innovation and Mission projects) have already been identified and addressed through specific actions, while the overall project contribution to their reduction will be thoroughly assessed. The engagement of the Global ORRI Network will guarantee wide international cooperation. These efforts will result in a number of medium and long-term impacts, such as over 150 sustainable, individual institutional changes and mainstreaming of excellent, open and responsible R&I across the ERA.”

Contact person: Prof. dr Petar Vrgović

Period of realization: 2023-2025

ID: HORIZON-WIDERA-2022-ERA-01-40 (101094435)



5. ECOsystem-based governance with DANube lighthouse Living Lab for sustainable Innovation processes– EcoDaLLi

Description: The 2030 & 2050 Green Deal goals push EU towards integrated solutions & clear targets. EcoDaLLi, embedded in the Mission 'Restore our Ocean, seas & waters by 2030' will help achieve freshwater targets of European Green Deal, integrating a systemic approach for restoration, protection & preservation for the entire Danube Basin, provided by coordinated actions. The main objective of EcoDaLLi is to centralise Danube governance structures in terms of innovative solutions for improved ecological restoration, protection and preservation of the Danube basin and its Delta by fostering a stronger innovation ecosystem within a well-connected Practices Living Lab System, supported by a digital Portal, completely linked to the Mission Implementation Platform. Improved governance at Danube Basin level, based on dedicated EcoDaLLi tools will foster such innovative solutions, change mindsets on water ecosystems restoration and climate change and develop value chains based on ecosystem services. This will contribute to the decarbonisation goal of Green Deal, cleaner water, improved state of the environment, land creation of jobs in sensitive areas along the basin, especially in the Danube Delta. EcoDaLLi will support innovators connect to governance structures, providing and maintaining networks, through dedicated Living Labs for knowledge co-creation, workshops, a custom made digital portal for synergies, and innovation support services, to experiment with new solutions, helping the innovation ecosystem to create circular services towards Sustainable Blue Economy in the Danube Basin and beyond.

Contact person: Prof. dr Đorđe Đatkov

Period of realization: 2023-2025

ID: HORIZON-MISS-2021-OCEAN-02 (101093908)

Horizon Europe

THE NEXT EU RESEARCH & INNOVATION
PROGRAMME (2021 – 2027)



6. EdTech Talents - EdTech

Description: The recent COVID-19 era demonstrated the need for seamless education, accessible under most challenging circumstances. It was revealed that while the technologies for facing these challenges exist, more work is needed to adapt these in modern education – a task that requires significant collaborative effort from academia and the rapidly developing Educational Technology Sector (EdTech) in order to involve best practices and validate novel products and services for the real world classroom use. For various reasons, this collaboration has been meagre so far. The goal of the EdTech Talents project is to strengthen academia/non-academia cooperation and reinforce the EdTech innovation ecosystems of Estonia, Hungary and Serbia by conducting a long-term knowledge transfer process for (a) the researchers and their support staff of these widening countries to learn from the EdTech spin-offs and consulting companies of Austria, Germany and Spain; and (b) the researchers of these advanced countries to share their relevant intellectual capital with the EdTech start-ups of these widening countries. During this process, knowledge transfer is supported via dedicated mentoring and training that aim at establishing continuous and more impactful flow of innovation, ideas, knowledge, know-how and relevant services among all involved, corresponding with the scope of ERA Policy Agenda and ERA Talents call for cross-sectoral talent circulation and academia-business collaboration, with the focus on widening countries.

Contact person: Prof. dr Uglješa Marjanović

Period of realization: 2023-2027

ID: HORIZON-WIDERA-2022-TALENTS-03 (101119689)



7. Multilingual and Cross-Cultural Interactions for Context-Aware, and Bias-Controlled Dialogue Systems for Safety-Critical Applications – ELOQUENCE

Description: ELOQUENCE is focused on the research and development of innovative technologies for collaborative voice/chat bots. Voice assistant-powered dialogue engines have previously been deployed in a number of commercial and governmental technological pipelines, with a diverse level of complexity. In our concept, such a complexity can be understood as a problem of analysing unstructured dialogues. ELOQUENCE’s key objective is to better comprehend those unstructured dialogues and translate them into explainable, safe, knowledge-grounded, trustworthy and bias-controlled language models. We envision to develop a technology capable of learning by its own, by adapting from a very data-limited corpora to efficiently support most of the EU languages; from a sustainable computational framework to efficient and green-power architectures and, in essence, that may serve as a guidance for all European citizens whilst being respectful and showing the best of our European values, specifically supporting safety-critical applications by involving humans-in-the-loop. Overall, ELOQUENCE’s project considers building on top and to improve of prior achievements in the domain of conversational agents, e.g. recently launched and public-domain Large Language Models (LLMs), such as chatGPT (e.g., more recent versions), or LaMDa most of them developed in non-EU countries.

More information about the project can be found at: <https://eloquenceai.eu/>

Contact person: Branislav Popović

Period of realization: 2024-2026

ID: HORIZON-CL4-2023-HUMAN-01 (101135916)



8. Origami Paper-based technology for the innovative and sustainable Organ-on-Chip devices- PHOENIX-OoC

Description: Sustainability is one of the most important concepts nowadays, being able to drive activities in several sectors, namely environment preservation, society, and economy. In Analytical Chemistry, the development of sustainable devices was boosted by the introduction of microfluidic paper-based analytical devices (μ PADs) whose advantages, however, are not only confined to the concept of sustainability. Indeed, paper as a functional material, confers unprecedented features to μ PADs. However, paper-based devices remain exploited as only analytical tools, but have not (yet) been adopted by the Organ-on-Chip (OoC) world. The objective of the present project proposal is to alter this scenario. PHOENIX-OoC, we will radically change the OoC field by making use of paper's versatile properties, and develop OoC devices using paper in origami configuration used (i) for cell co-cultures with the aim to better simulate different organ tissues, (ii) for (bio)sensors integration with the aim of on site/continuous monitoring of cells status/response to stimuli, and (iii) with the ultimate goal of performing accurate pharmacological studies. The main new idea is the introduction of a technology which can deliver a versatile set of electrochemical devices with new functionalities, in which, it will be possible to create ready-to-use cell culture models for drug screenings, in a custom-made manner. Because, OoC is a complex system with respect to μ PADs, partners with different and needed skills have been gathered among the most important European scientists/entities in the field required. PHOENIX-OoC consortium brings together 6 partners, 4 Universities, 1 research organization, and 1 industrial partner (1 SME), 5 from 4 EU (associated) countries (Italy, Sweden, Spain, Serbia), and 1 non-EU member: Switzerland, which are renowned experts in the world on paper-based biosensors, in vitro/vivo studies, modelling, microfluidics, biomaterials, and joint tissue engineering.

Contact person: Prof. dr Goran Stojanović

Period of realization: 2024-2025

ID: HORIZON-EIC-2023-PATHFINDEROPEN-01 (101130395)



9. Regional Inclusive Biobased Entrepreneurship Solutions-RIBES

Description: RIBES will address the need to enhance the uptake of biobased innovations through pioneering governance and business models developed on the convergence of the circular bioeconomy, social innovation and rural development, thus contributing to the shift from a linear to a circular economy in 9 European regions lagging in innovation. Project activities will focus on specific sub-national levels but will also encompass proactive dissemination and replication at the country level. Participating regions have been selected based on various socio-economic indicators and data concerning the characteristics of the agricultural and biobased sectors, demographics, innovation capacity, etc. RIBES will perform an in-depth multidisciplinary assessment of regional bioeconomy ecosystems and research possible correlations between the socio-economic trends, innovation bottlenecks and the role of the primary sector. RIBES will create a significant impact by delivering innovative and tailored governance solutions and business models capable of fostering grass-rooted circular bioeconomy value chains, with particular attention devoted to the advanced sustainability of regional inclusive biobased entrepreneurship solutions, thus contributing to strengthening rural development and innovation in participating regions. RIBES will implement 9 local Multi-actor Transformative Forums (MTFs) based on the Living Lab and Open Innovation concepts to address complex societal challenges and problems by putting stakeholder participation and deliberation processes at the centre, aiming at systemic transformative change (instead of only addressing symptoms) in the three pillars of technological, social and economic innovation to co-create tailored business and governance models.

Contact person: Prof. dr Djordje Djatkov

Period of realization: 2024-2025

ID: HORIZON-CL6-2023-GOVERNANCE-01 (101134911)



10. Restoration of wetland complexes as life supporting systems in the Danube Basin - Restore4Life

Description: Restore4Life demonstrates the multiple socio-economic benefits generated by a holistic and transdisciplinary approach for the restoration of freshwater and coastal wetlands in the Danube basin that will contribute to new blue-green infrastructure supporting regional climate change resilience and mitigation. Restore4Life engages in 4 demonstration sites and 6 monitoring sites all across the Danube basin to make evident that increased delivery of key ecosystem services, as water and pollutant retention, carbon sequestration and tourism opportunities as well as improved resilience of water-dependent habitats will produce multiple socio-economic synergies that also provide opportunities for sustainable businesses and investments. Implementation of activities basically aiming to restore lateral connectivity in riverine corridors will be supported by a Restore4Life long term wetland restoration service/ Restore4Life Wetland Reconstruction Accelerator that combines timely integrative wetland management with a novel level of societal engagement. The Accelerator will provide tested indicators, monitoring approaches and decision support to identify adapted and future-oriented restoration goals, techniques and holistic road maps. Citizens and stakeholders will be empowered to engage in the co-design of projects by establishing stakeholder communities of practice, by twinning of similar projects at different realization stage, citizen science, thematic mobile apps and the use of multiple communication channels with special focus on visual, hands-on interactive information flow that promotes emotional links to water shaped environment. The various tools generated by Restore4Life also including handbooks for business audiences and targeted restoration roadmaps will secure the efficient replication of restoration activities in associated regions. In collaboration with similar mission activities, Restore4Life thus efficiently supports integrative social and economic transitions.

Contact person: Prof. dr Milan Segedinac

Period of realization: 2023-2027

ID: (101112736)



11. Innovative Sediment Management Framework for a Sustainable Danube Black Sea System- SUNDANSE

Description: The Danube River has played a vital role in supporting both human and animal life for centuries. Since the late 19th century, human interventions have significantly altered the natural flow of the river to optimize its utility. These interventions have included actions such as straightening the riverbed, constructing hydropower plants, collecting freshwater, establishing nuclear power plants, engaging in agriculture, and facilitating navigation. The combined effects of climate change and extensive river regulation have led to a significant disruption in the natural balance of sediment in the Danube River, increasing flood risks, altering hydropower production, decreasing navigability of the river, and affecting biodiversity within the Danube Basin. SUNDANSE will:

- carry out a conceptual Driver-Pressure-State-Impact-Response with multiple levels of analysis (catchment level, water body level, etc.) to understand and address environmental issues of the uniqueness of Danube river lighthouse
- realize maps for observation of critical points for excessive sedimentation and/or excessive erosion, sediment transport and flow restoration
- perform innovative actions of measurements using cutting-edge portable on-vessel equipment prototypes for the direct analysis of microplastics and toxicity
- achieve an advance numerical prediction model of sediment transport process in the Danube River basin, to have a comprehensive overview of river dynamics
- develop an Innovative Sediment Management Framework for enhanced and sustainable sediment management within the Danube River basin
- produce an Action plan and Roadmap for associated regions to upscale demonstrated sustainable and effective solutions for sediment management
- fulfil interconnections synergies with DanubeSediment and SIMONA projects and ICDPR initiatives
- improve the trans - national and cross - sectorial cooperation, contributing to a better governance in region and to implementation of EU strategi.

Contact person: Prof. dr Miljana Prica

Period of realization: 2024-2028

ID: HORIZON-MISS-2023-OCEAN-01-(101156533)



12. Horticultural innovations in soil-friendly practices to ensure a sustainable future - Hort2thefuture

Description: Europe's horticultural production systems face 3 main sustainability problems: i) continued reliance on peat growing media, and drawbacks of current peat alternatives; ii) inefficient or inappropriate use of agricultural inputs; iii) suboptimal soil health due to unsustainable management practices. The multi-actor project Hort2thefuture will address these 3 challenges over 4 years with research, supplier, retail, and grower partners representing 11 European countries. Activities are divided between 7 Work Packages corresponding to the project's key objectives, together with project management. The objectives are to: (1) develop a methodological framework and tools for effective sustainability/Life Cycle Assessment analysis, (2) create and foster the commercial uptake of relatively low-cost, reliable, scalable growing media in horticulture, using EU-sourced raw materials, having substantially lower carbon and environmental footprints than peat, (3) develop and commercialize novel products and production systems that reduce input use in horticulture, (4) develop and commercialize novel products that improve soil structure and mitigate soil compaction in horticulture, (5) facilitate behavioral change to more sustainable practices through Living Labs and policy measures, and (6) communicate, disseminate & exploit project results effectively to 7 stakeholder audiences, raising soil literacy. The project will deliver outputs at TRL5-7 for Decision Support and LCA tools, an in planta nitrate monitoring electrode, new peat-free alternatives being commercialised, based on wood fibre, nano/micro-irrigation products developed to improve irrigation efficiency and soil health, as well as commercialised biological, chemical and mechanical solutions to reduce/prevent soil compaction, restore compacted soils and improve soil structure. These outcomes will help realize Mission: Soil health objectives, involving stakeholders along the whole agri-food chain and cooperation with FAO.

Contact person: Prof. dr Goran Stojanović

Period of realization: 2024-2028

ID: MISS-2023-SOIL-01-05-(101157434)



13. Intelligent Wearable System for Enhanced Personalized Gait Rehabilitation - GaitREHub

Description: The GaitREHub project wants to provide an innovative solution – an Interactive Smart Wearable System with Artificial Intelligence for Personalized Gait Rehabilitation, by developing an interactive tool for rehabilitation at home with real-time tele-monitoring from the clinic. This system will enable gait training for neurologically injured patients and any other patient in need of gait rehabilitation, in their own homes. The project will allow patients to practice walking, have their performance and improvement monitored in real-time by professionals, and reduce the costs associated with traditional clinical treatment. The collected gait training data will be analysed and shared through a feedback tool for the patients and their rehabilitation team, allowing for monitoring and further training prescription without the need to physically attend a clinic. The ongoing COVID-19 pandemic has revealed the fragility of many health systems in the EU and globally, and the dire need for their digital transformation, including remote connections between healthcare workers and remote patient-monitoring technologies.

Contact person: Prof. dr Goran Stojanović

Period of realization: 2023-2026

ID: HORIZON-MSCA-2021-SE-01-(101086348)



14. Advanced Cloud and High-performance Computing Education for a Valiant Europe– Achieve

Description: The Advanced Cloud and High-performance computing Education for a Valiant Europe (ACHIEVE) project aims to enhance the quality of EU higher education in IT infrastructures, particularly High-Performance Computing (HPC). It plans to implement a double-degree master's program focusing on Cloud and Networking Infrastructure, with specializations aligning with the strategic development of advanced, green, and efficient HPC systems. The program will be designed and delivered by eight higher education institutions from six different countries, in partnership with major industry associations, companies specializing in cloud computing and HPC, an innovative SME for educational program delivery, a non-profit association, and EIT Digital. ACHIEVE will also develop self-standing online modules on Cloud and Networking infrastructure and HPC, designed to provide flexible, in-depth learning opportunities. These modules will cater to diverse learning needs, enabling both students and professionals to enhance their knowledge and skills at their own pace. The program emphasizes fostering strong academia-business interactions, promoting entrepreneurial spirit, inclusiveness, and contributing to the growth of the EIT Digital ecosystem. Beyond the specialized master's program, ACHIEVE will develop standalone learning modules on Cloud and HPC topics, beneficial for on-the-job training, lateral entry employees, and raising awareness about the significance of Cloud and HPC in the digital era. The modules will lead to certifications in advanced digital skills from participating educational institutions and EIT Digital. Aligned with the Digital Compass and New European Innovation Agenda, ACHIEVE's curriculum will train over 150 participants across ten Member States, at MSc levels. It aims to bridge the gap in advanced digital skills in Europe, enhancing competitiveness in crucial digital technology domains like Cloud Computing and HPC.

Contact person: Prof. dr Dušan Gajić

Period of realization: 2024- 2028

ID: DIGITAL-2023-SKILLS-05-SPECIALISED-EDU-(101190015)

Horizon Europe

THE NEXT EU RESEARCH & INNOVATION
PROGRAMME (2021 – 2027)



15. CENTRAL INNOVATION POINT - SERBIA– CIPS

Description: This proposal addresses the actual and current needs within Serbia's ecosystem identified by the partners. The challenges faced by start-ups and MSMEs include limited support available to specific business initiatives within the ecosystem, limited access to finance, absence of networking and internationalization of operations. This proposal outlines three key objectives: - To resolve concrete technology issues in companies and other entities and enhance their development through professional support and promotion of cooperation with the R&D sector. - To increase knowledge, capacities and competencies of companies and institutions in business and technology area. - To enhance cooperation in all directions – B2B, stakeholder cooperation, international networking and cooperation – and facilitate access to finance for MSMEs. The entire outlay of the project is closely aligned with the objectives of the call for proposals, national and EU level strategies, current efforts by Serbian government. The EDIH point will focus on specific technologies: AI, high performance computing, cybersecurity and digital skills. The proposal also demonstrates alignment with other program outcomes and deliverables including: testing before investing, training and skills development, support to find investments, networking and access to innovation ecosystems. The action plan is structured into four work packages: WP1 CONCEPTS, where the partners will support concrete technology solutions, testing and joint initiatives of MSMEs; WP2 KNOWLEDGE, where training and capacity building will be implemented; WP3 NETWORKING AND FINANCING where platforms for cooperation and concrete support in networking and contacts with financiers will be provided; WP0 MANAGEMENT AND COMMUNICATION as a horizontal measure. The consortium's composition is highlighted as ensuring efficient implementation and sustainability, with all partners possessing solid track records and competencies relevant to the project.

Contact person: Prof. dr Boris Dumnić

Period of realization: 2024-2028

ID: DIGITAL-2023-EDIH-04-ASSOCIATED-(101191422)



16. Green, Organic and Printed Ultra-High Frequency Identification Tags- GRETA

Description: GRETA will lay the foundation of the first green, printed and flexible organic wireless identification tag operating at Ultra-High Frequency (UHF, 300 MHz – 1 GHz). The long-term vision is to enable remote powering and readout of tags up to meters distance range, as required in logistics and security, without the need of a battery and with drastically reduced lifecycle impact and costing with respect to any available passive radio-frequency identification (RFID) technology. To achieve such overarching goal, GRETA aims at groundbreaking progress along two specific complementary actions: - Action 1: Removing present barriers preventing sustainability of printed organic electronics, by tackling the most environmental and economically impactful aspects, yet seldom addressed, of organics synthesis and processing. - Action 2: Demonstrating unprecedented UHF operation of printed organic electronics. Measurable objectives of GRETA are: Objective 1. Green synthesis and development of sustainable and biodegradable materials (Action 1); Objective 2. Sustainable inks formulations for large-area printing tools (Action 1); Objective 3. UHF electronics based on sustainable printed organic semiconductors (Action 2); Objective 4. Enable an eco-designed, printed UHF wireless tag with sustainable lifecycle. Objective 4 is dedicated to demonstrators of the entire effort: GRETA UHF tag, demonstrating rectification of a 400 MHz wave to enable a code generator, and GRETA UHF logic, demonstrating a sustainable printed integrated 4-bit shift register. GRETA perfectly matches the scope of the Call as it serves emerging digitalization needs in logistics, healthcare and security without adding e-waste, independent from the silicon industry and from any critical raw material, and delivering safe materials for the environment. GRETA will quantify its drastically reduced environmental impact with a full LCA, along a cradle-to-grave approach, anticipating end-of-life scenarios.

Contact person: Prof. dr Goran Stojanović

Period of realization: 2024- 2028

ID: HORIZON-EIC-2023-PATHFINDERCHALLENGES-01-(101161032)

The **Danube Transnational Programme** is a financing instrument of the European Territorial Cooperation (ETC), better known as Interreg. ETC is one of the goals of the European Union cohesion policy and provides a framework for the implementation of joint actions and policy exchanges between national, regional and local actors from different Member States.

The Danube Transnational Programme (DTP) promotes economic, social and territorial cohesion in the Danube Region through policy integration in selected fields.

In order to achieve a higher degree of territorial integration of the very heterogeneous Danube region, the transnational cooperation programme acts as a policy driver and pioneer to tackle common challenges and needs in specific policy fields where transnational cooperation is expected to deliver tangible results.

Considering its geographical coverage, this highly complex programme provides a political dimension to transnational cooperation which is unique in Europe, successfully facing challenges such as ensuring good mechanisms to contract partners who receive funding from different EU instruments.

The Danube Transnational Programme finances projects for the development and practical implementation of policy frameworks, tools and services and concrete small-scale pilot investments. Strong complementarities with the broader EU Strategy for the Danube Region (EUSDR) are sought.

1. Initiating bottom-up management solutions to reduce plastic waste in the Danube Basin - Aquatic Plastic

Description: The main objective of the AQUATIC PLASTIC project is to use growing knowledge to significantly reduce riverine litter within water catchment areas like the Danube River Basin (DRB). The project will deliver several outputs, including solutions to cost-efficiently assess microplastic contamination of rivers, solution for managing and recycling large waste deposits collected at HPPs; a software to monitor potential infiltration points; a proactive stakeholder group, the RiverSaver Participatory Platform to enhance water quality in the DRB; a policy advocacy package for the upcoming update of the DRBMP to address riverine litter. By focusing on the largest accumulations of riverine plastic and the empowerment of stakeholders, the AQUATIC PLASTIC project aims to achieve significant improvements in river water quality.

More about the project can be found at:

<https://interreg-danube.eu/projects/aquatic-plastic>

Contact person: Prof. dr Dejan Ubavin

Period of realization: 2024 – 2026

ID: DRP0200235

2. An AI/IoT –based system of GEOsensor NETworks for real-time monitoring of unStable tErrain and artificial structures - GeoNetSee

Description: The GeoNetSee project will create a solution for monitoring unstable terrain and artificial structures, which will include a geosensor network and a platform for collecting, processing, and visualizing collected data in real time. In cooperation with partners, a location for research the local test area will be selected with an advisory role during the duration of the project. An innovation chain of technology and knowledge-intensive activities within the Danube region will be created, which will enable to close innovation gaps and towards the uptake of advanced technologies for a smarter and greener Danube region. The project will include a transnational cooperation to complement national and regional mainstream with innovative and coordinated policy, planning and pilot tested led delivery. The project will rely on existing infrastructure, experience, and knowledge from previously implemented and ongoing projects of similar character managed by project partners (GIMS, RISE, GeoTwin (Horizon); EXA4MIND, safEarth, RESPONsa (Interreg); eTeren, BORIS, SoFPAS, GeoSES (infrastructure EU funded projects); MontePN, TRMODELL (innovative and IPA); URMA (European Space Agency funded project)).

More about the project can be found at:

<https://interreg-danube.eu/projects/geonetsee>

Contact person: Prof. dr Zoran Sušić

Period of realization: 2024 – 2026

ID: DRP0200783

3. Danube Digital transformation Network of Active industry training and knowledge transfer centers – Danube DNA

Description: The main challenge addressed with the project is the synchronized transnational digital transformation of SMEs towards industry and logistics 4.0, across the Danube Region. The main objective of the project is to create the Danube DNA Network – Digital Transformation network of Active SMEs training and knowledge transfer centers. The Danube DNA network will be the nucleus of integrative smart specialization, skills development, cross-sectorial collaborations, SMEs transformation, and transition towards industry and logistics 4.0, through the transfer of knowledge, inter-regional capacity building, jointly developed solutions, and implementation of innovative and sustainable pilot actions. Danube DNA main outputs and results will be:

Established Danube DNA network of “one-stop shops” for SMEs digital transformation and knowledge transfer along the Danube Region.

Established Danube DNA platform.

Transnational Guidelines for the smart specialization of the Danube Region.

Knowledge transfer sessions and capacity buildings organized in 12 Danube Region countries.

6 joint technological solutions.

More about the project can be found at:

<https://interreg-danube.eu/projects/danube-dna/>

Contact person: Prof. dr Sanja Bojić

Period of realization: 2024 – 2026

ID: DRP0200391

4. Analyzing and promoting energy storage solutions, developing tools to mitigate the intermittency of RES, contributing to an accelerated transition to renewable energy and more balanced electrical grids – StoreMore

Description: Energy storage is key to unlocking renewable power's full potential. Our groundbreaking project targets the critical challenge of energy storage within the Danube Region, specifically focusing on the environmental impacts of current storage methods and the need for more sustainable alternatives. Under the framework of the EUSDR Action Plan 2.1, our project is dedicated to assisting each country in the region in meeting its national targets by 2030, contributing to the European Union's ambitious goal of achieving 30% renewable energy usage by the same year, while adhering to the National Emission Ceilings. Strategic Direction & Envisaged Achievements: Our project's strategic direction is to expedite the transition towards a renewable energy-based economy in the Danube Region by enhancing energy storage capacities to alleviate the intermittency of Renewable Energy Sources (RES) and push towards a more balanced electricity grid. This is a pressing need as increasing the share of RES in electricity production requires a more balanced supply of these energy sources. More about the project can be found at: <https://interreg-danube.eu/projects/storemore>

Contact person: Prof. dr Filip Kulić

Period of realization: 2024-2026

ID: DRP0200271

5. Foresight for Danube Region's future-oriented Competitive Planning– ForeDanube

Description: The main project objective is the development of foresight activities in research and education in the Danube region. The project partners originating from EU and EU candidate countries plan to raise awareness about foresight in the university and economic public of their environments and through their associations (e.g., the Danube Rectors Conference) and also in the wider Danube region. The low awareness about foresight in the broader society shall be tackled in this way. Especially economy in the Danube region struggles with challenges as is e.g. disruptive innovation, because after the collapse of large industrial sights (brownfields) of the lower Danube region and the difficulty of the West Danube region in maintaining competitive advantages from former times, the family businesses lost orientation in the global markets and lack the insight to follow the new trends to a larger extent than in other North and West European regions. Additionally, most people working on foresight are self-deducted and learning by doing.

More about the project can be found at:

<https://interreg-danube.eu/projects/foredanube>

Contact person: Prof. dr. Djordje Djatkov

Period of realization: 2024 – 2025

ID: DRP0401011

Interreg



Co-funded by
the European Union

IPA ADRION

Interreg IPA Adrion 2021-2027 includes ten countries both from EU and non-EU area and it provides financial support to public authorities (local, regional and national bodies), research institutions, NGOs, and private companies which are willing to pull together in transnational partnerships. The Programme launches Calls for Proposals which cover a wide range of topics according to its Thematic priorities. The Calls are expected to support transnational projects aiming to find joint solutions to common challenges through the development of digital tools, strategies, action plans and pilot tests. Winning projects are co-financed to up to 85% via the Interreg Funds. National contributions from its ten Partner States will allow for 100% coverage of the project. For the programming period 2021-2027, IPA Adrion has a total budget of 160,810 million euros, in which Interreg funds amounts to about 136,700 million euros. The programme is marked by a strong sustainable approach, where green policy plays a major role with dedicated resources for future funded projects up to 54% of the total allocated resources. The Programme builds on the lessons learnt of the previous ADRION Programme (2014-2020) and the strong heritage collected by its 87 funded projects and 11 Thematic Clusters set up in the frame of its capitalisation strategy. IPA ADRION continues to support the implementation of the macro-regional strategy EUSAIR, especially through the embedding of EUSAIR flagships and specific strategic projects.

1. Adrion Transnational Master in Renewable Energy- ADRION TRAINEE

Description: The renewable energy sector in Adriatic Region is on the rise. A mindful and up-to-date approach to renewables can also unlock marginal areas' potential and ensure equitable energy access. Still, without proper expertise, this growth puts the value and identity of landscapes at risk and, generally, the provisioning of key nature goods and services. To avoid pitfalls and reap the benefits, various strategies must work in parallel: technological development, academic research, capacity building, and policy design. The cultural and mental shift required is significant and needs to be fast and effective. To tackle these challenges, ADRION TRAINEE raises multidisciplinary competencies and skills on the topic of Renewable Energy by designing a joint “Master’s Degree in Renewable Energy” (in English). It contributes to laying down the basis for enhanced cooperation between EU and IPA countries, as the support to the EU enlargement process is central in the new programming period while encouraging the effective use of future EU funds for research and innovation in renewable energy. By reaching its goals, project ADRION TRAINEE will contribute to the renewable energy pillars of the ADRION programme and EUSAIR Macro-regional strategy, but also the ambitious European Commission targets for renewable energy, increasing them from 32% to 40% by 2030, with a probable further increase to 45%, moving us closer to energy independence of the EU.

More about the project can be found at:

<https://adriontrainee.adrioninterreg.eu/>

Contact person: Prof. dr Boris Dumnić

Period of realization: 2023

ID: DRP0200235

Interreg VI-A IPA Hungary Serbia is an initiative implemented within the 2021-2027 European Union financial framework, under the Instrument for Pre-Accession Assistance (IPA).

Established by the Commission Implementing Regulation (EU) No 2021/1529 (IPA III Implementing Regulation) and implemented by the (Interreg) Regulation (EC) No 2021/1059 of the European Parliament, this instrument for pre-accession assistance serves as a financial source both for candidate (among them the Republic of Serbia) and potential candidate countries. IPA addresses five policy areas, whereas the “regional and territorial cooperation” (including CBC) is one of them. The main aim of the Programme is to foster and encourage the harmonious cross-border development of the region, by co-financing great ideas by non-profit organizations from the Programme’s territory. Hungary and the Republic of Serbia co-operate in a joint structure through shared management and joint decision making, with common financial resources available. The Programme priorities and objectives (chosen by the participating partner countries from the list of the Policy objectives and Specific objectives available in Article 3 of the 2021/1058 Regulation and Article 14 of the (Interreg) Regulation 2021/1059), as well as the main implementation modalities has been developed mutually, and were approved by the EC’s decision C(2022) 7444 on 14 October 2022.

This Programme is co-funded by the European Union.

1. Joint adaptation and mitigation measures to climate change supporting integrated water management on the Tisa River – ADAPTisa

Description: The ADAPTisa project aims to develop an Integrated Water Management Platform for the Tisa River using innovative tools and enhancing communication and cooperation among water and disaster management stakeholders to adapt to weather extremes and mitigate hydrological risks.

By now it is widely accepted that due to global warming, precipitation and evapotranspiration patterns will change in the cross-border region of Hungary and Serbia, resulting in a more dynamic hydrological cycle. Consequently, an increase in the frequency and intensity of extreme weather events is expected, affecting various aspects of human life. Weather extremes and related flood and drought events have become a significant threat to communities, infrastructure, and ecosystems in the Tisa/Tisza River Basin. These call for joint action to tackle the current challenges water management faces. The ADAPTisa project develops continuous, data-driven cooperation between water and disaster managers in the Hungary-Serbia cross-border region, focusing on mitigating hydrological risks and improving the region's adaptation capacity and resilience. More about the project can be found at:

<https://hungary-serbia.eu/projects/adaptisa>

Contact person: Prof. dr Slobodan Kolaković

Period of realization: 2024-2026

ID: HUSRB/23R/11/006

2. Developing sustainable solutions for the restoration of local ecosystems through pioneer use of discharged thermal waters - SPArrow

Description: The SPArrow project aims to sustainably revitalize the soda lakes and pans in the cross-border Homokhátság region. By using renewable thermal water resources, we will restore these unique, vulnerable habitats and enhance biodiversity, ensuring a sustainable future for this precious ecosystem.

The project focuses on finding a sustainable way to the revitalization of vulnerable and rare soda lakes and pans in the Homokhátság region with the use of discharged and filtered thermal water. By identifying sustainable practices, the project seeks to plan the restoration ensuring long-term ecological and societal benefits. By preparing the revival and preservation of these ecosystems, the project directly contributes to the protection and promotion of biodiversity in the area. The SPArrow project aims to promote nature-based solutions to minimize harmful impacts on these sensitive ecosystems. The Birds and Habitats Directives are key pieces of legislation aimed at protecting and conserving Europe's natural habitats and species. The SPArrow project directly contributes to the implementation of these directives by working towards the conservation and restoration of soda lakes and pans. More about the project can be found at: <https://hungary-serbia.eu/projects/sparrow>

Contact person: Prof. dr Ivana Mihajlović

Period of realization: 2024 – 2025

ID: HUSRB/23S/12/020



Erasmus+

Erasmus+ Strategic Partnerships are transnational projects designed to develop and share innovative practices and promote cooperation, peer learning, and exchanges of experiences in the fields of education, training, and youth.

Overall, strategic partnerships aim to address horizontal priorities as well as field specific priorities in the areas of:

- Higher education
- Vocational education and training
- School education
- Adult education, and
- Youth.

There are two kinds of Strategic Partnership: those supporting innovation and those supporting the exchange of good practices.

Strategic Partnerships provide opportunities for a wide variety of public, private, and non-governmental organisations to implement a broad range of activities including, for example:

Strengthening cooperation and networking between organisations,

Promoting the development, testing, and implementation of innovative practices,

Promoting the recognition and validation of knowledge, skills, and competences,

Promoting cooperation between regional authorities to develop new systems for education, training, and youth,

Supporting education and training professionals to promote equity, diversity, and inclusion in learning



Erasmus+

1. Intelligent Methods for Structures, Elements and Materials (IM4StEM)

Description: The consortium of 7 partners will involve students and professors in seismic risk research, damage prediction and testing of new recycled building materials by using digital tools and ML to strengthen capacity in work, research and teaching and to educate for sustainable development. The backbone of activity is virtual and combined cooperation with the usage of IT tools and active involvement of all stakeholders from the public and private sectors in dissemination. During 36 months, data will be collected from databases and in situ via digital maps in several countries. Various scenarios, reports, guidelines and measures will be created through digital tools, machine learning and artificial intelligence. Laboratory tests of recycled const. material –bio mortar, bricks from Petrinja and demolished buildings from Turkey. Education through webinars, new and updated courses. Networking will be established with stakeholders within and cross-sector. Presentation of research results will be implemented in all partner institutions. Implementation of activities will result in developed IT tool and 52500 building characteristics will be collected. Models for prediction will be created and a Machine Learning Module implemented. Report of Predominant typologies of buildings, Priority index of building damage, Vulnerability predictions, application of biomortar, use of composites with recycled bricks will be developed. The vulnerability scenario for 3 levels of earthquake intensity will be developed and 10 webinars will be published. Within duration of project 600 students and 20 teachers will be educated. Consortium will create total of 3 new courses and 12 will be amended.

More about the project can be found at: <https://im4stem.eu/en/home/>

Contact person: Prof. dr Borko Bulajić

Period of realization: 2023-2026

ID: 2023-1-HR01-KA220-HED-000165929



Erasmus+

Erasmus+ Capacity-building projects in the field of higher education

build on the success of the former Alfa, Edu-link and Tempus programmes and aim to:

Support the modernisation, accessibility and internationalisation of higher education in the Partner Countries;

Promote cooperation between Programme Countries and eligible Partner Countries (as well as among eligible Partner Countries themselves);

Promote voluntary convergence with EU developments in higher education;

Promote people-to-people contacts, intercultural awareness and understanding.

Capacity-building projects in the field of higher education are transnational cooperation projects, based on multilateral partnerships, primarily between higher education institutions from Programme and eligible Partner Countries.

Joint Projects operate at micro level and target higher education institutions in the eligible Partner Countries specifically.

They aim to modernise and reform higher education institutions through activities such as:

Developing new curricula or improving existing ones; Improving governance and management systems; Building relationships between higher education institutions and relevant socio-economic actors.

Structural projects operate at macro level and target national higher education systems and policies in the eligible Partner Countries. They involve activities such as:

Modernisation of policies, governance and management of higher education systems; Strengthening relations between higher education systems and the wider socio-economic environment.

Projects can involve, where relevant, NGOs, SMEs and any organisations in the field of higher education.



Erasmus+

1. WEstern Balkan higher educational courses in data JOUrnalismju (WEBJOU)

Description: Data journalism and more generally, data-based communication represents a rapidly growing experience in higher educational courses and in professional training in European countries, since the media and news systems are more and more appreciating the use of data, in a systematic and scientific way, in the production of journalistic and communication content. WEBJOU project aims to promote knowledge exchange and multidisciplinary teaching and learning innovation in the Western Balkan reality, for what concerns providing all knowledge and skills, in particular from fields such as data science, statistics, visualization and communication, necessary to fruitfully operate in the data journalism and data communication frameworks. The WEBJOU Project has the following four major goals: 1. The definition of the profile of data journalism and data communication for the higher education (ISCED-6) with reference to the Western Balkan higher education system. 2. The design of 6 modular courses, which can be composed to realize different training paths (Big Data, Data Visualization, statistical analysis, Geospatial representations, Story telling, Legislation on data property in EU (GDPR)). The courses will be compliant with a competences assessment and qualification system based on the ECTS credit points. 3. The realization of 7 first course/bachelor's (ISCED-6) in Data journalism, one for each participating HE, tailored for the Western Balkan context with particular reference to the Albanian and Kosovan higher education system. 4. The development of an online platform. All the resources and teaching aids will be available to the public free of charge through open licenses. (Open Educational Resources -OER) To evaluate these objectives, WEBJOU will test the courses with 70 students with particular reference to females (50). Additionally, both academic and administrative staff will be trained both on the courses and on the learning platform.

Contact person: Prof. dr Uglješa Marjanović

Period of realization: 2023 – 2025

ID: ERASMUS+ KA2 - 101083122



Erasmus+

2. Business Analytics Skills for the Future-proof Supply Chain (BAS4SC)

Description: BAS4SC project is focused on modifying and improving the higher education curriculum of supply chain management professionals at universities, resulting in improved processes of recognition competencies regarding business analytics. The project consortium envisages five universities that offer study programs including courses in supply chain management. So, the project partners are linked by the use of studies and practical experience in the field that's very important for the functioning of the global economy and for the operational functioning of single companies. Some facts that prove the importance of the logistics industry are: the European logistics market, contributing around 10% to European GDP, employing more than 10 million people, and amounting to more than 1150 billion EUR in 2021. The European logistics market is rapidly progressing to digital, intelligent, sustainable solutions. However, the skills gap in this sector is expected to be significant in the coming years. One of the skills the European logistics sector will need is business intelligence, which is expected to boost logistics competitiveness. There are several paths to develop business intelligence knowledge, which vary in time commitment, cost, and rigour. One of the best ways for future supply chain professionals to boost their skills is by taking appropriate university courses. BAS4SC project aims to develop courses that will be accompanied by innovative learning and teaching methods and materials, enabling learners to develop their analytical skills and put them into practice. The final project goal is to ensure that supply chain management professionals possess key digital and soft management skills for the rapidly changing logistics labour market. The project will seek to not only produce a business analytics skills strategy for logistics professionals but also to increase the number of these professionals – enhancing the efficiency of the whole logistics industry. In the end, advanced analytics and business intelligence capabilities can create an overall sustainable competitive advantage.

Contact person: Prof. dr Marinko Maslarić

Period of realization: 2022-2025

ID: 2022-1-PLO1-KA220-HED-000088856



Erasmus+

3. Strengthening Engineering and Management Education for the Green and Digital Twin Transition – (EMERGE)

Description: The EMERGE project establishes a multi-country cross-regional partnership comprising of: 3 HEIs and one industry partner from Azerbaijan, 3 HEIs and 1 industry partner from Kazakhstan and, 2 HEIs and one industry partner from Mongolia. 5 HEIs from 4 EU Member States (Latvia, Lithuania, Poland, Croatia) and 1 HEI from a third country associated with the Programme (Serbia) and one VET provider from Latvia. The primary aim of the EMERGE project is to facilitate a successful dual green and digital transition in the Neighbourhood East, Central Asia, and Asia regions, with a specific focus on the contexts of Azerbaijan, Kazakhstan, and Mongolia. This is achieved through the comprehensive development and adoption of twinning competencies in green, digital, and business skills necessary for a modern workforce, contributing to sustainable economic growth and job creation. Central to the project is the creation of an innovative competency-oriented learning ecosystem designed to equip future generations with the skills required to address the challenges and opportunities presented by the green and digital transition, thereby enhancing their positive societal impact. The cornerstone of this learning ecosystem is the competency-oriented curriculum model, which will be applied to modernize and enhance existing curricula in eight higher education institutions across Azerbaijan, Kazakhstan, and Mongolia. The EMERGE project's curriculum will expertly balance engineering and management disciplines, reflecting the dual nature of the green and digital transitions. Additionally, the project will establish an eLearning ecosystem, incorporating courses aligned with the competency-oriented curriculum model. These courses will integrate innovative instructional design approaches and Massive Open Online Courses (MOOCs) to ensure accessibility and effectiveness.

Contact person: Doc. dr Danijela Ćirić Lalić

Period of realization: 2024-2027

ID: ERASMUS-EDU-2024-CBHE-STRAND-2 – 101177203



Erasmus+

4. The ESG Imperative for the Project Management World: Alliance for Developing and Empowering Changemakers – (ESG4PMChange)

Description: The ESG4PMChange project stands at the forefront of integrating Environmental, Social, and Governance (ESG) principles into project management education and training, marking a pivotal shift towards sustainable business practices across Europe and beyond. This initiative represents a collaborative effort among HEIs, VET providers, PM2 Alliance, and Business actors to address the growing demand for ESG-focused competencies in the workforce. By fostering an environment of cooperation and knowledge exchange, the project aims to catalyze innovation, enhance the sustainability agenda, and create a significant multiplier effect. At its core, the project conducts an exhaustive education gap analysis to align current offerings with the dynamic demands of the job market for ESG- focused project management roles. Building on this foundation, the initiative develops standardized professional profiles and a competency framework, ensuring that project management professionals are equipped with the essential skills for integrating ESG principles into their work. This project pioneers an innovative ESG4PMChange learning framework, incorporating practical, real-world application through Living Labs, where students and professionals can apply ESG principles in actual project settings. This hands-on approach bridges the gap between theoretical knowledge and practical application, enhancing the learning experience and ensuring the curriculum's relevance and effectiveness. In addition to educational components, the ESG4PMChange project introduces a digital resource hub, integrating MOOCs and OER to provide accessible, high-quality learning opportunities on ESG project management. Moreover, the project establishes a pioneering micro-credential framework to formally recognize and validate ESG project management competencies.

Contact person: Doc. dr Danijela Ćirić Lalić

Period of realization: 2024-2027

ID: ERASMUS-EDU-2024-PI-ALL-INNO-EDU-ENTERP – 101187376



Erasmus+

5. Fostering employability through occupational health and safety education in Sub-Saharan Africa- (FOCUS)

Description: The FOCUS project aims to enhance occupational health and safety (OHS) education and professional development in Sub-Saharan Africa by strengthening the capacity of higher education institutions through upgraded curricula, professional development programs, and summer schools. By partnering with experienced countries, FOCUS will facilitate knowledge transfer to align with modern industry, regulatory, and organizational needs. The project emphasizes digital pedagogy, media literacy, and diverse educational methods, preparing institutions to meet 21st-century challenges. This initiative will address the regional gap in accessible, high-quality OHS training, building employability skills and fostering sustainable growth in the region.

Contact person: Prof. dr Maja Petrović

Period of realization: 2024-2027

ID: ERASMUS-EDU-2024



Erasmus+

Erasmus+ Cooperation Partnerships in higher education

The primary goal of **Cooperation Partnerships** is to allow organisations to increase the quality and relevance of their activities, to develop and reinforce their networks of partners, to increase their capacity to operate jointly at transnational level, boosting internationalisation of their activities and through exchanging or developing new practices and methods as well as sharing and confronting ideas. They aim to support the development, transfer and/or implementation of innovative practices as well as the implementation of joint initiatives promoting cooperation, peer learning and exchanges of experience at European level. Results should be re-usable, transferable, up-scalable and, if possible, have a strong transdisciplinary dimension. Selected projects will be expected to share the results of their activities at local, regional, national level and transnational level.

Depending on the field of the project proposed or on the type of applicant, Cooperation Partnerships are managed either by the National Agencies or by the European Education and Culture Executive Agency (EACEA). For more information in this respect, please refer to the section “where to apply” under the **eligibility criteria**.

Cooperation Partnerships aim at:

Increasing quality in the work, activities and practices of organisations and institutions involved, opening up to new actors, not naturally included within one sector;

Building capacity of organisations to work transnationally and across sectors;

Addressing common needs and priorities in the fields of education, training, youth and sport;

Enabling transformation and change (at individual, organisational or sectoral level), leading to improvements and new approaches, in proportion to the context of each organisation.



Erasmus+

1. Supporting the evolutive expansion of technical and entrepreneurial knowledge sets for electric vehicle technologies – EvolvEV

Description: EvolvEV aims at developing the technical and entrepreneurial competencies of current and future professionals in the EV sector in the Balkan region through a digital learning platform, accredited training programs and courses, workshops for technical skills, and competitions for business plan development, thus impacting a growing industry in need of more than 10000 workers in the near term in partner countries. EvolvEV will try to find ways to be active after the project ends.

EvolvEV will develop a knowledge, training, and innovation hub to advance technical and entrepreneurial knowledge sets in one of the most important green sectors – transportation electrification. EvolvEV will provide institutionally accredited courses with microcredentials through a common training programme with different topics for EVs and entrepreneurship. Virtual and Living Lab will be offered through the hub to researchers and industries worldwide for innovative research.

Contact person: Prof. dr Ivan Todorović

Period of realization: 2023-2025

ID: 2023-1-EL01-KA220-HED-000154862



Erasmus+

2. Sustainable project management through PM2- SPM2

Description: The Sustainable Project Management through PM2 (SPM2) project is an innovative initiative aimed at integrating sustainability principles into project management practices using the European Commission's PM2 methodology. The project seeks to enhance the digital and green capabilities of higher education institutions (HEIs) and vocational education and training (VET) providers, responding to labor market needs for professionals skilled in sustainable project management. The project will develop the SPM2 Guide and SPM2 Digital Resource Hub, providing practical tools and strategies for embedding sustainability in project management. Additionally, it will create a micro-credential framework for sustainable project management, standardized according to international standards (EQF, EQAVET, ECTS, ISO 17024). SPM2 will offer flexible training programs and micro-credentials to students, professionals, and educators, equipping them with critical skills in sustainable project management. These qualifications will be highly valued in the labor market, contributing to the development of a workforce prepared to address sustainability challenges across various industries. The project will also foster collaboration between HEIs, VET providers, and industry partners, ensuring that the educational content and developed skills align with real-world demands and sustainability trends.

Contact person: Doc. dr. Danijela Ćirić Lalić

Period of realization: 2024-2026

ID: KA220-HED-59461896- 101187376



Erasmus+

3. Developing Innopreneurship, Sustainability and Culture - DISC

Description: Since 2000, universities have recognized the need to extend their impact beyond campus boundaries to achieve Sustainable Development (SD) goals within communities. Yet, only isolated efforts have been made to develop a comprehensive approach that spans learning, research, and collaboration across educational and business sectors.

Embark on a journey of competence development and validation in sustainability literacy at European Higher Education Institutes (HEI). The DISC Project is not just a project—we want to foster lasting collaboration among students and educators to create a sustainable future.

Contact person: Prof. dr. Uglješa Marjanović

Period of realization: 2022-2025

ID: KA220-HED-3E79D279- 000087131



Erasmus+

Erasmus+ Jean Monnet

Jean Monnet Activities are designed to promote excellence in teaching and research in the field of European Union studies worldwide. The activities also foster the dialogue between the academic world and policy-makers, in particular with the aim of enhancing governance of EU policies.

European Union studies comprise the study of Europe in its entirety with particular emphasis on the European integration process in both its internal and external aspects. The discipline also covers the role of the EU in a globalised world and in promoting an active European citizenship and dialogue between people and cultures.

There are 3 types of activities:

Teaching and Research: Jean Monnet Modules, Chairs and Centres of Excellence.

Support to Associations: Jean Monnet support to Associations.

Policy debate with the Academic World: Jean Monnet Networks and Jean Monnet Projects.

Key activities include courses, research, conferences, networking activities, and publications in the field of EU studies.

Opportunities are available to higher education institutions worldwide. Furthermore certain actions are open to organizations active in the European Union subject area and associations of professors and researchers specialising in European Union Studies.



Erasmus+

1. Information Technology in the Function of Harmonization of Criminal Procedure Law of Republic of Serbia with EU Law (IT4LEGALHARMONY)

Description: The aim of the project is to acquaint the wider academic community and civil society with the need to harmonize national rules of criminal procedure with EU rules, as well as with the importance of information technology in achieving this goal. One of the best illustrations of the potential of information technology to advance development of law is the harmonization of national with supranational legislation. Information technology has a great potential to automate many repetitive and simpler legal tasks. This potential is slowly but steadily being realized in the last decade with an upswing of many legal tech companies through EU and the world. The current UNS curricula do not usually provide the proper knowledge and skills in legal technology as their outcome. Thus the students in general lack awareness of possibilities of process of digital transformation in law. The project will foster the dialogue between future lawyers and IT professionals on the importance of harmonization of criminal procedure law of Republic of Serbia with relevant EU rules and acquaint students and wider academic community with legal technology and to enhance their digital skills and competence. The participants of the summer school are future representatives of the legislative and executive authorities at the local, provincial and republic level, holders of judicial functions, lawyers who will get acquainted with the European dimension of the project and who will promote the adopted European values in the future. Also, the dissemination activities shall inform the wider academic community and public in general about the importance of harmonization of national rules with EU legislation. This shall be accomplished by implementing three summer schools and disseminating information about the activities and the results of the project.

Contact person: Prof. dr Stevan Gostojić

Period of realization: 2022-2025

ID: 101047859



Erasmus+

2. Enhancing PM2 Skills and Competencies for EU Funded Projects - PM²4EUfunds

Description: The PM²4EUfunds Module is designed as an interdisciplinary set of lectures, practical classes, training and outreach activities to bring the European PM² Methodology and its benefits closer to its broader stakeholders and potential user community. The PM²4EUfunds Module is based on three main pillars: Teaching; Training; Outreach encompassing activities oriented towards three target groups: Students, CSOs & student activists; the Academic community & General Public. The general objective of the PM²4EUfunds Module is to sustainably promote excellence in the management of EU-funded projects by introducing European PM² Methodology through teaching, training and outreach activities aimed at students, CSOs & student activists and the broad academic community. Furthermore, the Module seeks to increase the awareness, knowledge, and skills for successful, cost-effective preparation of a funding proposal and develop management capabilities for implementing EU-funded projects - towards common values of the European Union.

The specific objectives are:

1. By Revising the curriculum to integrate the PM² Methodology to sustainably build students' capabilities for managing EU-funded projects while promoting the EU Grant Landscape & Funding Structure.
2. By delivering PM²4EUfunds Training Academy to increase CSOs and student activists' management skills and capacities for EU-funded projects while promoting the EU Grant Landscape & Funding Structure.
3. By organising PM²4EUfunds outreach activities to promote excellence in the management of EU - funded projects according to the standards of the PM² Methodology.

Contact person: Doc. dr Danijela Ćirić Lalić

Period of realization: 2022-2025

Website : www.pm24eufunds.uns.ac.rs



Erasmus+

3. Challenges and opportunities for implementation of regulations on environment, occupational health and safety and labor relations based on the best European practices- ENROL

Description: The project focuses on perceptions of EU policy and best practices in selected topics in the field of environmental protection, occupational safety and health and labor relations and their impacts upon workplace changes and demands, educational retraining and new competences and skills. Human and technical resources available in the field of environment and occupational safety and health including labor relations conditions and opportunities for improvement are limited, resulting in insufficient monitoring, reporting and evidence-based policy actions. Focusing on EU policy in key areas of environmental protection, occupational safety and health and labor relations the project centers on several activities – blended learning summer school which will be available for interested parties (students from HEIs, stakeholders, industries, and government) from Serbia and countries such as Bosnia and Herzegovina, Montenegro and Kosovo as the main activity. Moreover, 6 round tables are planned in order to bring academics together with industry, business, policy makers and community stakeholders.

Contact person: Prof. dr Maja Petrović

Period of realization: 2022-2025

ID: 101085701



Erasmus+

4. European Sustainable Development Goals - Embracing ESG for Business Transformation – ESDG

Description: The multidisciplinary Jean Monnet Module "European Sustainable Development Goals - Embracing ESG for Business Transformation" / (ESDG) hosted by the International Postgraduate School of Engineering and Management, Faculty of Technical Sciences, University of Novi Sad aim is to introduce and promote the EU'S ESG-related policies, initiatives, and directives through teaching, training, and outreach activities. The ESDG Module will target a wide range of audiences, including students, academics, the professional community, policymakers, and wider society. The focus will be on increasing awareness, knowledge, and skills for successful business transformation aligned with common EU values and Sustainable Development Goals. The aim is to inspire and motivate target groups to take action and become leaders in their respective fields, driving forward the EU's agenda for a more sustainable and prosperous future. SO 1. To integrate the ESDG Module into the MBA curriculum by incorporating EU'S ESG-related policies, initiatives, and directives into the existing "Business Strategies" course. This will be achieved through the development and annual delivery of a comprehensive course, establishing the ESDG module as a key component of the MBA curriculum. As a result, the UNS will be positioned as the leading HEI n Serbia, contributing to the promotion and implementation of EU'S ESG policies. SO 2. To establish the ESDG Training Academy at the University of Novi Sad as an annual training program aimed at promoting the integration of EU'S ESG-related policies, initiatives, and directives through the use of innovative training methodology and OER (Open Educational Resources). SO 3. To improve the understanding and awareness of the challenges associated with implementing EU'S ESG-related policies, initiatives, and directives among academic, professional, public and media communities through targeted and effective communication and dissemination efforts.

Contact person: Prof. dr Bojan Lalić

Period of realization: 2023-2026

ID: ERASMUS-JMO-2023-MODULE, 101127856



CEEPUS is an acronym for "Central European Exchange Program for University Studies".

CEEPUS is based on lean management. The highest ranking decision making CEEPUS body is the Joint Committee of Ministers that meets once a year and takes all strategic decisions. Coordination, evaluation, program development and advertising are the main tasks of the Central CEEPUS Office (consisting of only two persons). Each country has a National CEEPUS Office in charge of national implementation. In order to avoid setting up new administrative bodies, the National CEEPUS Offices are integrated into already existing structures, usually national agencies.

The main activity of CEEPUS are university networks operating joint programs ideally leading to Joint Degrees, esp. Joint Doctoral Programs. CEEPUS covers mobility grants for students and teachers in this framework.

The main objectives are:

Focus on joint PhD programs.

Promote cooperation in the framework of the EUSDR.



1. Image Processing, Information Engineering & Interdisciplinary Knowledge

Description: CIII-AT-0042-17 exists since 26 years and represents an interdisciplinary network consisting of medical and engineering departments and grows. AT-42 keeps growing year by adding new partners every year – this time five new partners joined. Size matters because of the complexity of the subjects dealt with, so the expertise of each new partner is a valuable input for the whole network. On the other hand we are also trying to spread best practice solutions - so again, size matters. Our main educational efforts are organizing several unique schools and workshops (for this application year) and one academy. All these schools and workshops are targeted to different topics as well as different education level – eg the “CEEPUS Summer Academy of Pediatric Medicine” to students, “CT School” or “School of Pediatric Haematology” to Radiology residents / specialists, or others like the “Summer School on Image Processing” to undergraduates or on Master respective PhD level. It is noteworthy to mention, that due to the organisation of the “CEEPUS Summer Academy of Pediatric Medicine” now a structural cooperation with the University of Brisbane / Australia and the Western University / Canada could be established with regular participation of their students. Therefore for these universities it’s synonym is “Educational Courses – Multidisciplinary”. In addition to these efforts CIII-AT-0042-17 is trying to promote, advertise and enhance individual student mobility between partners during the lecture free time. There is continued scientific cooperation of partners and all together about 170 papers (congress contributions, book chapters/books) were published. Due to the involved institutions there is a strong focus on pediatric medicine. As everywhere there more institutions more active than others but it generates gravitation to the others.

Contact Person: Prof. dr Tibor Lukić

Period of realization: 2024 – 2025

ID: CIII-AT-0042-20-2425



2. Applications and diagnostics of electric plasmas

Description: What is plasma and where can we find it? Electrical plasma consists of ionized matter and is frequently called the fourth state of matter. Every gas assumes this state when a sufficiently strong electric current is passed through it or when it is heated to more than about 10000 K or when it is exposed to intensive ionizing radiation (UV, X-rays, gamma-rays). More than 99 % of the visible matter of the universe is in the plasma state. The most common method to produce physical, technical or industrial plasma is the application of a dc or ac voltage to a more or less diluted gas and to produce a gas discharge in which electron impact ionization (frequently supported by secondary electron emission) produces sufficient charge carriers to pass an electric current through the gas. Recently, atmospheric plasma has become more important, i.e. discharges in gases at atmospheric pressure, which makes the use of expensive vacuum systems obsolete. Plasma consists of free positive and negative electric charge carriers – most commonly positive single-charged ions and electrons (as the negative charge carriers). But there are also plasmas with a large fraction of negative ions or clusters, which can be of high relevance for technical applications in reactive plasmas. It is the presence of negative and positive charge carriers which determines the behavior of plasma decisively, since for its theoretical description not only the laws of fluid mechanics, thermodynamics and statistics are required but also those of electrodynamics. For very hot plasmas such as fusion plasmas, also nuclear physics is required (fusion reactions) and, under extreme conditions, plasma particles can even become relativistic. An additional characteristic of plasmas is that the negative charge carriers (most frequently electrons) are much lighter than the positive charge carriers; in the case of hydrogen plasma the mass ratio of electron to ion is 1836. Due to the presence of electric charge carriers, plasma can be manipulated, confined and utilized by electric and magnetic fields.

Contact Person: Prof. dr Branko Škorić

Period of realization: 2024 – 2025

ID: CIII-AT-0063-20-2425



3. New teaching technologies and new applications in modernization of teaching at the Faculties of Technical Sciences in connection with the needs of small and medium enterprises in the environment

Description: “Technology can and should play an important role in curriculum planning, development, delivery, assessment, and administration. Technology must be “institutionalized in a faculty”- integrated into the culture and classroom practice of a University” (Nelson, Post, & Bickel, 2001). Professional development is essential to ensure that teachers are able to choose the most appropriate technologies and instructional strategies to meet district curriculum goals and student learning needs. The primary reason teachers do not use technology is a lack of experience with the technology itself (Wenglinsky, 1998). Technological trends inspire restructuring of higher engineering education in the direction of improving competencies of graduates. Based on the project objectives and planned activities, the expected outputs from this project are: a) Modernized Engineering studies by changing modules and courses focused on the specific and applied area of new technologies and in relevance to the labour market needs. b) (Updated existing and built new capacities concerning equipment, teaching materials, teaching methods, and teaching staff in order to achieve quality and relevance of the newly developed modules and courses. c) Improved regional and international university networks in engineering leading to the improvement of higher education performance. d) Implemented Project Oriented Methodologies in the Universities, as an innovative pattern and pedagogical methodology for improving the graduates’ skills and for obtaining sustainable industry-education cooperation. Introducing the new technologies in engineering education will have an impact on improving the level of competences and skills in WBC engineering graduates and at the same time will improve the attractiveness of the study program.

Contact Person: Doc. dr Ivan Knežević

Period of realization: 2024 – 2025

ID: CIII-BA-1402-06-2425



4. Modern Trends in Education and Research on Mechanical Systems - Bridging Reliability, Quality and Tribology

Description: Mechanical engineering is one of the oldest and most diverse branches of engineering and supports industrial development in such areas as manufacturing and production, energy generation and conversion, chemical engineering, transportation, automation, robotics, etc. Nowadays, the existence of general crisis enhances the increasing and continuous need for improved methods of determining the reliability and predicting the lifetime and quality of elements, machines and production systems. This is especially valid for the European countries, particularly in Danube region, and in Central and East European regions. Attention will be turned to the role of tribology for the large and complex scope of reliability engineering and the different tribology-related methods to improve reliability and quality, such as reliability design, component lifetime, condition monitoring, and diagnostics. One of the tasks of tribology is to study and find the advantages from a full investigation of industrial failures, and using tribological knowledge and understanding to establish the causes and the ways of healing them. It is frequently possible to improve reliability and quality substantially by not so complex procedures, once the real cause of the mechanism of the failure is revealed and understood. An illustration can be given in the following consideration. What is wear? The tribological interactions of a solid surface's exposed face with interfacing materials and environment results in loss of material from the surface. The process leading to loss of material is known as wear, one of the most menacing tribological processes. Wear can be minimized by modifying the surface properties of solids by one or more of surface engineering processes or by use of lubricants. Engineered surfaces extend the working life of both original and recycled and resurfaced equipments, thus saving large sums of money and leading to conservation of material, energy and the environment.

Contact Person: Prof. dr Milan Rackov

Period of realization: 2024 – 2025

ID: CIII-BG-0703-13-2425



5. Modelling, Simulation and Computer-aided Design in Engineering and Management

Description: Advanced modelling and simulation frameworks and corresponding Computer-aided design tools have to be developed to provide methods and environments to deal with autonomous systems which are determined by intelligent and adaptive behavior. The know-how in the network “Modelling, Simulation and Computer-aided Design in Engineering and Management” can be useful in many ways to new traffic solution/Autonomous driving. A review of different partners’ experience shows that the network can contribute in topics as: • Modelling, simulation and testing the electronic and communication aspects of automobiles and unmanned aerial vehicles (UAVs or drones); • Study, evaluation and applications of standards in Intelligent Transportation System - Network architecture, standards, routing protocols, coding and network security of VANETs; • Design of Arduino-based sensor network in smart parking systems; • Transmission line modelling for automotive applications; • Development of Software tests for electronic systems in automobiles, using the systems PROVETech and Vision, • Study on unmanned aerial vehicles (UAVs or drones) Safety regulations and Safety Management System. • Object detection and tracking from live video streams which can be exploited for realtime control of unmanned vehicles (robotics, automotive, aerospace) in natural geometric environment. Such environments are characterized with high level of uncertainty in their structure and state and few others.

Contact Person: Prof. dr Slobodan Morača

Period of realization: 2024 – 2025

ID: CIII-BG-1103-09-2425



6. Development of Computational Thinking

Description: The network is focused on the development of computational thinking. Each of the partner institutions allows support for the development of specific components of computational thinking through a wide range of study programs and technical backgrounds and thus contributes to the comprehensive development not only for students but also for teachers. Among the offered study areas are, for example, algorithmization and programming, automation and robotics, virtual and augmented reality, artificial intelligence, etc. Within the network, it is possible to exchange not only students at all levels of higher education but also teachers. A key aspect is the cooperation of individual institutions to exchange examples of good practice, experience, views on the issues addressed, etc. to achieve the most effective combinations of approaches to the development of computational thinking. The network is also fully prepared for virtual and hybrid mobility thanks to its own e-learning platform.

Contact Person: Prof. dr Slobodan Morača

Period of realization: 2024 – 2025

ID: CIII-CZ-1503-05-2425



7. ABCD Network = Architecture, Built Environment, City Planning and Design Network

Description: ABCD Network helps us to upgrade our university education on the level of the 21st century in the vision to make our teaching process and outcomes relevant to the current needs of the real world and society. Establishing CEEPUS network is a result of our long-term effort in increasing the quality of architectural education in Central Europe and the Balkans.

The ABCD network has the following objectives: 1) to enhance the socio-economic transformation and promote intercultural dialogue and contacts in the EU and future access countries; 2) to increase the quality of the educational process at all the involved universities 3) to produce top-level professionals and researchers combining theoretical, experimental and practical knowledge from the field of architecture, urban design, urban planning, sociology, heritage protection, etc. Objectives 5 4) to promote and use the most up to date trends and methods of architectural education; 5) to strengthen the collaboration on teaching process of involved universities via joint studio classes, joint degree programs, joint workshops, lectures of visiting professors, excursions, etc.; 6) to share the experience in the process of accreditation and preparation of new study program and its administrative;

All the partners aim to cooperate on long-term projects and activities such as joint degree study programs. We would like to set up a strong collaborative platform with a vision of the long-life cooperation of all partners.

The network aims to produce top-level professionals and researchers combining theoretical, experimental and practical knowledge from the field of architecture, urban design, urban planning, sociology, heritage protection, etc.

Contact Person: Prof. dr Anica Draganić

Period of realization: 2024 – 2025

ID: CIII-CZ-1602-04-2425



8. Concurrent Product and Technology Development - Teaching, Research and Implementation of Joint Programs Oriented in Production and Industrial Engineering

Description: According to CEEPUS III Work Programme 2019 – 2025 are developed and promoted university network CEEPUS HR 108 is designed to stimulate academic mobility, in particular regional student mobility i.e. joint programmes in the frame of CII HR 108 network leading up to double i.e joint degrees and joint thesis supervision and planned mobility actions will be set in that direction. We have finalized our curriculum and we are preparing and developing common teaching materials in the frame of curriculum. We unified the methodology of the modern industrial praxis, educational-technological knowledge and curricula. Successful connecting the educational-technological knowledge with the modern industrial praxis and the important topics in industry in the frame of our joint curricula. On the level of joint program strong industrial collaboration of the majority of project partners enabled high educational level. Specialization of each project participant and its implementation into new joint curriculum is promoted. Determining of the optimal structure of our curricula will enable set-up of Join Degree Diplomas, issued by partner universities in participating UE countries. Only with such kind of interdisciplinary educational knowledge and multilateral co-operation among universities the European engineers will be sufficient innovative and enough competitive to successfully implement the Lisabon declaration and the Bologna curriculum process, Education and Training 2020 strategy (ET2020) and Europe 2020 strategy. Through this network we have coordinate our network activities in line with three of five key priorities according to the Education and Training 2020 strategy (ET2020): improving the quality and relevance of teaching and learning, promoting mobility of students and staff and cross-border cooperation and strengthening the "knowledge triangle", linking education, research, and innovation.

Contact Person: Prof. dr Mladimir Milutinović

Period of realization: 2024 – 2025

ID: CIII-HR-0108-18-2425



9. Research and Education of Environmental Risks

Description: A natural disaster is a major adverse event resulting from natural processes of the Earth; examples include floods, hurricanes, tornadoes, volcanic eruptions, earthquakes, tsunamis, and other geologic processes. Due to population growth and its concentration in densely populated areas there is an increasing need for modern society to be vigilant of the impact of catastrophic natural events. Every year, the number of disasters in the world is increasing. It causes more and more damage and deaths. Floods, forest fires and droughts, which do not choose either the place or time when to occur, have been causing irreparable damage, often threaten the lives of people, cultural, material resources and the environment. There are many areas, including towns and cities that are already at risk. Therefore, it is necessary to develop earthquake, tsunami or flood damage scenario by utilizing appropriate vulnerability assessment criteria, topographical information, building and infrastructure inventories, demographical data and other relevant facts. Seismic risk represents the degree of possible loss of human life and material assets in case of earthquake occurrence of a certain intensity in a given area and is usually expressed in relative numbers (in relation to the maximum possible loss). Seismic Risk Management is a process of systematic application of policies, procedures, treatments and monitoring of seismic risk. Managing risks means looking into the future, thinking ahead about the potential events, actions and consequences that one can be faced with in the future as a result of earthquakes, and taking timely measures to minimize risks, thereby avoiding or reducing adverse effects. Risk management includes: formal, quantitative evaluation of potential damage or loss at a given time interval; observation and correction of security deficiencies. The main objective is to provide sustainability in three crucial segments: development of leadership (human resources), capacity development (funds), raising public awareness (information, training and education).

Contact Person: Prof. dr Borko Bulajić

Period of realization: 2024 – 2025

ID: CIII-HR-1302-07-2425



10. Active Methods in Teaching and Learning Mathematics, Informatics and their Applications

Description: Our network is aimed at enhancing the Teaching and Learning of Mathematics, Informatics and their Applications in our partnership by finding those active methods which can catalyse the classical teaching methods using the excellent opportunities offered by CEEPUS network mobility. We build up our network activity by means of large cooperation based on the joint activity of 76 partners from 14 CEEPUS countries. The activity of our network has been awarded the CEEPUS Ministers' Prize of Excellence twice, in 2006 Ljubljana, and 2013 Vienna. We will create a shareable database with teaching videos, recorded lectures, course materials, teaching materials etc, offer to our partners to possibility to create a virtual visiting professorship portfolio, and making possible hybrid type mobilities. A great variety of teaching programs, intensive and joint activities and excellent partner staff contribute as well to cooperation, fulfilling the high quality, and to meet the needs of the labour market. The dedication of partner coordinators, the excellent silent partners resulted in combining networking with other cooperation forms, as organizing summer universities activities and planning a great number of various joint programs. We did organize an excellent summer University intitled GeoGebra Summit. 2021. Computer Algebra and Dynamical Geometry Environment in Education of Mathematics and Informatics we decided to organize it as on-line events due to the emerging restrictions. One of strengths in our network is the fact that many partner coordinators are members of decision-making bodies/are scientific or administrative leaders of the partner universities, organizations. The large variety and geographic situation of our partners allow us to hope that we strongly contributed to the challenges of the Danube Region strategy concerning the increase of mobility inside the countries of the region, especially the students of our 68 partner universities, exploiting the international dimension of innovation and research.

Contact Person: Prof. dr Slavica Medić

Period of realization: 2024 – 2025

ID: CIII-HU-0028-18-2425



11. Development of Mechanical Engineering

Description: Small and medium industrial companies (SMC), according to the opinion of many experts, are the base of developing countries economy. It concerns especially the economy of Central Europe countries, which formerly had non market economy. Development of mentioned industrial enterprises nowadays depends on proper level of mechanical engineering (design, manufacturing engineering and production management) and, in particular, on proper logistics. All of this demand good level of education from proper specialized institutions especially universities. Exchange of ideas, knowledge, results of investigations, students, teachers etc. is the condition sine qua non of high level of research and education in particular university. Thus, existence of the possibility of mentioned exchange is very important from the point of the development of economy. Technology, one of the most important fields of knowledge of the modern world, determines manufacturing of various machines and mechanical equipment. The development of manufacturing methods is dependent on the intensity of research, the aim of which is obtaining high-quality products in mass production at as low costs as possible. Therefore, the investigations carried out by the majority of European research centers concentrate on basic conventional technologies as well as prospective unconventional manufacturing techniques. Numerically controlled machine tools and also modern computer-aided manufacturing systems are being employed in the analysis and simulation of technological processes. The development of technology enables monitoring of particular stages of the technological process, inspection of the technical conditions of technological machines and devices and control of the production cycle of machine elements. It is also possible to check the manufacturing accuracy (product dimensions, shape and surface quality), evaluate the quality of materials used for the manufacturing of particular machine elements, evaluate and test the final products, and also test the durability and reliability of machines and devices.

Contact Person: Prof. dr Milan Rackov

Period of realization: 2024 – 2025

ID: CIII-PL-0033-20-2425



12. Engineering as Communication Language in Europe

Description: In Europe, many national languages are used, however, very often engineers use their own slang, which is quite well understandable to them, regardless of their nationality. It has been noticed, that technical tutorials, brochures or other documents which are written in technical English can be understood by people, who have only basic knowledge of English. The goal of that CEEPUS Network titled "Engineering as Communication Language in Europe" is to create communication and cooperation between engineers, dealing with various engineering branches. The aim of the Network is to be able to create Interdisciplinary Engineering Teams. A strong background in engineering techniques applicable to a wide variety of complex problems is in demand in the widespread knowledge. Our engineers should understand more than one discipline and be prepared to work at the intersection of two or more engineering and science disciplines. Often a single engineer is not able to solve complicated interdisciplinary problems, but there is a great possibility that Interdisciplinary Engineering Teams would make it better and faster. The main task of that Network is involving teachers from partner Institutions in order to create team projects that would be main parts of the program. It is also expected that students will take an active part in all didactic activities proposed by Network and will benefit from our Program, as much as possible. Thanks to engineering knowledge as well as soft skills (ability to work in an international team), all the students in their further career will be able to communicate freely and work in international companies as well as continue their education, e.g. doctoral studies in any university in the world. The CEEPUS Network "Engineering as Communication Language in Europe" gives the opportunity to create successful cooperation, not only between students, 2 but also between teachers from all the universities, which are participants in the network PL-701. Additionally, the Network is open for any open-minded people, who can participate in events organized by that network with using the Freemover Mobilities.

Contact Person: Prof. dr Borislav Savković

Period of realization: 2024 – 2025

ID: CIII-PL-0701-13-2425



13. Teaching and research in advanced manufacturing

Description: Teaching and research in advanced manufacturing in times of rapid development of the above thesis is very important. Technological development and improving the quality of people's lives are closely linked with the development of manufacturing processes and manufacturing techniques. There is a continuous development of automation and robotics manufacturing processes. Conventional machine tools are replaced with modern multipurpose and multi-axis machining centers, which are equipped with smart functions to enable a safe and user-friendly service, and optimal energy-efficient operation. Robotics and automation is concentrated not only on manufacturing, but also includes the rehabilitation of people, health and daily living assistance. As part of the development of technology conducts research in the field of highspeed machining as advanced manufacturing. Very important aspect of mentioned above thesis is to link industry with the teaching of the field on advanced and at the same time environmentally friendly technologies. Planning processes, construction of virtual technological lines, robotics applications, everything must be linked with the concept of energy efficiency.

Teaching and research in advanced manufacturing encompass a diverse array of technologies and methodologies aimed at revolutionizing the production landscape. With a specific focus on metal manufacturing and machining processes, this field delves into cutting-edge techniques and innovations reshaping the industry. Metal machining, a cornerstone of advanced manufacturing, involves precision shaping and forming of metallic components using various cutting tools and machinery. From traditional methods like milling and turning to modern advancements such as CNC machining and additive manufacturing, students and researchers explore these techniques' nuances, efficiencies, and applications.

Contact Person: Ivan Matin

Period of realization: 2024 – 2025

ID: CIII-PL-0901-11-2425



14. Internet of Things and Teleinformatics – ITT network

Description: The rapid development of Information and Communication Technology (ICT) has been observed recently. Global networking infrastructure contains millions of cables, optical fibres, computers, servers, mobiles and other elements to keep the connection alive. The current networks are being used almost in every aspect of our daily life. The expansion of micro and nanodevices as well as Internet of Things (IoT) devices in home, offices and industry are another reason for increasing the role of ICT. IoT technology using Internet will integrate all object communicating with human beings as well as other devices. IoT refers to the networked interconnection of objects which are often equipped with artificial intelligence, so it is strongly related to Industry 4.0 and 5G Technology. With the current fast expansion of the Internet, the needs for development of research in ICT, Industry 4.0, 5G Technology, programming, network architecture, exploitation, testing wire and wireless computer networks, and cybersecurity have increased. There are many positions on the job market for the engineers with knowledge and skills in the field of advanced technologies. There is a necessity to include these issues in study programs at university level. Taking all this into consideration we propose to continue in the academic year 2024/2025 the implementation of the project: “Internet of Things and Teleinformatics – ITT network” The main goal of the network is to foster cooperation in education and research activities in Computer Science. The network is focused on expanding the advanced trends in education and research on Computer Science with particular emphasis on ICT, Internet of Things, Web of things and services, Future Internet Engineering, Industry 4.0 and their implementations. The project is important for the region and the staff has the relevant experience and knowledge for its implementation. The project includes 18 PPU with different specializations from 11 countries.

Contact Person: Doc. dr Ivan Knežević

Period of realization: 2024 – 2025

ID: CIII-PL-1509-05-2425



15. “Green” building as solutions to achieve sustainable environmental goals

Description: Currently the world is facing serious environmental problems related to climate changes, a population growth, urbanization and global warming. In addition, constantly growing demand for various types of raw materials causes over-exploitation of natural resources. There is clear evidence that climate change is intensified by human activities including the use of fossil fuels which continue to be strongly dependent on energy production worldwide. In recent years high emissions of carbon dioxide have caused a significant increase in global temperature to the extent that our climate is changing drastically. Actions taken by many countries, resulting from conventions and international commitments, aim at limiting global warming. These activities are based on a strategy for an implementation of distributed decentralized energy systems that connect local renewable and recoverable energy resources. Such solutions guarantee not only flexibility and security of energy supply, but are beneficial in financial and environmental terms. The main goal of the proposed CEEPUS network is to address the common challenges of sustainable construction and assess its environmental impact. The new network is also intended to build strong institutional and personal relationships between all partners participating in the network. This is to be achieved through the exchange of scientists, PhD students and students, thanks to which all participants will have the opportunity to learn how the construction sector is undergoing the green revolution in different countries, focusing mainly on the educational program implemented in this area at partner universities. The aim of the network is also to strengthen existing cooperation between some universities and expand it with new partners, not only in terms of education but also in terms of research.

Contact Person: Prof. dr Boris Agarski

Period of realization: 2024 – 2025

ID: CIII-PL-1909-01-2425



16. Teaching and Research of Environment-oriented Technologies in Manufacturing

Description: Traditional academic exchanges are justifiable from the social-cultural standpoint, permitting as it does the circulation of scientific knowledge, research techniques and pedagogical approaches. Academic exchanges allows the individual to engage in professional development and networking, representing an investment in human capital by higher education system that is likely to bring returns in the form of innovation in teaching and research. However, the benefits of this type of mobility occur principally in both universities (home and host, via the exchange of knowledge, experience and practice) and can help to make our universities more attractive as a study destination. The skills, competences and qualifications that people need, are changing over time and must be developed in line with the evolving needs of the labor market. This means that educational systems must know the current requirements of the labor market and also to continuously adapt their curriculum to them. The exchanges of experience and mobility between partner universities can strongly support these and can help to acquire the key competences needed to enable them to adapt flexibly to such changes. In the global economy, when the labor market evolves at a faster rate than education and training, international experience becomes more and more important and mobilities are bridges that can reduce the "speed" between the two. In this connection, one of the major objectives of this project is contributes to develop the education and training systems to facilitate peer learning and the exchange of good practices and to follow up developments and progress of these, through reports, after semester mobility. The main objective for prolongation of the network is to continue to offer the possibility for participants to access mobilities, through which they can obtain more information about the importance, advantages and limits of environment-oriented technologies, tools, and methods.

Contact Person: Prof. dr Boris Agarski, Prof. dr Milenko Sekulić

Period of realization: 2024 – 2025

ID: CIII-RO-0013-20-2425



17. Implementation and utilization of e-learning systems in study area of Production Engineering in Central European Region

Description: "Globalization, new technologies and demographic developments constitute an enormous challenge; one of the answers to this problem is the access to lifelong learning." (Jan Figel, former European Commissioner for Education, Training & Culture, 2004-2009) A learning system based on formalized teaching but with the help of electronic resources is known as E-learning. While teaching can be based in or out of the classrooms, the use of computers and the Internet forms the major component of E-learning. E-learning can also be termed as a network enabled transfer of skills and knowledge, and the delivery of education is made to a large number of recipients at the same or different times. (The Economic Times, 2018) Access to lifelong learning can be solve using the e-learning systems. Information and communication technologies (ICT), properly used, contribute to the quality of education and training and to Europe's move to a knowledge-based society. The universities have to know to respond on global problems and to be prepared to educate the specialists. Many of the new methods used in production engineering and in CA systems and technologies as rapid machining, virtual prototyping, CAD/CAM/CAE/CMMS are based on "e" (electronic) activities because reduce the time (time is becoming rapidly the most strategic topic of companies) and increase the quality of products without increasing the costs. E-learning comprises all forms of electronically supported learning and teaching. E-learning applications and processes include Web-based learning, computer-based learning, virtual classroom opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio.

Contact Person: Prof. dr Aco Antić

Period of realization: 2024 – 2025

ID: CIII-RO-0202-18-2425



18. Intelligent Automation for Competitive Advantage

Description: Since the network was established in the CEEPUS 05/06 network round the IntACA is continuing joint work with broadening the network with new PPUs: from Austria (Graz, Vienna), Poland (Krakow), North Macedonia (Skopje) and Slovakia (Kosice) in 2007, from Bosnia and Herzegovina (Zenica) in 2008 and from Hungary (Budapest) and Croatia (Slavonski Brod) in 2009; in 2011 we added a new partner from Bosnia and Herzegovina (Sarajevo); in 2012 we added two new partners from Romania (ClujNapoca) and Moldova (Chisinau); in 2013 we added one new partner from Austria: CAMPUS 02- University of Applied Sciences (Graz); in 2014 we added Transilvania University of Brasov, Romania (Brasov); in 2015 we added University of Istocno Sarajevo, Faculty of Production and Management from Bosnia and Hercegovina (Trebinje); in 2016 we added University of Split, Faculty of Economics, Croatia (Split) and University of Kragujevac, Faculty of Technical Sciences, Serbia (Kragujevac); in 2018 we added two new partners: Polytechnic of Rijeka, Croatia (Rijeka) and Czestochowa University of Technology, Poland (Czestochowa); in 2019 we added one new partner: University of Kragujevac, Faculty of Engineering, Serbia (Kragujevac) and for the academic year 2023/2024 we are expanding the network with two new partners that expressed the interest to join the network: the University of East Sarajevo, Faculty of Mechanical Engineering from Bosnia and Herzegovina (East Sarajevo) and the University "Goce Delcev", Faculty of Informatics, North Macedonia (Stip). During these 18 years (17 active years and one year with the umbrella status), the network was expanded with many new PPUs interested in joining the network, but also some of the PPUs left the network due to their institutional transformation or the retirement of the local coordinator. The ongoing success of this network is based on the long-term educational, scientific and personal connections, the similarities in structure and organisation, the common history, and the similar mission of the PPUs.

Contact Person: Prof. dr Bojan Lalić

Period of realization: 2024 – 2025

ID: CIII-RS-0065-19-2425



19. Technical Characteristics Researching of Modern Products in Machine Industry with the Purpose of Improvement Their Market Characteristics and Better Placement on the Market

Description: Market globalization has affected on product assortment extension on the market, which brought many benefits to the consumers. They are enabled to buy products of different quality, price, design and terms of delivery. Major manufacturers have received globalization with a great pleasure, because globalization enabled them expansion of the market and all the preferences that follow with this. Small and medium manufacturers are the most affected with globalization, because of presence of concurrents, so they can't place their products anymore in such amount like before, or even they can't do it at all. Due to globalization, they had to reduce their assortment and intensively to develop existent products, so they could become more competitive. All who didn't succeed this, had to change their production program, or simply to close their factories. Global world brings global problems in industrial production. Economic pressure urges producers to make more customized products of high quality, in smaller series, with shorter lead time and of course, without increased costs. Time is becoming one of the most important point of the company's strategy. Costs are also important. More important is competitive price and the most significant are marketability of manufactured products. Therefore, producers look for different ways (new design, modern tools, etc.) to increase a competitive advantage of their products. In most of the cases, leading concurrents bought all perspective companies (their potential concurrents), so they continued to produce, but, after this, different products. So, if small and medium manufacturers want to stay on globalized market, they intensively and incessantly must develop their products, apply new technologies and nourish aggressive marketing, because it is the only way to subsist at the market.

Contact Person: Prof. dr Milan Rackov

Period of realization: 2024 – 2025

ID: CIII-RS-0304-17-2425



20. Research, Development and Education in Precision Machining

Description: The key change drivers in the case of machining technology include: Diminishing component size, enhanced surface quality, and tighter tolerances and manufacturing accuracies, reduced costs, diminished component weight and reduced batch sizes. The trends towards higher precision are occurring in virtually all areas of manufacturing. Higher precision is needed for several reasons · To obtain the high motion required in high-accuracy machine tools, computer peripherals, etc. · To guarantee robustness (optimal functionality under varying circumstances). · Creating information on advanced materials and the possibilities of their application · To guarantee part interchange ability (avoid adjustments), and hence to allow mass production at low price. Metal machining industry is under increasing pressure as a result of competition, stricter environmental regulation, supply chain demand for improved environmental performance and falling skill levels within industry. Adopting sustainable manufacturing practices offers material machining companies a cost effective route to improve their economic, environmentally and social performance. The alternative sustainable production, have to put all three levels on the same equal level. Sustainability products principles are considering manufacturing costs, energy consumption, waste management, environmental impact, operation safety and personal health. The education system ought to be preparing knowledge based, well skilled and trained people for the future practice. It is a main task of Universities but it could be realized only with narrow cooperation among them. As known each university (technical Institution) has its own strongpoint in the research, development and education. Therefore, knowledge based and well skilled experts could be prepared well when this strongpoint will be used for students' education and teacher cooperation. The exchange mobility program Ceeplus could be enabled in mentioned effort.

Contact Person: Prof. dr Borislav Savković

Period of realization: 2024 – 2025

ID: CIII-RS-0507-14-2425



21. Research and Education in the Field of Graphic Engineering and Design- READGRID

Description: The graphic industry in the developed world takes a high profit place and its products greatly influence the other industry product marketing. It has a special importance in the economies of developing countries with a large number of small and medium enterprises. The particular place belongs to the packaging because it presents product to the customers and it is one of the most important deciding factor when buying is in a question. This project mainly aims to form proper network through which the advance of the knowledge will be enabled and significantly improved. The improvements will have a basis in constant research and knowledge along with modern programming tools and systems. Key research will include the important areas of graphic engineering and design. The basic research will include the field of design, prepress, press, postpress and packaging. Research in the field of design will include graphic product and industrial design in a correlation with prepress, press and postpress demands. Photography, typography and realization of multimedia contents will be also the objectives of the research. Important focus is going to be put on the type design of different lettering (e.g., Latin, Cyrillic) and a various number of a critical marks. Impact of different materials used for enhancement of printed images, like special and UV pigments, will be investigated. In recent years there is increasingly significant research in this field in order to achieve visually attractive products in graphic industry. Determination of achieved value of gloss and colour range will help solving the problem of revisualisation of products in the design face. Special attention will be paid to the market trends in terms of current requests concerning visual identity and production ability. Prepress activities will consist of defining the proper software for image processing, vector based pictures processing and final layout. Also, the research will be addressed to usual problems from the graphic industry with printing plates for different printing techniques and possible improvements in every day usage.

Contact Person: Prof. dr Živko Pavlović

Period of realization: 2024 – 2025

ID: CIII-RS-0704-13-2425



22. Fostering sustainable partnership between academia and industry in improving applicability of logistics thinking (FINALIST)

Description: Supply chain management is a fact of business, with logistics as a most powerful tool for achieving ultimate strategic advantage. Today's business is constantly changing and evolving in response to change in technology, social and economic environments, and climate. Changes in business models drive a "new" supply chains. That novelty could be described through several major characteristics: (1) supply chain role has moved from being tactical to being strategic; (2) supply chain complexity and dynamics are constantly growing; (3) supply chain completely focuses on value from customers' point of view. Hence, new paradigms in business evolve new logistics and supply chain management strategies. To understand and apply those new logistics thinking, appropriate way of dissemination of logistics knowledge to future and current employees should be created. Hence, the overall objective of this project is to promote the innovation and implementation of sustainable knowledge transfer between academia and industry, with the final aim to improve regional logistics competence through better applicability of logistics thinking. Long program description Dynamics of market changes dictated by globalization, liberalization and constant technological development places the effectiveness of logistics and supply chain in the centre of economic success and competitiveness of a country or region. Logistics effectiveness is based on the appropriate level of excellence regarding logistics infrastructure, applied logistics practices and technologies, logistics culture and logistics competence. Logistics competence implies understanding of new strategic role of logistics activities in contemporary strategies for supply chains management. Understanding and application of the principle of contemporary logistics management requires creation of appropriate dissemination of new logistics knowledge among future and at the moment employed logisticians (creation of logistics human capital).

Contact Person: Prof. dr Marinko Maslarić

Period of realization: 2024 – 2025

ID: CIII-RS-1011-10-2425



23. Multidisciplinary Approach to Education and Research in the Field of Digital Media Production

Description: In contemporary society, digital media technology touches almost every aspect of our lives. Digital media are an integral part of our day including both leisure and work times. Today, all analogue media have their digital version where most of them are with an interactive component, offering new experiences and functionalities. Further, development, production, advertisement, exploration of common products in our surroundings such as cars, pieces of furniture or food articles are advanced or enriched with digital content. This project primarily aims to form an academic network connecting respective high education institutions in the field of digital media production with diversified background and expertise. The main network objectives are aimed at creating a multidisciplinary approach to improve educational outcomes and research potential in this field among all network participants. The network is defined to answer the enhanced needs for education and research in contemporary creative media industries. The participating faculties characterised by the industry-standard laboratories and a wide range of state-of-the-art courses which combine practical elements and theory at a high level. The exchange and dissemination of knowledge base, learning practices and materials will facilitate and accelerate adaption of each institution to dynamic changes in a continually evolving field of digital media production where cutting-edge technology and solutions now may be overrated practice in five years. The collaboration within the network aims to develop a modular way of updating multidisciplinary courses and research application to reflect expected changes in both industry and academia. The mobility program anticipated with the project plan will enable scholarship users to access to media centres, design archives, library materials and research facilities and equipment.

Contact Person: Prof. dr Sandra Dedijer

Period of realization: 2024 – 2025

ID: CIII-RS-1311-07-2425



24. Interdisciplinary approach for enhancing knowledge in supply chain analytics (SCAN)

Description: Supply chains (SCs) are complex systems, which involve different organizations with different goals and objectives. The overall goal of all organizations involved in SC is to create a profit by satisfying the customer's demand for products or services. The business uncertainty (market conditions) is among the most important challenges facing modern SCs, and it poses considerable difficulties in terms of SC planning and control. Design of SC as well as the strategic and operational decisions depend on the expectations of what will be the market conditions in the following planning period. In today's changing markets, business uncertainty can emerge from a range of different sources: volatile and hardly predictable resources prices (oil), varying micro and macroeconomics indicators in different regions, wide customer base spread all over the world, demand volatility generated by end customers, political and climate challenges, etc. Accordingly, SCs are faced with huge obstacles in providing the value for the end customers in this changing environment. In order to deal with today's business challenges, SCs need modern analytic tools to overcome the "bridge of uncertainty" in everyday business. This project explores the various analytical tools and techniques which can be used in providing support for the decision making in a real SC. Accordingly, the project will be focused on building, enhancing and sharing the knowledge base about different kind of mathematical and simulation models for dealing with the business uncertainty in modern markets, as well as educating the future SC practitioners with analytical techniques, categorized in terms of descriptive, predictive and prescriptive analytics, which are needed in the contemporary markets.

Contact Person: Prof. dr Svetlana Nikolić

Period of realization: 2024 – 2025

ID: CIII-RS-1412-06-2425



25. Research and Development of New Technologies for Innovative Services in Sustainable Logistics 4.0

Description: Present time conditions of modern business environment indicate that the market competition will demand from the participants in supply-chain management abilities which enable instant responses to market requirements. Because of that, intense development of the production is required, especially intense development concerning organization and the automation of complex mechanized transport and warehouse equipment. In order to achieve a higher level of efficiency, the strategy needs to be oriented towards investments in new, smart technology. This CEEPUS network has interrelated objectives: to understand the current situation as regards sustainable logistics in Europe and world, to present a snapshot of the current developments in sustainable logistics, supply chains and innovative services in different countries participants, to provide insight into the trade-off between environmental impacts, cost and supply-chain performance under different transport strategies oriented towards smart technology, etc. Many companies are limited to measuring the sustainability of their own business operations and are unable to extend this evaluation to their suppliers and customers. This makes determining their true environmental costs highly challenging and reduces their ability to remove waste from the supply chains. However much progress has been made in defining supply chain sustainability and benchmarking tools are now available that enable sustainability action plans to be developed and implemented.

Contact Person: Prof. dr Milan Rackov

Period of realization: 2024 – 2025

ID: CIII-RS-1511-05-2425



26. Application of CAx technologies in smart production as a significant basis for the development of Industry 4.0 in small and medium-sized enterprises - connection between industry and higher education institutions through lifelong learning

Description: The idea of this network is to build partnerships for collaboration and engage other researchers from different countries to develop and maintain network of academic and industrial organizations for continuous education of engineers, students and teachers. Thus, one of the goals of the project is the development of joint studies programs at master's and doctoral studies, in order to become future teachers prepared for the implementation of CAx technology for its integration into Industry 4.0. Another goal would be to define plans and programs for retraining, continuous learning and training of students, engineers, etc., that is, the development of higher technical education during the implementation of CAx technologies in accordance with the requirements of Industry 4.0. These mobilities will help in work on master's and doctoral studies related to CAx technology, defining the plan and program for continuous education, and at the same time the introduction of joint activities between the University and the economy, in cooperation with the network partners. The MPI, given the availability of engineering knowledge, professional qualification of workers and infrastructure, has significant potential to attract investments. In order to further develop this sector, research and innovation policy should be focused on connecting and networking of key actors, as well as the initiation of intersectoral connections in order to create added values to the existing products and services. Also, of key importance are the improvement of programs for the development of human resource skills and systematic support process of presenting this industry to global markets.

Contact Person: Prof. dr Aleksandar Živković

Period of realization: 2024 – 2025

ID: CIII-RS-1812-02-2425



27. Metrology, quality and environmental aspects in Industry 4.0

Description: In today's industrial environment, the shift from the passive use of information from industrial equipment to data-driven intelligent systems is evident. The primary engine of this change is the latest industrial revolution or Industry 4.0, which signifies the use of data in more ways than ever before. Raw data is collected from various sources like files, databases, and sensors in production, working stations, buildings, the internet, and other appropriate sources. Collected data needs to be verified, corrected, reduced, transformed, and extracted. Preparing the data for further analysis is called preprocessing. After preprocessing, scientists and engineers can use data to gather information and knowledge to optimize and elevate current production processes by developing various predictive models. The main objective of the proposed network is to gather and exchange knowledge, experience, and technical know-how from partner institutions in the field of industrial metrology, quality assurance, and the effects of environmental aspects on the ongoing processes and well-being of all personnel involved (worker's health) and energy consumption for industrial processes. These aspects are also related to managements systems on the base of ISO standards: 10012 (Metrology), 9001 (Quality), 14001 (Environment), 45001 (OHS), 50001 (Energy efficiency), 46001 (Water efficiency), etc. The exchange of expertise will be carried out through conferences, seminars, discussions, collaboration, preparation of project proposals, and joint activity between researchers. Prominent experts and younger generations of researchers from different institutions will have the opportunity to meet each other and learn valuable skills. The product of this collaboration will be scientific papers, projects, and degree finals. This way of collaboration between partner institutions will raise awareness about the importance of metrology, quality, energy and water efficiency and impact of modern industrial processes on the environment of today. We hope that this collaboration will inspire new development in multiple areas of industrial engineering.

Contact Person: Prof. dr Miodrag Hadžistević

Period of realization: 2024 – 2025

ID: CIII-RS-1813-02-2425



28. Greening Project Management for a Sustainable World: Developing and Empowering a New Generation of Changemakers

Description: A new reality demands new Green and Sustainable-related Project Management professional profiles – with a strong social agenda. While already in high demand in the job market, this profile still lacks proper education, training and recognition in Europe. The GreenPM Network aims to produce top-level professionals and researchers combining theoretical, experimental and practical knowledge from business and management, economics, IT and different engineering disciplines, all having a common denominator - project management. The GreenPM Network will help PPU's to upgrade their educational offer and scientific capacities and to make teaching processes and outcomes relevant to a new reality and the current needs of the world and society. Through this network, PPU's aim to set up a robust collaborative platform with a vision of long-life cooperation. The GreenPM is a newly established network proposed for the first time for the 2023/2024 round. It includes 14 PPU's participating units from 9 countries (Table 1). The network includes prominent institutions involved in research and higher education in the GreenPM field in the Central European area, each from its own perspective. Many topics related to PM require an interdisciplinary approach which can only be achieved through interactions among the PPU's of the proposed network. The interdisciplinary domains are important because they operate at the borderlines between PM and other disciplines, such as economics, IT, environmental protection, mechanical engineering, and other engineering disciplines opening various topics with a multidisciplinary approach.

Contact Person: Doc. dr Danijela Ćirić Lalić

Period of realization: 2024 – 2025

ID: CIII-RS-1815-02-2425



29. Advancements in Operations and pRoDUCTION management in the Era of Industry 5.0 – ORDERI5

Description: ORDERI5 encapsulates the transformative journey focusing on the adaption to new industrial trends through the development of study programs in the field of industrial engineering that cover necessary competencies which will enable future employees to adapt to the digitalization of internal and external company value chains as well as product and service offerings and entire business models. ORDERI5 delves into the unprecedented convergence of the physical and digital realms, where smart technologies, smart automation, and data-driven insights are propelling operational efficiency to new heights. This comprehensive exploration unravels the intricacies of designing and managing production processes in an era characterized by interconnected systems, intelligent machines, and real-time decision-making. As a consequence, the fulfilment of specific customer demands is to be achieved through the utilization of mass-produced items, while strategic decisions should be optimized within adaptable business and engineering workflows. Concurrently, efforts should be directed towards enhancing resource productivity and efficiency. ORDERI5 network invites all interested stakeholders to explore the revolutionary changes in manufacturing, supply chain management, and overall business operations. From the adoption of Industrial Internet of Things and artificial intelligence to the integration of cyber-physical systems, the advancements representing Industry 5.0 reflect the paradigm shift from traditional manufacturing approaches to highly interconnected and adaptable systems. Furthermore, the network will explore how Industry 5.0 is redefining the role of human operators in the production landscape. It highlights the symbiotic relationship between humans and machines, emphasizing the importance of collaborative and flexible workflows.

Contact Person: Doc. dr Nenad Medić

Period of realization: 2024 – 2025

ID: CIII-RS-1912-01-2425



30. Chemistry and Chemical Engineering

Description: The main objectives of the Ceepus network CIII-SI-0708 would be as follows:

- to establish a research center of excellence in the fields of process efficiency, renewable resources, new products and materials, cycle economy and sustainable development,
- to promote research work among students at all three levels in order to build a research excellence from Bachelor level through Master level up to Doctoral level. Students should acquire the competencies for independent and innovative research work,
- to establish research synergies among participating institutions in order to develop holistic, integrated, efficient and sustainable process solutions for some of the most challenging problems, such as depletion of fossil fuels, depletion of important chemical elements, transition from linear to circular economy, preservation of environment, efficient production, development of new products and materials.

The main goal of Ceepus network CIII-SI-0708 would be to foster and promote excellent research work among students at all three study cycles within the fields of chemical engineering, chemistry and biochemistry. The main emphasis would be on the PhD students, however, considering that the number of doctorate students can be limited, also Master and Bachelor research work would be promoted. The research cooperation among partner institutions has been developing since the beginning of this network in year 2012/2013, and shall be even strengthened in the future. The motivation would be inventing those research areas that are beyond-state-of-the-art within the fields of chemical and process engineering, chemistry, biotechnology, environment protection, energy and material efficiency, green- and low carbon technologies for production of energy and chemicals from renewable sources.

Contact Person: Prof. dr Dunja Sokolović

Period of realization: 2024 – 2025

ID: CIII-SI-0708-12-2425



31. Architecture Landscape Interiors Culture Emotions (A.L.I.C.E.)

Description: The most important focus of the platform is on its interdisciplinarity, joining different fields of art and design - interior design, product design, industrial design, textile and fashion design, graphic design, visual communications, illustration, etc. In the academic year 2013/2014 the platform consists of ten full partners and one silent partner: Full partners Faculty of Design in Ljubljana, an independent institution of higher education University of Split, Academy of Arts University in Sarajevo, Academy of Fine Arts University of Zagreb, Faculty of Forestry, Wood technology Department Poznan University of Life Sciences, Department of Furniture Design Faculty of Natural Sciences and Engineering, Department of Textiles University of Belgrade, Faculty of Forestry, Department of Wood Processing Non-state Academy of Fine Arts, Belgrade Chisinau "Ion Creanga" State Pedagogical University from Republic of Moldova, Faculty of Fine Arts and Design University of Novi Sad, Faculty of Technical Sciences Silent partner Saint-Petersburg State University of Technology and Design, Russia The principal goals of the platform consist of: - establishing a network of stable, reliable partners with common fields of study, goals, problems and topics in question; - the exchange of knowledge – sharing good practices, presenting different teaching approaches and new professional knowledge; - offering to all participating partners the possibility to partake in an international student project related to a chosen topic; - organising biannual student project competition related to a chosen group topic; - organising biannual scientific conference to exchange ideas, share problems, present new concepts, etc.; - publishing a catalogue of the student projects presented and selected by the international jury committee; and/or a catalogue of scientific papers presented at the scientific conference; - organising a biannual exhibition along with the award giving ceremony for the best project from each participating institution; - to prepare a joint MA programme between three/four partner institutions.

Contact Person: Prof. dr Živko Pavlović

Period of realization: 2024 – 2025

ID: CIII-SI-0719-13-2425



32. Training and research in environmental chemistry and toxicology

Description: The collaboration among some partners in the region has started already fifteen years ago through Association of Chemistry and the Environment (ACE) between partners from University of Ljubljana, Faculty of Health Sciences (prof. Polonca Trebše), University of Belgrade, Faculty of Chemistry (prof. Branimir Jovančičević) and Brno University of Technology, Faculty of Chemistry (prof. Josef Caslavsky). They collaborated through the research as well as in the development of new study programmes and study materials in the field of environmental chemistry and toxicology (TEMPUS project). Our common points of interest represent pollutants, coming from different sources like industries, agriculture, human activities, affect different environmental spheres such as air, water, soil, and pose serious threat to the ecosystems and living organisms. From that reason we wanted to connect not only teachers in the region but mostly students to work on real environmental problems and get insight to them. The network represents a basis for the establishment of collaboration between faculties with the main objective: to provide expertise and infrastructure for interdisciplinary education and research of future experts in the fields of environmental chemistry and toxicology. Within the last five years: - We performed intensive exchange of students and professors within the network. - Several students performed the research work to obtain more skills and experiences (e.g. Adna Čolakovič, Nejra Kovač, Igor Akrap, Lara Čížmek) - Several students performed the research work within master of doctoral thesis (e.g. Šenan Hadžibegić, Hena Divanović, Štefan Kulaš, Marcin Podražka, Anamarija Milisav, Jerca Bajuk, Katarina Bertović).

Contact Person: Prof. dr Ivana Mihajlović

Period of realization: 2024 – 2025

ID: CIII-SI-0905-11-2425



33. From preparation to Development, implementation and utilization of Joint Programs in study area of Production Engineering

Description: Global world brings global problems in production engineering. Economic pressures urge manufacturers to make more customized products of high quality, in smaller series, with shorter lead time and of course, without increased costs. Time is becoming rapidly the most strategic topic of companies. Costs are also important, more important are competitive price and the most significant are marketability of manufactured products. Therefore producers look for tools to increasing a competitive advantage of enterprises. Naturally the universities have to know to respond on global problems and to be prepared to educate the specialist. The new methods of production engineering, CA systems and technologies, Rapid machining, Virtual prototyping are indeed strong tools for solving the global problems. Such as the production is global also education has global dimension. New forms of education such as e-learning give good possibility to extend collaboration among universities. All activities concerning the “e” (electronic) are keys for solving of global problems of producers and global problems of universities. Except global problem in education it is needful to solve legislative frame of common interest. Joint programs give a good platform for increasing of collaborated universities. Therefore the subject of new CEEPUS network is titled “From preparation to Development, implementation and utilization of Joint Programs in study area of Production Engineering – contribution to higher flexibility , ability and mobility of students in the Central and East European region“. The principal motive is elaboration and implementation Joint programs in study area of Production engineering. All presented activities / organizing of conferences and workshops, seminars for students and PhD students, support for elaboration and finishing of PhD thesis, excursion/ will be henceforward supported and will be effort to increase their level in framework of Joint programs.

Contact Person: Prof. dr Đorđe Vukelić

Period of realization: 2024 – 2025

ID: CIII-SK-0030-20-2425



34. Applied Economics and Management

Description: The CEEPUS network "Applied Economics and Management" is a prolongation of the already existing network coordinated by the Faculty of Economics and Management of the Slovak University of Agriculture in Nitra, Slovakia. Based on the very positive feedback, good practice and experience from previous academic years, we are planning to: ∞ continue the networking between universities in the field of applied economics and management and related fields as well as carry out coordinating network activities; ∞ in order to make the network activities more efficient, we are re-evaluating the cooperation within the partnership annually and based on the growing interest in participation in our network we are accepting new partners; ∞ enable undergraduate student, doctoral student and teacher exchanges (with growing demand for short term excursions) to facilitate the emphasis areas at the host institutions, with using the library and other resources; ∞ organize and manage the work of experts' groups in applied economics and management (namely in the field of economics, management, marketing and applied agri-sector economics as well as emerging market studies); ∞ implement participation in lectures, workshops, conferences and seminars devoted to areas of expertise – special focus on guest lecturers aimed at the transfer of know-how and enriching the education process; ∞ implement the International Master Double Degree study program "Business Economics" offered by two universities of the network – the Slovak University of Agriculture in Nitra and the University of Agriculture in Krakow; ∞ involve teachers from our partner universities in lecturing the managerial course MBA at the coordinating institution, the Slovak University of Agriculture in Nitra;

Contact Person: Prof. dr Slavica Mitrović Veljković

Period of realization: 2024 – 2025

ID: CIII-SK-0044-19-2425



35. ADVANCES IN MACHINING: Education and Manufacturing Challenges in Industry 4.0 Environment- part 2

Description: The Network SK 0067 had started its activities since September 2005. The stress of the ongoing project will be done on continual improvement of all planned activities as well as on development of high level technical education in accordance with the industry demand. (During academic year 2019/2020 it was as umbrella network) Every year, all partners involved to the network have confirmed their willingness to cooperate and all have invest a lot of effort in order to fulfil the objectives stated in the project with larger or smaller success. Universities included in this project have long term cooperation on various levels (education, research, personal contact). There is new partner join to the project – VŠB Technical University in Ostrava (VSB-TUO). The main areas of cooperation established during this network are as follows: 1. Team of teachers actively and regularly have lectures in participating institutions as a part of regular educational activities. 2. Organization of scientific conference (previously workshop) for PhD students and teachers; the first workshop had been organized in Cracow in April 2006; and since this time at CUT Cracow there it is a practice to be held, yearly. We hope that this good practice will continue in future. Lectures presented in the workshop are published yearly in Research Report edited by CUT Cracow. 3. Assistance with PhD thesis and joint thesis supervision. 4. Utilization of unique laboratory equipment for PhD and master thesis preparation (for example: in the field of metal cutting, surface integrity and roughness measurement and cutting process phenomena identification via monitoring, CAD/CAM/CAE implementation into machining, etc.)

Contact Person: Prof. dr Borislav Savković

Period of realization: 2024 – 2025

ID: CIII-SK-0067-20-2425



36. Renewable energy sources

Description: CEEPUS Network Renewable energy resources CII-SK-0405-01-0910 was created in 2009 with three partners – universities from Slovakia, Hungary and Bulgaria. After the first year of the duration of the Network, we have very positive feedback from participants of mobility. In 2010 we decided to prolong the Network and enlarge a number of participants about partners from Poland and the Czech Republic and especially for the summer terms, we'd had a large interest for a teacher's mobility and short time student's mobility oriented on the work on diploma thesis. That was the main reason for the decision to prolong Network for the academic year 2011/12 with the two new members – University from Skopje and University in Komarno. The University of Janos Selye has very good cooperation with Szent Istvan University in Godollo and we expect that new partner from Komarno will make mobility with Hungary more interesting for all Network. The fact that our Network is very successful support ongoing interest of new participants – the Network CIII-SK-0405-00-1718 has four new partners and in 2017 Network has 23 partners. In 2021 the Network has 34 active participants around the CEEPUS partnership. In 2022, the network – under umbrella - has 36 partners. In 2023 network has 33 partners. Following a review of the activities of individual partners, the network was reduced by two partners. Conversely, three two partners were added. In 2024, the network will therefore have 33 partners. the main aim of the CEEPUS network "Renewable energy sources" is to continue in the development of strong partnership where participated universities work together not only in the frame of undergraduate, graduate, and postgraduate students exchanges and teacher's mobility, but they are involved in wide diapason problems concerning renewable or alternative energies, sustainable development and climate changes and relevant science areas.

Contact Person: Prof. dr Borislav Savković

Period of realization: 2024 – 2025

ID: CIII-SK-0405-16-2425

COST is the longest-running European framework supporting trans-national cooperation among researchers, engineers and scholars across Europe.

It is a unique means for them to jointly develop their own ideas and new initiatives across all fields in science and technology, including social sciences and humanities, through pan-European networking of nationally funded research activities. Based on a European intergovernmental framework for cooperation in science and technology, COST has been contributing - since its creation in 1971 - to closing the gap between science, policy makers and society throughout Europe and beyond. As a precursor of advanced multidisciplinary research, COST plays a very important role in building a European Research Area (ERA).

It anticipates and complements the activities of the EU Framework Programmes, constituting a “bridge” towards the scientific communities of COST Inclusiveness Target Countries. It also increases the mobility of researchers across Europe and fosters the establishment of scientific excellence.

The former science organization which was structured into nine science and technology domains has been replaced by a new organization aiming at guaranteeing a fully open and bottom-up approach through the establishment of a single Scientific Committee. This also includes a renewed evaluation and selection procedure aiming at identifying breakthrough ideas and favoring interdisciplinary and multidisciplinary projects.

1. Pan-European Network for Sustainable Hydropower (PEN@Hydropower)

Description: Hydropower (HP) played an essential role in Europe over decades, providing a unique combination of safe, low-cost, and clean electricity production. It is still one of the largest renewable energy sources (RES), adding up to about 35% of the electricity generated from RES. Predictions show that by 2024-2025 all RES will contribute almost 34% to the worldwide electricity production, and HP will provide approx. 50%. Europe shows an almost equal share of electricity from volatile wind (36.5%) and predictable hydropower sources (34.3%) for 2019. This trend of an increasing quantity of unregulated energy (wind plus solar) involves market requirements for flexibility and dynamics such as energy storage and fast response. In that case, HP has the potential to balance a renewable energy system on a short term (seconds to minutes) and on a medium to long term (months or even years) basis by using pumped-storage technology. New requirements in terms of operation and maintenance of Hydropower plants as well as co-generation of electricity with other RES needs substantial future research. As past funding of research projects was low, this new initiative should work together for a better knowledge exchange, capacity building of young researchers to meet the needs of the future. The main objective of this Action is to establish a Pan-European network for a sustainable, digitalised Hydropower contributing to the Clean Energy Transition (CET), a united network of researchers, engineers, scholars, and other stakeholders, such as representatives from industry, policy and civil society, to facilitate close collaboration among European research groups through projects supporting sustainable Hydropower.

Contact person: Prof. dr Branka Nakomčić-Smaragdakis

Period of realization: 2022 – 2026

ID: COST Action CA21104

2. International Interdisciplinary Network on Smart Health Age-friendly Environments (NET4AGE-FRIENDLY)

Description: "To promote social inclusion, independent living and active and healthy ageing in society, the NET4AGEFRIENDLY COST Action will establish an international and interdisciplinary network of researchers and stakeholders from all sectors. Its aim is to foster awareness, and to support the creation and implementation of smart, healthy indoor and outdoor environments for present and future generations. NET4AGE-FRIENDLY further aims to overcome fragmentation and critical gaps at both conceptual and pragmatic innovation level on responsive, age-friendly and sustainable environments to address European research and policy challenges. The main approach of NET4AGE-FRIENDLY is the establishment of local or regional ecosystems in each COST country involved, to work on health and well-being in an age-friendly digital world. The ecosystems will consist of citizens, public authorities, businesses/NGOs and researchers. They will be supported by four thematic Working Groups (User-centered inclusive design in age-friendly environments and communities; Integrated health and well-being pathways; Digital solutions and large-scale sustainable implementation; Policy development, funding forecast and cost-benefit evaluations). The outcomes of the thematic Working Groups will be integrated by a dedicated Working Group to create a synergized output as a Reference Framework.

Contact person: Prof. dr Tatjana Lončar-Turukalo

Period of realization: 2020 – 2024

ID: CA COST Action CA19136

3. Distributed Knowledge Graphs – (DKG)

Description: Knowledge Graphs are a flexible way to represent information about virtual anything. People from a variety of application domains including biomedical research, public and open data, linguistics, journalism, and manufacturing publish, use, and investigate knowledge graphs. As the publication is done in a decentralized fashion across the web, the knowledge graphs form a distributed system. Due to the ever-increasing uptake of Knowledge Graphs technologies in recent years, there are new challenges for research and development including dealing with the scale and the degree of distribution of knowledge graphs, while monitoring and maintaining data quality and privacy. Tackling these research challenges will need a stronger collaboration within the research community and a joint effort to establish a more functional, decentralized Web of Data. The main aim of the action is therefore to create a research community for deployable Distributed Knowledge Graph technologies that are standards-based, and open, embrace the FAIR principles, allow for access control and privacy protection, and enable the decentralized publishing of high-quality data. To this end, the Action connects European researchers and practitioners from 1) diverse application domains and 2) the whole life cycle of Distributed Knowledge Graphs, from provisioning to finding, access, integrating, programming, deploying, enriching and analytics. The Action will develop practices for scalable, privacy-respecting, high quality and decentralized Knowledge Graph publication and consumption, reach out to the European industry, and formulate a research agenda.

Contact person: Prof. dr Stevan Gostojić

Period of realization: 2020 – 2024

ID: CA COST Action CA19134

4. European Network on Future Generation Optical Wireless Communication Technologies (NEWFOCUS)

Description: The design of future wireless communication networks that cope with the ever-growing mobile data traffic as well as support varied and sophisticated services and applications in vertical sectors with a low environmental impact is recognized as a major technical challenge that European engineers face today. The COST Action NEWFOCUS will propose truly radical solutions with the potential to impact the design of future wireless networks. Particularly, NEWFOCUS aims to establish optical wireless communications (OWC) as an efficient technology that can satisfy the demanding requirements of backhaul and access network levels in beyond 5G networks. This also includes the use of hybrid links that associate OWC with radiofrequency or wired/fiber-based technologies. Towards this vision, NEWFOCUS will carry out a comprehensive research programme under two major pillars. The first pillar is on the development of OWC-based solutions capable of delivering ubiquitous, ultra-high-speed, low-power consumption, highly secure, and low-cost wireless access in diverse application scenarios. The developed solutions will in particular support Internet-of-Things (IoT) for smart environments with applications in vertical sectors. The second pillar concerns the development of flexible and efficient backhaul/fronthaul OWC links with low latency and compatible with access traffic growth.

Contact person: Doc.dr Milica Petković

Period of realization: 2020 – 2024

ID: COST Action CA19111

5. Maximizing impact of multidisciplinary research in early diagnosis of neonatal brain injury (AL-4-NICU)

Description: Five in every 1000 babies born each year have a condition linked to brain injury. For newborn term infants, lack of oxygen is a common cause of injury; for premature infants, an immature cardiovascular system can lead to brain injury. These injuries can result in death, cerebral palsy, or neurodevelopmental delay. Early diagnosis is essential for risk stratification and targeted neuro-protective strategies. Central to an early diagnosis is continuous brain monitoring. The AI4NICU Action will create a pan-European multidisciplinary network with the clinical and technical expertise required to bring artificial intelligence (AI)-enabled decision-support tools to the neonatal intensive care unit (NICU). These AI tools build on existing cot-side technologies, such as the electroencephalogram, by including machine-learning algorithms to detect biomarkers of brain injury. Neuro-physiological data sets are limited in size and scope and not freely available; AI4NICU will develop the tools necessary to acquire, pool, share, and manage data. These data are often complex and noisy, and standards for developing and appraising machine-learning algorithms are lacking; AI4NICU will create a framework to develop, test, and compare these algorithms. A lack of coordinated effort, sometimes exacerbated by a disconnect between clinicians and scientists/engineers, impedes progress; AI4NICU will expand the research community, consolidate existing fragmented efforts, and create and enhance productive synergies. Working with all stakeholders, AI4NICU will identify roadblocks to clinical implementation and propose designs for clinically useful prototypes. This Action will address the urgent, unmet need to reduce the potentially catastrophic life-long consequences of neonatal brain injury.

Contact person: Prof. dr Tamara Škorić

Period of realization: 2021 – 2025

ID: COST Action CA20124

6. Intelligence –Enabling Radio Communications for Seamless Inclusive Interactions – (INTERACT)

Description: INTERACT vision is to go beyond the capabilities of the 5G and to make the radio network itself intelligent. This is required in order to enhance the human experience of both human-to-human and human-to-machine communications, and make it seamless, with the perception of no intermediary. Machine learning is an important tool in implementing this vision, since along with advanced network architectures and distributed content provision, it provides a means of implementing many aspects of this network intelligence. However, its use must be informed by theoretical and experimental research on radio channel models, network architectures and signal processing algorithms.

Hence, the main scientific objectives of INTERACT are:

1. To perform fundamental research in the fields of antennas and propagation, signal processing and localization, network architectures and protocols, to design intelligent-enabling radio communications.
2. To make the wireless network intelligent, meaning aware, adaptive, and parsimonious. Similarly to cities and buildings, future wireless networks should become intelligent by taking advantage of cutting-edge technologies to cope with the increasing demand for connectivity and traffic density and to bring the user experience to a new level.
3. To contribute to the creation of intelligent environments. Not only will mobile radio networks become intelligent, but they will constitute the nervous system to foster intelligence in other systems and verticals, such as ehealth, transportation, industry, buildings and cities.

Contact person: Prof. dr Dragana Bajić

Period of realization: 2021 – 2025

ID: COST Action CA20120

7. European Network on International Student Mobility: Connecting Research and Practice

Description: Over the past decades, international student mobility (ISM) in higher education has expanded rapidly. This growth has sparked a considerable interest in ISM within different disciplines, research communities, and circles of practitioners and policy makers. However, there is surprisingly little connection and exchange among researchers across these spheres. In addition, ISM scholarship remains strongly restricted to scientific circles, despite the relevance that scientific knowledge on ISM has for policy and daily practice. This Action responds to the pressing need for systematic interdisciplinary and international exchange of knowledge on theoretical frameworks, research methodologies, findings, and best practice examples, and for translating scientific findings into recommendations for ISM practice. It is organised around five working groups, four of them addressing themes in need of scientific development, and a fifth one bringing together recommendations for practice:

- (1) Global ISM flows and trends at the macro-level.
- (2) Social inequalities in access to and during ISM.
- (3) The social and cultural integration of international students in their host countries.
- (4) The impact of ISM on graduates' careers.
- (5) Connecting research and practice.

The Action brings together established researchers, early-career investigators (ECIs) and PhD students from different scientific disciplines, countries, and research communities as well as stakeholders from international offices, international student and study abroad organizations, and different policy levels.

Contact person: Prof. dr Milan Segedinac

Period of realization: 2021 – 2025

ID: COST Action CA20115

8. Implementation of Circular Economy in the Built Environment (Circular B)

Description: Facing the increasing concerns about the negative environmental impacts of buildings, governments and general society worldwide have been seeking more efficient and sustainable constructions. Hence, the Circular Economy (CE) emerged as a new paradigm of innovative practice with potential application to the construction industry besides other economic sectors. Following the European Circular Economy Action Plan (ECEAP), multiple efforts have been made to apply circular thinking to construction practices and include resource circularity into sustainability frameworks, such as Level(s). However, despite the endeavours, there is still a lack of a standard tool that fully implements the circularity potential, classifies buildings accordingly, and assesses the realisation level of the ECEAP. Thus, the CircularB Action aims to develop a common international framework of a circularity rating tool with Key Performance Indicators (KPIs) based on current best practices of CE construction, state-of-the-art and ECEAP. The tool's framework will allow local application and adaptation by different COST countries and regions. By developing a benchmark database – based on each country/region conditions, culture and traditions – the direct use of the tool is enabled, supporting both designers in developing more sustainable buildings and national/local governments in assessing and promoting their CE targets. Furthermore, construction, assembly, adaptability, deconstruction and business model guidelines will be identified for new and existing buildings to enhance CE in buildings and promote stakeholder knowledge.

Contact person: Prof. dr Mirjana Laban

Period of realization: 2022 – 2026

ID: COST Action CA21103

9. European network for the Mechanics of Matter at the Nano-scale (MecaNano)

Description: Our society urgently needs new materials with improved performance and durability in order to overcome its environmental crisis. Room for significant progress is available at the nano-scale, where all properties originate. Research at this length scale strongly intensified over the past two decades, but the knowledge remains very fragmented. As a consequence, a holistic understanding of how the nanoscale mechanical behavior gives rise to the macroscopic properties of the materials is still missing. The Action ambitions to combine the expertise and resources of European researchers to overcome the different bottlenecks limiting the exploration of mechanical size effects. Synergetic gains will be achieved through a common agreement on the physical parameters to be measured and by promoting interoperability of the produced research data throughout the European Research Area (ERA). In addition, the experimental yield will be boosted by granting access to the latest techniques in nanomechanical testing, nanomechanical simulation and nano characterization to the whole community. Even more dramatic gains will be achieved by promoting the application of machine learning to nanomechanical research and favoring the development of interdisciplinary in situ techniques. The transformative policies implemented by MecaNano will durably strengthen nanomechanical research in the ERA. They will foster the emergence of talented future scientific leaders, increase the number of female scientists engaging in nanoscience, as well as increase the visibility of research institutions in Inclusiveness Target Countries and allow their researchers to establish durable cooperations with their peers throughout the ERA.

Contact person: Prof. dr Goran Stojanović

Period of realization: 2022 – 2024

ID: COST Action CA2112

10. European Materials Acceleration Center for Energy(EU-MACE)

Description: Materials have played a decisive role in nearly all rupture technologies in the industrial history of our society. Faced with the current climate, geopolitical and humanitarian crisis, many international and regional entities (political, industrial and scientific alike) recognize the importance of a strong materials innovation ecosystem for driving the clean energy transition. In response, self-driving laboratories (SDL) (a.k.a. MAPs – materials acceleration platforms) are created at institutional, regional and international levels. SDLs integrate combinatorial synthesis, high-throughput characterization, automated analysis and machine learning for fast-track discovery and optimization of advanced materials. While these platforms are proving their effectiveness in producing advanced materials with targeted functionalities and physical properties, a large margin of improvement still exists. Streamlining materials integration into components and to safe and sustainable products is one example challenge in order to enable rupture technology. Another challenge is that of geographical concentration of MAPs that practically excludes a substantial fraction of research labs and tech-companies in Europe from contributing and benefiting from such platforms. Finally, next generation material science researchers need to develop new skills to be able to integrate such systemic and automated approach into their future R&D framework. To this end, EU-MACE will become an ecosystem for accelerated materials development at the user end, gathering researchers and stakeholders with state-of-the-art digital and material competences combined with the market/social pull.

Contact person: Prof. dr Branka Nakomčić-Smaragdakis

Period of realization: 2023 – 2027

ID: COST Action CA 22123

11. Techno-economic analysis of carbon mitigation technologies (TrANsMIT)

Description: TrANsMIT proposes a COST Action on the techno-economic analysis (TEA) of the overall, integrated CO₂ Capture, Utilisation, and Storage (CCUS) value chain. It aims to bring together academia, research institutes and industry into a cutting-edge, pan-European knowledge network. The Action advances the research frontier of CCUS TEA from partially unharmonized and disciplinary research to harmonized, holistic pan-European, coordinated research on the full CCUS system, facilitating development of the most technologically, economically and commercially feasible CCUS technologies and systems. It will be achieved by harmonizing and coordinating the methods and tools used for CCUS TEA in Europe, leveraging the knowledge created by our partners in national or international research projects. The project focuses most on holistic assessment of the CCUS chain, and on those areas where most development is needed (e.g. CO₂ capture from air, CO₂ utilization). The created science will be an essential means to steer CCUS R&D and deployment in a direction that allows reaching climate targets on-time and in a cost-effective manner, while harnessing the competitiveness of European industry. TrANsMIT will have a strong focus on knowledge sharing and career development, tackling existing disparities in knowledge distribution and career opportunities. It will foster strong collaboration between the more and the less research intensive countries in Europe, improving the access of the latter to State-of-the-Art science and new research projects. It will put into leadership roles early-career researchers and minorities, helping to fast-track their career development. TrANsMIT will lead to top-tier techno-economic analysis of CCUS systems across European countries.

Contact person: Prof. dr Dunja Sokolović

Period of realization: 2022 – 2026

ID: COST Action CA21127

12. Modular Energy for Sustainability and Resilience (MODENERLANDS)

Description: The MODENERLANDS Action aims to merge and systematise the efforts of the European Research and Development (R&D) groups working on Sustainable Energy and the related technologies, in particular wind and wave energy sources, by proposing pathways for incorporation and by promoting the relevant synergies in Research, Education and Training in order to enhance Sustainability in the built environment. MODENERLANDS revisits safe, smart, modular, cost-effective and socially valuable high performance sustainable Energy Islands for consideration in the plans, design and development of the future sustainable energy infrastructure. Looking forward to future development, MODENERLANDS will work with Modularised Construction of Offshore Floating Platforms aiming at easily extending their size and capacity according to future energy needs. The concept of Modular Energy Island will act as a platform to maximise collection and conversion of the renewable energy sources and efficiently transfer them to the network, exploring cutting-edge Green Hydrogen related technologies for efficient energy storage and transportation. MODENERLANDS will promote synergies that will offer breakthrough scientific developments leading to new concepts and R&D outcome and thereby contributing to the strengthening of the European research and innovation capacities on Sustainable Energy Applications along the European Green Deal lines.

Contact person: Prof. dr Ivan Todorović

Period of realization: 2021 – 2025

ID: COST Action CA20109

13. Managing Artificial Intelligence in Archaeology (MAIA)

Description: The advent of Artificial Intelligence (AI) applications within archaeology has brought incredible opportunities but also significant challenges. Only a few years ago, Machine Learning algorithms and Neural Networks were concepts unknown to archaeologists; now, AI has been applied to many archaeological fields, from the detection of archaeological sites, the recognition and reassembling of archaeological pottery, the mining of text from historical documents and epigraphs, the study of human remains, the identification of murals and graffiti, and even robotics. AI has great potential to create a better comprehension of shared archaeological heritage. However, a more profound understanding of which archaeological research questions could be addressed, the availability and creation of the data upon which this research relies, the ethical, epistemological and hermeneutical side of the challenges that AI poses, and the lack of sustainable access to the necessary resources to undertake this work now deserve more in-depth discussion and exploration. The MAIA COST Action will create a community of archaeologists, digital archaeologists and computer scientists who will work together to develop a shared understanding of AI applications in archaeology. This will include meetings and workshops bringing together researchers who wish to create or use digital collections and training data. Key to this will be training opportunities in the field for documenting archaeological resources optimised for AI research and Short Term Scientific Missions, where researchers can work across borders to understand how to create comparative and training data.

Contact person: Prof. dr Dragan Ivanović

Period of realization: 2024 – 2028

ID: COST Action CA23141

14. Architectural and Urban Ambiances of European Cities (CitySenZ)

Description: In the manufacturing process of living spaces, a predominant top-down approach, from project inception to delivery to users, has often led to post-construction issues that are costly to resolve. These issues may include areas overexposed to noise, a lack of cool shaded spaces, and various other challenges that affect the quality of life. This highlights the significance of exploring the lived spaces through ambiances in the missing “bottom-up” flow. Moreover, ambiances studies, which has evolved since the 1980s, offers a more comprehensive understanding compared to earlier post-project evaluations, including post-occupancy assessments that originated in the 1960s. It encompasses various trends, such as the phenomenological approach, artistic works that utilize ambiances as a creative medium, environmental psychology, ambiance engineering, and architectural achievements by figures like Peter Zumthor. These trends significantly contribute to our understanding of architectural and urban ambiances. This COST Action seeks to unite diverse perspectives and methodologies to understand, exchange and harmonize the concepts, definitions, by collecting archives, and defining cooperative objectives by harmonizing the technical language and draw perspectives for the future of architectural and urban ambiances in European cities and beyond. It focuses on holistically integrating the “bottom-up” approach, including sensitive experiences of ambiances, into the design, construction, and management of living spaces. By emphasizing the sensory dimension of ambiances, this aims to highlight solutions that prioritize the human experience in urban planning. One uses a collaborative, interdisciplinary approach to positively influence architectural and urban policies and practices both in Europe and globally.

Contact person: Prof. dr Milena Krklješ

Period of realization: 2024 – 2028

ID: COST Action CA23145

15. ISO compatible, efficient and reproducible protocols/equipment for mICro-nanoPLASTIC detection through machine-learning (ICPLASTIC)

Description: The ICPLASTIC Action addresses the urgent need to standardize methods for detecting micro and nanoplastics (MNPs) in environmental, drinking, and bottled water. Recognizing knowledge gaps in MNP risks, occurrence, and standardized procedures, ICPLASTIC will develop ISO-compatible protocols and equipment for MNP detection, using machine-learning to ensure efficient and reproducible results. This initiative will create a transdisciplinary network connecting equipment manufacturers, end-users, and academics to establish essential design specifications for compliance with upcoming ISO standards and environmental regulations. Expected outcomes include market-ready equipment for MNP detection, new MNP-related water legislation compatible with ISO standards, and knowledge dissemination for regional monitoring, benefiting researchers, the economy, and European citizens alike.

Contact person: Prof. dr Maja Petrović

Period of realization: 2024 – 2027

ID: COST Action CA23131

The Baden-Württemberg Foundation was founded in 2000 and is one of the largest operational foundations in Germany. As an independent and non-partisan foundation of the state, we are particularly committed to the people of Baden-Württemberg. With a clear mandate and a clear attitude, we shape change - in society and culture, in education and in cutting-edge research. For a shared future that is not based on the I, but on the we. We are committed to a vibrant civil society and promote social and cultural participation. With ideas and investments in business and science, we are committed to a sustainable, livable Baden-Württemberg. The Baden-Württemberg Foundation (until 2010 “Landesstiftung Baden-Württemberg”) was created on January 1, 2000 when the state holdings were renamed into a foundation. It is based in Stuttgart and has the legal form of a non-profit limited liability company (gGmbH). The foundation capital comes from the state holding company “Landesbeteiligungen Baden-Württemberg”, which has existed since the early 1980s, and from the sale of the state shares in EnBW to Électricité de France (EdF).

Danube Perspective program supports projects in the Danube region in the areas of education, culture and civil society . The range of projects funded extends from education and qualification of people of different age groups to intercultural encounters and community networking seminars and support projects for marginalized population groups. Another focus of the program is network building: sustainable projects are supported that involve at least two cooperation partners from the Danube region. This creates synergy effects by bringing different organizations into contact with each other.

1. The Sounds of the Danube: Towards an Interdisciplinary Environmental Education

Description: The transnational project focuses on the Danube along its course from Germany via Austria and Hungary to Serbia, with the overarching aim of making an environmentally and culturally sensitive contribution to water protection. To this end, two different approaches are chosen and combined in the project: an auditory-artistic and a scientific approach. The project thus follows the STREAM approach, in which the STREAM subjects (science, technology, engineering, mathematics) are supplemented by arts. The scientific approach focuses on researching the water quality of the Danube and communicating science to the general public. By taking water samples, current data on the water quality and pollution of the Danube is collected, which is communicated to the project target groups as part of various measures (including integration of the results into the digital knowledge platform). Four stations in the Danube states involved in the project are to be visited as part of the project: Langenau, Vienna, Pécs and Novi Sad and water samples will be taken from the river water and analyzed. In cooperation with the partner universities at the respective locations, one-day information events are also offered to the urban public for environmental education about the Danube. Through information materials, hands-on experiments and discussions with experts from SRH University Heidelberg and the partner universities, interested members of the public will learn more about the relevance of environmental and water protection.

Contact person: Prof. dr Jelena Radonić

Period of realization: 2024

ID: -



The Royal Society, UK is a Fellowship of many of the world's most eminent scientists and is the oldest scientific academy in continuous existence.

Mission and priorities

The Society's fundamental purpose, reflected in its founding Charters of the 1660s, is to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity.

The Society has played a part in some of the most fundamental, significant, and life-changing discoveries in scientific history and Royal Society scientists continue to make outstanding contributions to science in many research areas.

Our principles

- Independence
- Partnership and convening
- Equality, diversity and Inclusion
- International and global focus
-

Our strategic priorities

- The Fellowship, Foreign Membership and beyond
- Influencing
- Research system and culture
- Science and society Corporate and governance



1. Exploiting bursting oscillations for energy harvesting

Description: Despite recent continuous progress in the areas of Structural Health Monitoring and Sensors, there are still major difficulties in wide proliferation of self-powered wireless sensors technology, mainly due to limitations in power supplies. However, detecting potential faults/damages, wear, and other abnormal behaviour of various structural components at early stages, remains a top priority from the safety and cost saving points of view. This interdisciplinary project aims to create and validate numerically and experimentally a radically new science-enabled energy harvesting technology for self-powered wireless sensing utilizing a bursting oscillations phenomenon.

Contact person: Prof. dr Ivana Kovačić

Period of realization: 2023-2025

ID: 522482101



EU4DigitalSME

TOGETHER TOWARDS INNOVATIVE BUSINESS MODELS

EU4DigitalSME project, which is jointly financed by the European Union and the Federal Ministry for Economic Cooperation and Development of the Federal Republic of Germany (BMZ) focuses on establishing and supporting the development of digital innovation hubs (DIH) in Bosnia and Herzegovina. Project is implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Establishing and supporting the development of DIH services is one of the key activities of the EU4DigitalSME project, all with the aim of contributing to the construction of an ecosystem for digitalization, automation and innovation in small and medium-sized enterprises (SMEs) in Bosnia and Herzegovina.



EU4DigitalSME

1. Green Agenda Innovation Accelerator – GAIA

Description: The project aims to provide support to small and medium-sized enterprises (SMEs) in various industries by promoting green innovation and technology adoption. It consists of two main components: SME Support Component: This component focuses on raising awareness, providing training, consultancy services, and implementing pilot interventions for different corporate clients in the fashion, wood processing, and construction industries. These interventions will showcase the benefits of digitally-driven green innovations and technologies, emphasizing cost-effectiveness. The goal is to shift traditional business culture towards green practices. Green Entrepreneurship Component: This component aims to support green entrepreneurship by encouraging digital disruption and innovation in addressing environmental challenges while promoting social and economic change.

Contact person: Prof. dr Maja Petrović

Period of realization: 2023 – 2024

website: <https://eu4digitalsme.ba/>



United Nations
Development Programme

The United Nations Development Programme (UNDP) is the UN's global development network, advocating for change and connecting countries to knowledge, experience and resources to help people build a better life.

We are on the ground in some 170 countries and territories, supporting their own solutions to development challenges and developing national and local capacities that will help them achieve human development and the Sustainable Development Goals. Our work is concentrated on three main focus areas:

- Sustainable development
- Democratic governance and peacebuilding
- Climate and disaster resilience

UNDP helps countries attract and use aid effectively. In all our activities, we promote gender equality and the protection of human rights.

UNDP works in about 170 countries and territories, helping to eradicate poverty, reduce inequalities and exclusion, and build resilience so countries can sustain progress. As the UN's development agency, UNDP plays a critical role in helping countries achieve the Sustainable Development Goals.



United Nations
Development Programme

1. Biomethane production in Serbia – GAP analysis of policies, potentials, supply, infrastructure and market trends

Description: The project unites the fields of renewable energy sources and renewable gases, circular bioeconomy, environmental protection and sustainable agriculture. The project is of importance at the national level, where the direct beneficiary of the results is the Serbian Ministry of Mining and Energy, and the expected outcome of the project is the implementation of biomethane on the market in Serbia. The project should have a long-term impact on the increased use of renewable energy sources, while reducing use of fossil fuels, as well as contributing to the decarbonization goals. reducing air emissions of gases that contribute to the greenhouse effect. UNDP Serbia supports the Government of Serbia to comply with international conventions and European Union regulations on climate change, adaptation and mitigation, emission reduction, and promotion of the transition to low-emission and climate-resilient development. The aim of the project is to define the opportunities of replacing natural gas with biomethane, in relation to the utilization of sustainable feedstock potentials, by minimizing the emerging costs and overcoming the existing barriers in such an endeavor.

Contact Person: Prof. dr Djordje Djatkov

Period of realization: 2024

ID: UNDP-SRB-00184 (10197157)



United Nations
Development Programme

2. Producing biochar from sewage sludge to support sustainable bioresource renewal and reduce carbon emissions

Description: In accordance with the principles of the circular economy, the Project proposes a model of a technological process that saves and restores natural resources and energy, prolongs the use of materials and products, and reduces waste. In the last 50 years, global resource consumption has quadrupled, with unsustainable increases in energy consumption, greenhouse gas emissions, and the amount of waste generated. Currently, less than 9% of the world economy is based on circular principles, and these principles will be a necessity for a sustainable economy of the future, both in the world and in the Republic of Serbia. The project proposes designing the process of biochar production from sewage sludge in accordance with the concept of circular economy and reducing the total carbon footprint of the technological process.

Contact Person: Prof. dr Maja Turk Sekulić

Period of realization: 2024

ID: UNDP-SRB-00184



United Nations
Development Programme

3. Towards Global Standards: Setting Up the SDG Research Center and Acquiring International Sustainability Courses Accreditation at FTN Business School - SDG-FTN Business School

Description: This ambitious project, spearheaded by the Faculty of Technical Sciences, University of Novi Sad, and FTN Business School, with pivotal support from UNDP, aims to establish the SDG Research Center and elevate the FTN Business School's MBA program and sustainability-related MOOCs to a globally recognized standard through international accreditation. The project aligns with Serbia's commitment to the 2030 Agenda for Sustainable Development and integrates sustainable practices into both the curriculum and infrastructure of the school. The SDG Research Center will serve as a multidisciplinary hub, focusing on research and practical education in sustainable development within engineering, business, and technology. The achievement of international accreditation submission certificate for the MBA Program will enhance the global recognition of the FTN Business School, align educational programs with global sustainability standards, and foster engagement in sustainability initiatives. The development of an SDG-focused curriculum and the accreditation of online courses will ensure that sustainability is both taught and practiced, creating a model for future institutions. Overall objective: To elevate FTN Business School to a globally recognized standard in sustainable development education through the establishment of the SDG Research Center, achieving international accreditation submission certificate for the MBA Program, and development and accreditation of an SDG-focused curriculum and online courses.

Contact Person: Prof. dr Bojan Lalić

Period of realization: 2024

ID: UNDP-SRB-00184



Republic of Serbia

MINISTRY OF SCIENCE,
TECHNOLOGICAL DEVELOPMENT AND INNOVATION

BILATERAL COOPERATION

The Ministry of Science, Technological Development and Innovation of the Republic of Serbia performs state administration tasks related to: system, development and improvement of scientific research activities in the function of scientific, technological and economic development; proposing and implementing the policy and strategy of scientific and technological development; determination and implementation of scientific, technological and development research programs; support for young talents; training of personnel for scientific research work; proposing and implementing innovation policy; proposing and implementing policies and programs in the field of artificial intelligence; encouraging technopreneurship, transfer of knowledge and technologies in the economy; development and improvement of the innovation system in the Republic of Serbia; development of the functioning of the system of scientific and technological information and the program of development of scientific and technological infrastructure; research in the field of nuclear energy; security of nuclear facilities; production and temporary storage of radioactive materials, except in nuclear power plants; creation of conditions for access and implementation of projects within the purview of that ministry that are financed from the funds of the pre-accession funds of the European Union, donations and other forms of development assistance, as well as other tasks specified by law.



Republic of Serbia

MINISTRY OF SCIENCE,
TECHNOLOGICAL DEVELOPMENT AND INNOVATION

SERBIA – AUSTRIA

1. Green micro-reinforced building composites with agricultural by products – Green Area

Contact person: Doc.dr Slobodan Šupić

Period of realization: 2024-2026

2. Activated flux fusion for wire based plasma additive manufacturing (AS Fusion)

Contact person: Prof. dr Sebastian Baloš

Period of realization: 2024-2026



Republic of Serbia

MINISTRY OF SCIENCE,
TECHNOLOGICAL DEVELOPMENT AND INNOVATION

SERBIA – SLOVAKIA

1. The University campus as a logistics living lab: a methodology approach

Contact person: Prof. dr Marinko Maslarić

Period of realization: 2024-2025

2. Stopping criteria to bound distributed consensus algorithms with asymptotic convergence for network size estimation

Contact person: Prof. dr Dragana Bajović

Period of realization: 2024-2025

3. A bipolar approach in mathematic models of decision-making processes

Contact person: Prof. dr Biljana Mihailović

Period of realization: 2024-2025

4. Research of material and technological properties of structured perforated Armox sheets intended for ballistic protection

Contact person: Prof. dr Sebastian Baloš

Period of realization: 2024-2025



Republic of Serbia

MINISTRY OF SCIENCE,
TECHNOLOGICAL DEVELOPMENT AND INNOVATION

SERBIA – CHINA

1. Integration with Flexible IoT and Blockchain technology for PLM Strategy based perishable food quality

Contact person: Prof. dr Stevan Stankovski

Period of realization: 2024-2026



Republic of Serbia

MINISTRY OF SCIENCE,
TECHNOLOGICAL DEVELOPMENT AND INNOVATION

SERBIA – INDIA

- 1. Scalable Convolution Neural Network (CNN) fused with hand crafted descriptors for detection of COVID-19 infection based on Lung Congestion using X-Ray images**

Contact person: Prof. dr Dubravko Čulibrk

Period of realization: 2022-2024

- 2. Development of Zero Backlash Power Transmission Mechanism For Anthropomorphic Robots**

Contact person: Prof. dr Milan Rackov

Period of realization: 2022-2024



Key Action 1: Mobility of Individuals

This Action is all about providing opportunities for individuals to improve their skills, enhance their employability and gain cultural awareness.

Under Key Action 1 organizations can apply for funding to run mobility projects to enable organizations to offer structured study, work experience, job shadowing, training and teaching opportunities to staff and learners.

Beneficiaries are able to spend a period of time in another participating country gaining valuable experience of life, study and work with the aim of increasing the opportunities available to them in the future.

Key Action 1 covers the five fields of higher education, vocational education and training, schools, adult education and youth. It is important to note that target groups and activities for Key Action 1 vary by field.

Key Action 1 is the largest action in Erasmus+ with 63% of programme budget supporting its focus on increasing mobility and skills.



AUSTRIA

1. GRATZ UNIVERSITY OF TECHNOLOGY – TU GRAZ
2. UNIVERSITY OF KLAGENFURT

BULGARIA

3. TECHNICAL UNIVERSITY OF SOFIA
4. UNIVERSITY OF TELECOMMUNICATIONS AND POST, SOFIA
5. HIGHER SCHOOL OF TRANSPORT 'TODOR KABLESHKOV', SOFIA



GREECE

6. UNIVERSITY OF THE AEGEAN, MYTILENE
7. UNIVERSITY OF PELOPONNESE, PATRAS
8. UNIVERSITY OF WESTERN MACEDONIA, KOZANI

Erasmus+



CROATIA

9. JOSIP JURAJ STROSSMAYER UNIVERSITY, OSIJEK
10. UNIVERSITY OF APPLIED SCIENCES, ZAGREB
11. UNIVERSITY OF RIJEKA
12. UNIVERSITY OF SLAVONSKI BROD

ITALY

13. POLITECNICO DI MILANO
14. UNIVERSITY OF PALERMO (UNIPA)
15. POLITECHNIC UNIVERSITY OF BARI
16. UNIVERSITY OF FLORENCE
17. POLITECNICO DI TURIN
18. UNIVERSITY OF NAPLES FEDERICO II
19. UNIVERSITY OF STUDIES 'G.d'ANNUNZIO', CHIETY-PESCARA



LITHUANIA

20. VYTAUTAS MAGNUS UNIVERSITY, KAUNAS





HUNGARY

21. BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS-BME
22. JOHN VON NEUMANN UNIVERSITY, KECSKEMET
23. UNIVERSITY OF SZEGED
24. OBUDA UNIVERSITY
25. UNIVERSITY OF TOKAJ

GERMANY

26. ULM UNIVERSITY OF APPLIED SCIENCES
27. SRH UNIVERSITY HEIDELBERG



POLAND



28. BIALYSTOK UNIVERSITY OF TECHNOLOGY
29. POLITECHNICAL UNIVERSITY OF LODZ
30. CRACOW UNIVERSITY OF TECHNOLOGY
31. POZNAN UNIVERSITY OF TECHNOLOGY
32. GDANSK UNIVERSITY OF TECHNOLOGY
33. UNIVERSITY OF ZIELONA GORA

Erasmus+



ROMANIA

- 34. TRANSILVANIA UNIVERSITY OF BRAȘOV
- 35. POLITEHNIK UNIVERSITY OF TIMISOARA
- 36. UNIVERSITATEA BABES-BOLYAI,
CLUJ- NAPOCA
- 37. TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

SLOVAKIA

- 38. UNIVERSITY OF ZILINA
- 39. ALEXANDER DUBCEK UNIVERSITY OF
TRENCIN
- 40. TECHNICAL UNIVERSITY OF KOŠICE
- 41. BRNO UNIVERSITY OF TECHNOLOGY



SLOVENIA

- 42. UNIVERSITY OF MARIBOR
- 43. UNIVERSITY OF LJUBLJANA
- 44. UNIVERSITY OF NOVO MESTO





TURKEY

- 45. UNIVERSITY OF HEALTH SCIENCES, ISTAMBUL
- 46. AKSARAY UNIVERSITY
- 47. ISKENDERUN TECHNICAL UNIVERSITY
- 48. CANAKKALE ONSEKIZ MART UNIVERSITY
- 49. ERCIYES UNIVERSITY, KAYSERI

CZECH REPUBLIC

- 50. BRNO UNIVERSITY OF TECHNOLOGY
- 51. UNIVERSITY OF WEST BOHEMIA, PLZEN
- 52. CZECH UNIVERSITY OF LIFE SCIENCE, PRAGUE



FRANCE



- 53. UNIVERSITY OF TECHNOLOGY OF COMPIEGNE
- 54. POLITEHNIC INSTITUTE OF BORDEAUX
- 55. ENSAIT SCHOOL OF TEKSTILE ENGINEERING, ROUBAIX



MACEDONIA

- 56. SS CYRIL AND METHODIUS UNIVERSITY OF SKOPJE
- 57. GHENT UNIVERSITY

SWEDEN

- 58. SWEDISH UNIVERSITY OF AGRICULTURE SCIENCE
- 59. KARLSTAD UNIVERSITY



BELGIUM

- 60. GHENT UNIVERSITY



SPAIN

- 61. REYJUAN CARLOS UNIVERSITY, MADRID





PORTUGAL

62. POLITECHNIC INSTITUTE OF
CASTELO BRANCO

Overview of international projects 2024/2025 is the result of the project:
“The improvement of teaching processes, scientific and artistic research, along with challenges accompanied by new models of funding and ranking of research organizations.”

Project coordinator:

Prof. dr Boris Dumnić, dean

Project team:

- | | |
|----------------------------------|-------------------------------------|
| 1. Prof. dr Darko Stefanović | 12. Prof. dr Nemanja Stanisavljević |
| 2. Prof. dr Igor Peško | 13. Prof. dr Andrija Rašeta |
| 2. Prof. dr Milan Vidaković | 14. Prof. dr Milena Krklješ |
| 3. Prof. dr Dejan Lukić | 15. Prof. dr Gordan Stojić |
| 4. dr Slobodan Radišić | 16. Prof. dr Nemanja Kašiković |
| 5. Prof. dr Lazar Kovačević | 17. Prof. dr Nebojša Ralević |
| 6. Prof. dr Jovan Dorić | 18. Prof. dr Platon Sovilj |
| 7. Prof. dr Miroslav Kljajić | 19. Prof. dr Nebojša Brkljač |
| 8. Prof. dr Miodrag Žigić | 20. Prof. dr Zoran Jeličić |
| 9. Prof. dr Nemanja Tasić | 21. Mirko Vojinović |
| 10. Prof. dr Mirjana Damnjanović | 22. Anđela Živković |
| 11. Prof. dr Milan Rapačić | |

CIP – Каталогизacija у публикацији
Библиотеке Матице српске, Нови Сад

378.6:62(497.113 Novi Sad)“2021/2022” (083.9)

FACULTY of technical sciences (Novi Sad)

Overview of international projects: [University of Novi Sad, Faculty of Technical Sciences] : 2024/2025. – Novi Sad: Faculty of Technical Sciences, 2024 (Novi Sad: Graphic center GRID). – 103 str.: ilustr. ; 24 cm

Tiraž 70. – Str. 1: Foreword / Milan Vidaković.

ISBN 978-86-6022-236-9

а) Факултет техничких наука (Нови Сад) – 2024-2025 – Пројекти

COBISS.SR-ID 332242183