

CEEPUS network name: Fostering sustainable partnership between academia and industry in improving applicability of logistics thinking

Acronym: **FINALIST**

Long program description

1. Introduction to the network topic

Supply chain management is a fact of business, with **logistics** as a most powerful tool for achieving ultimate strategic advantage. Dynamics of market changes dictated by globalization, liberalization and constant technological development places the effectiveness of logistics and supply chain management 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). Human capital, in general, represents a deficient resource in modern society based on knowledge. It has been estimated that 5 million skilled staff shall be needed in the EU countries in the following decade. Creation of competent workforce represents, in fact, the only sustainable competitive advantage in contemporary business conditions. According to the theory of economic growth, economic growth can only arise from technological development. Technological development has distinguishingly dynamic trait which, besides technical-technological innovations, also requires constant training of workforce. Unlike in some other economic fields, ***in the field of logistics and supply chain management there are great potentials which can be activated by minor investments which is not the case with other engineering-business disciplines. Activation of the mentioned potential requires the appropriate level of quality knowledge which has been permanently innovating.***

With regard to the stated, ***the basic topic of the proposed network*** shall be investigation and adjustment of conditions and possibilities for the application of an **integrated approach to the development of training and educational programs** in the field of logistics and supply chain management which shall be based exclusively on the needs of contemporary logistics economy (the „new“ supply chains).

Those new supply chain management strategies involve shift from the more concentrated, own-company centered, individual-task-based thinking into considering the bigger entities and networks of the whole supply chain which has led to changes in skills, competences, and knowledge needed in different logistics functions both within the individual companies and in the whole supply chain. **Integrated approach is defined as the presence of coordinated planning and execution between universities, public bodies and business sector in creating logistics thinking-based study programs.** Such integration requires coordinated criteria for the efficient and sustainable knowledge transfer between academia and industry and active

governmental contributions through creating and adoption of appropriate policies. Hence, integration involves a union of university, industry and government, coming together to form a whole. Apart the questions **who is integrated** (university, industry and government); integrated approach concerns two areas more, which are defined by the following questions: **what is integrated** and **how are they integrated**? Proposed integrated approach assumes design, execution and supervision of logistics thinking-based study program as those what is integrated.

Three main stakeholders will be integrated though defined standards with support from technological and regulatory tools. The problem of efficient and sustainable relationship between those three stakeholders (or parts of **triple helix: university-industry-government**) has more international dimension with establishing framework of joint study programs across EU and further internationalization of higher education. The mobility of people, programmes and institutions has been increasing constantly. The internationalization has been gradually becoming a very important factor in the activities of universities and also in the countries of Central and Southeast Europe as it represents those activities that lead to the development of new policies, programmes and practices on institutional, national and international level. Although, logistics is viewed as a tool for getting competitive advantage for the companies, countries and the whole region, up to now there has not been widespread cooperation among universities that have curricula for logistics and supply chain management. **The proposed network is the one of the few CEEPUS networks which will connect those universities with the ultimate goal to achieve competitive logistics advantage of the whole region.** According to this, countries in Danube regions, especially in Balkan regions, need the new paradigm in the area of sustainable partnerships between academia and industry which will lead to creating new joint curricula in the area of supply chain management. Thus, the main content of the proposed logistics and supply chain management-based network will cover not just development of contact between the participating universities, but also creation of contacts among companies and universities, both within one country and companies and universities from other countries. Different countries are characterized by different logistics profiles and planning structures, but often with similar problems and opportunities for similar problem-solving. The proposed network shall make this different logistics profiles visible and the different planning structures comparable. A central theme is to identify common critical issues locally and regionally and then to compare or suggest solutions and approaches that could facilitate the development of joint study programs which will promote efficient knowledge transfer between academia and industry. Those joint study programs should lead to better applicability of logistics thinking that can better foster logistics sector development.

2. Enhancement logistics talent development

A company is nothing without its personnel. Looking from a broad and management level perspective we can distinguish the skill requirements of logistics managers using the framework composed of business, logistics and management parts. Number of studies show that the five highest ranked business skills are supply chain management, transportation and logistics, business ethics, production management, and business writing. Respectively, the most important logistics skills are customer service, inventory management, transportation and traffic management, logistics information management and warehousing management. The most important management skills include issues such as the ability to motivate others,

personal integrity, decision making ability, ability to persuade, and oral communication. It could be concluded that the effective logistician should be more supply chain oriented and should possess a more specialized set of management skills. Also, it must be kept in mind that it is not enough to know which skills and competences would be needed of personnel but also to assess the actual level of those skills and competences. By knowing both which skills and competences are needed, in addition to knowing the actual knowledge level, the capabilities of the personnel can be improved.

The biggest potential for logistics staff development lay in practical operations. To solve problem with level of practical logistics know-how and to use potential a clear and organized initiative of educational institutions is required which shall be followed by practical support from business sector. The mentioned initiative is to denote the need for the change in structure of educational programs in the direction of their practical applicability. **Special attention is to be paid to the promotion of the new way of communication among faculties on the one hand and future and existing workforce and business sector on the other hand.** It is within the proposed network that the opportunities and conditions for development of study and training programs in the field of logistics and supply chain management should be checked.

3. Overall (wider) network goals and activities

During the project period, all initiatives will be prioritized that are directed towards the following overall focus areas:

- i. Mobilisation for regional and European logistics challenges;
- ii. Strategic collaboration (between universities and universities and industry);
- iii. International profiling of study programmes and research;
- iv. Competency and capacity building for internationalisation and business-oriented study programmes.

These areas do not provide an exhaustive description of all the work relating to our network. Rather, it focuses on strategies that require input from new initiatives and that need to be coordinated across network's diverse areas of interest. Hence, research within the proposed network shall include, among others, the following:

- (1) Analysis of logistics profile of the network country members
- (2) Analysis of the labour market structure in the field of logistics in the network country members;
- (3) Analysis of the condition and structure of educational programs in the field of logistics and supply chain management in the network country members during which the particular university's potential to contribute to solving contemporary logistics challenges will be one of the important factors under consideration;
- (4) Reviewing of academic priority areas in light of their contribution to solving contemporary logistic challenges and their potential for increasing strategic partnership with other universities and industry. Our network will prioritise the development of partnerships with CEEPUS countries and active utilisation of common Danube strategy initiatives with respect to the EU strategies.
- (5) Identification of need for changes in the structure of educational programs on the basis of needs of business sector for staff of appropriate profiles in the field of logistics and supply chain management;

- (6) Finding possibilities for making joint study programs in the territory of the network countries members;
- (7) Evaluation of the level of technical equipment of educational institutions and skilfulness of teaching personnel for the realization of potential study programs. The faculties will analyse their current study programmes with respect to consideration of what is required to achieve the level of ambition for study programmes having international profiles, in both the short and long term;
- (8) Finding opportunities for further internationalization of potential study programs;
- (9) Finding opportunities for potential virtualization and digitalization of study programs.

Cooperation of member universities of the proposed network in the realization of these activities shall reflect, first of all, in **mutual visits as basic aspects of joint activities and cooperation of institutions from different countries**. Therefore, proposed CEEPUS network will facilitate a productive relationship between partners through various types of mobility as a different structure of partner knowledge and experience exchange.

Student's and teacher's mobility, various forums and meetings with participation of people from business and government, symposiums, and workshops will make proposed CEEPUS network as a common platform where all participants will share information, experiences, perspectives, and opinions in a collaborative and collegial setting.

On that way, all network participants will realize the benefits, such as:

1. Interaction with researchers from different countries on issues specific to sustainable partnerships between academia and industry;
2. Meeting and networking with representatives of some of the leading companies within logistics industry;
3. Privileged access to network partner's previous research work, literature, project, and internal standard in creating new curricula (insights beyond the published results of research).

4. Expected general network results

Basic result of this project is in fact a specific study of feasibility of an integrated development and joint organization of a new products in the market of logistics education which are fully compatible with the needs of industry. Expected results are as follows:

- (1) Specification of conditions and needs for organizing study programs from the aspect of potential attendants (students) with special attention on creating university environment significantly more accessible to foreign students and employees through internal information in English;
- (2) Specification of conditions and needs for organizing study programs from the aspect of industry, in order to offer students quality opportunities to develop skills relevant for business sector;
- (3) Specification of possibilities for organizing study programs from the aspect of skilfulness of the teaching staff and technical equipment of university institutions;
- (4) Reviewed and revised portfolio of student exchange agreements in order to intensified work on establishing partnerships and beneficial exchange agreement with partner universities.

- (5) Specification and development of modalities for sustainable cooperation among universities, industry and government;
- (6) Specification of structure and modality for carrying out curricula;
- (7) Specification and development of quality control and monitoring;
- (8) Establishing network for comprehensive logistics research.

As it has been specified, the basic idea of the project is strengthening bonds between academia and industry both within one country and on the international level with the final aim to form adequate study programs which would be following the principals of contemporary tripe helix cooperation. Therefore, it is necessary to set and offer theoretically well-grounded and practically relevant study programs for the successful planning, implementation and management of supply chains. In this context, in line with both one of the priorities of the European Union (*Internationalization of university studies*) and two basic pillars of the Danube Region strategy (*Connecting the Danube Region- through improving mobility and multimodality*, which are logistics activities; and *Building Prosperity in the Danube Region- through development of the knowledge society and investing in people and skills*), this network:

has overall intent to offer a detailed proposal of new joint study programs, as well as to foster intensive use of new digital technologies in teaching and learning. The goal of such program will not be only to provide students with the knowledge, but to enable them to sustainably comprehend the use as well as the interrelation of differing concepts and levers relevant in a supply chain context.

5. Network specific goals and activities

CEEPUS network **FINALIST** should help in achieving above-mentioned general objectives by paving way for active participation of our network members in the regional development of knowledge through three main areas:

1. international mobility;
2. internationalization and virtualization of programmes of study; and
3. participation in the regional knowledge society and practical implementation of theoretical knowledge.

Those three areas will be addressed through three groups of the specific mobility actions: (i) international mobility for students, academic staff, and university (technical) staff; (ii) joint teaching activities; and (iii) joint research projects involving university and industry partners from network member countries.

Regarding the first group of activities, our mobility strategy is to create framework for fostering cooperation between network member universities, which will reflect, first of all, in mutual visits as basic aspects of joint activities (mutual visits of undergraduate and graduate students, PhD students, teachers and university staff). Therefore, proposed CEEPUS network will facilitate a productive relationship between partners which will be based on the principles of reciprocity, equality and mutuality.

Student mobility will be covered by 3 months of scholarships for performing one semester of studying or preparation of their final thesis.

Short Term Student mobility will include undergraduate students for doing their one/two months' work on the planned projects, or other teaching and learning forms, as well as graduate and PhD students' mobility for preparation their final work (BSc or MSC diplomas or PhD thesis). Also, graduate and PhD student's mobility will include joint thesis supervision.

Short Term Excursion (STE) will include short study visits to the partner universities and practical visits to the companies in partner countries. This kind of action have proven in the last couple academic years as an extremely efficient. Based on experience gained from these years, we realized that this kind of student mobility could have a decisive impact on improvement of student mobility in general, in two ways. First, for institutions with relatively low level of student mobility, STE could serve as some kind of promotion, since students are more likely to opt for a few days' absence than a month or 3 months (whole semester). Second, for institutions which are well-experienced in student mobility, STE could act as an added mobility alternative for their students (offering added value for students).

Short Term intensive Courses will include activities such as students participating in summer schools or CEEPUS days. These category of mobility are designed to provide immersive learning experiences in a condensed timeframe, allowing students to deepen their knowledge in specific logistics subject areas.

Teacher mobility will include giving lectures to the students from other universities, joint research work with colleagues from partner institutions, joint thesis supervision, participation in workshops (with participation of people from the industry). The second group of activities assumes working on creating joint PhD thesis supervision. We plan our teacher's mobility on such way to cover all particular connections within partners included in this joint program. Through this mobility, teachers will collect and manage joint program data, necessary for creating formal structure and monitoring of joint program development.

Short-term University staff mobility will support the resolution of legal obstacles in recognizing ECTS credits acquired by students during their mobility at partner institutions. This mobility will also assist in streamlining and standardizing procedures for organizing and implementing student and staff exchanges. By facilitating direct collaboration between administrative staff of partner institutions, these exchanges will promote a clearer understanding of credit transfer policies, improve the compatibility of academic programs, and ensure the smooth execution of mobility initiatives. Additionally, it will provide opportunities for staff to share best practices, address administrative challenges, and enhance institutional frameworks for international collaboration.

Our network has several **Silent partners** from industry, included as a support in creating joint activities. Regards to the third group of activities, our strategy is to create as much as we can applied research projects (in coordination with our Silent partners), with the main purpose to act as a practical support of creating new study programme.

6. Short-term joint activities

From this network we will generate a specific base of practical knowledge useful for more applied teaching activities. Based on the aforementioned statements and goals, among the others, we plane the following specific actions for the next academic year:

- lecturing (6 teaching hours per week), mainly in the areas that professors from the host faculty do not cover;

- joint MSc and PhD thesis supervision (during the mobility period);
- working on joint program for PhD studies between the following partner institutions: University of Novi Sad, University of Zagreb and Politehnica University of Timisoara (definition of structure of joint program and competence for each partner, preparation of formal framework for formalizing this “These en cotutelle” program and signing official agreement);
- working on developing the potential joint program curriculum for MSc studies between the following partner institutions: University of Novi Sad, Josip Juraj Strossmayer University of Osijek, University of Maribor and Tomas Bata University in Zlin. This joint MSc program will be based on extended cooperation of these institutions within the Erasmus project “Business Analytics Skills for the Future-proof Supply Chains”, as well as partnership contract of cooperation between Tomas Bata University in Zlin, Faculty of Management and Economics and University of Maribor, Faculty of Logistics, which includes possibilities of creation joint dual degree programs.
- developing of new teaching methods and materials based on logistics games between Technical University of Kosice, Politehnica University of Timisoara and University of Novi Sad (this action arose from the cooperation on the bilateral project “Business games-development of active and innovative teaching and training methods for logistics and business education” which is financed for period 2020-2021);
- developing the joint lectures: based on the network academic achievements from the last academic years, such as the book “Intermodal Transport Systems” (<https://www.webknjizara.hr/knjige/sveucilisni-udzbenici/intermodalni-sustavi-u-transportu-i-logistici-u-boji-grupa-autora>), ; the book “Ekonomika brodarstva” (<https://www.unirepository.svkri.uniri.hr/islandora/object/pfri:4663>), the chapter “Ethics in the Tech Age” within the “Handbook of Technological Sustainability” (<https://www.taylorfrancis.com/chapters/edit/10.1201/9781003475989-20/ethics-tech-age-helena-fidlerov%C3%A1-dejan-mir%C4%8Deti%C4%87>).
- joint work on research papers and research project proposals (mutual application for EU funded projects) – as a long-established network, each year teachers from our partner institutions have a dozen of scientific paper jointly written and published in conference proceedings and scientific journals (colleagues from the partner institutions from Poland, the Czech Republic and Slovakia stand out in terms of their scientific productivity). Also, in the next academic year partners from University of Josip Juraj Strossmayer in Osijek and University of Novi Sad plan to apply for Erasmus + project with the idea of creating new education practices for digital supply chain management;
- preparation of study materials in English language for joint programs (including e-materials);
- preparation for e-learning through appropriately selected e-learning platform and set-up proper conditions for virtual mobility;
- organization of workshops about educational issue in the area of logistics and supply chain management;

- organization of meetings and networking with representatives of some of the leading companies within logistics industry;
- organization access to network partner's previous research work, literature, project and internal standard in creating new Curricula (regularly updating the knowledge base);
- organization of student excursions to logistics companies in region of partners: the network plans several joint activities regarding short-term excursion and summer schools (Szeged, Žilina, Pardubice, Rijeka) within which visits to companies in these regions will be organized;
- developing plans for improving cooperation between partner universities, considering and lifelong learning courses and studies;
- preparation of necessary documentation for network's quality performance evaluation: the lead institution will create document "Quality and Evaluation Plan" to define the approach to quality control and process evaluation in FINALIST project.

7. Network scanning-SWOT analysis

Our abilities and concerns about how to achieve the proposed long-term and short-term network goals, as well as to complete the proposed network actions, are summarized in corresponding SWOT analysis.

Strengths:

- A rich previous experience with university internationalization and mobility programs and know-how of CEEPUS collaboration;
- Maturity in CEEPUS technicalities (recruitment, managing, organization, communication, contact with local PPU, NCO, etc.) covered with existing documentation of network activities;
- Already achieved critical mass in the network;
- The number of courses provided by network partners offered in English;
- The possibility to turn the collaboration and joint programs to be sustainable in the future;
- University to industry partnerships (willingness of industry to cultivate and foster an environment for closer cooperation with academia), confirmed by existence of silent partner from industry;
- Ability to make impact relevant to educational goals of partner countries / increasing the ranking of the participant university and creating international recognition;
- Excited, hardworking local PPUs that desire to work together and make an impact in the internalization of education;
- The effective collaboration and communication of the local PPUs to establish protocols of network management.

Weaknesses:

- Difficulties to get all of the members of network governance consortium to meet together in some regular manner;
- Lack of control of various policies and decisions of the partner universities;
- Limited grant funds;
- Additional encouragement of students to participate (English language barrier, fear of preventing students from graduating on time because of absence from the home faculty and obligation of mobility completion; general unwillingness to travel abroad);
- Uneven requirements for the travel cost reimbursement in different partner countries;
- Partner institution and staff concern over preparedness for hosting international students;
- Vague definitions of internationalization strategy among partner institutions;
- One network partner can contribute less than the other.

Opportunities:

- Internationalization momentum / significant focus on student exchange could attract prospective students interested in having a study there;
- The opportunity for scholarship holders to be more mobility "friendly" and open for new knowledge, professional contacts, and experience;
- Excellent support of all network partners NCO;
- Ability to extend cooperation in other forms (new projects, joint research papers, etc.) / international networking;
- Ability to expand the network to other CEE universities;
- The network is attracting new partners every year (for 9 years network grown from 10 to 28 partners);
- Thinking outside the box/living less in national context;
- Touristic momentum of partner universities cities / makes typically unappealing destinations appealing;
- Attractiveness and network main topic, recognized as one of the challenges of the Danube Region strategy;
- Branding the network objectives, activities and results by social media avenues.

Threats:

- Awareness of the partners education system (student's awareness of the host country education system);
- Competing programs that are already operating in Europe;

- Transportation limitations of reaching some partner institutions by others;
- Difficulties of standardization procedures and documentation for recognizing achieved ECTS at home university;
- National education mindset vs. study abroad is not always understood by the students at partner institutions;
- Tough balancing the mobility obligations with full-time employment by teachers;
- Low support by partner country higher education government/lack of conversational collaboration with other grants and service coordinators / fear of brain drain;
- Networks based on personal contacts could become out of action / contact may not meet expectations;
- Difficulties caused by pandemic and geopolitical instability.

We would like our network to be sustainable and active and to develop further activities to achieve good cooperation between our partners.