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INNOVATIVE FORMS OF EDUCATION IN RAIL FREIGHT AND LOGISTICS

Summary. This paper introduces an innovative intensive programme in rail logistics co-funded by Lifelong Learning Programme of the European Commission. The paper starts with introduction where the consortium of nine European partners is presented. Next the objectives of the programme and participants are described in more detail. The 3-week programme structure is divided into three parts: lecturing, research projects and technical visits, workshops and seminars. Educational activities are presented in the context of the strategic vision of Lifelong Learning Programme. The current situation section describes the progress made to date, where curriculum development as well as student recruitment and organisational challenges are introduced. The final section introduces the expected results of the Intensive Programme, which include new rail logistics education and training curriculum materials, a handbook and new skills gained by students and staff.

INNOWACYJNE FORMY EDUKACJI W KOLEJOWYCH PRZEWOZACH TOWAROWYCH I LOGISTYCE


1. INTRODUCTION

This paper presents RailNewcastle – Erasmus Intensive Programme (IP) in rail logistics co-funded by Lifelong Learning Programme of the European Commission, which will take place in summer 2012 in Newcastle upon Tyne, UK. The purpose of the IP, which is ERASMUS sub-programme, is to help
nine partner higher education institutions to work together in developing an innovative course that promotes multidisciplinary approach (students from different backgrounds) in rail logistics and combines various teaching and learning techniques (lectures, discussions, research projects, technical visits, workshops, seminars etc.). The students participating in RailNewcastle are expected to gain some new knowledge in rail logistics and learn new skills related to research techniques and analysis, research presentation, problem solving, teamwork, but also to improve language learning, self-awareness and intercultural skills.

RailNewcastle is collaboration between nine European higher education institutions, each representing one of the European Union countries and Turkey. The partners include universities from new EU member states: Higher School of Transport – Sofia (Bulgaria), Universitatea Politehnica din Bucuresti (Romania); and old EU member states: Universitet Gent (Belgium), Technische Universitat Dortmund (Germany), Athens University of Economics and Business (Greece), Sapienza Universita di Roma (Italy), Instituto Superior Tecnico (Portugal), Newcastle University (UK); and Yildiz Technical University (Turkey). Each non-hosting university is expected to bring to Newcastle maximum of six students and two lecturers for the duration of the IP. The total maximum number of participants is 56 students and 20 staff.

2. OBJECTIVES

The aim of RailNewcastle is to run a three-week Intensive Programme (IP) in rail logistics. The three main objectives of RailNewcastle are to:

- create a new teaching, training and learning resources for railway education and research under one RailNewcastle banner, which might be used not only for lecturing purposes but also for further knowledge sharing in the future,
- enable participants to work together on railway logistics problems with multinational and multi-disciplinary groups, which will bring European context into the topics discussed,
- explore future possibilities for multinational university degrees and research programmes.

Approximately 20 rail professionals, logisticians and historians employed by the participating institutions, will deliver the IP. The IP is addressed to undergraduate students from the nine European institutions representing different university courses (e.g. mechanical engineering, economy, law), but interested in rail logistics.

RailNewcastle is unique in itself as it allows lecturers and students from the nine countries to work together, share their experience and develop a brand-new programme in rail logistics which will be based on participants knowledge, best practice and teaching and learning skills. Moreover, if successful, RailNewcastle will be repeated in 2013 and beyond.

3. PROGRAMME STRUCTURE

The Intensive Programme will last three weeks, where each week will have a different focus. First week will concentrate on lectures and discussions focussed around five topics of: logistics and supply chain management; rail and multi modal transport; rail infrastructure and ITS; vehicles, environment and safety; and rail operations, time-tableing and control. Experts from the nine participating institutions will deliver the lectures. During the second week students will be divided into groups where each group will be involved in research projects covering the five topics discussed in Week 1. At the end of Week 2 students will be expected to produce a research report, research poster and present their research outcomes during thematic seminars in Week 3. The third week will also include two technical visits to Tyne and Wear Metro Depot and Stephenson Railway Museum and workshops on rail transit systems and railway history. In addition, the IP includes one social trip to National Railway Museum in York.
4. ACTIVITIES

RailNewcastle meets two main ERASMUS sub-programme objectives, which are (European Commission, 2006):

- To improve the quality and to increase the volume of student and teaching staff mobility throughout Europe, so as to contribute to the achievement by 2012 of at least 3 million individual participants in student mobility under Erasmus programme and its predecessor programmes;
- To improve the quality and to increase the volume of multilateral cooperation between higher education institutions in Europe.

The first objective will be met by bringing lecturers and students from the nine European countries to Newcastle, where they will work together on rail logistics topics. The participants will be expected to share knowledge, show innovative thinking and creativity in teaching and learning.

The second objective will be met by working on number of educational activities, which include the following tasks:

- Curriculum development – the curriculum will be used as the main base for the programme and its reproductions;
- Development of teaching materials – lecturers involved in the IP will produce a collection of up-to-date teaching materials on various aspects of rail and logistics systems which will be used for lecturing and promotion in the future;
- Development of research projects – lecturers involved in the IP will produce a list of research projects on railway and logistics topics which will then be investigated by students and outcomes will be summarised in the format of reports, PowerPoint presentations and posters;
- Preparation of the handbook – a good practice handbook with scientific focus will be produced after the successful completion of the 3-week IP in Newcastle and will include a collection of articles promoting the programme and chapters on each of the five topics covered in Week 1, research projects covered in Week 2 and technical visits and other activities.

The educational tasks described above, as well as other up-to-date actions, are presented in more detail in the next section.

5. CURRENT SITUATION

5.1. Curriculum development

A detailed programme with subtasks for all the lectures was developed by one of the partners in January 2012. All lecturers are working on teaching materials at the moment. For the purpose of their 45-minutes lectures on specific topics they are expected to produce Power Point slides using a RailNewcastle template designed by another partner. All teaching materials should be ready in draft by early May allowing few weeks for final corrections before the IP starts in late June 2012.

5.2. Student recruitment

Each partner institution is expected to bring maximum of six students to Newcastle. RailNewcastle website (http://railnewcastle.pub.ro) was used as a tool for the recruitment purposes, where students could complete an online application form, submit their CV and motivation letter. However, all institutions had some degree of freedom in selecting best candidates who will then participate in the IP. One core condition was that all students must be undergraduates enrolled in the 3rd year of their studies.
5.3. Organisation

Newcastle University as a host institution is responsible for the organisational tasks of the IP. The tasks so far included: university accommodation bookings for students, nutrition bookings for students and staff, preparation of the Survival Guide for the participants, investigating options for producing SmartCards and ECTS certificates etc. As the IP budget is limited, communication between the partners is based on using two online tools, emails and Skype, for e-mail updates every few weeks and Skype conference calls every two months.

5.4. Promotion

Staff involved in RailNewcastle are acting as ambassadors for RailNewcastle spreading the word about the IP. RailNewcastle has its own website (http://railnewcastle.pub.ro) where important information related to the programme and its partners are published. The team prepared a 16-page programme brochure where aims of the programme are explained and partners are introduced. Also, a 2-page flyer was designed to promote the programme. In addition, other branded promotional materials, such as: folders, USB sticks, T-shirts etc., are investigated.

6. EXPECTED RESULTS

Expected outcome of the IP include a new curriculum for the field of rail logistics and a collection of teaching materials covering the five aspects of rail logistics, a collection of research projects (including research reports, posters and presentations), and articles developed during the duration of the programme to promote the IP.

Erasmus funding and Erasmus aims secure international dimension of RailNewcastle as well as recognition of the IP in students’ home universities. Students are expected to gain a basic knowledge on rail logistics, but also improve various other skills, such as: language, self-awareness, independence and intercultural understanding.

After successful completion of RailNewcastle lecturers involved in the IP will produce a Handbook where teaching materials as well as partners experience of developing and delivering the IP will be shared. The Handbook is expected to be published with Elsevier as a special issue of Research in Transportation Economics before the end of 2012.

Overall, RailNewcastle is expected to be an exciting and informative experience for all students and staff participating in the programme.

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