



**MASTER DEGREE PROGRAM IN RAIL BASED TRANSPORT
SAFETY - NECESSITY AND OPPORTUNITY FOR ROMANIAN
ACADEMIC ENVIRONMENT**

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Abstract: *The present paper is a short synthesis of the research results of CONSTANT international project, funded by the ASO Sofia. We acknowledge that in Romania there is a traditional education in favor of rail-based transport safety, with well organizational structure for vocational jobs. Nevertheless, there is a lack of academic education for high position personnel especially for administrative jobs and University Politehnica of Bucharest can provide a safety rail transport M.Sc. program according to the rail integration tasks for the European transport area.*

Key words: *rail-based transport safety; high staff; academic education; life-long learning; master degree program*

INTRODUCTION

The research activities under the CONSTANT project (CONcepts for life long learning to further increase SafeTy on rail based trANsporT systems) was focused on life long learning from the viewpoint of the significance of the knowledge on the European acquis for increasing safety in the rail-based transport infrastructure.

The main tasks of the project were:

- ◆ Developing a questionnaire to explore the current situation;
- ◆ Carrying out in-depth interviews in different countries;
- ◆ Documenting and summarizing the results;
- ◆ Develop a comparative analysis report;
- ◆ Developing guidelines;
- ◆ Creating national models of life long learning;
- ◆ Developing web dissemination.

The project was accomplished by partners from different types of countries: Austria, an EU member country, Bulgaria and Romania (new EU

member countries) and Serbia and Montenegro (Western Balkan countries) [1].

The joint research provided the opportunity for all partners to compare and benchmark their concepts for life long learning to further increase safety on rail-based transport systems.

The joint research offered the opportunity to integrate the competence and experience of the Austrian experts into the research activities from East European countries.

At the same time, all partners investigated the similar problems concerning the quality of labor force and a possible decision by creating adequate models for life long learning to further increase of safety in the in rail-based systems.

RAIL SAFETY & SECURITY – LEGAL FRAME

EUROPEAN LEGAL FRAME

Council of Europe of the European Commission settled the main directives to draw

the legal frame concerning the rail safety and security [2,3,4,5].

The EC mandate 09/II/2006 appointed common safety targets, safety methods and common harmonized requirements for safety certification to the European Railway Agency.

This important organization consists of: one representative of each Member State; 4 representatives of the European Commission; 6 representatives at European level of the interested groups (Railway undertakings; Infrastructure managers; Railway industry; Workers unions; Passengers association; Freight customers).

The main objectives of the Agency are:

- Keeping the national rules to a minimum and notifying them to the EC;
- Classifying the national rules and registering them in the Agency public database;
- Assisting the EC in the examination of the national safety rules and preparing technical options for the national regulatory bodies;
- Drafting harmonized formats for safety certificates and migration towards a single Community certificates.

Milestone achieved are:

- Report on technical examination of the notifications on national safety rules (December 2006);
- Recommendation to the Commission on harmonized formats for Safety Certificates, and milestones ahead consisting of:
 - Public database of national safety rules (2007-2008);
 - Single Community Safety Certificate (before 2010).

The common safety methods describe how safety levels, achievement of safety targets and compliance with other safety requirements are assessed in EU member states. As milestone is considered the harmonization of the methods (2007) for:

- ◆ Hazard identification, analysis and ranking;
- ◆ Risk calculation and assessment;
- ◆ Hazard management.

The common targets which represent the safety levels and safety performances must at least be reached by the system as a whole in the EU member states.

The safety targets have to meet the criteria: Specific, Measurable, Achievable, Realistic, Time-related (SMART criteria).

European Railway Agency has to monitorise the safety attributes, performing the followings:

1. Developing the common definitions on safety indicators;
2. Assessing the common methods to calculate accident costs (2009);
3. Providing the Agency biennial safety report for the common safety indicators in the EU;
4. Providing the Annual reports produced by National Accident Investigation Bodies.

ROMANIAN LEGAL FRAME

In Romania the most important organizations responsible for rail security and safety are (without any hierarchical specification):

1. General Revisers Body for Rail Traffic Safety of the National Railway Company – “CFR”, having the territorial hierarchical structure - operational organization;
2. Romanian Railway Authority –AFER;
3. Romanian Railway Supervisor Council;
4. National Centre of Railway Personnel Training – CENAFER;
5. Ministry of Administration and Internal Affairs–MAI, by the Railway Police Department.

The safety and security special training (most of these as operational training) for all the staff (low, medium and high educated staff) is the responsibility of:

- the Regional Revisers Body for Rail Traffic Safety from each of the 8 Regional Railway Companies;
- Romanian Railway Authority –AFER;
- National Centre of Railway Personnel Training – CENAFER.

ACTUAL ROMANIAN RAIL SAFETY TRAINING

Romanian National Centre of Railway Personnel Training–CENAFER is the national specialized authority of the Ministry of Transports, Constructions and Tourism appointed to provide vocational training, qualified skills training, follow-up training and periodical vocational check of the staff carrying out activities specific to the railway transport on the terms of traffic safety, transport security and high-quality railway services, and to participate in commissions for the authorization of the railway staff assigned with traffic safety responsibilities.

In order to cover its activity scope, CENAFER [6], has the following main attributions exercised in conformity with the legislation in force:

- Organizing and carrying out professional training programs - qualified skills training courses for the staff performing railway activities, for jobs and trades specific to the railway transport field, according to the national and international regulations in the field;
- Organizing and carrying out mandatory follow-up training in order to acknowledge the competence of the personnel performing railway activities, in conformity with the national and international regulations in the field;
- Organizing and carrying out periodical vocational check programs for the staff performing railway activities;
- Providing conditions for carrying out programs for the authorization of the personnel assigned with traffic safety responsibilities performed by the Romanian Railway Authority - AFER, as well as participating in the commissions for the authorization of this personnel;
- Organizing and carrying out training programs for the personnel performing activities specific to the railway transport - updating/refreshing their professional knowledge, acquiring professional knowledge of the new installations, rolling stock, techniques and technologies come up on the market;
- Drawing up methodologies, programs, theme plans, documentary materials, etc., necessary for the activity of vocational training, qualified skills training, follow-up training or periodical vocational check for the personnel performing railway activities.

For the moment, there is provided no training system for the high, middle and low level staff on European harmonized regulations concerning rail safety.

ROMANIAN HIGH EDUCATION IN RAIL SAFETY

The specificity of the training concerning rail safety in Romania implies also a life long high-education as postgraduate level or as M.Sc. degree.

The Romanian actual system of training program for the low and middle education levels of the rail

personnel is an appropriate one. The CENAFER organization has full responsibility of the training and authorizing process concerning rail safety for all operational personnel (including high-educated).

At the university level, Transport Faculty from University Politehnica of Bucharest can provide courses for the high-staff of the board of railway companies, which are (at least) responsible with:

- Safety and security issues;
- Strategies of railway development;
- Interoperability with European railway network;
- Compatibility of safety and security structures (bodies, performance, measurements indices, etc.) with EU countries.

The university will provide the recognition form of the high-education in the rail safety as a postgraduate diploma for a life long program or M.Sc. degree, after the accreditation process.

Academic implication in the systems of life long learning at Romanian transport companies can provide (at least):

1. The theoretical background of the legal frame of regulation on transport safety as a system;
2. Main regulations regarding traffic safety and transport security of Rail Transport in Romania and Europe;
3. Rail transport safety management at different organizational levels, concerning infrastructure, but also the rolling stock and technologies safety aspects.

Proposed trainers are:

- University professors from our university and invited professors from other university in EU, especially from Balkan countries (our Faculty provides already doctoral education for a number of young professors in the safety and security area), with expertise in rail domain, but also in technical education science.
- Invited experts from Romanian high bodies or EU bodies, in railway safety field.

The venue of training is the university but also spaces granted by the Ministry of Transport.

Taking into consideration the rail safety training specificities in Romania, we propose a university post-graduate program in traffic safety (2 years - 4 semesters). All activities concerning this process (structuring of the curricula and syllabus, teaching, examination, etc.) are open to cooperation in Balkan region and other EU countries.

Collaboration with other universities from EU, especially from the countries having Transport Faculty as distinctive high-education school and, especially from Balkan countries will provide the following issues:

- Identifying common definitions on safety indicators;
- Assessing common methods to calculate accident costs;
- Disseminating in a dedicated international conference on rail safety the research and ideas about the safety rules, assessment methods, European regulations etc. ;
- Exchanging experience and information about methods for preventing and combating all events related to safety aspects on railway premises.

CONCLUSIONS

The CONSTANT project was useful for all partners to compare and benchmark their concepts for life long learning to further increase safety on rail-based transport systems.

We acknowledge that there is a necessity and an opportunity to develop a high education program (following the B.Sc. degree) for Romanian rail safety as a M.Sc. degree or as a post-graduate program. The main objective is the integration of the national rail-transport into the European rail area, taking into account the quality, safety, and security indicators.

The future international academic collaboration with universities from EU,

especially from the countries having distinctive Transport Faculties and from Balkan countries is very welcome.

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[6]***EC Directive 2001/16/EC (Interoperability of Trans-Europe rail system) <http://eur-lex.europa.eu/LexUriServ/>

[7]*** EC Directive 2004/49/EC (Rail safety directive) <http://eur-lex.europa.eu/LexUriServ/>

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МАГИСТЪРСКА ПРОГРАМА ПО БЕЗОПАСНОСТ НА РЕЛСОВИЯ ТРАНСПОРТ – НЕОБХОДИМОСТ И ВЪЗМОЖНОСТ В РУМЪНСКАТА АКАДЕМИЧНА СРЕДА

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Резюме: Докладът синтезира накратко изследователските резултати по международния проект „КОНСТАНТ”, финансиран по програмата на ЕС ASO, София. Признаваме, че в Румъния съществува традиционно обучение в полза на безопасността в релсовия транспорт с добре организирана структура за професионална работа. Липсва обаче академично образование за персонала на високи длъжности, специално за администрацията, и Университетът „Политехника” в Букурещ може да предложи магистърска програма по безопасност в релсовия транспорт в съответствие със задачите за интегриране към европейската транспортна област.

Ключови думи: безопасност на релсовия транспорт; високопоставен състав; академично образование; продължаващо обучение, магистърска програма.