



Todor Kableshkov Higher School of Transport Sofia, Bulgaria

WHO WE ARE:

Todor Kableshkov Higher School of Transport (VTU) is a unique institution of this type on the Balkans. It was established in 1922 and throughout the years has proved to be an important national training and research center. It has trained over 30,000 employees for the transport sector in Bulgaria.

VTU is a public university of applied sciences with state accreditation, an ISO 9001-2008 certificate, Erasmus Charter, a system for e-learning and a test center for ECDL certificates. It trains students for the university degrees of BSc, MSc and PhD in the field of engineering, economics and management. The academic staff consists of more than seventy lecturers with academic ranks who are also prominent researchers in the field of transport. They carry out wide-scale research as most of the results have found direct application in practice.

The Higher School of Transport keeps traditional partnerships with many national and foreign institutions of higher engineering education and research centers in Europe and other regions. The priorities of the international cooperation include the development of joint research projects and collaboration in educational activities as well as the exchange of students and professors.

VTU is the main organiser of the annual international scientific conference "TRANSPORT". Since 2003 it has been publishing an academic e-journal: "Mechanics, Transport, Communications."

COLLABORATION INTERESTS:

VTU is interested in participating in research and educational European projects in the field of surface transport and related issues concerning the research areas listed below. The university could be a coordinator, partner or subcontractor.

AREAS FOR R&D COLLABORATION:

- Socio-economic aspects of the EU policy in the transport sector;
- Evaluation of the economic efficiency in transport;
- Liberalisation of the transport market;
- Modeling, studying and testing vehicles;
- Study on strength, life cycle and dynamics of vehicles;
- Electronic control systems in railways;
- Study on speed properties and indices of transport vehicles;
- Modeling and testing of handling machines;
- Study on storage processes;
- Interaction in the track-rolling stock system;
- Modeling and testing of electric drives;

- Study on and analysis of overhead indicators;
- Power plants and substations;
- Study on road and track geometry;
- Study on rail superstructure;
- Design and study on new tracks, modernisation of the existing ones; bridges and overpasses;
- Assessment of the changes in reinforced concrete structures bearing capacity;
- Design and testing of models for traffic simulation;
- Analysis of transport systems reliability;
- Cost – benefit analysis of railway infrastructure projects;
- Transportation of dangerous goods by rail;
- Analysis of terminals under the conditions of concession;
- Modeling and study on passenger flows in urban public transport;
- Ecological problems of transport infrastructure;
- Strategy for implementation of the ERTMS;
- Safety and reliability, analysis and assessment of railway and other control systems;
- Study on radio network of second and third generation GSM cellular networks.

MAIN ACHIEVEMENTS:

- Development of a great number of projects, funded by internal sources and national programmes, e.g. National Science Fund, Innovation Fund, Structural funds;
- Participation in projects, funded by the Open Society Fund, the World Bank, COST, ASO, DAAD;
- Participation in 3 FP6 projects (coordinator of one of them), in 2 FP7 projects, a partner in SUSTRAIL, an approved FP7 project under negotiations;
- A great number of lecturers work on research tasks, assigned by transport companies and public organisations and provide consultancy services;
- Most research results are directly applied in practice;
- Research results are presented at national and international conferences or published in books, academic journals and proceedings in Bulgaria and other countries;
- Participation of representatives of the teaching staff in transport policy-making bodies, consulting bodies of transport companies, national and international scientific forums;
- Since 1989, VTU has been organising annual international scientific conference, called TRANSPORT (TRANSPORT 2011 will be the 20th conference);
- Publishing an academic e-journal "Mechanics. Transport. Communications" (<http://www.mtc-aj.com>). Since 2003, there has been a paper version as a result of a project, funded by the Open Society Fund;



WHAT MAKES US A GOOD PARTNER?

- Availability of highly qualified teaching staff, experienced in research and scientific consulting activities;
- Experience in developing and coordinating national and international projects;
- Experience in organising scientific events, publishing proceedings and an academic e-journal;
- Availability of modern technical equipment necessary for research;
- Close connections with transport companies and transport – related industry;
- Connections with many universities and research organisations in Europe;

EU PROJECTS:

- RRTC (Regional railway transport research and training centre foundation), FP6, 2005-2007 – coordinator;
- SELCAT (Safer European Level Crossing Appraisal and Technology), FP6, 2006-2008 – partner;
- ENACT (Design Appropriate Contractual Relationships), FP6, 2007-2009 – partner;
- TransBonus (Transport EU-Western Balkan Network for Training, Support and Promotion of Cooperation in FP7 research activities), FP7, coordinated by ARC Fund, 2009-2010 – partner;
- U-STIR (User Driven Stimulation of Radical New Technological Steps in Surface Transport), 2009-2010 – subcontractor;
- TransNEW (Support for realising New Member and Associated States’ potentials in transport research), FP7, 2010-2012;
- RIFLE (Rail Freight and Logistics Curriculum Development), Erasmus Curriculum Development, 2010-2013 – partner;
- Participation in COST actions;
- Participation in Leonardo da Vinci projects.

OTHER PROJECTS:

- Modelling of general stochastic processes by approximation with phase-type distributions, (German Academic Ex-

change Service), 2006-2007;

- CONCEPTS for life long learning to further increase SafeTy on rail based trANsporT systems – CONSTANT, Zentrum für Soziale Innovation, Austrian Science and Research Liaison Offices (ASO) in Ljubljana and Sofia, 2006-2007 – coordinator;
- Infrastructure of Urban Public Transport: Social and Psychological Aspects, Zentrum für Soziale Innovation, Austrian Science and Research Liaison Offices (ASO) in Ljubljana and Sofia, 2006-2007 – partner;
- Social Aspects of Mass Urban Transportation, NSF, bilateral cooperation between Bulgaria and Slovak Republic, 2007-2009;
- Modernisation and building up of a computer and information centre for applied research in the field of transport, NSF Bulgaria, 2007-2009;
- Creating Mechanisms for Internships of Students of Higher School of Transport (VTU), Operational Program “Development of Human Resources”, 2008-2009 – coordinator.



OTHER INFORMATION:

Name of the organisation: Todor Kableskov Higher School of Transport (VTU)

Organisation type: University

Number of researchers: 139

Working languages: Bulgarian, English, Russian

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