



University St. Kliment Ohridski Faculty of Technical Sciences - Bitola



WHO WE ARE:

The foundation of the faculty dates back to 1961 with the formation of the Mechanical department and the Electro-Engineering department of the Higher Technical School. In 1977 the Higher School was transformed into the Faculty of Technical Sciences. In the last three decades, the Faculty of Technical Sciences has undergone certain changes of the educational model, which have resulted in a modernisation of the teaching process.

The Faculty of Technical Sciences in Bitola is the greatest higher educational unit of the University St. Kliment Ohridski. Considering the large number of students and numerous academic staff, the faculty practically represents a polytechnic university with several departments and study programmes. These include the unique study programme of traffic and transportation engineering. The full-time staff consists of 55 professors and 15 teaching assistants, working in six departments: Electrical Engineering, Traffic and Transport, Graphical Engineering, Informatics and Computer Sciences, and Industrial Management.

The Faculty of Technical Sciences has a leading role in the realisation of numerous research projects: UNESCO, TEMPUS, INTERREG, FP6, FP7 and other internationally and nationally funded research projects, including the latest international project for testing innovative strategies for urban transport in historic European cities with 30 partners in 6 countries.

COLLABORATION INTERESTS:

The Faculty of Technical Sciences is trying to establish partnerships and form project consortia with numerous faculties and research institutions and is looking for participation and cooperation in FP7, COST, EUREKA, SEE-ERA-NET and other international projects.

Based on previous experience and variety of successfully implemented scientific projects, researchers from FTS are ready to play all potential roles during future project collaborations including: project coordinator, research partner, scientific expert and consultant.

AREAS FOR R&D COLLABORATION:

The faculty with its laboratories and its researchers has vast experience and an excellent reputation. Solving complex traffic and transportation problems, i.e. planning, organising, managing and exploiting the traffic and transport strengths, requires specialised and multidisciplinary knowledge in order to find solutions that meet specific criteria (safety, reliability, rationality, environmental acceptability and profitability). The areas of potential R&D collaboration and cooperation are:

- Intelligent traffic management and control;
- Adaptive signal control;
- Traffic and transportation modeling and micro-simulation;

- Transport networks;
- Road infrastructure planning;
- Advanced public transport systems;
- Software expertise in traffic accidents;
- Intelligent transport systems;
- Environmental management and decision support systems;
- Environmental impact assessment from mobile sources;
- Air pollution modeling and simulation;

WHAT MAKES US A GOOD PARTNER?

The Faculty of Technical Sciences has always been recognised and praised by project coordinators (project leaders) and project contractors as a timely and responsible party, whose results and deliverables were judged with high marks and were praised for their scientific quality.

The very strong cooperation and collaboration between the departments of Traffic and Transportation, Mechanical and Electrical Engineering and Informatics and Computer Science provides a synergetic influence between researchers and they are all dedicated to solving complex traffic and transportation problems, i.e. planning, organising, managing and exploiting the traffic and transport strengths, which requires specialised knowledge and a multidisciplinary approach.

IMPLEMENTED PROJECTS:

FP7 projects:

- RENAISSANCE (Testing Innovative Strategies For Clean Urban Transport For Historic European Cities), Seventh Framework Programme Cooperation – Theme.

Selection of international and national projects:

- "Transport and Environment," PHARE project, September 1999.
- "GHG Abatement Analysis In Republic Of Macedonia", United Nations Development Programme.
- "Pre-feasibility Study for Medial-term Development of Public Utilities in Municipality Bitola", PHARE CBC programme.
- "Development of knowledge of education and research institutes active in environmental issues for the development of a common cooperation framework for harmonization with EU legislation and know – how transfer", INTERREG III project, Thessaloniki, Greece.
- Air Pollution Modeling for Regulatory Purposes, partners: Faculty of Technical Sciences, National Environmental Research Institute, NERI, Cambridge Environmental Research Institute, CERC, UNESCO; period 01/01/98-31/12/99.
- Regional Program for Transport Staff Qualification, project partially supported by the Open Society Foundation, Sofia, Bulgaria, 2002.
- Municipal case study TRANSPOWER-FP 6, Skopje, 2008.
- Environmental impact from transport: economical, legal,

planer and environmental aspects, 2001, financed by Ministry of Science and Education, Republic of Macedonia.

- Demand Responsive Transport, 2003, project financed by Ministry of Science and Education, Republic of Macedonia.
- Development of Simulation Model for transport flow, 2004, project financed by Ministry of Science and Education, Republic of Macedonia.

Selection of TEMPUS projects:

- Development of University Information System. Coordinator: Faculty of Technical Sciences – Bitola.
- Distance Education System. Coordinator: Faculty of Electrical Engineering – Skopje, local coordinator: Faculty of Technical Sciences – Bitola.
- Virtual Laboratory as a part of a Virtual University.” Coordinator: Faculty of Electrical Engineering in Skopje, local coordinator: Faculty of Technical Sciences – Bitola.
- Specialist Studies for Professor of Secondary Vocational Education in Mechanics.” Coordinator: Faculty of Technical Sciences Bitola.
- Wireless Campus for Strengthening of Student Services. Coordinator: Faculty of Electrical Engineering in Skopje, local coordinator: Faculty of Technical Sciences – Bitola.
- Management and Business Education in Computer Studies. Coordinator: Faculty of Natural Sciences and Mathematics in Skopje, local coordinator: Faculty of Technical Sciences – Bitola.
- Implementation of ECTS at the University St.Kliment Ohridski – Bitola. Coordinator: Faculty of Technical Sciences – Bitola.
- Virtual Digital Library and Digitalisation as a part of DES (Distance Education System) Coordinator: Faculty of Electrical Engineering – Skopje, local coordinator: Faculty of Technical Sciences – Bitola.
- Exchange of best practices in establishing ECTS. Coordinator: Faculty of Technical Sciences – Bitola.
- Multilingual Internet Step by Step Maths for All, (www.emathforall.com). Coordinator: Faculty of Technical Sciences – Bitola.
- Workflow and Document Management Infrastructure towards Integrated University. Coordinator: Faculty of Natu-

ral Sciences and Mathematics – Skopje, local coordinator: Faculty of Technical Sciences – Bitola.

- Quality Assurance and Accreditation System Network. Coordinator: Faculty of Mechanical Engineering – Skopje, local coordinator: Faculty of Technical Sciences – Bitola.
- Upgrading of a System for Quality Assessment at the University “St. Kliment Ohridski” - Bitola, Coordinator: Faculty of Technical Sciences – Bitola.
- Video-Conferencing Educational Services. Coordinator: MAR-Net, local coordinator: Faculty of Technical Sciences – Bitola.



Fig 2. Using of modern ICT Tools (Micro-simulation, GIS)

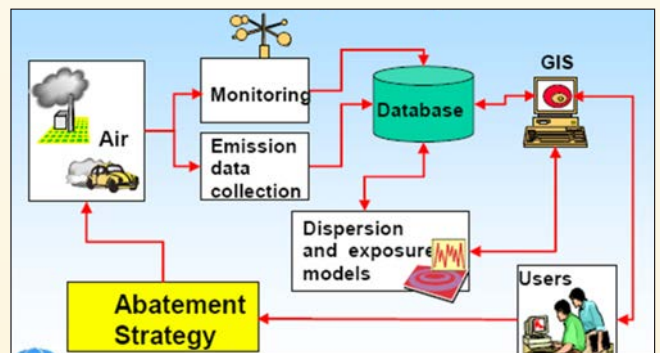


Fig 3. Global Framework for Development of Decision Support Systems

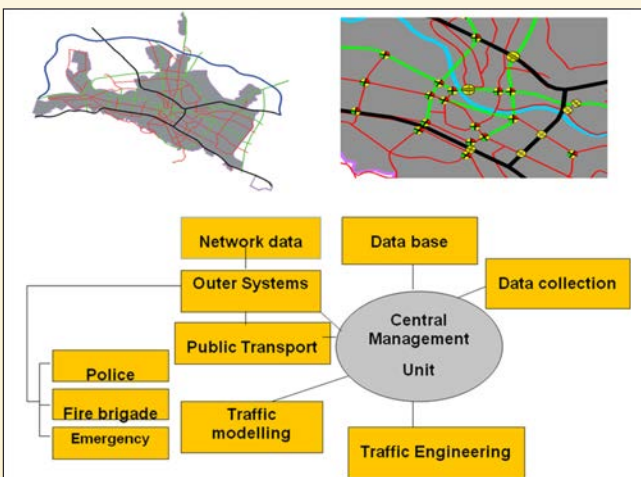


Fig 1. Global concept of Traffic Management System

OTHER INFORMATION:

Name of the organisation: Faculty of Technical Sciences-Bitola, University St. Kliment Ohridski

Organisation type: Institution of higher education

Names of the research departments:

- Traffic and Transportation Department
- Informatics and Computer Technologies
- Electrical Engineering Department

Number of researchers: 70

Working languages: Macedonian and English

Webpage: www.tfb.edu.mk

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