



Polytechnic University of Tirana

Mechanical Engineering Faculty

WHO WE ARE:

The Faculty of Engineering (MEF) at the Polytechnic University of Tirana (PUT) has 53 years of experience in engineering education. MEF is composed of four departments which are subdivided into sections: the Department of Technology and Management (3 sections); the Department of Energy (2 sections); the Department of Mechanics (2 sections) and the Department of Textiles (2 sections). Up to now, MEF has graduated approximately 3500 mechanical, 500 metallurgical and materials engineers and 300 textile engineers. Currently, 715 students are enrolled and taught by 72 academic and non-academic staff. MEF also teaches courses to all faculties in PUT and to one faculty at Tirana University. In total, MEF is involved in 39 courses in undergraduate and graduate studies. The main areas of study include: Materials and Technologies; CAD-CAE; Thermodynamics; Heat and mass transfer; Machines; Details; Fundamentals of Design; Quality Management; Organisation and Management and Industrial and Thermo-technical Plants. MEF of Tirana awards the following degrees: Mechanical Engineer of Energy, Mechanical Engineer of Production and Management, Mechanical Engineer of Mobile Engines, Engineer of Materials and Metallurgy and Textile Engineer. MEF's policy is to meet EU standards to the fullest extent and as rapidly as possible, especially in terms of engineering didactics and modern programmes.

COLLABORATION INTERESTS:

Interests for collaboration include:

- Enhancing connectivity between research solutions and policy-making for the sustainable development of transport;
- Transport needs for an ageing society;
- Enhanced cross-fertilisation and synergies in research actions, dealing with safety aspects;
- Modelling of co-modality quick-wins: Roadmap towards co-modality;
- A productive international cooperation to strengthening the European transport research area and facing global challenges;
- Efficient interfaces between transport modes;

MEF is also interested in collaborating in improving services in terminals, traffic and information management, transport planning and traffic information systems in cities.

AREAS FOR R&D COLLABORATION:

The most important areas for R&D collaboration include: the greening of products and operations; transport information and data base design for all modes of transport, storage, processing and updating the information, collected from all transport information sources; policy and legislation for harmonisation of the

Albanian legislation for the transport sector with EU legislation, conventions and agreements for the transport sector; projects and research for transport issues, infrastructures, the Urban Plan of Traffic and Signalling for cities up to 2000 inhabitants; safety and security including environmental and cost benefit analyses; traffic and information management; integral system and security for the surface transport system; transport policy and road safety of vulnerable road users in emerging economies.

MAIN ACHIEVEMENTS:

In more than 50 years of activity, the Mechanical Engineering Faculty has accomplished up to 50 pre-feasibility and feasibility studies in the field of mechanical engineering. It is important to mention a few of these main achievements as follows:

1. A possibility of production of diesel engines with power 7 h.p.-590h.p. for transport, agriculture and military use.
2. The design of a gas exchange system in internal combustion engines.
3. Some problems of improvement of technology for repair, maintenance and technical service of cars and tractors.
4. Test of internal combustion engines.
5. Study of construction of air filters for internal combustion engines.
6. The determination of the performance of air filters of internal combustion engines in Albanian conditions.
7. The simulation of the unsteady flow in the axial fans.
8. The determination of the mathematical model of the unsteady fluid flow, including mathematical and physical simulations of these flows.
9. "The treatment of the hospital hazard waste for the Tirana Hospital" study, including data collection and determination of the way for the energetic treatment of hospital hazards.
10. Technical evaluation of gas supply.

A considerable part of the activities and projects are performed in cooperation with international consultants and are financed from PHARE, European Commission Programmes, the World Bank and others.

The project teams include experts from the staff of MEF who are collaborators with much experience in the transport field and academia. MEF is involved in the European Commission's current programmes and calls for transport themes and is continuously in search for partners to cooperatively prepare project proposals and participate as a local partner in EU projects.

WHAT MAKES US A GOOD PARTNER?

- Scientific research experience;
- Human research resources;
- Laboratories;



- Good collaboration with European universities;
- Participation in various European projects;
- MEF is the unique national public education institution for transport research in Albania;
- Up to 50 years of experience in research and projects in the field of transport;
- Works in close collaboration with government bodies, central and local public transport agencies, statistical institutions, private experts etc;
- In charge of managing and updating the national database for transport information, which is part of the network of all transport institutions in Albania;
- Experienced in formulation of methodology and Terms of Reference (ToR) for transport;
- Professional staff, trained and qualified in transport issues;
- Author or/and local subcontractor in European funds projects (PHARE, CARDS, etc);

EU PROJECTS:

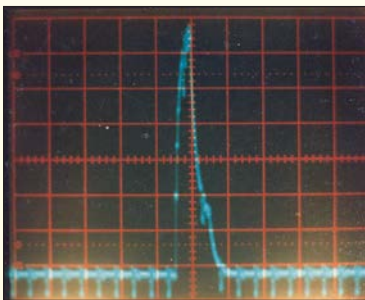
1. Transport EU-Western Balkan Network for Training, Support and Promotion of Cooperation in FP7 research activities (TRANSBONUS), FP7, 2009-2010.
2. Cooperating for mobility Demand management Enhancement (CODE), New Adriatic Neighbourhood Programme INETRREG/CARDS-PHARE, 2007-2008.
3. Mobility Management – Bari – Tirana, Interreg 3, 2008.

OTHER PROJECTS:

1. Urban Plan of Traffic and Signalling of Vlora City, co-author with A.T.I.
2. The study on National Air Passengers Transport, co-author with A.T.I.
3. Methods on Calculation of Road Accidents Cost, co-author with A.T.I.
4. The Study on National and International Interurban, co-author with A.T.I.

VIEWS FROM VARIOUS STUDIES ACCOMPLISHED IN MEF

1. Injection characteristic of e diesel engine



2. Images from the process of assembly of a Pelton turbine. M.E.F. is leader of working group.

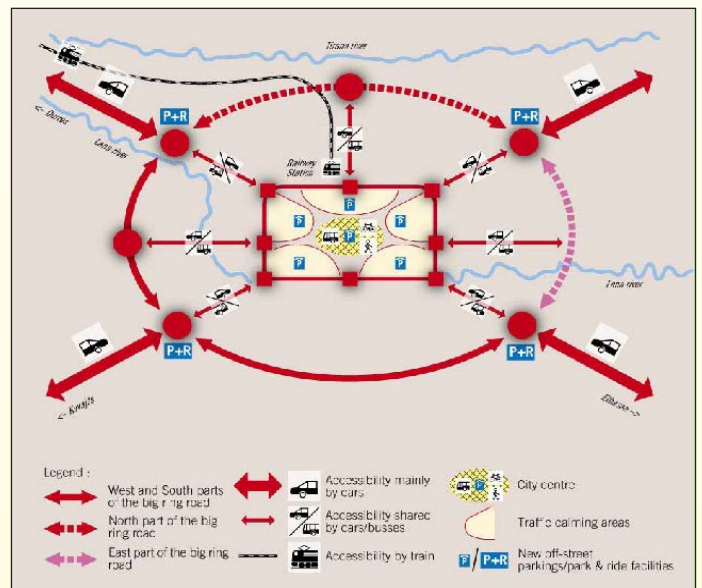


3. MO.S.T. PROJECT



Data Acquisition on Intermodality in Tirana.

(Public transport, cycling and roads accessibility) MO.S.T. Project



The figure illustrate schematically the multimodal transportation concept for Tirana transportation management.

OTHER INFORMATION:

Name of the organisation: Mechanical Engineering Faculty

Organisation type: Public institution

Names of the research departments:

- Mechanical and Transport Department
- Energy Department
- Production and management Department

Number of researchers: 32

Working languages: Albanian, English, Italian, French

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