



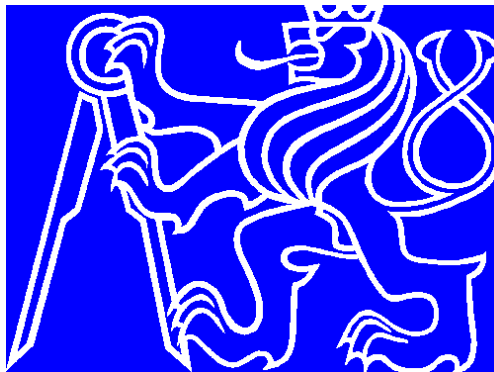
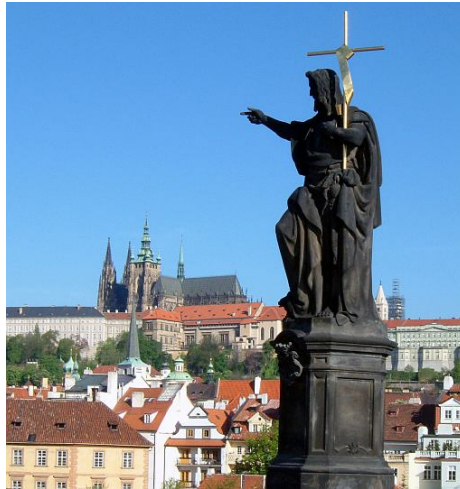
FAKULTA
DOPRAVNÍ

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Intelligent Transport Systems as Study Programme

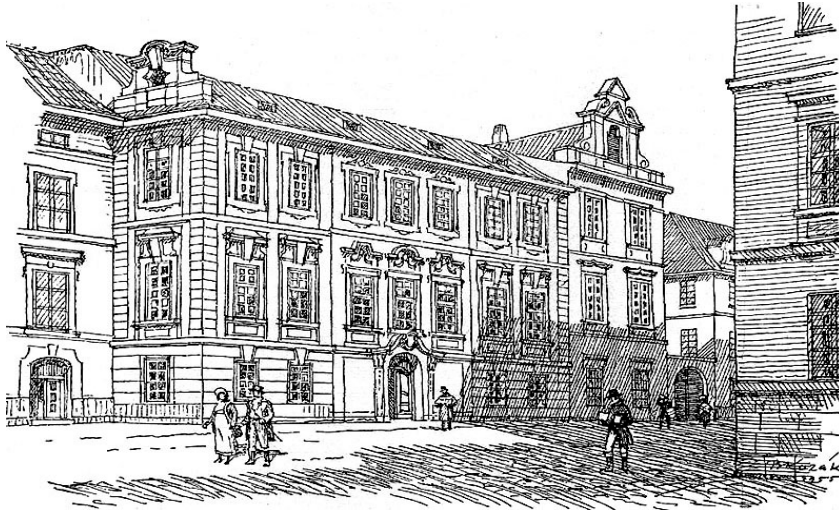
Some basic facts of CTU

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Some basic facts of CTU

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- 1707 - Rescript of Joseph I.
- 1717 - Czech General Estates School
- 1803 - Prague Polytechnic
- 1879 - Technical University
- 1920 - Czech Technical University

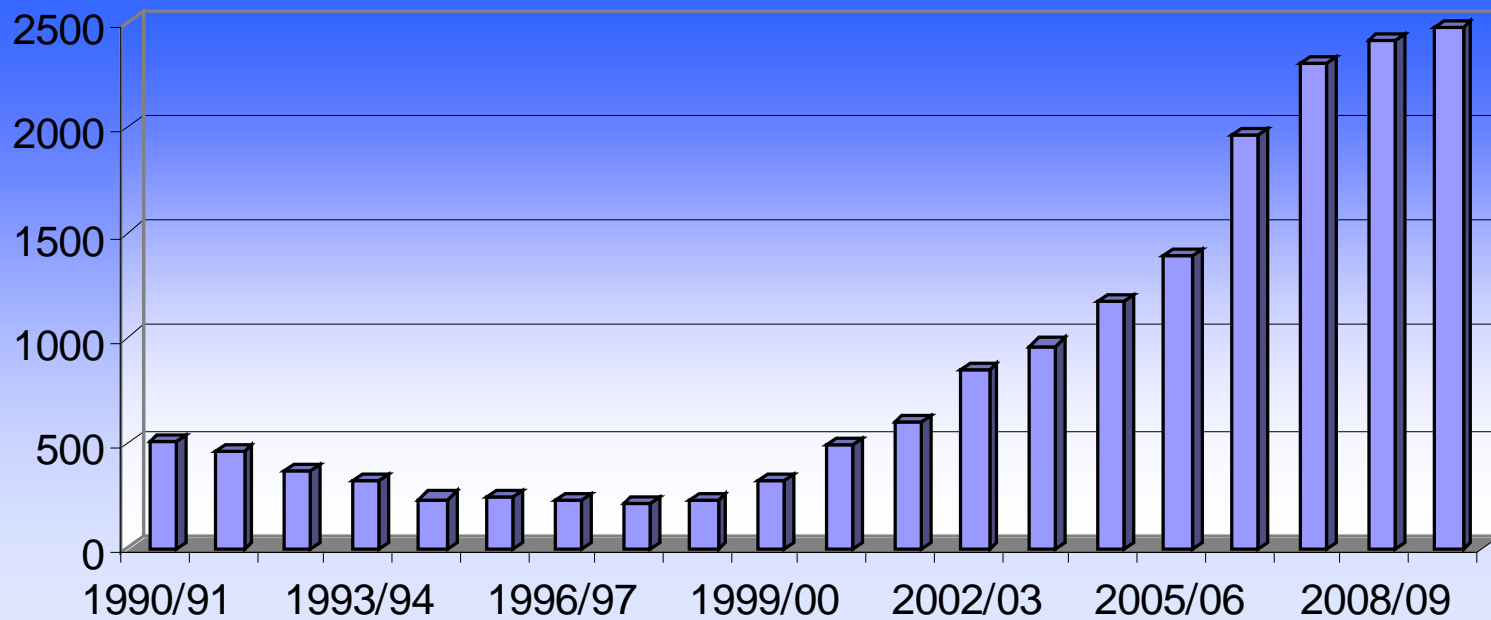




<u>CTU has eight faculties – engineering schools</u>	23 902
•Civil Engineering	6 444
•Mechanical Engineering	3 502
•Electrical Engineering	6 619
•Nuclear Sciences and Physics Engineering	1 593
•Architecture	1 767
•Transportation Sciences	1 934
•Biomedical Engineering	783
•Informatics	466



international students - more than 10% of all students





- since academic year 1993/1994 , started with 150 students
- today has 1934 students in Bc., MSc., and PhD. programmes
- among them there is 124 international students
- since the beginning (1995/1996) **project oriented education**



Study programmes and profiles

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You can study in the bachelor study programme
Technology in Transportation and Telecommunications
in following profiles:

- Transportation Systems and Technology
- Management and Economics
- Automation and Informatics
- Air Transport
- Professional Pilot
- Aircrafts Maintenance Technology
- **Intelligent Transport Systems**





In Prague only, you can study Master degree in the following profiles:

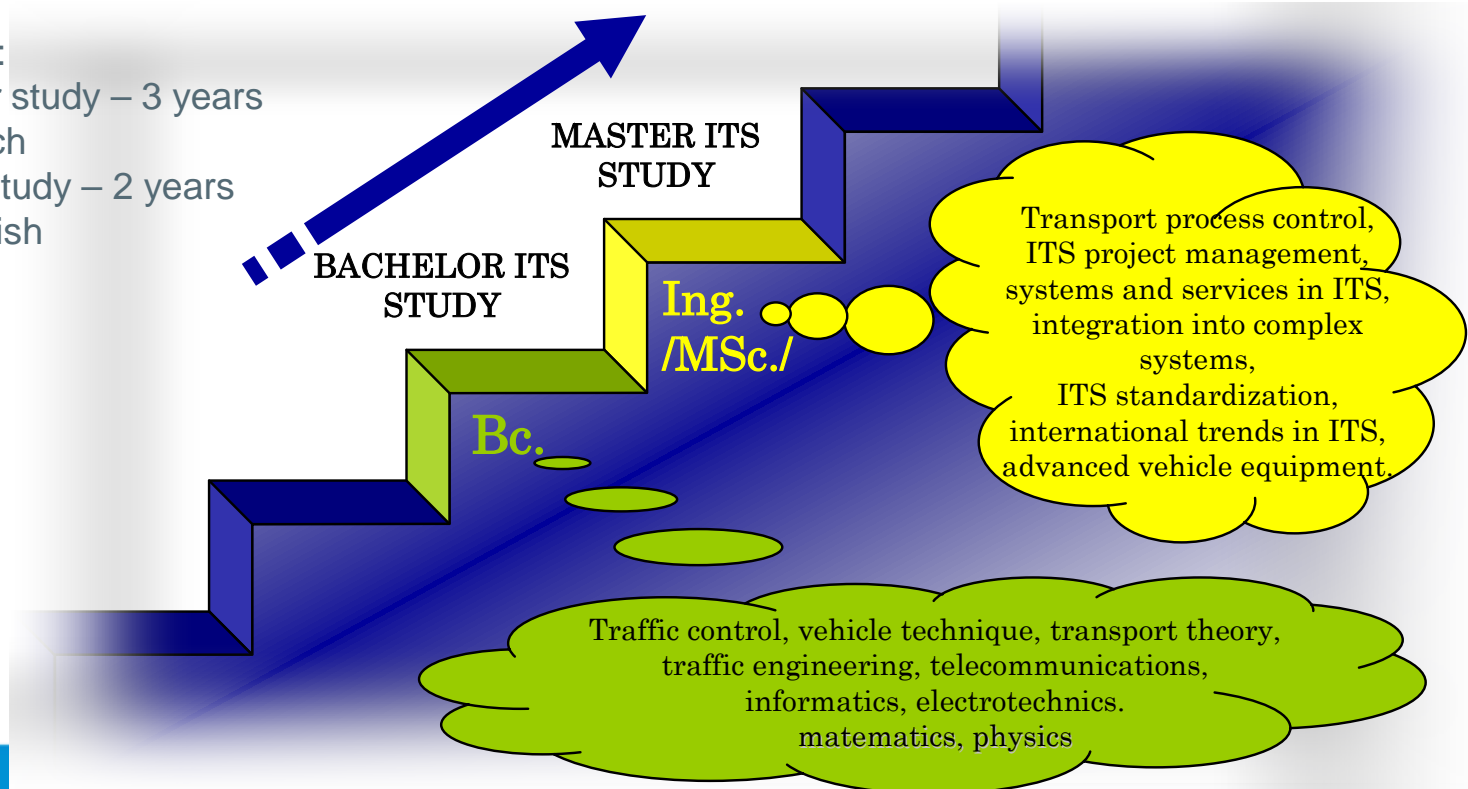
- Transportation Systems and Technology
- Management and Economics of Transportation and Telecommunications
- Engineering Informatics in Transportation and Communications
- Air Traffic Control and Management
- Intelligent Transport Systems (double degree program with University in Linköping and Wien)
- Logistics and Multimodal Transport (Trans-Atlantic dual degree in co-operation with University of Texas at El Paso)





Study structure:

- bachelor study – 3 years
- in Czech
- master study – 2 years
- in English



ITS Study programme

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	Mathematics & Physics	Informatics	Technical	Economical & Environmental	Transportation	Special ITS	Languages & Facultative	Project
semester 1st	ITS Mathematical Tools Theoretical Physics in Transportation	Information Security Signals and Codes	Safety, Reliability and Control System Theory	Energy Analysis of Land Carriage	Traffic Flow Theory	Telematic Systems and their Design	Language	Master's Project
semester 2nd	Pattern Recognition Data Processing	Traffic Modelling and Simulation	Technological Aspects of Quality	Economy and Management of ITS Projects Risk Analysis and Management (<i>facultative</i>)	Analysis and Prevention of Traffic Accidents Artificial Intelligence and Expert Systems in Transport	Telecommunications in ITS Intelligent Vehicle and Safety (<i>facultative</i>)	Language Compulsorily Facultative Course	Master's Project
semester 3th	Applied Mathematical Modelling	System Engineering Geographical Information, Localization and Navigation Systems	Special Materials and Technology (<i>facultative</i>)	ITS Effectiveness Assessment (<i>facultative</i>)	Transport and Environment Road Safety Audit Safety Critical Applications in Transport (<i>facultative</i>)	Railway Interlocking Systems (<i>facultative</i>) Vehicle Control Systems (<i>facultative</i>) Advanced Telematic Applications (<i>facultative</i>) Modelling of "Human - Machine" Interface	Language Compulsorily Facultative Course	Master's Project
semester 4th	Master's Thesis						Language	Master's Project

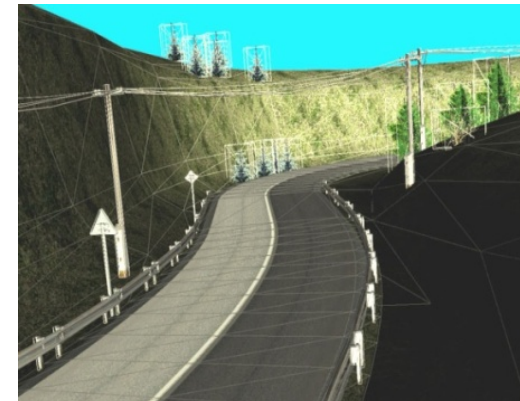


Project oriented education:

During study students work in teams under the leadership of specialists

Examples of student projects:

- Railway transport hall of FTS
- Transport and travel information
- Human – vehicle interaction
- Modelling and control of road transport
- Active safety of transport vehicles





- Students of the ITS master study program can apply for the **joint degrees** option part of EM-ITS (European Master of Science in ITS) study with:
 - University of Applied Sciences Technikum Wien, Austria
 - Linköping University, Sweden
- Students are awarded diploma from both universities

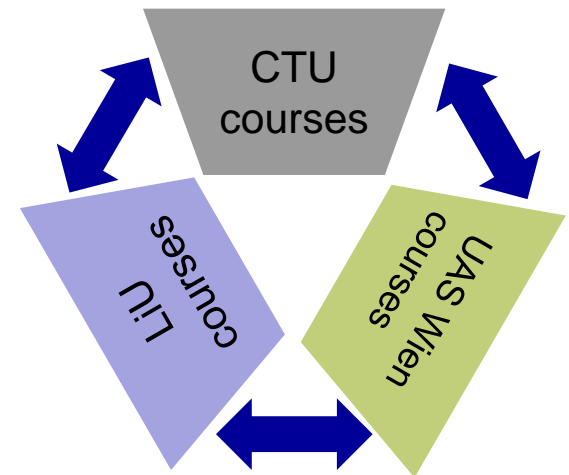


INSTITUTE OF TECHNOLOGY
LINKÖPINGS UNIVERSITET



The courses of the curriculum are organized in 16 thematic modules:

- Transportation Systems
- Intelligent Transport Systems
- Automated Data Acquisition and Processing
- ITS Management Skills
- Mathematical Tools
- Required Elective Module
- Traffic Modelling and Simulation
- Telecommunication
- GIS, Positioning, Navigation and Identification Systems
- Complex Systems
- Human Environmental Impacts, Safety and Sustainability
- Specialization in ITS 1, 2, 3 and 4
- Master's Thesis





Example of modules and related courses:

	Czech Technical University in Prague	University of Applied Sciences, Wien, Austria	Linköping University, Sweden
Traffic Modelling and Simulation	<ul style="list-style-type: none"> • Traffic Simulation • Traffic Flow Theory 	<ul style="list-style-type: none"> • Transport Modelling and Simulation 	<ul style="list-style-type: none"> • Traffic Planning and Simulation
Intelligent Transport Systems	<ul style="list-style-type: none"> • Telematic Systems and their Design 	<ul style="list-style-type: none"> • ITS in Rail, Water and Airborne Transportation • Traffic Telematics 	<ul style="list-style-type: none"> • Intelligent Transport Systems
Telecommunication	<ul style="list-style-type: none"> • Telecommunications in ITS • Signals and Codes 	<ul style="list-style-type: none"> • Telecommunications • Mobile Telecommunication and Network Technology 	<ul style="list-style-type: none"> • Mobile Communication

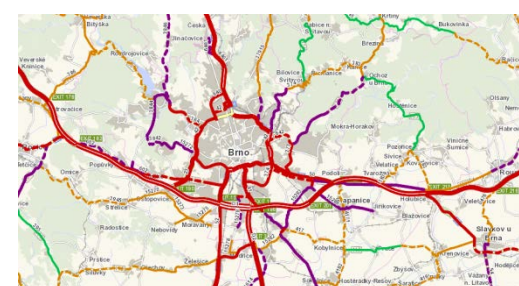


Students acquire:

- transport-technical knowledge
- a detailed understanding of intelligent transport systems, their components, upcoming development in the field
- practical knowledge of the design, control and evaluation of these systems

Employment possibilities for graduates are mainly:

- designers of complex transport systems
- transport professionals in public sector
- system operators of traffic control systems
- specialists in design and development of automotive industry
- project managers for large transport projects
- experts in evaluation of ITS systems





The study program runs as joint degrees since 2009

There are already several groups of graduates from the programme:

- July 2011 first international state exams in Vienna (Czech students defending their thesis elaborated under supervision of professors both in Vienna and in Prague)
- International final state exams at all three universities followed
- Graduates often continue their career or study (Ph.D.) in foreign country (e.g. Belgium, Germany)

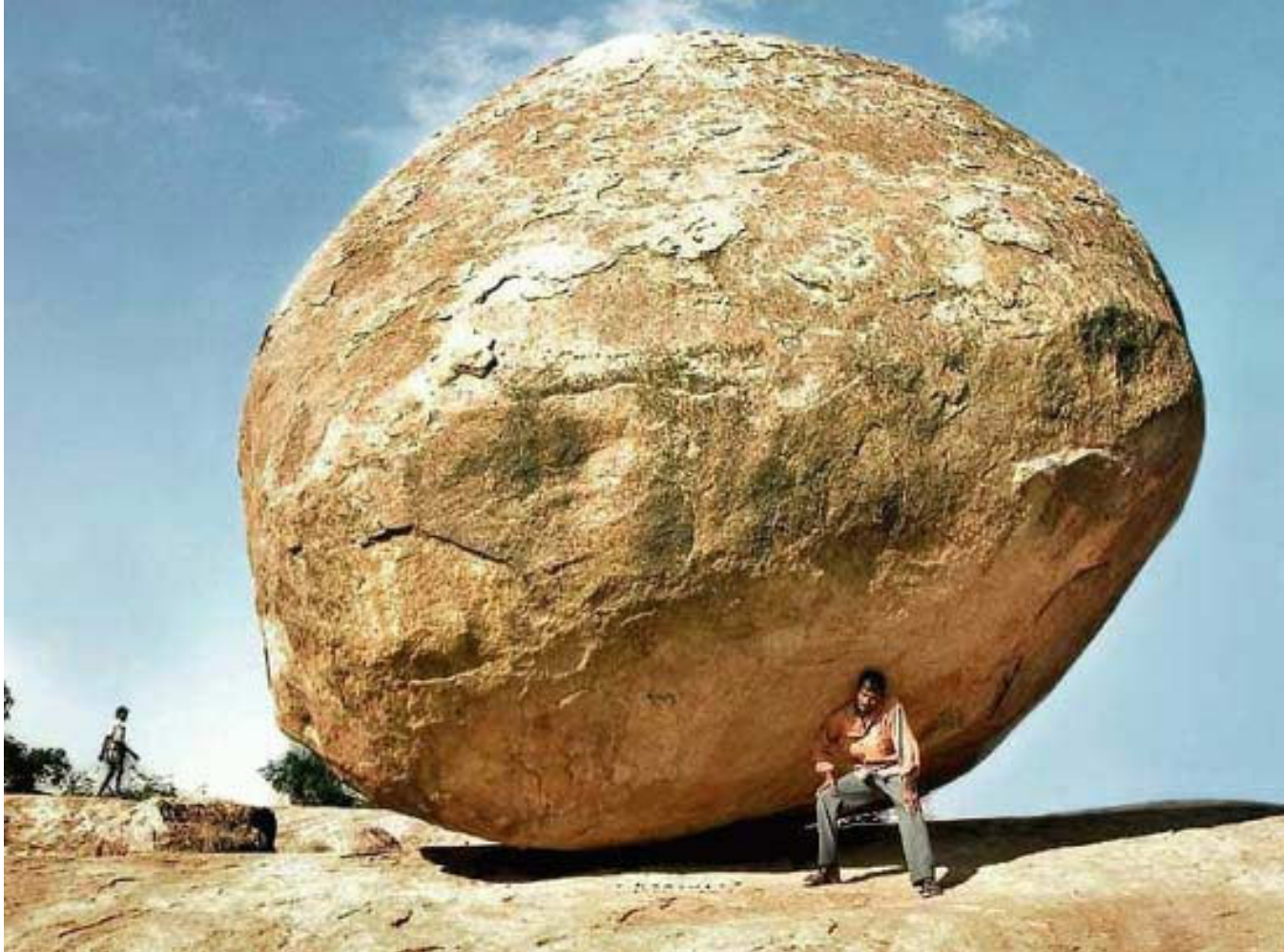
Examples of our graduates achievements:

- Martin Hartmann, Kapsch Award 2012
- Martin Hartmann, Veolia Transport Prize 2012
- Václav Plevka, Singularity university Competition finals 2012



Thank you for your attention!

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More information: www.its.fd.cvut.cz