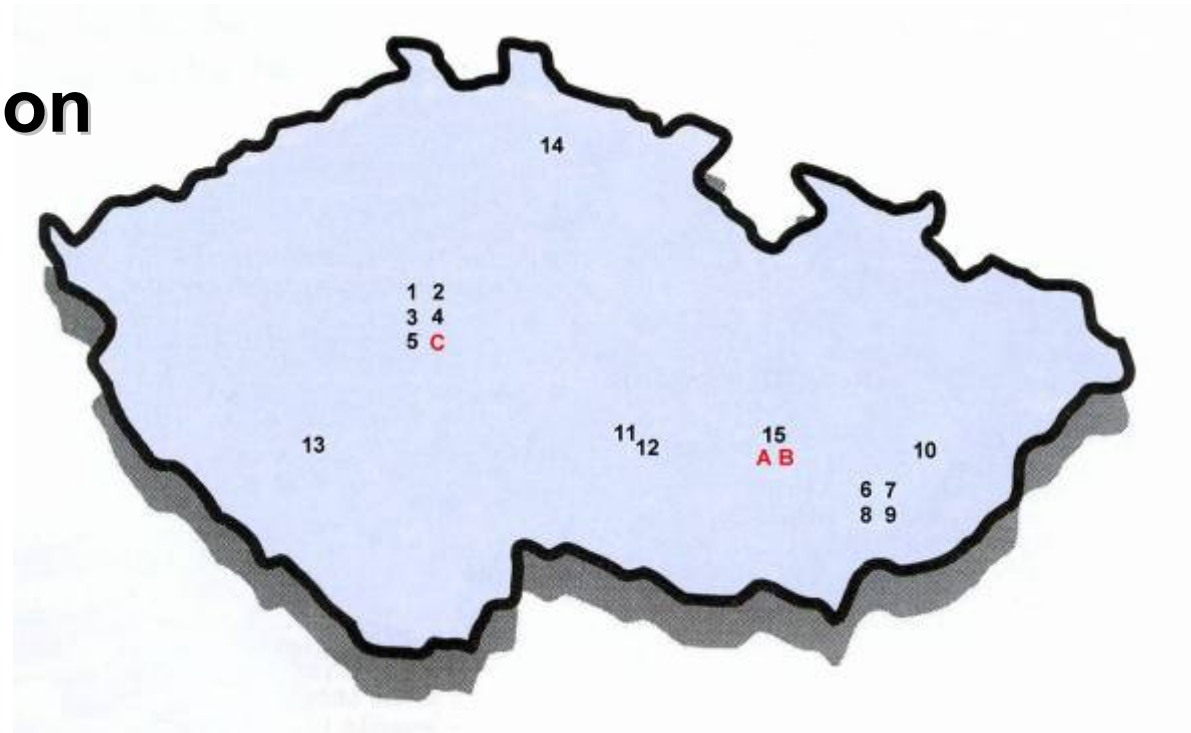
Aerospace Research in the Czech Republic and Cooperation with Europe

Prof. Ing. Antonín Píštěk, Ph.D.
Head of Institute
Institute of Aerospace Engineering
Faculty of Mechanical Engineering
Brno University of Technology
pistek@fme.vutbr.cz

Ing. Jiří Hlinka, Ph.D.
Institute of Aerospace Engineering
Faculty of Mechanical Engineering
Brno University of Technology
hlinka@fme.vutbr.cz

Czech Aircraft Industry

Current situation

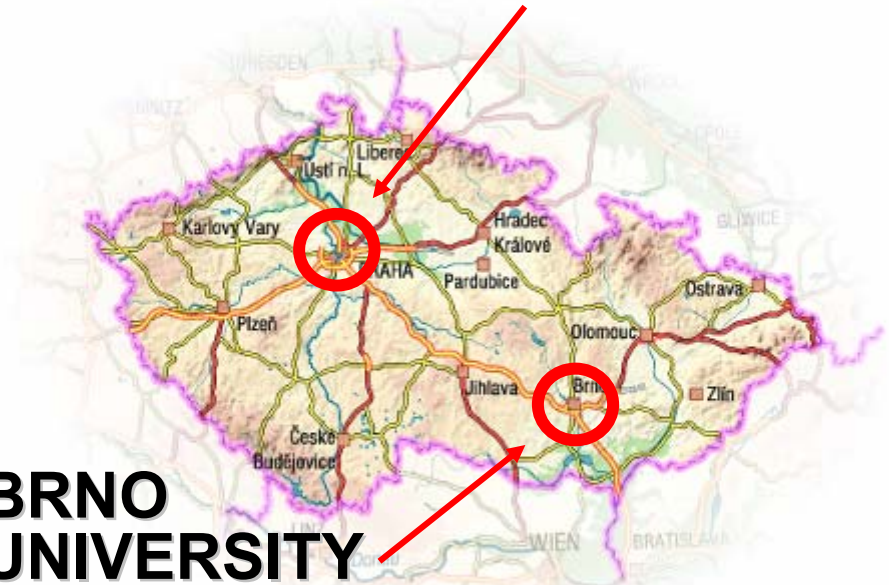


- Currently 15 main aeronautical manufacturing companies of which are 6 producers of complete aircraft and engines
- 10.000 employees in the Czech aeronautical sector

Aerospace Research in Czech Republic

Aeronautical Research and Test Institute, Prague

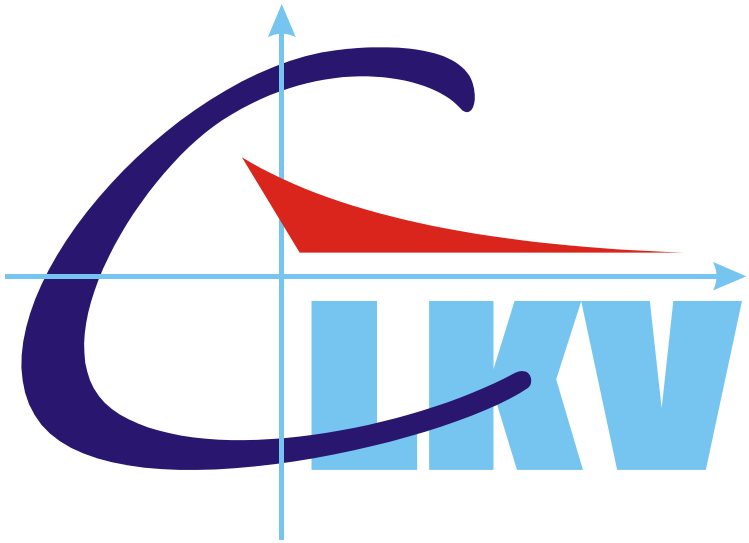
Technical University, Prague
Department of Automotive, Railway and Aerospace Engineering



BRNO UNIVERSITY OF TECHNOLOGY

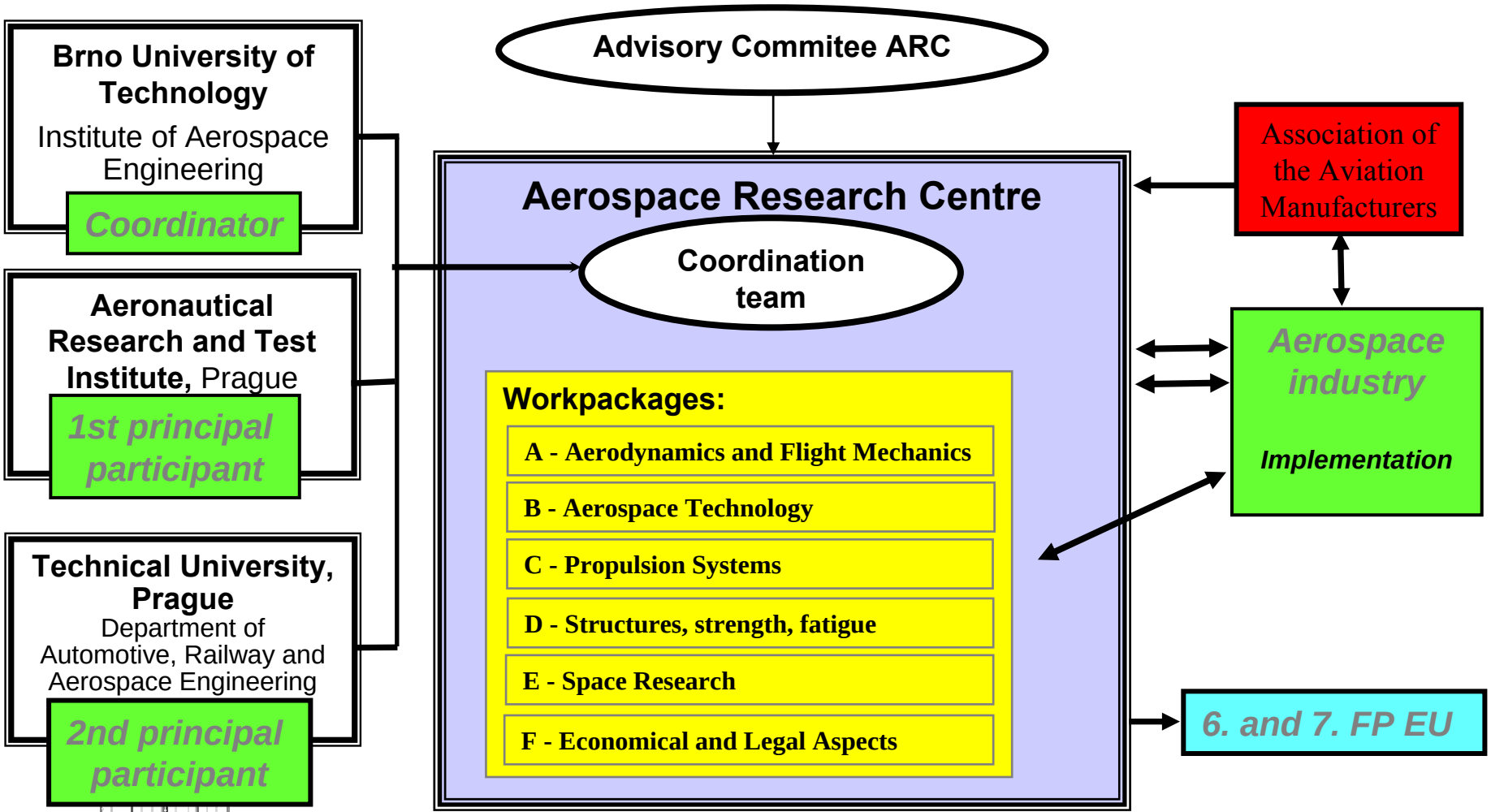
MAJOR CENTRES OF AEROSPACE RESEARCH

Czech Republic



AEROSPACE RESEARCH CENTRE

(National) Aerospace Research Centre (ARC)



Coordinator of ARC

INSTITUTE OF AEROSPACE ENGINEERING (IAE)

http://lu.fme.vutbr.cz

Pedagogical activities

Aircraft Design (MSc.)
Air Transport (MSc.)
Professional Pilot (Bc.)
Ph.D. study programmes

Cooperation with Industry

Aerodynamics
Stress analyses
Reliability analyses
Static and dynamic structural testing
(CAA Czech Republic approval)

Aerospace Research Centre

Scientific and research activities

Flow analyses
Stress analyses
Design and computer modeling
Static and dynamic testing of struct.
Composite technologies

Aerospace Research Centre (ARC)

Goals of the Centre:

a) in the technical area

- support specially the development of small GA aircraft
- introduction of new selected disciplines and fields
- completion of missing infrastructure in aerospace field, which is a necessary condition for connection to western research and development structures and programs (EU, NATO)
- gradual connection of the "Centre" to similar associations working in EU countries

b) in the personal area

- teams of the "ARC" include experienced specialists and young perspective engineers
- functional connection of the best specialists from schools, institutes and companies
- involvement of students and Ph.D. students on specific projects

c) in the economic area

- connection of the best specialists to teams provided high effectiveness
- using the existing infrastructure, the equipment and facilities to minimize the cost
- strongly support the applied research on technical universities

ARC Cooperation with Industry

(Major projects)

- **VUT100 COBRA** – small GA aircraft (4-5 seater for VFR/IFR flights). Cooperation with EVEKTOR, s r.o. (partially supported also by Czech Ministry of Industry and Trade), 2007 - end of the development end certification stage

- **EV-55** - development of new small transport airplane. Coordinated by EVEKTOR, supported by Czech Ministry of Industry and Trade.

- **Ae-270** – Cooperation with Aero Vodochody on single-engine turboprop

ARC Cooperation within EU

- **CESAR** - Cost Efective Small AiRcraft, supported by EU in 6th FP

First project coordinated by partner from Czech Republic - **Aeronautical Research and Test Institute, Prague** (project has 40 participants from whole Europe)

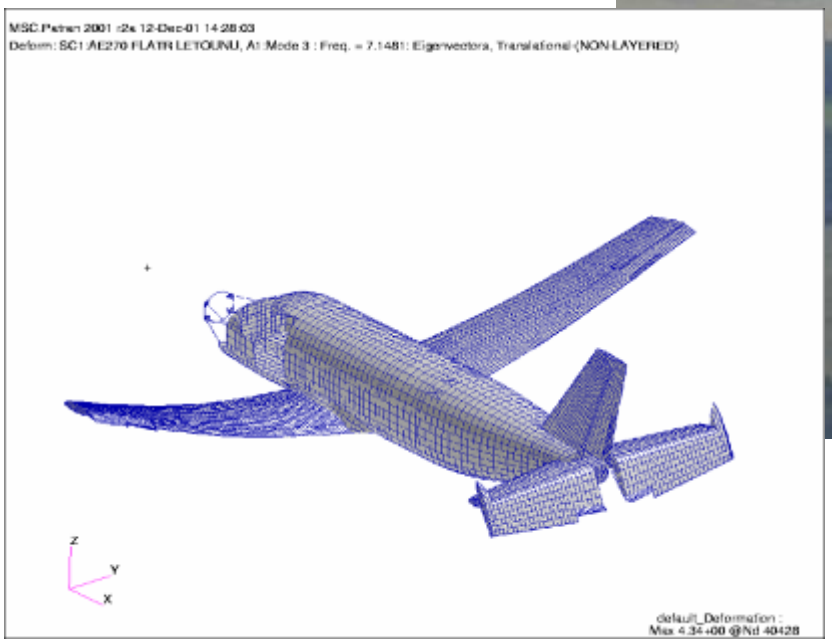
- ARC partners participate(participated) in several EU projects, for example DATON, VELA and more recently ENFICA-FC, CELPACT, etc.

Research and industrial projects outside ARC

Aeronautical Research and Test Institute, Prague
Institute of Aerospace Engineering

Ae-270

Ae-270 – multi-mission propjet 8-seater produced by Aero Vodochody Inc.



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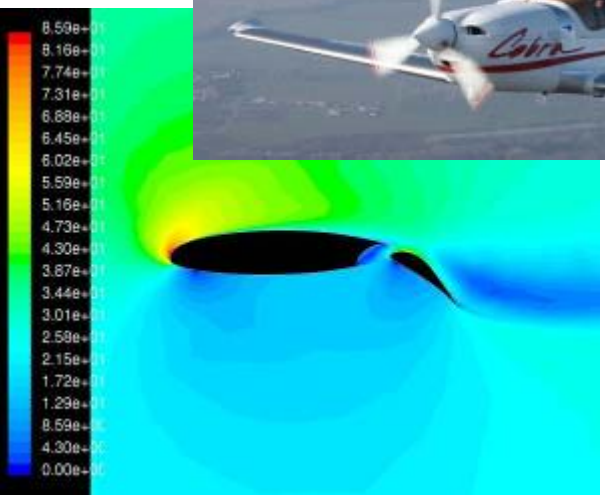
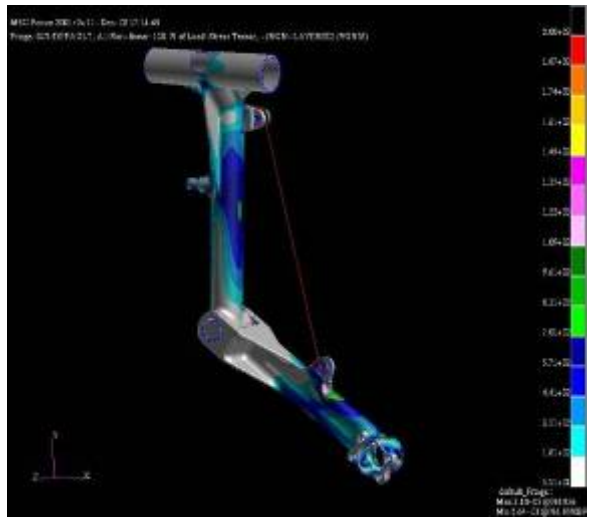
VUT100 Cobra

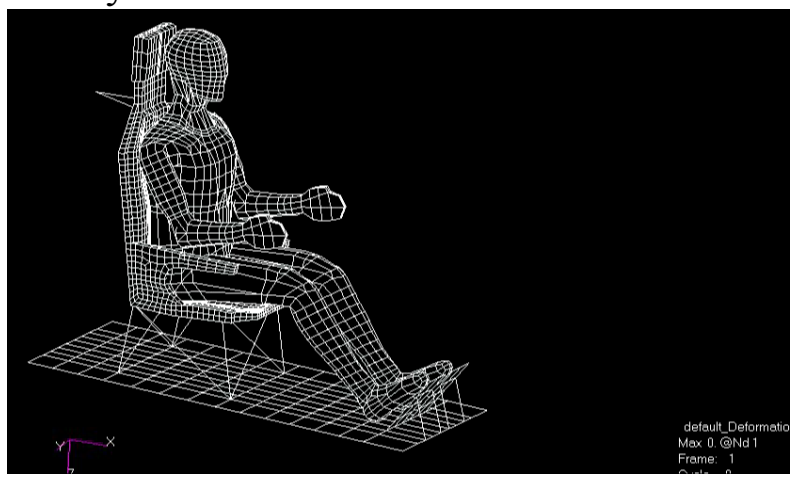


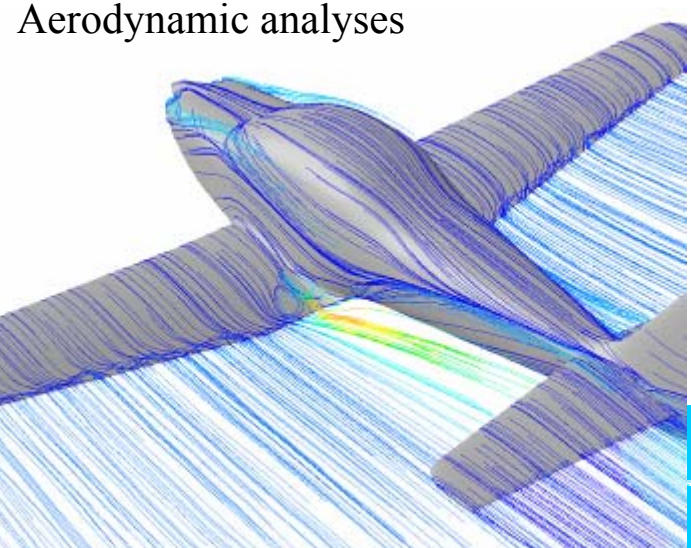
Aerodynamic analyses

Stress analysis



Dynamic analysis





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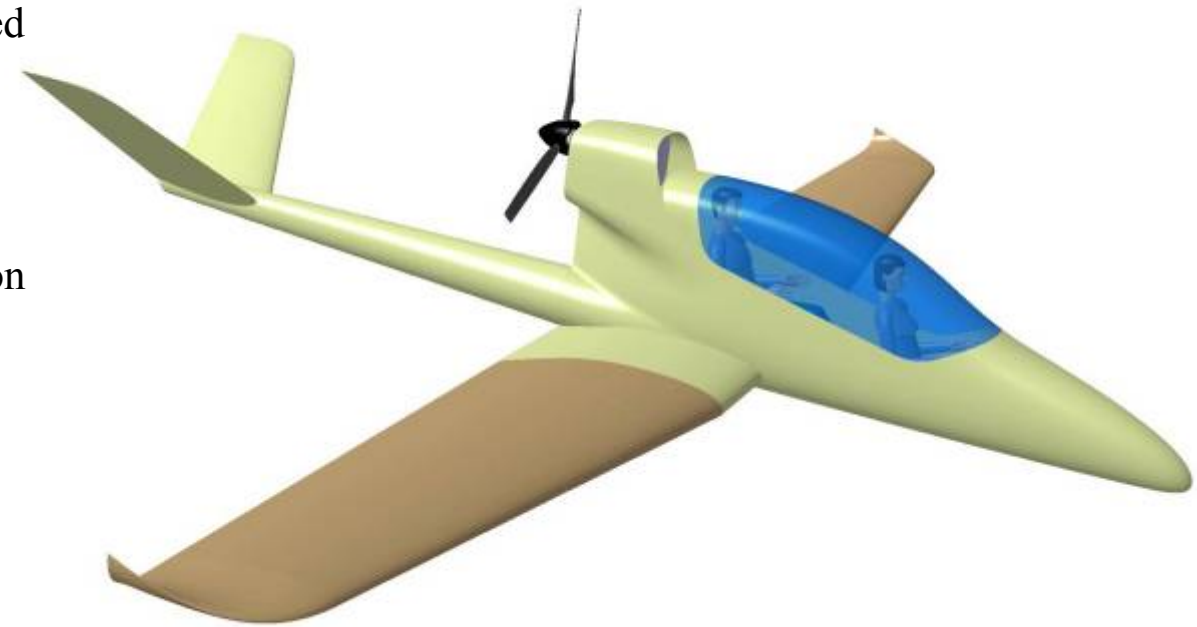
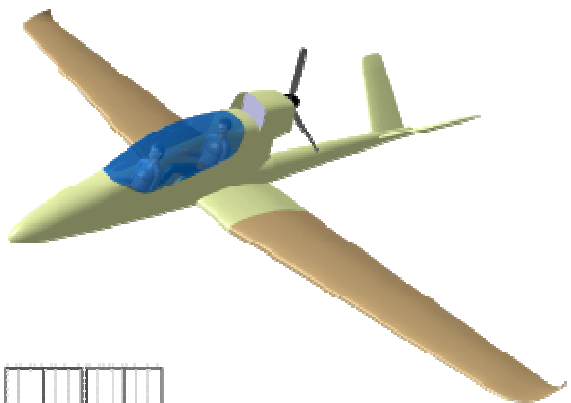
VUT 001 Marabu

Development of civil UAV supported by Ministry of Industry and Trade (Czech Republic), held together with industrial partners (2006-2009)

Main aims:

- Development of a flying testbed
- Development and tests of equipment suit for civil UAVs (based partially on COTS components)
- Development of new propulsion units








Thank you for your attention …

Further information on the web: *http://lu.fme.vutbr.cz*