



Research Centre in Civil Engineering

www.admas.eu

AdMaS = FACULTY OF CIVIL ENGINEERING BRNO

**AdMaS is part of the Faculty of Civil Engineering, the largest and oldest faculty
at Brno University of Technology.**

1849 - foundation of the **Czech-German Technical Institute in Brno**, which
in **1873** was named the **Technical University**.

1899 - school was transformed into the **Imperial and Royal Franz Joseph
Czech Technical University in Brno**

2015 - Brno University of Technology - total approx. 23.500 students at 8 faculties
- approx. **5.850 students** at bachelor, master and PhD. programs
at Faculty of Civil Engineering



Project milestones

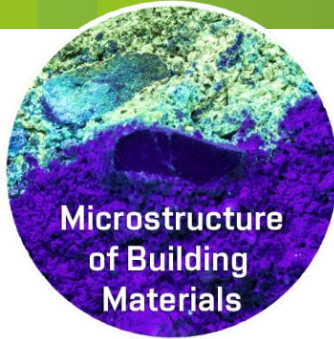
The AdMaS Centre project has been developed thanks to funding from the Operational Programme Research and Development for Innovation, a programme of European structural funds.

- **30 mil. €** of investments
- **2011:** Start of the project realization
- **2015:** Total number of staff – 183
Total number of researchers - 152

AdMaS - complex research institution

- Acronym: **A**dvanced **M**aterials, **S**tructures and Technologies
- Modern science centre and complex research institution in civil engineering
- Affiliated to the Faculty of Civil Engineering, Brno University of Technology
- Research, development and application of advanced building materials, structures and technologies
- Successful long-term cooperation with private and public sphere – 50:50

Structure of AdMaS Centre



Microstructure
of Building
Materials

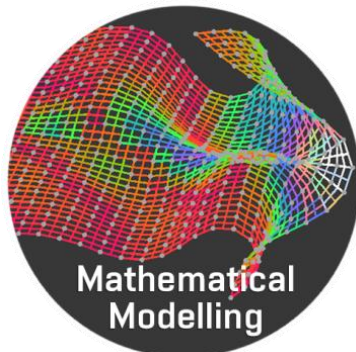
**Development of Advanced
Building Materials**



Technology
of Building
Materials

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**Development of Advanced
Structures and Technologies**



Mathematical
Modelling



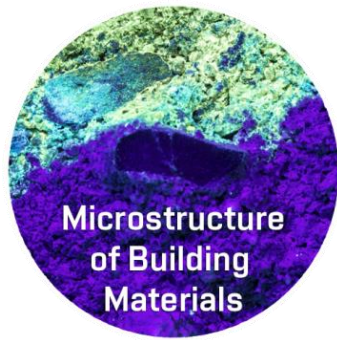
EGAR



Structures
and Traffic
Constructions

EGAR = Environmental and Geo
(Geotechnics and Geodesy) Applied
Technological Research

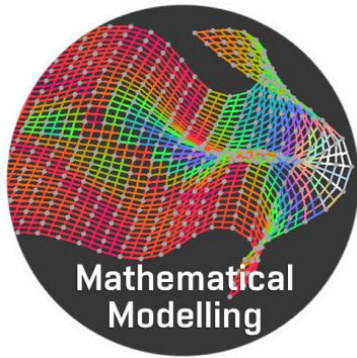
Develop. of Advanced Building Materials



The research program aims to achieve new results in the field of advanced durable building materials both by developing new materials and processing of new methods for their destructive and non-destructive testing, and appropriate technical procedures and standards.



Dev. of Adv. Structures and Technologies



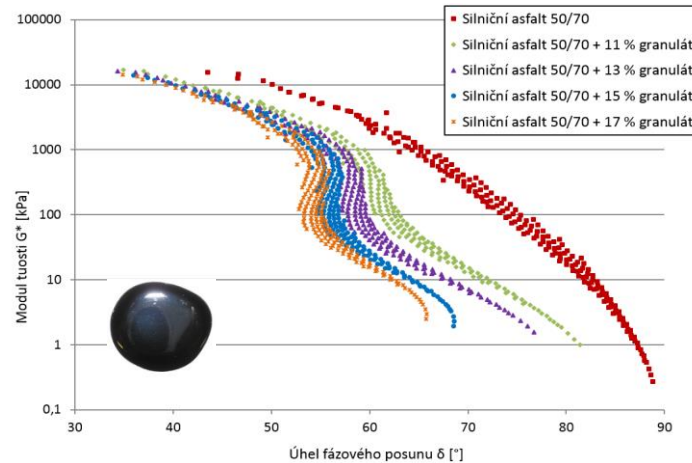
EGAR = Environmental and Geo
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Technological Research

Research program covers several related thematic areas. The main objective of the program is the design of Advanced Structures and technologies in terms of their increased reliability, durability and economy throughout the lifecycle. In the field of technologies the program aims to develop effective methods in the diagnosis of structures, identification and quantification of the influences acting on the building, construction design and technologies in the field of the environment (e.g. water and waste management of cities and municipalities).



Road Structures and Technologies

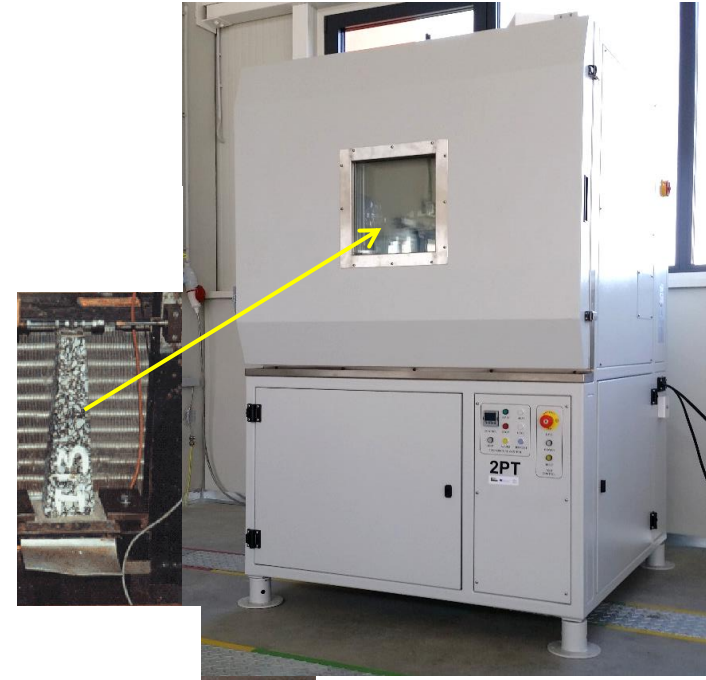
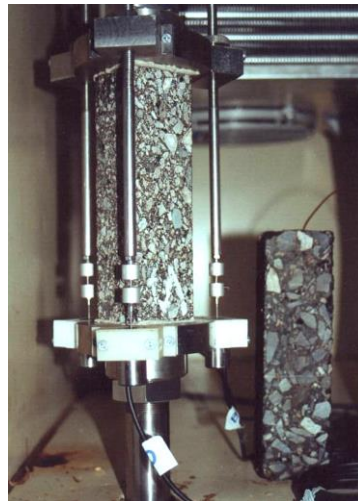
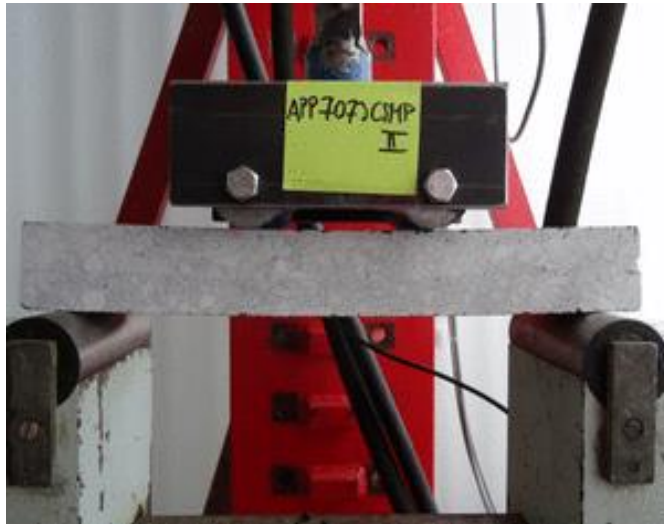
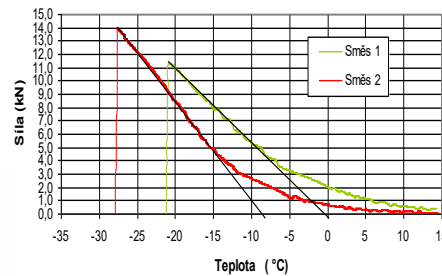
Bitumens and their modifications by polymer and rubber granulate of end-used tires to limit ageing, resistance to high and low temperature



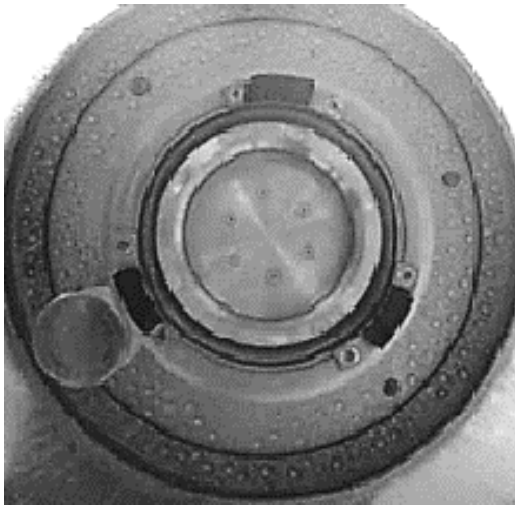
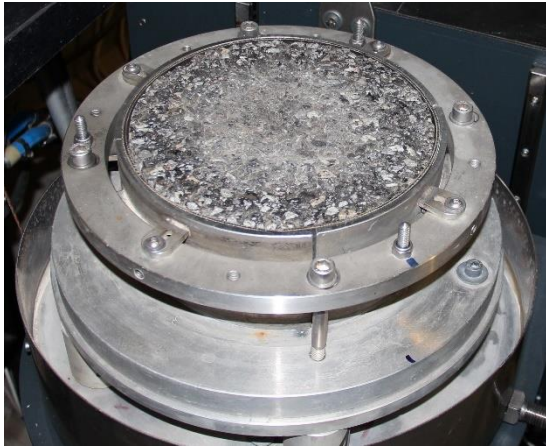
Road Structures and Technologies

Bituminous mixtures: increase stiffness and resistance to fatigue, frost, rutting and skid and decrease noise emission

Road structure: increase lifetime, decrease material consumption, use of waste and secondary materials and glass grid reinforcement



Polishing and skid resistance



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POKROČILÉ STAVEBNÍ MATERIÁLY,
KONSTRUKCE A TECHNOLOGIE

Roughness, macrotexture, skid and noise



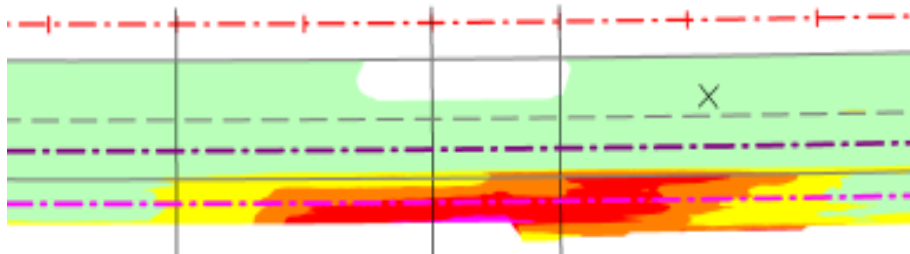
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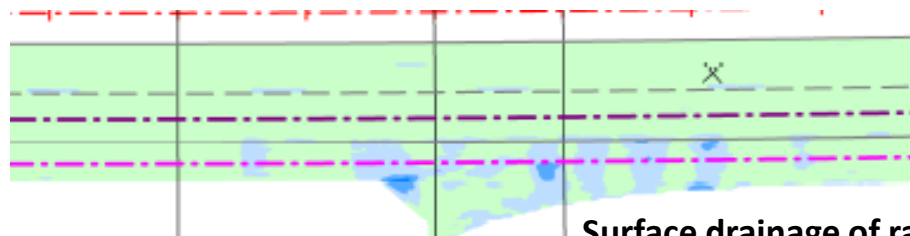
Mobile scener

Control of quality of Road structures, geometrical characteristics, roughness, rutting, skid resistance, noise emission and bearing capacity

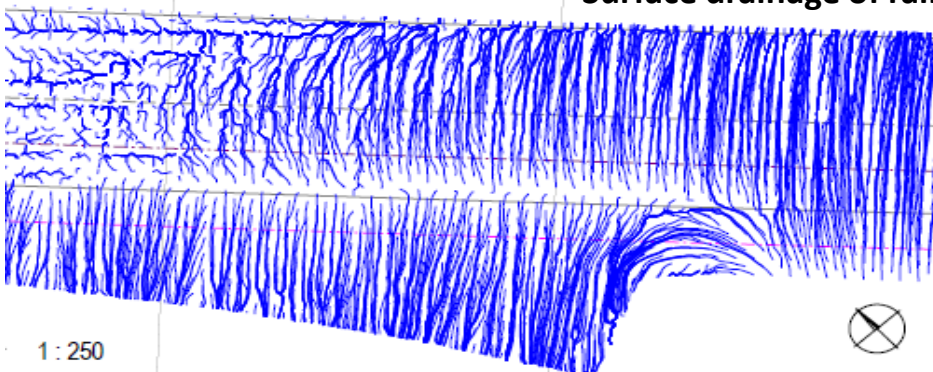
Support of Pavement Management System



IRI



4m
straight
edge



Surface drainage of rainwater



Detailed contour line



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