

Research Centre of Forming Technology

Programme project of the Ministry of Education, Youth and Sport

FORTECH

Main aims of the project

Testing new ideas in materials and technology and gradual optimization and connection of processes which will lead to attaining exceptional material properties or effective unconventional technologies.

Services offered:

- ✓ Development of traditional and unconventional forming processes
- ✓ Development of thermal and thermo-mechanical treatments
- ✓ Materials modelling and development management of metal properties
- ✓ Physical simulation of technological processes
- ✓ Monitoring and analysis of high speed processes
- ✓ Production of forming component prototypes
- ✓ Metallographic analysis
- ✓ Light microscopy
- ✓ Electron microscopy
- ✓ Laser confocal microscopy
- ✓ Fractography

Main project administrator: University of West Bohemia

Faculty of Mechanical Engineering:

- Forming lab
- Construction lab
- Metallographical lab
- Plastometry and tribometry lab

Faculty of Electrical Engineering:

- Applied electronics lab

FORTECH is preparing to expand its activities with the assistance of an EU operational programme in the Czech Republic- the Centrum strojírenské inovací Jihozápad (the Centre for Engineering Innovation South West). Its activities will be directed towards fields of technology using plastic deformation of materials. Centre projects in the operational programme are outlined in agreement with the long term research goals of FST.



Co-administrator of project:

- COMTES FHT s.r.o.
- ŠKODA VÝZKUM s.r.o.
- SVÚM a.s.

Users of results:

- ŠKODA STEEL s.r.o.
- CZECH PRECISION FORGE a.s.

Main contributions:

- ✓ Enable the connection of experience of participating bodies
- ✓ Expand possibilities for approaches to equipment and research know-how
- ✓ Interdisciplinary research
- ✓ Platform for connecting science and study

Main directions of research:

- ✓ Attaining very fine microstructures using special deformation technologies based on combining forming and thermomechanical processes
- ✓ Attaining an excellent combination of mechanical properties of multiphase steels using controlled microstructure development
- ✓ Preparation of processing technology for hard to form materials
- ✓ Development of forming technology for metallic materials with lower processing temperature
- ✓ Testing the forming technology of very small components in the thixotropic state
- ✓ Managing the procedure of forming by liquid medium in the rapid prototyping field
- ✓ Developing alternative ways of connecting high strength materials via forming techniques
- ✓ Developing special techniques for recycling metallic material

