

The Centre for Research, Development and Continuous Education - CIRKO

WHO WE ARE:

The Centre for Research, Development and Continuous Education – CIRKO is a separate entity of the Faculty of Mechanical Engineering in Skopje. CIRKO has been created in order to facilitate the research and applicative activities of the faculty's members as well as to address the shortcomings of Macedonian firms in both human and physical capital. CIRKO provides valuable training in CAD, CAM, and Solid Works, thereby enhancing the capabilities of Macedonian firms while improving the quality of their products, cutting their production time, and their production costs. Additionally, CIRKO also provides 3D printing and modeling to its partners, granting them access to world class technology. Whereas producing prototypes once took weeks, if not months, with 3D printing and modeling companies can produce a prototype within a matter of hours.

Yet CIRKO's most valuable assets are not its technology or even its programmes, it is the centre's professors and its students. CIRKO's professors aid Macedonian SMEs with their experience in advanced engineering technologies, helping them to implement strategies that can increase product quality while decreasing production time and cost. Equally important, students gain experience working with advanced engineering technologies while also gaining valuable professional experience.

The centre has experience in different projects within the mechanical engineering research area. By using the research resources from the faculty and benefiting from its lean structure, CIRKO is recognised as a desired partner in collaboration projects.

COLLABORATION INTERESTS:

The Centre for Research, Development and Continuous Education – CIRKO is open to all international research projects in the field of mechanical engineering. Since its foundation, CIRKO has gained vast experience in the collaboration and coordination of different kinds of international projects. At this moment, the researchers at the centre are highly interested in FP7, IPA and INTERREG projects. They are able to provide services in all segments of project management – from research partners and scientific experts to project coordinators.

AREAS FOR R&D COLLABORATION:

The Centre for Research, Development and Continuous Education – CIRKO is interested in collaboration in the following R&D areas:

- Cross-cutting activities for implementation of the surface transport.
- Competitive surface transport products and services.
- High quality public transport.
- Demand management.
- Innovative strategies for clean urban transport.
- Integrated safety and security for surface transport systems.
- New transport and mobility concepts.
- Traffic and information management.
- Interoperability and safety.
- Logistics and intermodal transport.
- Environment-friendly and efficient industrial processes.
- The greening of products and operations.

MAIN ACHIEVEMENTS:

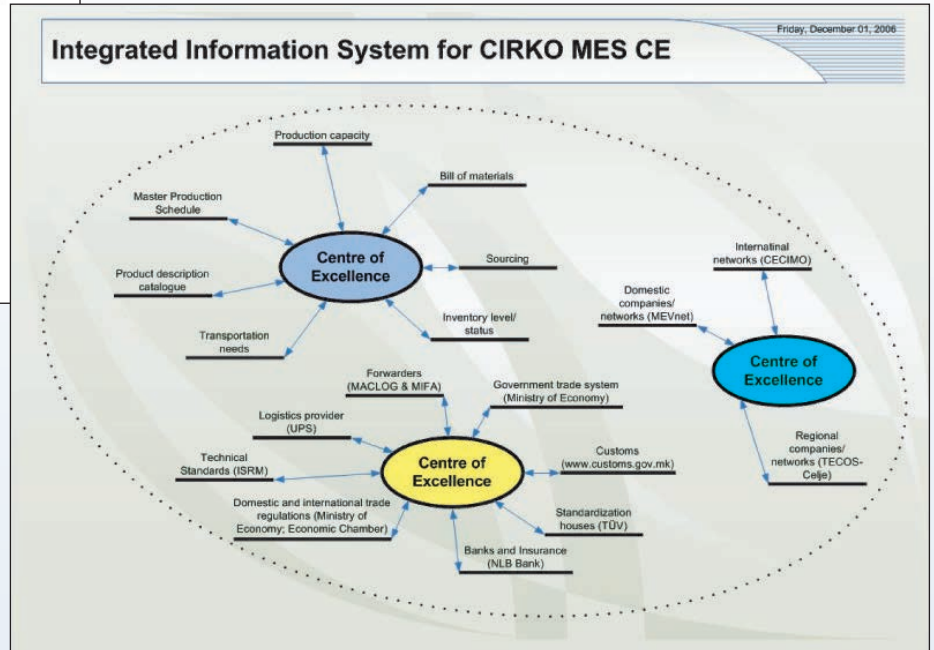
CIRKO has a computer laboratory fully equipped with SUN Microsystems working stations and licensed CAD and CAM software applications. The centre is also equipped with an ATOS GOM 3D Scanner for 3D digitalisation and reverse engineering services and a ZTECH 3D printer for rapid prototyping.

Some of the main achievements of the centre are:

- Research projects for PhD.
- Technological solutions for improving the manufacturing process of light cardboard packing.
- System for monitoring and managing the technological processes in the food and cement industries.
- The development of completely new eco-technology for the manufacturing of fuel, air and oil filters for trucks and heavy vehicles.
- Introduction of techniques for computer design of steel constructions for the engineers in SMEs.
- A diagnostic monitoring system for rotating plants.
- The improvement of technology and implementation of measures for quality assessment in the process of compressing and thermal machining of friction linings.
- Development of manufacturing technology of polyethyl pipes with mixtures of recycled material.

WHAT MAKES US A GOOD PARTNER?

CIRKO has a lean structure that has the ability to focus its resources on ongoing activities according to current priorities. The support from the Faculty of Mechanical Engineering makes CIRKO a consistently reliable partner in any project. The commitment of



all researchers for international collaboration is driving the centre towards providing the best results in its international activities.

The experience of CIRKO's partners from previous projects is that the centre has always been recognised as timely and responsible party, whose results were judged with high marks for their validity and whose deliverables were praised for their scientific quality.

EU PROJECTS:

- Bilateral research project with Slovenia, supported by the Ministries of Education of Macedonia and Slovenia

OTHER PROJECTS:

- Mechanical Engineering Systems – Centre of Excellence, funded by e-BIZ Project and USAID Mission in Macedonia.

- Inspection body for inspection of lifts and cranes, accredited by the National Accreditation Authority according ISO 17020.

OTHER INFORMATION:

Name of the organisation: Centre for Research, Development and Continuous Education – CIRKO

Organisation type: Research organisation

Number of researchers: 20

Working languages: Macedonian and English

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