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Lower Silesia Region



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Cooperation between science and industry within the Centre of Advanced Technologies (CAT) AERONET – Aviation Valley

Romana Ewa Śliwa, Rzeszów University of Technology, CAT AERONET Aviation Valley coordinator

It is a challenge for our time to develop good mechanisms of communication across science and the economy. Cooperation between universities, scientific institutes and businesses in the aerospace industry, which has been going on for years, has provided a good basis for joint actions towards the development of the industry and science sectors. CAT AERONET "Aviation Valley," closely collaborating with the Aviation Valley cluster, is a good example of this. The technical potential of our laboratories and the highly-qualified staff allow us to provide specialised education and conduct research for the aerospace industry at the highest, world-class level. CAT AERONET, which is coordinated by the Rzeszów University of Technology comprises 11 universities and R&D institutions and 90 companies in the Aviation Valley industrial cluster. The consortium includes the Lublin, Czestochowa, Silesian, Lodz and Warsaw Universities of Technology, the Institute of Aviation in Warsaw, the University of Rzeszow, the Air Force Institute of Technology, the Institute of Fundamental Technological Research – PAS (Polish Academy of Sciences) in Warsaw, the Szewalski Institute of Fluid-Flow Machinery – PAS in Gdansk, and the Aviation Valley industrial cluster. CAT's main fields of activity include the design of and research into aviation construction and propulsion, aviation ICT and avionics systems, modern processes in materials and surface

engineering, and modern manufacturing techniques in aviation and aerodynamics. The Rzeszow University of Technology has opened one of the most state-of-the-art laboratories in Europe – the Aerospace Materials Research Laboratory, which is still developing. Its tasks include research in the fields of comprehensive materials specification, high speed machining (HSM), monocrystal and directional crystallisation, and technologies for heat-resistant coatings and chemical vapour deposition (CVD) coatings, as well as other cutting-edge technologies for manufacturing, including composite materials, plastic working, and surface engineering. CAT AERONET is primarily involved in the implementation of a variety of projects. One of them is an individual key project titled "Modern material technologies in the aerospace industry," which is coordinated by the Rzeszow University of Technology (the winner of the Funds & Science contest in the category Commercialisation of Research in 2010, and of the Quality of the Year 2010 mark). The project is being implemented within the Operational Programme Innovative Economy 2007-2013. Its strategic goal is to lead Polish research in the aerospace industry. The project's specificity is indicated by the performance indicators which take into account the research tasks achieved by producing scientific papers, master's, doctoral, and postdoctoral theses linked

to the project - and by presenting, in recognised scientific publications and patent solutions, results which form the basis for future implementation in the industry.

The PKAERO project has resulted in developing innovative materials technologies for use in the production of aerospace materials and parts characterised by increased durability, lightness, thermal resistance, and other enhanced parameters. Their future implementation will help aerospace businesses in Poland gain a competitive edge on the global market – through applying cutting-edge solutions and potentially reducing production costs, and



Centre of Advanced Technologies
AERONET - Aviation Valley

eventually the operating costs of airplanes. The implementation of the project started in July 2008 and is to be concluded by the end of 2013. Its total value is PLN 85,880,000.00. It should be expected that the technological solutions to be developed within the project will contribute to the progress of aerospace companies in Poland and, through this, will stimulate economic growth – on a regional, national, and global scale.

The location of the Centre of Advanced Technology AERONET "Aviation Valley" (gray area+Gdańsk) and the members of the Aviation Valley industrial cluster (blue-bordered area + Kalisz)



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