



Ljubljana, September 27, 2012

**The 1st prize FOR BEST INVENTIVE/INNOVATIVE PROJECTS FROM PRO's FOR THE ECONOMY has been distributed equally among two participants:**

**Dr. Aleš Hribar, prof. dr. Matjaž Mihelj** from Laboratory of robotics at the Faculty of electrical engineering, University of Ljubljana for the innovation called BiMeo - an innovative rehabilitation instrument and

**doc. dr. Ivan Jerman, prof. dr. Boris Orel, dr. Matjaž Koželj and Mr. Mohor Mihelčič** for their innovation called »Go solar, go future« - a sol-gel based spectrally selective solar absorber coatings.

### **About winning project teams and their innovations:**

**BiMeo** is an innovation in the field of rehabilitation medicine and training in general. The innovation enables a person, for instance a patient or an athlete to exercise without the presence of a trainer or physiotherapist and outside professional institutions. It provides for such exercises or training in which principles of therapy or sport are taken into account.

**The BiMeo team** consists of three PhD's and two BSc's. They are all members of Laboratory of robotics at the Faculty of electrical engineering, University of Ljubljana. The Laboratory has over 40 years of experience in rehabilitation and medical engineering. In addition, the team is also assisted by a group physicians and therapists of the University rehabilitation institute Soča. In beginning of 2012 a Kinestica Ltd. Company was founded by three core members of the BiMeo development team: Matjaž Mihelj, Roman Kamnik and Aleš Hribar. Aim of Kinestica is commercialization of the BiMeo instrument. The team is occasionally joined by a MBA for advice in the field of economics and an experienced lawyer for legal affairs. Founders of the Kinestica have invested their own capital to start the business and intend to invest additional funds to complete the BiMeo project.

**An innovation entitled »Go solar, go future« are the innovative sol-gel derived Thickness Sensitive Spectrally Selective (TSSS) coating** which have been developed for the functionalization of an aluminium strip used as an absorber surface for flat plate solar collectors. These materials combine the properties of their constituents, such as high absorption, low emittance, low processing temperatures, chemical and thermal stability and hardness. The outstanding advantages of such coating systems, and also most important for user, are the higher manufacturing speed and high temperature stability of the final product. Finally, the deployment of in-line process control on coil-coating machine results both in an improvement of product properties & higher stability of the application process and in a reduction of production costs. The new product presented at the Munich Intersolar 2012 Fair is the first solar absorber where the coloured TSSS paint coating was used as result of the joint work of inventors from the



National Institute of Chemistry and researchers from the Alanod company, who is the end user of the invention.

**The »Go solar, go future« project team members and also inventors** Dr Ivan Jerman, Prof. Dr Boris Orel, Mohor Mihelčič BSc and Dr Matjaž Koželj are employed at the National Institute of Chemistry in the Laboratory for the Spectroscopy of Materials (LMS) Ljubljana.

The research interest of Assist. Prof. Dr Ivan Jerman is the synthesis of polyhedral oligomeric silsesquioxane; development of sol-gel thin films; modification of pigments for paint coatings; textile finishing; surface treatments; nanocoatings and Grätzel solar cells. His role in the project has been basic research in the surface modification of pigments and transfer of the innovation from laboratory to industry.

Prof. Dr Boris Orel is the head of the LMS. Since 1983 he has been engaged in the development of selective paint coatings, in the 1990s he started the development of sol-gel coatings, organic-inorganic sol-gel hybrids, nanocomposite materials with multifunctional properties. His role has been coordination of project.

Mohor Mihelčič is a student of the Jožef Stefan International Postgraduate School. His skills are ball-milling, dispersion preparation and surface modification.

Dr Matjaž Koželj is a specialist in organic synthesis, especially the synthesis of silanes and ionic liquids. His role in this project has been the synthesis of various trialkoxy silanes for modification of pigment particles.