№ №	Project Idea	Possibilities of Belarus scientists	Cooperation from EU
1	2	3	4
Materials			
1.	**AAT.2010.1.1-2. Aerostructures** **Development of soft magnetic composite material for electric drives** The main aim of the project is optimization of parameters of a soft magnetic composite material and development of electronic control system. Unlike used electro technical steel, the composite material is not collected from separate plates isolated from each other. It is formed in the finish core of a necessary configuration. Using as power keys transistors IGBT or MOSFET with microcontroller system of control allows to achieve efficiency about 90 … 95% even at small capacities. **Contacts:** Fedosuk Valery, D.Sc., Professor Director of State Scientific and Production Association "Scientific-Practical Materials Research Centre of the National Academy of Sciences of Belarus" 19, P.Brovka str., 220072 Minsk, Republic of Belarus Tel.: (+375-017) 2841558, fax: (+375-017) 2840888 E-mail: ifttnb@physics.by www.nasb.gov.by	Composite material for high-frequency transformers and chokers is developed.	We are looking for Coordinator, scientists (Universities, Research Centers) and SMEs interested in development of these approaches with the aim of further cooperation and participating in FP7 proposal.
2.	**AAT.2010.1.1-4. Systems and equipment** **Development of catalyst material for refining of the exhaust gases** Model conception development of adjuvant and modernizing action of nano-structured effective areas of complex oxide-ceramic composition. This makes it possible to predict the possibility of production of neutralizers, providing low-temperature and total refining of fine-grained carbons, and to realize in practice high-active catalysts without Pt-group metals. **Contacts** Sudnic Larisa, D.Sc. Principal officer of State Scientific Establishment "Institute of Powder Metallurgy of National Academy of Sciences of Belarus" 41, Platonova str., 220005 Minsk, Republic of Belarus Tel.: (+375-017) 2939801, fax: (+375-017) 2100574 E-mail: lsudnik@tut.by	Operative embodiments of catalyst nanostructures are developed.	
1	2	3	4

Construction			
3.	**AAT.2010.1.1-4. Systems and equipment** **AAT.2010.3.1-2. Noise and vibration** **AAT.2010.6.2-1. Novel air transport vehicles** **Development and production of a driving gear of improved technical characteristics** Modern reducer, used as driving gear, should possess the following properties: small overall dimensions and mass (to minimize unsprung masses), low level of noise, high coefficient of performance and reliability. That is why we propose development and production of the driving gears, created on the base of planetary pin reducers (which are also known as cycloid reducers). Due to high-capacity contact in coupling, reducers of this type possess high load-carrying capability and kinematic accuracy. Low sliding friction provide high coefficient of performance. Taking into account wide range of reduction ratios, small overall dimensions and mass, high reliability of such constructions, we can conclude that planetary pin reducers may be effectively used in aero-constructions . **Contacts** Nikolaj Yankevich, D.Eng. Deputy Director Republic Unitary Enterprise "Instrument making plant "OPTRON" National Academy of Sciences of Belarus 52, F.Skariny Str., 220141, Minsk, Republic of Belarus Tel/Fax: (+375-17) 267-88-39, e-mail: Optron-Cyclo@tut.by	We develop electric drives as well as reducers of optimal construction and their implementation in motor-wheels and have large experience in methodological maintenance, development and production of planetary pin reducers for different application fields.	