1. Project Proposal Information

Project Proposal Title	Formation and investigation of the solid coatings from aluminides with high hardness and fracture toughness characteristics
Project Proposal Acronym	
Call Identifier	FP7-NMP-2012-CSA-6 FP7-NMP-2012-SME-6 FP7-NMP-2012-LARGE-6 FP7-NMP-2012-SMALL-6
Topic(s)	NMP.2012.2.2-3 Advanced materials for high-temperature power generation
Funding Scheme	Small or medium-sized collaborative projects – Specific International Cooperation Actions (SICA) to promote the participation of emerging economies and developing countries: Eastern partnership countries (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine). Consortia must include at least two participants from different Eastern Partnership countries.
Keywords	Materials that allow operation at high temperature, materials' in-service properties, corrosion resistance, erosion resistance, radiation resistance, reliability and durability, ionic conductivity and mechanical properties
Abstract (Max. 2000 words)	The creation of wear resistance hard coatings with high fracture toughness on aluminium-based alloys is one of the main problems of searching of many scientists from the well-known firms worldwide, the solution of which would allow to increase the components lifetime of aircraft and automobile machines. The attention is paid to the creation of the alloys with nano- and quasicrystalline structures under the particular conditions and that could be used for the strengthening of wear resistive coatings for the parts of mechanical engineering. One of the methods is the obtaining of the quasicrystalline coatings from the aluminides. .

Project Description (Main Work Packages)	The enhancement of tribotechnical properties of modern aluminium-based alloys by coating of the working surface of components is so important. The purpose of this investigation is creation of the aluminides coatings by using ion-plasma technology deposition which due to the untraditional atomic structure and developed intermediate layer has improved physical and mechanical properties
Current Consortium (Partners, Organisation Types)	No
Deadline for Responses	November 2011, January 2012

2. Profile of the Partners Sought

Organisation Type	Research or Educational
Required Skills and Expertise	Materials that allow operation at high temperature, materials' in-service properties
Role in the project	Cooperation in investigations
Other Requirements	

3. Project Proposer Information

Name of the Organisation	National Technical University of Ukraine “Kiev Polytechnic Institute”
Organisation Type	Education
Country	Ukraine
Fields of Activity	Materials that allow operation at high temperature, materials' in-service properties, such as corrosion resistance, erosion resistance, radiation resistance, reliability and durability, ionic conductivity and mechanical properties
Contact Person	Sidorenko Sergiy

Position in the Organisation	Head of Metal Physic Department
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Previous FP Projects Participated	No