**EU 7th FRAMEWORK PROGRAMME**
**NANOSCIENCES-TECHNOLOGIES, MATERIALS,**
**NEW PRODUCTION TECHNOLOGIES**

# PARTNER SEARCH/ PARTNER PROFILE FORM

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|---|---|
| Area | X Nanosci.&Nanotech. XMaterials X New Production Technologies X Integration |
| Call & Topics | ☐ FP7-NMP-2009-LARGE-3<br>XNMP-2009-2.2-1 Oxide materials for electronics applications<br>XNMP-2009-2.5-1 Light high-performance composites<br>XNMP-2009-3.2-1 Innovative pathways for sustainable chemical production<br>☐NMP-2009-3.4-1 Automation and robotics for sustainable crop and forestry management<br>☐NMP-2009-4.0-3 Development of nanotechnology-based systems for molecular diagnostics and imaging<br>XNMP-2009-4.0-4 Reducing the environmental footprint of energy intensive industries<br>☐NMP-2009-4.0-5 Innovative and knowledge-based tooling industry<br><br>☐ FP7-NMP-2009-SMALL-3<br>☐NMP-2009-1.1-1 Nanobiotech.: processes, devices and/or systems<br>☐NMP-2009-1.2-1 Nanotech. for harvesting energy via photovoltaic tech.<br>☐NMP-2009-1.2-2 Molecular factory<br>☐NMP-2009-2.1-1 Nano-structured materials based on grapheme<br>☐NMP-2009-2.3-1 Biomimetic gels and polymers for tissue repair<br>☐NMP-2009-2.6-1 Novel membranes for water technologies (SICA)<br>☐NMP-2009-3.2-2 Adaptive control systems for responsive factories<br><br>☐ FP7-NMP-2009-SME-3<br>☐NMP-2009-2.4-1 New biomass-based composite materials and their processing<br>☐NMP-2009-3.4-2 Holistic & integrated approach to high-performance, reliable & adaptive machine tool design & production<br>☐NMP-2009-4.0-5 Innovative and knowledge-based tooling industry<br><br>☐ FP7-NMP-2009-CSA-3<br>☐NMP-2009-1.2-5 Best practices to lower the barriers for commercialisation of nanotech.<br>☐NMP-2009-1.3-2 Exposure scenarios to nanoparticles<br><br>☐ FP7-NMP-2009-EU-Russia<br>NMP-2009-1.2-3 Nanotechnologies – coordinated call with Russia<br>☐Optical chemical sensing<br>☐Wireless Surface Acoustic Wave Physical Sensors<br>XSensing of toxic and explosive agents in air<br><br>☐ FP7-NMP-2009-Mapping<br>NMP-2009-1.2-4 Mapping of nanotechnology infrastructures in Russia<br><br>X FP7-NMP-2009-ENV<br>NMP-2009-1.3-1 Activities towards the development of appropriate solutions for the use, recycling and/or final treatment of nanotechnology-based products |
| This form is valid until 12 / 2009 | |

| CONTACT DETAILS | |
|---|---|
| Name, Surname | Oktay UYSAL, General Manager<br>Dr. Ender SUVACI, Research and Development Coordinator |
| Address | Organize San. Bolgesi, Teknoloji Bulvari, 2. Piramit No:8/A 26110 Eskisehir/TURKEY |
| Phone | +90-222-2362106 or +90-533-3341880 or +90-533-443-8060 |
| Fax | +90-222-2362106 |
| e-mail | entekno.info@gmail.com ; oktayuysal@enteknomaterials.com ; esuvaci@anadolu.edu.tr ; esuvaci@gmail.com |
| Web | www.enteknomaterials.com |

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## INFORMATION OF ORGANIZATION

Name of organization

**ENTEKNO, Industrial, Technological and Nanomaterials Ltd. Inc.**

Main Activity/
Research Area

- Nonmetallic inorganic oxide materials and their safe usage
- Size (in particular nano) and shape controlled oxide particle production (e.g., nanosized ZnO, nanosized $SnO_2$ for gas sensor applications)
- Hydrothermal synthesis of nanosized oxide particles
- Nucleation and growth kinetics in ceramic processing (including powder synthesis and grain growth)
- Novel environmentally safe approaches to form safe-nano particulate systems
- Seed technology for development of textured ceramics
- Surface and colloid chemistry of nanosized oxide particles and its application to formulate nanopowder containing stable suspensions
- Sintering and grain growth of oxide ceramics
- Investigation of optimum sintering conditions for oxide based structural and electroceramics (to achieve cost-efficient technologies in ceramic industry)
- Tailoring (texturing) microstructure of advanced oxide ceramics to achieve tailored properties
- Textured lead-free piezoelectric oxide materials
- Utilization of polycrystalline oxide materials as substrates for patterned growth of nano features
- Characterization of physical and chemical properties of nanosized particles.
- Single Crystal Growth via Solid State Conversion Technique

Organization type

| | | | | |
|---|---|---|---|---|
| X Consultancy | X Research | ☐ Education | ☐ Industry | ☐ Technology Transfer |
| ☐ Non-Commercial | ☐ Other | X SME | | |

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| National projects /activities (with respect to the topic) | • Shape controlled (rods, platelets, needles, spherical) electroceramic oxide particle synthesis.<br>• Fabrication of environmentally friendly, lead-free, textured piezoelectric oxide ceramics.<br>• Optimization of heating cycle during sintering of oxide ceramic systems to save energy in the ceramic industry.<br>• Surface and colloid chemistry of oxide based materials: Passivation of surfaces to prevent leaching and subsequently to control the rheology of suspension with oxide particles.<br>• Hydrothermal synthesis of nanosized $SnO_2$ for gas sensor applications |
| International projects /activities (with respect to the topic) | Utlilization of polycrystalline oxide materials as substrates for controlled growth of carbon nanotubes (CNTs) with CNRS, Toulouse, France.<br><br>Texturing and Characterization of ZnO-based varistors with Josef Stefan Institute, Slovenia.<br><br>Development of shape controlled particles for texturing piezoelectric oxide ceramic systems with Siemens CT AG, Munich, Germany.<br><br>Co-organizer of the 2nd Anisotropic Science and Technology of Materials Workshop (www.anisotropicmaterials.com). |
| Previous experience with EU Framework Programmes<br>Please explain:<br>☐ Project idea<br>XExpertise offered<br>(with respect to the topic) | In 6FP, acted as an External Research Network in Knowledge-based Multifunctional Materials Network of Excellence (KMM-NoE).<br>We have been working on processing of oxide based advanced ceramics and nanosized particulate systems for over 10 years. We can provide expertise in the following areas; size and shape controlled oxide powder (e.g., nanosized ZnO, $SnO_2$, $Al_2O_3$, $K_{0.5}Na_{0.5}NbO_3$,$BaTiO_3$,$SrTiO_3$, etc., in various morphologies) synthesis, surface and colloid chemistry of oxide ceramics, development of safe nano particulate systems, sintering and grain growth of nanosized oxide materials and achieving tailored properties by tailoring the microstructure of advanced ceramics. |
| Please explain:<br>☐ Partner expertise<br>X Project Group<br>which you are looking for<br>(with respect to the topic) | We would like to take an active role on projects which are related with the above listed research areas. |

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