

FP7 2013 ROADSHOW

NANOSCIENCES, NANOTECHNOLOGIES, MATERIALS AND NEW PRODUCTION TECHNOLOGIES

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Overview of Presentation

- Approach for 2013
- Key Enabling Technologies
- Specific Challenges
- Focus
- Theme Information
- Africa Related Calls
- Support Networks
- Mobility Programmes

Approach to 2013

- Span the spectrum from enabling research, to applications and demonstration activities
- Focuses on smart and sustainable growth, for a greener industry, its three constituent activities being the tools rather than ends in themselves
- Supports the European Economic Recovery Plan through three Public-Private Partnerships (PPPs): 'Factories of the future', 'Energy efficient Buildings' and 'Green cars'
- Increasing emphasis on applications and longer-term research in key enabling technologies provides a natural bridge to Horizon 2020 Framework Programme

Key Enabling Technologies

- The shape and potential of industries worldwide will be transformed over the next 5 to 10 years
- The main driving force will be the deployment of key enabling technologies (KETs) that have been identified as
 - Nanotechnology
 - Micro- and nanoelectronics, including semiconductors
 - Smart industrial control
 - Photonics
 - Advanced Materials
 - Biotechnology
- Three of the KETs, Nanotechnology, smart industrial control and advanced materials are directly supported in this call while the three remaining KETs, micro- and nano-electronics, photonics and biotechnology are indirectly supported through cross-cutting advances in materials and nanotechnology.

Specific Challenges

- Energy and Energy efficiency
 - Activities inline with Strategic Energy Technology (SET) Plan
 - Energy Efficient Buildings
 - Green Cars
 - Complement activities of the Transport and Energy Themes
- Environmental issues and sustainable development
 - Complement activities of the Environment and FAFB Themes
- Raw Materials
 - Support the Commissions' Raw Materials Initiative by supporting R&D in the extraction and processing of raw materials; reduction of waste and recycling
- Health and safety
 - Nano safety, medicine and materials complementing the Health Theme
- Factories of the Future
 - Adapt to global competitive pressures by increasing the technological base

Focus

- Particular attention to the involvement of industry
 - Increased from 35% in FP6 to 40% in FP7
- Strong support of SME participation
 - 15% of the funding is being directed to SME targeted projects
- Demonstration and validation activities receive increased attention, going beyond pilot implementations in industrial settings
- Innovation-specific elements have been included in about two thirds of the topics.
 - Up-scaling of laboratory-based processes and other, pilot-scale activities.
 - A range of demonstration activities
 - Ancillary issues in innovation e.g. safety and regulation; IPR, substitution of critical raw materials, support for technology transfer, etc.
- Large, DEMO- and SME-targeted collaborative projects, about two thirds of the total budget

Theme Information

- **Collaborative Projects:** Small or medium scale focused research projects and large scale integrating projects aimed more at research for applications and innovation
- **SME-targeted collaborative Projects:** Outputs benefiting participating SMEs and the targeted SME dominated industrial communities
- **DEMO-targeted collaborative Projects:** Special emphasis on demonstration activities, in order to prove the industrial viability of new technologies
- **Coordination and Support Actions (CSA):** Relate to coordination, networking or supporting activities at European and international, national or regional level
- **Specific International Co-operation Action (SICA):** Targeting collaborations with specific regions or countries

Africa Related Calls

NMP.2013.4.0-4 Deployment of societally beneficial nano- and/or materials technologies in ICP countries

- The potential of nanotechnology and/or materials technologies to address major societal challenges
- Action plan for Europe 2005-2009 emphasised the importance of international cooperation
- NMP Materials has created a particularly positive momentum with its calls with amongst others, Africa
- Methods and solutions need to be tailored to meet the specific needs and circumstances using local knowledge and innovative ability
- Activities may include, but are not limited to:
 - Identification of tangible opportunities for pooling knowledge in the fields of: healthcare, clean energy, environment (including water);
 - Networking
 - Education, training and exchange of scientists
 - Organisation of a series of events.
- Proposals addressing materials technologies may target networking of research projects funded at EU or National (EU and non EU) level as well as the creation of an open database of researchers
- Funding Scheme: Coordination and Support Actions

Nanotechnology

NMP.2013.1.1-1	Exploration, optimisation and control of nano-catalytic processes for energy applications
NMP.2013.1.1-2	Self-assembly of naturally occurring nanosystems
NMP.2013.1.2-1	Nanotechnology-based sensors for environmental monitoring
NMP.2013.1.2-2	Nanotherapeutics to treat bacterial infectious diseases
NMP.2013.1.3-1	Safety in nanoscale production and products
NMP.2013.1.3-2	Nanomaterials safety assessment: Ontology, database(s) for modelling and risk assessment
NMP.2013.1.3-3	Development of a systematic framework for naming and assessing safety of the next generations of nanomaterials being developed for industrial applications
NMP.2013.1.4-1	Development of an integrated multi-scale modelling environment for nanomaterials and systems by design
NMP.2013.1.4-2	Metrology research for the development and validation of design rules for engineering of nanostructured and nano-enabled materials and devices
NMP.2013.1.4-3	Development of methods and standards supporting the implementation of the Commission recommendation for a definition of nanomaterial
NMP.2013.1.4-4	Developing innovative outreach and dialogue on responsible nanotechnologies in EU civil society

Materials

NMP.2013.2.1-1	Developing new precursors, new processing routes and functionalisations for carbon fibres
NMP.2013.2.2-1	Biomaterials for Advanced Therapies and Medical Devices in the neurological/neuromuscular or cardiovascular fields
NMP.2013.2.2-2	Biomaterials: Imaging and rapid precise prototyping technology for custom made scaffolds – coordinated call with China
NMP.2013.2.2-3	Wide band gap semiconductor materials and structures for power electronics in energy technologies
NMP.2013.2.2-4	Materials solutions for durable energy-harvesters
NMP.2013.2.3-1	Advanced materials – our allies for a sustainable future
NMP.2013.2.3-2	Rational design of functional materials: networking and sharing of best practices
NMP.2013.4.1-1	Development of new materials for the substitution of critical metals –coordinated call with the Japan Science and Technology Agency
NMP.2013.4.1-2	Breakthrough Solutions for Mineral Extraction and Processing in Extreme Environments
NMP.2013.4.1-3	European Intelligence Network on the Supply of Raw Materials

Production Technologies

NMP.2013.3.0-1	Tools for Monitoring and Assessing Resource-efficiency in the Value Chain of Process Industries
NMP.2013.3.0-2	Integrated processing and Control Systems for Sustainable Production in Farms and Forests
NMP.2013.4.0-1	Graphene production technologies 43
NMP.2013.4.0-2	Innovative materials for efficient, stable and cheap organic photovoltaic cells
NMP.2013.4.0-3	From research to innovation: substantial steps forward in the industrial use of European intellectual assets, stimulating the use of newly developed materials and materials technologies by the industry
NMP.2013.4.0-4	Support for cluster activities of projects in the main application fields of the NMP Theme
NMP.2013.4.0-5	Deployment of societally beneficial nano- and/or materials technologies in ICP countries
NMP.2013.4.0-6	Safe Life Extension management of aged infrastructures networks and industrial plants
NMP.2013.4.0-7	ERA-NET to support Innovation in the NMP thematic area
NMP.2013.4.0-8	The impact of the integration of key enabling technologies on industrial production and societal goals
NMP.2013.4.0-9	Organisation of events, including those related to the Presidencies of the EU

Public Private Partnerships

FoF.NMP.2013-1	Improved use of renewable resources at factory level
FoF.NMP.2013-2	Innovative re-use of modular equipment based on integrated factory design
FoF.NMP.2013-3	Workplaces of the future: the new people-centred production site
FoF.NMP.2013-4	Innovative methodologies addressing social sustainability in manufacturing
FoF.NMP.2013-5	Innovative design of personalised product-services and of their production processes based on collaborative environments
FoF.NMP.2013-6	Mini-factories for customised products using local flexible production
FoF.NMP.2013-7	New hybrid production systems in advanced factory environments based on new human-robot interactive cooperation
FoF.NMP.2013-8	Innovative strategies for renovation and repair in manufacturing systems
FoF.NMP.2013-9	Advanced concepts for technology-based business approaches addressing product-services and their manufacturing in globalised markets
FoF.NMP.2013-10	Manufacturing processes for products made of composites or engineered metallic materials
FoF.NMP.2013-11	Manufacturing of highly miniaturised components
EeB.NMP.2013-1	Nanotechnology for multifunctional lightweight construction materials and components
EeB.NMP.2013-2	Safe, energy-efficient and affordable new eco-innovative materials for building envelopes and/or partitions to provide a healthier indoor environment
EeB.NMP.2013-3	Integration of technologies for energy-efficient solutions in the renovation of public buildings
EeB.NMP.2013-4	Integrated control systems and methodologies to monitor and improve building energy performance
EeB.NMP.2013-5	Optimised design methodologies for energy-efficient buildings integrated in the neighbourhood energy systems
EeB.NMP.2013-6	Achieving high efficiency by deep retrofitting in the case of commercial buildings
GC.NMP.2013-1	Improved materials for innovative ageing resistant batteries



EeB Public Private Partnerships

- **Deadline:** 1 December 2011
- **Indicative budget:** EUR70 million
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Activity/Area	Topics called	Funding Schemes
EeB.NMP.2012-1	Interaction and integration between buildings, grids, heating and cooling networks, and energy storage and energy generation systems	Large Scale Collaborative Projects
EeB.NMP.2012-2	Systemic Approach for retrofitting existing buildings, including envelope upgrading, high performance lighting systems, energy-efficient HVAC systems and renewable energy generation systems	
EeB.NMP.2012-3	Development and validation of new 'processes and business models' for the next generation of performance based energy-efficient buildings integrating new services	SME Collaborative Projects
EeB.NMP.2012-4	Nanotechnology based approaches to increase the performance of HVAC systems	Small Scale Collaborative Projects
EeB.NMP.2012-5	Novel materials for smart windows conceived as affordable multifunctional systems offering enhanced energy control	
EeB.NMP.2012-6	Methodologies for Knowledge transfer within the value chain and particularly to SMEs	CSA

Support Networks

- ESASTAP
 - <http://www.esastap.org.za/esastap/home/index.php>
- NMPTeam
 - <http://www.nmpteam.com/>
- CORDIS
 - http://cordis.europa.eu/home_en.html
 - <http://cordis.europa.eu/partners/web/guest/home>
 - <http://ec.europa.eu/research/participants/portal/page/home>.
 - http://ec.europa.eu/research/participants/portal/page/fp7_documentation
- Key Enabling Technologies (KETs)
 - http://ec.europa.eu/enterprise/sectors/ict/key_technologies/kets_high_level_group_en.htm
- Intellectual Property
 - ftp://ftp.cordis.europa.eu/pub/fp7/docs/ipr_en.pdf



ESASTAP

european - south african science and technology
advancement programme

NMP Mobility Programmes

- COST Domain
 - Materials, Physical & Nanosciences (MPNS) Theme
 - Complements FP
 - Focus on multidisciplinary cooperation
 - Coordination through cooperation in networks
 - SA-COST reciprocal agreement
- Marie Curie Actions
 - Human resource development in R&D
 - Building individual & institutional capacity
 - Several programmes
 - International Research Staff Exchange Scheme (IRSES)
 - Industry Academia Pathways & Partnerships (IAPP)
 - International Incoming & Outgoing Fellowships
 - Initial Training Networks (ITN)
 - IDEAs

Thank You

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