FP7 2013 ROADSHOW

NANOSCIENCES, NANOTECHNOLOGIES, MATERIALS AND NEW PRODUCTION TECHNOLOGIES

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Overview of Presentation

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

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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

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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.

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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

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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

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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

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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
- NMPMaterials 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

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Evaluation Criteria

- Stage 1 proposals are evaluated on the basis of the following two criteria: S/T quality and Impact
- Successful proposals must pass the minimum thresholds as follows:

	Minimum threshold
S/T quality	4/5
Impact	3/5
Overall threshold required	8/10

- Coordinators of retained proposals will receive the Evaluation Summary Report without scores. They will be invited to submit a complete proposal
- Stage 2 proposals are evaluated on the basis of the following three criteria: 1. S/T quality; 2. Implementation; 3. Impact.
- Successful proposals must pass the minimum thresholds as follows:

	Minimum threshold
S/T quality	4/5
Implementation	3/5
Impact	3/5
Overall threshold required	12/15

- In order to ensure industrial relevance and impact of the research effort, the active participation of industrial partners represents an added value to the activities and this will be reflected in the evaluation

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Large Scale Integrating Collaborative Projects

Activity/Area	Topics	Budget
Maximising the contribution of nanotechnology to sustainable development	1.1-1 Exploration, optimisation and control of nano-catalytic processes for energy applications	**€158 Million**
Nanotechnology for benefiting environment, energy and health	1.2-2 Nanotherapeutics to treat bacterial infectious diseases	
Ensuring the safety of Nanotechnology	1.3-1 Safety in nanoscale production and products	
	1.3-3 Development of a systematic framework for naming and assessing safety of the next generations of nanomaterials being developed for industrial applications	
Cross cutting and enabling R&D	1.4-2 Metrology research for the development and validation of design rules for engineering of nanostructured and nano-enabled materials and devices	
	1.4-3 Development of methods and standards supporting the implementation of the Commission recommendation for a definition of Nanomaterial	
Enabling R&D	2.1-1 Developing new precursors, functionalisations and processing routes for carbon fibres	
Innovative materials for advanced applications	2.2-3 Wide band gap semiconductor materials and structures for power electronics in energy technologies	
Integration	4.0-1 Graphene production technologies	
Raw materials	4.1-2 Breakthrough Solutions for Mineral Extraction and Processing in Extreme Environments	

Deadline: 23 October 2012 at 17h00 Brussels Time

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Small or Medium Scale Integrating Collaborative Projects

Activity/Area	Topics	Budget
Maximising the contribution of nanotechnology to sustainable development	1.1-2 Self-assembly of naturally occurring nanosystems	**€82 Million**
Nanotechnology for benefiting environment, energy and health	1.2-1 Nanotechnology-based sensors for environmental monitoring	
Ensuring the safety of Nanotechnology	1.3-2 Nanomaterials safety assessment: Ontology, database(s) for modelling and risk assessment	
Cross cutting and enabling R&D	1.4-1 Development of an integrated multi-scale modelling environment for nanomaterials and systems by design	
Enabling R&D	2.1-1 Developing new precursors, functionalisations and processing routes for carbon fibres	
Innovative materials for advanced applications	2.2-4 Materials solutions for durable energyharvesters	
New Production	3.0-1 Tools for Monitoring and Assessing Resource-efficiency in the Value Chain of process Industries	
Integration	4.0-2 Innovative materials for efficient, stable and cheap organic photovoltaic cells	

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SME Targeted Collaborative Projects

Activity/Area	Topics	Budget
Innovative materials for advanced applications	2.2-1 Biomaterials for Advanced Therapies and Medical Devices in the neurological/neuromuscular or cardiovascular Fields	**€39.3 Million**
New Production	3.0-2 Integrated processing and Control Systems for Sustainable Production in Farms and Forests	
Integration	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	

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Coordination & Support Actions

Activity/Area	Topics	Budget
Cross-cutting and enabling R&D	1.4-4 Developing innovative outreach and dialogue on responsible nanotechnologies in EU civil society – Support actions	**€13.9 Million**
Structuring actions	2.3-1 Advanced materials – our allies for a sustainable future – Support actions	
	2.3-2 Rational design of functional materials: networking and sharing of best practices – Coordination action	
Integration	4.0-4 Support for cluster activities of projects in the main application fields of NMP Theme – Coordination actions	
	4.0-5 Deployment of societally beneficial nanoand/ or materials technologies in ICP countries – Support actions	
	4.0-6 Safe Life Extension management of aged transport infrastructures networks and industrial plants – Coordination actions	
	4.0-8 The impact of the integration of key enabling technologies on industrial production and societal goals – Support actions	
	4.0-9 Organisation of events related to the Presidencies of the European Union – Support actions	
Raw materials	4.1-3 European Intelligence Network on the Supply of Raw Materials – Coordination action	

Deadline: 4 December 2012 at 17h00 Brussels Time

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Factories of the Future

Activity/Area	Topics	Budget
FoF.NMP.2013-1	Improved use of renewable resources at factory level (DEMO)	**€230 Million**
FoF.NMP.2013-2	Innovative re-use of modular equipment based on integrated factory design (DEMO)	
FoF.NMP.2013-3	Workplaces of the future: the new people-centred production site(Small)	
FoF.NMP.2013-4	Innovative methodologies addressing social sustainability in Manufacturing (CSA)	
FoF.NMP.2013-5	Innovative design of personalised product-services and of their production processes based on collaborative environments (Large)	
FoF.NMP.2013-6	Mini-factories for customised products using local flexible production (DEMO)	
FoF.NMP.2013-7	New hybrid production systems in advanced factory environments based on new human-robot interactive cooperation (Large)	
FoF.NMP.2013-8	Innovative strategies for renovation and repair in manufacturing systems (Large)	
FoF.NMP.2013-9	Advanced concepts for technology-based business approaches addressing product services and their manufacturing in globalised markets (Small)	
FoF.NMP.2013-10	Manufacturing processes for products made of composites or engineered metallic materials (Small)	
FoF.NMP.2013-11	Manufacturing of highly miniaturised components (SME)	
FoF-ICT-2013.7.1	Application experiments for robotics and simulations	

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Energy Efficient Buildings

Activity/Area	Topics	Budget
EeB.NMP.2013-1	Nanotechnology for multifunctional lightweight construction materials and Components (Small)	**€116 Million**
EeB.NMP.2013-2	Safe, energy-efficient and affordable eco-innovative materials for building envelopes and/or partitions to provide a healthier indoor environment (Large)	
EeB.NMP.2013-3	Integration of technologies for energy-efficient solutions in the renovation of public buildings (DEMO)	
EeB.NMP.2013-4	Integrated control systems and methodologies to monitor and improve builidng energy performance (Large)	
EeB.NMP.2013-5	Optimised design methodologies for energy efficient Buildings integrated in the neighbourhood energy systems (Large)	
EeB.NMP.2013-6	Achieving high efficiency by deep retrofitting in the case of commercial Buildings (Large)	
EeB.ENV.2013.6.3-4	Energy efficient retrofitting and renewal of existing buildings for sustainable urban districts (Small)	

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Green Cars

Activity/Area	Topics	Budget
GC.NMP.2013-1	Improved materials for innovative ageing resistant Batteries	**€20 Million**

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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

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Thank You

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