

NMP 2011 Work Programme

DRAFT

European Commission
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Outline of the NMP 2011 Draft Workprogramme

NMP Programme (Theme 4) – 5th call - 2011

Activity 4.1 Nanosciences and Nanotechnologies **13 topics**

Activity 4.2 Materials **11 topics**

Activity 4.3 New Production Technologies **3 topics**

Activity 4.4 Integration **8 topics**

Recovery Package : Public Private Partnerships **11 topics**

NMP 2011 – 2013 - Indicative budget (Million €)

	2010	2011	2012	2013
TOTAL*	325.7	450	514.5	628.2
NMP Calls	198	306**	~ 310**	~ 314**
PPP FoF	60	80	100	160
PPP EeB	30	40	70	110
PPP Green cars	10	10	15	25
JTI FCH	9.6	9.6	9.6	9.5
Metrology	9.9	7.0	9.3	9.3
Other NMP activities	4.1	?	?	?
FP7 activities	4.1	?	?	?

* Third countries + EFTA contribution NOT included

** Including Other NMP and FP7 activities

05/05/2010





Restructuring the RTD sub-areas

NANOTECHNOLOGIES

2nd Implementation report + SWD & Swedish Presidency event:

1. Maximising the contribution of Nanotechnology on sustainable development

- supports contribution of nanotechnology on sustainable development
- applications incorporating nanotechnology in various sectors
- promoting a step change in industrial performance

2. Nanotechnology for benefiting environment, energy and health

- supports meeting the most urgent societal challenges
- contribution to eco-efficient economy and innovation-led growth
- win-win opportunity for combining societal and industrial interests

3. Ensuring the safety of Nanotechnology

- progressing from “impacts” of nanoparticles to “ensuring the safety”
- approach covers identification of hazards, knowledge of potential adverse effects, and measurement and control of exposure

4. Cross-cutting and enabling R&D

- supports the development of the necessary multidisciplinary research and innovation infrastructure
- supports activities enabling atomically precise control of processes



Restructuring the RTD sub-areas

ADVANCED MATERIALS a strategically relevant Key Enabling Technology

1. Enabling research and development

- Meeting the Grand Challenges (Lund declaration)
- Multidisciplinary Research & Development for all sectors
- Better control of materials properties

2. Innovative materials for advanced applications

- Addressing 5 main industrial sectors - healthcare, ICT, transport, energy, environment (EAG)
- Research & Development on application-oriented materials
- Unlocking the potential of technological applications

3. Structuring actions

- Building up and exploiting the potential of the ERA
- Fostering cooperation at the European (ERA-NET) and international (SICA) levels
- Creating synergies and networks in materials research



Restructuring the RTD sub-areas

NEW PRODUCTION

1. PPP part

Implementation of production related priorities identified in the multi-annual roadmaps of the PPPs

Serving the grand challenges of the EU recovery plan

2. NMP part (Production, Integration):

Concentration on activities not directly covered by the PPPs, emphasising research on issues such as:

- Parts of the product value chain not covered by the PPPs, from extraction and design to end-of-life;
- Sustainability in products and their production respecting the environment and aiming at saving water and energy;
- More sectoral oriented needs, for instance as expressed by ETPs.

Activity 4.1 Nanosciences and Nanotechnologies

1.1 Maximising the contribution of Nanotechnology on sustainable development

1.1-1 Smart and multifunctional packaging concepts utilizing nanotechnology

LARGE

1.2 Nanotechnology for benefiting environment, energy and health

1.2-1 Development and up-scaling of innovative photovoltaic cell processes and architectures to pilot-line scale for industrial application, Joint call with Energy

LARGE

1.2-2 New targeted therapy using nanotechnology for transport of macro-molecules across the biological blood-brain barrier

LARGE

1.2-3 Active nanomembranes/filters/adsorbents for efficient water treatment with stable or regenerable low-fouling surfaces

SMALL

Activity 4.1 Nanosciences and Nanotechnologies

1.3 Ensuring the safety of Nanotechnology

- | | | |
|-------|--|-------|
| 1.3-1 | New methods for measuring, detection and identification of nanoparticles in products and/or in the environment | SME |
| 1.3-2 | Worker protection and exposure risk management strategies for nanomaterial production, use and disposal | SMALL |
| 1.3-3 | Intelligent testing strategies for nanomaterials impact and exposure – towards regulation and clustering of materials (support action) | CSA |
| 1.3-4 | European Platform on Nano Outreach and Dialogue (NODE) (support action) | CSA |

1.4 Cross-cutting and enabling R&D

- | | | |
|-------|--|-------|
| 1.4-1 | Large-scale green and economical synthesis of nanoparticles and nanostructures | LARGE |
| 1.4-2 | Development of nano-scale detection and control techniques for large area substrates | LARGE |
| 1.4-3 | Tools and methodologies for imaging structures and composition at the nanometre scale | SME |
| 1.4-4 | Nanotechnology based implantable and interfaceable devices [for medical applications] | SMALL |
| 1.4-5 | Multiscale Modelling as a Tool for Virtual Nanotechnology Experimentation - coordinated call with Russia [one project in each of three research areas: hybrid nanostructured elements; organic matrix nanocomposites; and biocompatible nanomaterials] | SMALL |



Activity 4.2 Materials

2.1 Enabling Research and Development

- 2.1-1 Research and innovation for advanced multifunctional ceramic materials **SME**
- 2.2-2 Modelling of ultrafast dynamics in materials **SMALL**

2.2 Innovative materials for advanced applications

- 2.2-1 Novel superconducting materials, architectures and processes for electro-technical applications **LARGE**
- 2.2-2 Biomaterials for tissue engineering for age-related cancer and sensory organ diseases **SMALL**
- 2.2-3 Materials for solid state lighting **SMALL**
- 2.2-4 Novel materials for replacement of strategic or scarce raw materials (platinum group metals and rare earths) **SMALL**
- 2.2-5 Development of advanced compatible materials and techniques and their application for the protection, conservation and restoration of cultural heritage assets – coordinated call with ENV **SME**
- 2.2-6 Fundamental properties of novel superconducting materials - coordinated call with Japan **SMALL**





Content of Calls

Activity 4.2 Materials

2.3 Structuring actions

- 2.3-1 Advanced packaging materials for renewable biogenic resources (SICA)
- 2.3-2 ERA-NET on research on materials science and engineering, including international cooperation
- 2.3-3 Networking of materials laboratories and innovation actors in various industrial sectors for product or process innovation (coordination action)

SMALL

CSA

CSA



Content of Calls

Activity 4.3 New Production

3.1 Development and validation of new industrial models and strategies

3.1-1 Eco-design for new products

SMALL

3.2 Adaptive Production Systems

3.2-1 Modelling and control of intensified process systems

SMALL

3.3 Networked Production

Implemented through the PPP initiative "Factories of the Future"

3.4 Rapid transfer and integration of new technologies into the design and operation of manufacturing processes

3.4-1 Eco-efficient management of industrial water

LARGE

3.5 Exploitation of the convergence of technologies

Implemented through the PPP initiative "Factories of the Future"





Content of Calls

Activity 4.4 Integration

- 4.0-1 New technologies based on physical processing of materials for mechanical or electro-technical applications [processing in external fields, excluding applications solely in electronics and photonics; and beam treatments]
- 4.0-2 Advanced underground technologies for intelligent mining and for inspection, maintenance and excavation
- 4.0-3 Advanced textiles for the energy and environmental protection markets
- 4.0-4 Organisation of events related to the Presidencies of the European Union (support action)
- 4.0-5 Support to Networks of Excellence with durable integrated structures (support action)
- 4.0-6 ERA-NET on the Industrial Handling of Raw Materials for European industries
- 4.0-7 ERA-NET on Industrial Safety
- 4.0-8 NCP trans-national activities (support action)

LARGE

LARGE

SME

CSA



Recovery Package : Public Private Partnerships

5.1 "Factories of the Future" PPP (FoF) – Cross thematic Coordinated Call NMP & ICT

Topics covered by NMP

FoF.NMP.2011-1	The Eco-Factory: cleaner and more resource efficient production in manufacturing	LARGE
FoF.NMP.2011-2	Cooperative machines and open-architecture control systems [for the transformation of traditional production line concepts to non-hierarchical agglomerates of manufacturing units]	SMALL
FoF.NMP.2011-3	Robots for automation of post-production and other auxiliary processes	SMALL
FoF.NMP.2011-4	High tech solutions in the production processes for customised green, safe and healthy consumer products	SME
FoF.NMP.2011-5	Towards zero-defect manufacturing	LARGE
FoF.NMP.2011-6	Manufacturing chains for nano-phased components and coatings	LARGE



Recovery Package : Public Private Partnerships

5.2 "Energy-efficient Buildings (EeB)" PPP – Cross thematic coordinated call NMP, ICT, Energy, Environment

Topics covered by NMP

- | | | |
|-----------------------|--|--------------|
| EeB.NMP.2011-1 | Materials for new energy efficient buildings components with reduced embodied energy | LARGE |
| EeB.NMP.2011-2 | New efficient solutions for energy generation, storage and use related to space heating and domestic hot water in existing buildings | LARGE |
| EeB.NMP.2011-3 | Energy saving technologies for buildings envelope retrofitting | LARGE |
| EeB.NMP.2011-4 | Geo-clusters approach to support European energy-efficiency goals [involving virtual transnational areas/markets with strong similarities] (support action) | CSA |

Recovery Package : Public Private Partnerships

5.3 "Green Cars (GC)" – PPP – Cross-thematic coordinated call NMP, Transport, ICT, Energy, Environment

Topic implemented via a Joint Call of NMP, Transport & Environment

GC.NMP.2011-1 **Advanced eco-design and manufacturing processes for batteries and electrical components**

LARGE

Implementation of the Calls – Tentative data

Calls for proposals NMP 2011

LARGE – SMALL and SME 2011

- **Date of Publication : end of July 2010**
- **Deadlines : 1st stage 4 November 2010 – 2nd stage 19 April 2011**
- **Indicative budget :**
 - 118 million € for LARGE**
 - 99.5 million € for SMALL**
 - 40 million € for SME**

Implementation of the Calls – Tentative data

Calls for proposals NMP 2011

CSA 2011

- **Date of Publication : end of July 2010**
- **Deadline : 1 February 2011**
- **Indicative budget : 12 million €**



Implementation of the Calls – Tentative data

Calls for proposals NMP 2011

Coordinated Call NMP - Environment

- **Date of Publication : end of July 2010**
- **Deadline : 18 November 2010**
- **Indicative budget : 12 million € (of which 6 million € from NMP)**

Implementation of the Calls – Tentative data

Calls for proposals NMP 2011

Joint Call NMP - ENERGY

- **Date of Publication : end of July 2010**
- **Deadline : 25 November 2010**
- **Indicative budget : 25 million € (of which 15 million € from NMP)**

Implementation of the Calls – Tentative data

Calls for proposals NMP 2011

Coordinated Call EU-Russia-2011

- **Date of Publication : end of July 2010**
- **Deadline : 31 March 2011**
- **Indicative budget : 4.5 million €**

Implementation of the Calls – Tentative data

Calls for proposals NMP 2011

Coordinated Call EU-Japan-2011

- **Date of Publication : end of July 2010**
- **Deadline : 7 December 2010**
- **Indicative budget : 5 million €**

Implementation of the Calls – Tentative data

Calls for proposals NMP 2011

ERANET

- **Date of Publication : end of July 2010**
- **Indicative budget : 6 million €**



Implementation of the Calls – Tentative data

Calls for proposals PPP 2011

FoF Cross thematic coordinated call NMP - ICT

- **Date of Publication : end of July 2010**
- **Deadline : 2 December 2010**
- **Indicative budget : 160 million € (of which 80 million € from NMP)**



Implementation of the Calls – Tentative data

Calls for proposals PPP 2011

EeB Cross thematic coordinated call NMP - ICT - Energy - Environment

- **Date of Publication : end of July 2010**
- **Deadlines : 2 December 2010**
- **Indicative budget : 85.5 million € (of which 40 million € from NMP)**

Implementation of the Calls – Tentative data

Calls for proposals PPP 2011

GC Cross thematic Joint call NMP - Environment - Transport

- **Date of Publication : end of July 2010**
- **Deadlines : 2 December 2010**
- **Indicative budget : 25 million € (of which 10 million € from NMP)**