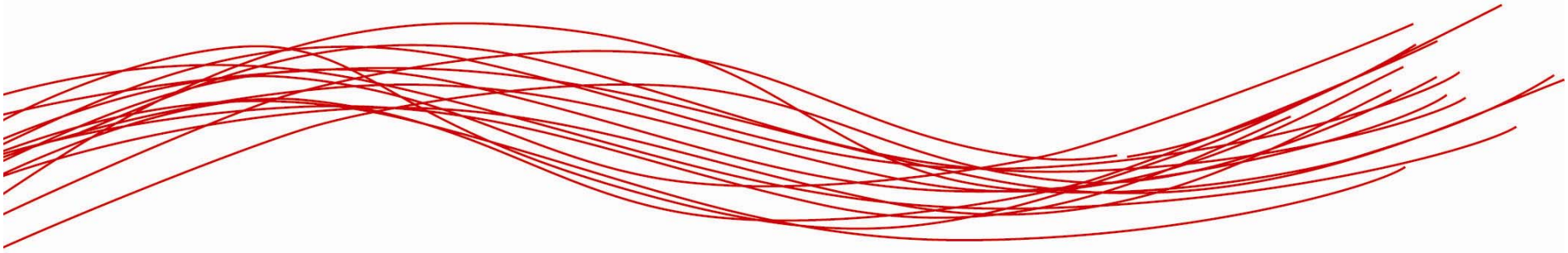
EUROPEAN COMMISSION / European Research Area / 7th Framework Programme

Participating in FP7 NMP
WP 2012
EU Research and Innovation after 2013



Nicholas Deliyanakis

Deputy Head of Unit – Horizontal aspects

Industrial Technologies

European Commission

Directorate-General for Research and Innovation

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Outline of the NMP 2012 Draft Work Programme

NMP Programme (Theme 4) – 6th call – 2012

Activity 4.1 Nanosciences and Nanotechnologies	**12 topics**
Activity 4.2 Materials	**10 topics**
Activity 4.3 New Production Technologies	**2 topics**
Activity 4.4 Integration, incl. Raw materials	**8 topics**
Recovery Package : Public Private Partnerships	**15 topics**

Strategy for 2012-13

Topics will continue to span spectrum from enabling research, to applications and demonstration activities.

Main blocks and budgets – total 510M€ (620M in 2013)

- *Cross-cutting* innovation (~100 M€)
- *Challenge-specific* innovation (~400M€)
  - PPPs (190 M€)
  - Raw materials (~45 M€)
  - Energy (~30 M€)
  - Environment/sustainability (~55 M€)
  - Health & safety (~75 M€)

Enhanced **Innovation Elements**

- Up-scaling, pilot schemes etc
- Demonstration activities, e.g. technical and economic reviews, validation etc - increased average budget per topic in LARGE call
- Support for innovation, e.g. standardisation, safety, skilled work forces, raw materials etc

Restructured RTD sub-areas

NANOTECHNOLOGY

1. Maximising the contribution of Nanotechnology on sustainable development
2. Nanotechnology for benefiting environment, energy and health
3. Ensuring the safety of Nanotechnology
4. Cross-cutting and enabling R&D

ADVANCED MATERIALS

1. Enabling research and development
2. Innovative materials for advanced applications
3. Structuring actions

NEW PRODUCTION

Several objectives covered by PPP “Factories of the Future”
Remaining objectives reflected by NMP part

INTEGRATION

- including contribution to Raw Materials

Recovery Package: Public Private Partnerships FoF, EeB, GC

Content of Calls

Activity 4.1 Nanosciences and Nanotechnologies

1.1 Maximising the contribution of Nanotechnology on sustainable development

1.1-1 Rational design of nano-catalysts for sustainable energy production based on fundamental understanding — SMALL

1.2 Nanotechnology for benefiting environment, energy and health

1.2-1 Nanotechnology solutions for in-situ soil and groundwater remediation — LARGE

1.2-2 Development and phase-I clinical trials of novel therapeutic nanotechnology-enabled systems for the diagnosis and treatment of atherosclerosis — LARGE / CSA

1.2-3 ERA-NET on Nanomedicine

Content of Calls

Activity 4.1 Nanosciences and Nanotechnologies

1.3 Ensuring the safety of Nanotechnology

1.3-1 Systematic investigations of the mechanisms and effects of engineered nanomaterial interactions with living systems and/or the environment	LARGE
1.3-2 Modelling toxicity behaviour of engineered nanoparticles	SMALL
1.3-3 Regulatory testing of nanomaterials	LARGE

1.4 Cross-cutting and enabling R&D

1.4-1 Pilot lines for precision synthesis of nanomaterials	LARGE
1.4-2 Hierarchical assembly of nanoscale building blocks	SMALL
1.4-3 Nanoscale mechanical metrology for industrial processes and products	SME
1.4-4 Evaluation of EC communication and dialogue on research and innovation in nanotechnologies and design of future needs for the EU (industry and society)	CSA
1.4-5 Improving education in nanotechnologies to match the skill needs of EU industry and society	CSA

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Content of Calls

Activity 4.2 Materials

2.1 Enabling Research and Development

- 2.1-1 Joining dissimilar materials (excluding applications specific only to healthcare) — SMALL
- 2.1-2 Fine chemicals from CO_2 — SMALL
- 2.1-3 Self-healing materials for prolonged lifetime — SMALL

2.2 Innovative materials for advanced applications

- 2.2-1 Biomaterials for improved performance of medical implants — LARGE
- 2.2-2 Materials for data storage — SMALL
- 2.2-3 Advanced materials for high-temperature power generation – SICA (Eastern partnership) — SMALL
- 2.2-4 Cost-effective materials for larger blades for off-shore wind energy applications — SMALL
- 2.2-5 Halogen-free flame retardant materials — SME
- 2.2-6 Photocatalytic materials for depollution – SICA (ASEAN) — SMALL

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Content of Calls

Activity 4.2 Materials

2.3 Structuring actions

2.3-1 Networking of ETPs and main materials collective stakeholders in materials science and engineering

CSA

Content of Calls

Activity 4.3 New Production

3.0-1 Highly efficient chemical syntheses using alternative energy forms SME

3.0-2 Total Safety Management for industrial organisations SMALL

NB: Other objectives of New Production are implemented through the PPP initiative "Factories of the Future"

Content of Calls

Activity 4.4 Integration

4.0-1 Novel materials and design-based solutions for the creative industry	SME
4.0-2 Support for standardisation needs	CSA
4.0-3 (ERA-NET Plus on) Innovation in the forest-based sector for increasing resource efficiency and tackling climate change with competitive customer solutions (FAFB & NMP themes)	CSA
4.0-4 Organisation of events related to the Presidencies of the European Union	CSA

Content of Calls

Activity 4.4 Integration

4.1 Raw materials

4.1-1 New environmentally friendly approaches in minerals processing	LARGE
4.1-2 Innovative recycling technologies of key metals in high-tech applications	SME
4.1-3 Development of advanced magnetic materials without, or with reduced use of, critical raw materials	SMALL
4.1-4 Substitution of critical raw materials: networking, specifying R&D needs and priorities	CSA

Content of Calls

Recovery Package : Public Private Partnerships

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

Topics covered by NMP

FoF.NMP.2012-1	Adaptive production systems and measurement and control equipment for optimal energy consumption and near-to-zero emissions in manufacturing processes	LARGE
FoF.NMP.2012-2	Methodologies and tools for the sustainable, predictive maintenance of production equipment	SME
FoF.NMP.2012-3	Intelligent production machines and 'plug-and-produce' devices for the adaptive system integration of automation equipment, robots and other intelligent machines, peripheral devices, smart sensors and industrial IT systems	SME
FoF.NMP.2012-4	High-performance manufacturing technologies in terms of efficiency (volumes, speed, process capability etc), robustness and accuracy	DEMO
FoF.NMP.2012-5	High precision production technologies for high quality 3D micro-parts	SMALL
FoF.NMP.2012-6	Knowledge based tools and approaches for process planning and integrated process simulation at factory level	SMALL
FoF.NMP.2012-7	Innovative technologies for casting, material removing and forming processes	DEMO

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Content of Calls

Recovery Package : Public Private Partnerships

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

Topics covered by NMP

EeB.NMP.2012-1 Interaction and integration between buildings, grids, heating and cooling networks, and energy storage and energy generation systems — LARGE

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 — LARGE

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

EeB.NMP.2012-4 Nanotechnology based approaches to increase the performance of HVAC systems — SMALL

EeB.NMP.2012-5 Novel materials for Smart Windows, conceived as affordable multifunctional systems offering enhanced energy control — SMALL

EeB.NMP.2012-6 Methodologies for Knowledge transfer within the value chain and particularly to SMEs — CSA

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Content of Calls

Recovery Package : Public Private Partnerships

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

GC.NMP.2012-1 Innovative automotive electrochemical storage applications based on nanotechnology — SMALL

GC.NMP.2012-2 Innovative advanced light-weight materials for the next generation of environmentally-friendly electric vehicles (NMP, Transport & Environment Themes) — LARGE

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Implementation of the Calls

Calls for proposals NMP 2012

LARGE, SMALL and SME 2012

- **Date of Publication : 20 July 2011**
- **Deadlines : 1st stage 8 November 2011 – 2nd stage 3 May 2012**
- **Indicative budgets : 110 million € for LARGE**

  124 million € for SMALL

  48 million € for SME

Implementation of the Calls

Calls for proposals NMP 2012

CSA 2012

- **Date of Publication : 20 July 2011**
- **Deadline : 24 January 2012**
- **Indicative budget : 10.5 million €**

Implementation of the Calls

Calls for proposals NMP 2012

ERA-NET

- **Date of Publication : 20 July 2011**
- **Deadline : 28 February 2012**
- **Indicative budget : 5.5 million € from NMP**

Implementation of the Calls

Calls for proposals PPP 2012

FoF, EeB, GC

- **Date of Publication : 20 July 2011**
- **Deadline : 1 December 2011**
- **Indicative budgets :**
  - **FoF: 100 million € for NMP topics**
  - **EeB: 70 million € for NMP topics**
  - **GC: 35 million €, of which 20 million € from NMP**

Submitting proposals

- Two-stage (NMP) and one-stage (PPP and CSA) evaluations
- Importance of expected impact
- Strategic context of calls
- NCPs and networking
- Planning ahead
- Independent opinion on draft proposal

Beyond 2013 – Horizon 2020

- Europe 2020: Innovative solutions for sustainable growth and societal challenges

- **Horizon 2020** – Common Strategic Framework for Research and Innovation
  - Science base
  - Competitiveness,
    incl. Enabling and Industrial Technologies
  - Tackling societal challenges

- Proposed budget 80 billion € for 2014-20

Green Paper consultation outcome

- **Strong support for** bringing research and innovation together
- Simplification **is a key priority for all stakeholders**
- **All stages in the innovation chain should be supported, with** more attention for close to the market activities **(e.g. demonstration, piloting)**
- Continuity for the successful elements **of current programmes, e.g. European Research Council, Marie Curie, collaborative research**
- **EU funding should be tied closely to** societal challenges **and EU policy objectives (climate change, ageing, energy security, …)**
- **More** openness and flexibility **needed,** less prescriptive **calls, better use of** bottom-up instruments **(also in programme parts guided by clear policy objectives)**
- **Need** both curiosity-driven and agenda-driven **activities, working in tandem**
- SMEs with innovation requirements **should be able to benefit**
- **Continued support for PPPs**

Strengthening competitiveness: Enabling and Industrial Technologies

- Information and Communication Technologies
- Nanotechnologies
- Advanced Materials
- Biotechnology
- Advanced Manufacturing and Processing
- Space
  - Stakeholder workshops – June and July 2011
  - Input from KET High-Level Group and AG experts
  - Final summary on Horizon 2020 site

Useful links

- FP7 calls
ec.europa.eu/research/participants/portal/page/fp7_calls

- NMP find a partner www.nmp-partnersearch.eu/

- Industrial technologies
ec.europa.eu/research/industrial_technologies

- Innovation Union
ec.europa.eu/research/innovation-union

- Green paper on Research and Innovation – Horizon 2020
http://ec.europa.eu/research/horizon2020