

LEIT/NMBP

Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing

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Chişinău, 2015



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Prioritatea 2. Pozitia de lider in sectorul industrial

- Pozitia de lider privind tehnologiile generice și industriale (FET)
 - Tehnologiile informației și comunicațiilor (ICT)
 - **Nanotehnologii;** Materiale avansate; **Biotehnologii;**
 - Spațiu
- Acesul la finantarea de risc
- Inovarea cu ajutorul IMM-urilor



Prioritatea 2. Pozitia de lider in sectorul industrial

De ce:

- Investitiile strategice in tehnologii cheie (de ex., prelucrarea avansata, microelectronica) sustin inovarea in sectoarele existente si emergente
- Europa trebuie sa atraga mai multe investitii private in cercetare si inovare
- Europa are nevoie de mai multe IMM-uri inovative pentru crestere economica si crearea de noi locuri de munca



A large part of Industrial Leadership (~6Bio€) is about mastery and deployment of Key Enabling Technologies (KETs)

What are KETs?

- Six strategic technologies
- Driving competitiveness and growth
- Contributing to solving societal challenges
- Knowledge- and Capital- intensive
- Cut across many sectors

- Nanotechnologies
- Advanced Materials
- Micro- and nano-electronics
- Photonics
- Biotechnology
- Advanced Manufacturing and Processing

European KET Strategy

- EC Communications (2009)512 & (2012)341
- KET High-level Group



LEIT, 8 calls

Leadership in Enabling &
Industrial Technologies
**Nanotechnology and
Biotechnology**

**Nanotechnologies, advanced Materials,
Biotechnology and Production NMPB 01-07**

**Advanced Materials and Nanotechnology for
healthcare NMPB 09-16**

**Advanced materials and nanotechnologies
for energy applications NMPB 17-20**

**Eco-design and new sustainable business
models NMPB 21-22**

**Modeling for the development of
nanotechnologies and advanced materials
NMBP 23-25**

**Science-based risk assessment and
management of nanotechnologies, advanced
materials and biotechnologies NMBP 26-29**

**Innovative and responsible governance of
new and converging enabling technologies
NMBP 30-36**

Biotechnology BIOTEC 01-08



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PILOT LINES

Focus Area: Industry 2020 in the Circular Economy

"Systemic approaches to sustainably boost economic growth and renew Europe's industrial capacities in a world of finite resources"
- contributions from NMBP, ICT and Societal Challenges



Pilot lines in Nanotechnology and Materials

- *Cross-cutting KET pilot activities building on previous research that is ready to be processed towards industrial-scale processes.*

- ***PILOTS -1: Pilot lines for manufacturing of materials with customized thermal/electrical conductivity properties, IA***

- ***PILOTS -2: Pilot line manufacturing of nanostructured antimicrobial surfaces using advanced nanosurface functionalization technologies, IA***



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FoF PPP



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Factories of the Future PPP

- FOF-1: *Novel hybrid approaches for additive and subtractive manufacturing machines, RIA*
- FOF-2: *Machinery and robot systems in dynamic shop floor environments using novel embedded cognitive functions, IA*
- FOF-3: *Zero-defect strategies at system level for multi-stage manufacturing in production lines, IA*
- FOF-4: *Continuous adaptation of work environments with changing levels of automation in evolving production systems, RIA*
- FOF-5: *Support for the further development of Additive Manufacturing technologies in Europe, CSA*
- FOF-11: *Digital automation, RIA + CSA (ICT)*



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SPIRE PPP



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Sustainable Process Industry PPP

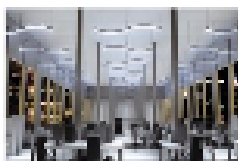
- ***SPIRE-1: Systematic approaches for resource-efficient water management systems in process industries, IA***
- ***SPIRE-2: Plant-wide monitoring and control of data-intensive processes, RIA***
- ***SPIRE-3: Industrial technologies for the valorisation of European bio-resources into high added value process streams, IA***
- ***SPIRE-4: Industrial furnace design addressing energy efficiency in new and existing furnaces, RIA***
- ***SPIRE-5: Potential use of CO₂ / CO and non-conventional fossil natural resources in Europe as feedstock for process industry, CSA***
- ***SPIRE-6: Business models for flexible and delocalised approaches for intensified processing, CSA***



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EeB PPP



Energy-efficient Buildings PPP

▪*EEB-1: Highly efficient insulation materials with improved properties, IA*

▪*EEB-2: Performance indicators and monitoring techniques for energy-efficiency and environmental quality at building and district level, CSA*

▪*EEB-3: Integration of advanced technologies for heating and cooling at building and district level, IA*

▪*EEB-4: New technologies and strategies for the development of pre-fabricated elements through the reuse and recycling of construction materials and structures, RIA*

EE-10: Supporting accelerated and cost-effective deep renovation of buildings, IA (Energy)



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Advanced materials and Nanotechnologies for high added value products & process industries

-NMBP-1: Novel hybrid materials for heterogeneous catalysis, RIA

-NMBP-2: Advanced Materials for Power Electronics based on wide bandgap semiconductor devices technology, RIA

-NMBP-3: Innovative and sustainable materials solutions for the substitution of critical raw materials in the electric power system, RIA



Green Vehicles PPP

-NMBP-8: Affordable weight reduction of high-volume vehicles and components taking into account the entire life cycle, RIA



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Advanced materials and Nanotechnologies for Healthcare

- *NMBP-9: Biomaterials for diagnosis and treatment of demyelination disorders of the Central Nervous System, RIA*
- *NMBP-10: Nanoformulation of biologicals, RIA*
- *NMBP-11: ERA-NET on Nanomedicine, ERA-NET Cofund*



Advanced materials and Nanotechnologies for Energy applications

- *NMBP-17: Advanced materials solutions and architectures for high efficiency solar energy harvesting, IA*
- *NMBP-18: Advanced materials enabling the integration of storage technologies in the electricity grid, IA*



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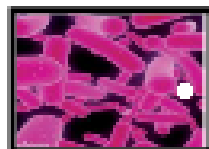


NMBP



Eco-design and new sustainable business models

NMBP-21: Manufacturing technologies supporting industry and particularly SMEs in the global competition, ERA-NET Cofund



Biotechnology

BIOTEC-1: ERA-NET Cofund on Biotechnologies, ERA-NET Cofund

BIOTEC-2: Bioconversion of non-agricultural waste into biomolecules for industrial applications, RIA

BIOTEC-3: Microbial chassis platforms with optimised metabolic pathways for industrial innovations through systems biology, RIA

BIOTEC-4: KET Biotechnology foresight identifying gaps and high-value opportunities for the EU industry, CSA



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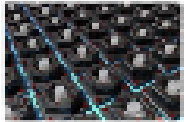
NMBP



Innovative and responsible governance of new and converging enabling technologies

- *NMBP-30: Facilitating knowledge management, networking and coordination in the field of formulated products, CSA*
- *NMBP-31: Presidency events, CSA*
- *NMBP-32: Support for National Contact Points, CSA*
- *NMBP-33: Networking and sharing of best experiences in using regional clusters strategies with a focus on supporting innovation in the NMBP thematic area, CSA*
- *NMBP-36: Policy support for Industry 2020 in the circular economy, CSA*





- NMBP-27: Promoting safe innovation through global consolidation and networking of nanosafety centres and strengthening the European industry through co-operation in nanosafety, CSA



Further information and advice

- Horizon 2020: http://ec.europa.eu/research/horizon2020/index_en.cfm
- Participant Portal -Funding Opportunities and support services:
<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>
- National Contact Points website - webinars, presentations, guidance :
<http://www.nmpteam.eu/>
- Research Enquiry Service:
http://ec.europa.eu/research/participants/portal/desktop/en/support/research_enquiry_service.html



Vă mulțumesc pentru atenție!

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