VDI Technologiezentrum

NKS Nanotechnologie

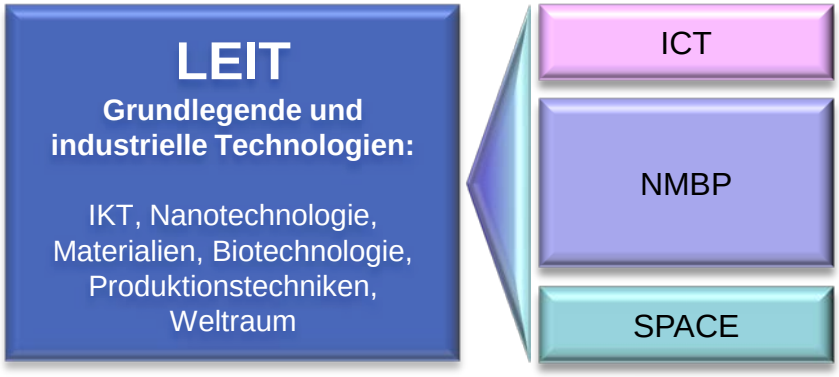
NMP-Beratungstag 2015 – BayFor/Nürnberger Akademie, 21.01.2015

Horizon 2020 – Übersicht über die NMP-Ausschreibungen 2015

Dr. Christian Busch, NKS Nanotechnologie, VDI Technologiezentrum GmbH

Arbeitsprogramm 2014/2015

- Innerhalb des Arbeitsprogrammes LEIT gibt es 3 Abschnitte:



- Abschnitt „*Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing*" (NMBP)
- 7 Calls (Aufrufe)

	Anzahl Topics (2014+**2015**)
1. Call for **Nanotechnologies, Advanced Materials and Production**	40 (23+**19**)
2. Call for **Biotechnologies**	6 (4+**3**)
3. Call for FoF - **Factories of the Future**	14 (7+**7**)
4. Call for EeB – **Energy-efficient Buildings**	8 (4+**4**)
5. Call for SPIRE – **Sustainable Process Industries**	8 (4+**4**)
6. Call for SILC II – **Sustainable Industry Low Carbon II**	1 (1+**0**)
7. Fast track to Innovation – Pilot	1 (0+**1**)

Struktur des NMPB-Arbeitsprogramms 2014-2015 - 1

NMP:

Activity 1:	Bridging the gap between nanotechnology research and markets
Activity 2:	Nanotechnology and Advanced Materials for more effective Healthcare
Activity 3:	Nanotechnology and Advanced Materials for low-carbon energy technologies and Energy Efficiency
Activity 4:	Exploiting the cross-sector potential of Nanotechnologies and Advanced materials to drive competitiveness and sustainability
Activity 5:	Safety of nanotechnology-based applications and support for the development of regulation
Activity 6:	Addressing generic needs in support of governance, standards, models and structuring in nanotechnology, advanced materials and advanced manufacturing and processing

Struktur des NMPB-Arbeitsprogramms 2014-2015 - 2

Biotechnologie:

Activity 1:	Cutting-edge biotechnologies as future innovation drivers
Activity 2:	Biotechnology-based industrial processes driving competitiveness and sustainability
Activity 3:	Innovative and competitive platform technologies

PPPs:

Activity FoF – Factories of the Future

Activity EeB – Energy-efficient Buildings

Activity SPIRE – Sustainable Process Industries

Die NMP-Themen der Ausschreibungsrunde 2015

Pilotlinien im Arbeitsprogramm

1. Bridging the gap between nanotechnology research and markets

- Fokus auf industriellen Wertschöpfungsketten
- Grundlagen zur Markteinführung für zahlreiche Anwendungen legen →Hochskalieren vom Labormaßstab auf industriellen Maßstab
- Zusammenarbeit mit EU nano-safety Cluster und Beiträge zur EU Strategie zu Nanosicherheit und Regulierung (NANOREG)
- besondere Beteiligung von KMU
- business-Pläne
- regionale Innovationsstrategien (“smart specialisation”)

Pilotlinien im Ausschreibungsjahr 2015

1. Bridging the gap between nanotechnology research and markets

NMP 2 – 2015: **Integration of novel nanomaterials into existing production lines**
IA, TRL 5/6 → 7 , EU: 5-8 Mio €

NMP 3 – 2015: **Manufacturing and control of nanoporous materials**
IA, TRL 4/5 → 6 , EU: 5-8 Mio €

NMP 6 – 2015: **Novel nanomatrices and nanocapsules**
RIA, @TRL 4/5 , EU: 3-5 Mio €

NMP 7 – 2015: **Additive manufacturing for tabletop nanofactories**
RIA, @TRL 4/5 , EU: 3-5 Mio €

Integration of novel nanomaterials into existing production lines (NMP 2 – 2015)

Specific challenge:	New Nanomaterials are intended to improve the performance of **existing production technologies**, and to give new f functionalities to products. New Nanomaterials need to be introduced into industrial processes.
Scope:	**Development and demonstration in operational environments** improve control and monitoring of the conditions required for the use of nanomaterials; assess the functionality and performance of the produced component/product; include an outline of exploitation and business plans. Smart specialisation! TRL 5/6 →TRL 7; cross-KET activity
Expected impact:	**Market uptake of nanomaterials and products**; (e.g. fibre/yarn/ textile; biomedical, packaging; energy; construction /building; transportation; Improvement in existing manufacturing processes; Contribution to development of business plans, **safe-by-design approach**
Type of action:	Innovation Action; EU: 5-8 Mio €

Manufacturing and control of nanoporous materials (NMP 3 – 2015)

Specific challenge:	applications can benefit from controlled porosity nanoscale; growing interest; various methods available at lab-scale, **scaling-up** and **meeting industrial demands** (quality, costs ..)
Scope:	**development and demonstration in relevant industrial environments; pilot line** aimed at the production of semi-finished products; reliable processes control and manufacturing routes; controlled porosity; support and reflect developing guidance and standards relating to nanomaterials TRL 4/5 → 6; cross-KET activity; Smart-Specialisation
Expected impact:	**Market uptake** of nanoporous materials in defined application fields (e. g. transport; energy; construction & building; biomedical; catalysis; sensors; filtration, purification & chromatography); Improvement in cost-effectiveness and sustainability scaling-up of production; **verified market viability of the pilot line**; Contribution to **standardisation, safe-by-design**
Type of action:	Innovation Actions; EU 5 - 8 Mio.€

Novel nanomatrices and nanocapsules
(NMP 6 – 2015)

Specific challenge:	nanotechnology and novel tools for a new type of nanomatrices and nanocapsules for **targeted delivery** and carrying payloads for localised action in many application fields
Scope:	applications for **safe, controlled and reliable** novel nanomatrices and -capsules containing active ingredients (drugs, vitamins, anti-oxidants, antimicrobial agents), incl manufacturing process hydrophobic or hydrophilic; novel mechanisms for the release of the payload; targeted delivery also possible;**Safety considerations and contribution to standardization** . TRL 4-5; cross-KET activity
Expected impact:	**radical improvements** in therapy and/or quality of life Benefit European healthcare and/or consumer sectors Paving the way for the **future commercialisation** Identification of gaps in standards
Type of action:	Innovation Actions ; EU: 3-5 Mio €

Additive manufacturing for table-top nanofactories (NMP 7 – 2015)

Specific challenge:	manufacture **individual custom products anywhere** in the world, **when and where** they are **needed** (3D printing); new techniques and (nano)materials (beyond plastic)
Scope:	**advance** the state-of-the art of **AM materials** through modification of fundamental material properties using nanotechnology; develop novel additive manufacturing techniques that incorporate new functionalities and/or significant performance increase (e. g. CNT, flexible polymers, ceramics) TRL 4/5; cross-KET activity
Expected impact:	Enable Europe to **compete at the forefront** of the AM revolution Enabling manufacturing activities by SMEs Widen range of AM materials → transition of AM from mere prototyping **towards production & use**
Type of action:	Research & Innovation Actions, EU: 3-5 Mio €

2. Nanotechnology and Advanced Materials for more effective Healthcare

- Unterstützung von effektiven Therapien im Bereich Gesundheit für häufige Erkrankungen
- Ziel: Technologien und Therapien sollen soweit entwickelt werden, dass diese Reif für klinische Studien sind
- Gender sowie andere Aspekte (z. B. gerontologische und physische Faktoren) sollen berücksichtigt werden

2. Nanotechnology and Advanced Materials for more effective Healthcare

NMP 8 – 2014	Scale up of nanomedicine production (single stage, 06.05.2014)
NMP 9 – 2014	Networking of SMEs in the nano-biomedical sector (single stage, 06.05.2014)
NMP 10 – 2014	Biomaterials for the treatment of diabetes mellitus (first Stage: 06.05.2014; second Stage: 07.10.2014)
NMP 11 – 2015	Nanomedicine therapy for cancer (first stage: 26.03.2015. second stage: 08.09.2015)
NMP 12 – 2015	Biomaterials for treatment and prevention of Alzheimer`s disease (first stage: 26.03.2015. second stage: 08.09.2015)

Nanomedicine therapy for cancer
(NMP 11-2015)

Specific challenge:	Promising pre-clinical nano-medicine proof-of-concepts **translation** into clinical therapies **up-scaling** under GMP conditions
Scope:	**start from established pre-clinical proof-of-concept** focused on the translation process development of a **pilot line for scaling-up**, quality control **GMP** and medical regulatory requirements (later stages of pre-clinical testing and Phase 1 clinical testing) TRL 4/5 →TRL 6/7; cross-KET activity
Expected impact:	Potential major improvement in clinical cancer therapy Potential reduced direct and indirect healthcare costs Accelerated introduction of new nanotechnology enabled cancer therapy
Type of action:	Research & Innovation Actions; EU:6-9 Mio €

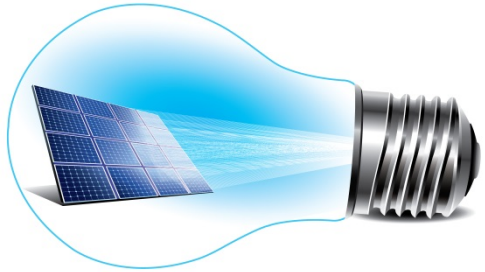
Biomaterials for treatment and prevention of Alzheimer's disease (NMP 12-2015)

Quelle: iStock

Specific challenge:	In 2006 7.3 million Europeans between 30 and 99 suffered from different types of dementias Innovative approaches based on biomaterials can **improve the treatment and prevention of neurodegenerative disorders**
Scope:	Proposals should develop **new multifunctional biomaterials** which aim to create, optimise, enhance, **substitute or support preventive and therapeutic interventions in Alzheimer's disease**; biocompatible and biodegradable biomaterials; new integrated experimental and computational approaches; **NOT:** new drug candidates and clinical trials
Expected impact:	Improvement of the quality of life, Reduced direct and indirect costs; Implementation of relevant objectives of the European Innovation Partnership on Active and Healthy Ageing (COM(2012)83)
Type of action:	Research & Innovation Actions; EU: 6-8 Mio. €

3. Nanotechnology and Advanced Materials for low-carbon energy technologies and Energy Efficiency

- Beitrag zu den Energie- und Klimapolitischen Zielen der EU2020-Strategie
- Verbesserung der Nutzung erneuerbarer Energieressourcen und der Energieeffizienz
- Ziel: Demonstrator/ technology readiness für Überführung in die Anwendung. Pilotvorhaben/ Produktionsvorhaben sollen später in den gesellschaftlichen Herausforderungen erfolgen
- Beitrag zur EMIRI „Materials Roadmap Enabling Low Carbon Energy Technologies“
- Bestimmung des „time to market“ der neuen Technologien
- Der Verwertungszeitraum muss zur zeitlichen Perspektive der EU2020 passen



Quelle: iStock

http://www.axiombs.co.uk/images/building-efficiency.jpg

Europa 2020 Strategie

Die fünf EU-Kernziele für das Jahr 2020:

1. Beschäftigung: 75 % der 20- bis 64-Jährigen sollen in Arbeit stehen.
2. FuE und Innovation: 3 % des BIP der EU sollen für FuE und Innovation aufgewendet werden (öffentliche und private Investitionen).
3. **Klimawandel und Energie:**
   - Verringerung der CO2-Emissionen um **20** % bis 2020
   - Verringerung der CO2-Emissionen um 80 % bis 2050
   - Erhöhung des Anteils erneuerbarer Energien auf **20** %;
   - Steigerung der Energieeffizienz um **20** %.
4. Bildung:
   - Verringerung der Schulabbrecherquote auf unter 10 %;
   - Steigerung des Anteils der 30- bis 34-Jährigen mit abgeschlossener Hochschulbildung auf mindestens 40 %.
5. Armut und soziale Ausgrenzung: Die Zahl der von Armut und sozialer Ausgrenzung betroffenen oder bedrohten Menschen soll um mindestens 20 Millionen gesenkt werden.

EMIRI Roadmap

- Zeitlicher Fokus: 10 Jahre
- Fachlicher Fokus: Material- und Prozessinnovationen im Bereich der low-carbon Technologien
- Komplementär und weiterführend gegenüber den SET Plan Roadmaps
- Kein Anspruch auf komplette Abdeckung aller Energietechnologien

- Engagement bei EMIRI z.B. durch Teilnahme an Workshops & Ideation Sessions möglich

3. Nanotechnology and Advanced Materials for low-carbon energy technologies and Energy Efficiency

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NMP 13 – 2014	Storage of energy produced by decentralised soures (first stage: 06.05.2013, second stage: 07.10.2014)
NMP 14 – 2015	ERA-NET on Materials (including Materials for Energy)
NMP 15 – 2015	**Materials innovations for the optimisation of cooling in power plants** (first stage: 26.03.2015, second stage: 08.09.2015)
NMP 16 – 2015	**Extended in-service life of advanced functional materials in energy technologies (capture, conversion, storage and/or tramission of energy)** (first stage: 26.03.2015, second stage: 08.09.2015)
NMP 17 – 2014	Post-lithium ion batteries for electric automotive applications (single stage: 07.10.2014)

Materials innovations for the optimisation of cooling in power plants (NMP 15 - 2015)

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Specific challenge: Current power generation requires enormous amounts of cooling water.
lack of adequate cooling water; may even lead to power plant shutdowns.


Quelle: iStock

Scope: **Development of robust materials solutions** for optimising cooling in thermal power plants by:

- functioning at higher temperatures, increasing efficiency and reducing the amount of water;
- use of alternative cooling fluids (including air-based or hybrid coolants); and
- increasing the available effective water supply

Proposals should include **test in relevant existing pilot plants**

Focus on TRL 6

Expected impact: **Less / cleaner water**, used in thermal power plants within one or more application areas; implementation of Materials Roadmap of the SET Plan

Type of action: Innovation Actions; expected contribution: 6 – 10 Mio. €

Extended in-service life of advanced functional materials in energy technologies (capture, conversion, storage and/or transmission of energy) (NMP 16 - 2015)

Specific challenge:	**Functional materials are enabling decentralised power generation**. Industrial uptake of such materials often hampered by increase of initial investments due to over-specification of the material requirements; or increase the exploitation costs
Scope:	**Long-term in-service degradation** of functional materials that **have demonstrated** enhanced performance in terms of energy capture, conversion, storage and/or transmission of energy. Capability of production that could warrant industrial uptake. Improving the understanding of long-term in-service degradation of materials. Focus on TRL 6
Expected impact:	Reduction of the capital (CAPEX) and/or operating (OPEX) expenditures in specific low carbon energy technologies; Implementation of **Materials Roadmap of the SET Plan**
Type of action:	Innovation Actions; EU: 6-10 Mio. €

4. Exploiting the cross-sector potential of nanotechnologies and Advanced materials to drive competitiveness and sustainability

- Nutzung von N+M in verschiedenen Anwendungen und unterschiedlichen Wirtschaftsbereichen

- Beitrag von N+M zur Verbesserung der Industriellen Wettbewerbsfähigkeit Europas
  + ihr Beitrag zur nachhaltiger Wirtschaft

- Internationale Kooperationen sind teilweise zu empfehlen

4. Exploiting the cross-sector potential of Nanotechnologies and Advanced materials to drive competitiveness and sustainability

NMP 18 – 2014:	Materials solutions for use in the creative industry sector (first stage: 06.05.2014, second stage: 07.10.2014)
NMP 19 – 2015:	**Materials for severe operating conditions, including added-value functionalities (first stage: 26.03.2015, second stage: 08.09.2015)**
NMP 20 – 2014:	Widening materials models (first stage: 06.05.2014, second stage: 07.10.2014)
NMP 21 – 2014:	Materials-based solutions for the protection or preservation of European cultural heritage (first stage: 06.05.2014, second stage: 07.10.2014)
NMP 22 – 2015:	**Fibre-based materials for non-clothing applications (first stage: 26.03.2015, second stage: 08.09.2015)**
NMP 23 – 2015:	**Novel materials by design for substituting critical materials (first stage: 26.03.2015, second stage: 08.09.2015)**
NMP 24 – 2015:	**Low-energy solutions for drinking water production (first stage: 26.03.2015, second stage: 08.09.2015)**
NMP 25 - 2014/15:	**Accelerating the uptake of nanotechnologies, advanced materials or advanced manufacturing and processing technologies by SMEs**

Materials for severe operating conditions, including added-value functionalities (NMP 19 – 2015)

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Specific challenge: **Fundamental understanding** of how the processing, microstructures and properties of such material interact

Development of new products with a step change in efficiency

Scope:

- Development of **bulk materials** functioning in an aggressive environment, synthesis of new structures with useful properties and forcing of chemical reactions that normally result in damage
- Projects **should include** appropriate numerical tools and predictive modeling tools; proof of concept in terms of product and/or process; **involvement of End User**

Focus on **TRL 5**

Expected impact: Employment and training through engagement in cutting-edge technologies

Type of action: Research & Innovation Action; expected contribution: 6-8 Mio. €

Fibre-based materials for non-clothing applications (NMP 22 – 2015)

Specific challenge:		Fibre-based materials for technical, **high-value, high performance** products at **reasonable prices**, with improved safety and functionality
Scope:	-	Development of engineered fibre materials for novel, smart, high-value and high-performance **non-clothing parts** and products for technical industrial use
	-	Particular interest in functionalisation of technical textiles
	-	During project: **quantitatively monitoring** of cost effectiveness and commercial potential compared to state-of-the-art solutions
	-	**Market estimate** in proposals
	-	Proof of concept in terms of products and/or process
	-	**Exploitation and business plan**
	-	Focus on TRL 5-6
Expected impact:		Employment and training through engagement in cutting-edge technologies
Type of action:		Innovation Actions; expected contribution: 6 – 8 Mio. €

Novel materials by design for substituting critical materials (NMP 23 – 2015)

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Specific challenge:	**Improve fundamental understanding** of the development of new material solutions with a reduced or completely eliminated critical element content, but maintaining or enhancing the performance of materials
Scope:	- Development of materials by rational design - Focus on interplay between **theory** and/or large-scale computational screening - Include validation by **experimental methods** - **International Cooperation (Japan, USA)** (COM(2012)497) - Focus on **TRL 3-4**
Expected impact:	- Contribute to achieve EU policy **COM(2011)25** - Reduce/substitute critical elements for defined technologies - Products with improved performance and safer materials
Type of action:	Research & Innovation Action; expected contribution: 3 – 5 Mio. €

Novel materials by design for substituting critical materials
(NMP 23 – 2015)

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Ausschnitt aus COM(2011)25:

Annex

Concentration of production of critical raw materials, and recycling and substitution rates

The 14 raw materials listed below are critical because the risks of supply shortage and their impacts on the economy are higher compared with most of the other raw materials. Their high supply risk is mainly due to the fact that a high share of the worldwide production mainly comes from a handful of countries: China (antimony, fluorspar, gallium, germanium, graphite, indium, magnesium, rare earths, tungsten), Russia (platinum group metals), the Democratic Republic of Congo (cobalt, tantalum) and Brazil (niobium and tantalum). This concentration of production is in many cases compounded by low substitutability and low recycling rates.

Raw materials	Main producers (2008, 2009)	Main sources of imports into EU (2007, or 2006)	Import dependency rate	Substitutability	Recycling rate
Antimony	China 91%	Bolivia 77%	100%	0,64	11%
	Bolivia 2%	China 15%			
	Russia 2%	Peru 6%			
	South Africa 2%				
Beryllium	USA 85%	USA, Canada, China, Brazil (*)	100%		
	China 14%				
	Mozambique 1%				
Cobalt	DRC 41%	DRC 71%	100%	0,9	16%
	Canada 11%	Russia 19%			
	Zambia 9%	Tanzania 5%			
Fluorspar	China 59%	China 27%	69%	0,9	0%
	Mexico 18%	South Africa 25%			
	Mongolia 6%	Mexico 24%			
Gallium	NA	USA, Russia (*)	(*)	0,74	0%
Germanium	China 72%	China 72%	100%	0,8	0%
	Russia 4%	USA 19%			
	USA 3%	Hong Kong 7%			
Graphite	China 72%	China 75%	95%	0,5	0%
	India 13%	Brazil 8%			NA

Low-energy solutions for drinking water production (NMP 24 – 2015)

Specific challenge:		Low energy solutions for **water softening** and **water desalination**; Target 1 kWh/m^3
Scope:	-	**Integrated solutions or combinations of technologies** which energy consumption fall below 3kWh/m^3
	-	Projects should aim at developing pilot planes
	-	In line with objectives at Union's strategy (international cooperation is encouraged, in particular with developing countries)
	-	Topic is suitable for matching EU funding with national and/or regional funding programmes
	-	Implemented TRL 4-5, target TRL 6-7
Expected impact:	-	Contribution to one of the main global societal issues – **access to safe and pure water**
Type of action:		Innovation Action; expected contribution: 3 – 5 Mio. €

Accelerating the industrial uptake of nanotechnologies or advanced materials or advanced manufacturing and processing by SMEs (NMP 25 – 2014/2015) – KMU Instrument

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Phase 1: Konzept, Machbarkeit	Phase 2: Innovation	Phase 3: Vermarktung
10-15% success	~ 50 success	
Input: "Geschäftsplan I“ mit Idee/Konzept (~ 10 Seiten) Aktivitäten: Technologische & wirtschaftliche Machbarkeit, Risikoanalyse, IP-Management, Partnersuche, etc. Output: weiterentwickelter „Geschäftsplan II“ EC-Pauschale: ca. 50.000 € ~ 6 Monate	Input: "Geschäftsplan II" plus Aktivitäten in Phase II (~ 30 Seiten) Aktivitäten: Entwicklung, Prototyp, Testen, Miniaturisierung, Scaling-up, Vorbereitung Markteinführung etc. Output: "Geschäftsplan III" für ev. private Finanzierung EC-Beitrag: 0,5-2,5 Mio. € 12 bis 24 Monate -> Valley of Death	Input: "Geschäftsplan III Aktivitäten: Unterstützung durch Fortbildung, Information u.a. zu IP-Management, Wissensaustausch Instrument als Qualitätslabel für erfolgreiche Projekte KMU Fenster in den EU Finanzfazilitäten Keine direkte Finanzierung

5. Safety of nanotechnology-based applications and support for the development of regulation

- Risikomanagement entlang der gesamten Wertschöpfungskette
- Abgleich mit EU Nanosafety Cluster, OECD-WPMN, CEN/ISO zwingend
- Zusammenarbeit gewünscht mit US, Kanada, Australien, Korea, Japan, China, Brasilien (keine EU-Förderung!)

Inhalt:

- Unterstützung und Koordination von Regulierungsaktivitäten
- Umweltauswirkungen
- Test- und Bewertungsstrategien

5. Safety of nanotechnology-based applications and support for the development of regulation

NMP 29 – 2015	**Increasing the capacity to perform nano-safety assessment** RIA, TRL 4, EU: 4-8 Mio €
NMP 30 – 2015	**Next generation tools for risk governance of Nanomaterials** RIA, TRL 5, EU: 6-8 Mio €

Increasing the capacity to perform nano-safety assessment (NMP 29 – 2015)

Specific challenge:	innovative techniques such as High Throughput Screening(HTS), Toxicogenomics and High Content Analysis (HCA) **develop and demonstrate a mechanism-based understanding of toxicity**
Scope:	enhance the **understanding** of the mechanisms underlying any observed adverse effects from **engineered nanomaterials** support the **grouping of nanomaterials**, help in developing intelligent testing strategies and identifying "nanomaterials or properties of concern" that need to be tested more thoroughly TRL 4
Expected impact:	New screening tools faster definition of nanomaterials toxicity mechanisms “safer by design” approaches recognised and accessible database adress long-term challenges of nanosafety and nanoregulation
Type of action:	Research & Innovation Actions; EU: 4-8 Mio €

Next generation tools for risk governance of Nanomaterials (NMP 30 – 2015)

Specific challenge:	build state-of-the art and flexible **risk banding tool** for harvesting and implementing results from concluded, ongoing and planned research in next generation risk governance frameworks
Scope:	Research should focus on the testing, the calibration and the further development of risk prioritisation (or banding) tools for both human and environmental risks TRL 5
Expected impact:	A **framework for the risk governance of nanomaterials** Demonstration in specific industrial settings or industrial sectors Leveraging and building on current knowledge with key stakeholders **including regulators and insurers**
Type of action:	Research & Innovation Actions; EU: 6-8 Mio €

6. Addressing generic needs in support of governance, standards, models and structuring in nanotechnology, advanced materials and advanced manufacturing and processing

- Strukturelle Fragestellungen sind essentiell, um NMP erfolgreich für die und mit der Gesellschaft in Europa umzusetzen
- Unterstützung von Mobilisation and Mutual Learning (MML)
- internationale Zusammenarbeit mit Drittländern

Inhalt:

- Kommunikation und Dialog
- Netzwerkbildung
- Koordinierende und Unterstützende Massnahmen

6. Addressing generic needs in support of governance, standards, models and structuring in nanotechnology, advanced materials and advanced manufacturing and processing

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NMP 31 – 2014	Novel visualization tools for enhanced nanotechnology awareness (single stage: 06.05.2014)
NMP 32 – 2015	**Societal engagement on responsible nanotechnology (single stage: 26.03.2015)**
NMP 33 – 2014	The Materials "Common House„ (single stage: 06.05.2014)
NMP 34 – 2014	Networking and sharing of best practices in management of new advanced materials via eco-design of products (single stage: 06.05.2014)
NMP 35 – 2014	Business models with new supply chains for sustainable customer-driven small series production (first stage: 06.05.2014, second stage: 07.10.2015)
NMP 36 – 2014	Facilitating knowledge management, networking and coordination in NMP (single stage: 06.05.2014)
NMP 37 – 2014	Practical experience and facilitating combined funding for large-scale RDI initiatives (single stage: 06.05.2014)
NMP 40 – 2015	**Support for clustering and networking in the micro- & nanofluidics community (single stage: 26.03.2015)**

Societal engagement on responsible nanotechnology (NMP 32 - 2014)

Specific challenge:	Transparency, knowledge and societal engagement are key factors in addressing societal concerns regarding the use of nanotechnology; essential element of a safe and responsible nanotechnology governance is an effective and informed dialogue with all stakeholders, enhancing public confidence in nanotechnologies.
Scope:	Identify current best practices in societal engagement to establish a multi-stakeholder platform at EU and/or at national level in a number of EU Member States and Associated Countries, involving a balanced representation of stakeholders. Action is to be based on the concept of Mobilisation & Mutual Learning (MML) Platforms.
Expected impact:	- To enhance the interaction between society, science and nanotechnologies; - Involving civil society, social sciences and humanities, and industry groups in decision-making procedures
Type of action:	Coordination and Support Action

Support for clustering and networking in the micro- & nanofluidics community (NMP 40 – 2015)

Specific challenge:	Challenges with **system integration**, **manufacturability** and **affordability** with multiple or more complex functionalities for micro- & nanofluidics applications
Scope:	Clustering approach to benefit from **cross-fertilisation** and **identification of value chain elements** required for industrial success; tackle the bottleneck of deploying micro- & nanofluidics in Europe; Could include identification and preparation for demonstration and pilot-line activities
Expected impact:	Facilitating and speeding up the industrial exploitation and success; building up of networks and alliances for R&D&I
Type of action:	Coordination and Support Action; expected contribution: 0,25-0,5 Mio. €

Kontakt

Nationale Kontaktstelle Nanotechnologie

VDI Technologiezentrum GmbH

Dr. Christian Busch

eu.nano@vdi.de

Tel.: 0211 6214-591

Fax: 0211 6214-484

Web: www.nks-nano.de