US-EU
Bridging NanoEHS research efforts
Washington, 10.03.2011
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Example of National EU Efforts in the Field of EHS Research:
Austrian R&D-policy in Nanoscience and Nanotechnologies
Research Policy in Nanotechnology
  ◆ The Austrian Nano Initiative
  ◆ The NanoTrust Project
The Austrian Nano Action Plan
  ◆ EHS-Programm
  ◆ Nano Information Plattform
Ongoing international Activities in EHS
  ◆ Era-NET SINN of the EC
  ◆ Euro-Nano Tox
Population (2010): ca. 8.5 Mill.

Area: 83.871 km²

GDP/inhabitant (2008): $ 50.098.-

R&D Quota in terms of GPD (2009): 2.76%
The Austrian funding landscape and the Austrian Nano Initiative

Laufzeit in Jahren

Wissenschaftliche Forschung

Industrielle F&E

FFG-BP

Translational Research

Bridge

K-Projekte

FWF-Einzelprojekte

SFB

NFN

K1

NANO 2012

Blasenfläche = durchschnittliches Projektvolumen auf Jahresbasis (FFG-BP: 600 k EURO)
Strategic objectives

- broadening the basis for cooperation between science and industry
- strengthening of research competences in important fields of application for Austria
- increase of technology transfer and economic exploitation of nanotechnology
- improvement of access to know-how and partners abroad
- cutback of incertitude and lack of information concerning EHS
- retention of nanotechnology in public perception
The 8 funded Project clusters

• **NSI**- Nanostructured Surfaces and Interfaces
• **Nano-Health**- Nano-structured Materials for Drug Targeting, Release and Imaging
• **ISOTEC**- Integrated Organic Sensor and Optoelectronics Technologies
• **NANOCOAT**- Development of Nanostuctured Coatings for the Design of Multifunctional Surfaces
• **NanoComp**- Performance Optimization of Polymer Nanocomposites
• **PHONAS**- Photocatalytic Nano Layers
• **PLATON**- Processing Light - Advanced Technologies for Optical Nanostructures
• **NilAustria** – Nanoimprintlithographie

For further information see:

http://www.nanoinitiative.at/evo/web/nano/1498_EN.56128F150697091
The NanoTrust Project: main objectives and key data

- Austrian Clearing House for questions of how we deal with the potential health and environmental risks of nano technologies, accessible by citizens, administration, political sector and research community
- network with the core national and international actors
- organise regular workshops and conferences on special topics
- elaborate dossiers on „hot topics” in the national and international discussions
- funded by the BMVIT
- interdisciplinary Team with 3 persons working at the Institute of Technology Assessment

For more information see:
http://www.nanotrust.ac.at/nano.ita.en/index.html
key-data Austrian Actionplan for Nanotechnology

- kick-off: End of November 2008
- 4 working groups: economy, research and development, health, environment
- several ministries in Austria involved
- public consultation in November 2009
- description of current status and list of measures to be taken
- Approval by the council of ministers in march 2010

For download see:
http://www.umweltnet.at/article/articleview/81646/1/7033
Lecture to the council of ministers: statements

- 50 recommendations for specific Austrian measures to be taken at national, European and international level
- monitoring process in the first half of 2012
- develop cooperation and reinforce the dialogue and transparency among stakeholders (NIP)
- basic legal framework needs to be examined and further developed where necessary
- strengthen Austrians position as a high-tech location
- filling of knowledge gaps in the evaluation of nanotechnologies safety (EHS programme)
- recommendations goes hand in hand with recommendations and developments at European and international level
Field of actions in research and innovation

- broadening the basis of participants in research projects in the business sector and initiating diffusion and transfer processes
- strengthen basic research
- develop cooperation science and industry
- intensification of transnational project cooperation in and outside of the EU framework programme (ERA-Nets, JTI, Art. 169)
- developing of strategies for cooperation with non-European Countries (BRIC-countries, Korea, US,…) 
- anchoring nanotechnology in the public perception
- further promoting of the NanoTrust project
- cooperation with ETPs – take account international R&D policies
- making use of European and national research infrastructures
- increasing international visibility
Two most important actions coming out of the action plan…

- nanotechnology information platform (NIP)
- EHS („environment, health, safety“) - programme
NIP

(internal)
Information platform for stakeholders

uses

fills

Interface to the public

Internal information pool
EHS Programme (1): goals and strategic framework

• build-up the necessary expertise in EHS in the Austrian research system
• cooperation with international initiatives (ERA-Net SIINN, OECD WPMN, ANF, NSF)
• Create a common pot of several ministries dealing with questions of EHS in order to bundle resources
• voluntary participation of industry in order to separate EHS research from the interest of industry
EHS-Programme (2): key-data

- **lead**: BMLFUW and BMVIT
- **Budget**: € 1,6 to 1,8 Mio. for 3 years
  - bmvit: € 1 Mio
  - bmlfuw: ca. € 300.000.-
  - additional budget by Austrian Federal economic chamber, ministry for health, ministry of Labour, society and consumer protection
- **steering committee** with those institutions who provide the money
  - defines the work programme and the topics for the calls
  - decides on the projects to be funded
- **operative agency** (peer review evaluation, monitoring of funded projects, administration of the common pot,...)
- **scientific board** who gives advice on the topics
- **1st call** in May 2011; topic in the area of worker protection
- **first projects** will start in October 2011
ERA-Net SIINN („Safe implementation of innovative Nanoscience and Nanotechnology“)

- coordinator: VDI/VDE (Germany)
- start: june 2011
- Work packages
  - WP1: Identification of validated information and data sources
  - WP2: Liaison with European and global initiatives, road mapping, information management
  - WP3: Risk assessment, life cycle Validation
  - WP 4: Implementation of Joint Calls
  - WP5: Coordination
- BMVIT and the Austrian Institute of Technology (AIT) will lead WP3
Euro-Nano-Tox

- Inter-/national contact point for nanotoxicology
- EURO-NanoTOX will serve as an entry portal for researchers and industry seeking critical toxicological data for nano-structured materials and wanting to develop research projects in this field
- coordinated by the Bionanonet ForschungsgmbH
Euro-Nano-Tox: Aims

• The development, establishment and implementation of standardised toxicological measurement methods (in-vitro and in-vivo) for nano-structured materials.
• The establishment of international standards.
• The provision of centralised nanotoxicology information, with particular emphasis on the human toxicology of nano-structured materials.
• The establishment and maintenance of international contacts
• The organisation of comparative studies and, if appropriate, inter-laboratory tests
Euro-Nano-Tox: Portfolio

- Formulation of testing strategies for nanostructured materials
  - Preparation of reviews concerning various classes or non-cited material based on the current literature
  - Formulation of testing strategies for the stepwise determination of human toxicology of nanostructured materials
- Sample pre-evaluation
  - Physicochemical characterization of nanostructured materials
  - Endotoxin testing of samples (Limulus amoebocyte lysate assay)
- In-vitro testing
  - Cytotoxicity (viability, membrane integrity, proliferation, apoptosis, mitochondrial membrane potential, oxidative stress)
Euro-Nano-Tox: Contact

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See also
www.euro-nanotox.at
Thank you!
Questions?
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