US-EU
Bridging NanoEHS research efforts
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Alexander Pogány,
Federal Ministry for Transport, Innovation and Technology (BMVIT), Austria

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

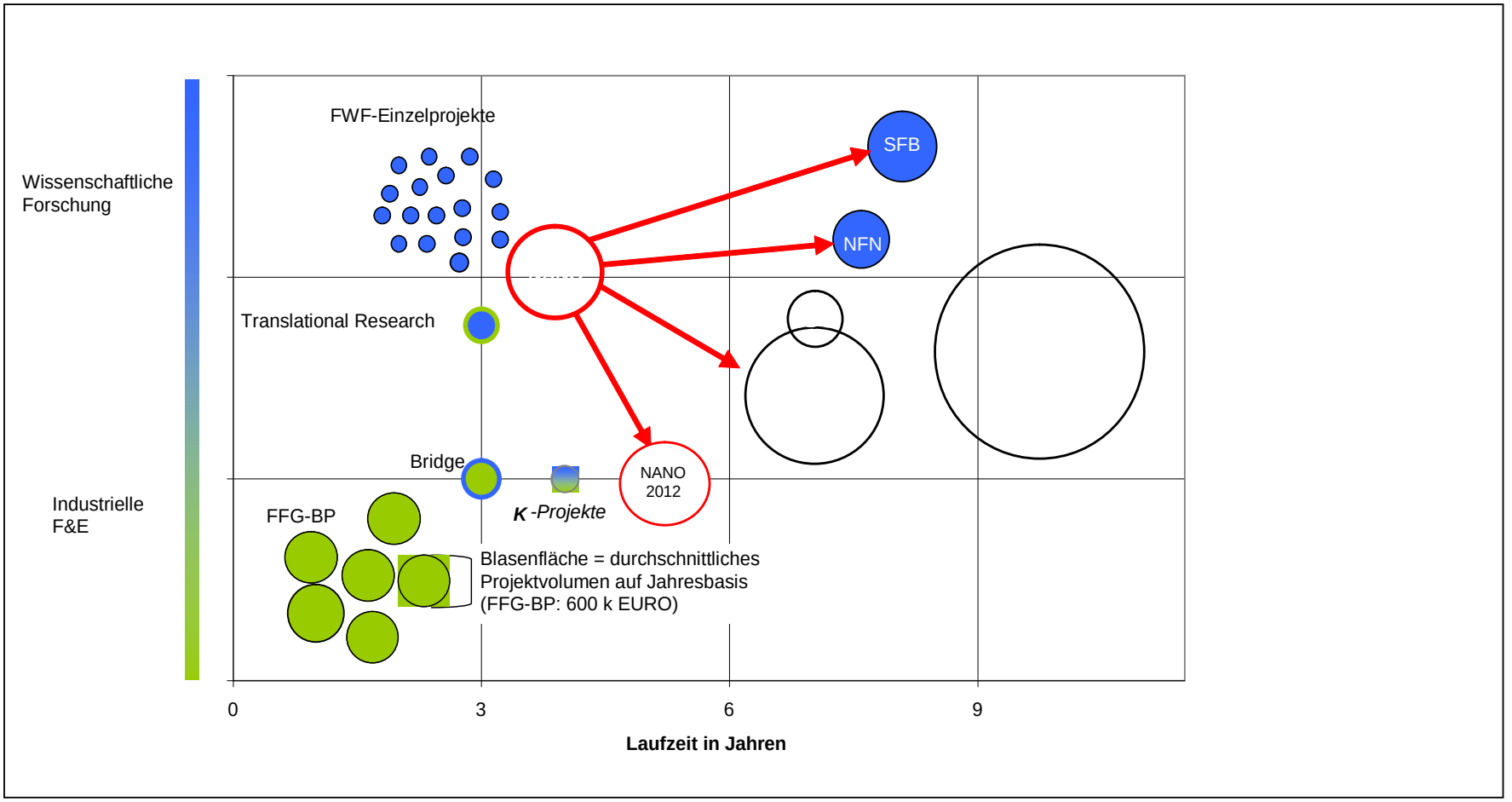
Population (2010): ca. 8,5 Mill.

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



Strategic objectives

- **broadening the basis for cooperation between science and industry**
- **strengthening of research competences in for Austria important fields of application**
- **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**

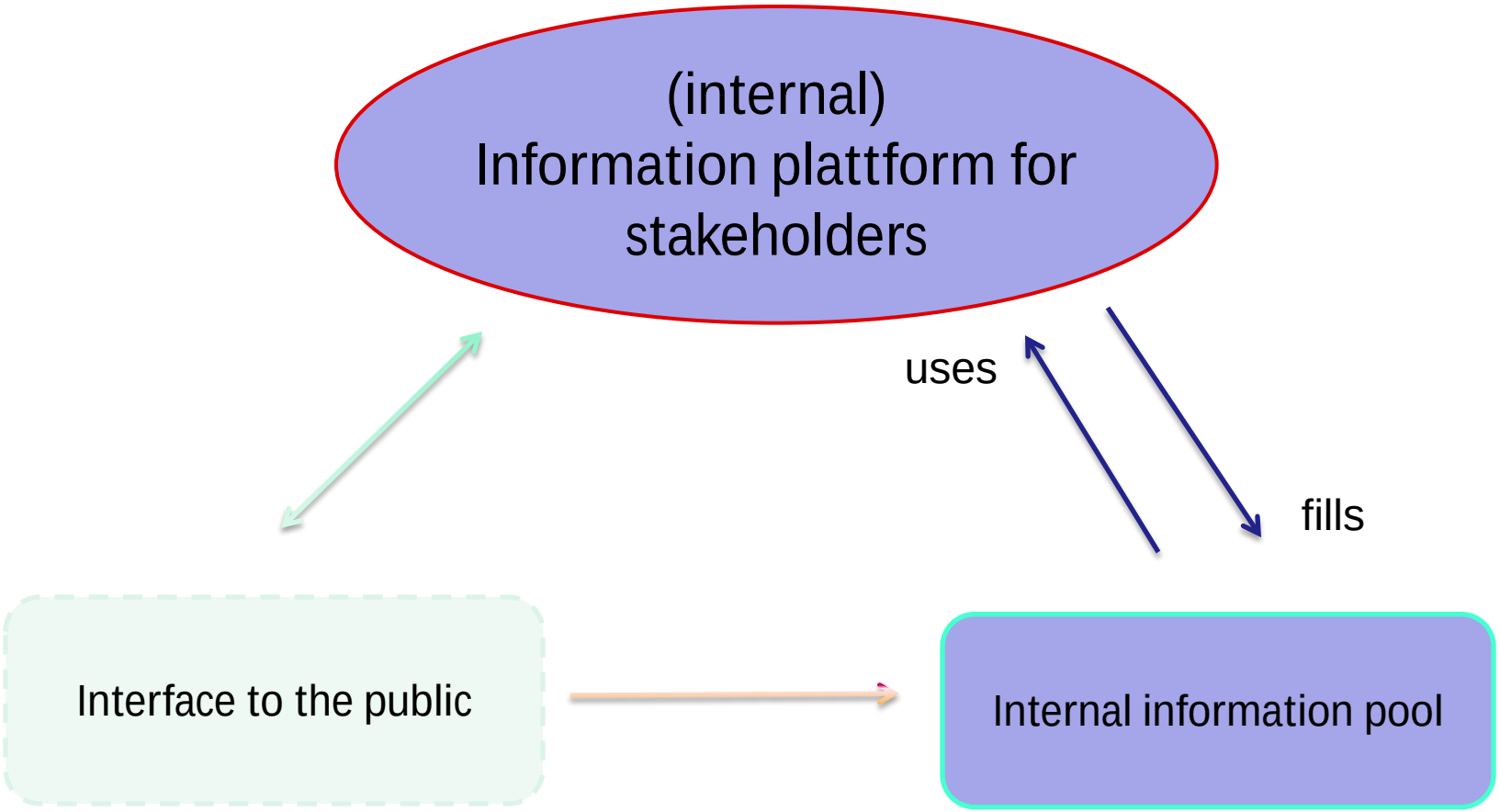
Field of actions in research and innovation

- **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 plattform 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 Nanotechnolgy“)

- **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

Dr. Frank Sinner Tel: +43 316 876-2111
frank.sinner@bionanonet.at

See also

www.euro-nanotox.at

Thank you!

Questions?

Contact:

alexander.pogany@bmvit.gv.at

Tel.: 0043/1/71162/653203