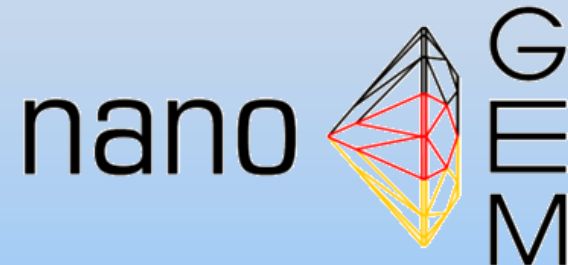


# NanoCare and nanoGEM – Large Integrated Projects within the German NanoEHS Initiative of the BMBF

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## Funding actions by German Federal Ministry of Education and Research

**NanoNature**      Nanotechnology for Protection of the Environment  
**NanoCare**        Effects of Synthetic Nanomaterials on Humans

### Topics

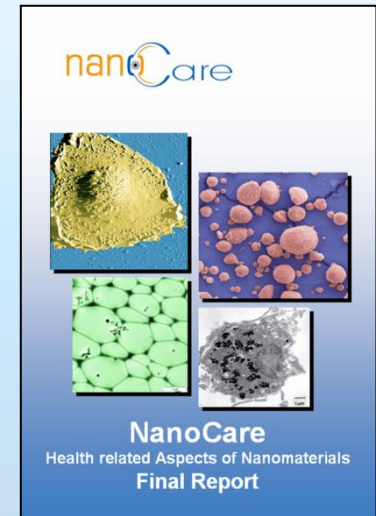
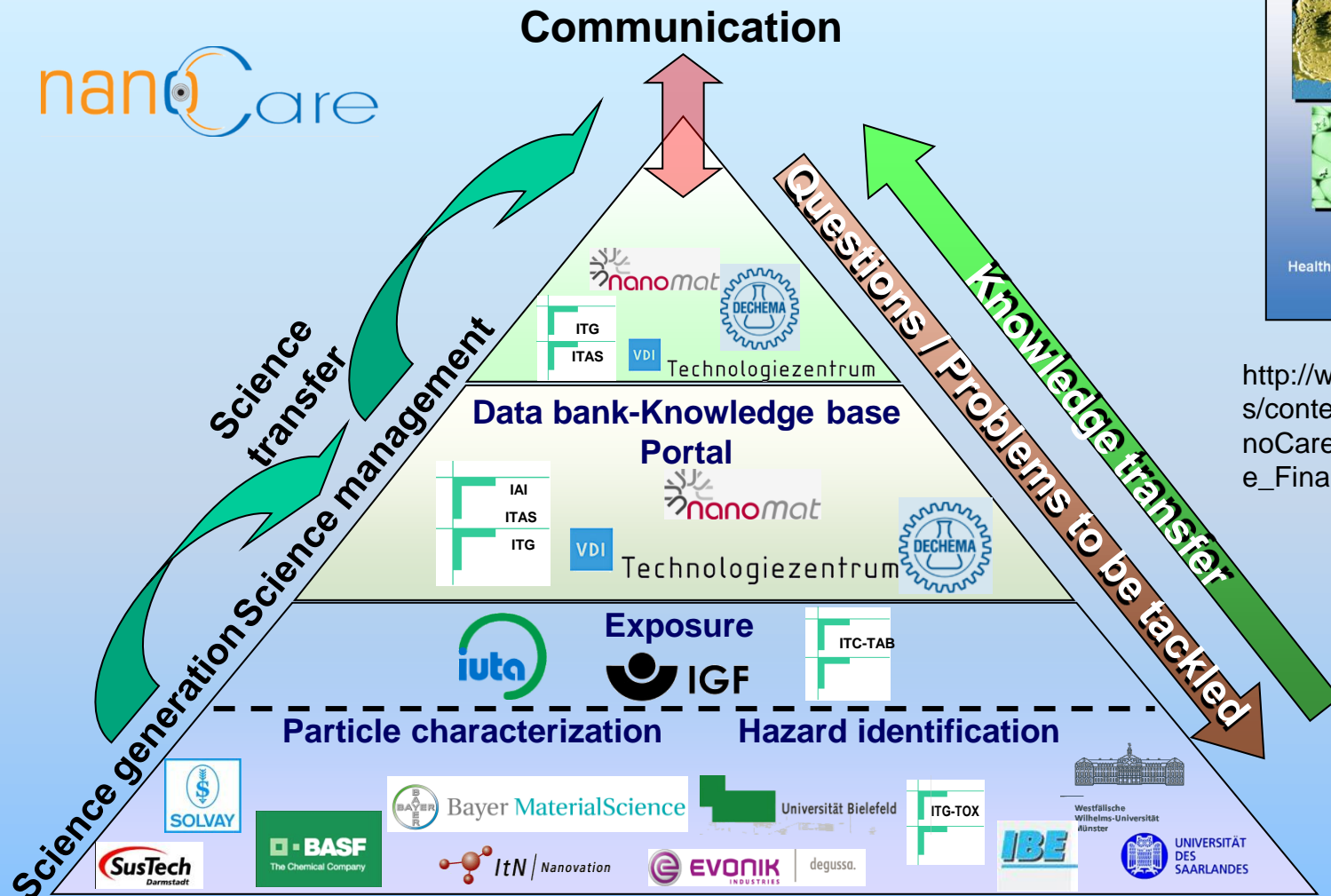
- Human- and eco-toxicology
- Exposure to nanomaterials
- Analytics
- Nano for environment

### Funding

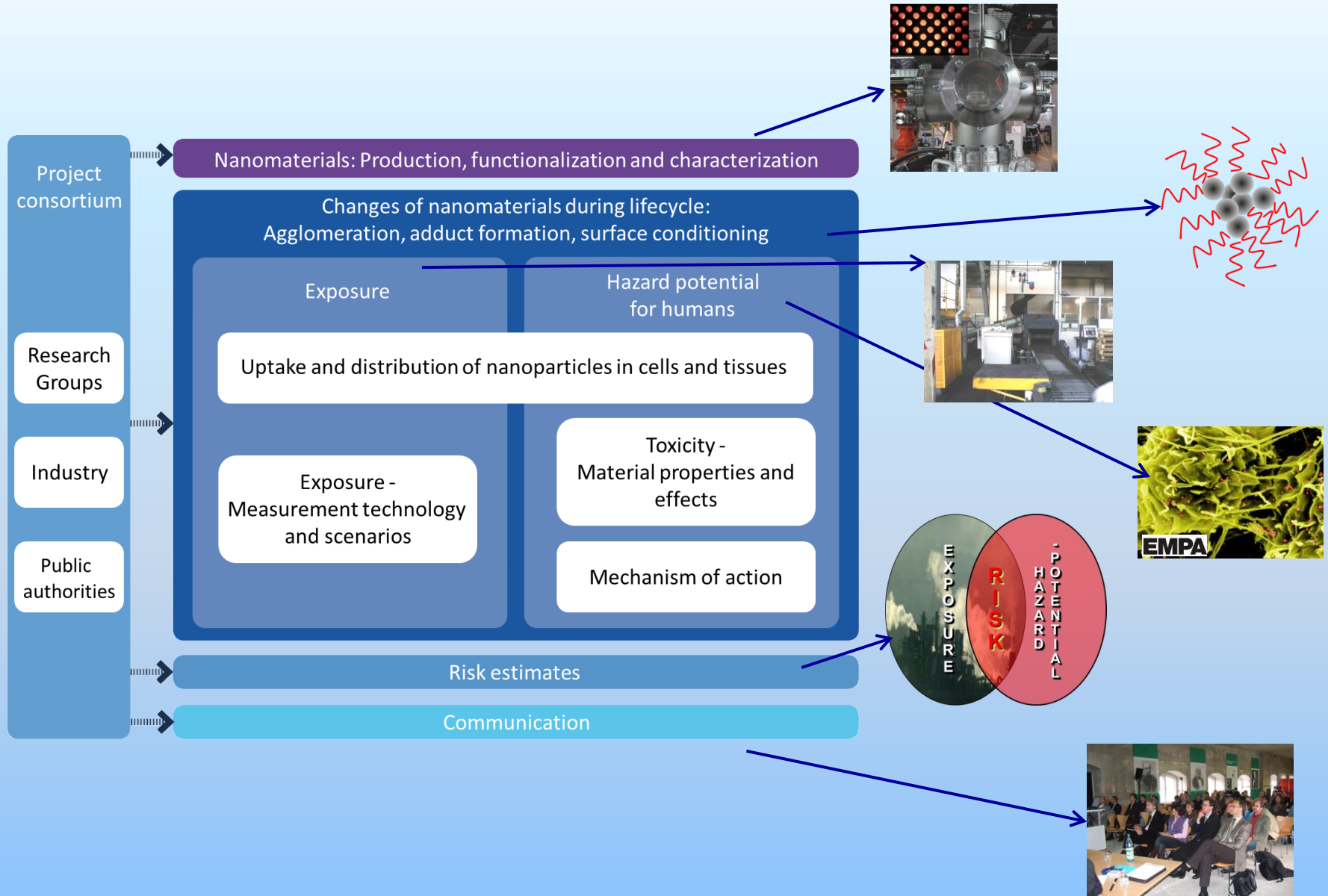
> 35 Mio € (> 47 Mio US-\$), 19 projects

Accompanying action: **DaNa**  
 Information for citizens:  
[www.nanoobjects.info](http://www.nanoobjects.info)





[http://www.nanopartikel.info/file\\_s/content/dana/Dokumente/NanoCare/Publikationen/NanoCare\\_Final\\_Report.pdf](http://www.nanopartikel.info/file_s/content/dana/Dokumente/NanoCare/Publikationen/NanoCare_Final_Report.pdf)



## **AP 1: Production and characterization**

- **Commercial and highly specific nanoparticles (e.g. luminescence)**
- **Detailed and harmonised characterisation also in biological media**

## **AP Q: Ageing of nanomaterials (NM)**

- **Study of dynamic changes of NM e.g. protein particle interaction**
- **Changes of surface properties and state of agglomeration**

## **AP 2: Exposure**

- **New devices for nanoparticles in gas, liquids, cells and tissue**
- **Exposure measurements and monitoring strategies**
- **Changes of NM properties during their lifecycle**

## **AP 3: Uptake and dispersion**

- **Study of mobility and transport of NM to obtain biokinetic parameters**
- **Non-radioactive-labelling for biokinetic studies in vitro and in vivo**

## **AP 4: Toxicity**

- **Influence of surface modifications on exposure and toxicity**
- **Validation of existing tox-models for harmonisation (EU / OECD)**

## **AP 5: Mechanisms of actions**

- **In vitro – nanoparticulate mode of action in cell systems**
- **Identification of cell damage and pathways of signals**
- **Study on the importance of surface property on the mode of toxic action**

## **AP 6: Risk estimates**

- **Combined evaluation of all nanoGEM data**
- **Collection and evaluation of external information related to risk**
- **Risk estimates in view of chemical, workplace and consumer safety**

## **AP 7: Communication**

- **Contribution and interaction with EU, FP7 – Projects and OECD**





# Thank you