

# Technical Workshop for the Latin American and Caribbean Region on Nanosafety Issues

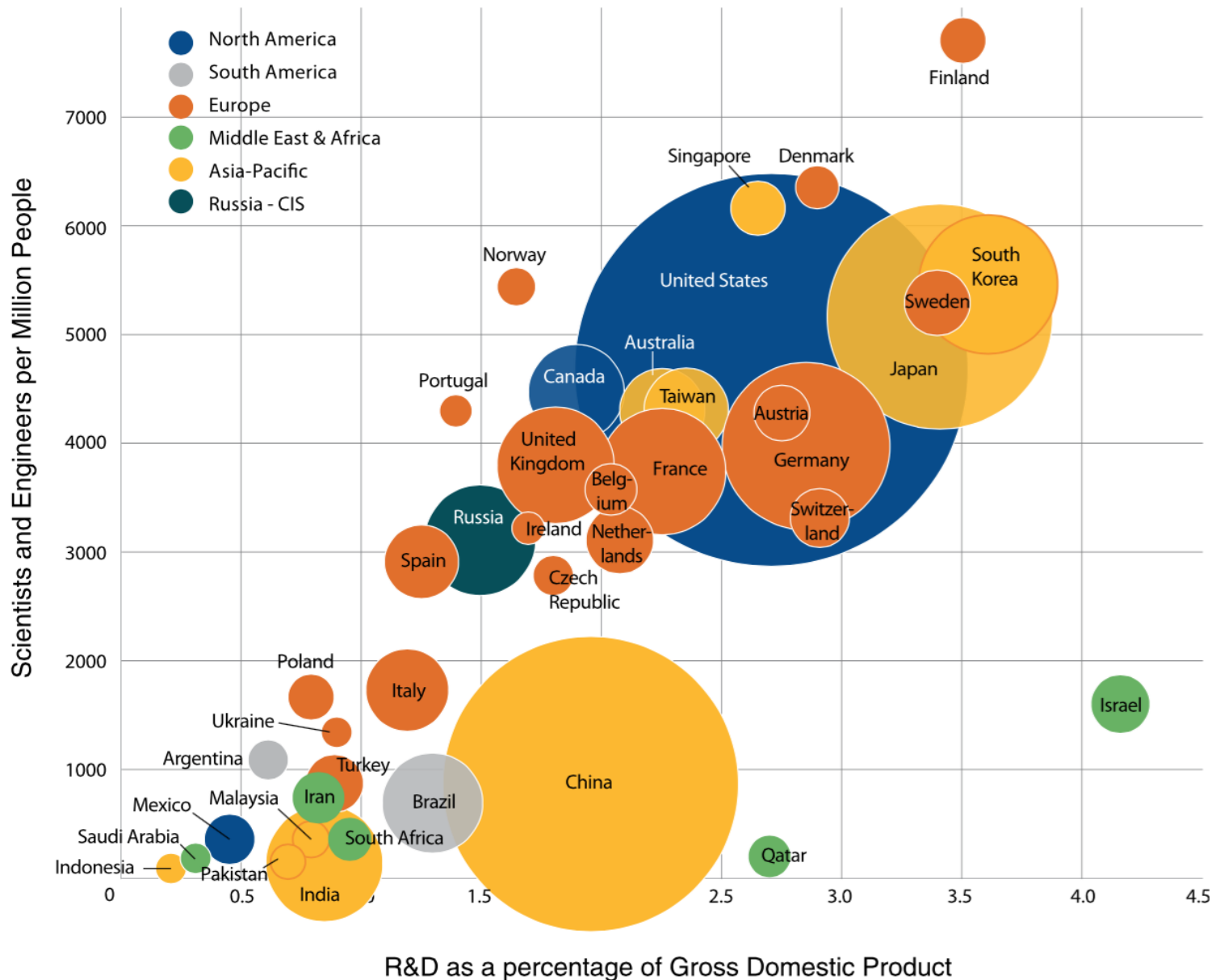
## Brazilian Initiatives on Nanotechnology and Nanotoxicology

22-24 June 2015, Bogotá, Colombia

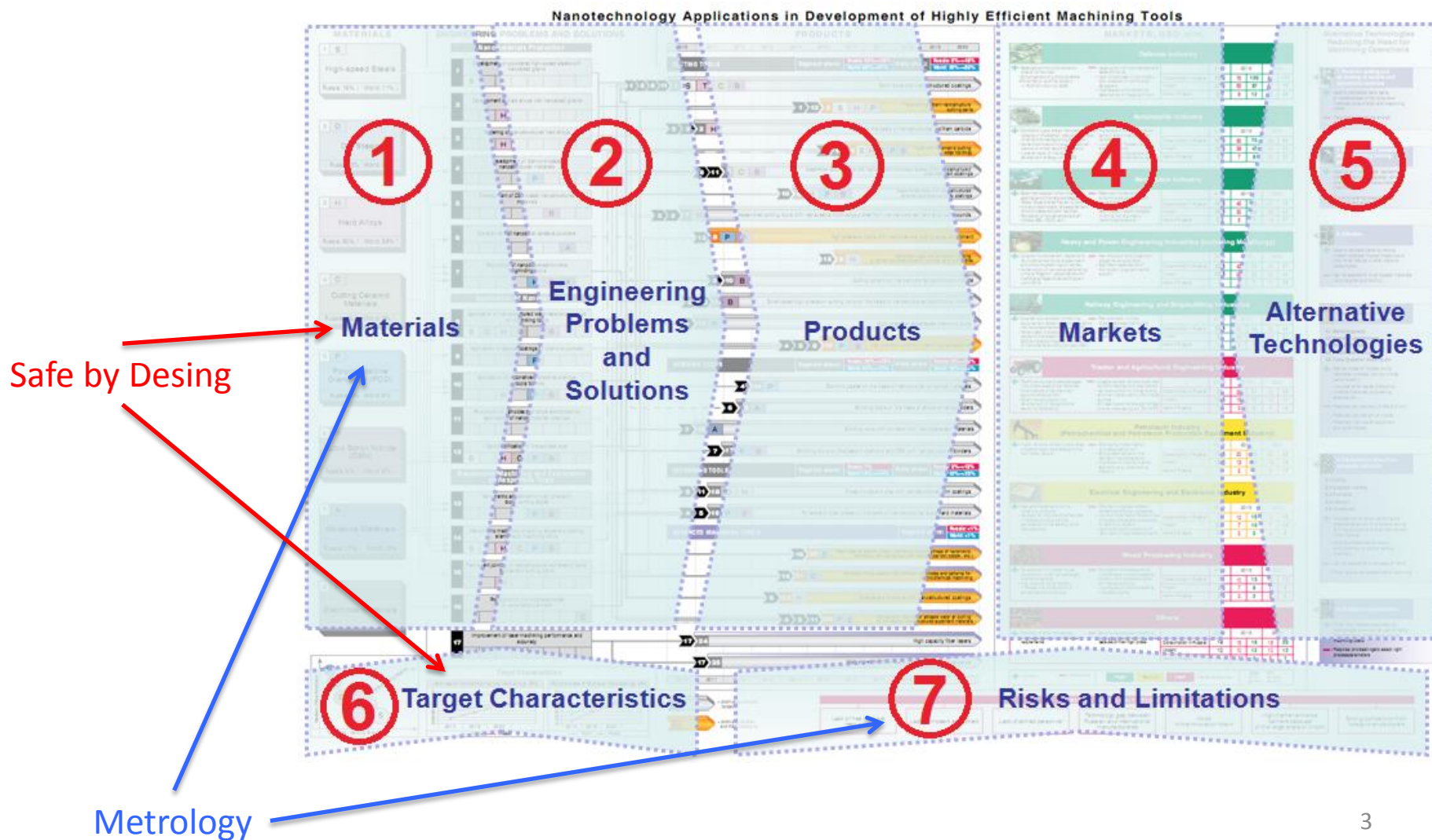
José Mauro Granjeiro  
INMETRO, [jmgranjeiro@inmetro.gov.br](mailto:jmgranjeiro@inmetro.gov.br)

## 2014 Global RD Funding Forecast (www.battelle.org)

Size of circle reflects the relative amount of annual R&D spending by the indicated country

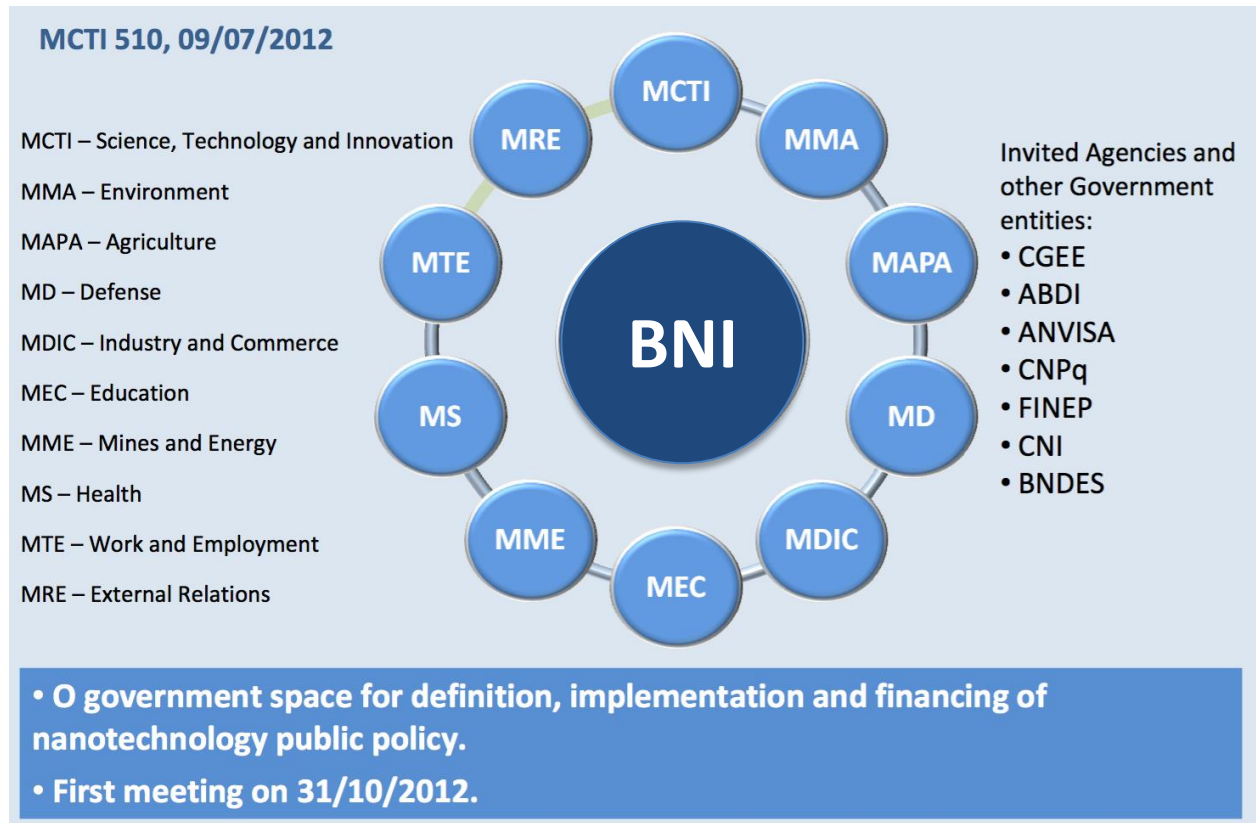


# Road map on Nanotechnology



# Interministerial Nanotechnology Council (CIN)

- Brazilian Nanotechnology Initiative (BNI)
  - Aldo Rebelo
    - Ministry of Science Technology and Innovation (MCTI)
  - Armando Zeferino Milioni
    - Secretary of Technological and Scientific Development (SETEC)
  - Alfredo de Souza Mendes
    - General Coordinator for Micro and Nanotechnologies (CGNT)



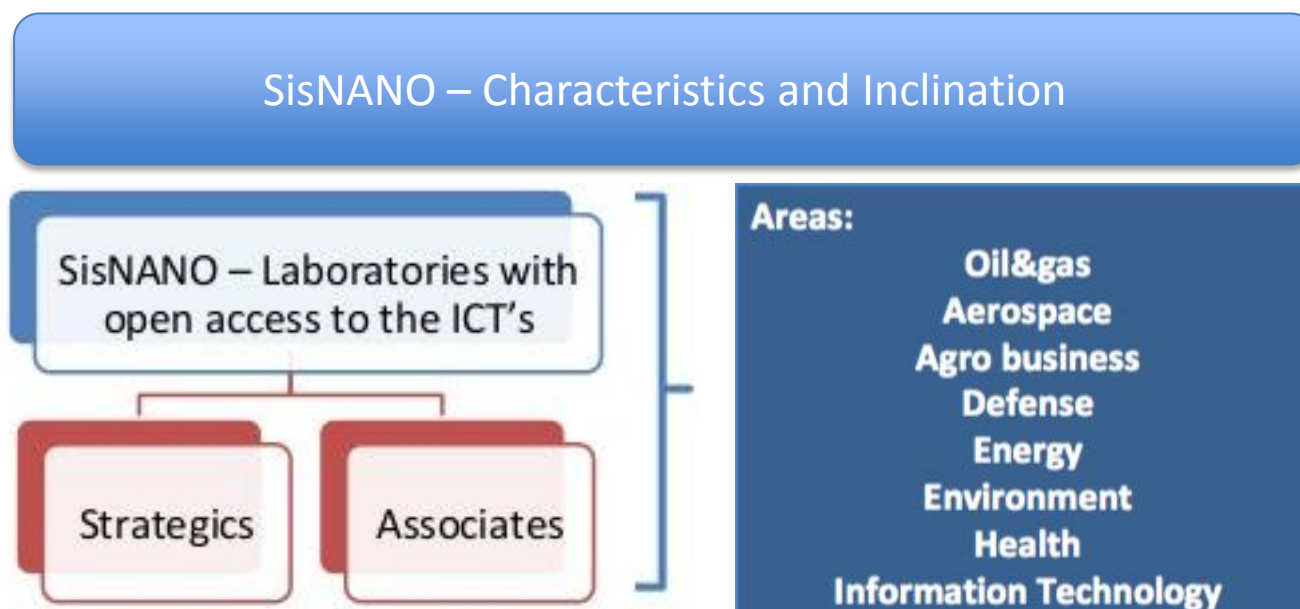
## Interministerial Nanotechnology Council (CIN)

- Integration of management;
- Evaluation of program results;
- Strategy, priority areas, investments;
- Budget Integration;
- International cooperation.



# SisNANO - National System of Nanotechnology Laboratories

- Created by
  - MCTI Ministry Act nº 245, 05/04/2012 and
  - Instrução Normativa nº 2, 15/06/2012



## SisNANO - Objectives

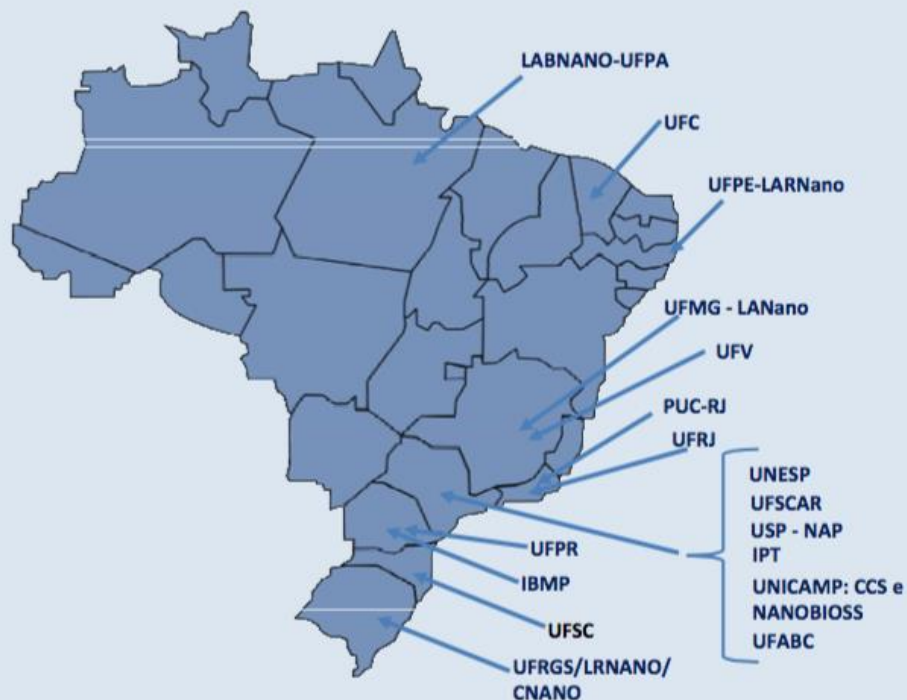


# SisNano

## Strategic Labs



## Associated Labs







United Nations Institute for Training and Research



unitar

50  
more years  
of human empowerment

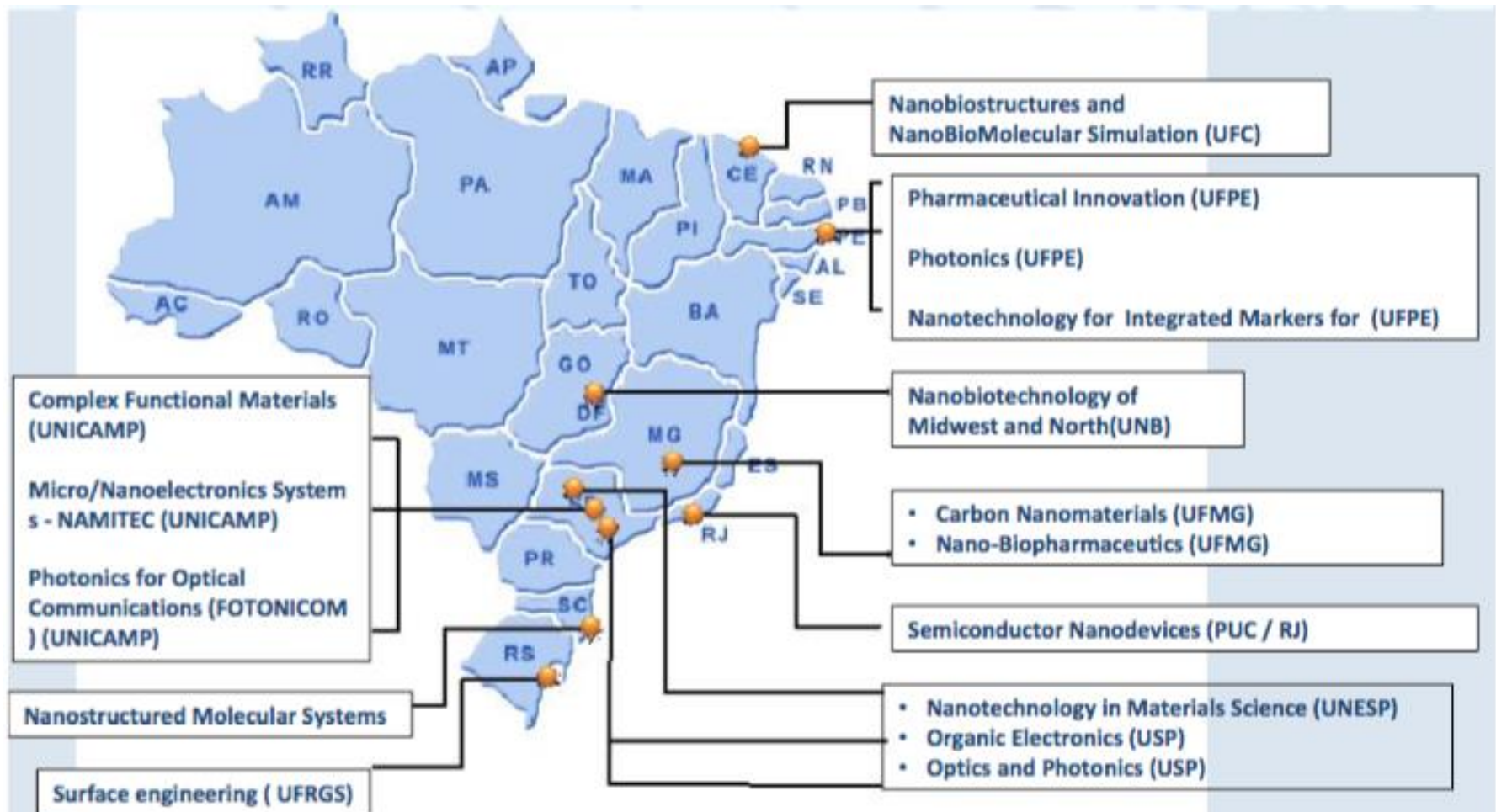


OECD  
BETTER POLICIES FOR BETTER LIVES

Ministério da  
Ciência, Tecnologia  
e Inovação

GOVERNO FEDERAL  
**BRASIL**  
PAÍS RICO É PAÍS SEM POBREZA

# National Institutes of S&T - Nanotechnology





United Nations Institute for Training and Research



unitar

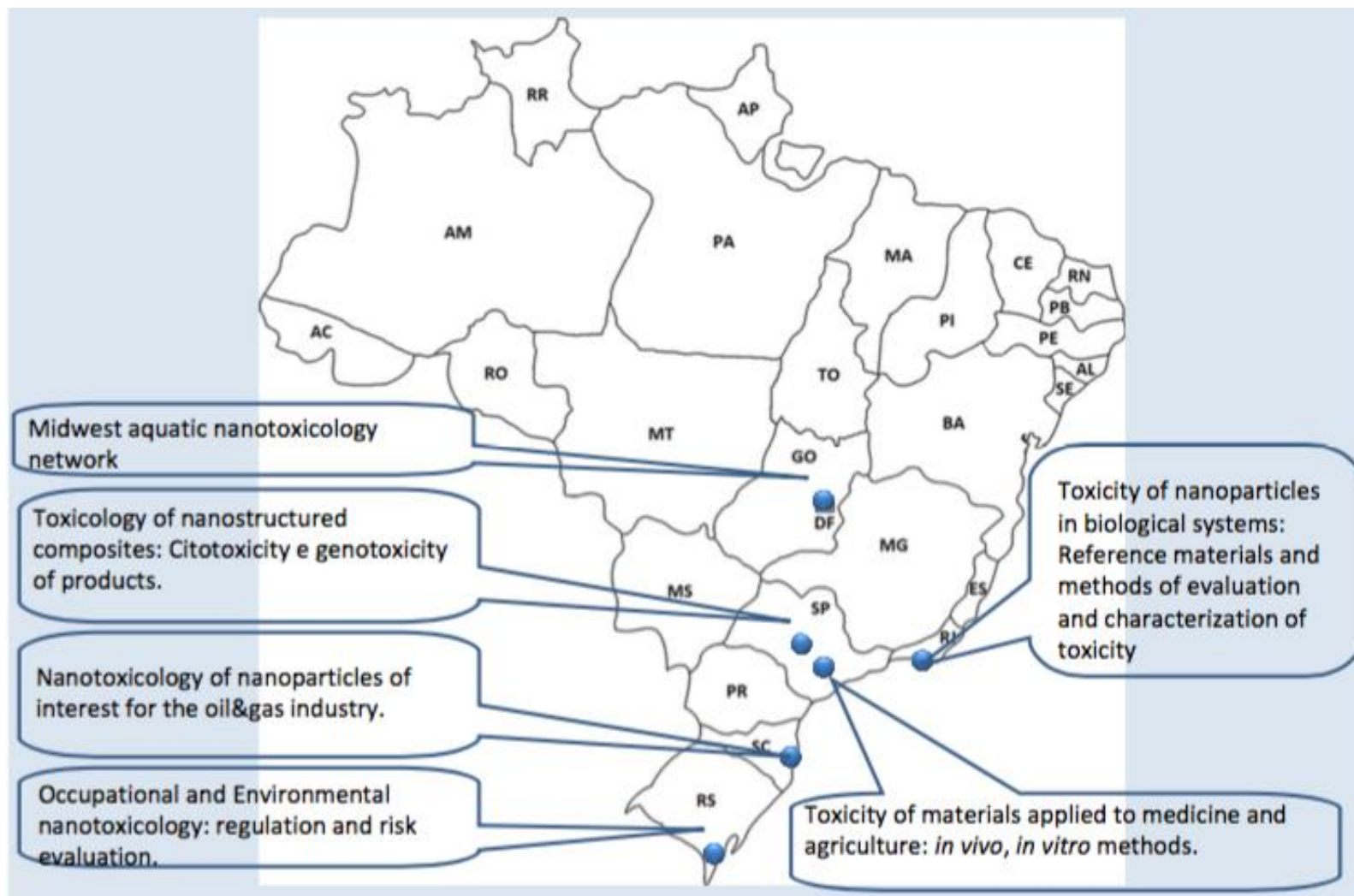


OECD  
BETTER POLICIES FOR BETTER LIVES

Ministério da  
Ciência, Tecnologia  
e Inovação

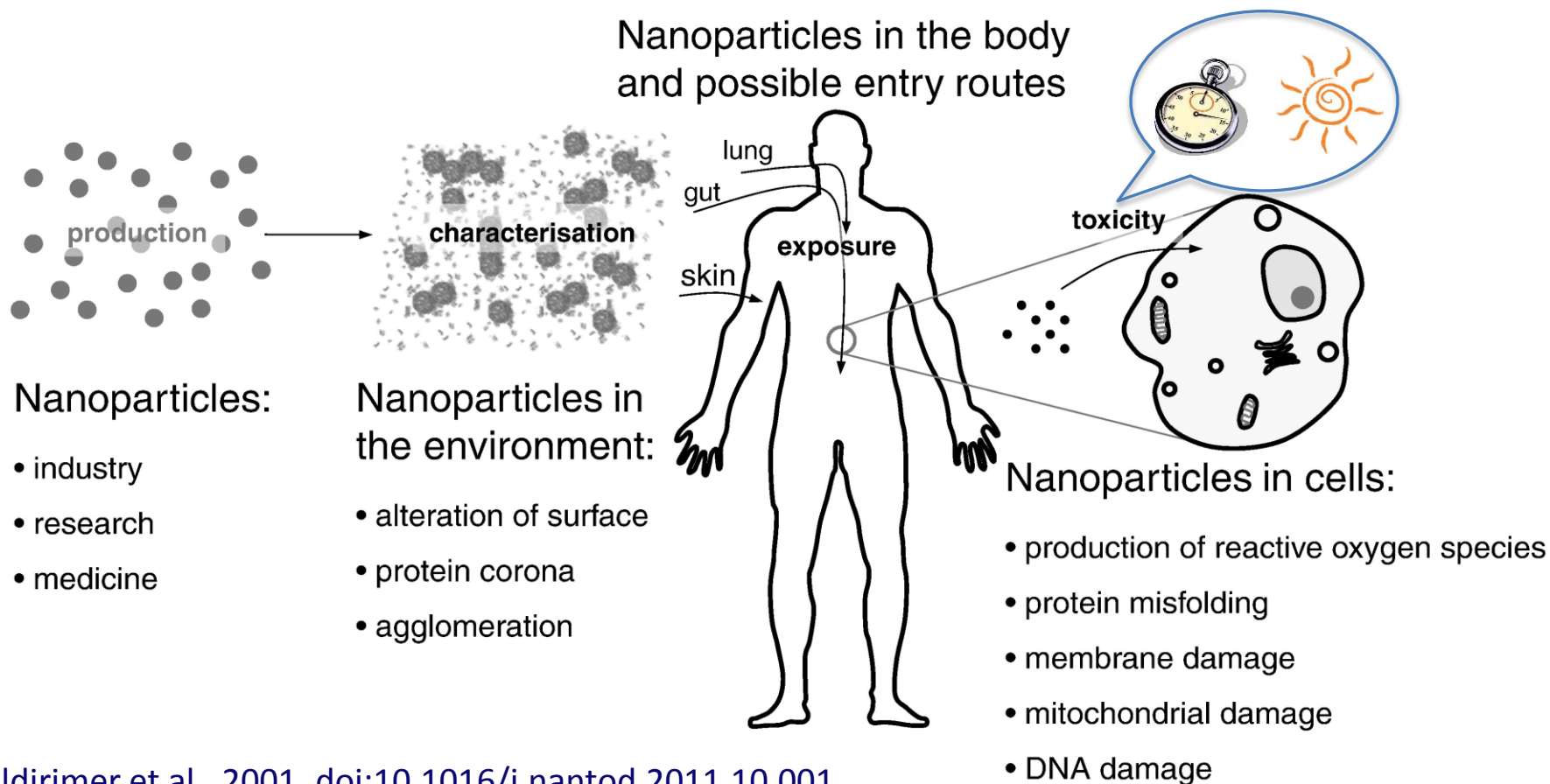


# Nanotoxicology Research Networks

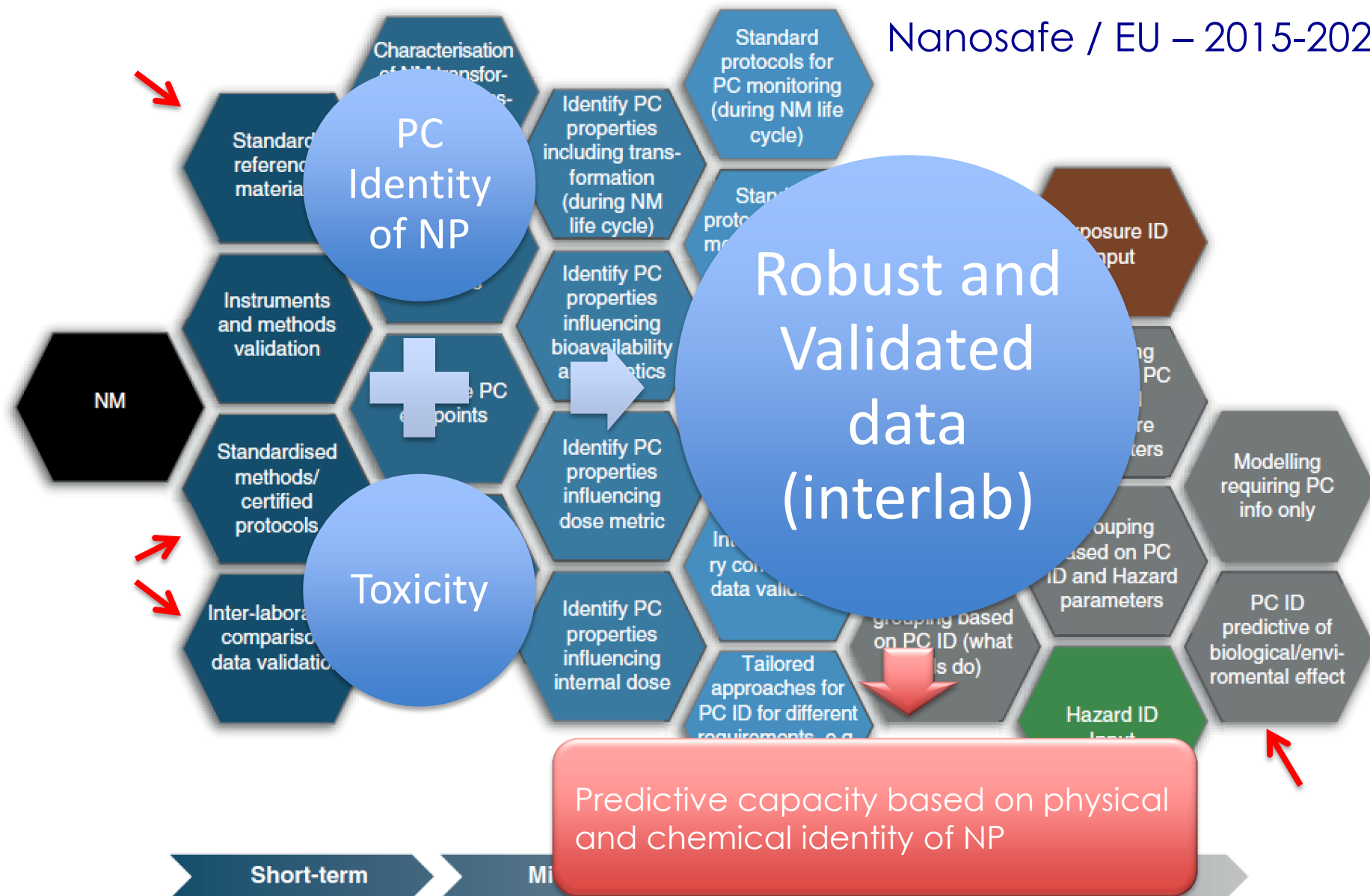


# Nanotoxicity - Context

Nanoparticle characterisation, pathways and toxicological impact



Nanosafe / EU – 2015-2025



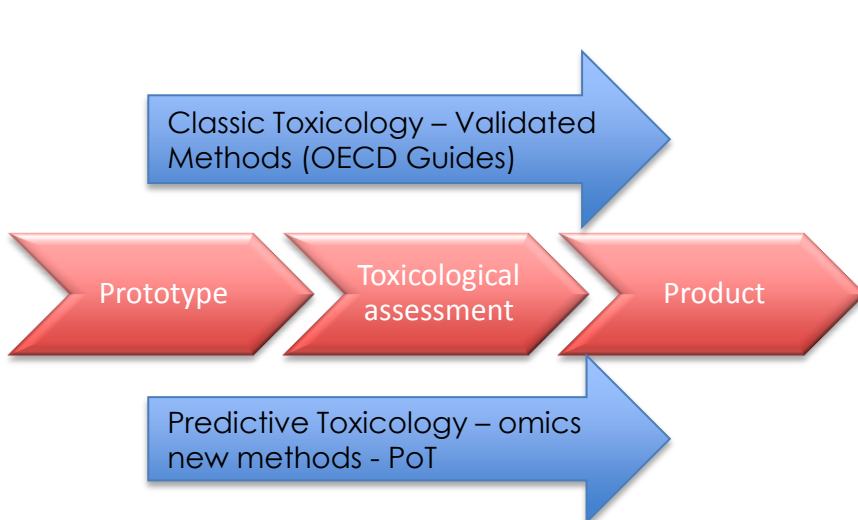


# Challenges

- Standardized production
- Scaling up >> Certified Reference Materials
- Samples dispersion
  - PC characterization
  - Biological effects: aggregation, agglomeration, availability
- Side/undesirable effects
  - NP affecting:
    - Tests
    - Culture medium
    - Bystanders (lipopolysaccharides, proteins, allergens)
    - Risk assessment
- Regulatory status
  - While toxicity data is continuously becoming available, the relevance to regulators is often unclear or unproven.
  - Brazilian regulation
    - Under construction



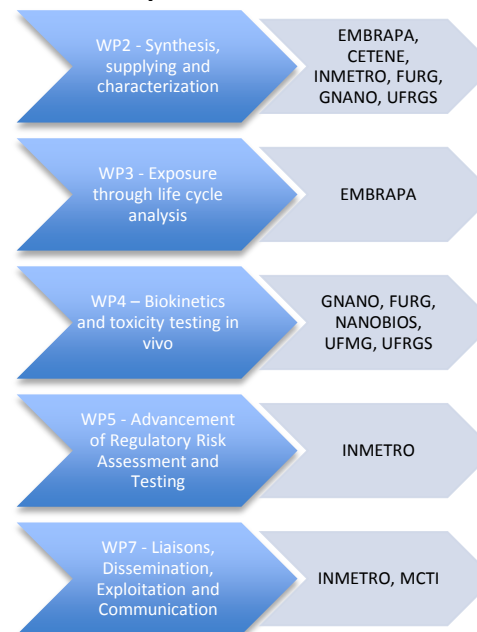
# Brazilian strategy



## SisNANO – Nanotox Network

### International Cooperation:

- Nanovalid (FP7/CE)
- NANoREG (FP7/CE)
  - Laboratories working in network “to test the tests”
  - Map of activities:



# Thank you

- Additional informations

- [www.inmetro.gov.br](http://www.inmetro.gov.br)

- José Mauro Granjeiro

- [jmgranjeiro@inmetro.gov.br](mailto:jmgranjeiro@inmetro.gov.br)

- Bioengineering, Life Sciences Applied Metrology Directory

- 021 2145 3221

- 021 98702 3433

- <http://scholar.google.com.br/citations?user=5peGDJgAAAAJ&hl=pt-BR>

- <http://www.researcherid.com/rid/D-8289-2012>

