



INDustrial TECHNOLOGIES 2018
Innovative Industries for Smart Growth



INDTECH2018

Innovative industries for smart growth

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PILLAR 2

Session 2.1

**White paper on governance
(Nanoreg and 7or prosafe)**

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Nanoreg

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Is nanotoxicology hurting nano innovation

A plea for a culture change in toxicology, the way
we fund it.

“Look at the stars”

Toxicology until now

- Research groups organized around research groups with leading professors
- Competition is strong (e.g., history of dioxine)
- Collaboration is weak. Result much work can be qualified as the “hunt for effects” combined with the promotion of novel (patented) techniques.
- The reporting of the” hunted effects” due to their lack of context. Is detrimental to regulatory policy development which hurt investment climate.

Regulatory uncertainty

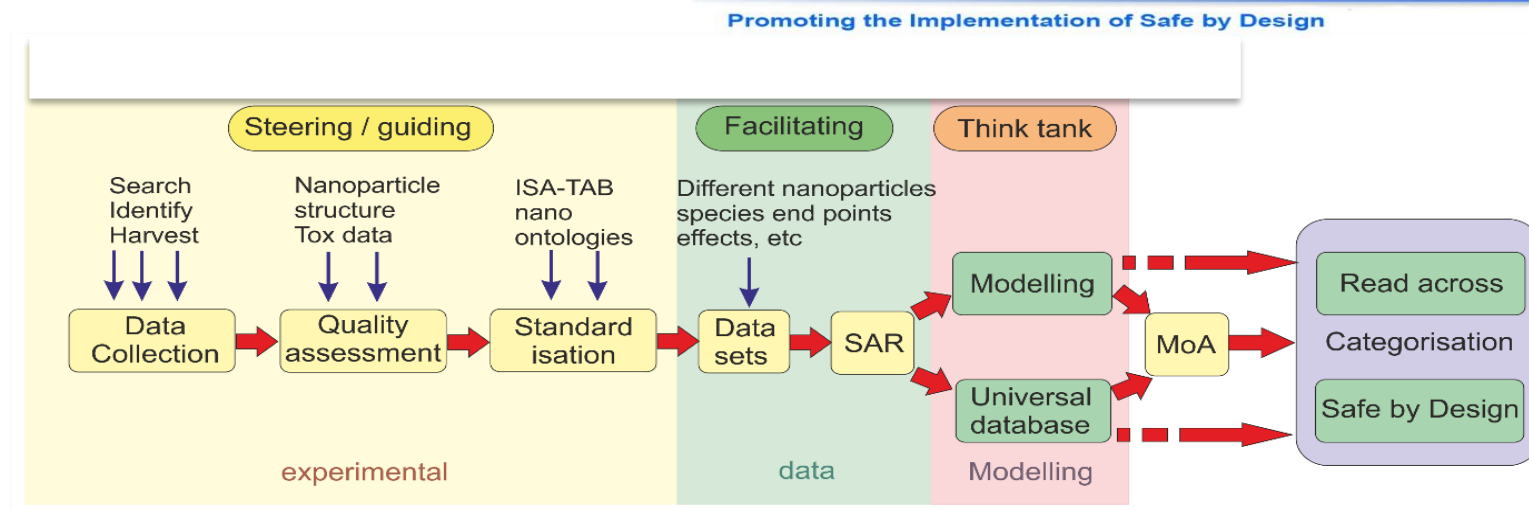
Postponing investment ??

- Need to define or find new paradigms for risk assessment, e.g. by comparing in vitro/ in vivo/ and cell response data.

Two fundamental problems:

- High Trough-Put requires stringent quality control and a dependable screening process, and agreed common methodology (OECD)
- Keep in mind: HTP screening you don't look at the whole picture, just at cell parts and not the totality of a cell.
- Chemo-informatic tools and methods can be highly useful in order to derive grouping principles.

Massive data challenge



Innovation in risk assessment

- Creation of a more fundamental understanding of the mechanisms causing adverse effects (Mode of Action; Adverse Outcome Pathways).
- Development of cheaper and faster test methods like *in vitro* High Throughput Screening (HTS) and *in silico* methods

Learn from other disciplines

- Why look at the stars? Astronomy shares data and equipment and no-one will deliver results without proving their fitness in existing data-sets. Still they deal with IPR.
- Such a global collaboration effort is on nano-toxicity is primordial but essential and needs to be guided by aligning funding strategy to force collaboration and harmonization.