
# Main Panel Discussion

# Challenges identified so-far

- Exponential growth of amount ENM in the market all over the world
- Safety knowledge gap
- Lack of resources makes the regulatory approaches challenging.
- Reliable prediction of hazards and risks.
- Lack of materials and toxicity data.
- Many databases are not available for public use.
- Conventional risk assessment methodology is not adequate for newly developed materials in the market.
- Risk analysis is still technically ad methodologically limited.
- Risk acceptance is strongly dependent on the understanding of the risk.

# Gaps: what is needed?

- Accessible databases and libraries.
- Exposure data and models from stakeholders.
- Adequate in situ, real time monitoring tools.
- Worker risk assessment/protection during maintenance operation.
- Metric consensus.
- Exposure scenarios
- NMs grouping. Grouping nanomaterials is an important means that may enable faster ENM risk assessment
- Risk management during the process of innovation of new products and new technologies.
- Availability of input parameter for prediction tools.
- Calibration for exposure tools for NMs specification.
- Professional safety trainings
- Availability to access the data for the manufacturers
- Exposure scenarios needs to be developed specifically case by case (for each production type)
- NMs should be considered for labeling products for consumers

# Tools available

## Guidance

- NIOSH based REL for Nano
- Precautional NanoReference Value (SER 2012, IFA 2014)
- OECD
- REACH
- Hierarchical controls (ISO/TS 12901-1:2012).
- NOAA
- NRV
- OELs (for bulk)
- Tiered scheme and control banding (CB) matrix
- Nanosafer
- Hazard bands (HB) combining toxicity data for NMs and chemical bulk.
- Licara (stoffenmanager nano)
- ART

## Measurement

- Monitoring (CPC, OPC)

## Prediction

- SimpleBox 4.0 – nano
- GuideNano
- NanoQSAR

## Implementation

- Past/ongoing (Nanosolutions, Marina, Nanomile, NanoReg, Nanostreem, Calibrate, GuideNano etc...) and future EU projects

# QUESTIONS

- How can the regulatory framework be adapted to take the lagging availability of toxicological and environmental data on nanomaterials into account, without stopping innovation that comes with the application of these materials

- How can upstream developers, suppliers and formulators cooperate with their downstream users in risk assessment guidance and risk management?