

Breakout Session Number 1

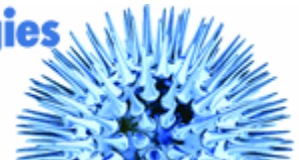
Breakout Session Facilitator
Kamal Hossain



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Industrial Drivers (1)

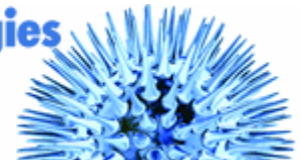
- Batch to Batch variations
- Specification
- Key control characteristics
- Cost : economically viable
- Correlation of measurement and properties
- Regulatory Requirements
- Reliability, stability, performance



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Key Industrial Sectors and Products

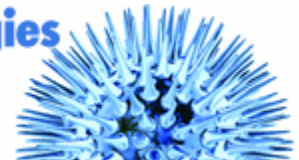
- Medical
 - Drug delivery systems
 - Diagnostics
 - Anti-microbial (e.g. nanosilver)
 - Regenerative medicine
 - Coatings for implants
- Energy
 - Batteries
 - Photo-voltaics
 - Green additives
 - Insulation material



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Key Industrial Sectors and Products (2)

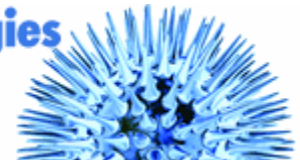
- Information and Communication technologies
 - Sensors
 - Semiconductors
 - Optical displays (e.g., flat panels)
- Cosmetics
- Materials and manufacturing



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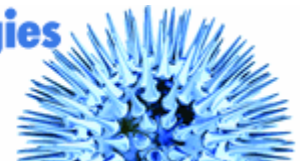


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Documentary Standards Needs

- Raw materials
- Process Control/Quality
- Performance Measures



Recommendation: Guidelines for Measurement of Engineered Nanomaterials

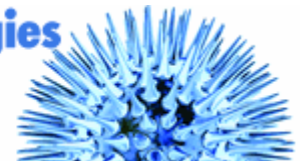
1. Define relevant parameters
2. Proposed measurements for the parameters to support above
3. Execute 1 and 2 for 14 OECD's representative materials



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Recommendation: Guidelines for Measurement of Engineered Nanomaterials (contd.)

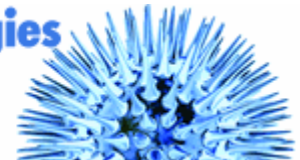
Guidance document on suite of measurement techniques that go together and the information the combined data set may provide.



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Measurement Needs

- In-situ tools for measurement
- Specification of materials for specific applications (e.g., pharma,)
- Properties and definitions thereof:
 - Concentration
 - Purity (content, and composition)
 - Nanoparticle size distribution



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