

Functional assays & nanoinformatics for data sharing

Quantifying Exposure to Engineered Nanomaterials in Manufactured Products (QEEN II)

*Wednesday October 10th, 2018
Washington, D.C.*

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The Commons



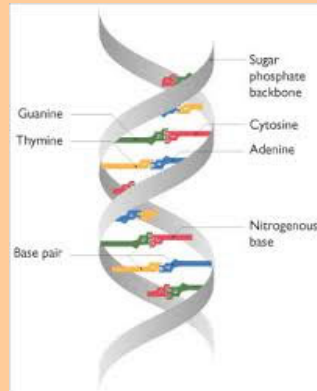
NanoInformatics Knowledge Commons



Too early for big data, but critical time for harmonization to generate comparable datasets going forward.

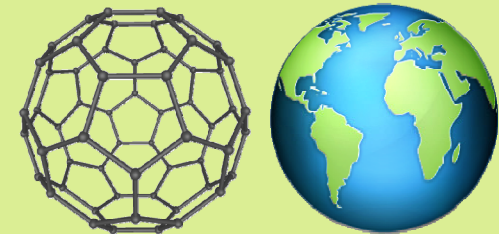
Big Data

- Limited number of established parameters
- Established protocols
- Well understood meta-data
- Huge masses of matching datasets



Broad Data

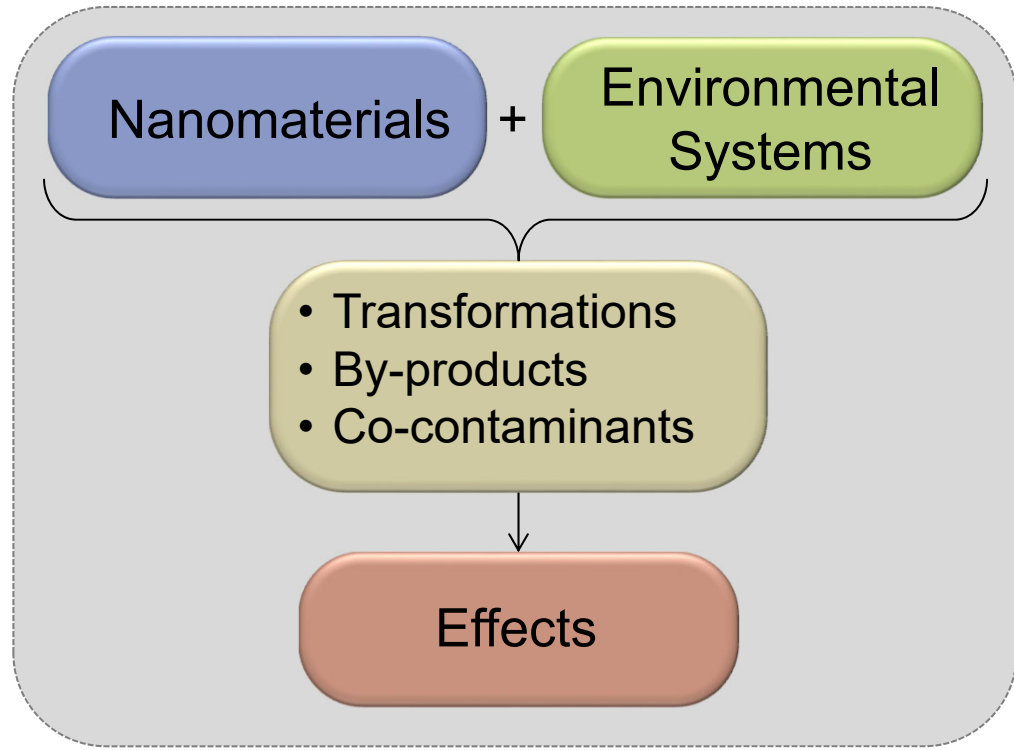
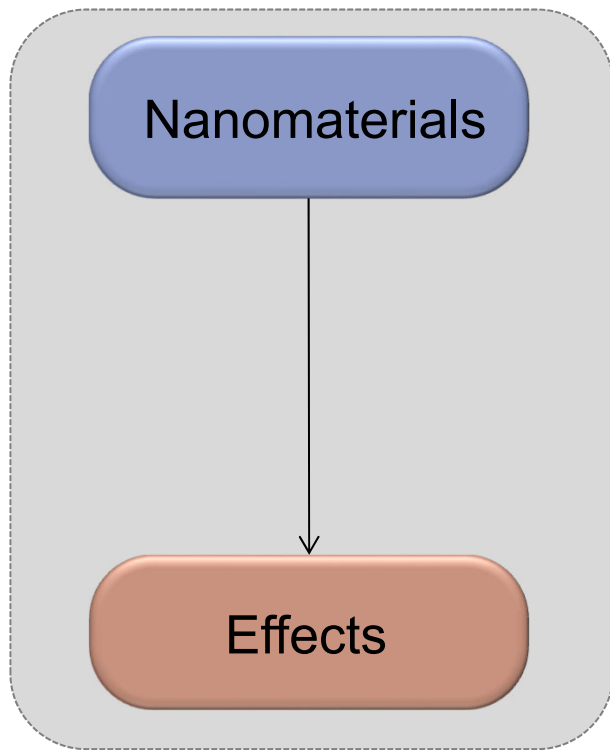
- Huge number of possible parameters, inconsistently measured and reported
- Complex and disparate meta-data
- Masses of mis-matched datasets



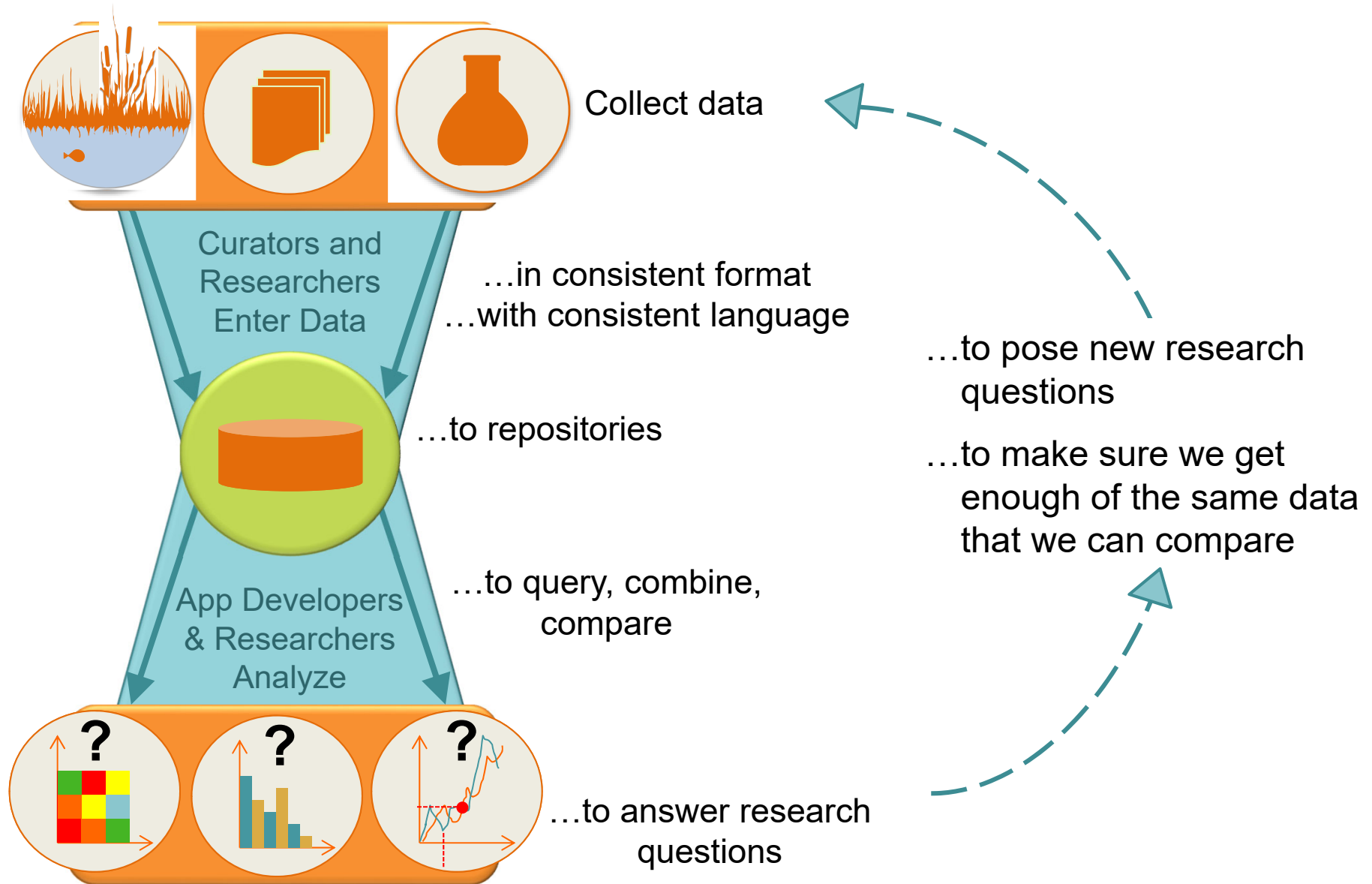
What is needed from nanoinformatics?

1. Meet data needs of regulators, researchers, and industry
 2. Combine and re-use data
 3. Get these things right:
 1. Scale
 2. Sequencing
 3. Incentives
 4. Culture of open sharing
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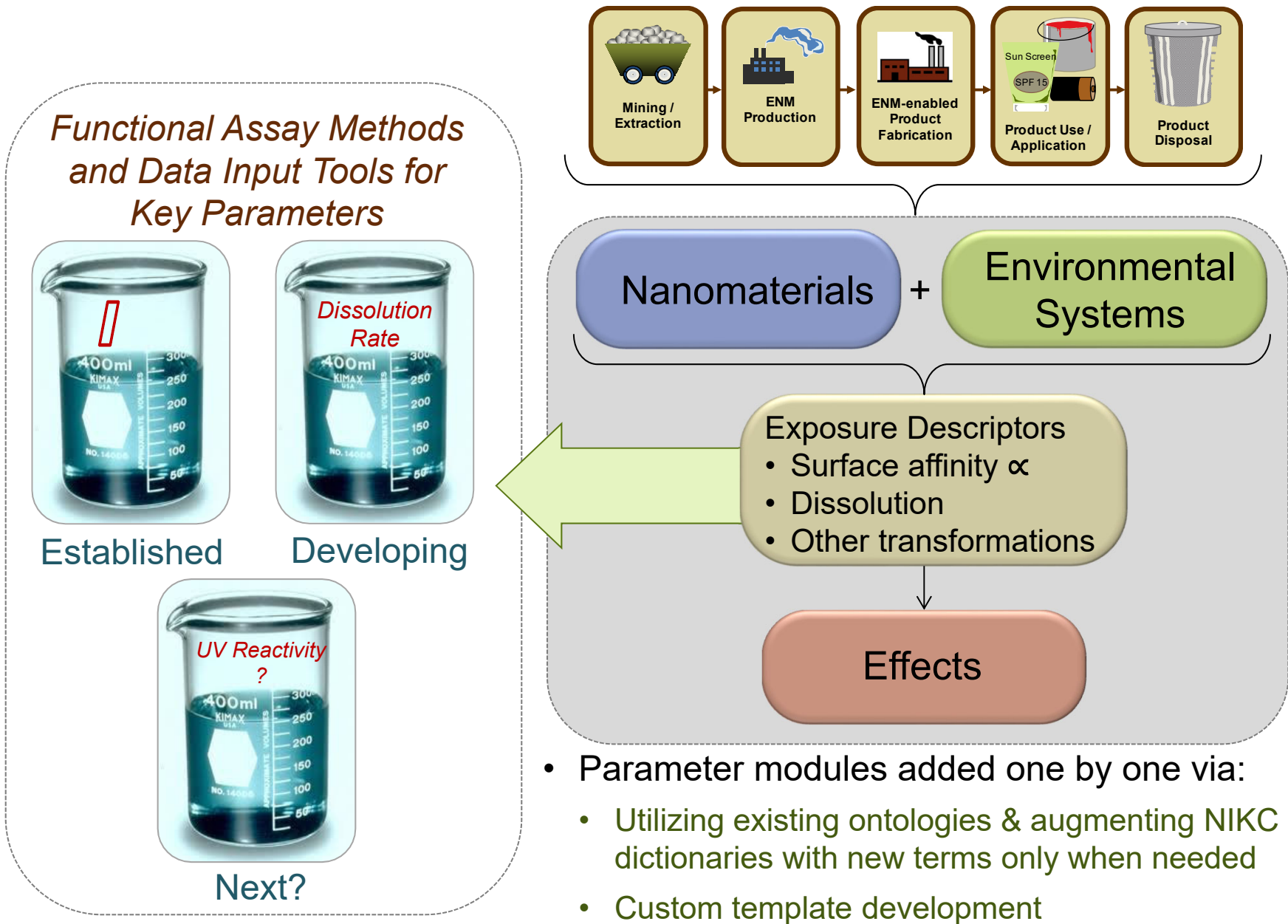
Environmental Complexity: A Necessary Reality



How to Address the Complexity?



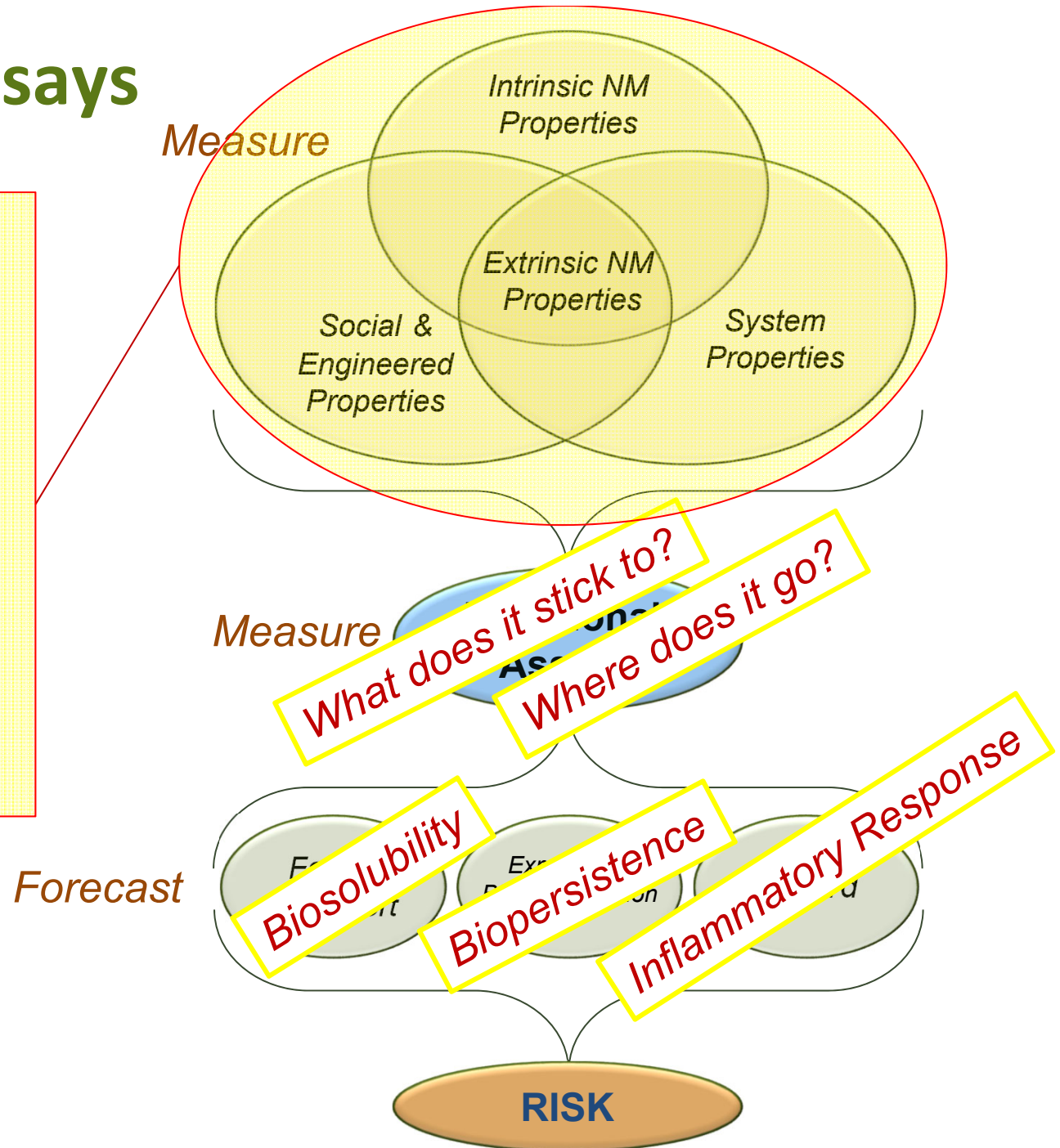
Focus on Shared Methods & Questions



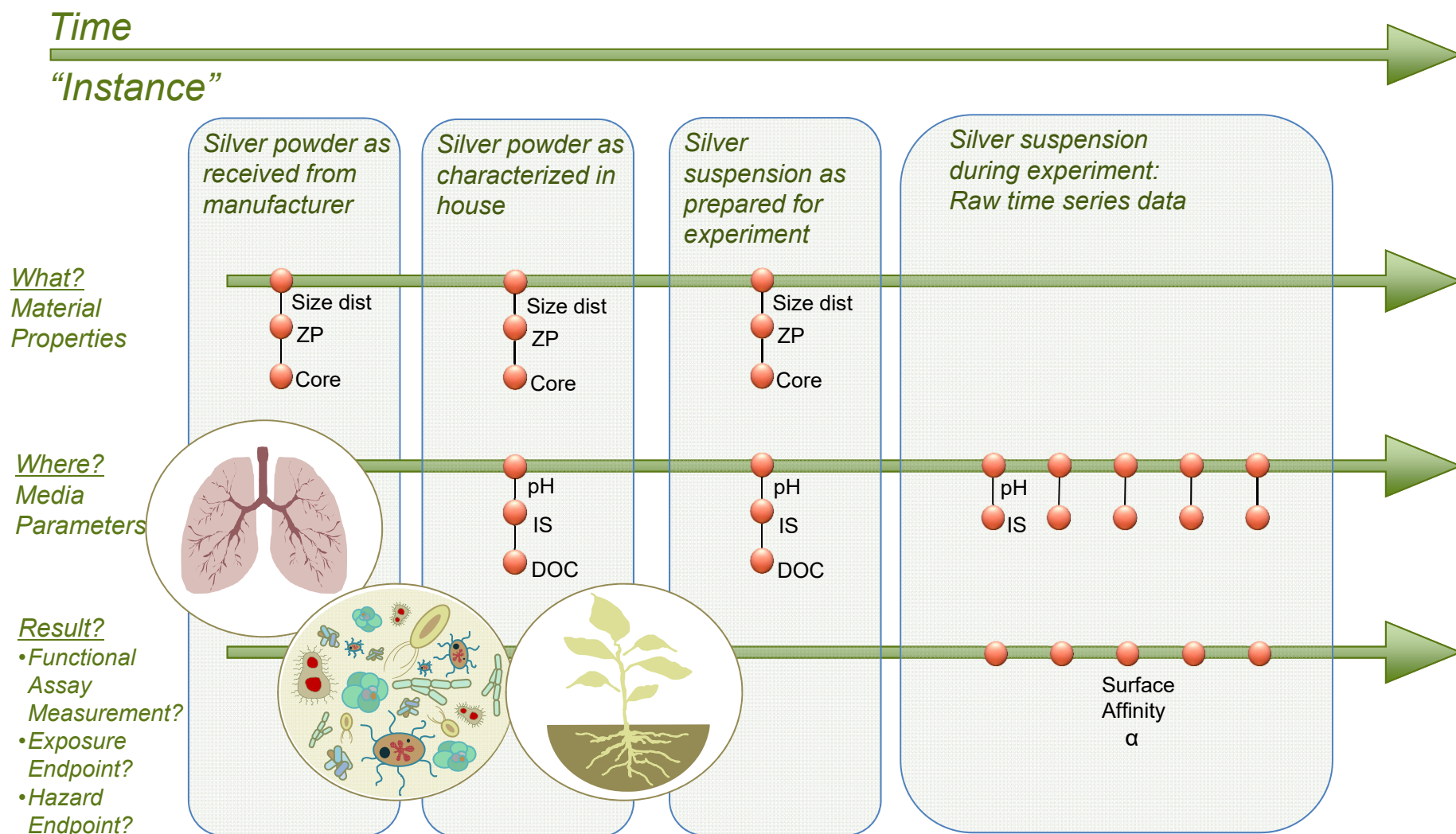
Functional Assays

What must you include to define the collective “it” so you can compare it:

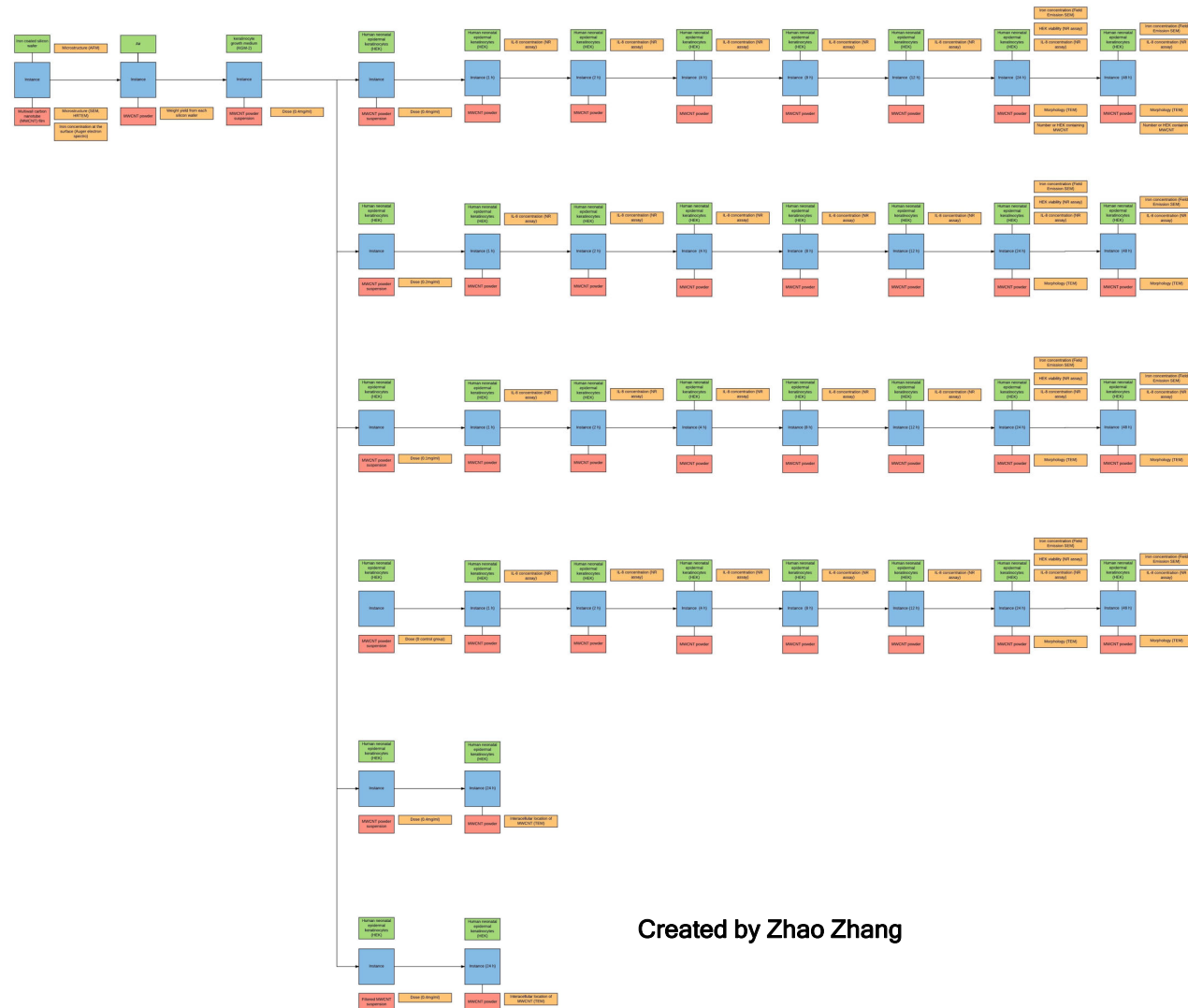
- Material
- Medium
- Protocol



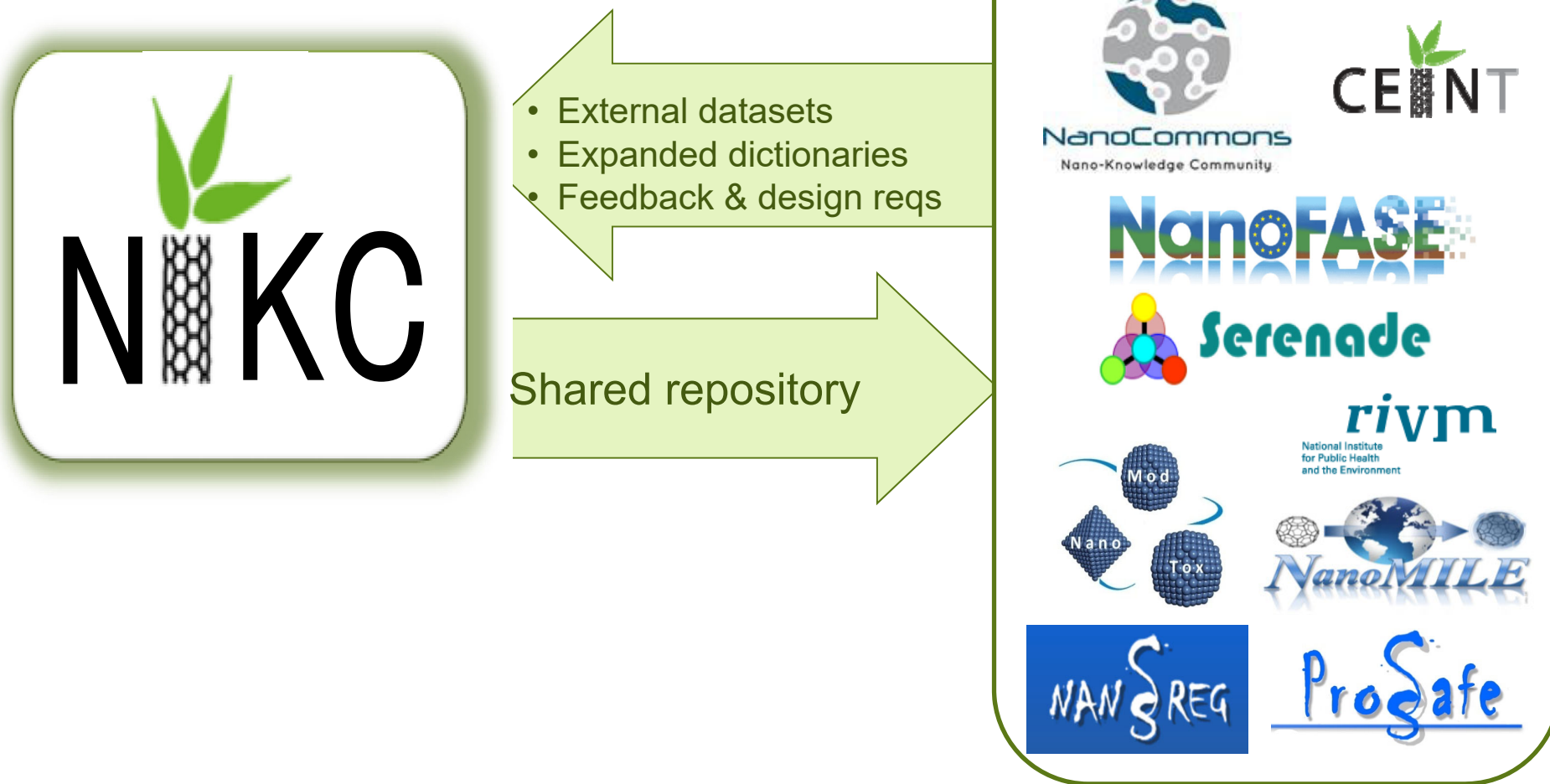
On the NIKC Concept of “Instance” Temporally Tracking the Path of a Study



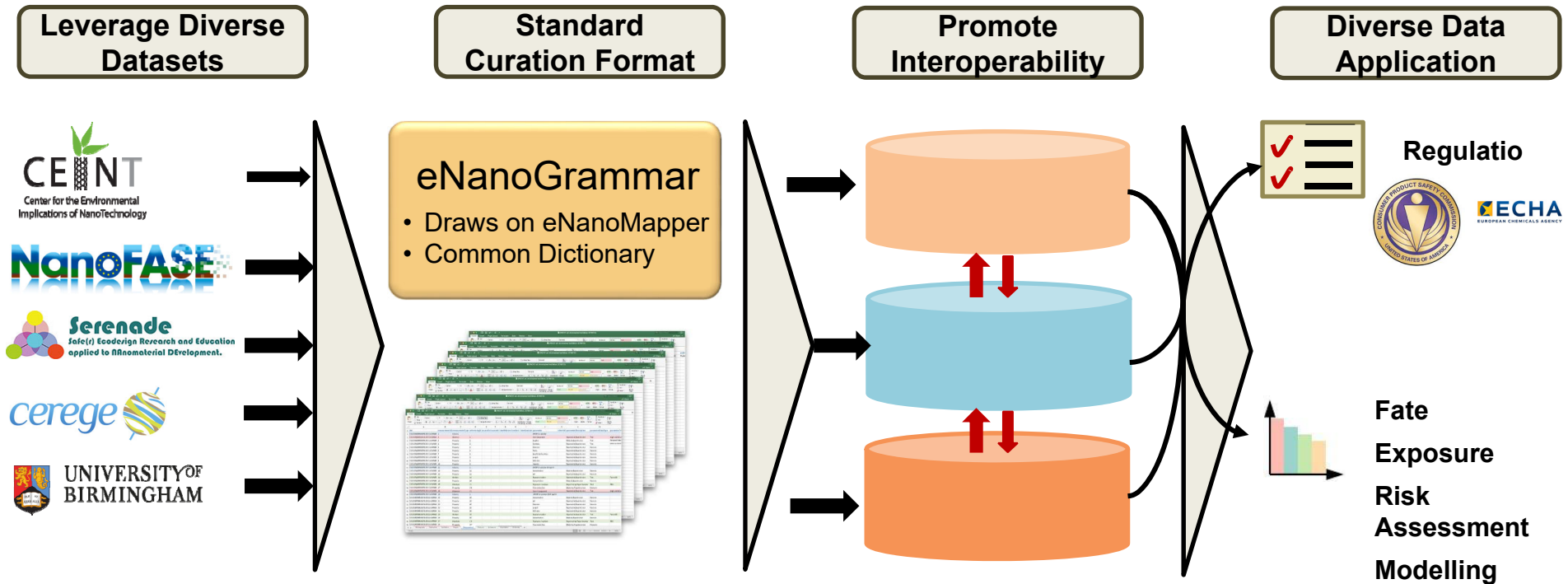
Full Paper Instance Map of Curated Manuscript



Many Projects, One Repository: A Pilot Integration



Premeditated Interoperability Through Shared Data Curation



Acknowledgments

CEINT

- *Mark Wiesner, Director CEINT*
- *Greg Lowry, Deputy-Director, CEINT*
- *The combined effort of over 150 researchers*

EU Collaborators

- *Camille de Garidel-Thoron*
- *Melanie Auffan, Jerome Rose*
- *Claus Svendsen*
- *Marianne Matzke*
- *Iseult Lynch*
- *Tassos Papadiamantis*
- *Joris Quik*
- *Tom van Tuonenbruoeck*
- *Egon Willighagen*
- *Nina Jeliaskova*



A black and white photograph of a river flowing over a rocky bed. The water is turbulent, creating white rapids and small cascades. In the center of the image, there is a dark, horizontally-oriented oval with a thin orange border. Inside the oval, the word "Questions?" is written in a bold, orange, sans-serif font.

Questions?