



standardization  
and innovation

2006 ANSI ANNUAL CONFERENCE



# degussa.

*creating essentials*

## **ANSI: A Rhetorical Forum Addressing Uncertainty**

*Presented by*

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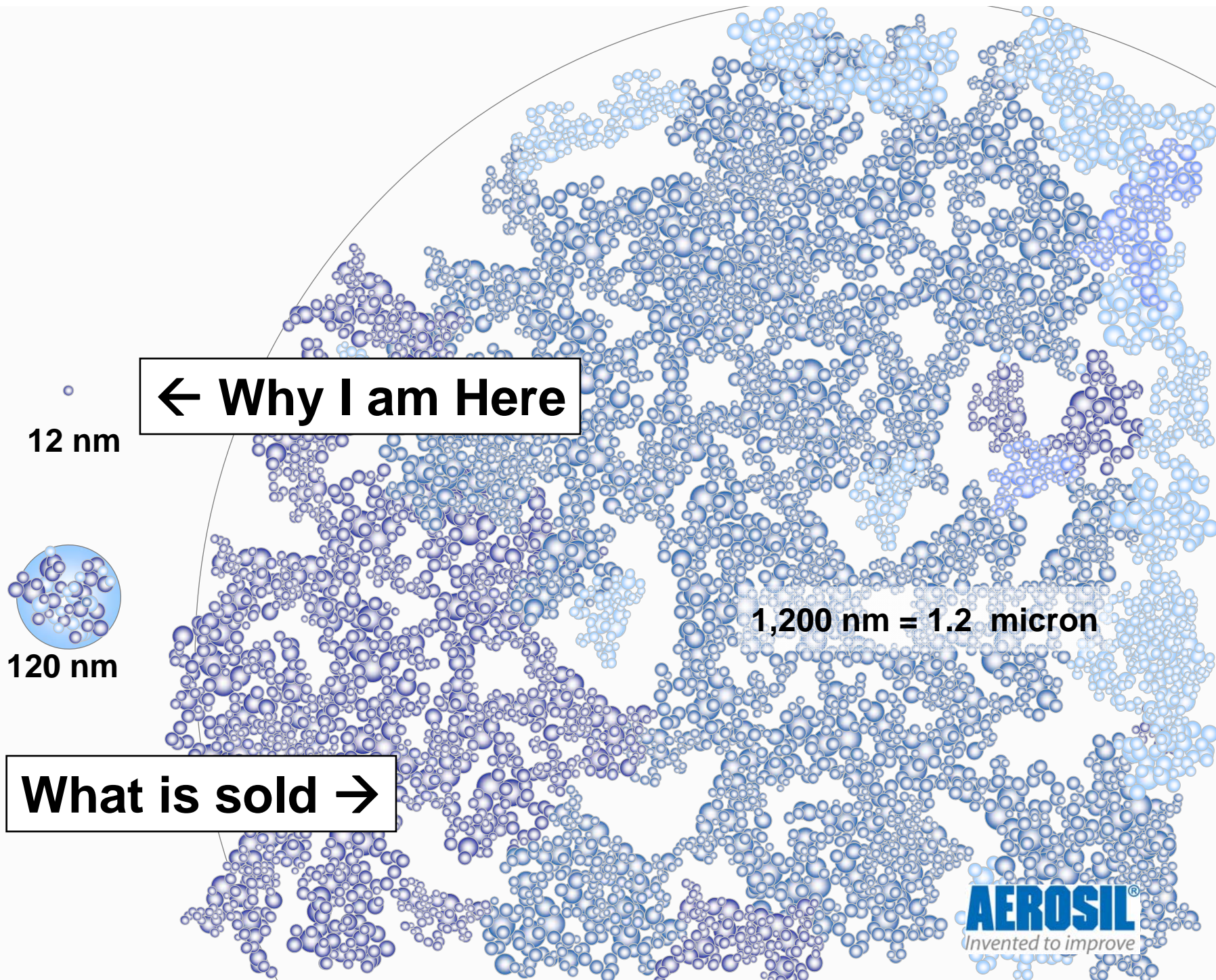
Technical Director

Degussa Corporation; Aerosil & Silanes

# Degussa Description

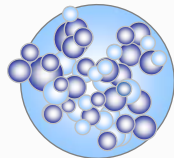
- €12 Billion; 44,000 People; #1 Specialty Chemical Company;
  - For US: 6,000 people; 120 sites
- Manufacturer of a Variety of High Surface Area Materials
  - silica, alumina, titania, zirconia, ceria, and “hydrophobic” grades
- As Technical Director Involved with Regular Chemistry, Regulatory Chemistry and Rhetorical Chemistry
  - Rheology, reinforcement, filler, abrasive, thermal insulation, UV radiation control with a rich vein of traditional knowledge focusing on colloidal science, surface chemistry and chromatography
  - Product stewardship responsibility for PMN’s, SNUR’s, SNUN’s, Actives, Statutory Mixtures
  - Many forums, many audiences, even for traditional materials





← Why I am Here

12 nm



120 nm

1,200 nm = 1.2 micron

What is sold →

**AEROSIL**<sup>®</sup>  
Invented to improve

Particle size between 4 and 20 millimicron



“Farbe & Lacke” April 1949

- First entry in OED for “Nano” is 1947
- Part of cgs → MKS
- kcal → kJoule
- torr → Pascal
- millimicron → nanometer

We were “nano” before  
“nano” was “big”

# ANSI as a Rhetorical Forum

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- Why refer to rhetoric ?
  - The terms research & invention originated in rhetoric
  - The three elements of rhetoric are present: exigence (question), audience and constraints
  - Question: Is there a scientifically meaningful construct for interpreting nanotechnology evidence ?
- Progress in nanotechnology has created uncertainty in terminology, metrology and EHS with a global impact
- Professionalism and procedures of ANSI, its counterparts globally, and the SDO's are vital



# Shape of Things to Come – a personal view

- Materials with geologic names will eventually be used for their information value than for novel nano-forms
  - Place in nature understood; humans exposed already
  - Industrial diseases can guide EHS for nano, e.g. silicosis
- Ontology (data organization and retrieval) significant
- Regulatory agencies will eventually:
  - Complement chemical identity with “new uses”
  - Establish flexible criteria for nanoscale particles and coatings to meld physical science with EHS concerns
  - Encourage screening tests that correlate mechanisms of toxicity with physicochemical properties

