Commercializing Nano-Enabled Products

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September 27, 2011
Cautionary Statement

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The forward-looking statements contained herein are made only as of the date of this presentation, and Nanophase Technologies undertakes no obligation to publicly update such forward-looking statements to reflect subsequent events or circumstances.
Corporate Information

Nanophase Technologies Corp.
Corporate Headquarters:
1319 Marquette Drive
Romeoville, IL  60446
630.771.6700
Second manufacturing facility in Burr Ridge, IL
www.nanophase.com

Ownership:    Public since 1997
NASDAQ:      NANX
Fiscal Year: December 31
Common Stock: 21.2 million shares outstanding
History – Leading Nanotechnology Growth

- 1989 – Spun out of Argonne National Laboratory
- 1995 – Launched 1st manufacturing process → Physical Vapor Synthesis (PVS)
- 2001 – Launched 2nd manufacturing process (NAS) → Broad compositional palette capabilities
- 2002 – Commercialized dispersion and surface treatment capabilities
- 2003/2004 – BASF commercialization of ZnO in Personal Care market
- 2004 to Present – Significant Nano adoption
- 2008 to Present – Platform to Market Driven
Marketing Strategy – Change in Model

• Changes in 2008 to 2010

• Partners
  – BASF
  – Shift from “Exclusives” to “Non-Exclusives”

• Customer Direct
  – Targeted application solutions
  – Dramatic increase in revenue opportunities since 2008

New customers in field of use

More revenue from previously exclusive customers
Benefits of Nanophase’s Innovative Solutions

- Transparency – literally and figuratively
  - UVA and UVB blocking
  - Abrasion resistance
  - Superior polished finishes
  - High optical clarity and gloss
- Long-lasting protection
- All natural
- No change in current manufacturing process
  - We sell the way manufacturers want to buy
  - Applications expertise

Customers receive ready-to-use products in which the nanoparticles are stabilized at their primary particle size, with no secondary structure or agglomeration.
Patented / Proprietary Nanophase Technologies

Plasma Synthesis Manufacturing

- Nano Metal Oxides from 10 nm to 1 micron
- Fully dense, Crystalline and Discrete

Surface Treatment

- Wet and dry surface treatments
- Enhanced functionality

Formulated Dispersions

- Formulated to Enhance Performance
- Compatibility is Key

![Images of nanophase technologies](images)
Compatible Nano Particles Significantly Improve Performance

Compatible Dispersions Enable Products That Perform!
Optimized for Performance:
Transparency in Thin Films

Incompatible 1 wt% ZnO in 1 Mil Clear Coating

Agglomerated Particles

Compatible Dispersions Enable High Transparency

Compatible 1 wt% ZnO in 1 Mil Clear Coating

Discretely Dispersed Particles
Nanophase is a leader in providing nanomaterials technologies that enhance product performance in a manner that is impossible or impractical with conventional/organic materials.

Our nano-based solutions have been incorporated in commercial products and global brands serving markets as diverse as:

- **Personal care**
  - Scratch Resistant Coatings
  - Automotive

- **Exterior coatings**
  - Architectural windows
  - Textiles

- **Electronics**
  - Plastics
  - Medical Diagnostics

*Nanophase has a portfolio of proprietary and patent protected technologies to manufacture, surface treat and disperse nanoscale metal oxide particles, resulting in superior performance of products in target markets*
Products Incorporating Nanophase Technologies

• Sunscreens (GMP)
  – Daily Wear
• Paints and Stains
• CMP Slurry (ppb)
• Laminated Flooring
• Optical Polishing
• Architectural Windows
• Car Wax
• Polyurethane Wood Finishing
• Foot powder
• Textiles

Focus Risk!!!
NanoArc® ZnO: Personal care products (cGMP)

Exterior stains and coatings

NanoArc® Al2O3: Scratch resistant coatings (UV-cured)

NanoArc® CeO2 & NanoArc® Al2O3: Precision polishing (electronics)
On-Going Market Development

- Maintain dominant position in personal care market through BASF
- Robust application development efforts in three market initiatives:
  - Exterior coatings (UV resistance)
  - Scratch resistance
  - Electronics (polishing)
- Emphasis on products designed specifically for targeted markets and applications
- Identify IP to protect our products, processes, or applications in targeted markets
- Opportunistic applications such as energy, plastics and medical diagnostics---Part of Our New Market Queue
Thank You