2009 New Energy Symposium
Clean Energy Investment Presentation

John Hannafin, CEO

NanoMas Technologies, Inc.

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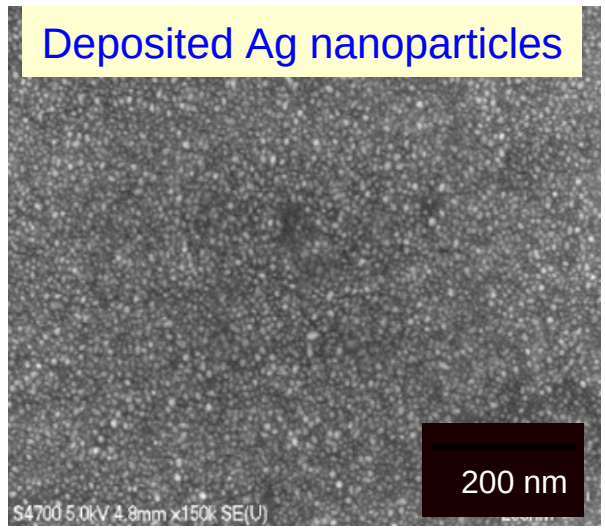
Who is NanoMas

"Enabling a Revolution in Electronics Manufacture"

NanoMas has developed a breakthrough process for producing high-performance low-cost nanomaterials

- **Our conductive and semi-conductive nanoparticles are key to a new generation of cleaner, greener electronics manufacturing processes**
- **Applications we enable include higher-efficiency solar cells, flexible displays, organic LEDs, ubiquitous RFID tags and sensors, and lead-free electronics packaging**



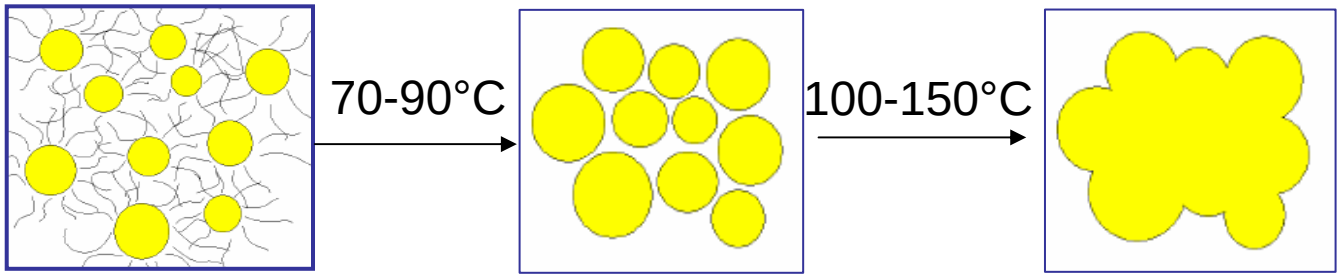
History and Business Model

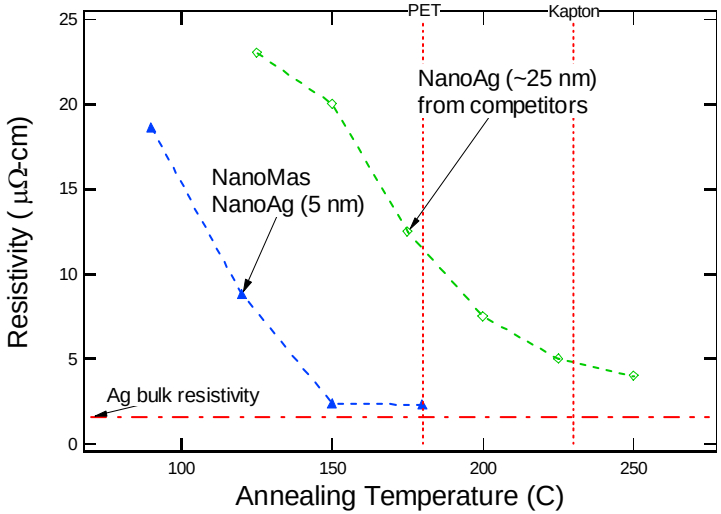
- **Founded in 2006 by three seasoned inventors, widely recognized as experts in the field of nanotechnology, ink development and material science**

- **Closed Series A financing of $2.7M in Sep. 2008 led by BASF Venture, Earthrise Capital (NY) and NanoMaterial Investors (NY)**

- **Leveraging its core nanoparticle manufacturing process, the company intends to deliver formulated products that exceed the unmet demands in the high growth markets of Solar Cell Manufacturing, Printed Electronics and Electronics Assembly**

Key Materials Attributes





Particle Characteristics:

- **Uniform particle size 5-7nm**
- **Lower sintering temperature ~ 150°C**
- **Superior conductivity**

Performance Consequences:

- **Enables low temperature substrates**
- **Less resistive losses**
- **Thinner line widths**

Fully Scalable Process

2000L HV Production

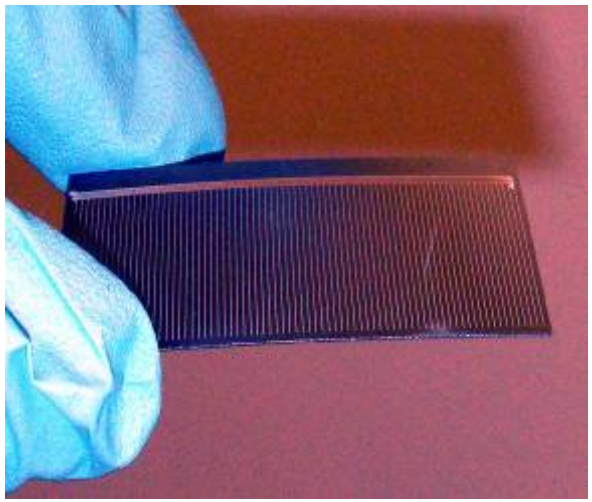
- **Patent pending process built around traditional wet chemistry manufacturing**
  - **Lowest cost method of nanoparticle production**
  - **Superior quality and reproducability**

Product Development

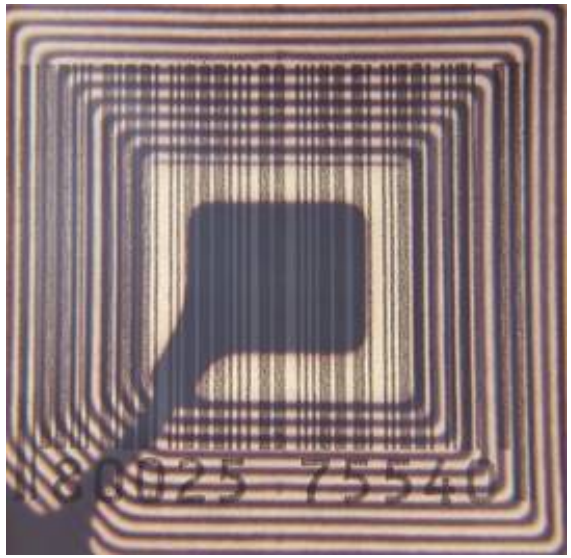
- **NanoMas currently offers four evaluation materials; NanoSilver, NanoGold, NanoPalladium, and NanoPlatinum inks, which exhibit the highest performance of conductive inks in the Printed Electronics (PE) industry**
  - **Low temperature sintering**
  - **Superior conductivity**
  - **Compatible with existing process**

- **Product plans for conductive pastes, adhesives and solders for Solar Module, Printed Electronics and Electronics Assembly**

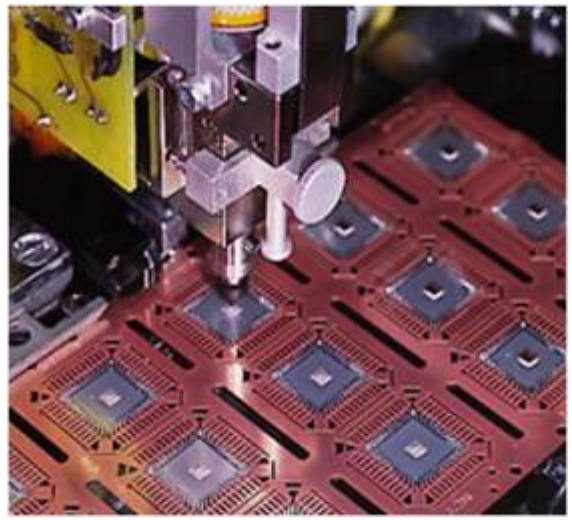
Application Development



Printed conductors on flexible thin film solar cell

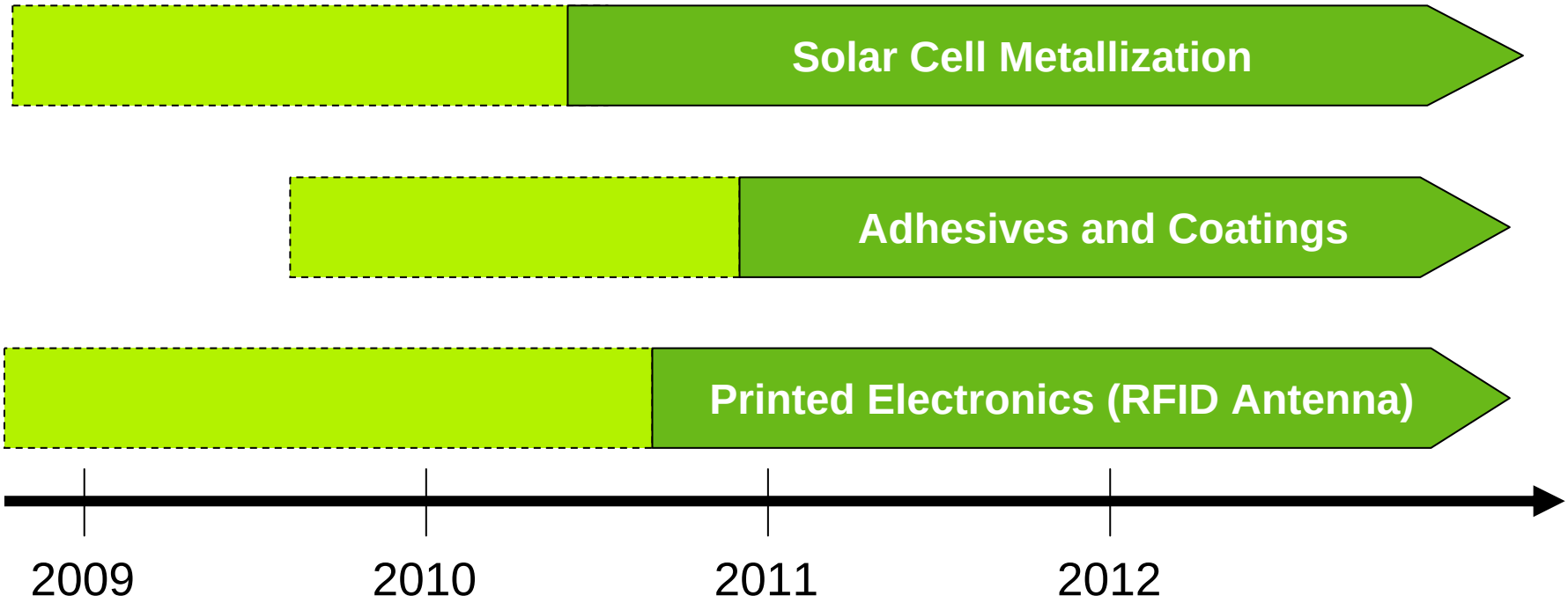


RFID antenna printed on reverse side of pharmaceutical label



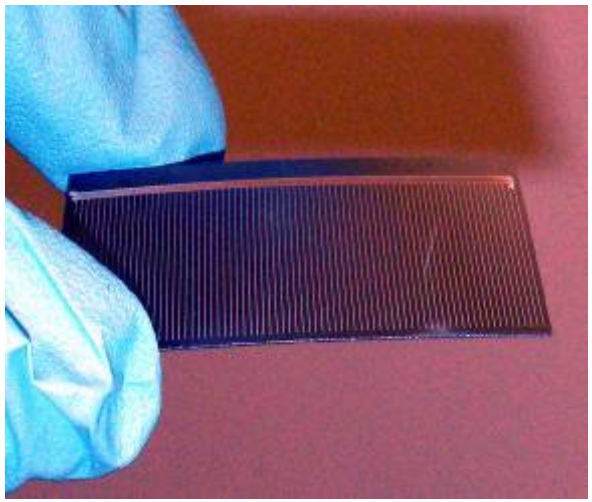
Die attach adhesive dispensed on leadframe package

Development Timeline



- Sample sales
- Developing partnerships
- Repeat sales
- Joint developments and commercializations

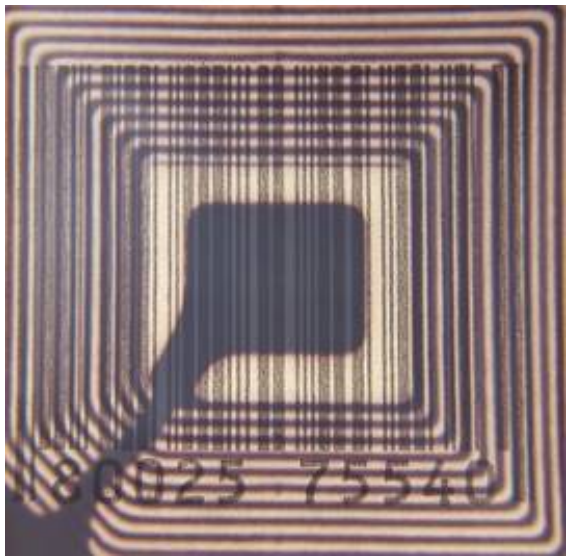
Application Development – Solar Power



Printed conductors on flexible thin film solar cell

- c-Si PV
  - Superior conductivity
  - Thinner line widths
  - Increased efficiency
  - Increased production yield
  - Lower manufactured cost
- Thin film PV
  - Replace vapor deposition
  - Lower temperature processing
  - Utilizing well established printing processes

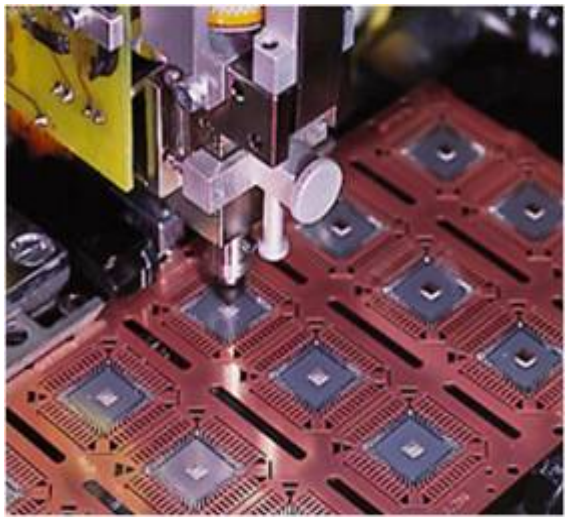
Application Development – Printed Electronics



RFID antenna printed on reverse side of pharmaceutical label

- Additive, roll-to-roll processing
- Allows low cost, flexible substrate
- Compatible with all established and burgeoning industrial printing processes

Application Development – Electronics Packaging

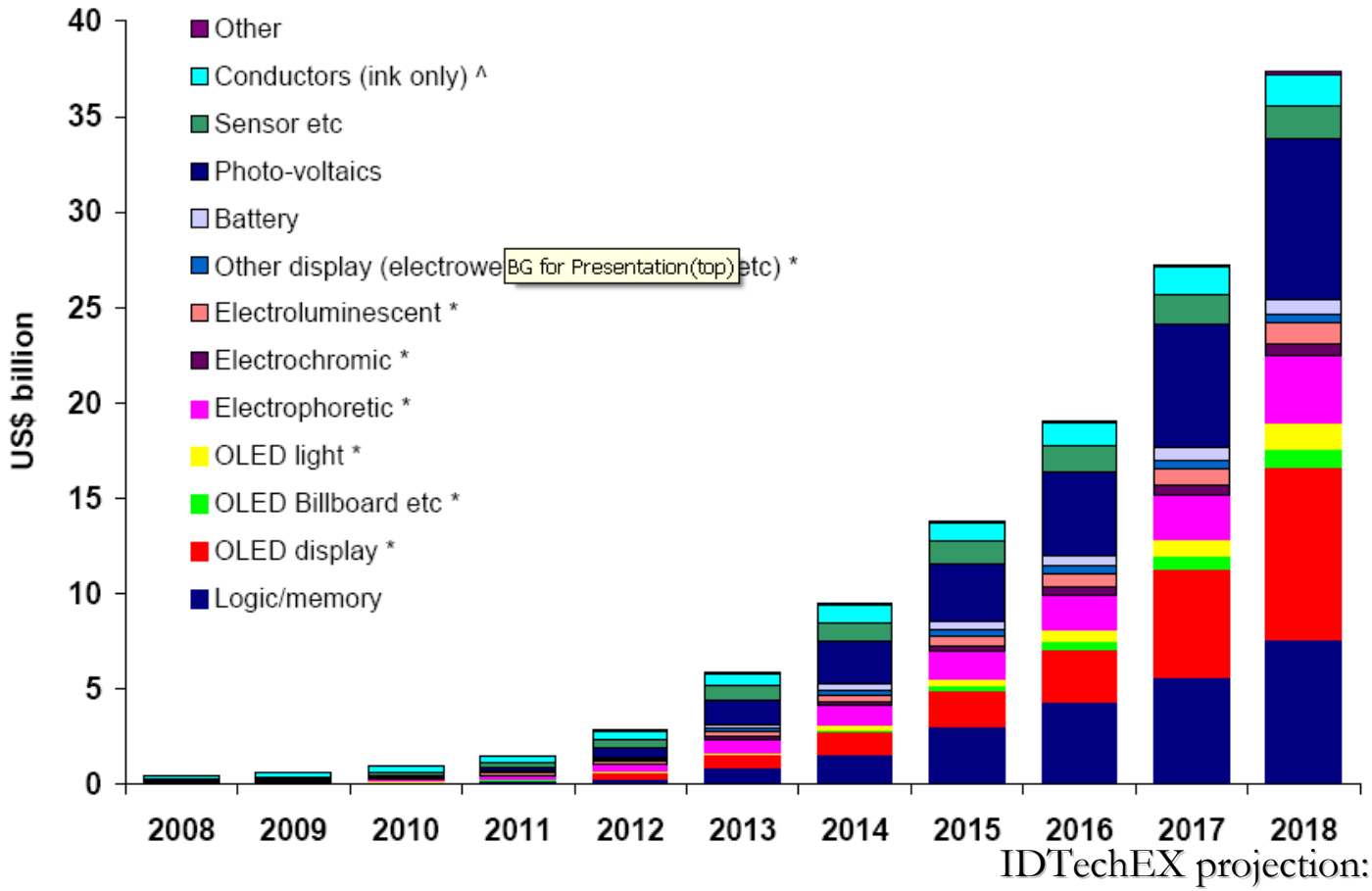


Die attach adhesive dispensed on leadframe package

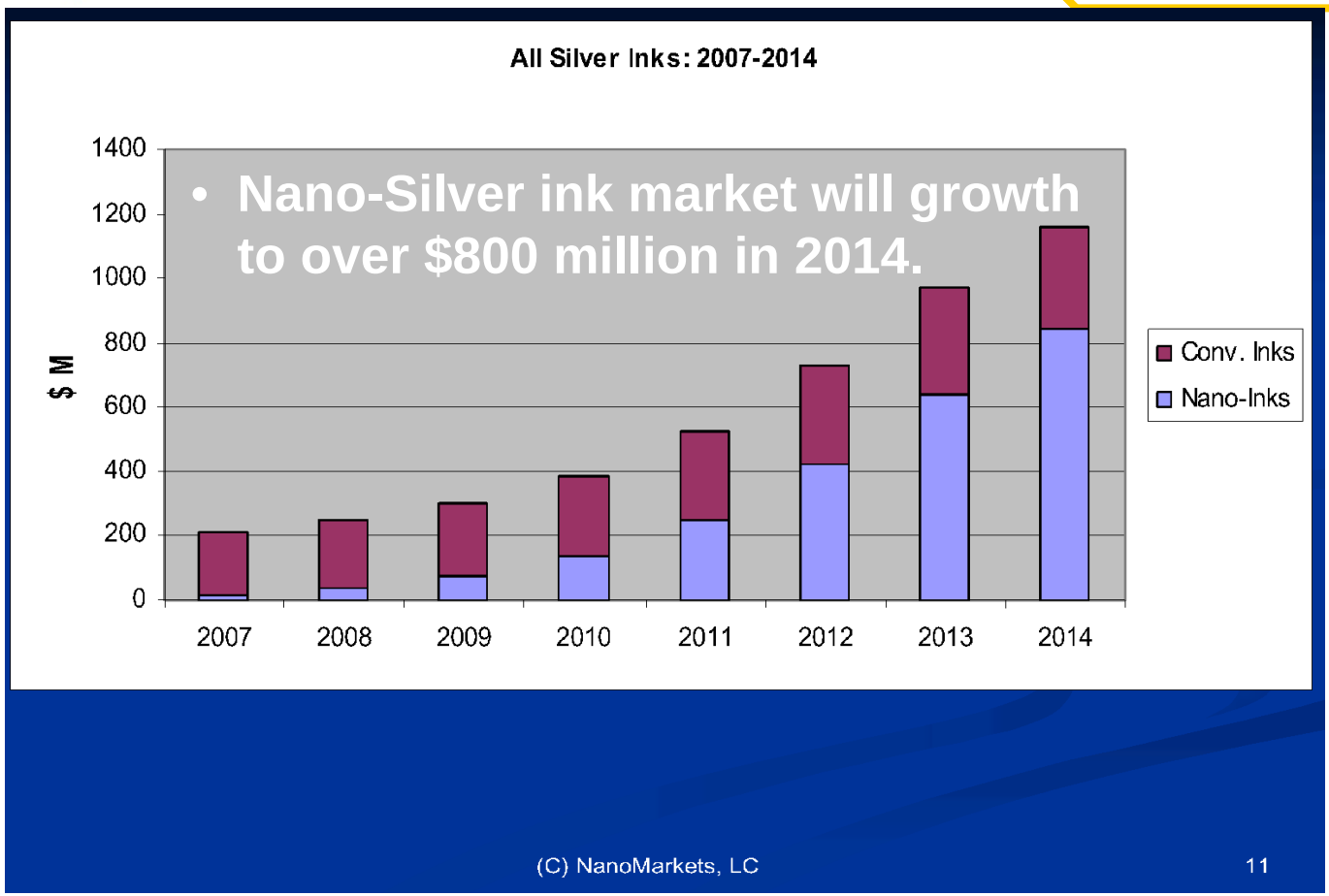
- Higher thermal and electrical conductivity
- Driven by solid state lighting and power electronics demands
- Enabling high-density interconnect packages

Printed Electronics is Rapidly Growing

Market for printed electronics



Solar and Printed Electronics Drive the Growth of NanoAg



Serviceable Market Including Electronics Assembly

Segment	2008, $m
Semiconductor Die Attachment	**$450**
Array / Composite Adhesives	$150
Leadframe Adhesives	$200
Solders	$100
Circuit / Module Assembly Adhesives	**$200**
Component / Lead Attachment	$100
Die Attachment	Small
Heat Sink Attachment	$50
Other	$50
Solar Cells (Silver Pastes)	**$150**
Printed RFID Antenna and other Electronics (Inks)	**$20**
Total	**$820**

Business Philosophy

- Nanomaterials technology company
  - High performance nanomaterials with lowest cost
  - Three strong patent applications filed

- Product value proposition
  - Enabling technology for emerging applications
  - Disruptive technology for existing products

- Target on large potential markets
  - Printed electronics (RFIDs, displays, sensors, etc.)
  - Alternative energy (solar cells and fuel cells)
  - Solders and electronic packing materials

- Work with partners to best serve our customers in core markets for long term growth

Our Team

- John Hannafin – President and CEO
  - Over 20 years experience in electronic materials industry
  - Former VP Business Development and Marketing at Reactive NanoTechnologies, Parker Hannifin Corp, Nexus Adhesive Corp
- Zhihao Yang, Ph.D. – CTO and EVP, Co-founder
  - Inventor of over 25 US patents (60 worldwide)
  - Held senior R&D and technical management positions at Eastman Kodak and Sinus Rhythm Technologies
- Tom Xu, Ph.D. – VP Engineering, Co-founder
  - Seasoned consultant to the materials and mining industries
  - Skilled in large scale engineering projects and manufacturing scale up
- Howard Wang, Ph.D. – Consultant, Co-founder
  - Assistant Professor of Material Science at Binghamton University
  - Over 60 technical publications
- David Roe – VP Business Development
  - Over 25 years experience in electronic materials industry
  - Most recently VP Business Development at Henkel, National Starch, ICI, Dupont

Financial Projections

2008	2009	2010	2011	2012	2013
$.1M	$.3M	$1.8M	$4.2M	$12.6M	$22.4M

- Targeted GM – 80% (excluding metal)
- Projected breakeven – Q4 2011

Success Factors

- Achieve breakeven cash flow
- On-schedule product launch leveraging the capabilities of nano-engineered materials
- Capital efficient scale up of manufacturing capabilities
- Continued strengthening of internal team and channel organization

Thank You

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