Huntsman Advanced Materials

Overview Presentation
### Huntsman Corporation Divisions

<table>
<thead>
<tr>
<th>Differentiated</th>
<th>Inorganic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Polyurethanes</strong></td>
<td><strong>Pigments</strong></td>
</tr>
<tr>
<td>MDI</td>
<td>Titanium Dioxide</td>
</tr>
<tr>
<td>Polyols</td>
<td></td>
</tr>
<tr>
<td>PO/MTBE</td>
<td></td>
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<tr>
<td>TPU</td>
<td></td>
</tr>
<tr>
<td>Systems</td>
<td></td>
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<tr>
<td><strong>Performance Products</strong></td>
<td><strong>Textile Effects</strong></td>
</tr>
<tr>
<td>Performance Specialties</td>
<td>Apparel &amp; Home Textiles</td>
</tr>
<tr>
<td>Performance Intermediates</td>
<td>Specialty Textiles</td>
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<tr>
<td><strong>Advanced Materials</strong></td>
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<tr>
<td>Base Resins</td>
<td></td>
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<tr>
<td>Formulated Systems</td>
<td></td>
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<tr>
<td>Specialty Components</td>
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<td>Specialty Textiles</td>
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Focused Industries

Improving product performance through chemistry
Our History

- 1758: Chemical Industry Basel (CIBA) is formed
- 1884: J.R. Geigy AG begins trading in chemicals and dyes
- 1971: Ciba merges with J.R. Geigy to form Ciba-Geigy
- 1996: Ciba Specialty Chemicals independent of Novartis
- 1997: Ciba-Geigy merges with Sandoz to form Novartis
- 2000: Vantico is formed for Performance Polymers
- 2003: Vantico is acquired by Huntsman and becomes AdMat division
- 2005: Huntsman becomes a public company
- 2013: Vantico is acquired by Huntsman and becomes AdMat division

Our History
Our Innovation

1946 - Araldite® is introduced to the adhesives market

1954 - Araldite® is introduced to the adhesives market

1955 - Furane introduces Epocast® to the electronics market

1979 - Furane introduces Epibond® to the adhesives market

1985 - Uralane® is introduced to the aerospace industry

1987 - RenShape® PUR tooling boards are introduced to the market

1988 - Arathane® polyurethane adhesives are launched

1993 - AroCy® is introduced to several markets

2000 - Performed Eposert® syntactic inserts introduced to the market

2013 - Vantico rebrands its line of epoxy curing agents to Aradur®
## Our Products

<table>
<thead>
<tr>
<th>Base Resins</th>
<th>Specialty Components</th>
<th>Formulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid epoxy resins</td>
<td>Curing Agents</td>
<td>Adhesives</td>
</tr>
<tr>
<td>Solid epoxy resins</td>
<td>Matting agents</td>
<td>Encapsulation</td>
</tr>
<tr>
<td>Epoxy solutions</td>
<td>Reactive Diluents</td>
<td>Tooling</td>
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<td></td>
<td>Reactive PAA</td>
<td>Insulation</td>
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<td></td>
<td>Waterbornes</td>
<td>Composites</td>
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<tr>
<td></td>
<td>BisF/EPN/ECN</td>
<td>Protection</td>
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<td></td>
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<td>Laminates</td>
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</tbody>
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## Our Technology

### Base Resins
- 100% Epoxy chemistry

### Specialty Components
- 7% Polyimides, BMI, CE, Benzox
- 18% Amines, Anhydrides and others
- 75% High performance epoxy

### Formulations
- 6% Other Specialties
- 8% Polyurethanes formulations
- 9% Acrylics formulations
- 77% Epoxy formulations
## End Markets

<table>
<thead>
<tr>
<th>Base Resins</th>
<th>Specialty Components</th>
<th>Formulations</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Coating</td>
<td>Wind</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Industrial Composites</td>
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<tr>
<td></td>
<td>Aerospace</td>
<td>Aerospace</td>
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<tr>
<td></td>
<td>Electronics</td>
<td>Electronics</td>
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<tr>
<td></td>
<td>Sports and Leisure</td>
<td>Sports and Leisure</td>
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<tr>
<td></td>
<td>Power/Energy</td>
<td>Power/Energy</td>
</tr>
<tr>
<td></td>
<td>Automotive</td>
<td>Automotive</td>
</tr>
<tr>
<td></td>
<td>Industrial Adhesives</td>
<td>Industrial Adhesives</td>
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<tr>
<td></td>
<td>ARALDITE-Do it yourself</td>
<td>ARALDITE-Do it yourself</td>
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Market Presence

Size represents revenue percentage

- Paints & Coatings: 24%
- Energy: 23%
- Construction: 13%
- Aerospace: 11%
- Electronics: 9%
- Adhesives: 8%
- Industrial Applications: 7%
- Sports & Leisure: 2%
- Other: 3%
The Numbers

Revenue 2012: $1.3 b – Adjusted EBITDA 2012: $92 m

Revenue by regions
- Americas: 24%
- Asia Pacific: 28%
- Europe: 38%
- IMT: 10%

Revenue by SCU
- Formulations: 48%
- Specialty Components: 31%
- Base Resins: 20%
- Other: 1%

Figures based on 2012
Global Presence

More than 2,000 employees in 30 countries, serving over 2,000 customers with 1,500 products
Major Industries Players

Base Resins, Specialty Components, Formulations

- Dow
- Momentive
- Huntsman

Base Resins

- Kukdo
- Bluestar

Specialty Components

- BASF
- Air Products

Formulations

- Henkel
- Sika
- 3M

A sample of some of our key competitors
Global Partners

Aerospace
- Airbus
- Boeing
- Cytec
- Hexcel

Automotive
- Formula 1
- Lamborghini

Electrical Engineering
- ABB
- Alstom
- Schneider Electric
- Siemens

Wind
- Gamesa
- Vestas

Construction & Coatings
- AkzoNobel
- PPG Industries
- Sika
- Sherwin-Williams

Electronics
- Bosch
- Continental
Aerospace

- Our products are extensively qualified to specifications of prepreggers and aircraft part manufacturers.
- We supply specialty chemicals, adhesives and tooling systems to OEMs, formulators and part producers.
- Our components make aircraft lighter, stronger and more energy efficient.
- Qualified in next generation commercial aircrafts: Boeing 787, Airbus 350 & 380.
- Composite usage in aircraft has increased from 10% to more than 50% in the last 10 years.
Electrical Engineering

- Huntsman innovations are throughout the energy value chain, from power generation to transmission, distribution and storage—including solar and wind energy.
- We accompany and support our global key accounts and OEMs in Electrical Engineering having headquarters in Europe and setting the global trends.
- Since six decades we develop innovative solutions in all kind of electrical applications, such as the Araldite HCEP, the hydrophobic, water repellent epoxy for outdoor insulators.
Electronics

- A trusted partner in the Electronics industry for protection, safety and sustainability issues
- Huntsman has developed innovative solutions that are used during every stage in the production of printed circuit boards and electronic devices
- Our know-how and expertise allow us to develop epoxy and polyurethane systems that answer the most stringent requirements for electronics applications
Coatings & Construction

- More than a third of our global turnover comes from the Coatings & Construction industries
- One of the broadest portfolios, providing a complete range of building blocks for application solutions
- Our powder and liquid coatings products can be found in industries such as Transportation, Marine, Automotive, Architectural and Consumer White Goods
- Commitment to environmentally friendly systems while addressing customer needs and market requirements
Automotive

- Our resin systems and building blocks are supplied to part manufacturers, prepreggers and OEMs
- High penetration of carbon composite parts in Formula One and other high end consumer vehicles
- Strong market drivers include performance, safety and lighter weight
- Adoption of composite materials in mass market vehicles represents a huge opportunity for Huntsman
Wind energy

- More than 20 years commitment to the wind turbine industry
- Significant growth opportunities in the European offshore market and Asia Pacific
- Comprehensive range of lighter, stronger, longer-lasting materials
- Specialty components for prepreggers
- Formulated systems for blade, turbine and mould makers
ARALDITE® covers a broad range of applications for the industrial and consumer markets
- A leading brand in Europe for over 60 years
- Strong brand recognition in emerging markets such as India and Brazil
- Several chemistries and different technologies
- ARALDITE® adhesives can bond virtually anything
- Strong B2B growth

<table>
<thead>
<tr>
<th>Segment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Staples &amp; Tacks</td>
<td>55%</td>
</tr>
<tr>
<td>Soldering</td>
<td>30%</td>
</tr>
<tr>
<td>Welding/Brazing</td>
<td>4%</td>
</tr>
<tr>
<td>Structural Adhesives</td>
<td>10%</td>
</tr>
<tr>
<td>Industrial Fasteners</td>
<td>3%</td>
</tr>
</tbody>
</table>
In Sport & Leisure every gram counts

Lightweight, strength, flexibility, design freedom and fatigue resistance are key factors affecting athletic performance

Advanced Materials has over 50 years experience of combining design materials, composite resins and adhesives for consumer products

We enable Sports & Leisure manufacturers to exceed the high performance expectations of their customers

Largely EU based and built on brand awareness
Maintaining Strong Partnerships

- Trusted, long-term customer relationships
- Global manufacturing footprint designed for developing markets
- Diverse portfolio
- High technical and scientific expertise
- Product quality and reliability
- Recognized solutions provider
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