Dow Chemical: Investor Fieldtrip
Silicones Deep Dive

August 10, 2017
Some of our comments today include statements about our expectations for the future. Those expectations involve risks and uncertainties. Dow cannot guarantee the accuracy of any forecasts or estimates, and we do not plan to update any forward-looking statements if our expectations change. If you would like more information on the risks involved in forward-looking statements, please see our Annual Report and our SEC filings.

In addition, some of our comments reference non-GAAP financial measures. Where available, presentation of and reconciliation to the most directly comparable GAAP financial measures and other associated disclosures are provided on the Internet at www.dow.com/investors.

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“EBITDA” is defined as earnings (i.e., “Net Income”) before interest, income taxes, depreciation and amortization.

“Operating EBITDA” is defined as EBITDA excluding the impact of Certain Items.

“HSC” refers to Hemlock Semiconductor, a joint venture owned by The Dow Chemical Company, Corning Inc. and Shin-Etsu Handotai.
Agenda

• Business and Financial Overview
  ➢ Introduction to Silicones
  ➢ Financial Overview
  ➢ Feedstocks and Intermediates
  ➢ Performance Silicones

• Growth Synergies
  ➢ Transportation
  ➢ Infrastructure
  ➢ Consumer

• Innovation Tours
  ➢ Silicones
  ➢ Corporate R&D

• Manufacturing Tour
Key Messages

• Silicones is hand-in-glove fit with Dow’s business model of integration and innovation

• Dow’s best practices in manufacturing, EH&S, innovation, supply chain and business operations are expected to double\(^{(1)}\) the silicones operating EBITDA post-integration

• Development of unique solutions by combining silicones platform with olefins, acrylics, urethanes and cellulosics has enhanced end-market participation

• Extremely positive customer feedback; addition of silicones platform has enhanced capabilities to solve customer problems, meet their needs and earn a seat at their design table

• Unparalleled depth and breadth of offerings, combined with scale and geographic reach, positions Dow as the leading materials science player in the industry

\(^{(1)}\) Based on expected 2017 Op. EBITDA when compared to actual 2015 Op. EBITDA
Dow’s Growth Strategy
Narrower and Deeper Market Focus Enabled by Technology Platforms, Operational Excellence and Flexible Integration

INTEGRATION & INNOVATION
ADVANTAGED BACK-INTEGRATION
- Ethylene
- Propylene
- Silicons

WORLD-CLASS SCIENCE AND ENGINEERING CAPABILITIES
- High-Throughput Research
- Catalyst Discovery & Ligand Synthesis
- Polymer Science
- Material Science
- Formulation Sciences
- Process Engineering
- High-Performance Computer Modeling
- Application Development

INTEGRATION & INNOVATION
NARROWER, DEEPER END-MARKET PRESENCE
- Packaging
- Transportation
- Infrastructure
- Consumer
- Energy/Water
- Durables & Industrial

Consumer-Driven Demand in Core End-Markets Propels Growth, Driven By Sustainable Urbanization Trends in All Geographies

Excludes Dow Electronic Materials and Agricultural Sciences
Introduction to Silicones – Business Overview

1943 PIONEER IN SILICONES

2016 REVENUE: $(1)$ >$5.0 BILLION

~6,500 PRODUCTS

25,000 CUSTOMERS WORLDWIDE

>5,000 ACTIVE PATENTS WORLDWIDE

(1) Excludes the impact of HSC; Internal management reporting
Silicones Manufacturing & Integration Overview

<table>
<thead>
<tr>
<th>Sites</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal$^{(1)}$</td>
<td>5</td>
</tr>
<tr>
<td>Basics</td>
<td>3</td>
</tr>
<tr>
<td>Finishing</td>
<td>19$^{(2)}$</td>
</tr>
</tbody>
</table>

(1) Includes 2 joint ventures
(2) Post implementation of synergies
Extending Our Competitive Advantages

Enhanced by Dow

Working safely
• ~80% reduction in injury rate from 2015\(^{(1)}\)

Best-in-class cost position – scale, technology & cost efficiency
• Cost synergy target raised to $650MM; achieved $400MM run-rate in only 10 months
• Driving inventory and capital spending optimization

Unparalleled breadth and depth of chemistry knowledge
• >$600MM growth target

Intimate knowledge of end-markets driving growth
• $7B increase in addressable market; new-to-world chemistries in development for longer-term

\(^{(1)}\) Estimate for 2017
Step-Change Financial Performance in Dow vs. Standalone

Historical Performance of Silicones [As Stand-Alone\(^1\)]

<table>
<thead>
<tr>
<th>Year</th>
<th>Op. EBITDA As % of Rev.</th>
<th>Revenue: ~$5B</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>14%</td>
<td>~$750</td>
</tr>
<tr>
<td>2013</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>15%</td>
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</tr>
</tbody>
</table>

2012 – 2015 CAGR: -2% 

Silicones Platform Performance in Dow [Since June 2016\(^1\)]

<table>
<thead>
<tr>
<th>Year</th>
<th>Op. EBITDA</th>
<th>Cost Target</th>
<th>Growth Target</th>
<th>2019 Op. EBITDA Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>~$750</td>
<td>&gt;$300MM(^2,3) through 2017E</td>
<td>&gt;$400MM(^2,3) through 2017E</td>
<td>&gt;2,000</td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td>~1,500</td>
<td></td>
<td>&gt;1,000 2017E</td>
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<tr>
<td>2017E</td>
<td></td>
<td>&gt;1,000</td>
<td></td>
<td>&gt;30% 2017E</td>
</tr>
</tbody>
</table>

Dow Business Model Unlocks Value, Reinvigorates Earnings and Revenue Growth

- Double-digit Op. EBITDA growth in 2015-16
- Exceeded original cost synergy run-rate only 10 months after closing; $250MM additional savings identified
- Optimized inventory – reduced by >20%
- Optimized capital spending – reduced by 25%

(1) Excludes the impact of HSC; Based on internal management reporting
(2) Estimated P&L impact in FY17
(3) Synergies across the enterprise
### Silicones Cost Synergy Detail

#### Silicones Platform Performance in Dow

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
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<tr>
<td></td>
<td>2016</td>
<td>2017E</td>
<td></td>
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</tbody>
</table>

#### Cost Synergy Sources [% of Target]

<table>
<thead>
<tr>
<th>Cost Synergy Sources</th>
<th>[% of Target]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing and site integration &amp; consolidation</td>
<td>~25%</td>
</tr>
<tr>
<td>Leveraged functions</td>
<td>~20%</td>
</tr>
<tr>
<td>Service contracts &amp; insurance harmonization</td>
<td>~20%</td>
</tr>
<tr>
<td>Logistics &amp; warehouse networks and rooftop consolidations</td>
<td>~15%</td>
</tr>
<tr>
<td>ERP upgrade &amp; legal entity rationalization</td>
<td>~10%</td>
</tr>
<tr>
<td>Purchasing &amp; raw material integration</td>
<td>~10%</td>
</tr>
</tbody>
</table>

$>$400MM of the Cost Synergies are Unique to Dow as the Owner

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(1) Excludes the impact of HSC; Based on internal management reporting
(2) Estimated P&L impact in FY17
(3) Synergies across the enterprise
Silicones Growth Synergy Detail

Silicones Platform Performance in Dow [Since June 2016]

- Since integration with Dow:
  - EBITDA share has increased by ~1,000 bps from 2015 – 1H17
  - Improved profitability in feedstocks & intermediates through Dow’s asset management practices
  - Significant volume and profitability growth in Silicones

Critical Mass in Key Markets (size by revenue)

- Consumer
- Infrastructure
- Transportation
- Silicones

Share of EBITDA

- 2015: ~44%
- 2016: ~50%
- 1H17: ~54%

Source: Capital IQ, Dow analysis

(1) Excludes the impact of HSC; Based on internal management reporting
(2) Estimated P&L impact in FY17
(3) Synergies across the enterprise
Silicones Production Process Flow
Benefits of Site Integration

**Zhangjiagang, China**

- Methanol and other raw materials
- Power / Utilities
- Logistics

**Midland, Michigan**

- Warehouses and truck / rail operations
- Leveraged maintenance organizations and assets
- Combined buildings for personnel

**Greater Scale for Purchasing**

- Methanol and other raw materials
- Power / Utilities
- Logistics
Feedstocks and Intermediates – Leveraging Best Practices

- Business Model
- Technology Center
- Supply Chain
- Operating Model
- Xiameter Model
Silicones Deepen Product Offerings

- Elastic, pliable and flexible
- Easy to wet and spread
- Stable and durable under extreme temperature conditions
- Weather-resistant and water-repellant
- Age-resistant
- Inert
- Insulating
- Highly adhesive

Focused on delivering new hybrid molecular solutions – solutions only Dow can deliver
Paths to Growth

- Channel to Market
- Cross-Selling
- Innovation
Dow Enables Faster-than-Market Expansion, Profitable Growth
New Solutions, Larger Scale, Enhanced Value Chain Participation

New and Differentiated Solutions and Portfolios in Growth Markets

Consumer
• Personal care products with exceptional skin feel
• Durable foams for appliance insulation

Infrastructure
• Weather- and flame-resistant barriers
• Flexible, crack-resistant coatings

Packaging
• Highly processable film packaging
• Easy-release pressure-sensitive adhesives

Transportation
• Heat-resistant under-the-hood materials
• High-performance optical materials for lighting

“We consider the integration of Dow Corning with Dow Chemical as an opportunity to enhance the relationship already existing between us”

– Large Personal Care Brand Owner

“Dow team demonstrated the true value of combined offering. This was the reason we selected Dow adhesive with Dow silicones system”

– Mid-size Packaging Co.
# Paths to Growth

<table>
<thead>
<tr>
<th>Channel to Market</th>
<th>Consumer</th>
<th>Infrastructure</th>
<th>Packaging</th>
<th>Transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enhance value chain position for PU surfactants (~$800MM(^{(1)}))</strong></td>
<td>• High-performance offerings for energy value chain: antifoams, insulation, oilfield chemicals (&gt;1B(^{(1)}))</td>
<td>• Silicone-based pressure sensitive adhesives via Dow Packaging &amp; Specialty Plastics</td>
<td>• Broader range of under-the-hood offerings based on polyolefins and silicones</td>
<td>• Leverage Dow Channel for DOT 5.0 silicone brake fluids</td>
</tr>
<tr>
<td><strong>Leverage application, formulation and market know-how and geographic presence to increase adoption of established personal care offerings (&gt;1B(^{(1)}))</strong></td>
<td>• Cross-selling of silicone-based construction additives for dry-mix, concrete, fiber reinforced cement and gypsum board</td>
<td>• Expand participation in film and paper label end-market by cross-selling acrylics and silicones (~$900 MM(^{(1)}))</td>
<td>• Extend Dow Automotive Systems portfolio with hybrid and PU based adhesives with focus on auto lighting</td>
<td></td>
</tr>
<tr>
<td><strong>Cross-Selling</strong></td>
<td><strong>Innovation</strong></td>
<td><strong>Additives technology for high-performance coatings (&gt;700MM(^{(1)}))</strong></td>
<td><strong>Enhanced properties of film packaging offerings with better processability (e.g., lower friction)</strong></td>
<td><strong>Durable adhesives for battery packs in e-vehicles</strong></td>
</tr>
<tr>
<td><strong>Expand participation in film and paper label end-market by cross-selling acrylics and silicones (~$900 MM(^{(1)}))</strong></td>
<td><strong>Fluid-applied barrier offering for building and construction (&gt;120MM(^{(1)}))</strong></td>
<td><strong>Weather-resistant sealing in automotive applications</strong></td>
<td></td>
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</tr>
</tbody>
</table>

\(^{(1)}\) Addressable market of growth synergies
Complementary Value Chain Participation & Technology Platforms Drive Transportation Synergies

- Serve and create push-pull along the full value chain
- Leverage best practices in indirect, e-channel across Dow (accelerated growth, lower cost to serve)
- 7 major platforms with clear growth strategy
- Global centers of excellence
- Large opportunity for portfolio selling, product dev.

<table>
<thead>
<tr>
<th>Heritage Dow</th>
<th>New Dow Technology Platforms</th>
<th>Silicons</th>
</tr>
</thead>
<tbody>
<tr>
<td>PU adhesives</td>
<td>Adhesives &amp; Sealants</td>
<td>Silicone adhesives &amp; sealants, (RTV)</td>
</tr>
<tr>
<td>Epoxy adhesives</td>
<td></td>
<td>(Room Temp Vulcanization silicones)</td>
</tr>
<tr>
<td>PU foams</td>
<td>Foams</td>
<td>Silicone surfactants for PU foams</td>
</tr>
<tr>
<td>Polyolefin elastomers (POE)</td>
<td></td>
<td>Silicone foams</td>
</tr>
<tr>
<td>Ethylene propylene diene rubber (EPDM) specialty adhesives</td>
<td>Thermoplastics &amp; Elastomers</td>
<td>Thermoplastic compounds</td>
</tr>
<tr>
<td>Thermoset composites</td>
<td></td>
<td>Silicone elastomers, HTV</td>
</tr>
<tr>
<td>Carbon fiber &amp; derivs. (Dow AKSA JV)</td>
<td></td>
<td>(High Temp Vulcanization silicones)</td>
</tr>
<tr>
<td>Brake fluids</td>
<td>Thermosets &amp; Rubber</td>
<td></td>
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<tr>
<td>Lubricants</td>
<td>Composites</td>
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<tr>
<td>Thermally conductive adhesives</td>
<td>Lubes and Fluids</td>
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<tr>
<td></td>
<td>Transportation Components</td>
<td></td>
</tr>
<tr>
<td>Assembly</td>
<td></td>
<td>Transportation comp. assembly (gels, encapsulants)</td>
</tr>
</tbody>
</table>
Transportation Growth Synergies

Innovate battery pack assembly (longer life, higher range, lower weight) with BETASEAL™ thermally conductive adhesive and silicone gap fillers. Direct design and specification at OEM, approval and launch at key global battery makers.

First cross selling opportunity delivered for MOLYKOTE™ silicone brake fluid at a North American Dow Automotive customer in Aug. 2016 (full DOT3-DOT4-DOT5 portfolio; access to OEM, OES, aftermarket).

Leverage Silicons position at lighting Tiers to penetrate headlamp assembly with BETASEAL™ headlamp, anti-haze coating compatible, while continuing to grow silicone content with innovative secondary optic technology for LED.

Additives at Dow customers in all regions – differentiated low emission silicone surfactants under validation (only PU comp. and system supplier with in house surfactant capabilities and access to leading foam molder, system suppliers, OEMs).

Accelerate penetration in fast growing transportation electrical/electronic applications (ECU, sensors, cameras, displays, connectors, mechatronics…) with whole organic and silicone portfolio, at Tiers and OEMs.

Leverage leading silicones position at global safety system suppliers offering a full portfolio of silicone and novel organic coating for durable airbags with lower total cost of ownership.

Offer a complete range of elastomers (ENGAGE™, NORDEL™, silicones) for growing turbo charger hoses and other air-fuel delivery systems covering the whole temperature/chemical resistance range; leverage full value chain from compounders to OEMs.

Leverage elastomer integration, in-house compounding, formulation capabilities to offer differentiated solutions (increased scratch/mar, durability, superior esthetic and low odor/emissions) in growing specialty interior applications.

Accelerate delivery of breakthrough primer-less to glass BETASEAL™ adhesive for OEMs glass bonding, leveraging silicone innovation.
Broader & Deeper Solutions Portfolio to Fulfill Industry Needs

GREEN: Lightweighting, conventional powertrain efficiency and electrification (EV) driven by global fuel efficiency and emissions mandates

SAFE & CONNECTED: Improved passive and active safety regulation, customer value added infotainment, connectivity, automated driving for convenience and safety

AESTHETICALLY PLEASING: Improved quality and appeal with the durability to win consumer preference with superior customer experience

Increased Relevance: From #74 to Top 30 Supplier; Leading Material Science Supplier
Integration & Innovation to Serve Core Materials Science Markets
Silicones Adds New-to-World Solutions

NEW CHEMISTRY IN THE TOOLKIT
Silicones

Unique properties
- Weather Resistant
- Water Repellant
- Easy to Wet/Spread
- Selectively Adhesive
- Heat Resistance
- UV Stability
- Low Friction
- Flexible / Durable

PROPRIETARY TOOLKIT WITH DEEP CAPABILITIES
Platforms
- Acrylates
- Urethanes
- Polyolefins
- Cellulosics

Capabilities
- High Throughput Research, Formulation & Materials Sci.
- Catalyst Discovery & Ligand synthesis
- Process Engineering, High Perf Computer Modeling
- Application Development
- Customer Intimacy, Seat at Design Table
- Deep channels in key industries

NEW & DIFFERENTIATED SOLUTIONS IN GROWTH INDUSTRIES
- Flexible, crack-resistant coatings
- Weather and flame-resistant barriers
- Personal care products with exceptional skin feel
- Durable foams for appliance insulation
- Heat-resistant under-the-hood materials
- High performance optical materials for lighting
- Highly processable and sustainable film packaging
- Easy release pressure sensitive adhesives

FOCUS AREAS FOR GROWTH
- Infrastructure
- Consumer
- Transportation
- Packaging

• New solutions driven by world-class capabilities and customer intimacy in key markets
• Scale of industry-leading innovation engine enables faster commercialization
Highly Customized Materials Enable Wide-Range of End-Market Applications

- Reactive
- Inert
- Fluid
- Elastomeric
- Rigid
- Adhesives
- Release Agents
- Antifoaming Agents
- Profoamers
- Surfactants

Tunable Properties

- Antifoam, Low friction
- Polyether
- Surface Modifications
- Organic Compatibility
- UV Cure, Copolymer Properties
- High Refractive Index, Organic Compatibility
- Softness, Ease of Emulsification

R-Si-O\(_x\)Si-O\(_y\)Si-R

\( R \) = fluoro, polyether, alkyl, acrylate, epoxy
\( R \) = phenyl, amino

R-Dow
Hybrid Offerings Based on Dow Organics and Silicones

NEW & DIFFERENTIATED SOLUTIONS IN GROWTH BUSINESSES

- Durability and Aesthetics for Personal Care
- High Temperature, UV Resistant, Sustainable Coatings
- Thermally Stable Adhesives

- Durable, Paintable Sealants
- Adhesion to Multiple Surfaces
- Integrating Raw Materials for Foam Products

- Adhesion to Multiple Surfaces
- Slip Additives for Food Packaging

- Improving Properties and Processing Capabilities
Dow Enables Faster-than-Market Expansion, Profitable Growth

New Solutions, Larger Scale, Enhanced Value Chain Participation

Leverage Strengths to Grow >2X GDP

- Deliver new-to-world solutions
  - Value, differentiated, breadth
- Leverage scale
  - Channel, capabilities
- Establish new & expanded applications
- Geographic outreach
- Increase in addressable market
- Seat at customers’ design tables
- Multiple touch points in value chain

Demand growth thru 2020 driven by(1):
  Markets: Transportation, Personal Care, Building & Construction and Packaging
  Trends: Urbanization, Sustainability

Addressable Market, $B

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2020</th>
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<tbody>
<tr>
<td>~15</td>
<td></td>
<td>~22</td>
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</tbody>
</table>

Dow Business Model Unlocks Value, Reinvigorates Earnings and Revenue Growth

(1) IHS Chemical Economic Handbook, Silicones, April 2017; Dow analysis
Decades of History in Home & Personal Care

**Hair**
- Hair color
- Shampoo & conditioner
- Styling aids

**Skin & Sun**
- Antiperspirant
- Bar soap
- Body wash
- Makeup/foundation
- Skin/sun formulations

**Laundry**
- Fragrance boosters
- Hydrophilic softener
- Ironing aid
- Laundry detergents
- Rinse aid

**Cleaning**
- Hard surface cleaners
- Industrial cleaners
- Polish gloss aid

**Dish**
- Automatic dish detergents
- Hand dish detergents

**Floor**
- Floor cleaners
- Floor finishes
Home & Personal Care: Dow Enables Larger Share of Materials at Brand Owners

Leverage global channel, relationships with brand owners and broad materials offering

End-Market Expansion

- Increase & accelerate adoption of offerings
- Leverage skin care expertise and strength in product portfolio for hair care

Home Care

- Dow’s chemistries enable improved delivery of silicones in fabric care
- Dow’s customer intimacy fosters growth of silicone products

Personal Care

- Acrylates, urethane & cellulosics with silicones
- Hybrid formulations & blends to provide multiple benefits

Early Success

Hair care offering
- Dow now has a unique industry breadth of technology, know-how and technical service expertise

Global growth synergies
- Achieved in new hybrid blends for unique performance

Addressable Market in Skin and Hair Care Solutions is >$3B\(^{(1)}\); Early Wins with Hair Care Solutions

(1) Dow estimate
Enhanced Participation in Residential & Commercial Buildings

Complementary Interior and Exterior Technologies

- **Glazing**
  - Insulating glass
  - Structural sealants
  - Window & door assembly

- **Flooring**
  - Adhesives & sealants
  - Flooring materials
  - Self-leveling flooring additives

- **Barrier, insulation, sealing**
  - Adhesives & sealants
  - Air sealing
  - EIFS*
  - Insulation
  - Moisture sealing
  - Nonwovens
  - *Exterior Insulation Finishing System

- **Roofing**
  - Adhesives
  - Roof coatings
  - Roofing sheet & membrane (commercial)

- **Decorative**
  - Architectural coatings
  - Façade/panel bonding

- **Additives for building materials**
  - Adhesive/sealant formulation
  - Cement & concrete sealers
  - Concrete admix
  - Dry mix concrete
  - Fiber reinforced cement
  - Gypsum, cement
  - Tape joint compounds

*Exterior Insulation Finishing System
Infrastructure: Dow Enables Expansion in Building & Coatings Segments
Leverage global channel to push multiple chemistry & performance offerings

Construction Chemicals
- Leverage Dow’s channel and reach to post-treat construction materials for water repellancy
- Silane additives and new functionalities to enhance performance

High Performance Coatings
- Silicone additives used in coatings offer a business growth opportunity
- Leverage Dow’s channel and global reach to specify silicone additives to expand applications

Weatherization
- Deep market & customer access
- Broad application know-how
- Superior products

Early Success
- Known Brand + Silicone Tech
- SILICOMAR™ LT Launch
  - Silicone product for use at temps < -20°F
  - Customers engaged in North America, growth synergies achieved

Addressable Market in Fluid Applied Weather Barriers is $120MM(1);
Early Wins with Weatherization Solutions

(1) Dow estimate
**Transportation: Dow Enables a Seat at the Design Table for Faster Implementation**

*Broader value chain participation with Tiers; offerings for multiple performance segments*

<table>
<thead>
<tr>
<th>Headlamp/Tail lamp Application</th>
<th>Cross-channel Leverage to OEMs &amp; Tiers</th>
<th>Silicone Surfactants for PU Foam Systems</th>
<th>Early Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Opportunities in lensing, adhesives, encapsulants</td>
<td>▪ Significant cross-selling potential across value chain</td>
<td>▪ Leverage Dow relationships to upgrade margin</td>
<td><strong>Polyurethane Foam Systems</strong></td>
</tr>
<tr>
<td>▪ Leverage Dow application expertise with Dow Corning’s product portfolio</td>
<td>▪ Dow strong with OEM, Tiers, Aftermarket</td>
<td>▪ Introducing unique offerings &amp; service</td>
<td>▪ Dow now offers the total solution for PU foams with optimized Silicone based surfactants for controlled properties</td>
</tr>
<tr>
<td>▪ PU, silicone and hybrid adhesive solutions targeted</td>
<td>▪ Dow Corning strong: Complementary Tiers</td>
<td>▪ Growth through global customer engagement</td>
<td></td>
</tr>
</tbody>
</table>

**Cross Functional Focus**

**Transportation Provides Target-Rich Segment for Innovation and Continued Above-Market Growth**

**Early Wins with Total Solutions for PU Foams**
**Air Bag Coatings for Automotive**

*Novel technologies enabled by Dow-Silicones Synergy*

### Product Trends
- More airbags per car (front, side/rollover)
- Reduce total cost of ownership
- Lower coat weight
- Lower stiffness to aid design flexibility
- Lower volatile organic content

### Organic Coatings
- Potential chemistry:
  - BLUEWAVE™ Polyolefin Dispersions
  - Acrylic emulsions
  - Polyurethane dispersions with option for blends or crosslinking
- Can meet air permeability & flammability requirements at lower total cost of ownership
- Challenges remain with processing time and surface properties

### Hybrid Silicone-Organic Coatings
- Mixtures of waterborne organic dispersions & waterborne silicone emulsions
- Self-stratifying coatings – silicone migration to surface creates two layers in one processing step
- Concept for reduction to 1 coat processing achieving all critical quality parameters in a single coating via improved surface properties (friction, abrasion, etc.)
Silicone Adhesives & Thermal Management

Driven by pervasive digital control of automotive functions & features

**Value Proposition**
- Easy processing
- Reliable in all conditions
- Adheres to low cost substrates

**Competitive Advantage**
- Thermal radical cure chemistry: reduced cure temperature and increased speed
- Patented adhesion chemistry, robust & durable
- Enhanced environmental stability
- Superior flow performance

**Engine Control Unit**
- Lid
- Electronic circuit board
- Silicone adhesives
- Heat sink

Control units
Sensors
Actuators
Controllers
Modules
Key Messages

• Silicones is hand-in-glove fit with Dow’s business model of integration and innovation

• Dow’s best practices in manufacturing, EH&S, innovation, supply chain and business operations are expected to double\(^{(1)}\) the silicones operating EBITDA post-integration

• Development of unique solutions by combining silicones platform with olefins, acrylics, urethanes and cellulosics has enhanced end-market participation

• Extremely positive customer feedback; addition of silicones platform has enhanced capabilities to solve customer problems, meet their needs and earn a seat at their design table

• Unparalleled depth and breadth of offerings, combined with scale and geographic reach, positions Dow as the leading materials science player in the industry

\(^{(1)}\) Based on expected 2017 Op. EBITDA when compared to actual 2015 Op. EBITDA