Dow Transformation & Experiences in Open Innovation

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“Innovation is not the product of logical thought, although the result is tied to logical structure.”

- Albert Einstein
Outline

• About Dow
• Company in Transformation
• Learning Experiences in Open Innovation
  • SiLKnet
  • High Throughput Research
  • Dow Automotive
• Summary
About Dow

Annual Sales (2007): $54B
Employees: 46,000 globally
History: Founded in 1897 by Herbert H. Dow
Locations: Headquarters in Midland, MI. with 150 manufacturing sites in 35 countries. Customers in 160 countries
Company in Transformation (Today)

Strategic agenda

- Retain synergies of integration and diversification
- Joint ventures for Feed stocks & Basics
- Strengthen Market-Facing and Performance businesses
- New R&D Centers in China and IMEA
- Drive financial discipline
Culture of Innovation

CEO Commitment to Change/Innovation

- Analysis of mega trends & discontinuities
- Venture Capital
- Private Equity
- Research Alliances & Partnerships
- Licensing (in and out)
- Collaboration Tools & Intermediaries
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• **Background:**
  – Late 1990’s, Dow introduced SiLK™ to Semiconductor Industry. New product – no equipment, no processes developed for integration and limited channel.
  – Competitors were incumbent, had product, equipment, and process know-how.
SiLKnet Alliance℠

**Results:**
- Processes were developed for SiLK™. Member companies demonstrated skills to IC producers. IC producers now had recipes to use.
- In 2001, SiLK™ won *Semiconductor International* “product of the year”
- Alliance helped Dow establish a product, process know-how and a channel.
- SiLK™ not adopted by main IC producer/partner or as broadly as desired. SiLKnet was sunset.

**Learnings:**
- New-new is risky! Having “partnerships” to mitigate risk is key.
- Alliance partners need to have grounded view of risk vs. reward.
- Defining how IP will be handled within an Alliance is critical.
High Throughput Research

• HTR has been used extensively in Ag and Pharma for >15 years.

• In 1999, Dow began to invest in HTR capabilities.
  – Collaborative R&D with Symyx applied to polyolefin catalysis led to rapid identification of new catalysts & breakthrough discoveries (i.e., INFUSE™).

• Desire to expand HTR beyond synthesis and catalysis. Required entirely new tools and workflows.
High Throughput Research

• Results:
  – New tools and software developed & work flows defined.
  – Success in specialty liquids, extended to ETP blending, thermoset reactivity, adhesives, etc.

• Learnings:
  – Joint problem solving is essential to develop capability and manage cost.
  – Having realistic value sharing expectations fosters good cooperation.
  – IP rights and ownership principles must be understood up-front.
Dow Automotive

• Dow is a leading solutions provider to the global Automotive industry.

• Mid-1980’s Dow Automotive was launched as one of Dow’s first market-facing businesses. Started as channel for ABS, PC and ETPs.

• 1990s, channeled all appropriate Dow products to customers, offered design capabilities, and solutions (versus products only).
Dow Automotive

Results:

• Technologies from the outside to meet industry needs:
  – 2007, IMPAXX™ Structural Foam: Base technology from DBS.

Learnings:

• Market-facing provides deeper understanding of trends and needs (validated MFB concept).
• Looking outside the company / business for solutions can accelerate development.
Summary

• Einstein’s statement has shown to be true! Innovation is not the product of logical thought, although the result is tied to logical structure:
  – Business model
  – Alliances
  – Agreements

• We continue to learn from our successes and failures, and apply the learnings.

• As we become more market focused, our approach to innovation is opening more too.
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