

It's all about solutions

When you talk about traditional perceptions of materials in the automotive industry, you talk pounds, pellets, and pails. You think about shipping, delivery, and volume. But you don't necessarily make advancements in vehicle design or safety when you are focused only on bulk materials and price comparisons.

OEMs are hustling to implement unique ideas that deliver measurable results, such as improved vehicle safety, structural and handling stability, weight and cost savings, streamlining of processes, and parts consolidation.

Achieving these important goals requires a team of specialists in materials engineering, design, and application technologies. This is a new approach for traditional materials suppliers, as it broadens opportunities and extends the scope of traditional services.

As OEMs lean more heavily on suppliers, it will become even more crucial for those suppliers to offer broad capabilities. Likewise, OEMs must appropriately value those solutions so that we can all enjoy long-term success.

Suppliers and customers will need to talk more openly about value so that the negotiated agreements positively impact the economic health of the entire industry. It will be incumbent on both suppliers and OEMs to replace the commodity mind-set with one that focuses on solutions. This will ensure an ongoing stream of innovation that impacts vehicle design and durability, as well as ultimately lowering total cost per vehicle.

In the plastics industry alone, a remarkable shift is taking place in the competitive landscape. Five years ago, in North America, there were 17 polypropylene producers. Today, that number is 11. Recently, two more have announced their intentions to exit the polypropylene business. Driving the suppliers' pricing strategies are oil and natural gas prices, which have reached unprecedented highs in recent months. Those prices have a direct effect on plastics production worldwide. The increased volatility of the price, combined with the sustained record highs, has diminished the competitive advantage of many suppliers.

Automotive suppliers are being squeezed between the volatile raw-materials market and OEMs' price cuts. And the answer here is not as simple as raising prices or maintaining prices that were set in a different environment. We at **Dow Automotive** believe it is about working more closely with the entire value chain and providing more than just materials.

We predict that groundbreaking solutions will come from materials suppliers who understand how to make their products perform in novel ways. And those with an extensive line of solutions must also provide highly technical consultative services.

For example, Dow Automotive recently pioneered a new technology in response to a customer's request to help improve the structural stability of a new vehicle. As part of the solution, Dow Automotive provided initial FEA performance predictions, design and CAE development, prototype development and hardware testing, product validation, and manufacturing process development and scale-up. The customer gained structural support necessary to meet safety requirements as well as the design flexibility they were seeking.

Similarly, innovative materials solutions are required throughout the entire vehicle and into the manufacturing process. We are currently developing new solutions for front-end carriers and hybrid instrument panels that combine long-glass-filled polypropylene and low-energy substrate adhesives. The results of these advancements enable the bonding of plastic structures, including polypropylene and polyethylene to metal parts, providing more streamlined manufacturing processes, vehicle weight savings, cost savings, improved safety characteristics, and design flexibility.

Whether it means combining existing materials to achieve innovative results, tweaking established materials to deliver specific performance improvements, or engineering new materials to address specific customer needs, the introduction of new solutions will surely energize both the automotive supplier industry and its OEM customers. **aei**



by **George Hamilton**,
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Structural bonding wireframe



Front-end carrier



Structural foam inserts