

RIDING THE WAVE OF CHANGE

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Adhesives Age -

“Business Management and Marketing”

March 2003

Like the venerable 60's muscle cars, the pace of change in the automotive industry never seems to slow down. With the automotive industry well into the 21st Century, the pace of change is as dynamic as ever. There are many technological and design changes on the horizon that will impact our industry and further accelerate the pace of change. Some of the expected technological changes expected to be embraced by the ever more global automotive industry portend a dramatic shift in how adhesives are viewed and used by design and process engineers. Several major areas of dramatic change have far reaching implications on the adhesives and sealants industry. It is beyond the scope of this article, but one can imagine the many potential issues that will confront the industry in the very near future. As in most periods of dramatic change, there will be great challenges and great opportunities for our industry as we successfully navigate the wave of change.

FUEL ECONOMY

Despite the conservative bent of the new Congress and the current administration in Washington, there is little doubt fuel economy standards will face pressure in the future, particularly the CAFÉ (Corporate Average Fuel Economy), particularly as it relates to light and medium duty trucks (read that to mean SUV's). The original law establishing CAFÉ standards was the Energy Policy and Conservation Act of 1975, and light and medium duty trucks have enjoyed a lower requirement than passenger cars since the inception of the original standards. Currently, the CAFÉ standards stand at There is strong evidence Congress wishes to change that. Think about the challenges facing the automotive industry as they address a dramatic increase in fuel economy for this important category of vehicles. Dramatic weight reductions will likely be required to meet revised CAFÉ standards and there is no doubt such design and engineering efforts will impact the use and types of adhesives the industry demands.



TELEMATICS

Most experts predict a continuing merging of information and telecommunications technology into the global automotive industry. Technologies such as GPS and increasing in-vehicle entertainment options will drive dramatic changes in the driving environment. Virtually all vehicle manufacturers are embracing these technologies, but it will be very difficult for any one to establish a truly sustainable competitive advantage in this area. In any event, the increased use of electronics in these devices will have both direct and indirect impact on adhesive and sealant suppliers and technology.

PLASTICS

Plastic components have long been used vehicle design, but trends continue to change. Perhaps most notable is the strong possibility of reduced reliance of SMC components for exterior panel construction in passenger cars and light trucks. Several high SMC use vehicles have recently been discontinued. The introduction of more thermoplastic exterior panels also will impact adhesive and sealant usage, particularly the type of adhesive or sealant selected. Many of the thermoplastics being used are low energy plastics presenting well-documented challenges for adhesive and sealant suppliers. Automotive manufacturers are also placing increasingly higher temperature requirements on many of their adhesively bonded components, creating ever more demanding challenges for suppliers. Another dynamic trend is the increasing importance of interior elements in the design and marketing of vehicles. Everything except home entertainment systems are now commonplace in the cockpits of both cars and trucks and this trend should accelerate as consumer demands increase and manufacturers increasingly depend on these high margins extras.



42 VOLT SYSTEMS

Perhaps the most intriguing development that is well underway will be the coming of the 42-Volt Electrical Systems in passenger cars and trucks. This dramatic change will be required to support not only the increasing appetite for more consumer electronics in vehicles, but also some dramatically different systems than we've ever encountered before. Look for changes to currently mechanically driven systems to become electrical. This includes air conditioning systems, water pumps, and even alternators. There will also be further inroads of electrically controlled components such as steering and suspension systems and further proliferation of conveniences such as heated windshields, seating, zone heating & AC, and the European movement toward "start-stop" engines. There are even projects in place for the implementation of heated catalysts to further reduce vehicle emissions. Conversion of many of these historically mechanical systems will allow for further vehicle weight reduction and increased fuel efficiency as well as provide highly desirable and profitable consumer features. All these developments will force the conversion to 42-Volt electrical systems in the very near future. Most experts agree it's a "done deal".

No one today can accurately predict the total impact of these change agents to our dynamic industry, but there is little doubt change will occur and it will be both rapid and far-reaching. Adhesive and sealant suppliers will be asked to deliver newer technologies faster than ever before. Business will be gained and lost as we all try to be in the right place at the right time with the right technology and be able to deliver it in the fashion the automotive industry will continue to demand.



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Bob joined ChemQuest in 1999 with 27 years experience in the Adhesives, Sealants and Coatings Industry. Prior to joining ChemQuest, he served as Business Manager and New Business Development Manager of Ashland Specialty Chemical Polymers & Adhesives Division. He brings with him extensive knowledge and experience in developing high-productivity sales and marketing teams, developing business processes, market assessment, competitive analysis and business modeling. His primary strategic focus has been in catalyzing growth through internal initiatives as well as business and technology acquisition, licensing and partnerships. He holds a B.S. in Chemical Natural & Synthetic Polymer Chemistry from SUNY College of Environmental Science & Forestry. Call Bob at (614) 792-3673.

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