3M technology powering the future of transportation: A Q&A with 3M Automotive Electrification Vice President Raymond Eby

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Raymond Eby is Vice President of the 3M Automotive Electrification Program. Here, Eby shares his thoughts about how 3M’s technology, diverse industry expertise and collaborative R&D culture are driving growth in this rapidly changing global market.

Most people have heard about electric cars, but what exactly is Automotive Electrification?

Today’s automotive industry is in a period of rapid change—and it’s all because of technology. 3M’s Automotive Electrification program is aimed at enabling the transformation of mobility in the future. Automotive Electrification is a priority growth platform for 3M, focusing on helping our customers accelerate innovation in batteries, displays, automation, smart transportation infrastructure and more. Our multidisciplinary team combines 3M talent from our Corporate Research labs and our Industrial, Electronics & Energy and Safety & Graphics business groups.

Is there a reason why 3M is particularly well positioned to grow in this market space?

3M science has driven innovation in the automotive and transportation safety industries for more than 80 years. We understand those customers and we understand those ecosystems. At the same time, our technologies have enabled the consumer electronics revolution since its inception. As the consumer electronics revolution moves through the future of mobility, we know how to make the electronics materials solutions to enable that change. We understand the market, we have a deep reservoir of technology and we have a fantastic ability to serve our customers’ needs for efficiency, power and most of all, safety.

What are some of the technologies driving 3M’s Automotive Electrification program?

Many of the material science technologies that 3M can provide in Automotive Electrification are relevant across combustion, hybrid and electric vehicles. Our solutions are already helping advance Automotive Electrification for our customers and we’ve made strategic investments for the future. 3M technology has been making the electronics work in your phone, your computer and your TV for a long time. Now we’re making vehicle displays brighter, more energy-efficient, and more reliable in the challenging environment of everyday travel. We have electric powertrain technologies that keep batteries at the right temperature, enable breakthrough battery design, and enhance safety. In addition, the vehicles inside and out are equipped with more and more sensors. We are working on materials to protect the sensors, and make them more effective and reliable and to allow designers to better integrate them into tomorrow’s vehicles. That’s a tremendously important part of the move to autonomous vehicles. At the same time, our Transportation Safety business has been building solutions to enhance the current infrastructure so that intelligent vehicles can more reliably navigate the roads.

What kind of growth is 3M projecting for this sector?

This is an industry and a market where the amount of change that is taking place is dramatic. Automotive Electrification is a big opportunity for 3M as our CEO Inge Thulin has articulated. We currently have sales of $150-200 million within a $6 billion addressable market opportunity, growing 8-10 percent per year.

What sets 3M apart from the many technology companies that are looking to innovate in the automotive industry?

The scope of our technologies and our investments in the future give us a unique advantage. At 3M, innovation is about uncommon connections. We have
developed so many technologies that our thousands of scientists are able to solve problems by making interesting connections between those technologies. We support that culture of collaboration through short and long-term investment. We have great products built from the long-term investments we’ve already made, and we’re making investments in the technologies of the future.

What else differentiates 3M in helping solve challenges for automakers and consumers? Another strength that differentiates us is the speed at which we’re used to operating, especially in our electronics businesses. The relative pace of change in automotive is accelerating and presenting new challenges to the automotive industry—-but we’re used to that pace here at 3M. We supply products to cell phone makers and other electronics players that produce a new phone every year. As automotive industry’s design cycle shortens and accelerates, we can respond quickly because at 3M we are accustomed to moving at a fast pace.

How does 3M work with customers on Automotive Electrification solutions? We have close relationships with our customers and look to use 3M Science to enable their strategies. Our customers know us and expect the best quality and the ability to efficiently provide solutions everyday—-and to be always ready for the toughest challenges. Our local and global teams collaborate closely with OEMs, tiers and new entrants to innovate on behalf of our customers. At the same time, our transportation safety team partners with public and private stakeholders to deploy the latest and greatest technologies to support today’s increasingly more autonomous vehicles.

There are so many stories each day in the press about electric vehicles or visions for the future of transportation. What do you think those types of stories miss? There are a lot of stories that are software oriented, but at the end of the day a car is a very large object that is moving people down roads at high speeds. 3M has the trusted material technology solutions that will stand up to challenging year-round weather and road conditions, and last over the lifetime of the vehicle.

Many stories talk about vehicles the same way they talk about the latest gadget, but in transportation, safety is obviously a huge issue. Absolutely. There’s no question that 3M’s work both on and off the car is making a difference in helping save lives. Our science and technology is focused on improving the safety of transportation, now and in the future. We also believe there’s work to be done to create industry standards that achieve the ambitious safety goals automated driving is striving to achieve.

How big of a deal is 3M’s push for Automotive Electrification inside 3M? 3Mers are really excited about this opportunity. 3Mers tend to get really excited about challenges and technology and science. At 3M, we are passionate about safety and have a long history of being committed to environmental causes and sustainability. 3Mers are energized because they see Automotive Electrification as an innovative space where we can make a big difference in the world. Here are some of the technologies 3M is developing as part of the AE program:

- Automotive Display Solutions
- Display Solutions
- Automotive Sensors
- Thermal management for power electronics
- Thermal management (comprehensive)
- Transportation
- Connected Roads

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