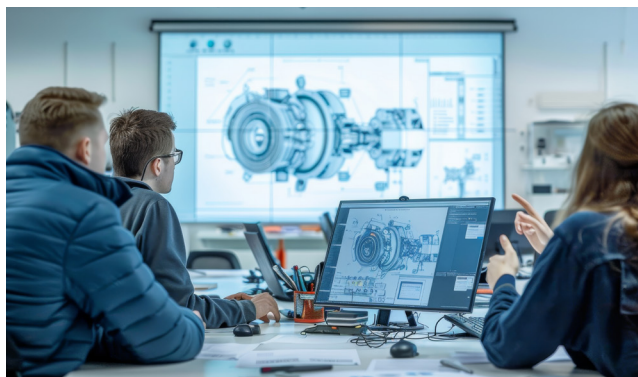


#TAKECHARGE OF ELECTRIC VEHICLES' INNOVATION: THE HUMAN ELEMENT IN VENTING SOLUTIONS

In the fast-paced world of electric vehicle (EV) development, where cutting-edge technology meets ambitious timelines, it is easy to get lost in the specs and schematics. But as an application engineer with years of experience in both the automotive and pharmaceutical industries, I have learned that engineering knowledge, simulation software, and testing practices are powerful tools when coupled with human connection. This synergy of technical expertise and interpersonal relationships truly drives innovation forward.



The Power of Collaboration in EV Development

At Gore, we have discovered that success stems from a combination of our technical knowledge and effective collaboration. As we navigate the complex landscape of performance optimization, cost management, and

time-to-market pressures, these human connections become one of our most valuable assets.

Consider the challenge of thermal management in EV power inverters. During a recent collaboration with a leading Tier-1 supplier, we discovered that their initial inverter design, while theoretically sound, was not applicable for real-world driving conditions. Through open discussions with their test engineers, we uncovered that the thermal profile of the inverter varied significantly based on driving patterns, something that was not fully captured in lab simulations. This revelation led to valuable insights that the supplier could apply to future designs, enhancing their approach to thermal management in upcoming projects.

Balancing Performance, Cost, and Time

This collaborative approach does not just lead to better technical solutions; it also helps navigate the ever-present challenges of cost and time management. In the EV industry, where every gram of weight and every second of production time counts, finding the right balance is critical.

I recall a project where we were working on a new lighting system for an upcoming EV model. The initial design called for a complex venting solution that, while highly effective, would have significantly increased production costs and time. During a conversation with one of the OEM's production engineers, we discovered an unused space in the assembly that

could accommodate a simpler venting design. This collaborative discovery prompted a redesign that not only met all performance requirements but also reduced costs and simplified the production process.



It highlights a crucial point: the best solutions often emerge not from formal meetings or technical reviews but from the informal exchanges that happen when we build strong, trusting relationships with our partners.

Embracing Collaboration for Future Innovations

As we look to the future of EV development, the importance of these human connections will only grow. The challenges we face – from increasing range and performance to enhancing safety and reliability – require a level of collaboration and innovation that goes beyond traditional engineering approaches.

Take, for example, the emerging trend of condensation reduction for high-voltage EV components. This is not just a technical challenge; it is a change in basic assumptions in how we think about protecting critical systems. To tackle this, we need cross-functional teams that can bring together insights from electrical engineering, materials science, and even data analytics to create holistic solutions.

Gore as an organization has always wholeheartedly embraced such a collaborative approach. We are not just developing products; we are fostering partnerships. While we maintain the confidentiality of our research facilities, we actively seek opportunities for close collaboration with OEMs and Tier-1 suppliers at various stages of the development process. Whether it's participating in joint testing sessions or embedding our application engineers at customer sites during critical development phases, we are

breaking down the traditional barriers between supplier and customer.



This approach pays dividends not just in terms of technical outcomes but also in addressing the ever-present challenges of cost and time management. By partnering with Gore in the early development process, OEM and Tier-1 suppliers gain the agility and flexibility to make crucial design decisions before committing to tooling. This early collaboration allows for better venting solutions and can significantly save time and resources. We can identify potential issues before they become costly problems and align our development timelines with their production schedules, ensuring that solutions are ready precisely when needed — not months too late or too early.

As we continue to push the boundaries of what is possible in EV technology, let us not forget the human element that makes it all possible. It is the shared discussions over design reviews, the collaborative problem-solving sessions, and the mutual trust built over years of partnership that truly drives innovation forward.



Take Charge Today

To our fellow engineers, product managers, and innovators in the EV space, we urge you to #TakeCharge not just of your technical work but of your professional relationships. Reach out to your suppliers early in the design process. Engage with their experts beyond the specs and requirements. Foster an environment of open communication and co-creation.

Whether you are exploring new possibilities in automotive design or seeking solutions to elevate your EV performance, GORE® Automotive Vents stands ready to empower your journey.

Visit gore.com/automotive to learn more about how our solutions can enhance your next project or connect with us directly on LinkedIn for further insights and discussions. Together, let's take charge of this exciting future, one connection at a time.

About the author



Ronald Szewczyk

A veteran in the automotive industry, Ron excels as a key figure in automotive venting at Gore. With a rich background spanning over two decades, he navigates the complex terrain of modern vehicle technology, particularly focusing on electric vehicles. From pressure regulation to contamination control, Ron is instrumental in overcoming the unique challenges these vehicles present, contributing to the advancement of automotive innovation.

Gore's Sustainability Commitment

We use our materials science expertise to create products that improve the quality of life and address sustainability challenges for generations to come. We believe that one of the greatest contributions we can make to sustainability is through innovations that have a positive impact on human health as well as the planet.

For more information, please visit gore.com/about/responsible-enterprise

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