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THE RIPPLE EFFECT

Stories of purpose and lasting impact

Accelerating the drive toward a more-sustainable automotive industry

BorgWarner shifts gears to electric vehicle propulsion and a clean, energy-efficient future.

HOW COULD **THE SHIFT FROM ENGINE-BASED PROPULSION BE SUPERCHARGED?**

THE SITUATION

Harry Husted, chief technology officer for BorgWarner, and his Advanced Engineering team spend their days looking at the horizon—a horizon that moves with the evolving automotive industry. In 2021, BorgWarner introduced their accelerated electrification strategy, called Charging Forward. Husted and the company could see where it needed to go. But how would they get there?

“Our vision really centers around mobility and making the automotive industry more sustainable,” says Husted. “And as we’ve looked at what that means to us right now, it means being innovative and leaning into the electrification of the vehicle propulsion in the car.”

Charging Forward was a strategic pivot for BorgWarner that’s intended to expand its portfolio of eProducts while maintaining a combustion portfolio optimized for lower-carbon emissions. The company started making significant investments in electric vehicle (EV) technology. These investments included acquisitions around charging infrastructure, which represented a leap into a new market for BorgWarner.

The 100-year-old company had always been under the hood of vehicles. Charging infrastructure would shift BorgWarner to the cloud. Husted notes, “With cloud-connectedness comes new opportunities,” and the need for stationary DC—essentially fast chargers for EVs—is growing as more EVs hit the market. Currently, there are few players in the automotive industry who can own the end-to-end EV experience, from driver’s seat to charging mechanism. For BorgWarner, this was more than an advancement in technology—it would be an entirely new line of business.



THE SOLVE

BorgWarner's collaboration with Deloitte began with a thoughtful conversation around where the EV charging industry is headed. How might the company differentiate and succeed? Where were potential opportunities? Together, we decided to focus on software-enabled charging products that would help to optimize customer experience.

For most of its 100-year history, BorgWarner supplied automotive parts shipped to automakers for assembly into a vehicle. Moving forward into EV chargers, though, means developing solutions that directly touch end customers, with experiences shaped by software. These interactions could enable BorgWarner to gather and analyze data from charging sessions, resulting in information it could use to mitigate charging challenges that customers may be encountering.

Work began on a proof-of-concept for a cloud-based, connected charger solution. Husted and his team explored what a charging session looks like to validate potential capabilities and identified fault codes for proactive maintenance opportunities. What could be the value potential around managing a software-connected product? The goal was to establish a cloud presence and an optimal approach

to managing the data these connected chargers could unlock. "And so that's what we did," Husted says. "The Deloitte team helped us mobilize quickly and established a software technology stack we could deploy."

Deloitte also helped BorgWarner engineer an infrastructure for this new line of business: building a data model to facilitate consistent storage of data, creating initial dashboards to help visualize that data, and helping company leaders understand the effort required for managing a software shop internally.

The customized tech stack and proof-of-concept were based on [Deloitte's IndustryAdvantage](#), a set of digital assets that help companies across the automotive sector accelerate core business transformation.

Husted believes Deloitte's guidance enabled BorgWarner to act quickly and make good choices confidently. "The work we were doing was new to us, but not new in the industry," he said. "Having an external team that has experience, that is able to come in and not only help us do this but help us think about how we should do it, has been really beneficial."

DRIVING A SHIFT **FROM UNDER THE HOOD TO UP IN THE CLOUD**

THE IMPACT

In just 10 weeks, Husted and his team proved out a cloud-native solution that enabled BorgWarner to collect data from software-enabled chargers that can be used to enhance the customer experience and drive value. Through the creation of a technology stack, data model, and infrastructure framework to support a new software-enabled business stream, the initial hypothesis was made real. Growing enthusiasm could be gauged by the steadily increasing number of BorgWarner stakeholders joining virtual demonstrations as work progressed.

Now, Husted's team has a solid foundation it can build upon alongside BorgWarner's IT function, led by Chief Information Officer Ryan Talbott. Husted shared, "My [Advanced Engineering] team's role was to take a business perspective on the type of application we want to offer to the marketplace, and Ryan's IT team creates the entire world we operate in. Those two things are really the whole."

Beyond speed, Husted underscores the qualitative benefits BorgWarner has realized by collaborating with Deloitte. "Part of going fast is being confident and making good decisions. And then it's having some help alongside you as you do the work to implement and make the change," he says. "In this case, Deloitte did both of those things in the project, which was helpful during a period of transition for us, doing something brand-new to us and creating new capability."



THE ROAD TO ELECTRIFICATION CAN BE FASTER
WITH AN EXPERIENCED COPILOT.

LET'S CONNECT.

Do these challenges sound familiar?



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