



CASE STUDY

Qnovo's AI-Enhanced Battery Safety on Sonatus AI Director

Dramatically Faster Deployment for
Advanced Battery Intelligence

Accelerating Battery Safety Innovation from Months to Days

Traditional electric vehicle integration of advanced battery diagnostics requires extensive custom development, creating months-long deployment cycles. Qnovo has partnered with Sonatus to transform this paradigm,

enabling automotive OEMs to deploy industry-leading battery safety solutions anywhere in the vehicle or cloud with dramatically faster time-to-market for smarter, safer battery management.

The Integration Challenge

The automotive industry faces significant barriers when implementing advanced battery diagnostics. Lengthy custom development processes typically require 6-12 months of integration work for each vehicle platform, involving dedicated engineering teams and extensive testing cycles. Most advanced analytics are constrained to BMS environments, limiting access to AI contextual

data needed for personalization. Each OEM requires unique integration approaches, testing, multiplying team resources and creating time-to-market delays. Additionally, accessing vehicle signals and contextual information demands proprietary interfaces and extensive API development, further complicating deployment.

THE SOLUTION:

Qnovo Rapid Deployment Through Sonatus AI Director

Qnovo's Health & Safety Diagnostics (HSD) software delivers 98.7% accurate battery fault prediction through advanced electrochemical modeling and machine learning. When integrated with Sonatus AI Director, this proven technology gains deployment flexibility for faster time-to-market along with personalized driver adaptations based on driving behavior, terrain, and climate conditions.

The core technology monitors 12 distinct health indicators to detect lithium plating, manufacturing defects, and

thermal risks before traditional systems can identify problems. The system's predictive analytics capabilities identify potential failures weeks in advance, while adaptive intelligence algorithms automatically adjust to specific drivers and environmental conditions. This approach has demonstrated field-proven performance with zero safety incidents across millions of kilometers and over 200 million+ device deployments worldwide.

Transforming Integration Speed and Deployment Flexibility

Benefits to OEMs

Qnovo's Health and Safety Diagnostics (HSD) + Sonatus AI Director transforms the traditional integration challenge by providing:

- **Days-ready deployment** through standardized interfaces
- **Flexible architecture** capable of running anywhere, supporting any vehicle domains or cloud deployment
- **Pre-built APIs** for immediate vehicle signal integration
- **Scalable framework** working across all OEM platforms
- **Immediate accurate battery state access** with streamlined vehicle signal integration

Results and Industry Impact

Qnovo's Health and Safety Diagnostics (HSD) + Sonatus AI Director provides access to rich contextual data including navigation patterns, environmental conditions, and operational data that enhance diagnostic accuracy beyond what traditional BMS-constrained systems can achieve. The platform enables over-the-air updates for continuous improvement without additional integration

work, while multi-domain deployment flexibility allows optimization based on compute resources and specific OEM architecture preferences.

The scalable architecture supports diverse OEM requirements and vehicle platforms without requiring custom development for each implementation.

Proven performance metrics include:

- Production-ready deployment starting in 2026
- 98.7% accuracy in battery fault prediction weeks in advance
- Reduces false positives and broader battery-related recalls by pinpointing the exact vehicles with

problems, lowering the total cost of ownership for fleets and consumers

- Compatibility with all major battery manufacturers (CATL, LG Energy Solutions, Samsung SDI, SK On)
- Field-tested across diverse vehicle architectures and operating conditions

Production Readiness and Market Impact

For OEMs, the partnership provides dramatically faster deployment of advanced battery safety technology with flexible architecture supporting diverse vehicle platforms. This software-only approach reduces engineering costs while enhancing competitive positioning through faster innovation cycles.

For the broader industry, this collaboration accelerates

adoption of battery safety solutions through a new approach that reduces development barriers and enhances EV safety overall through broader deployment of proven technology.

Together, Qnovo and Sonatus are transforming how the automotive industry deploys advanced battery intelligence that enables faster innovation and safer electric mobility.

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