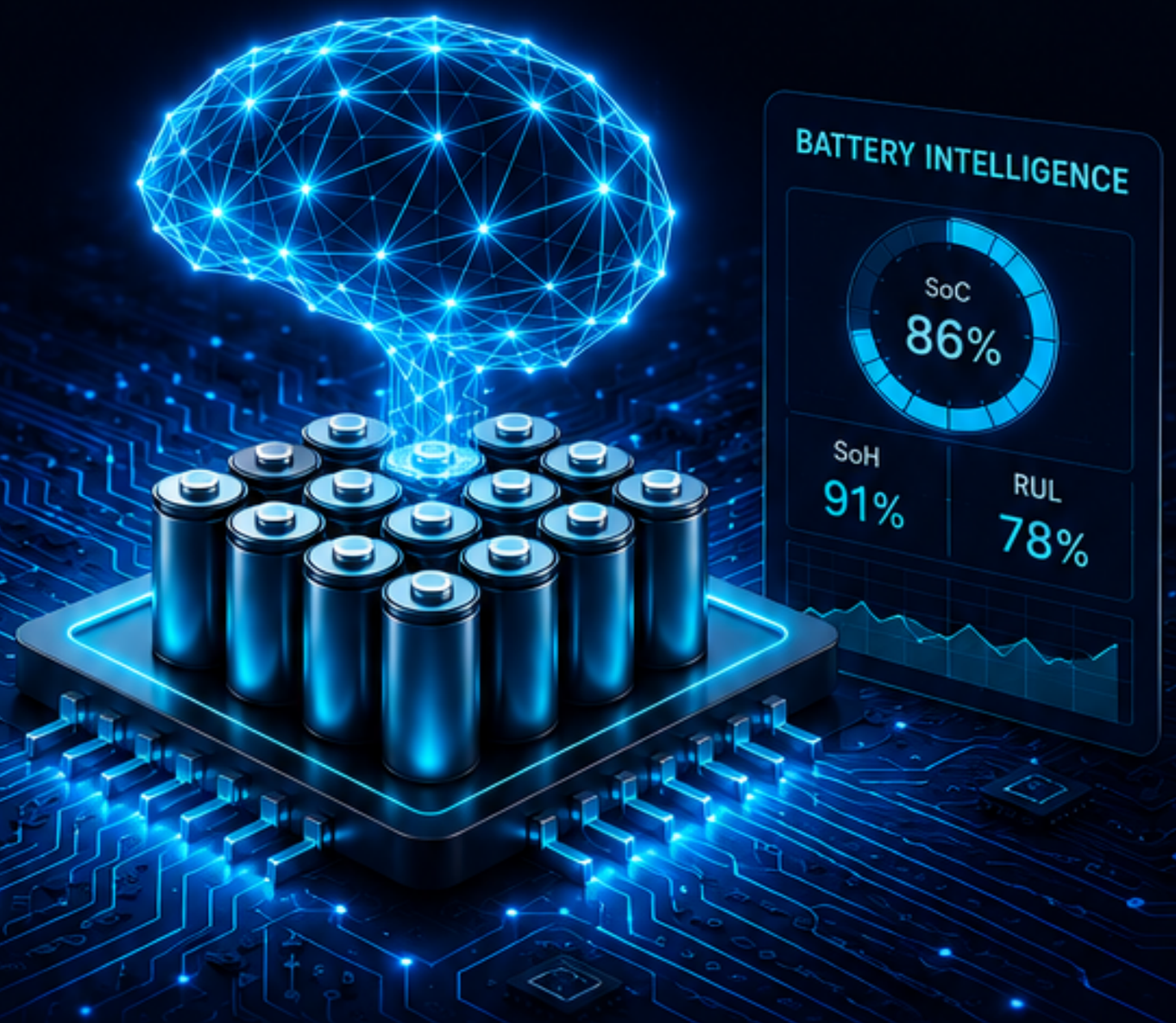
INTERA

SEAMLESS AI

FROM PRECISE MEASUREMENT TO REAL-TIME BATTERY INTELLIGENCE



INTERA AI MODELS FOR BATTERY MANAGEMENT SYSTEMS

Unlock the full potential of your batteries with deployable AI that delivers accurate, predictive, and real-time intelligence optimized for embedded automotive and industrial applications.

THE CHALLENGE

Modern battery systems face increasing uncertainty:

- Low State of Charge (SoC)
- High current transients
- Wide temperature variations
- Aging and degradation effects

Traditional physics-based models are too slow for real-time use, while pure data-driven models often lack robustness and embedded efficiency.

INTERA'S SOLUTION

We bridge the gap with high-performance, deployable AI-based battery models specifically designed for Battery Management Systems (BMS).

INTERA AI Battery Models deliver:

- High-accuracy estimation of SoC, SoH, and Remaining Useful Life (RUL)
- Strong nonlinear behavior capture under real-world dynamic conditions
- Real-time execution on embedded hardware (low latency & memory footprint)
- Continuous adaptation to usage patterns, environment, and aging

KEY CAPABILITIES

Virtual Sensing
Extract internal battery states that cannot be directly measured.

Predictive Intelligence
Forecast future behavior and detect anomalies early moving from reactive to predictive maintenance.

Hardware-Aware Deployment
Optimized for:

- Microcontrollers (AURIX-class)
- FPGA acceleration
- Custom AI accelerators (ASIC & RISC-V)

Full-Stack Expertise
From silicon (ASIC/FPGA/RISC-V) to edge AI, embedded software, and cloud integration.

PROVEN PERFORMANCE

SoC Error
~1–3%

SoH Accuracy
~5%

System Impact

- +5–10% usable battery capacity
- +10–25% battery lifetime extension
- -20–40% reduction in failures
- Lower maintenance and warranty costs

CONTINUOUS IMPROVIEMENT

Closed-loop system:
BMS data → Cloud model refinement → Over-the-air redeployment to edge devices.

OUR VALUE PROPOSITION

INTERA provides a complete AI model layer + hardware-aware optimization + full-stack integration, enabling the transition from accurate measurement to true real-time, predictive battery intelligence.

INTERA GROUP
Pioneering intelligent hardware for the AI-driven future.

PRODUCT / PLATFORM
INTERA BMS AI Platform

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