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BATTERYCHECK

THE PREDICTIVE EDGE
IN MODERN BATTERY
TECHNOLOGY

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CEO





BatteryCheck





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THE PREDICTIVE EDGE IN MODERN BATTERY TECHNOLOGY

Batteries power everything from electric vehicles to critical infrastructure, making their reliability non-negotiable. Yet managing battery systems remains a complex challenge, especially in dynamic or high-demand environments. BatteryCheck is addressing this head-on, transforming battery management from a reactive necessity into a strategic advantage.

The company specialises in predictive battery monitoring and analytics, designed for manufacturers, service providers, and integrators who depend on batteries but may lack the internal expertise to manage them proactively. Offering deep, real-time insights into battery behaviour, BatteryCheck enables organisations to anticipate potential failures before they occur, ensuring consistent performance whether batteries are deployed as primary power sources or critical backups.

Unlike traditional battery management systems, which primarily focus on monitoring charging cycles, cell balancing, safety, and immediate health metrics, BatteryCheck adopts a forward-looking approach. The platform aggregates telemetry data—such as voltage, current, temperature, and calculated performance metrics—through an API into its sophisticated analytics engine. After processing, it generates predictive alerts, actionable recommendations, and health forecasts, delivered seamlessly via API integration.

Clients can access this intelligence through BatteryCheck's intuitive dashboard, visualising individual battery analytics or integrating the data directly into their existing systems. In doing so, BatteryCheck empowers stakeholders to shift from reactive maintenance to proactive optimisation, ensuring batteries perform reliably and extending their operational life.

Flexibility at the Core

Building a truly versatile battery analytics platform required flexibility from the start. BatteryCheck's solution is engineered to adapt across a broad spectrum of chemistries

and applications, operating seamlessly whether a company relies on lithium-ion, lead-acid, or emerging battery technologies. Supporting both first-life applications, such as electric vehicles, and second-life use cases where repurposed batteries are used for energy storage, BatteryCheck delivers powerful insights through a single, intuitive interface.

This flexibility extends beyond software. Recognising that not all batteries are equipped with sophisticated management systems, BatteryCheck offers a suite of third-party sensors capable of measuring current, voltage, temperature, and other key parameters. These sensors can be retrofitted onto legacy batteries and transmit real-time data via machine-to-machine (M2M) SIM cards directly to BatteryCheck's backend, bridging critical gaps in battery fleets without costly infrastructure overhauls.

True to its mission of making complex data accessible, BatteryCheck emphasises simplifying analytics for engineers and business leaders. A standout feature is the reverse traffic light tool—a visual system that strips away technical jargon to deliver clear operational insights at a glance. Green signals normal performance, amber suggests the need for predictive maintenance triggered by early signs such as swelling or micro-cracks, and red warns of imminent failure, including high-risk scenarios like thermal runaway events.

"We visualise all the analytics for each battery, but what we are doing differently is simplifying it all so anyone can understand and use it," says Michal Sastinsky, CEO.

Customer feedback was pivotal in shaping the platform's clear, user-friendly design. Clients wanted actionable insights without the burden of deciphering complex data. BatteryCheck responded by layering sophisticated technologies—artificial intelligence, machine learning, and advanced modelling—beneath a streamlined interface that prioritises clarity without sacrificing depth.

Importantly, BatteryCheck's value lies not only in the insights it provides but also in its seamless integration into existing enterprise systems. Whether clients operate SCADA platforms, IoT dashboards, or CRM tools, BatteryCheck's predictions and alerts can be delivered directly into familiar workflows. A custom dashboard is available for those seeking a standalone view, ensuring flexibility without disruption.

The Rising Demands of Battery Management—and How BatteryCheck Answers the Call

BatteryCheck's growing significance is rooted in a reality few industries can ignore: the battery ecosystem is becoming

increasingly demanding. Across sectors, companies face four critical challenges that are reshaping how batteries must be managed.

At the forefront is complexity. Batteries often function as opaque, sealed systems—expensive, hazardous, and inherently unpredictable. Most users have limited visibility into their internal health, making detecting early signs of degradation difficult. Failures frequently occur without warning, turning what appears to be a stable asset into an operational liability.

Cost presents another formidable challenge. Batteries are significant investments, and managing them efficiently requires careful balance. Overstocking drives up overhead while underestimating inventory can compromise uptime and performance. Without real-time insight into battery health and lifecycle, companies are often left to make critical decisions based on incomplete information.

Risk looms large as well. Battery failures are disruptive and can lead to catastrophic incidents, including fires, equipment loss, and serious safety hazards. As public and regulatory scrutiny around battery safety intensifies, the financial and legal consequences of mishandling battery assets are escalating.

Adding to the pressure is an evolving regulatory landscape. New standards around battery usage, storage, and disposal are emerging rapidly, influenced by stricter environmental policies and rising ESG expectations. Companies must stay compliant and demonstrate proactive battery stewardship to stakeholders and regulators alike.

Addressing these layered challenges requires more than traditional monitoring—it demands foresight, actionable intelligence, and complete operational control. BatteryCheck delivers on all fronts, transforming battery management from a reactive burden into a strategic, data-driven process that empowers companies to make informed, confident decisions.

Battery Intelligence in Motion

BatteryCheck supports the entire battery value chain, helping manufacturers manage warranty risks and compliance and assisting operators and service providers with uptime and safety. It's especially valuable in sectors with long-term commitments, such as e-mobility.

While many associate e-mobility with passenger electric vehicles, it extends far beyond that—encompassing underwater vehicles, marine vessels, industrial robots, forklifts, and drones. With battery warranties often stretching up to eight years, such long-term commitments create significant pressure to stay on top of battery health, not just in the short term but throughout the entire lifecycle. Predictive insights from BatteryCheck help manufacturers confidently support their products, manage replacements proactively, and stay aligned with evolving regulations.

Batteries do not stop being useful once they dip to around 80 per cent of their original capacity. Many can transition into second-life roles, supporting everything from home solar setups to larger renewable grids. BatteryCheck's solution supports batteries in their first life, such as powering electric vehicles or machinery, and their second life when repurposed for energy storage systems. It analyses real metrics like internal impedance and degradation patterns to determine whether a battery is still fit for another round of use, ensuring it continues to provide value long after its initial purpose.

One impactful application involves pairing second-life batteries with stationary storage systems. These setups sit next to solar panels or wind turbines and help even out energy delivery while making the grid more resilient. Manufacturers, system assemblers, and service providers rely on BatteryCheck to keep these systems running safely and efficiently.

Technology That Moves with the Industry

The magic behind BatteryCheck is in how it processes the data. A powerful AI engine tracks battery performance over time, applying mathematics, statistics, ML, and AI to identify anomalies that may lead to failures. It predicts key metrics like remaining useful life and state of health, factoring in battery chemistry, structure (cell, module, string, pack), and operational trends. The engine constantly updates its models as real-world conditions evolve. It takes everything into account, from the battery's chemistry to the health of each cell. These smart models can even run on edge devices, enabling real-time analysis in places with limited connectivity.

Data integrity is non-negotiable. To ensure absolute trust, BatteryCheck secures telemetry data and analytics recommendations with patented Bitcoin blockchain timestamping, offering stakeholders an immutable audit trail.

Recognition has followed. Energy Tech Review named BatteryCheck the Top Energy Storage Solution Provider in Europe for 2024 and Predictive Battery Management System of 2025, underscoring its industry leadership.

Securing the Future of Electrification

With two patents granted, a growing customer base, and strong momentum across multiple sectors, BatteryCheck is not merely a battery analytics platform. It is a strategic asset for companies navigating an electrified world's high-stakes, high-reliability demands.

As electrification accelerates across transportation, industry, and infrastructure, predicting battery behaviour isn't just advantageous—it's essential. The difference between optimal uptime and costly failure, between regulatory compliance and reputational damage, often lies in a few missed signals.

Every battery tells a story. With BatteryCheck, companies can read the ending—before it's too late. **ET**

