



Case Study: TWAICE

Battery analytics with a performance guarantee

The case

With rapidly increasing growth in the electric transportation industry, global demand for intelligent battery analytics solutions is also on the rise. Ensuring and maintaining battery performance is of key importance to OEMs and operators. Since physical check-ups are resource-intensive and costly, there is a need for a more efficient solution. TWAICE uses AI-driven technology to optimise the development and operation of batteries for electric fleets and enables data-driven decisions to be made regarding asset management, operational costs and risks. With TWAICE's technology, fleet operators can increase vehicle and storage uptime while reducing total cost of ownership.

The challenge

The battery industry is changing very quickly, which is leading to a number of risks and challenges – from creating accurate battery life simulations to optimising battery operations for high performance and longer service life. Continuous information on the State of Health (SoH) of batteries is crucial for the successful operation of e.g. electric buses. Without monitoring, the risk of battery malfunctions and accelerated ageing increases. Normally, these assessments require costly and resource-intensive physical tests that take up to several days, leading to downtime and therefore financial losses. In addition to costly and complex check-ups, fleet owners are also trying to estimate the optimal time to swap batteries and determine how to increase the residual value of a battery.

The solution

TWAICE offers an AI-based solution that supplies relevant information about the batteries (e.g. SoH) in one place, without the need to run physical tests or coordinate testing between OEMs and the operator. TWAICE's Battery Analytics Platform enables batteries to be effectively developed and operated – simply, and at a low cost with high value. TWAICE's estimation of SoH provides data insights to recommend the best time for a battery swap and avoid wasted resources, inefficiencies and unplanned breakdowns. With the aid of constantly-updated data, fleet operators can extend battery lifetime by up to several

years, and improve battery performance by increasing the depth of discharge. This can save operation and maintenance costs, as fleet operators can currently only react when problems occur.

Munich Re Group ran a due diligence on the performance of TWAICE's AI-based platform. The assessment confirmed its high performance and quality. TWAICE will in future guarantee the accuracy of the SoH estimation. If TWAICE's estimation of the SoH is incorrect by more than 2%, its customers will be indemnified with eight times as much they paid TWAICE for the relevant battery. The guarantee is backed by Munich Re.

About Munich Re

Munich Re is one of the world's leading providers of reinsurance, primary insurance and insurance-related risk solutions. Since it was founded in 1880, Munich Re has been known for its unrivalled risk-related expertise and its sound financial position. It offers customers financial protection when faced with exceptional levels of damage. Munich Re possesses outstanding innovative strength. The company is playing a key role in driving forward the digital transformation of the insurance industry, and in doing so has further expanded its ability to assess risks and the range of services that it offers. The insurance for TWAICE is underwritten by a primary insurance carrier of the Munich Re Group that is an S&P AA-rated international insurance company.

About Twaice

TWAICE provides predictive analytics software for companies working with batteries, addressing key concerns throughout the entire lifecycle. Customers using TWAICE limit their battery business risk and are able to better compete with their peers by increasing battery performance and lifetime. Uniquely combining deep battery knowledge and artificial intelligence on a scalable analytics platform, TWAICE generates actionable insights at every step of the battery lifecycle. In addition to enabling TWAICE products, the analytics platform is a launchpad for customer and partner solutions, leveraging an entire ecosystem of market leaders. TWAICE is committed to increasing the lifetime, efficiency, safety, and sustainability of the products that power the economy of tomorrow.

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