Case Study: raicoon

Autonomous Operations Center with a performance guarantee

The case

Accelerating the energy transition requires not only the expansion of green energy capacity but also the transformation of existing systems to run more efficiently. Due to defects that are elusive to human operators, most photovoltaic (PV) plants lose energy efficiency. raicoon is dedicated to restoring this lost efficiency with a first-of-its-kind autonomous operations center (AOC). It offers the first-ever fault detection software that guarantees 100% of measurable performance-relevant faults and creates zero false alarms, thereby enabling reliable and autonomous PV plant operations. raicoon's AI-driven solution enables technology adopters to detect faults, assess inefficiencies and address errors autonomously, hence empowering solar power plants to operate more efficiently and profitably.

The challenge

For decades, PV plants have been harnessing solar energy. However, due to hidden faults, the efficiency of such plants is mostly sub-optimal. Due to the complexity and cost of operating and maintaining a PV plant, many PV plant owners or operators – even with decades of experience and a wealth of data – fail to identify these hidden faults. Consequently, the efficiency of the PV plants evades improvement. In order to revolutionise PV plant operations and thus detect these hidden faults, automation is a must. Such automation not only requires in-depth knowledge and expertise in the field, but also expertise in developing and implementing new technologies such as AI. Despite the advantages that automation could offer, developers of new technologies face a lack of trust from investors and customers, which hinders them from scaling their businesses.

The solution

The raicoon AOC is empowered by autonomous data collection and data analysis. Its years of expertise in the renewable energy sector combined with sound technological expertise in AI, results in an AOC that is guaranteed to detect every performance-relevant fault and generate an alarm only when necessary. This results in an automated fault detection system that increases energy output by ~6% while lowering the operational cost by ~25%.

The performance of raicoon's autonomous operations center (AOC) is guaranteed: Munich Re ran the due diligence process for raicoon's AI-driven solution to ensure its capability to meet high criteria. Thanks to the 100% fault detection and zero false alarms guarantee offered by raicoon and the performance guarantee backed by Munich Re, the customers of raicoon now have the additional security that raicoon AOC runs its PV plants with unprecedented quality and accuracy. Equipped with such a guarantee, worldwide adoption of raicoon's AOC could significantly enhance the profitability of PV plant owners at minimal risk. It would furthermore optimise the use of solar energy for energy generation.

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 raicoon is underwritten by a primary insurance carrier of the Munich Re Group, which is an S&P AA- rated international insurance company.

About raicoon

raicoon is a climate-tech company based in Austria; it is revolutionising solar energy systems with autonomous operations through its cloud-based SaaS platform. The autonomous operations center (AOC) developed by raicoon is an AI-driven software that guarantees 100% of performance-relevant faults, and 0% false alarms. Powered by machine learning expertise, the AOC helps systems to run with incredible efficiency, increase energy yield by ~6%, and improve profitability.

Contact

Neeraj Sarna
Research Scientist
nsarna@munichre.com