

NEW CENTRALIZED CLOUD-BASED MANAGEMENT PUSHES WIND POWER INTO THE FUTURE



About ewz

ewz is the municipal utility of the City of Zurich. They produce renewable energy, which includes operating wind farms. They have turbines across multiple farms throughout Europe. To make their wind farm operations more efficient, they decided to unify all their turbines and farms management onto a centralized cloud-based platform.

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“By using the monitoring platform, we have been able to recognize abnormalities in the operation of our wind farms much faster and address relevant issues more precisely towards our technical managers on-site and the O&M service providers.”

Tiziano Bottinelli, Head Asset Management International, Holdings ewz

WHY CHANGE?

- Restricted visibility made it difficult to achieve maximum operational efficiency.
- Predicting preventative maintenance required more data analytics.
- No centralized data collection and lack of monitoring created unnecessary and costly management complexity and overhead.

THE NEW REALITY

- Open Systems' data science experts created a new cloud-based platform for centrally managing wind farms.
- The data needed to manage multiple turbines at different farms is no longer distributed but all in one place.
- Wind turbine data is more thorough and made available in near real-time.

WHY IT'S BETTER

- Data from turbines across multiple farms is correlated, analyzed, made visible and actionable to streamline efficiency and enable a quicker response to operational issues.
- Management has shifted from maintenance to improving productivity.
- ewz can now focus more on planning for the future, increasing profits, and demonstrating the financial benefits of renewable energy.

NEW ENERGY – OLD INFRASTRUCTURE

A common challenge with legacy wind farm systems is that visibility and management are restricted to individual wind farms. Because nothing is centralized, it's difficult for multi-farm operators like ewz to understand the status of their entire operation. Another issue is that important wind turbine sensor data may be delayed, overlooked, or missing, leading to expensive gearbox or generator failures that impact revenue production for weeks and cost tens of thousands of dollars to repair. Many wind farms rely on manufacturers' recommended schedules to determine when maintenance is required instead of real-world data and analytics. Not including contextual data results in too little maintenance, which leads to costly repairs, or too much maintenance, which is expensive and impacts energy production. Lastly, data from different turbine manufacturers and models doesn't correlate. It's hard to determine what is normal behavior and what is an indicator of a problem.

ewz wanted to remove the limitations and problems associated with its existing legacy systems. They had their eyes on the cloud to centralize all wind farm operations in one place. They planned to combine AI and machine learning with their data to understand how to improve overall efficiency and increase profits.

“With new data intelligence, we have more confidence in making strategic decisions and planning for growth.”

Tiziano Bottinelli, Head Asset Management International, Holdings ewz

CLEAR VISION FOR WIND POWER

ewz contacted Open Systems' – Data Science Professional Services, formerly known as Sqooba.

Beyond our cloud capabilities, AI knowledge, and machine learning expertise – what closed the deal for ewz was our co-creation development process. They not only needed a partner who could help them realize their vision but who was agile and iterative during the creation of the solution.

The first step was to centralize and improve monitoring. We developed a secure cloud-based platform that would centrally collect all sensor data and other information from ewz's turbines and farms in near real-time. We included accessibility and an interface to make the data useable and actionable. We began by connecting a few turbines from various farms to start capturing data while continuing to develop and evolve the platform.

Eventually, nearly all the turbines from the different ewz wind farm locations will be included in the platform. This will allow them to be more efficient in monitoring and maintaining wind farms operations. As new turbines and wind farms are added to their infrastructure, they can be easily monitored and managed centrally. Moreover, the additional data can be used to further enrich ewz's knowledge base.

ENERGY MANAGEMENT RISES INTO THE CLOUD

ewz has a sophisticated central cloud-based platform to manage their wind farms. Thanks to Open Systems, they have insightful and actionable 360° visibility of their entire operation. The platform helps them increase productivity, reduce costs, identify trends, and better demonstrate the economic benefits of renewable wind energy to customers, partners, investors, and governments.