



CONTINUOUS APPLICATION MODERNIZATION

ENECO CASE STUDY





CHALLENGES



- ◇ As more and more energy production needs to become renewable (wind/solar), the overall portfolio position becomes more and more **unpredictable**, as these sources are dependent on weather. This means there is also a **potential risk for losses** in terms of millions of **euros if not properly managed**.
- ◇ To better forecast the production of these renewable sources and gain more insight into the trends in the Energy market the business case was **to build a robust data platform...**
 - ◇ that can handle near **real-time processing of data** from sensors at the production facilities and price information from the market
 - ◇ and that is scalable, fault tolerant, stores and processes volumes of data which makes it available for modelling.

SOLUTIONS FROM DEVON



We built a cloud-based data platform for 'Eneco Energy Trade' that is responsible for getting and maintaining data from different sources. 15 GB/day of data on average.



The data platform is cloud-native and achieves fault tolerance and scalability at the click of a button by using technologies like **AKS, Azure Data Warehouse, Kafka** etc. More than 750 processes running in a Kubernetes cluster.



The data platform is mission-critical at Eneco Energy Trade with many forecast & **prediction models, dashboards**, and critical software (auto traders) running from the data provided by the platform. The team also **provides 24/7 on-call support** for it.



SOLUTIONS FROM DEVON



- **Fault Tolerant:** We have implemented fault tolerant architecture in our data pipeline, in a way that we can ensure high availability is achieved.



- **Alert Mechanism:** We have built our own alerting system to alert us in case of process failures, data quality checks, performance status, workflow status...etc.



- **Dashboard:** All our data processing and analysis results to generation of beautifully visualized reports and dashboards for our client to drive business decisions and strategy.

- **Machine Learning Model:** We have ML models running in our architecture, to provide real-time and time-based prediction to the users for a better strategy and vision.



RESULTS/OUTCOME



Increase in **maintainability and reliability** of the data platform.



Cost reduction in IT infrastructure and server usage due to scalable technologies like **AKS, Azure Data Warehouse, Kafka...etc.**



Data distribution to other vendors via “data as a service” will **increase efficiency** in **data quality** and prediction of energy sales.



TECH STACK

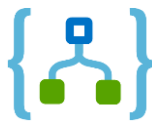
One of the principles we adopted while building the data hub platform was **SaaS > PaaS > IaaS**. As one of the first implementations of various Microsoft services, the platform is also showcased by Microsoft as a case study of how to use its services.



AKS



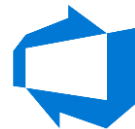
Azure Service Bus



Logic Apps



Kafka



Azure Devops



Data Warehouse



AzureOMS



Azure Data Factory



Azure API management

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