visplore

User Success Story:
How a transmission system operator improved forecasts by fast visual diagnostics.

Problem: Delayed and laborious detection of forecast problems

Reliable forecasts of consumption and generation are critical in the energy sector. A transmission system operator (TSO) faced challenges to keep track of an ever-growing number of forecast models in terms of quality and timeliness.

Their forecasts became outdated quickly due to changes such as the expansion of renewable energy. Consequently, they discovered model drifts and anomalies often too late, which had negative consequences for risk management, among others.

Highlights

Validated hundreds of forecasts at a glance

Detected systematic errors automatically

Unlimitedly applied to any forecast

Need: Scaling comprehensive monitoring for an increasing number of forecasts

The TSO needed to detect forecast problems as soon as possible and with minimal effort for the team. For hundreds and potentially thousands of forecasts, temporary anomalies and slow drifts had to be detected reliably and fast.

Sometimes, the team needed to make profound diagnoses of forecasts to explain problems and discover optimization strategies. Both forecast monitoring and diagnostics became increasingly laborious as the number of forecasts grew fast. The TSO realized that their spreadsheets and BI-dashboards did not scale to cope with these challenges.

Benefits

5 % higher model accuracy on average

30 % earlier detection of anomalies and forecast drifts

Forecast monitoring and diagnostics

Solution: Flexible self-service diagnostics of all forecasts

The TSO decided for Visplore as a ready-to-use solution for monitoring and diagnostics of all energy forecasts – for their own models and models from forecast service providers. Intelligent overviews revealed forecast problems and potential root causes at a glance. With one click, users got access to an up-to-date view of all their forecasts.

Powerful drill-down features on quality measures such as RMSE and MAPE and integrated analytics made it easy to identify conditions of bad forecast performance. The users at the TSO also appreciated the intuitive data selection and cleansing features of Visplore for addressing data problems in no time. Thanks to this, Visplore was soon also used to develop forecast models and select forecast providers.

> "*Visplore is in use as a central strategic software for data analytics. The intuitive diagnostics have allowed us to significantly increase the quality of our forecasts*."
>
> **Renewable Energy Coordinator, Transmission System Operator**

Result: Reliable forecast quality as well as reduced effort

Visplore now offers the employees a much more comprehensive view of the forecast performance without additional effort. The daily overview has shortened the time of anomalies and drifts going unnoticed by 30%.

As a result, the TSO can react to problems significantly faster, and forecasts get updated immediately when necessary. Detailed analyses of forecast performance are carried out much more frequently because they are now possible within a few minutes. Visplore helped achieve a 5% increase in forecast accuracy, which resulted in significant improvements for risk management, the renewables department, and several other divisions that rely on precise forecasts.

visplore – Fast visual analytics for energy experts

- ⊘ **Forecast Monitoring & Diagnostics**
- ⊘ Customer Clustering / Tariff Optimization
- ⊘ Troubleshooting Energy Distribution Assets