CASE STUDY

With Dremio, RWE Supply & Trading has built a modern, future-proof self-service platform in an AWS cloud

At a Glance

The Customer
RWE

Challenge
RWE needed a completely new data environment to meet current and future requirements of an increasingly global business. Further, it required the implementation of a data strategy in alignment with the company's objectives for adding value to the business and capturing the full potential of RWEST's data. To support these initiatives, RWE looked to establish a data culture based on shared information and ongoing knowledge transfer for intensifying/improving collaboration.

Solution
The firm implemented a cloud architecture based on AWS S3 and Snowflake with Dremio as a central, scalable data access platform for analytics. With Dremio, RWE could explore its data directly with just a few clicks and create new data sources quickly, effectively democratizing its data resources across teams with secure, reliable data access.

Results
With Dremio in place, RWE can leverage a single source with the latest data for every use case directly in the platform or analytics tool of choice. Self-sufficient users can utilize the new platform's capabilities to add value to the business, as well as accelerate time to insight. Users are not required to know where their data lives and direct data access helps to boost team efficiency, promote informed decisions, and save time and costs.
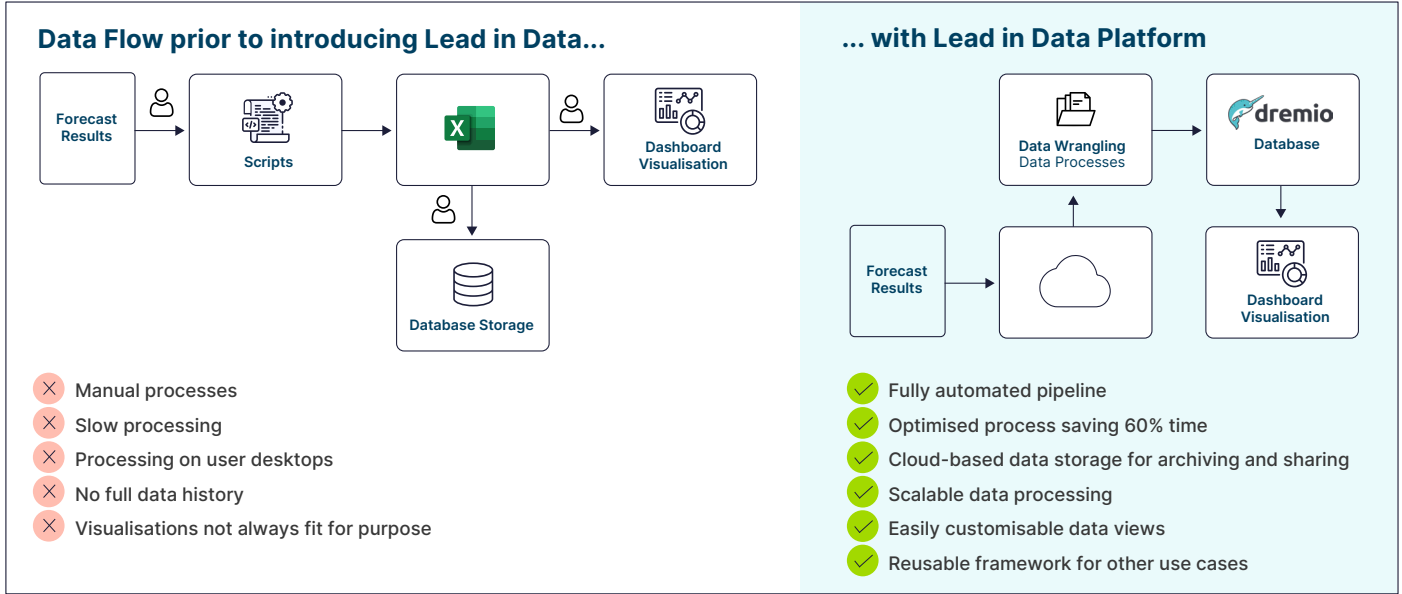
The Business:

Founded in 1898, Rheinisch-Westfälische Elektrizitätswerke (RWE) is one of the world's largest energy producers and a leading provider of renewable energies worldwide. There are two main subsidiaries: RWE Supply & Trading (RWEST) focuses on energy trading while RWE Offshore Wind specializes in offshore wind power-based sustainable electricity generation. The latter is the world's second-largest offshore wind power generation and Europe's third-largest company in renewable energy, with an international footprint in Europe, U.S., and select Asian markets.

RWEST's Essen headquarters support around 2,000 specialists from more than 70 different countries trading 24/7 (renewable) electricity, (green) gas, commodities, and CO_2 emission allowances. RWEST also develops innovative energy supply solutions and risk management concepts for industrial companies, with a portfolio of customized products and services around renewable and conventional electricity, as well as upcoming gas and liquefied natural gas (LNG) markets.

The Challenge:

RWE needed a completely new data environment to meet current and future requirements of an increasingly global business. It required the implementation of a data strategy in alignment with the company's global initiative to enable trader and analysts faster access to trading data. To support these initiatives, RWE looked to establish a data culture based on shared information and ongoing knowledge transfer for intensifying/improving collaboration.

With RWE as a global player in the renewable energy market, RWEST bolstered its expansion efforts to include major cities like London, and New York, as well as key growth markets—particularly in Asia. Crucially, the firm's management looked to innovate its data strategy to handle growing data volumes in the wake of its increasing internationalization and growing data volumes.

Data Flow prior to introducing Lead in Data...

Forecast Results → Scripts → [Excel] → Dashboard Visualisation

[Excel] → Database Storage

- ✕ Manual processes
- ✕ Slow processing
- ✕ Processing on user desktops
- ✕ No full data history
- ✕ Visualisations not always fit for purpose

... with Lead in Data Platform

Data Wrangling Data Processes → dremio Database

Forecast Results → [Cloud] → Data Wrangling

dremio Database → Dashboard Visualisation

- ✓ Fully automated pipeline
- ✓ Optimised process saving 60% time
- ✓ Cloud-based data storage for archiving and sharing
- ✓ Scalable data processing
- ✓ Easily customisable data views
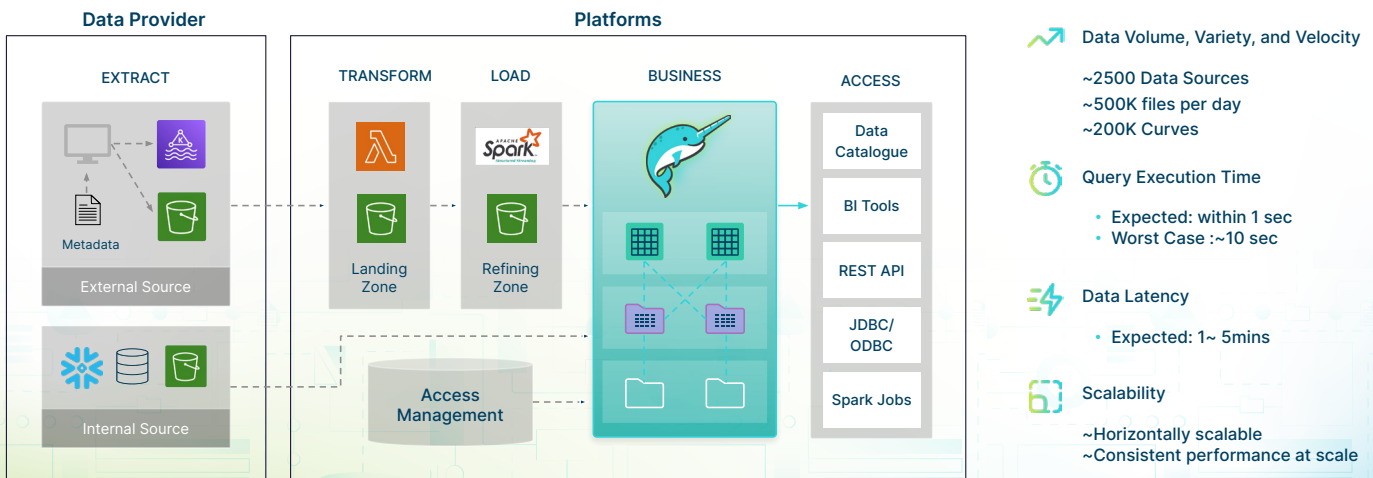- ✓ Reusable framework for other use cases

The Solution:

RWE launched its strategic Lead in Data (LiD) project that involved creating a sustainable platform for Commercial Analysts to find, access, explore, and visualize data more easily and efficiently. Furthermore, LiD would offer allow users to tap into the potential of data across the whole enterprise. Overall, these efforts called for the development of a new environment from scratch, as well as the establishment of a new data culture and collaboration means for promoting the sharing of data and insights.

Out of a shortlist of seven vendors, the LiD team adopted Dremio as its solution of choice for the initial proof of concept (PoC); the platform's Data Lakehouse Engine would serve as the underlying platform for providing powerful, direct access to all RWEST data sources and intuitive, self-service analytics environment.

Data from 4 core databases, including Snowflake, is now available for analysis in the LiD Data Lake in an AWS cloud. Databricks prepares and transforms the data from external sources and processes the analysts' models, which can be huge. Serving as the central access system, Dremio also controls access rights and governance. An Alation data catalog ensures visibility into data lineage and relationships and specifies the data sets' owners and data stewards.

RWE Solution Architecture

Data Volume, Variety, and Velocity
~2500 Data Sources
~500K files per day
~200K Curves

Query Execution Time
- Expected: within 1 sec
- Worst Case :~10 sec

Data Latency
- Expected: 1~ 5mins

Scalability
~Horizontally scalable
~Consistent performance at scale

| **1330** users in **84** teams | **304 TB** on the Data Lake | **109k** views in Dremio | **400k** daily queries | **529** Integrated BI workbooks | **15k** daily scheduled jobs |

> "Data literacy and upskilling are very important aspects of the project. With Dremio, the teams are free to choose and they can create the right use cases for all their analytics needs. We are specifically working on building the necessary technical skills. In addition to training programs, which are available both live and on demand, everyone can determine their own personal learning path and pace. There is a community where users can network with peers and a special support team is ready to help with any problems they may encounter."
>
> **Nick Plaßmann - Manager at RWE**

Results:

The firm implemented a cloud architecture based on AWS and Snowflake with Dremio as a central, scalable data access platform for analytics. With Dremio, RWE could explore its data directly with just a few clicks and create new data sources quickly, effectively democratizing its data resources across teams with secure, reliable data access.

Every day, Dremio runs 75,000 queries – and counting. It has paid off that the project was not run by IT, but by the business functions. As a result, the offerings of the new platform hit the nerve of both analysts and business users. The 73 teams are also extremely satisfied with Dremio itself. The easy-to-use self-service access to all the data offers exactly the functionality they had envisaged.
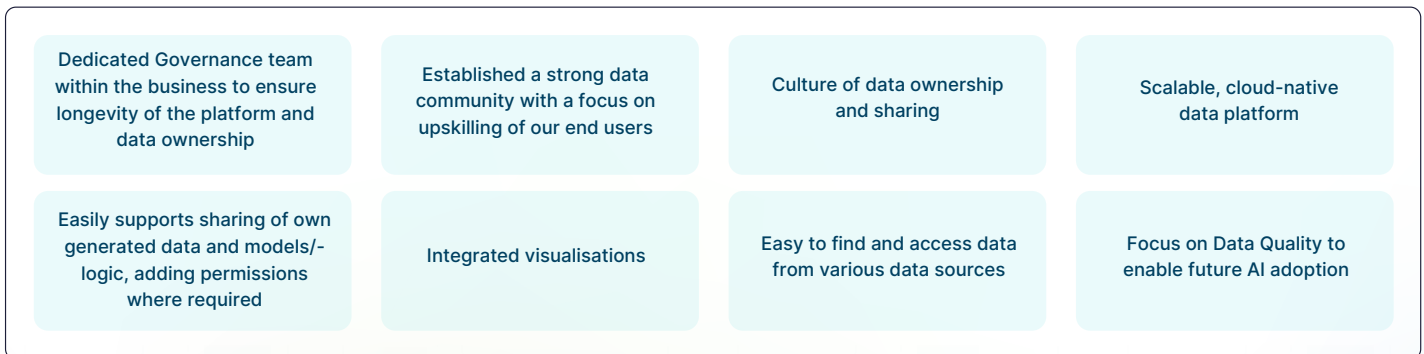
With Dremio, RWE Supply & Trading has built a modern, future-proof self-service platform in an AWS cloud allowing both analysts and business users to easily access all data, monitor markets and prices, evaluate weather data, and make decisions that impact the bottom line. The new environment also enables a data culture that promotes the sharing of insights and the transfer of knowledge.

Conclusion:

With Dremio in place, RWE can now leverage a single source with the latest data for every use case directly in the platform or analytics tool of choice. As data is a key asset for the company, its Dremio implementation ensures that the right tools and processes are in place to achieve maximum value. Further, self-sufficient users can utilize the new platform's capabilities to add value to the business, as well as accelerate time to insight—users are not required to know where their data lives and direct data access helps to boost team efficiency, promote informed decisions, and save time and costs.

Where are we now

Dedicated Governance team within the business to ensure longevity of the platform and data ownership	Established a strong data community with a focus on upskilling of our end users	Culture of data ownership and sharing	Scalable, cloud-native data platform
Easily supports sharing of own generated data and models/-logic, adding permissions where required	Integrated visualisations	Easy to find and access data from various data sources	Focus on Data Quality to enable future AI adoption