nagarro

Gaining data experience
Identifying new business opportunities early for a global competitive edge

CLIENT PROFILE

SECTOR	COMPANY	EMPLOYEES
Industrial processing	Andritz	30,000

Hybrid
delivery model

Cloud
architecture,
Data analytics,
Data Visualization services

ABOUT ANDRITZ

ANDRITZ is an international technology group providing plants, systems, equipment, and services for various industries. The company is one of the leading technology-driven disruptors in the hydropower business, the pulp and paper industry, the metal working and steel industries, and in solid/liquid separation for the municipal and industrial segments.

Other important fields of businesses are animal feed and biomass pelleting, as well as automation, where ANDRITZ offers a wide range of innovative products and services in the IIoT (Industrial Internet of Things) sector under the brand name of Metris.

The company is also active in power generation (steam boiler plants, biomass power plants, recovery boilers, and gasification plants) and environmental technology (flue gas and exhaust gas cleaning plants) and offers equipment for the production of nonwovens, dissolving pulp, and panelboard, as well as recycling plants.

The listed group is headquartered in Graz, Austria. With almost 170 years of experience, approximately 29,700 employees, and more than 280 locations in over 40 countries worldwide, ANDRITZ is a reliable and competent partner and helps its customers to achieve their corporate and sustainability goals.

THE CHALLENGE

Data Lake Proof-of-Concept project to build data experience in an early stage

ANDRITZ AG consists of several companies that produce, store, and exchange large amounts of data every day. The data warehouse solutions that have been in place for years only cover a part of ANDRITZ's current and, above all, future data analytics needs, especially as ANDRITZ continues to grow significantly and large amounts of structured and unstructured data are accumulated each year. With the Data Lake PoC project, ANDRITZ wanted to gain experience at an early stage with regards to the necessary technical, organizational, and structural requirements and identify the optimal areas of utilization for Data Lakes.

5 Month
Project duration

THE PROCESS

Nagarro „Datathon"

Nagarro organized a global data hackathon (a.k.a. "Datathon") as a competition with the aim of using Data Lakes to gain insights from a large amount of structured and unstructured data provided by ANDRITZ and presenting them to an ANDRITZ/Nagarro jury.

ANDRITZ provided several gigabytes of raw data from the Global Group IT and Global Procurement departments, as well as a few rather broad guidelines and 5 concrete questions. In the Datathon, 32 teams with a total of 96 Nagarrians worked on the questions in 48 hours. The jury, consisting of representatives from ANDRITZ IT and business areas as well as the Nagarro Data & Analytics Centre of Excellence, evaluated the results and awarded a prize for the most promising solution. This solution was then implemented in a Data Lake project.
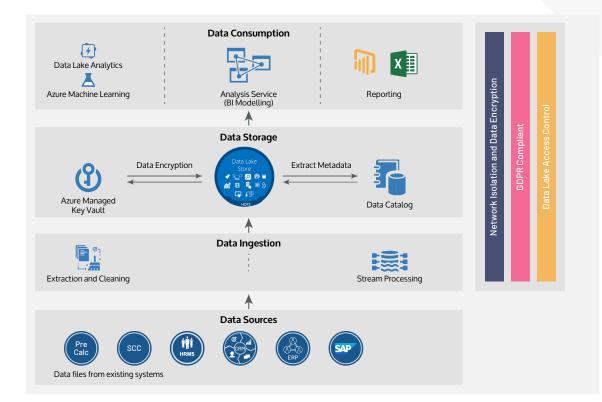
Target group:
Procurement and GIT

Implementing the Data Lake

Nagarro data scientists and cloud experts designed a Data Lake architecture on the Microsoft Azure Cloud platform and developed interfaces for a variety (including SAP) to enable the export of data. During the technical implementation the team focused on:

- Connectivity to the existing ANDRITZ systems such as SAP
- Data cleansing and preparation
- Data security and compliance with the existing ANDRITZ access and security guidelines
- High throughput when loading large amounts of data as well as general performance of the system for queries and analysis
- Easy learning of query techniques for the users with Microsoft Power BI

Data Consumption

Data Lake Analytics

Azure Machine Learning

Analysis Service (BI Modelling)

Reporting

Data Storage

Data Encryption

Data Lake Store
HDFS

Extract Metadata

Azure Managed Key Vault

Data Catalog

Data Ingestion

Extraction and Cleaning

Stream Processing

Data Sources

Pre Calc

SCC

HRMS

CRM

ERP

SAP

Data files from existing systems

Network Isolation and Data Encryption

GDPR Compliant

Data Lake Access Control

THE SOLUTION

Observations gained during the project

- Any information in the Business Data Universe, even from non-traditional sources, is important because it contributes to the processing of other, further unstructured data. This data has immense potential, but is difficult to interpret, and its processing is painful and time-consuming.

- The sheer volume of unstructured data is overwhelming. If you can use this data for insight, you can gain a substantial competitive and cost advantage.

- With respect to technical insights, loading and processing large amounts of data while adhering to user-based access policies is not a challenge for the platform.

- The proper and comprehensive team and project setup is a prerequisite for project success. The team should include the sponsor, business owner, architect, cloud, and system experts.

- Ensuring data quality and integrity is a prerequisite for a successful project. The majority of the project time is used to clean up and correct the data to be imported either in the source systems or prior to the loading process and to create interfaces.

- The combination of different data sources into one data schema works well; expert knowledge of complex, multidimensional database queries is a requirement.

- The Power BI Dashboards would be immediately applicable and useful for the business departments.

Business benefit

- Identify savings potentials in global sourcing

- Store and process unstructured data from different systems with a new approach

- Analyze and measure the global IT KPI

- Enable data analysis with a proven approach in other areas for ANDRITZ

CLIENT TESTIMONIAL

> The main reason to choose Nagarro as a partner was location, operating worldwide as we were expanding more and more globally. But also we wanted the relationship to mean something from both sides. The project experience has proved, we made the right choice.

SCOTT WIGGINS

VICE PRESIDENT, GROUP INFORMATION TECHMOLOGY ANDRITZ AG