

# Data Analytics

## A Proof of Concept showed how the XBRL standard can be used to analyse and visualise large financial data sets

### Challenge

Meeting an urgent need to evolve from basic capabilities to advanced data analysis and visualisation

The central bank of a European country uses Microsoft Excel as its primary analytics tool. But the software's inability to handle large data sets, limited visualisation capabilities and lack of automation all mean it no longer meets the bank's needs. As the quantity of data and its value continues to grow, a more capable tool is required to achieve more effective data analytics.

The bank wants new ways to store, organise and combine its regulatory and analytical data in a more flexible way and at high speed, based on the extensible business reporting language (XBRL) standard. Such capabilities are critical to supporting the bank's regulatory work as the nation's frontline financial supervisor.

#### About the client

The central bank's mission is to regulate commercial banks, issue currency and set monetary policy to maintain monetary and financial stability. It also provides wholesale banking services for its national government and many overseas central banks and is responsible for regulating and supervising financial services firms.

#### About NTT DATA

NTT DATA (Tokyo: 9613) is your Innovation Partner anywhere around the world. Headquartered in Tokyo, with business operations in 42 countries, we put emphasis on long-term commitment and combine global reach and local intimacy to provide premier professional services from consulting and system development to business IT outsourcing.

### Solution

A cost-effective tool that's ready to handle complex data efficiently and cost effectively, without a huge database management workload

The search for new data analysis capabilities falls under one of the bank's innovation programmes. The bank engaged NTT DATA and data management specialist Reportix to deploy a Proof of Concept (PoC) for advanced analysis, with low cost and efficient handling of the XBRL business reporting language that accounts for up to 80% of its regulatory data.

NTT DATA was selected against four other companies because its 'out-the-box' NEXTERA XBRL solution can rapidly solve two main problems:

- XBRL taxonomy changes and their effect on a relational database
- Using web-based tools to visualise data without needing to understand the underlying XBRL technology.

NTT DATA developed a user-friendly web application, capable of sophisticated data analysis, whatever the scale or complexity of the data.

#### NEXTERA XBRL: a powerful solution

NEXTERA XBRL provides flexibility and searchability, ingesting, storing and analysing structured financial data sets at speed.

XBRL comprises a report format definition, called Taxonomy, and the report data, called Instance. XBRL data has different reporting formats, and changes in Taxonomies mean the data is treated as unstructured. A large database maintenance effort is needed and makes high-performance data searches difficult to achieve.

NEXTERA XBRL addresses these issues by using a NoSQL database for storing the Instance XBRL data and the taxonomies. It handles other data formats and offers browser-based data for use with existing analytical platforms.

## Results

**NTT DATA's XBRL solution can quickly and flexibly store and analyse data to support the bank's wide-ranging regulatory role**

The PoC delivered everything required in less than 20 days and met all the programme's criteria. The PoC has helped the bank to explore how innovations in XBRL processing technology can enable it to significantly reduce the cost of change, improve operational efficiency, and boost the speed and flexibility of handling large sets of regulatory data from financial institutions.

The solution enables bank analysts to see the data at their disposal, analyse it more effectively and make data-driven decisions. It helps the bank to identify links between data sets used for economic and financial stability analysis, visualise trends in new and more easily interpreted ways, and make it much faster to roll out new XBRL-based taxonomies.

NTT DATA was able to show that sample XBRL data based on multiple taxonomies from the bank can be imported without database maintenance. It also demonstrated possible enhancements of the solution to address feedback following the trial.

The success of the PoC led the bank to confirm that NTT DATA will be invited to further contribute to improvements of its business.

