

BUILDING A SMART MOBILE NETWORK WITH ADVANCED DATA MANAGEMENT, DELIVERING KEY INSIGHTS

IMPACT

- Extracting data from 144,000 mobile technology cells
- Obtaining 29 million KPIs every 15 minutes
- Improvement in service costs thanks to the elimination of semi-manual data analysis
- Increased efficiency, quality and anticipation thanks to proactive behavior on networks

Zelena is a technology services management company that designs, installs, maintains and operates the ICT infrastructures of its clients - which includes Telecommunications Operators and Public Administrations.

As a leader in engineering and deployment of mobile network infrastructures, Zelena has a strong foundation in the intelligent use of data and advanced analytics to obtain information on how well a mobile network is working. Based on this analysis, decisions are made and corrective actions are carried out to improve the quality of the network and associated services.

Zelena's commitment to data quality and the monitoring of key performance indicators (KPIs) in order to obtain insights is essential to its business and its customer's needs.

Forecasting an exponential increase in data volume [Challenge]

Telecommunications infrastructure, which represents 70-80% of the company's workload, generates an enormous amount of information. And that information is critical to making network behaviour predictions, performing preventive maintenance, and identifying potential network saturation points. "On a scale of importance from 0 to 10, the data has a value of 10. Without it we could not do anything," says Miguel Ángel Baltar, Zelena's Engineering Area Manager.

Zelena was facing a significant increase in the volume of data and did not have the technology capable of managing, analyzing, and scaling it efficiently for decision making. It decided to launch a project to evaluate different data management solution options. First, the team considered the more traditional option to use relational databases, but were concerned that it could not handle the anticipated data volumes.

Zelena realized it needed the ability to scale their data analytics with cloud-native agility and flexibility, all while keeping the data secured and properly governed, with a technological maturity that they only found in the Cloudera and its Cloudera Data Platform (CDP). Additionally, the platform's open-source nature was a major factor in Zelena's decision to migrate to CDP. Many of the company's applications were already running with standardized protocols and having a data platform compatible with the technologies already in use was key to ensuring a smooth transition and a sustainable ecosystem.

"Cloudera brought us great value with a flexible and open platform that supports many Big Data tools and technologies. In other words, CDP met all of our criteria," says Francisco de Miguelsanz, Director of Telco Operations at Zelena.

Proactive insights for network management [Solution]

The company uses the Cloudera Data Platform (CDP) in Amazon's Public Cloud for an initial use in one of its mobile network engineering contracts for a National Operator, one of the leading Telco's in Spain. Current mobile network infrastructures generate significant amounts of information and this volume has been a historical challenge for operators and their technology partners. Thanks to data engineering and technologies such as CDP, data can be managed intelligently and even in real-time to make behavioral predictions or identify possible saturation points in the network. This represents a momentous change, from acting reactively to offering proactive insights for network management.

29M

KPIs

“Every 15 minutes we extract data from 144,000 mobile network elements. From this data we obtain 29,000,000 KPIs, but even these magnitudes will grow exponentially, expanding our activities for the Operator from commissioning engineering to real-time operation.”

Francisco de Miguelsanz, Operations Director, Zelenza

About Cloudera

At Cloudera, we believe that data can make what is impossible today, possible tomorrow. We empower people to transform complex data into clear and actionable insights. Cloudera delivers an enterprise data cloud for any data, anywhere, from the Edge to AI. Powered by the relentless innovation of the open source community, Cloudera advances digital transformation for the world's largest enterprises. Learn more at cloudera.com

“The initial use case encompassed the extraction, storage, and processing of data from mobile network access for further analysis and troubleshooting. Yet the objective is for it to be applicable and scalable for any other operator or telecommunications network,” assures Baltar.

Zelenza has carried out the deployment of CDP in partnership with PUE, the first Cloudera Gold Partner at a global level and a specialist in big data and cloud technologies. Zelenza identified two valuable aspects in this technology partnership. First, PUE's deep knowledge in the development and customization of Cloudera's platform and, second, its experience in training.

With its modern data platform, Zelenza is laying the foundations to create a business that runs on data. “We are introducing predictive analytics to help us figure out where to act intelligently to avoid network problems. We expect a lot from Cloudera and we want to take advantage of the platform to carry out more use cases in the near future,” points out Francisco de Miguelsanz.

Improving the quality of mobile networks [Result]

Zelenza can now calculate hundreds of thousands of KPIs in real-time to ascertain network conditions and other metrics. Depending on these values, telecom operators decide in which part of the infrastructure to take action - for example changing the location or orientation of antennas, adjusting frequencies, reinforcing base stations, etc. This continuously improves the quality of the network and the customer experience. Without CDP, it would be impossible to perform these calculations and ensure the highest quality mobile network in real time while reducing churn.

Zelenza needs to extract data from 144,000 mobile coverage cells, that translate into 29 million KPIs that must be calculated every 15 minutes. This information is aggregated by hours, days and weeks in order to identify values and trends that enable non-intuitive, data-driven decisions to be made.

More professional services and Artificial Intelligence [Future]

“In the future we will surely use more professional services from Cloudera. We are especially interested in pursuing more machine learning and data science use cases on top of the data platform. The idea is to provide the platform with more power and intelligence in the next use cases using more and more precise and real-time data,” concludes Francisco de Miguelsanz.