beSharp. we make IT run. | BANOR SIM SpA

Getting the best Out of Data

OVERVIEW

BANOR SIM is one of the most important independent companies specialized in capital management and consultancy on large assets. The brokerage firm has launched a project to generate real-time buying and selling signals based on the collection of financial data through Data Ingestion services hosted on internal Data Centres. BANOR SIM has entrusted beSharp with the creation of an Amazon Web Services Cloud infrastructure for **Data Ingestion** and **predictive analysis**. With the new infrastructure BANOR SIM aimed to obtain a Data Lake for analysis purposes based on archiving, historicization and high-performance processing of the huge amount of data coming from the feeder machines.
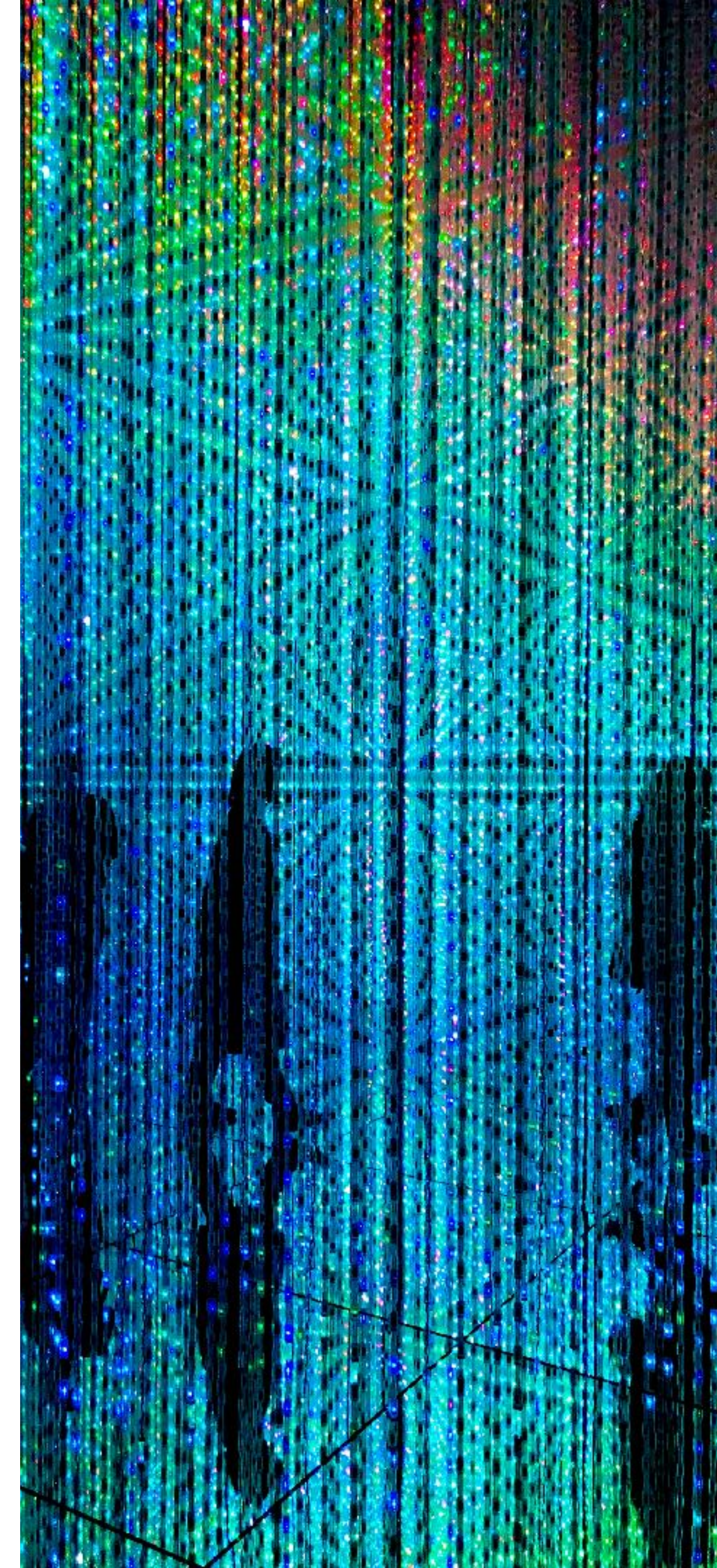
THE CHALLENGE

- Improve the **performance** of Data Ingestion, storage, and analysis by exploiting the potential of the Cloud and process ever-increasing amounts of data thanks to a **scalable infrastructure** capable of handling any workload.

- Store and **historicize** all raw data coming from feeder applications, reducing storage costs at full capacity and **archive** them on databases with high read/write capacity.

- Effectively **process** archived data, internalize **data analysis** operations and master **Machine Learning** tools and notions in order to build efficient systems for predicting the behavior of market players.

THE SOLUTION

- Creation of an infrastructure based on fully-managed services such as **AWS Lambda** to obtain computing power, **Amazon Simple Queue Service (SQS)** for optimal management of message queues and **Amazon Kinesis Data Stream**, together with SQS, allowing data ingestion on Amazon S3.

- Design and implementation of a Data Lake based on different classes of storage **(storage tiering)** using **Amazon S3** and **Amazon Glacie**r services and use of an hot-warm-cold model for data categorization, in relation to the frequency of access required.

- Implementation of services such as **AWS Athena**, **AWS Select** and **AWS Glue** for the rapid development of custom queries on Data Lake and use of **Amazon DynamoDB** as a database for the real-time consultation of the latest data through a dashboard.

THE BENEFITS

- **Performance**

  Thanks to the **event-driven** nature of the infrastructure, based on loosely coupled computing nodes, it was possible to obtain an optimized, **secure, robust and potentially scalable** without any capacity limit event processing solution, capable of adapting to any workload and effectively responding to all SIM business needs.

- **Cost Optimization**

  Through the use of **AWS managed services**, BANOR SIM has obtained data processing and archiving resources in line with real needs, reducing infrastructure and management costs. In addition, the adoption of the Cloud has allowed the company to completely eliminate investments in appropriate physical hardware and data centers.
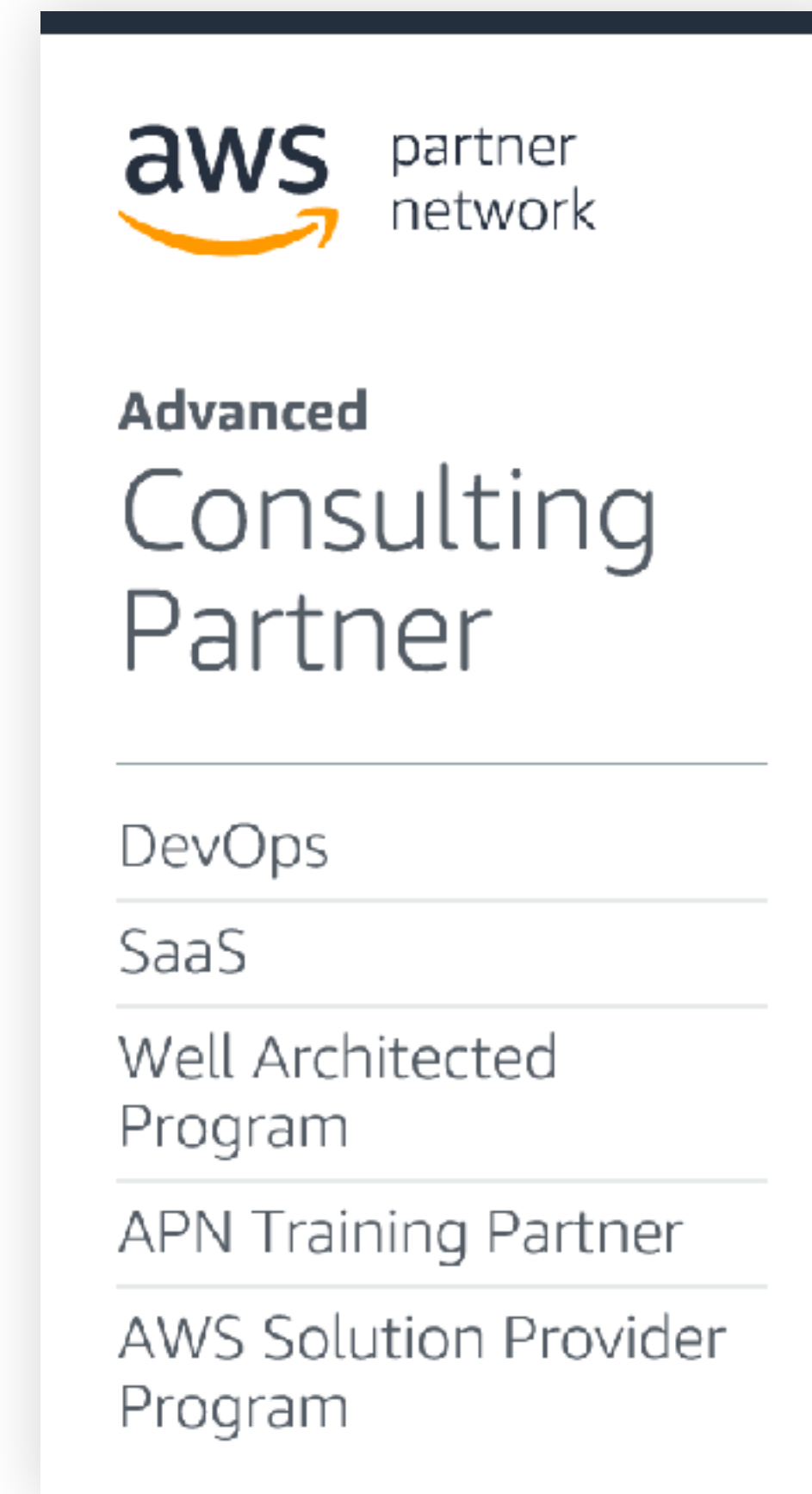
- **Competitiveness**

  With the Data Lake obtained, BANOR SIM has built a data source on which it has been able to carry out increasingly precise **predictive analysis** of market behavior through **Machine Learning** services, gaining a competitive advantage over its competitors.

ABOUT BESHARP and AWS

Management, archiving and processing of large amounts of data require a robust, high-performance and secure system, able to adapt in any situation to any kind of workload, whatever the amount of incoming data.

beSharp has worked with BANOR SIM to develop a custom solution of Data Ingestion, data processing, and data analysis, in line with DevOps best practices and in full compliance with the AWS Well-Architected Framework. beSharp's Cloud Experts supported the BANOR SIM technicians through a training-on-the-job approach to increase awareness within the company and to provide them with all the tools they need to act in total autonomy, taking full advantage of the new solution.

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