

# SUCCESS CASE

## HARNESSING THE POWER OF BIG DATA ANALYTICS TO GAIN FIRST-MOVER ADVANTAGE

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### INTRODUCTION

In a data-driven era, organizations like EDP, willing to combine the power of IT and communication technologies, are the ones leading the way to new innovative business approaches supported by emerging IoT, machine learning, and big data technologies. That's why, in 2015, the former DSI (Direção de Sistemas de Informação) and EDP Innovation acknowledged the opportunities of big data analytics to optimize internal procedures and contribute to better and more informed business decisions. After a proof of concept, the CCBA (Centro de Competências Big Data & Analytics) was created.

### MAIN CHALLENGES

The traditional architecture was outdated and ineffective in providing answers to new business needs – the group had to invest in innovative technologies to surf the waves of digital disruption.

- **The need to replace outdated technology** that was delaying day-to-day processes and increasing operating costs (for instance, an invoicing and dunning system which was taking over 20 hours to run was converted into a one-hour process using big data technology).
- **How to turn a massive data processing system** into a distributed architecture capable of making it about 50x faster than a traditional architecture.

### SOLUTION

The countless possibilities of big data analytics are undeniable. It uses large amounts of data from many sources which are linked and analyzed to find patterns and predict behaviors – at the organizational level it can be translated into insights that lead to better decisions and strategic business moves.

But in 2015, when it all started, a lot about the cloud - where data is stored and can be accessed over the Internet - was still unknown. After a Request for Proposal, CCBA adopted the Oracle Big Data Appliance. Following the installation of EDP's corporate infrastructure and several sessions to ensure the awareness of the organization, in October 2017 the first Big Data & Analytics Forum was held at EDP. It gathered the support of the several Business Units, which saw unprecedented potential for growth and change through massive data processing.

**+15** CURRENT INITIATIVES

Where CCBA is participating

**6** ONGOING PROJECTS

Already in production phase

**12** TEAM MEMBERS

From EDP group and partners

### About Digital Global Unit (DGU)

Digital Global Unit (DGU) was born to help EDP Group drive transformation to digital by developing outstanding ideas that improve and optimize processes, simplifying both clients and employees' journey. Comprised of a multifaceted team of developers, engineers, designers, data scientists, and other experts, DGU works every day to turn impossible ideas into successful business projects at EDP Digital Factory.

EDP - ENERGIAS DE PORTUGAL SA  
 Digital Global Unit (DGU)  
 Av. 24 de Julho, 12 - Lisboa  
 dgu@edp.pt

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## BIG DATA ANALYTICS: HOW IT WORKS

### TEAM

The team is composed of 12 members, two of those from EDP and the others from third-party companies. Despite its diversity, the team works as a living, breathing whole, and has managed to develop a sense of closeness based on a shared-interest: building meaningful solutions. Currently, it has the capacities to develop an end-to-end solution.

### TECHNOLOGY

The technology used is the Big Data Appliance from Oracle, which is an engineered system for acquiring, organizing, and loading unstructured data into an Oracle Database. It includes other technologies such as Cluster Cloudera, Query Impala, Hive, Jupyter, Spark, Scala, among others.

### CLOUD

As part of its overall digital strategy, the group has decided to progressively move all working environments into a Microsoft Azure cloud service platform – a shift that will have an impact on the organization, but also in the CCBA workload and methodology.

### PROJECTS

The projects developed, and under development are always chosen based on business needs – the team is currently working on more than 15 initiatives. A close connection with business units has been determinant for the success of CCBA.

### METHODOLOGY

To speed up the development time and provide a fast response to business needs, the team uses sandboxes – a controlled and more secure environment where teams can work in parallel giving administrators the ability to test all application changes beforehand

### BENEFITS

The CCBA project has been adding value to the business since its inception – crushing big data has unlocked many valuable insights and speed up the performance of the internal procedures. Migrating to the cloud will improve efficiency and reduce administrative burden – which, in the end, will end up diminishing the costs.

## BUMPS IN THE ROAD

Big Data Analytics is a buzzword nowadays and rightly lauded for the many opportunities it offers – but its handling is something very complicated. Uncertainty of data management, big data talent gap, getting data into a large structure, syncing across data sources or obtaining valuable information out of data are just a few of the many hurdles a team can encounter during its endeavors. Besides the technical issues, other challenges have aroused along the way, posing certain limits to the team. Different approaches – as a large group, EDP is used to think big; so, when the CCBA team suggested a more cautious, low-risk path, it encountered some internal resistance. Lack of know-how – there was an acute shortage of professionals in the market with an understanding of big data analysis overloading the team with additional work. Strategic shifts – during the process, new methodologies and technologies were adopted, and the team had to double down efforts to meet the requirements.

## RESULTS

In the end, it is not the amount of data collected that matters, but the ability to do something with it – and the CCBA team is nailing it. Working almost like a cluster inside the group, the team is running several projects and has already managed to fix a few pain points. EDP Comercial needed to convert a 20-hour debt collection process into a faster, more efficient, daily system - with BDA technology, it takes currently one hour to run all data. The same happened to the fraud detection system at EDP Distribuição - a 200-hour long process transformed into a 2-hour daily operation. Moreover, the group greatly benefited from big data and analytics - what used to be an unpredictable one-month energy balance calculation process, is nowadays a successful agile 8-hours action. These are just a few examples amongst myriad possibilities already on the way.