

## General Information

<i>i-Space Name</i>	Big Data Centre of Excellence Barcelona
<i>Label Category</i>	Bronze



The Big Data Centre of Excellence in Barcelona is an initiative led by Eurecat which has been launched in February 2015 with the support of the Government of Catalonia, the Barcelona City Council and Oracle.

The Big Data CoE constructs, evolves, integrates and makes available to companies differential Big Data-related specialised knowledge, tools, data sets and infrastructures that will allow them to define, experiment with and validate Big Data models and their impact on business, as well as define innovative solutions within a collaborative framework with key agents from the sector.

The goal of the Big Data Centre of Excellence in Barcelona is three-fold:

- To create an innovation space capable of making the value of data tangible for Organizations.
- To integrate the key technological offering in Big Data.
- To create links with other European initiatives and to become an international reference point in this sphere.

The centre of excellence bases its value proposition on the following cornerstones:

- **A neutral agent with state of the art Big Data expert knowledge:** The Big Data CoE Barcelona is a neutral agent that combines trends and good practices in Big Data with the aim of implementing innovative Big Data projects at the forefront of available technological solutions.
- **A group of partners who are experts in an extensive range of technological fields and industries:** Incorporate Big Data technological services defined by key players in the Big Data sector that are present in Catalonia. This gives us access to multifunctional experts while implementing projects, who provide us with multi-domain use cases and references.
- **Versatile infrastructure for fast-prototyping:** Big Data infrastructure, the result of Research, Development and Innovation projects that enable fast-prototyping processes in order to effectively extract value from data.
- **Integrator and facilitator of datasets:** The Centre has a collection of datasets, and collaborates with various institutions, facilitating and making it possible to access new datasets depending on the needs of each project.
- **Knowledge transfer involved in every activity:** The Big Data CoE Barcelona implements professional training tasks on Big Data techniques and technology, placing particular emphasis on knowledge transfer during project execution.

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## Platform and Services Information

### Platform(s) & Service(s)

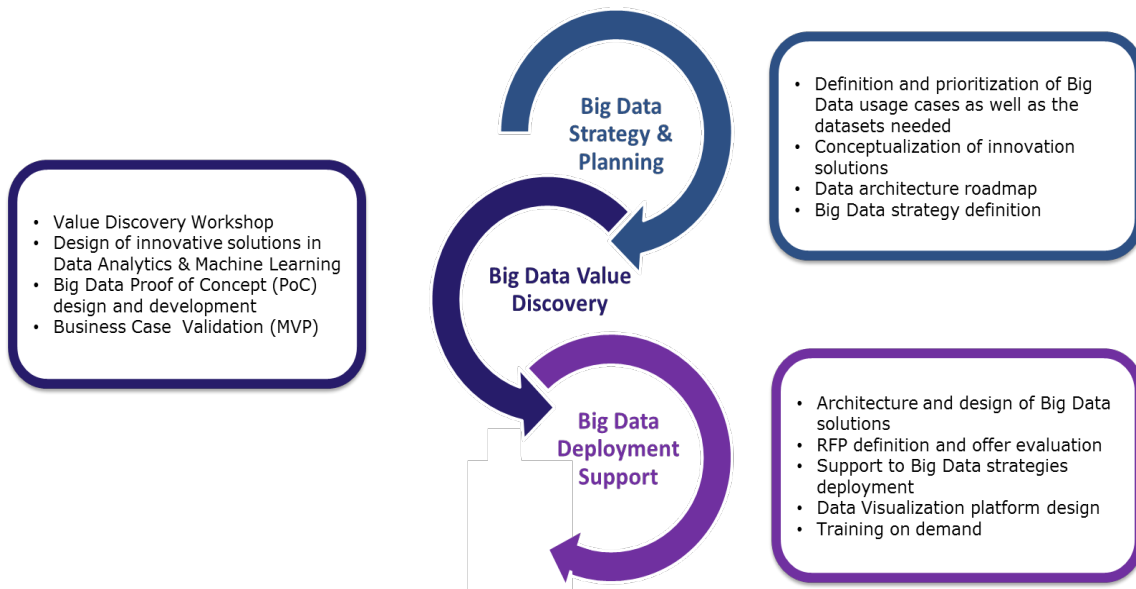
#### DATURA Big Data platform:

DATURA is an OpenStack based platform developed by Eurecat capable to provision, configure and deploy a whole Big Data stack through an UI assistant matching different project requirements. DATURA currently allows to deploy Hadoop environment clusters (including HDFS, YARN, Hive, Pig and Sqoop) as well as Spark, Elasticsearch and Kafka clusters.

#### Hardware

Resource	Value
CPU cores	308 in 11 servers
RAM	4,48 TB
Disk	585,12 TB
Network	20 Gbit/s

### Provided Services



## Selected Projects and/or Success Stories

### Big Data & IoT to improve tourism Management in Barcelona

With the goal of improving real time decision making of tourism management in Barcelona as well as in policies definition, Big Data CoE in Barcelona conceptualized and executed a Big Data & IoT based project partnering with the Barcelona City Council, the GMSA, the Mobile World Capital and Orange.

We studied the macromobility (district level) using Call Data Records from Orange as well as micro mobility (street level) using dedicated infrastructure of 10 WiFi & GSM sensors around the Sagrada Familia streets as well as 3D Cameras at the exits of closest Metro exits.

We made use of the DATURA platform to perform the analysis of more than 50TB of data accounting of more than 20 million of users (aggregating all sources with national and international tourists) during a year.

Main results of the project include seasonal macro and micro mobility patterns as well as visitors profile (segmented in tourists, excursionists and nightlife visitors).



### Leading eCommerce Company

The objective of the project was to design and develop a new data platform as a critical technology component for a large e-commerce organization in order to become a data driven company, better support existing core business, and provide new capabilities aimed at a more personalized interaction with the customers.

The deployed big data analytics platform scales to support 28 million users daily interactions around the world both with batch as well as real time use cases.

The main outcomes are the deployment of three services in a real environment to demonstrate the potential of the solution:

- Product ordering and re-ordering for the web and mobile channels
- Product recommendation
- Visit recovery