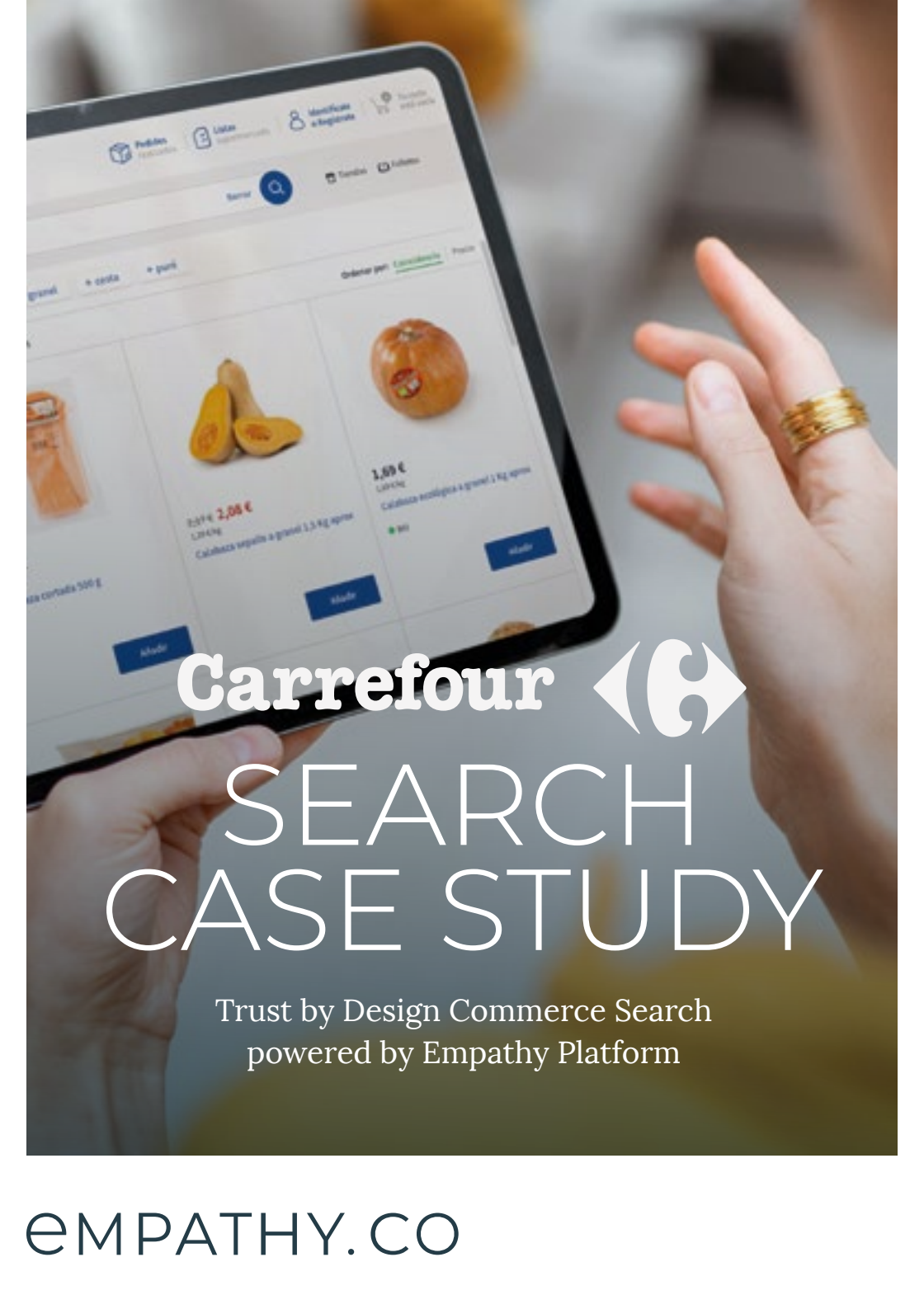




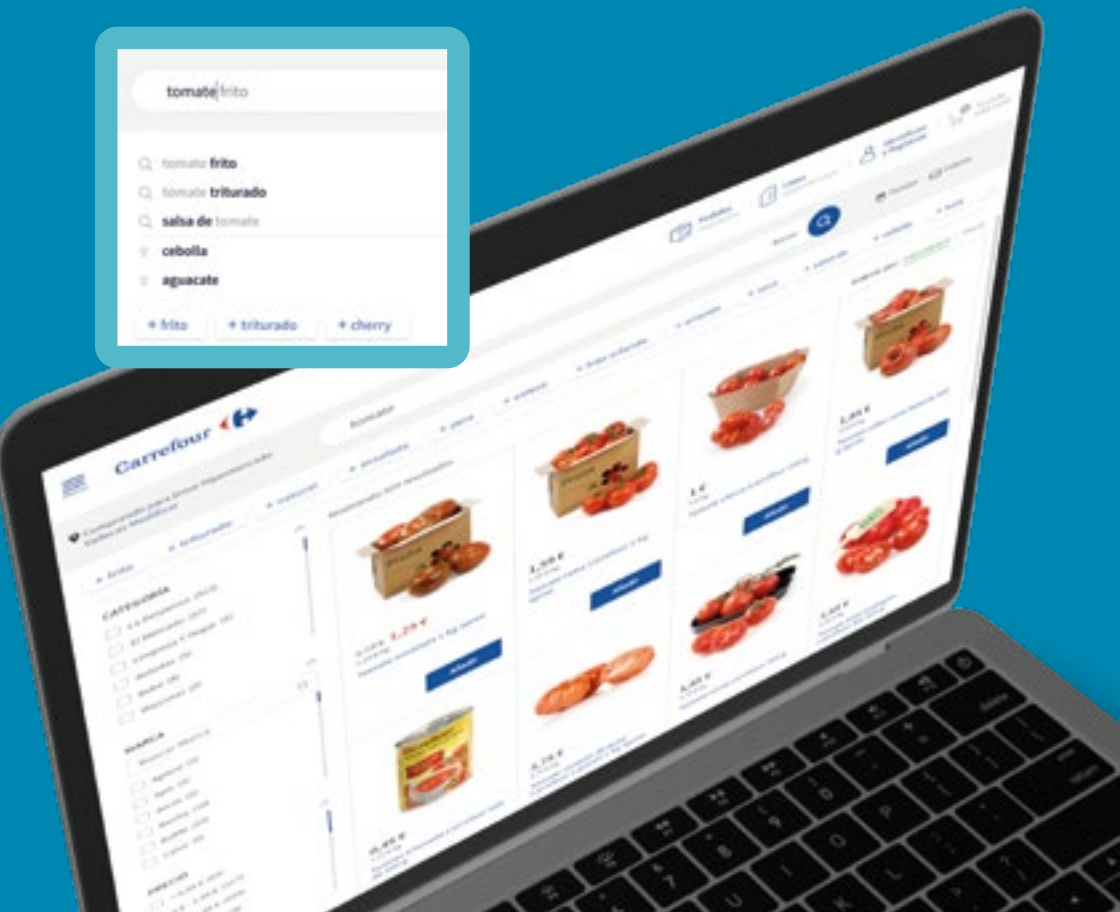
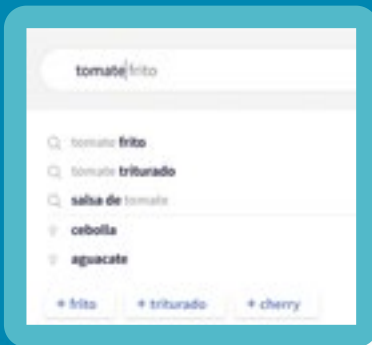
Carrefour

SEARCH CASE STUDY

Trust by Design Commerce Search
powered by Empathy Platform

empathy.co

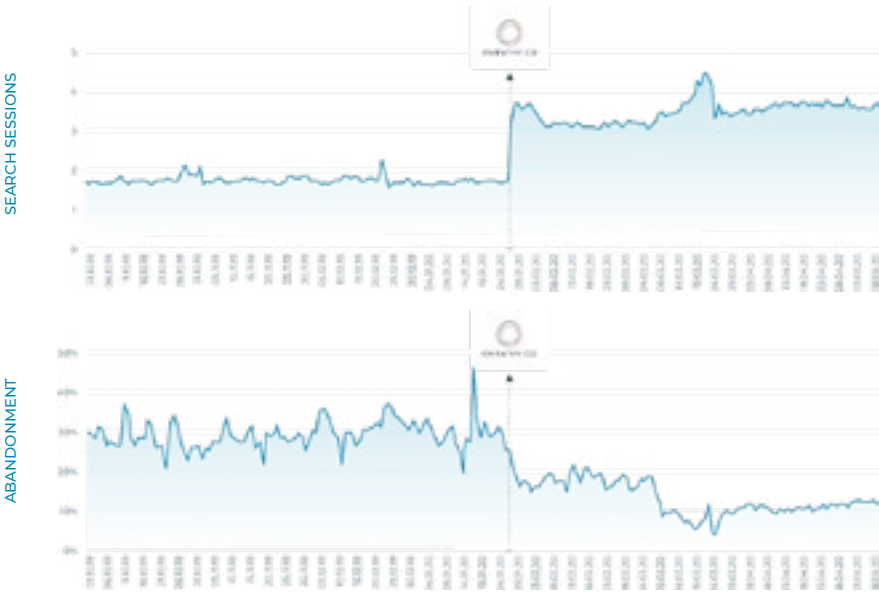
Empathy Platform, the commerce search and discovery you can trust, has completely revolutionized Carrefour's Search performance since its deployment.



Empathy’s UI components transform search into rich and intuitive interactions in which customers feel joy, understanding and trust: the core principles in meaningful brand-to-consumer relationships.

The platform’s initial performance is remarkable:

+ 48%	- 49%	+ 361%	+ 88%	0%
Search sessions	Abandonment rate	Click through rate	Findability (clicks on first page)	Production errors during COVID19 crisis



Source: Carrefour’s Berlin Buzzwords 2020 talk “From Commercial Search to Owned Search”.



CONTENTS



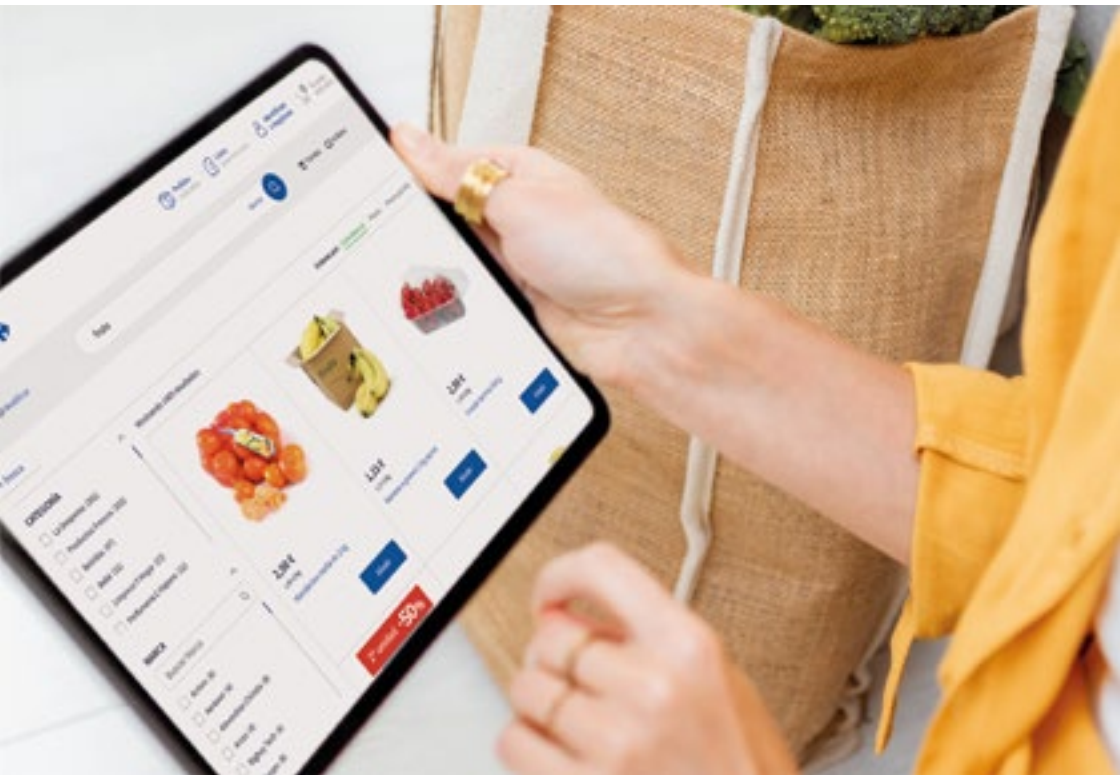


01
ANALYSIS
& INSIGHT

ANALYSIS
AND INSIGHTS:
A HUGE
CATALOGUE WITH
MASSIVE DIVERSITY
OF INTENTS

When the search project at Carrefour Spain commenced, the main challenge was to design a search able to warmly welcome any consumer regardless of their search intention.

From tomatoes to mattresses, every kind of query should properly respond by creating positive emotions and, more specifically, by building the most conversational and confident



DESIGN CHALLENGES



INTENT
DIVERSITY



GLOBAL vs
VERTICAL SEARCH



CARREFOUR
CONSUMER



MARKET
PLACE

customer journey.

This search project is part of a four-year plan to revamp the whole Carrefour Spain platform, a tailor-made ecommerce platform built by Carrefour engineers to create a fully cloud-native system based on Kubernetes.

When designing the new search within such an ambitious effort, Carrefour has very clear premises for the best way to integrate search

technology into their ecommerce platform:

- It must give a human touch to the search, looking for products in a very conversational manner and, at the same time, avoiding manual and time-consuming tasks for configuring the relevance ranking strategy.
- It must be integrated in the Carrefour customer ecommerce platform, using Google Cloud Platform, with control over all the algorithms inside the search engine.
- The project should conform to a time to market of seven months.
- Carrefour was looking for a partner instead of building search from scratch or hiring a SaaS service provider. They wanted the search expertise built over an existing solution to be deployed into their cloud.
- **Let's see how the Search and Discovery journey is crucial to achieve this challenge.**

“Great technology was not enough. We needed a partner fitting our culture: customer centric, highly adaptable and focused on UX - which is how we present the technology to our customer and how our customer uses it. So we wanted a solution where we can select different ready-made components and easily deploy them within a big business, constantly facing critical moments with high traffic peaks.”

Jesús Alberto de los Bueis

Ecommerce Tech Director

CARREFOUR.ES

SEARCH PARTNERSHIP



CULTURE

- Customer centric
- Open & Transparent
- Collaborative
- Agile & Adaptative
- Focus on UX



TECHNOLOGY

- Ready made components
- Pick & Choose model
- Based on Open Source
- Easy to deploy and operate
- Proved in high demand of traffic



02
STRATEGY AND
IMPLEMENTATION

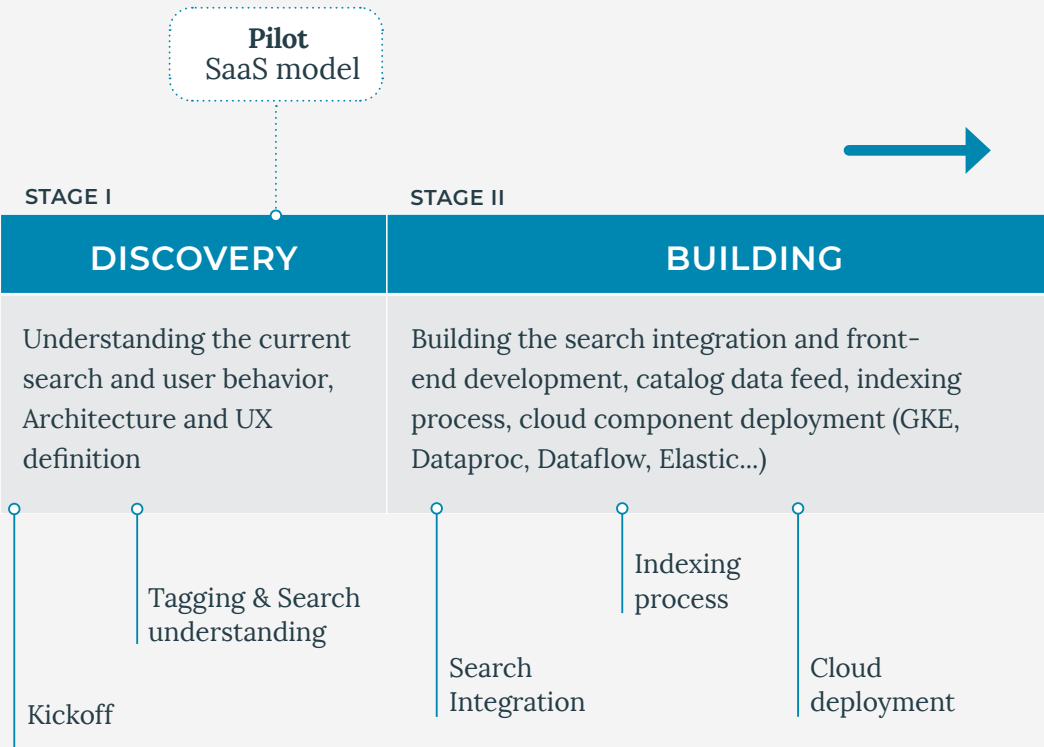
FROM
COMMERCIAL
SEARCH TO
OWNED SEARCH

With this foundation for the search project in place, the whole project was now defined on premise, following Carrefour needs and adapting to the particularities of the business. From a technical perspective, one great challenge was in making the Empathy search architecture suitable for Google Cloud Platform (GCP), which made the Empathy stack agnostic. The process was spotless and quick with a first pilot available in a few weeks, a beta version ready in two months and the final deliverable in production by the end of January 2020.



The great step from commercial search towards an **owned search** gave Carrefour Spain the opportunity to have Empathy's extensible and replicable search components on their **own cloud**, which also means their **own code**. This provides Carrefour full control of their search environment built on premise by Empathy.co.

PROJECT PLAN



PROJECT PLAN



Beta
GCP

GA
GCP

STAGE III

STAGE IV

HARDENING

TUNING

Tooling deployment
and relevance ranking
adjustment to fit into
the business priorities

Performance test,
elastic search tuning
(shards, replicas) GKE
quotas

Docs & Run
books

Search
adjustments

Tooling
WYSIWYG

Performance
Tuning

CATALOGUE DATA FEED



CARREFOUR

On-premise Infrastructure



Carrefour PIM & Central systems

Kafka

Google Cloud Platform



Price

Product

Inventory

Promotion

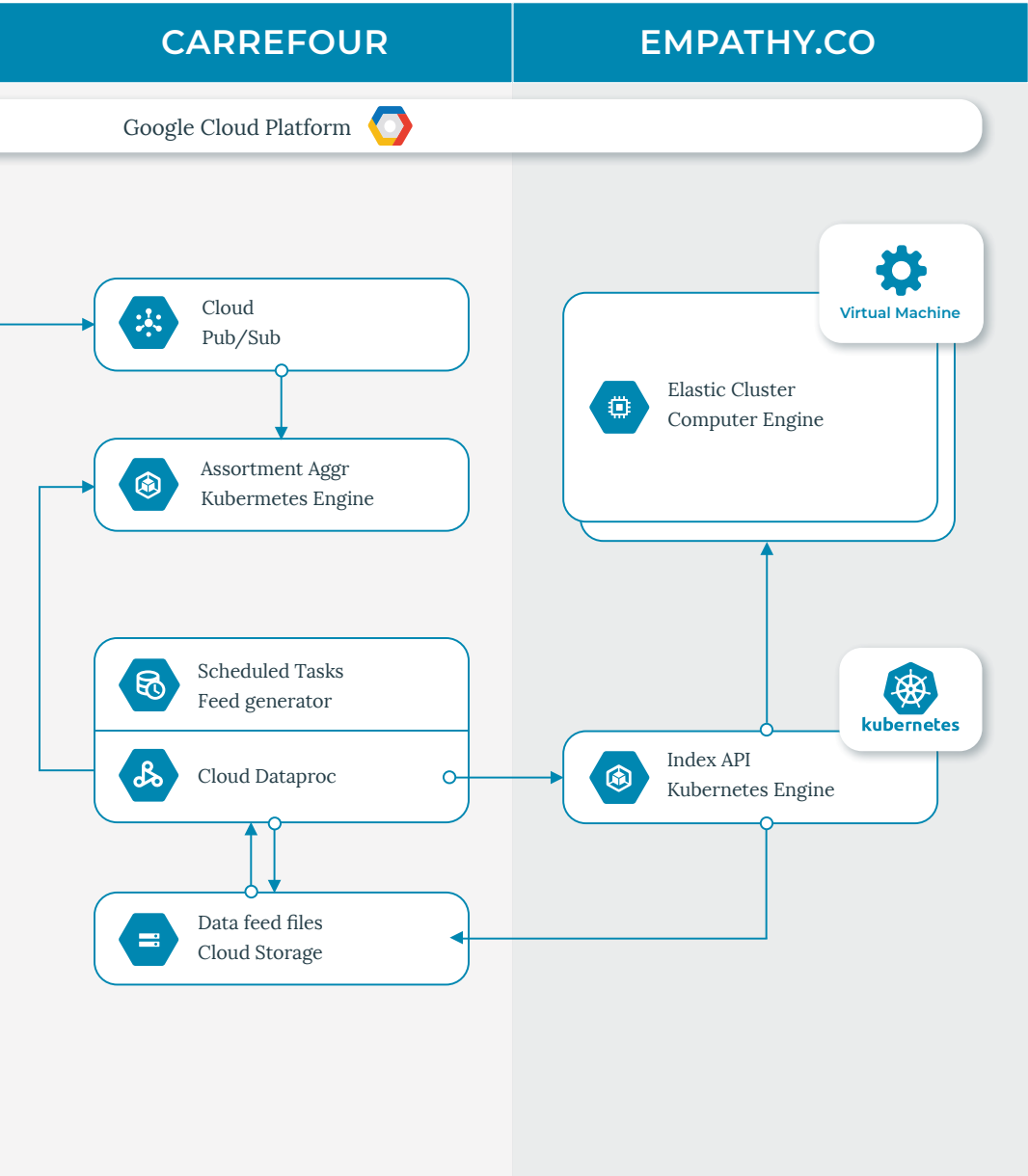
Carrefour.es integrated Empathy Platform with complete success thanks to two key parts on the architecture:

- The **catalogue feed generation**.

Carrefour took all the mechanisms they already had in the ecommerce platform, such as microservices for Price, Product, Inventory, Promotion, synchronizing and transferring them from the central systems into cloud storage.

- **Data feed enrichment** for analytical purposes and for making search smarter and, at the same time, more human. Storing and cleverly using customers behaviours, searches are contextualised providing the proper suggestions or results.

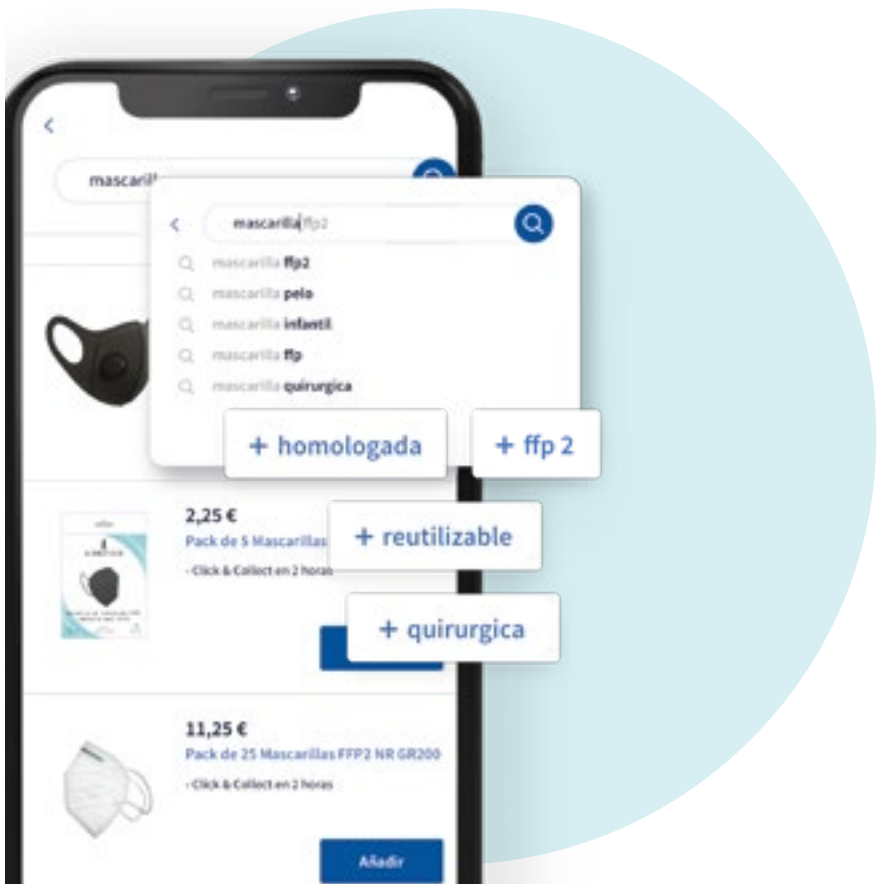
CATALOGUE DATA FEED



What's more, thanks to **Empathy Context**, features such as search suggestions, next queries and related tags are now populated to provide that needed guidance when looking for any product at a huge marketplace like Carrefour. es. In fact, this had a big impact during the first months of the COVID-19 pandemic, when people were looking for very particular products not previously sought, and when the most difficult users were going online to do their shopping for the first time ever.

In times of uncertainty and difficulty, it was critical for Carrefour to make things easier, carefully observe **the search patterns and behaviour of Carrefour consumers**, and offer them, in the most human way, the products best adapted to their needs. Everything had to honor the **privacy** principle with a truly **anonymised** experience, empowering people with tools to modify privacy-related behaviour themselves.

From a UX perspective, all the architecture components are translated into different **filtering and discovery** elements to guide Carrefour customers to what they need and even introduce them to must-have products that they were not aware of.



The two key elements in Carrefour search experience are:

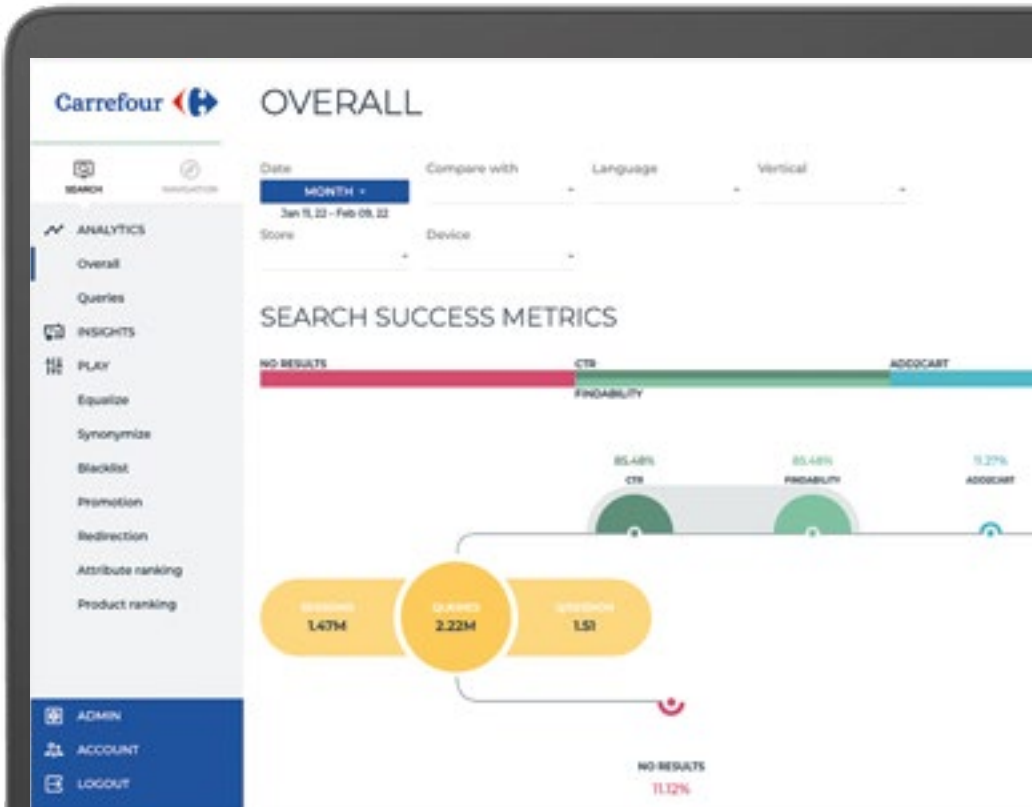
- **Type-ahead suggestions, recent searches and search trends.** As a starting point, some suggestions are populated to assist shoppers and drive them through an experience that requires little typing.
- **Related queries** based on people's past **search session history.** 'Related Tags' help shoppers to refine their search with just one click on the tagged word that best aligns with the search intention. Then 'Next Queries' are shown once the consumers come back to the search box after surfacing the results for a given query.

A FLAWLESS EXPERIENCE FOR CRITICAL MOMENTS

From a functional perspective, the process provided Carrefour the needed agility and efficiency to manage three critical areas of ecommerce management:

Operational improvements queries

With 98 percent success in catalogue indexing tasks and a 99 percent success rate in data feed enrichment.



Marketing improvements

With Empathy Playboard giving marketers and merchandisers the opportunity to make well-informed decisions based on visualisations of customers' behaviour and patterns, and to dynamically control products' performance through the intuitive tooling of this application.

Engineering improvements

Having all the search ready-made components open and easy to integrate on the ecommerce platform gave the engineering team a great reduction in development time.



READY-MADE COMPONENTS

INDEXING	TOOLING	SEARCH
CATALOG DATA		
Index	Play	Tagging
Worker	Dashboards	Interface component
Deployer	Tooling & console	Empathize
CUSTOMER ´S DATA		
Synonymize	Stats	Search API
Tagging Enrichment	Context / ML	Navigation API

All these components and associated features were implemented upon Carrefour’s search experience from January 2020. Without advance warning, Carrefour’s site was fully prepared to properly react to **massive demand**

during COVID 19 crisis. In fact, the search performance and reliability during the lockdown and pandemic was such that **Carrefour Spain did not have any production errors (P1s)** which is a huge achievement for the company.

OPERATIONAL IMPROVEMENTS

98 %

SUCCESS
CATALOG INDEXING

99 %

SUCCESS
ENRICHMENT INDEXING

MARKETING IMPROVEMENTS



CUSTOMER'S
BEHAVIOR VISIBILITY



TIME TO MARKET
REDUCTION



PROMOTIONAL
DYNAMICS

ENGINEERING IMPROVEMENTS



DEVELOPER
FRIENDLY



DEVELOPMENT
TIME REDUCTION



OPEN AND EASY
TO INTEGRATE

Since the Empathy Platform went live on Carrefour.es, the metrics spoke for themselves. The need to speak to the brand was unlocked and the indicators started to skyrocket.

SEARCH SESSIONS



ABANDONMENT



+ 48%
SEARCH
SESSIONS

- 49%
ABANDONMENT
RATE

+ 361%
CLICK THROUGH
RATE

+ 88%
FINDABILITY
(CLICKS ON
FIRST PAGE)

0%
PRODUCTION
ERRORS DURING
COVID19 CRISIS



04

SUMMARY

CONCLUSIONS

With Empathy Platform, its components and microservices integrated into the ecommerce platform owned by Carrefour, Carrefour Spain achieved a unique search platform with total ownership and governance of the technology.

Carrefour has swiftly adapted to consumer demand by storing consumers' behaviour patterns, by providing the best suggestions to nail down shoppers' intentions and guide them through the huge catalogue. In short, Carrefour uses their own data to create expressive and meaningful interactions with the catalogue, either refining the search intention or encouraging the discovery of new products.

The best proof of concept was the COVID19 crisis, during which traffic to the site increased exponentially and Carrefour.es responded without production errors and with a brilliant staging. Carrefour Spain is now an international

reference for online groceries and an example for other locations of the company. Search evolved from a mere exchange on queries and results to a human conversation followed by joy and trust.

“With Empathy, we place search as the centre of the ecommerce platform and hence the customer experience. We use Empathy Platform for all the aspects related to navigation, catalogue browsing, product pages and much more”.

Jesús Alberto de los Bueis
Ecommerce Tech Director
CARREFOUR.ES





How can we improve your brand's Search & Discovery?



EMPATHY.CO

LONDON | NEW YORK | ASTURIAS | GALICIA