



Bidafarma

# Delivering medicine sustainably



**Bidafarma asked Fujitsu for help to better optimize its truck distribution network. Fujitsu created an algorithm that would automatically calculate the most efficient and sustainable way to reach pharmacies, reducing costs and fuel emissions by 25%.**

## Challenge

Bidafarma was looking for better and smarter ways to calculate the most effective route of its fleet to deliver to pharmacies, making it faster and more sustainable in the process.

## Solution

Engaged the Fujitsu data intelligence team to create an algorithm that can automatically plot the best and most fuel-efficient route in minutes.

## Outcomes

- 25% reduction in fuel emissions and cost
- Internal logistics team are freed up to focus on more strategic tasks
- Algorithm can be tweaked to look at other areas such as stock replenishment



**Fujitsu created an analytical algorithm that could calculate the most efficient delivery routes, saving 25% in fuel emissions and costs.**

Industry:  
**Logistics**

People:  
**1,700+**

Location:  
**Spain**

Website:  
**bidafarma.es**

## About the customer

Bidafarma is a Spanish co-operative which distributes medical and healthcare products to over 10,000 pharmacies via a network of 32 distribution warehouses. Each warehouse has a fleet of vehicles delivering vital goods to support people's health and quality of life.



**25%**  
reduction  
in cost

## Making deliveries more fuel efficient

Sustainability is at the forefront of everyone's agenda, particularly those companies that work in logistics, transporting goods in diesel-fueled trucks. The aim is to always minimize carbon emissions and the environmental impact. Bidafarma, a pharmaceutical distribution co-operative, is no different. It wanted to optimize its delivery routes so that its vehicles spent less time on the road and more time getting vital medicines to customers across Spain. As a result this will also make the process faster and smarter.



**25%**  
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Optimizing delivery in the most efficient and cost-effective way is a large-scale, combinatorial, optimization challenge, known as a vehicle routing problem (VRP) with time constraints. Bidafarma and Fujitsu worked together on a successful proof of concept (POC) of this optimization challenge for one of the 32 warehouses.

## Building a smart algorithm

Fujitsu started conversations with Bidafarma after meeting at the Digital Meets Physical event organized by The Game Changers Lab, a disrupting digital transformation-focused organization of which Fujitsu is a partner. Bidafarma was introduced to the Fujitsu data intelligence team who, after listening to Bidafarma's requirements, created a bespoke algorithm that could automatically calculate the most efficient and fastest route, with the lowest emissions, in the shortest possible time.

The optimization team at the center of excellence (CoE) of data intelligence spent three weeks factoring in multiple variables such as fleet availability, traffic, pharmacy prioritization, last-minute orders, and breakdowns, to create a POC for one of the 32 warehouses.

In this case, the warehouse served 142 pharmacies via 25 delivery trucks. The analytics solution, through a simple web interface, 'clusterizes' the pharmacies to reduce the overall distance traveled, making it faster and more fuel efficient. Moreover, the data extracted from this POC can easily be extrapolated to the remaining 31 warehouses, using a tried and tested solution even in unfamiliar traffic environments.

## Instant savings in time, money, and emissions

Bidafarma can now, at the touch of a button, automatically determine which is the most sustainable and efficient way of getting vital medicines to people who need them. During the pilot, the company was able to reduce costs and CO<sub>2</sub> emissions by around 25%, equivalent to around €400 per trip.

Bidafarma was also able to reduce the vehicle fleet from 25 to just 13 vehicles, with all the associated savings in maintenance that brings. Meanwhile, its internal logistics team has freed up considerable amounts of time to focus on more productive tasks.

Having created the algorithm, Bidafarma and Fujitsu can now easily tweak it to serve other functions, such as stock replenishment to ensure on-time delivery to pharmacies and minimize storage costs. It's all part of Fujitsu and Bidafarma's shared goal of enabling greater sustainability across the supply chain.