HOW WE SAVED MILLIONS FOR MAZDA AUTOMOTIVE

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bringing life to ideas

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About client

Mazda Automotive Europe operates as a division within a prominent Japanese conglomerate. The European part of the corporation oversees selling and distributing vehicles and spare parts. All spare parts designated for Mazda Automotive are delivered and unloaded in the port of Rotterdam and then distributed throughout Europe.

Project

Network Optimum

Understanding client's challenges

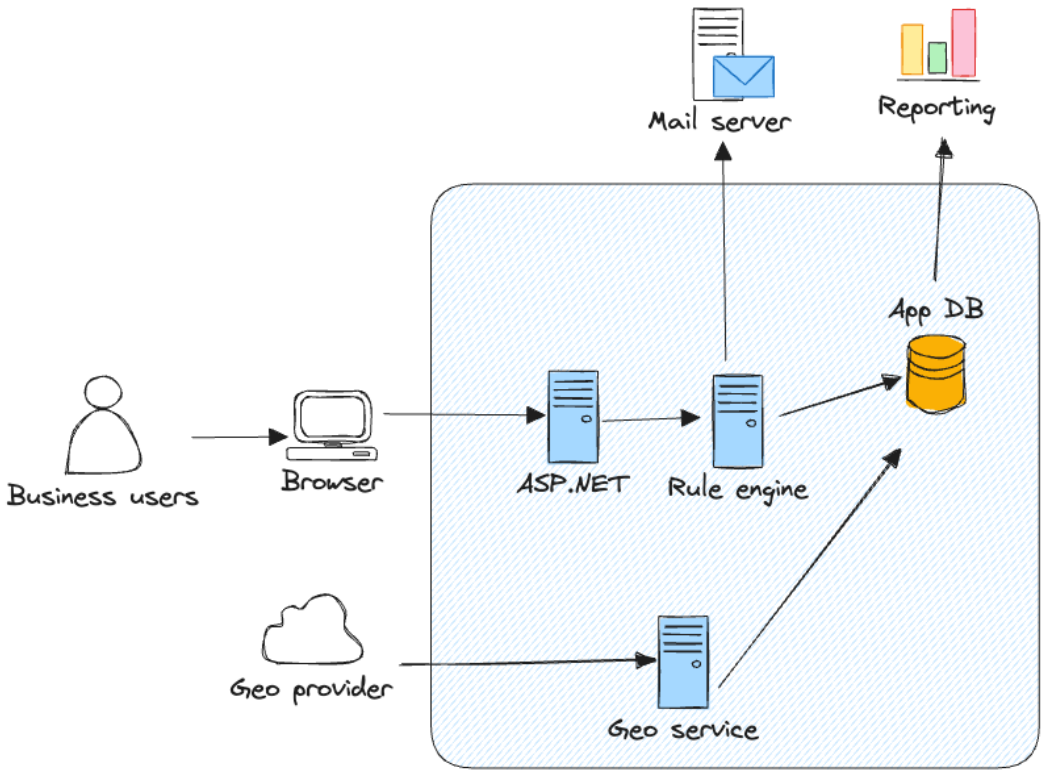
At the time, Mazda had dozens of warehouses in various countries. However, they recognized that not all these warehouses were strategically positioned and acknowledged the need for additional facilities in newly entered markets. They were faced with extremely high logistics costs. They were particularly upset because they could not estimate these costs until the construction of their distribution centers was completed. The aim was to determine optimal warehouse positions in several countries, with the ultimate goal of reducing high logistics costs.

Solution

The project was implemented in cooperation with one of the leaders in logistics solutions in Belgium, C&W Logistics. We joined forces and knowledge to solve an overly complex task. Together, we analyzed Mazda's riddle – warehouse positions, dimensions, capacities, cost structures, and distribution timelines... Everything seemed in order, but we felt there were opportunities for enhancement.

We applied advanced mathematics and Data Science procedures to develop an algorithm that could calculate enormous amounts of data quickly. Then, we procured millions of Google Maps data items, and we felt we were well-equipped to test our algorithm. After four months of work, we were able to determine a Gravity point - a precise location offering the shortest distances to both Rotterdam and outlets. When we successfully tested the algorithm we integrated it into the core of our application, linking it with the backend. In the end, we had to develop user-friendly screens, dashboards, and admin panels, and pack them into a beautiful App. Not only is Network Optimum catchy to the eye and easy to use, but it is also a sophisticated solution for identifying the optimal warehouse location and provides an answer to where and when to relocate the warehouse as part of strategic decisions. After 9 months of teamwork, our solution was ready to help Mazda Automotive.

Technical insight



Business value and benefits

The result was beyond our initial expectations.

- In the beginning, we determined the optimal position of warehouses in countries where Mazda Automotive had not operated before.
- Then, we tested the existing warehouses' positions and got different results. All determined warehouse positions represented a scenario with a specific result - the amount of logistics costs.

In Mazda, they were thrilled that we gave them an opportunity to optimize the positions of their existing warehouses and fine-tune their logistic network, to better address business needs. It is more affordable to make a scenario with an application than to make a completely new warehouse.

In the end, they optimized their logistics network to achieve a **20% annual cost reduction** which will bring millions of euros in years to come.