



Mobilize improves automotive sustainability with a compact, electric, connected and shared micro-vehicle dedicated to new mobilities, in urban and suburban environments.

Collaborating with Capgemini Engineering, the car manufacturer's mobility brand provides drivers with an affordable and sustainable "engineered in France" solution, to reinvent mobility in cities and beyond.

Overview

Client: Mobilize

Region: Europe

Industry: Automotive

Client Challenges:

Mobilize aimed at refining and improving the design of its electric quadricycle Duo and its utility version Bento to ensure that they would be sustainable, affordable, and suited to driver needs, while also addressing the challenges faced by cities.

Solution:

The brand engaged Capgemini Engineering, which challenged numerous elements of the initial design to help identify the material and methodology that would ensure the established cost, sustainability, and timeline objectives were met.

Within the automotive industry, sustainability and carbon emissions represent an urgent priority. Many manufacturers have identified unique solutions to this challenge. For Renault Group, one of the largest multinational automobile manufacturers in the world, this came in the form of a new brand: Mobilize. As the first new brand launched by the car developer in 120 years, Mobilize's central mission was to contribute to the carbon neutrality goal of the Group by offering emission-free mobility.



This is obviously a big task and far from simple. But we found two key issues that presented major roadblocks to making cars more sustainable. First, people simply aren't driving most of the day. On average, our vehicles sit unused more than 90% of the time. And second, those same vehicles lose 50% of their value over the course of three years. So, we needed to find a way to better align a car's cost with the way it's used."

Benoit Abadie

Engineering Director at Mobilize

Mobilize's first major project was a two-seat urban mobility vehicle known as Duo. The brand created an initial design, but also knew that it could be further improved with additional, outside accompaniment. For that reason, Mobilize launched an open process in search of a partner that could bring a unique combination of innovation and industry know-how to the project.



We had the vision, and we felt very confident about our direction for the overall project. But this project was so important to us and, we felt, for our customers, that we wanted to leave no stone unturned in developing the most exceptional car available that would fulfil our sustainability goals while also being more suited to urban drivers."

Benoit Abadie

Engineering Director at Mobilize





Collaborative innovation in urban car design

After an extensive review of its options, Mobilize ultimately chose Capgemini Engineering and Magna as its project partners. After agreeing to a two-year engagement, the organizations began to collaboratively update and enhance the design of Duo. Experts from Capgemini Engineering, who offered an outside perspective driven by extensive experience with innovation, challenged various aspects of the vehicle's design, all while working within the firm budgetary constraints and objectives established by Mobilize.

In that project context, Capgemini set up and led a companies' grouping (GME) in which Magna was responsible for the product and process development of parts and modules for the chassis, exterior bodywork and interior fittings. In addition to this product development activity, Magna was responsible for the manufacturing engineering, in particular the assembly line at Renault's Tangiers plant.



You know, there's always this desire to add on all the bells and whistles to any new car design. It's easy to say that we want to build the most advanced car with all the new features. It's much more challenging and far more interesting to set limits on that design based on how people tend to use their cars."

Fabien Premaor

Vice President - Industries Leader at Capgemini Engineering

In one case, the project team focused on the design's air conditioner, or in this case, lack thereof. In order to make Duo more appealing to urban drivers from a cost perspective, the air conditioner had been removed. Recognizing a key opportunity, Capgemini Engineering experts set out to develop an air conditioner that would fit within the overall

cost limits of the vehicle and still provide customers with a key feature that many would expect.



It wasn't just about finding a way to fit an air conditioner into the design. We had to make sure that the addition didn't dramatically change the overall cost of the vehicle and didn't reduce Mobilize's ability to meet its sustainability goals with the design.

Ghassen Abichou

Project Director APA at Capgemini Engineering



So, while the inclusion of an air conditioner in a car is nothing new, our proposal was certainly novel to fit the guidance we were working within."

Pascal de Ruyck

Business Development Director at Capgemini Engineering

After completing the design of this element, the Capgemini Engineering team then shared it with Mobilize stakeholders and experts. After a collaborative dialogue around the air conditioner that included a review of the cost and materials needed to make the vision a reality, it was validated and added to the official Duo design.

This sort of exchange occurred for numerous elements of the vehicle, enabling Mobilize and Capgemini Engineering to refine and enhance the overall design. Throughout this process, the partners ensured that the development process did not deviate from the established target cost and enabled the use of green materials as much as possible.



Rolling out a new, sustainable and innovative micro-vehicle

The result of this two-year partnership is a two-seat urban vehicle revealed in October 2024. This updated version of the Duo integrates over 40% recycled material. Through their collaboration, Mobilize and Capgemini Engineering determined the materials and methodology needed to support this design and ensure that development could take place within the desired timeline.



“With Duo, we think that we’ve done quite a bit to respond to the concerns and interests of many drivers. The car will be more affordable, better fit to driving around a city with its compact design, and will be built sustainably while using electricity to reduce its emissions. And we’ve accomplished all of this without any compromise on the performance that our customers have the right to expect, while offering them the best level of comfort, handling, safety and connectivity on the market..”

François Laurent
Chief Engineer at Mobilize

With the launch of Duo & Bento, Mobilize is taking a major step toward transforming sustainability within the automotive industry. The brand will continue to pursue further innovations that will make its vehicles more eco-responsible, both in terms of manufacturing and carbon emissions, and better suited to driver needs.

About Capgemini

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