Success story

An enterprise synergy
for a Digital Twin with
Libelium Smart Parking

libelium

Climate change is a global challenge that requires a paradigm shift.

We innovate with solutions, processes, the ways of seeing, and now we must also innovate with strategic alliances. Only with a good alliance can we reverse Climate Change.

TYPSA, Urbim, and Libelium are aware of the importance of these alliances and have joined their innovation capacity in an alliance to drive innovation in digital twins and smart technology to offer comprehensive solutions that respond to current urban and environmental challenges.

The challenge

Digital twins are very suggestive blurring the lines between the physical and digital worlds.

Something almost magical that only great master wizards.

The alliance between TYPSA, Urbim, and Libelium can do magic.

This collaboration has enabled the integration of Libelium's Smart Parking nodes into the Urbim platform, facilitating real-time management of parking spaces in Typsa facilities.

This is just the first step in a broader project that seeks to implement IoT, BIM, and Digital

Twin solutions to improve asset management and optimize urban infrastructure. The combination of these technologies allows not only for more efficient parking space management but also the adoption of a more sustainable approach in the design and maintenance of cities and buildings.
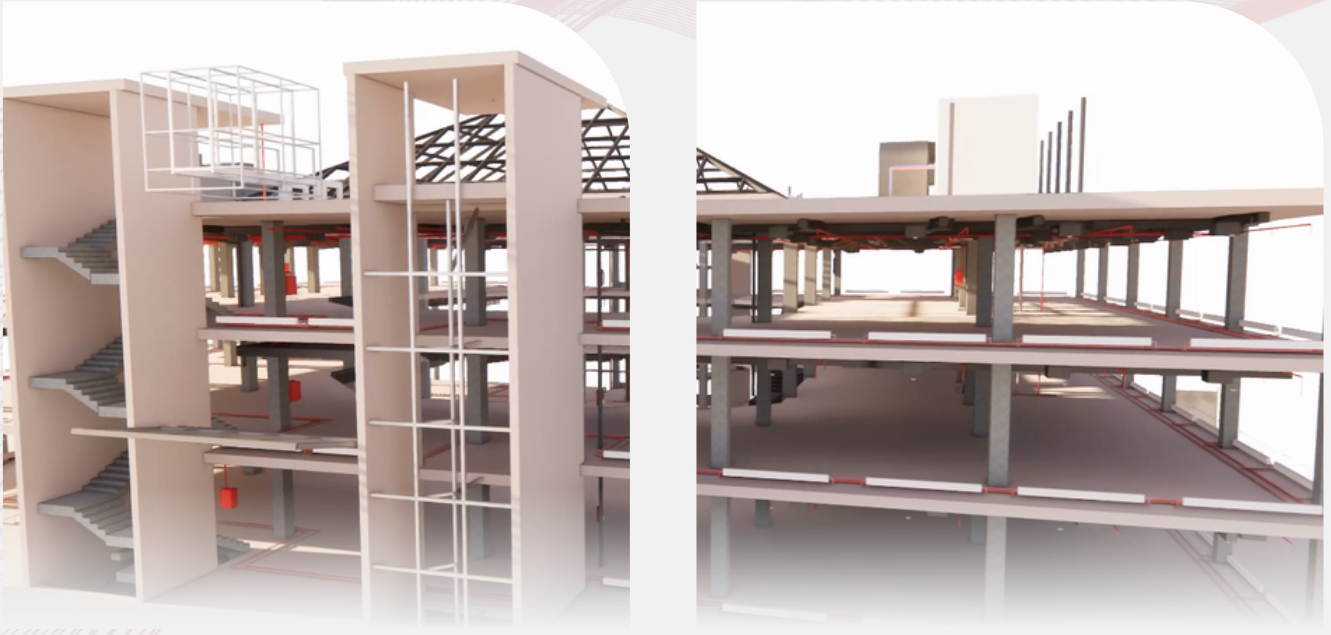
The solution

The real-time management of parking spaces, coupled with the potential for expanded applications such as air quality measurement and water management, represents a leap forward in sustainable urban development.

Furthermore, this initiative is anticipated to pave the way for customised digital services that streamline decision-making processes, boost operational efficiency, and generate a lasting positive impact on cities and their inhabitants.

The alliance is composed of three layers that interlock:

- Data capture is provided by Libelium with its Smart Parking IoT solution. The nodes have a radar sensor that changes state if they detect the presence of a vehicle above them. The data is sent to the Libelium cloud to transmit it to Urbim's digital twin platform.

- For its part, Urbim provides the data visualization layer with a 3D viewer. The visual representation allows for real-time knowledge of parking space availability to optimize space management and offer more efficient services to citizens.

- Typsa plays the role of integrator, enhancing the potential of BIM and virtual reality throughout the lifecycle of buildings and infrastructures, adopting a circular economy approach, and developing asset management platforms.

The project also utilises Building Information Modelling (BIM) and virtual reality technologies to enrich the planning, design, and management of urban infrastructure. The software architecture is designed for scalability and flexibility, allowing for the incorporation of future technologies and solutions.

Beyond The **Challenge**

The collaboration allows for progress towards the customization of digital services that optimize decision-making, improve operational efficiency, and generate a positive and lasting impact.
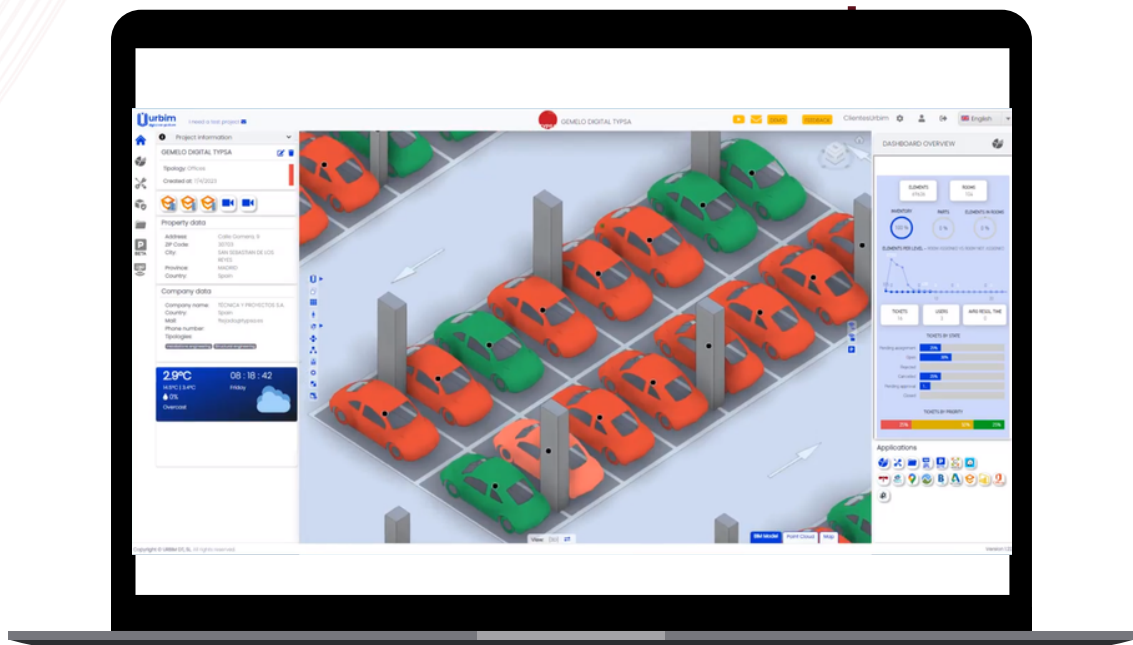
A turnkey solution for any type of client

"The value of this integration is reflected in the ability to visualize and analyze complex data in an orderly and aggregated manner, facilitating more informed and efficient decision-making," says Diego Becerrica, Libelium Engineering Director. "And as with the parking solution, we can integrate any other Libelium IoT solution to the Urbim digital twin to offer a complete solution directly to the customer."

Additionally, the alliance is open to the incorporation of new solutions from Libelium, such as air quality measurement and water management, thus expanding its capacity to address a wider range of urban and environmental challenges.

libelium

Behind the change.
Beyond the challenge.