

XYT Case Study



Photo courtesy of XYT

Challenge

To further develop the PIXEL—a modular electric vehicle addressing urban logistics issues in a sustainable way—and optimize its agile design process, the French start-up XYT was looking for a solution to meet its technical needs and its customers' expectations.

Solution

Through the 3DEXPERIENCE Lab program, XYT uses the 3DEXPERIENCE platform on the cloud for its power, upgradability and ability to federate employees and partners from design to production and certification of the car.

Benefits

- Simplify and optimize exchanges throughout the value chain in a collaborative environment
- Reduce the complexity of design, production and certification
- Unify access to resources
- Customize vehicle configurations quickly and dynamically
- Manage components and sub-systems' suppliers



“The fundamental advantage of 3DEXPERIENCE is that it centralizes all the information and enables seamless collaboration between all stakeholders around a single platform, without any losses, especially when the design evolves very quickly.”

– Yves Jeunesse
Industrialization Engineer, XYT

THE CONUNDRUM OF THE LAST MILE DELIVERY

Whether a parcel goes around the world or comes from a neighboring city, the ‘last mile’ of delivery is often tricky for logistics companies. The booming of e-commerce, urban congestion, the environmental impact of transportation, pedestrianization and the exclusion of some vehicles from downtown areas are driving radical changes and redesign in urban logistics.

The French start-up XYT, a new generation car manufacturer, is addressing some of these challenges by developing the PIXEL, a modular electric vehicle dedicated to urban logistics. The company provides tailor-made mobility solutions for its customers’ business operations. With interchangeable and customizable modules, the user can create and configure the ideal vehicle for its activity. And because it is scalable, the PIXEL can be modernized and optimized over time, as needed.

“Our vehicles are designed with and for delivery drivers,” said Simon Mencarelli, XYT’s co-founder and CEO. “We work hand-in-hand with industry professionals. The aim? To provide a vehicle that improves their working conditions, performance and profitability.” The PIXEL is a tool designed for craftsmen, retailers and e-traders. It enables them to carry out their professional activities and deliver to their customers, while maximizing their operational performance and reducing their environmental footprint.

“Building a vehicle involves mastering a large number of parameters relating to design, supplier management, as well as approvals and certification monitoring,” Mencarelli said. “So we decided to simplify the vehicle as much as possible.” This is why the PIXEL is designed

the same way it can be repaired: manually with a simple toolbox. It contains only 600 parts, and is quick and easy to maintain.

THE CLOUD IMPERATIVE

To support all of its activities, XYT uses the 3DEXPERIENCE® platform on the cloud. The solution meets XYT’s requirements in every way, particularly to support the collaborative aspect of its activity. “Using the 3DEXPERIENCE platform on the cloud gives us access to the 3D model in any situation: when teleworking, on subcontractors’ sites or testing components at our partners’ offices,” said Yves Jeunesse, industrialization engineer at XYT. For example, during an unexpected power outage on XYT’s site, business kept going in other locations without interruption. “A simple Internet connection guarantees that all the data and solutions needed for the company’s activities are still available,” he added. “Everyone can go on working with up-to-date information or the latest model.”

In addition, the cloud is essential for a small organization like XYT, which has no IT department to maintain all the databases and infrastructures required for its operation. “We need tools that run whatever happens,” Mencarelli said. “Here, Dassault Systèmes is handling this for us, without specific actions on our side.”



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– Simon Mencarelli
CEO, XYT

The cloud’s advantage is all the more obvious for an extended company, because it facilitates interactions between the various stakeholders and communities that form its ecosystem. “Today, six people make up our multidisciplinary team,” Mencarelli said. “But we’re working with a wide range of partners, not only leading automotive OEMs, but also SMBs, which support us in different domains from design to production.”

3DEXPERIENCE on the cloud facilitates collaborative work, particularly when several people are working simultaneously on the 3D model of the same vehicle.

“The main challenge in my activity is to take into account all the issues related to the vehicle manufacturing,” Jeunesse said. The challenge lies in the numerous elements to consider from the design stage, including manufacturability and certification. “The fundamental advantage of **3DEXPERIENCE** is the centralization of all the information and seamless collaboration between all stakeholders around a single platform, without any losses, especially when the design evolves very quickly,” he said.

GAIN AGILITY

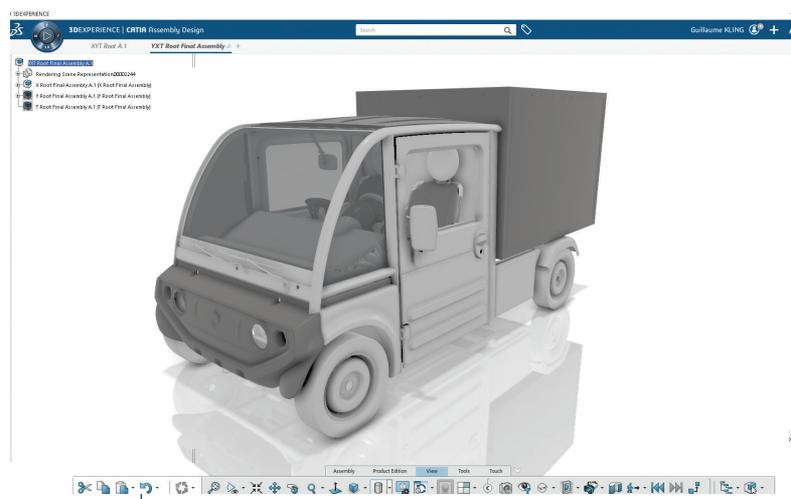
Today, XYT is focusing mainly on the design phase of a new range of vehicles, using CATIA for mechanical parts and advanced surfaces design, complex shapes assembly and modeling, and SIMULIA for mechanical simulation, for example to test chassis torsion. “Naturally, we use ENOVIA to manage all our design and production data in a co-design approach and product life cycle management,” Jeunesse said. “The application is native in the platform, but very important in 3D design.” **3DEXPERIENCE** can implement the 3D model quicker, share it and launch a production order.

“What we really like is being able to turn on and off some platform functions according to our needs, without entirely rebuilding our system’s architecture,” Mencarelli said. Tomorrow, XYT knows that it could access other features from the platform without changing its environment, and with digital continuity assurance. This ramp-up capability is crucial for a rapidly growing start-up.

The platform enables XYT to split the vehicle design into integrated modules and functions: electricity, belts, brakes, etc. Each engineer can work separately on specific modules, which remain automatically integrated into the original global model. If a part or component evolves within a module, the master automatically integrates the latest changes.

The **3DEXPERIENCE** Lab, Dassault Systèmes’ start-up accelerator, helped XYT with the solution’s implementation and their best-practices. Through this initiative, the **3DEXPERIENCE** platform becomes more accessible for the company, which also benefits from the technical skills and experts consultancy. Thus, XYT team saves precious time and takes the best advantage of the platform’s capabilities.

“If this solution looks complex because of its range of possibilities, richness and power, it’s not complex to use so far,” Jeunesse said. “If you are already familiar with 3D design, you quickly find your way on the platform.” Thanks to the **3DEXPERIENCE** Lab’s support, Jeunesse



Top image: The PIXEL in context, ready to deliver its parcels.

Bottom image: All vehicle components have been designed and can be customized on the **3DEXPERIENCE** platform.

About XYT

New generation electric car manufacturer

Products: PIXEL, a customizable and upgradable urban logistics vehicle

Employees: 6

Head office: Le Plessis-Pâté, France

More information
www.xyt.fr

About the 3DEXPERIENCE Lab

The 3DEXPERIENCE Lab is an innovation laboratory that provides special access to the 3DEXPERIENCE platform and customized support to start-ups, to incite the creation of innovative, sustainable products and accelerate the development of their concepts.

More information
<https://3dexperienclab.3ds.com>

said he gained new skills rapidly, moving from a beginner to advanced user in only a few weeks.

“The added value of the 3DEXPERIENCE Lab program is primarily the network, the consultancy and the expertise provided by the Lab members and Dassault Systèmes—and also the performance and quality of the solutions available to carry out our operations,” Mencarelli said.

MAKING THE COMPANY GROW

XYT proves that it is possible to do more with less, all while its simpler, sustainable and lighter products provide better service for a specific use. Objective number one? To improve the vehicle’s performance and ergonomics for those who use it as a work tool.

For a start-up, anticipating its scale up and choosing the right tools from the beginning is key. The usefulness and relevance of these tools will shape the company’s success and growth.

“An entrepreneur’s mission is to make his company grow, structure it, move from the idea or concept and prototype phase to the industrialization phase, and in the long-term, to scale it up,” Mencarelli said. In five to ten years, he sees XYT as a reference in the urban logistics domain, able to provide logistics and transportation companies with efficient tools, both economically and environmentally.

Our 3DEXPERIENCE® platform powers our brand applications, serving 11 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the 3DEXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes’ collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 250,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.

