

# MP AGRO MÁQUINAS AGRÍCOLAS MAKING AGRICULTURAL EQUIPMENT DEVELOPMENT MORE EFFICIENT AND ACCURATE WITH 3DEXPERIENCE WORKS SOLUTIONS

## Case Study



A pioneer in transforming agricultural sprayers into self-propelled fertilizer distributors, MP Agro added **3DEXPERIENCE** Works solutions to its existing SOLIDWORKS installation, resulting in substantial time and cost savings while eliminating errors related to working with the wrong revision.

### Challenge:

Shorten development cycles, reduce development costs, and improve quality by improving product data management, eliminating the potential for revision errors, and running simulations in the cloud, saving the cost of additional computing power.

### Solution:

Add cloud-based **3DEXPERIENCE** Works solutions, including Collaborative Business Innovator, Collaborative Industry Innovator, and Collaborative Designer for SOLIDWORKS initially, and then add Structural Performance Engineer to the company's existing SOLIDWORKS installation to enable automated, transparent data management and computationally intensive simulations in the cloud.

### Results:

- Cut development cycles in half
- Reduced development costs by 50 percent
- Eliminated revision errors
- Increased collaboration and innovation

MP Agro Máquinas Agrícolas was founded in 2012 with the purpose of bringing low-cost technological solutions to the agricultural market in Brazil, based on the need to use self-propelled equipment and tractors for multiple farming functions. By making agricultural equipment more efficient, productive, and reliable in the field, the company has grown to become the leading manufacturer of fertilizer distributors and spreaders in the Brazilian market in just 10 short years.

MP Agro was a pioneer in transforming agricultural sprayers into self-propelled fertilizer distributors, generating savings of up to 80 percent compared with the value of a new self-propelled fertilizer distributor, and manufacturing its equipment out of stainless steel. This approach has enabled customers to more cost-effectively re-purpose equipment for other agricultural applications and extend equipment life because stainless steel does not rust. In addition to its Z Line of self-propelled fertilizer distributors, the company also manufactures Taurus® agricultural spreaders that are pulled by a tractor, as well as a fertilizer-distributing truck called the Taurus Truck.

Although the company has been successful and grown over its decade-long existence, MP Agro needed to make its development cycles more efficient, cost-effective, and accurate in order to support a more aggressive R&D effort through the establishment of a new R&D department, expand its product line, and continue to grow the company, according to Engineering Supervisor Willian Sartori. "We had a lot of problems related to revision control with our previous product data management system, primarily because it was not integrated with our SOLIDWORKS®



"We're growing and looking to expand our product line into different areas, which is why solving our PDM issues was so important. Because tapping data management solutions on the **3DEXPERIENCE** platform makes us more efficient and productive, we're able to focus additional resources on R&D."

— Willian Sartori, Engineering Supervisor

3D CAD design tools, which we have used since the company was founded," Sartori explains.

"We were spending a lot of time and money on reworking designs due to people working with the wrong revision or overwriting someone else's work," Sartori recalls. "We also needed to manually manage our data because we were using a PDM system that was not integrated with SOLIDWORKS. That's when we approached our SOLIDWORKS reseller, SKA, and learned about automated management of SOLIDWORKS design data using cloud-based **3DEXPERIENCE**® Works solutions."

MP Agro added Collaborative Business Innovator, Collaborative Industry Innovator, and Collaborative Designer for SOLIDWORKS on the cloud-based **3DEXPERIENCE** platform to its existing SOLIDWORKS Standard, Professional, and Premium installation in mid-2021. Collaborative Industry Innovator has provided the company with automated data management in the cloud. "We are very fortunate to have found the **3DEXPERIENCE** Works solutions that allow us to improve data management in the cloud, especially since we don't need more expensive computers or servers to use it," Sartori stresses.

### SECURING DATA, ELIMINATING REVISION ERRORS

Since implementing **3DEXPERIENCE** Works solutions, MP Agro has cut its development cycles in half and decreased development costs by 50 percent, because the solution has enabled the company to tighten revision controls and eliminate revision errors, which were previously frequent. "Our problems were not related to corrupted data but had more to do with having five people working on the same project and either using the wrong revision or overwriting the right revision," Sartori recounts.

"Now, we've completely eliminated revision errors, which has helped us to cut costs and development cycles by 50 percent," Sartori notes. "In the past, we lost a lot of time and money because we'd have to go back and do it all over again to address errors. With the **3DEXPERIENCE** Works data management capabilities in place, we are now better equipped and more ready to intensify our product development efforts."

## LAUNCHING R&D DEPARTMENT IN CLOUD

Those intensified product development efforts include the establishment of a new R&D department that is separate from the Product Development Department. This new R&D department will look to the future and near future in terms of growing the company's product line while Product Development focuses on the here and now. "We're growing and looking to expand our product line into different areas, which is why solving our PDM issues was so important," Sartori points out.

"Because tapping data management solutions on the **3DEXPERIENCE** platform makes us more efficient and productive, we're able to focus additional resources on R&D," Sartori explains. "For example, the increased collaboration and innovation facilitated by the **3DEXPERIENCE** platform has led to development of a new product called Bunker, an insecticide sprayer filling system that reduces the time needed to reload the sprayer from an hour to a few minutes."

## RUNNING SIMULATIONS USING CLOUD COMPUTING

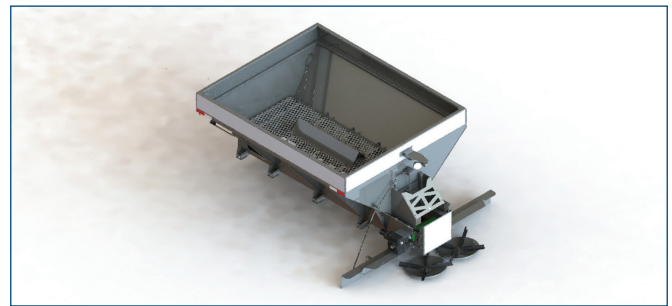
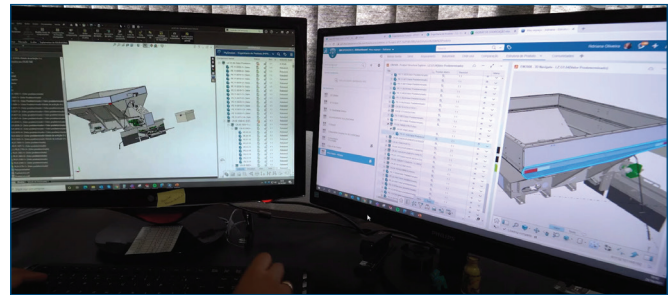
In addition to tapping the **3DEXPERIENCE** Works portfolio to provide automated data management in the cloud, MP Agro is planning to acquire the Structural Performance Engineer role soon, which provides access to SIMULIA®'s advanced simulation capabilities as well as additional computing power in the cloud. Although the company's engineers have been using the simulation capabilities of SOLIDWORKS Premium software for some time, the addition of the Structural Performance Engineer role on the **3DEXPERIENCE** platform dramatically expands the company's simulation capabilities and computing resources.

"As our R&D effort continues to grow and intensify, and our products become more sophisticated, we'll be adding Structural Performance Engineer to expand the types of analyses that we can conduct," Sartori says. "Our quality has always been good, but with access to SIMULIA's analysis capabilities and the ability to buy computing cores in the cloud to run advanced simulations without having to tie up our local computing resources, we anticipate further reductions in the amount of product prototyping required, helping us to reduce development costs even more."

**Focus on MP Agro Máquinas Agrícolas**  
VAR: SKA, São Paulo, Brazil

**Headquarters: Avenida Luiz Pavão**  
150-Distrito Industrial  
Ibaté-SP, 14815-000  
Brazil  
Phone: +55 16 3353 7320

**For more information**  
[www.mpagro.com.br](http://www.mpagro.com.br)



By adding **3DEXPERIENCE** Works solutions to its SOLIDWORKS installation, MP Agro has taken its data management function into the cloud, enabling the company to launch a cloud-based R&D group focused on developing the new products that will help the company continue to grow.

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**Americas**  
Dassault Systèmes  
175 Wyman Street  
Waltham, Massachusetts  
02451-1223  
USA

**Europe/Middle East/Africa**  
Dassault Systèmes  
10, rue Marcel Dassault  
CS 40501  
78946 Vélizy-Villacoublay Cedex  
France

**Asia-Pacific**  
Dassault Systèmes K.K.  
ThinkPark Tower  
2-1-1 Osaki, Shinagawa-ku,  
Tokyo 141-6020  
Japan

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