

# PÄSSILÄ BICYCLES ADVANCING TITANIUM BICYCLE FRAME DEVELOPMENT WITH 3DEXPERIENCE WORKS SOLUTIONS

Case Study



Founded by a group of childhood friends whose passion for mountain biking began on rides throughout the Pässilä wilderness in Finland, Pässilä Bicycles moved to SOLIDWORKS design tools and cloud-based 3DEXPERIENCE Works solutions to improve collaboration, develop more advanced products, and support growth.

### Challenge:

Advance the development of titanium bicycles, frames, and components by shortening design-through-prototyping cycles, facilitating greater collaboration, and creating more complex product designs.

### Solution:

Replace 2D tools with SOLIDWORKS 3D design software and connect collaborators in the cloud via the **3DEXPERIENCE** platform.

### Results:

- Cut time-to-prototype from three months to three weeks
- Improved quality using 3D visualization and collision detection tools
- Realized transparent data management
- Enhanced collaboration in the cloud

Taking its name from the Pässilä wilderness, where its founders first rode trails and developed their passion for mountain biking, Pässilä Bicycles is a growing cycling company based in Nopankylä, Finland. Riding the Pässilä wilderness trails offered the founders lots of variation in terms of technicality, elevation, and nature, and helped them to develop bicycle frames that are now sought after by many serious mountain biking enthusiasts. The company's titanium Enduro, trail, dirt jump, and slopestyle mountain bike frames and components offer mountain bikers a whole lot more than is typically available with traditional mountain bike models.

According to CEO Markku Hautamäki, the founders of Pässilä Bicycles are a group of friends who have known each other since they were kids and have been riding mountain bikes together since the early 1990s. Over the years, the group has ridden just about every kind of mountain bike, ranging from fully rigid to full-suspension downhill bikes to fat bikes. Their deep experience and common interest in mountain biking have inspired them and kept them working together, resulting in the company's signature titanium mountain bike frames, which are more durable and don't rust like traditional steel frames.

The friends first discussed founding a bicycle company in 2006 and founded Pässilä Bicycles in 2018. Initially, Pässilä Bicycles used BikeCAD® 2D design software to create sketches of bike frame designs and 2D engineering drawings for production. However, as the company grew in size and demand for new models continued to increase, Hautamäki says the bike manufacturer needed to move to 3D design to shorten development cycles and advance design complexity and innovation. "While our business experienced steady growth since the beginning, the launch of our Enduro frame in early 2020 really took off—it's our best-selling model—and we realized that we would need to advance and accelerate

new bike frame development to continue to grow," Hautamäki explains. "To do that, we needed to move to 3D design to aid product development and find an efficient method to collaborate because we all work in different locations."

Pässilä Bicycles was immediately drawn to SOLIDWORKS® 3D design software because it is widely used by major bike manufacturers and the industrial designer with whom the company works knew how to use and was very comfortable working in SOLIDWORKS. In speaking with SOLIDWORKS reseller PLM Group Suomi Oy, the bike manufacturer learned that it could collaborate in the cloud on SOLIDWORKS designs on the **3DEXPERIENCE®** platform. In addition to implementing SOLIDWORKS design tools in February 2021, Pässilä Bicycles added the Collaborative Business Innovator, Collaborative Industry Innovator, and Collaborative Designer for SOLIDWORKS roles on the **3DEXPERIENCE** platform.



**"The **3DEXPERIENCE** platform not only gives us a cloud-based collaborative work space but also a place to store and manage data accurately and securely. We're a small company and can't afford to purchase our own server and database. With **3DEXPERIENCE** Works solutions, we have the transparent data management system that we need to control revisions and their potential impact on product quality."**

— Markku Hautamäki, CEO

"We need to develop more complex products and become more efficient in the way that we work," Hautamäki points out. "None of us work in the same building, and our designer works in the evening while the rest of us work during the day. With **3DEXPERIENCE** Works solutions, we have realized the collaborative work space in the cloud that we need to collaborate more efficiently."

### FASTER TO PROTOTYPE, FASTER TO MARKET

Since moving to **3DEXPERIENCE** Works solutions, Pässilä Bicycles has cut the time required to take a design to prototype from three months to three weeks, despite the fact that the company is adding new aesthetic features and frame components. "The key to eliminating so much time from our development cycle is having a more efficient and productive method to collaborate," Hautamäki stresses.

"Whenever our designer finishes a design, others on our team, including me, add features and suggest changes before we release the design to prototype," Hautamäki continues. "In the past, we reviewed 2D drawings, made markups, passed



the drawings, and updated the design for further collaborative review, a process that took about three months. With the **3DEXPERIENCE** platform, we can now fetch the 3D design from the cloud and collaborate instantaneously, enabling us to finalize a design for prototyping in three weeks instead of three months."

## IMPROVED VISUALIZATION AND DATA MANAGEMENT

In addition to establishing a collaborative 3D space in the cloud, **3DEXPERIENCE** Works solutions provide the design visualization and data management capabilities that Pässilä Bicycles leverages to improve product quality. "Using **3DEXPERIENCE** Works solutions, we can better visualize how the frame will look and make sure that all of our clearances are adequate to prevent collisions and interferences before building a prototype," Hautamäki notes.

"The **3DEXPERIENCE** platform not only gives us a cloud-based collaborative work space but also a place to store and manage data accurately and securely," Hautamäki adds. "We're a small company and can't afford to purchase our own server and database. With **3DEXPERIENCE** Works solutions, we have the transparent data management system that we need to control revisions and their potential impact on product quality."

## ADVANCING PRODUCT COMPLEXITY

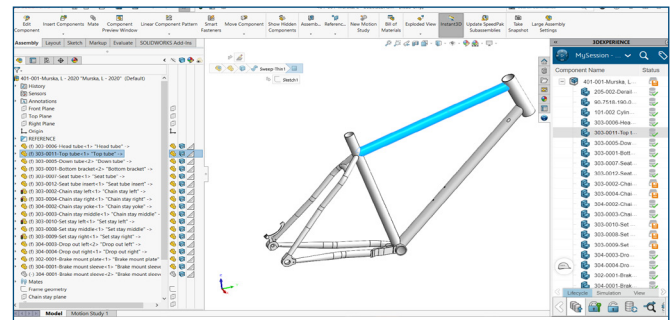
With the more efficient collaboration and data management afforded by **3DEXPERIENCE** Works solutions, Pässilä Bicycles can more productively and cost-effectively advance the complexity of its designs. "Because of the way that we worked in the past, we simply didn't have the time to develop more complex products and then store and manage the data associated with them," Hautamäki says.

"Our customers are looking for something different and out of the ordinary," Hautamäki adds. "Using **3DEXPERIENCE** Works solutions, we are better positioned to continue to meet customer demand for complexity, innovation, and customization."

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Using the combination of SOLIDWORKS and **3DEXPERIENCE** Works product development solutions, Pässilä Bicycles has reduced time to prototype for new products from three months to three weeks, shortening time to market overall while simultaneously advancing product complexity.

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