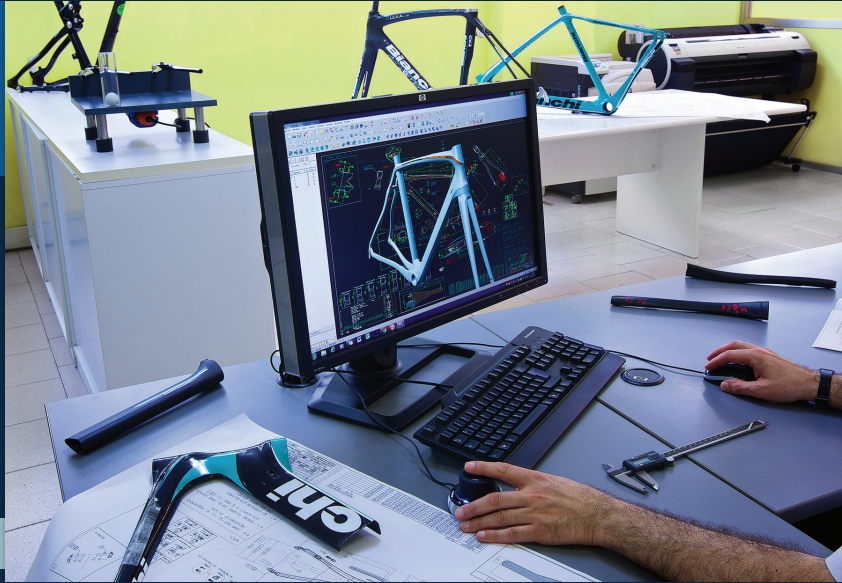


BUILT FOR SPEED



Bianchi Bikes Accelerates Development Cycle with 3D Printing

"With our Dimension 3D Printer, we were able to master the locking system in less than 24 hours at a fraction of the cost. Having this capability enables us to spend more time perfecting our designs and less time worrying about whether our suppliers will deliver parts on time."

— Fabio Ferri

Bianchi Bikes' prototypes are designed on 3D CAD software.

Bianchi Bikes is one of the leading international brands in the cycling sector with almost 130 years' experience as a premium manufacturer of mountain and road bicycles for professional racing teams and racers. The company, based in Treviglio, Italy, is well known for producing top-quality bicycles, which have been showcased in high-profile cycling races including the Tour de France and Giro d'Italia.

Bicycle manufacturing demands the connecting of many complex parts to produce the final product. In the past, Bianchi Bikes outsourced the lock fixtures of its bike frames in the assembly phase. This approach required considerable time for creating a computer numerical control (CNC) program to develop complex locking systems, increasing the labor, lead time and cost.

The company now produces a number of prototype parts using a Dimension® 3D Printer, including bicycle frames, forks, components for compatibility testing and model validation.

"We recently produced lock-in fixtures very successfully during the assembly phase," says Fabio Ferri, Chief Designer at Bianchi Bikes. "With our Dimension 3D Printer, we were able to master the locking system in less than 24 hours at a fraction of the cost. Having this capability enables us to spend more time perfecting our designs and less time worrying about whether our suppliers will deliver parts on time."

The company was introduced to Stratasys® 3D printing technology by Italian reseller Energy Group. Lucio Ferranti, owner of Energy Group, says, "The company required a prototyping solution that would help reduce product turnaround time, as well as lower costs. In a sport that demands such high-level production and performance, it was clear that FDM Technology™ and its prowess for functional testing was the ideal solution."



3D printed bicycle frame using its Dimension 3D Printer and ABSplus™ material



This complete bicycle frame used for functional testing was 3D printed with the Dimension 3D Printer.

stratasys®



Taking 30 percent off time to market

The bicycle manufacturer enhanced its product development process since installing its Dimension 3D Printer. Bianchi has reduced lead times, while enjoying a significantly lower cost.

“Today 3D printing is completely integrated into our product development process,” says Ferri. “We’ve increased quality and efficiency by reducing our time to market between 25 to 30 percent, and with new materials available we have been printing parts directly for low-quantity production.”

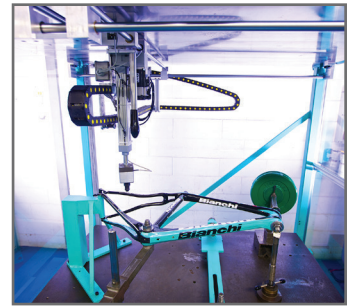
Tailored to customer demands

With its Dimension 3D Printer, Bianchi Bikes has also strengthened its customer interaction. Ferri explains that the 3D printer enables Bianchi to show customers its bicycle components faster and get immediate feedback. “This, in turn, helps us economize our expenses as we can edit the designs on our CAD software and print the revised part. Before, we had to liaise with our service provider which was very time-consuming and more expensive.”

Pushed to the Limit at the Tour de France

The company unveiled its most recent development at the Tour de France 2013 – a cutting-edge bicycle tested to its limits by a number of high-profile racers. To deliver sporting success at this level, Bianchi Bikes used 3D printing to perfect its bicycle design. Using the Dimension 3D Printer to produce the frame, the design team performed validation tests before moving onto the additional components and accessories. This enabled the designers to make multiple iterations to the prototype until validation of the entire bicycle was achieved.

“Having the ability to produce functional prototypes that can endure the stress of the testing process – in such short time frames – allows us to stay at the forefront of bicycle design and deliver next-generation products,” Ferri says.



A test machine verifies structure and resistance of the 3D printed frames.



A Bianchi team member puts finishing touches on a bike frame created with the Dimension 3D Printer.

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