

APPLICATION STORY



Right on Target: Tiberius Arms Perfects Design with uPrint

"We're able to cut the design time and problem resolution time in half, while at the same time doubling quality."

— Dennis Tiberius,
Tiberius Arms

Producing a single product for both recreational use in backyards as well as intense battle simulation on military bases is a daily order of business for one Indiana-based company. Father/son-founded Tiberius Arms specializes in the design, development, and manufacture of advanced pneumatic weapons with an emphasis on "less-lethal" solutions for police, military, and security agencies – as well as the recreational paintball market.

From Doodle to Prototype

With his high school math teacher's voice in the background, co-founder Tyler Tiberius spent class time one fall day back in 1988 doodling in his notebook rather than paying attention to the difference between 'sine' and 'cosine.' "I had no idea one of my doodles would evolve into a sketch of an innovative paintball gun design, and the launch of Tiberius Arms," Tyler says. The first-of-its-kind design featured a gun with both the paintball and the CO2 cylinder air source bound together.

Months after his original doodle, Tyler and his father Dennis, an engineer, traveled the country touring colleges, and along the way approached several paintball stores with the proposed design. To their surprise, Tyler's idea was extremely well received.

Dennis and Tyler immediately went to work. After years of prototyping, Tiberius Arms and Tyler's patented design were launched in December of 2005. In 2006, they introduced their first product, a sniper rifle. Three years later came the first strike projectile, which is 20 times more accurate than a standard paintball gun.

Product design advancements throughout the years did not come as fast and easy as did Tyler's original doodle. Designs were created in Utah, metal prototypes were modeled in Indiana, and shipping caused the process to be excruciatingly slow.

"On top of time wasted, numerous mistakes resulted because there was no way to efficiently and cost-effectively develop multiple prototypes for the testing of the models," says Dennis Tiberius. "Unseen design errors occurred, which became a serious product development issue. Models did not always match our drawings and development time was extended significantly."

Taking Aim on Design with Dimension

Dennis determined that in order to succeed as a company, Tiberius Arms would need to improve product development processes in terms of both time and money. Research led him to 3D printing, and after evaluating his options, Dennis purchased a Dimension uPrint 3D Printer from FISHER/UNITECH – a Dimension value-added reseller and leading provider of product lifecycle management solutions.



“With Tiberius Arms, we had an opportunity to significantly cut design time and costs related to prototyping with the introduction of 3D printing into their design department,” said Joe Rocca, Rapid Technology Manager of FISHER/UNITECH. “They chose the uPrint – the perfect solution for a shop of their size, looking for a cost-effective 3D modeling solution.”

The purchase of the uPrint 3D Printer allowed the team to see prototypes from conceptual design to a physical model in a durable ABS plastic before committing to the high cost of producing the product in metal. The result? Better looking, better working parts and improved product appeal.

With his new uPrint, Dennis and his team are now able to make different versions of their guns, all out of cost-effective ABS plastic. They are able to quickly verify form, fit and function and today, everything Tiberius Arms produces is first prototyped with the uPrint.

“We’re able to cut the design time and problem resolution time in half, while at the same time doubling quality,” sites Dennis.

Tiberius Arms recently received an order of approximately 2,000 guns, pistols and rifles for military, police and security guards. “I’m confident that this company wouldn’t be near the level of efficiency – and subsequent success – it is today without prototyping capabilities of Dimension’s 3D printing,” said Dennis.

Tyler Tiberius, with his class-time doodling long behind him, agrees. “The uPrint has taken my sketches from paper to plastic, which has afforded our team the opportunity to bring innovative products to the market faster.”

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