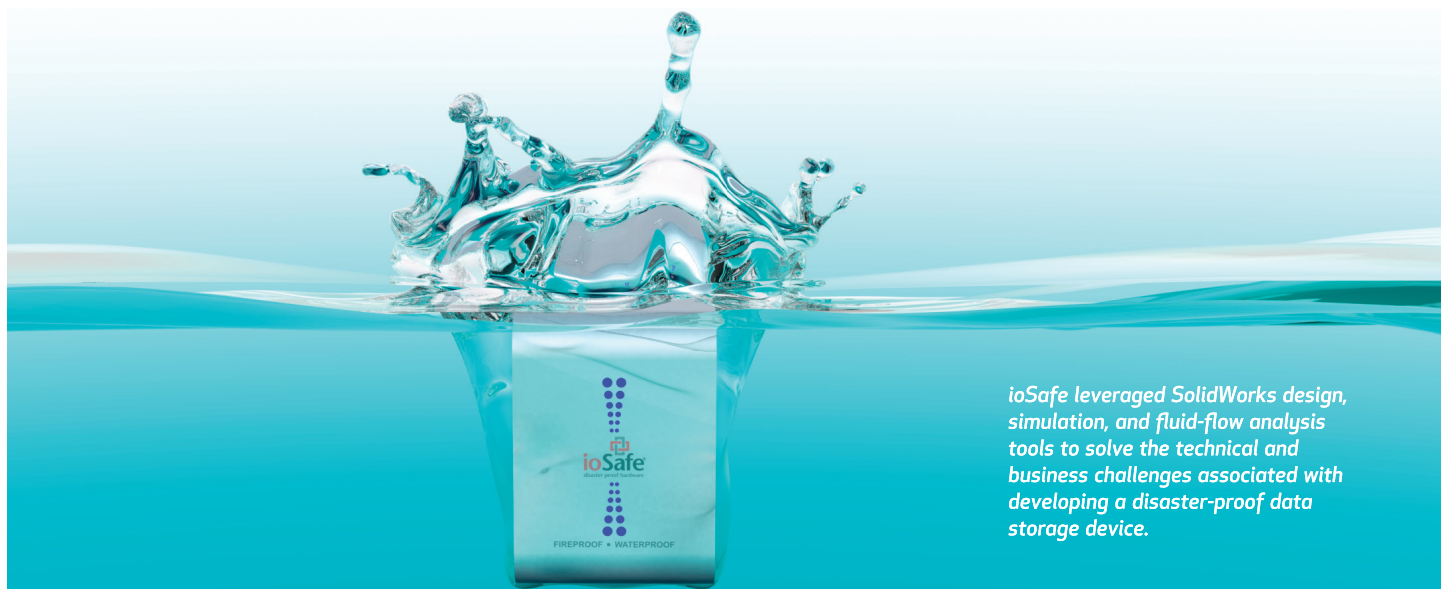


# IOSAFE, INC.

Burn it, flood it, restore it—Fireproof, waterproof hard drive designed with SolidWorks software



*ioSafe leveraged SolidWorks design, simulation, and fluid-flow analysis tools to solve the technical and business challenges associated with developing a disaster-proof data storage device.*

Truly safeguarding your data, whether it contains business information, personal finances, or photos of your children, demands more than a simple backup to a standard external hard drive. What happens when scorching fire, damaging floodwaters, or earthquake tremors hit your home or business? Today, some of your most precious effects reside on a computer hard drive—files that can never be replaced—unless you back them up and store them elsewhere.

ioSafe, Inc. set out to provide simple protection for the growing volume of valuable personal and business data by creating disaster-proof data storage devices for computers ranging from notebooks to enterprise data centers. Like an “aircraft black box for your data,” disaster-proof hardware presents both business and technical development challenges, according to ioSafe CEO Robb Moore. A trained engineer as well as an entrepreneur, Moore understood that launching, sustaining, and growing ioSafe would require a design platform that not only helped his company solve the complex physics involved, but also provided a foundation for accelerating product development and supporting rapid growth.

“We knew that we were on to something because data—precious photos, video, and critical business data—is the one thing that insurance can’t replace,” Moore explains. “But we needed the right tools to solve the engineering problems we encountered and to push development at a pace that kept us ahead of the competition. At the speed at which technology is moving, we simply need to be faster than anyone else.”

Having operated a product development firm prior to founding ioSafe, Moore had used a variety of CAD systems and engineering software. He chose SolidWorks® design software, SolidWorks Simulation, and SolidWorks Flow Simulation computational fluid dynamics (CFD) analysis software because the integrated solution would enable ioSafe to meet its business and technology objectives.

“Taking all of these diverse engineering and business goals and bringing them all together is a major challenge. SolidWorks has made balancing these goals possible,” Moore notes.

## Challenge:

Develop a disaster-proof data storage device at an affordable price point that can adequately cool with airflow yet withstand damage from fire and water.

## Solution:

Implement SolidWorks design and simulation software to study the physical forces at work and accelerate development.

## Results:

- Cut time-to-market by 75 percent
- Saved \$15,000 per design by eliminating prototypes
- Supported annual growth of 400 percent
- Trained new designers in 80 percent less time

## Simulation helps cool electronics

The greatest technical hurdle that the company faced was inventing a way to cool the heat-generating electronics inside a perfectly insulated enclosure. ioSafe's unique enclosure had to protect the drive from the temperature of a fire—around 1550°F—and remain waterproof, while retaining a venting-and-fan system for cooling operational electronics.

Using SolidWorks design and simulation tools, ioSafe invented its unique hard drive by resolving the conflicting goals inherent in the design. The design begins with a thin, metalized, heat-conductive yet waterproof barrier that surrounds the hard drive. With this element, you can throw the hard drive in the ocean and submerge it for days without damage. Heat created by the hard drive passes through the waterproof barrier and into the cavity within the enclosure.

"SolidWorks Flow Simulation is perfect for quickly optimizing the balance of air flow for cooling and outward steam flow during a fire," Moore stresses. "We saved \$15,000 on product development resulting in a better optimized design by making virtual prototypes. By using simulation tools to optimize our air flow, we can achieve heat and water protection while maintaining vents that are appropriate for normal operation."

## Slashing design cycles

The result of using SolidWorks software to design and optimize the ioSafe Solo was a 75 percent reduction in time-to-market through shorter development cycles. "With SolidWorks software, we brought our design time down from four months to a single month, reclaiming three months of potentially lost sales of a high-demand product. What we've done wouldn't be possible without integrated CAD and simulation software for quickly iterating virtual prototypes."

This dramatic improvement in time-to-market has allowed ioSafe to increase its product offering, expand its distribution channel, and grow its business. Moore says the privately held company is growing at a rate of 400 percent each year.

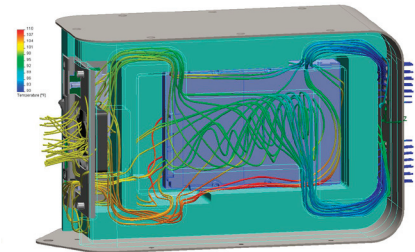
## Minimal training demands support growth

With such explosive growth, ioSafe relies on SolidWorks to help it more effectively manage its burgeoning design department. Moore says one of the deciding factors in his selection of SolidWorks software is that engineers can learn how to use the software and become proficient faster than with other design solutions.

"As a company owner, finding quality engineers and getting them up to speed quickly is a big expense," Moore points out. "SolidWorks software gives me the upper hand. It takes probably one-fifth of the time to get new employees to the point where they can use powerful features, add value, work quickly, and contribute to the team."

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Robb Moore  
CEO



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