

## Case Study

Intel® Xeon® processor technology, Intel® Core™ 2 Duo processor technology, Intel® Core™ 2 Quad processor technology



**“Intel has been flawless,” says Bailey. With Intel at the core of its servers, desktops and laptops, Design 1st has the right combination of speed, reliability and power management that the small office needs to deliver products to customers on the timetable they require.**

# Inventions Given Life At Design 1st

## Intel technology powers design and prototype services

In 1996, Kevin Bailey started Design 1st to put a physical structure around the product ideas of businesses and entrepreneurs. From a business started in his garage, Design 1st is today a 10-person international product development company.

“Companies knock on our door when they have an idea,” says Bailey. “We do technical mechanical engineering and industrial design which includes the look and feel of a product, as well as product feasibility. We give companies robust, reliable and eye catching enclosures for products that look great and are easy to use.”

Design 1st leads clients through a series of product development phases from product specification and feasibility, concept development, detailed design, prototype, tooling, testing and help navigate the start up of product manufacturing.

“We are recognized as a leader in our market and have experience knowing how to approach global product development,” adds director of operations Ian Kayser.

In the past three years, the company’s revenues have increased more than 100% and seen profitability grow more than eight times. Bailey projects the business will grow from 10 to 15 people in the next two years.

With tighter time frames to bring products to market, complex software required to process design and 3D engineered drawings and plans for company growth, Design 1st needed a network infrastructure, coupled with powerful desktop and laptop computers that could handle the processing intensive applications needed to turn ideas into products.

With Intel at the core of its servers, desktops and laptops, Design 1st has the right combination of speed, reliability and power management that the small office needs to deliver products to customers on the timetable they require.

“Intel has been flawless,” says Bailey, noting downtime costs the company as much as \$200 for every hour one staff member can’t work.

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## Bringing Products To Life

From a clear understanding of the client’s goals and market, Design 1st starts creating a product’s physical “skin”. Using two dimensional sketches, and in some cases preliminary product engineering, Design 1st shows customers product concepts that are refined into a final product design that is ready for manufacturing.

From initial design to constructing the prototype, Design 1st relies on its desktop computers to provide the power it needs to render the device and ensure its parts function correctly. Since customers require stringent security measures to protect their inventions, the company needs a robust server environment that has the security and reliability needed to protect the evolving product design.

“We are not just drawing pretty pictures,” says Kayser. “We are actually drawing what’s possible with the constraints we are facing.”

“Time to market is more demanding than ever before,” says Bailey, noting some products need to be ready for market within seven months, four to five of which is needed for tooling and production, leaving Design 1st only two months to get a prototype designed from concept to pre-production.

Williams estimates that upgrading to workstations powered by Quad Core Intel® Core® 2 processor technology yielded 30% faster processing speed for his computational intensive CAD and rendering programs.

To meet these tight timeframes, Design 1st uses a range of software solutions to speed decision-making. Design 1st can bring its clients into the office to see sketches on an interactive whiteboard (SMART Board\*) connected wirelessly to a laptop powered by Intel® Core® 2 processor technology. In real time, clients and Design 1st teams can mark up the images and save the modifications to a variety of file types to speed version changes.

"Customers can walk up to the board, rotate, zoom and draw directly on the 3D CAD parts projected on screen. It helps us make decisions faster," says Bailey.

In addition, Design 1st uses e-drawing technology, which Kayser explains allows clients to "open" the product, rotate it, view layers, and see how pieces fit together, while maintaining the integrity of the source file.

"Usually we work on 3D concepts and tablets are great for taking a screen shot, drawing on it and dropping it into an email for a client," says Patrick Williams, design team leader. "Within two minutes, a client can get back to us with a yes or a no. If you send drawing to a manufacturer and parts are not coming back right, you can draw right on a drawing and send it back in illustrator, pdf, circle things or make notes very quickly."

## Speeding Design

Time in this business is important, says Kayser, noting that clients are billed by the hour and get a weekly summary of time spent on the account. "Any time we can save through faster processing, is time we can pass on to our clients," he says.

"We need speed," adds Williams. "We need good graphics capabilities at our work stations and super computing power to simultaneously run intensive programs. You can open up a small little product in 3D-CAD, and because it's so processor intensive, you need power to crunch the numbers fast."

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To further speed turnaround times for clients, Design 1st uses its in-house machining centre to turn 3D-CAD drawings into working models often overnight. This centre depends on fast processing of its computer powered by Intel® Core® 2 Quad processor technology to control the machinery building the parts including CNC tooling equipment.

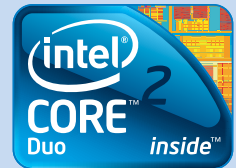
## Security

Since Design 1st is bringing ideas for future products into tangible marketable devices, ensuring the security of client data is essential. Design 1st requires that all files are worked on from a centralized server, which is automatically and redundantly backed up. That means that the company's designers and engineers are all accessing information and files from a centralized secure location, which needs the power and reliability of Quad Core Intel® Xeon® processor technology to ensure no one is left waiting.

In addition to reliability and raw processing power, Design 1st needs computers that effectively handle power requirements. As a small office, heat and low power consumption are important considerations in their server selection.

## About Design 1st

Based in Ottawa, Design 1st is a physical product design and development team that combines industrial design and mechanical engineering to provide companies, entrepreneurs and start up ventures with turn key product development resources. With more than 25 years experience, Design 1st product development teams turn company ideas and electronics into physical products that are ready for market.



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For more information on Intel® Core™ 2 Duo processors, visit [www.intel.com/Consumer/Learn/Notebook/core2duo-detail.htm](http://www.intel.com/Consumer/Learn/Notebook/core2duo-detail.htm)

For more information on Intel® Core™ 2 Quad processors, visit [www.intel.com/Consumer/Learn/Desktop/core2quad-detail.htm](http://www.intel.com/Consumer/Learn/Desktop/core2quad-detail.htm)

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