CoolIT systems™

CoolIT Systems Leads the Way with Liquid Cooling
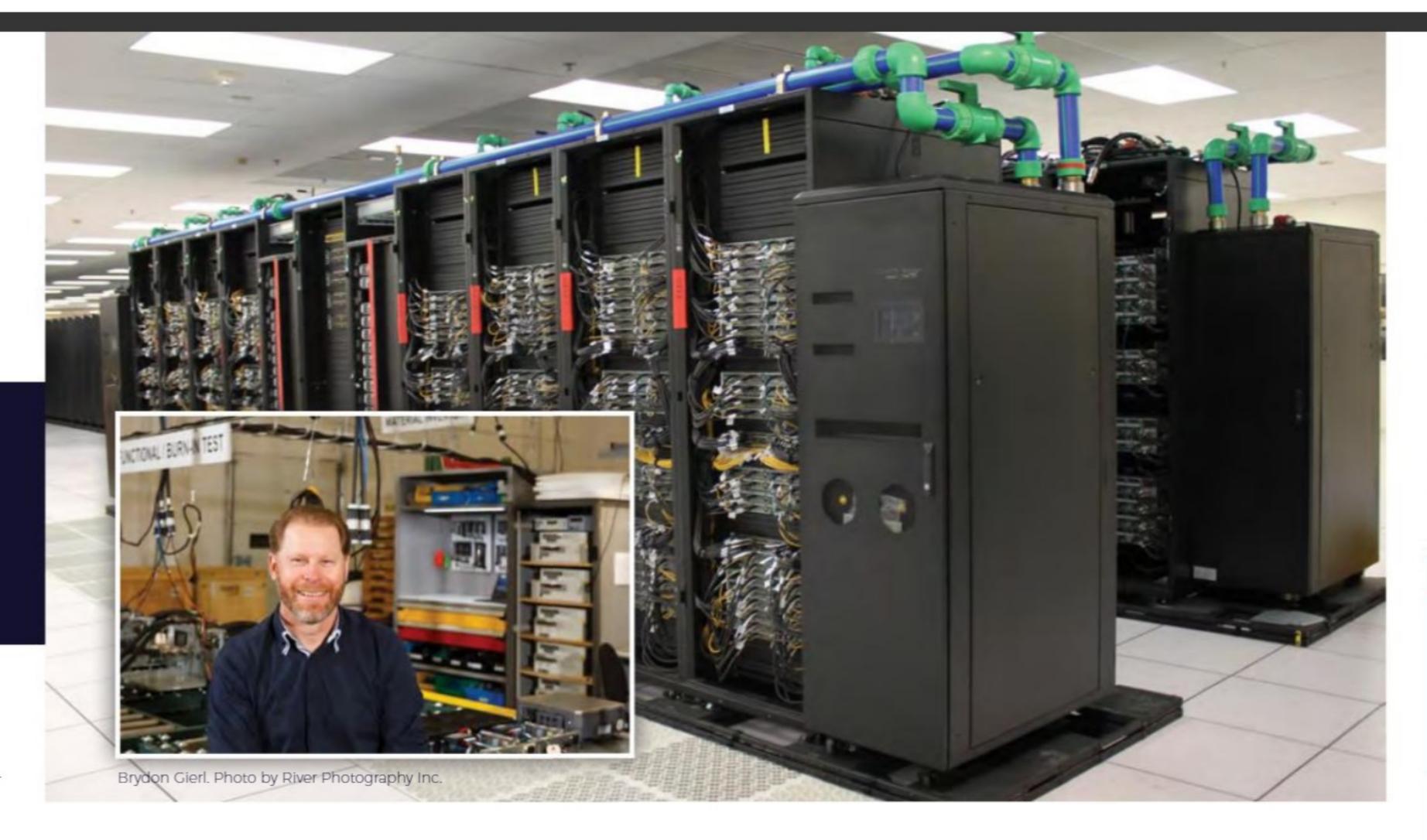
by Rennay Craats

Brydon Gierl. Photo by River Photography Inc.

CoolIT Systems is a high-tech Canadian Cinderella story: a couple of guys start tinkering with an idea in their basement and grow it into a global leader in computer liquid cooling solutions. The original idea would help their gaming buddies maximize computer system performance by introducing a way to cool the components efficiently. After 20 years of innovating and dedicating themselves to customer success, they have become the market leader in multiple industry segments and show no signs of slowing down. The company ended 2020 with a record $94 million in revenue and a historic level of open orders across both the data centre and desktop segments.

"We were just gearheads who liked to fix things," says Brydon Gierl, co-founder and senior vice president. "Once gaming enthusiasts started to figure out what we could offer, we quickly realized the need to productize this, look at more financing and move into an actual office."

Growth has been organic, first in high-end gaming desktop computers and then into high-performance data centres. For each, CoolIT created cutting-edge solutions for end-users who require stability, increased performance, quieter operations and efficient cooling. An early relationship supplying local success story Voodoo PC with cooling systems brought attention to the fledgling IT company, and after Voodoo sold to HPE, a new relationship with the tech giant helped fully launch CoolIT.

Around 2009, U.S. marketing machine Corsair contacted Gierl about adding CoolIT products to its offerings. At the time, CoolIT was manufacturing and distributing its own line of all-in-one desktop coolers to the market under the CoolIT brand and competing directly with Corsair. Corsair represents everything PC – chassis, speakers, keyboards, mice and all other periphery items geared toward gaming or higher-end systems – and with its large marketing budget and ability to distribute products around the world, it was a perfect fit to accelerate CoolIT's revenue growth.

"In collaboration with Corsair, we produced the products with their branding and they managed global distribution. It was an amazing ride that took our revenues from a few million per year to over $10 million almost instantly," Gierl says.

CoolIT went from small-volume manufacturing on its own to filling thousands of product orders each month, making it Corsair's top supplier for liquid cooling systems. Not content staying static, the company identified a new market for its patented designs: data centres. In 2011, the team started showing prospective data centre clients the value of CoolIT's products, manufacturing capabilities and commitment to quality which helped ease their apprehension about jumping on board with something new. CoolIT only had to point to its success with desktop systems to demonstrate the potential.

It took a few years for data centre clients to make the leap too but now CoolIT is blazing a trail in the sector as it solves the problem of heat dissipation in data centres. Previously, data centres would require the use of energy-intensive air conditioners to keep the room temperature low and provide servers with the cold air needed to cool their electronics. The cold air would rapidly heat up and be exhausted out of the rack, needing to be cooled down once again by air conditioning systems. The entire air-cooling process is unprecise and often leads to hotspots in the data centre which can lead to significant performance issues and reliability. Air-cooled rack densities were commonly as low as 5-10 kilowatts per rack as facilities couldn't handle any more than that.

CoolIT's direct liquid cooling solutions eliminate the need for air conditioning and increase the efficiency and lifespan of the servers by ensuring the servers can operate at their highest performance levels without risk of thermal shutdown or throttling. Direct Liquid Cooling takes advantage of the superior thermal conductivity of liquid and provides very effective and consistent cooling. The system pumps the coolant from a centralized cooling distribution unit to the servers and transfers the heat away so it can be cooled down more efficiently elsewhere in the building using low-energy methods.

"In a typical high-performance customer data centre, each rack is 50 - 80 kilowatts of capacity," says Gierl. "Compared to an air-cooled data centre in the same physical footprint, they can increase their density significantly and build much more powerful data centres. In the supercomputing world, customers often have an existing building they must work with and need to add significantly more computing capacity while still ensuring they have enough cooling capacity."

Clients see the value too. CoolIT has attracted the attention of server OEMs over the years and now, rather than designing to try to fit a client's existing system, CoolIT is consulted before the new server launches in order to integrate the cooling systems directly into the chassis. As data centres continue to grow with projections into the 10s of billions of dollars in revenue, CoolIT anticipates growing alongside it. Gierl projects surpassing $100 million in revenue in the near term with the opportunity to quadruple that in the next few years.

The company has matured out of the start-up phase and into a global tech leader with a strong foundation that will support its continued growth. The future holds new locations in the USA and in Taiwan to be close to Asian partners and OEM facilities. It is also expanding its Calgary operations to accommodate its exponential growth by better supporting R&D, production and testing.

CoolIT is always looking for growth opportunities and considering acquiring key technology companies in their space to accelerate their expansion and improve their current solutions.

"We've been flying under the radar as a Canadian tech success for several years as we grew," says Brydon Gierl. "We're excited to start showing off what our incredible team can do next."

CoolIT Systems is on everyone's radar now as it leads the charge of technology companies in Calgary.