

# The Next Big Wave

May 21 2010, by Miki Huynh

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Dan Bolfing with a Zystech machine for prototype design. Photo Credit: Diane Farrar

Dan Bolfing, like energy guru Amory Lovins, thinks the greatest advances in transportation efficiencies can be attained with lighter weight vehicles and better aerodynamics.

Dan Bolfing knows how to ride a wave of opportunity when he sees one, and create a few of his own. Dan met Timothy Collins, founder of KleenSpeed Technologies Inc., and they formed a partnership for joint ventures between KleenSpeed and Dan's companies, ContactScale and Zystech.

"Dan is riding a composite tsunami," said Collins, noting that Bolfing is known as a preeminent source for composite parts for vehicles in the US

and around the world, with a specialty in exotic parts and emergent technology.

As a KleenSpeed partner, Dan consults, designs, CAD processes, 3-D renders, and prototypes the [electric vehicles](#) KleenSpeed outputs. He builds molds for custom 1-off automotive parts as well as parts in mass production. He also builds CNC hotwire machines that prepare the parts for cutting and drilling.

At his Zystech office in the old auto service station in [NASA](#) Research Park, Bolfig surrounds himself with electric car parts and unique prototyping machinery, but his story begins with surfboards. By the age of fifteen, Bolfig understood his passion for surfing. Since boards cost \$250-\$300 each, the high schooler found the sport out of his price range.

Instead of buying surfboards, he decided to build his own. Gathering inspiration for dimensions and decorative stenciling from surfing magazines, he shaped boards out of foam inside a home garage. With a little artistry and plenty of resourcefulness, he and a friend discovered they could hand make boards of better quality than the store bought variety, and Bolfig found his calling.

Things took sail when he upgraded to windsurfing at age thirteen, winning third place against the world's best in his first competition by the age of sixteen. It wasn't long until, disgruntled with college, Bolfig left San Francisco State University for Hawaii to seek out the legendary Jimmy Lewis, one of the world's best known windsurf board designers.

Bolfig recalls his first encounter with Lewis: "I'm hitchhiking up a mountain to get to Jimmy's workshop at the top. A car finally stops, and who is behind the wheel but Jimmy himself." Since the current board shaper at the shop, Peter Thommen, was abroad competing, Lewis agreed to hire eighteen-year old Bolfig, who was only in his second day

of residence in Hawaii, during Thommen's absence. A year later, Lewis invited Dan to work at his surfboard manufacturing company full-time - after Bolfig delayed college a second time, returning once more to Hawaii.

Bolfig gained international recognition in windsurfing competitions and board designs in the ensuing years, while helping the industry push changes in the materials used in windsurf boards, from polyester and Clark foam to full vacuumed bags foam construction. In Hawaii, Dan was at the epicenter of the windsurfing world, with his own company, designing boards for brands like Nifty, Cabrinha, Island Comp and Northshore Extreme (and finding time to visit California and graduate at San Francisco State University.)

After a decade of international success, as machine built boards saturated the market and Japan and Brazil entered an economic recession, the windsurf industry began to freeze. It was time to change course. Dan used his experience and self-built CNC (Computer Numerically Controlled) machines to create a successful sign making business, until a serious fall forced him into long-term rehabilitation.

With plenty of time to think, Dan decided his real passion is cars. With skills in building and modifying prototyping machinery, he planned to prototype movie cars in Los Angeles, but then recognized an epicenter of automotive innovation in the Bay Area, which he compares to the past hotbed for windsurfing in Hawaii.

Bolfig innovates new prototyping processes and new vehicles, and wants to push his fabrication team toward developing lighter weight [electric cars](#) for better mileage and overall improved safety. He is even investigating possibilities for constructing organic cars out of materials like paper and honeycomb.

KleenSpeed has exciting new projects on the way, and Dan Bolfin is ready to catch the next big wave."Dan's knowledge of composite fabrication technique is profound, and complemented by his ability to integrate software and hardware to design and produce CNC machines. Zystech Machines are cost effective and can enable manufacturers' use of composites in any country," Collins said.

Provided by JPL/NASA

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