

Made to order: Hill Guitar in tiny Ben Lomond shows how enterprises must be nimble in deciding where to make products, here and abroad

SIX-STRING STRATEGY



GARY REYES/STAFF PHOTOS

Simon Hill, one of owner Kenny Hill's sons, assembles a high-end model at Hill Guitar's Ben Lomond shop.

BEN LOMOND — Kenny Hill oversees a sophisticated global operation that manufactures classical guitars on two continents, with materials from around the world, to sell to customers in several countries — and he does it all from a converted house among the fog-shrouded redwoods of the Santa Cruz Mountains.



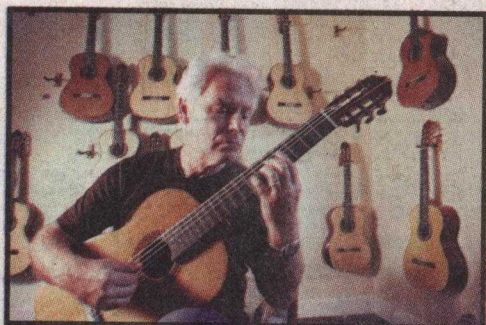
MIKE CASSIDY
SILICON VALLEY
DISPATCHES

"World headquarters in Ben Lomond!" Hill says, marveling that his complex enterprise is centered in a place better known for logging than logistics. Hill is the founder of Hill Guitar, an outfit that makes about 150 top-of-the-line instruments a year in a small plant with six workers just down the hill from world headquarters and an additional 50,000 a year that he has designed for more modest budgets in a factory halfway around the world in Guangzhou, China.

"Our business is as complicated as Honda or Mercedes," Hill says.

When I set out to explore manufacturing and its future in

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Even owner Kenny Hill is surprised by the global path of his business: "I was not an industrial mogul of any sort. I was just a barefoot artisan."

CRAFTING A SUCCESS STORY



Ben Lomond: In a workshop under the redwoods, above, Hill Guitar's six employees make 150 classical guitars a year, selling for \$5,000 to \$10,000.

Guangzhou: Hill Guitar's factory in China employs 200 workers who produce 50,000 instruments a year, carrying price tags of \$300 to \$1,800.

Oxnard (proposed): Working with a U.S. partner, Hill plans to make midrange guitars in Southern California, selling for \$2,500 to \$4,000 apiece.

China and U.S.: The necks of the high-end U.S. guitars are made in China, then shipped to Ben Lomond, where they're attached. The finished products might end up with buyers in China.



Online: Scan this code to see a photo gallery and video about Hill Guitar, or read more at Silicon-Valley.com/madeinthebayarea.

Cassidy

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the Made in the Bay Area series, I didn't expect to be making a trip up the winding road from Silicon Valley to Ben Lomond. The series has looked at how rising costs in China, increasing automation in the United States and growing globalization have made the decision about where to produce goods more complicated. And it turns out Hill's operation is an ideal illustration of another byproduct of those trends: More than ever, companies need to look at individual products when deciding where in the world they can be most efficiently made.

Hill makes his most expensive guitars close to home, where he can literally take a hands-on approach with the meticulously crafted instruments. In China, he relies on an assembly-line operation in a factory of 200 workers to provide economies of scale for guitars that sell for much less than his Ben Lomond models. And he's helping launch a plant in Oxnard that will produce guitars priced between the Ben Lomond and Chinese models and that require a level of hand-crafting greater than the Chinese products and less than the high-end guitars.

Santa Clara University business professor Andy Tsay says sophisticated manufacturers no longer take a one-size-fits-all approach. When looking at locations, companies have to think about the cost of labor and transportation, proximity to designers and key customers and whether they're comfortable exporting their intellectual property — concerns that might be more or less important depending on the specific product a company is making.

"A company is a collection of product lines," Tsay says, "so the decisions to outsource and offshore are really taking place at the individual product level."

Tsay points to NCR, which in 2009 moved the manufacturing of its high-end ATMs back to Georgia, so they were being made near NCR's U.S. designers and big customers, while continuing to make ATMs



Fructuso Zalapa carves the neck of acoustic guitar in Hill Guitar's workshop in Ben Lomond. Kenny Hill, the company's founder and president, chose to craft his most expensive guitars closest to home.

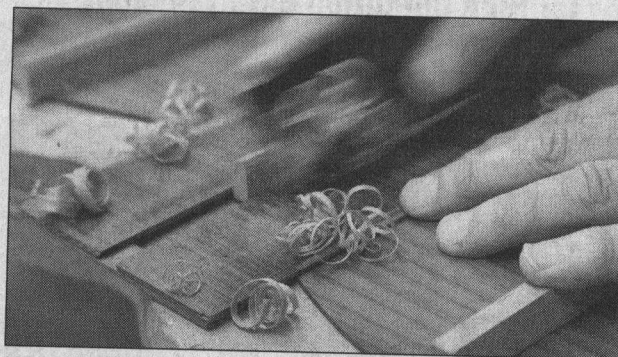
GARY REYES/STAFF PHOTOS

in China. Ro Khanna, who recently published "Entrepreneurial Nation: Why Manufacturing is Still Key to America's Future," regularly cites General Electric as a company that plots manufacturing strategy based on the product in question. The company has recently started making some appliances in the U.S.

"GE decided to bring dishwashers and refrigerators back, but not some of the other things," says Khanna, who served in the Obama administration's Commerce Department. "They brought it back because they thought the price point worked for that."

When Hill, a musician and teacher, started building guitars in the mid-1970s, he didn't intend to become a global manufacturing guru. "I was not an industrial mogul of any sort," he says, sitting in an office that feels more like a living room with gorgeous guitars hanging on the walls. "I was just a barefoot artisan."

But the laid-back luthier grew to understand that if he wanted to scale up his business, he'd need to go to China, where he could manufacture more cheaply



Kenny Hill uses a block plane, above, on the internal assembly of one of his custom-built acoustic guitars. A Signature Model guitar, seen at right, starts at about \$5,000. Only about 150 of those are made each year.

and on a grander scale. And he knew something else. "Everybody who goes to China wants cost and efficiency," he says. "But they've all got in the back of their mind that China is a billion and half people. It's the biggest emerging market in the history of the world and we want to be able to sell to them."

He knew expanding to Asia wouldn't be easy. "I had pretty much everyone warning me that I was going to get screwed," Hill says. But he was also sure that if he didn't make the move, some other classical guitar-maker would, limiting his options in the process. And so, he plunged in.

"In fact, all the stuff that was predicted did happen, pretty much on schedule," Hill says of the warnings. His partners, he says, learned what they could from him about guitar design and then shut him out of the business. He had few allies and fewer connections in China to help him battle. Ultimately, his partners failed at guitar-making and Hill, much wiser, connected with new partners in China.

He says he learned that business in China is all about relationships, and that it's best to share only intellectual property that in the end you wouldn't mind losing complete control over. The new



arrangement has been running more smoothly. The Guangzhou factory produces Hill's New World label, guitars that sell for \$300 to \$1,800, far less than his U.S.-produced instruments, which are aimed at serious musicians and sell for \$5,000 to \$10,000. Hill is also in a partnership with U.S. guitar maker Cordoba to produce instruments in China for that company's label, as well.

Last month he teamed up with Cordoba to launch a factory in Oxnard, where Cordoba already has a distribution warehouse. He hopes the factory will one day employ 20 workers making 1,000 guitars a year retailing in the \$2,500 to

\$4,000 range.

He says he and Cordoba executives realized they would not be able to get the quality they wanted in China, particularly at a price they were willing to pay. And so Cordoba's Oxnard site seemed the better fit.

"It's part of a trend of finding out what the limits are of what you can do in China in terms of controlling your design," Hill says.

The manufacturing strategy has required Hill to become an expert at logistics and global supply chains. He walks me into a storage shed at the Ben Lomond factory filled with the sweet scent of hardwood. Pieces of milled wood, some nearly black, some reddish, some white, are stacked on shelves to the ceiling. Pointing from shelf to shelf, Hill explains that the wood was imported from at least seven countries. The same types of wood, harvested in Italy, India, Africa, Spain, Brazil, Turkey and Canada, are also shipped to the factory in China for the guitars made there.

I close my eyes and picture a globe with shipments of wood swirling around from continent to continent. And then the flip side strikes me: Guitars that Hill makes in China end up in the United States and guitars he makes in the United States end up in China. The necks of his U.S. guitars are produced in the Chinese factory, meaning they travel to the U.S., where they are attached to the high-end guitars, and then back to China if a guitar is sold there.

"People don't realize how complex these supply chains are," Tsay says, citing everything from guitars to electronics. "The product moves its way around the world several times, typically."

It's literally a lot of moving parts.

And it's the way of the world, a world in which Kenny Hill knows that making guitars in California and Guangzhou is a winning strategy in a time when Ben Lomond and Beijing are closer than ever before.

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