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The SQUID

Innovation in law enforcement

By Christina Estes

In the animal world, the giant squid preys on sperm whales. In engineer Martin Martinez's world, the squid preys on potential terrorists. Martinez's SQUID, an acronym for Safe Quick Undercarriage Immobilization Device, has attracted the attention of the U.S. Department of Homeland Security.

"They've been trying to find a way to stop cars," explains Martinez. "The spike strips don't always work."

Martinez thinks his idea will work. The SQUID involves launching a web that will stop a vehicle's rotating components. In the most simplistic terms, it's like getting string caught up in all the moving parts under your car.

Thanks to a \$100,000 grant from the federal Small Business Innovative Research (SBIR) program and a \$5,000 Arizona Federal and State Technology (AZ FAST) grant administered through the Arizona Department of Commerce, Martinez's company was able to conduct tests to demonstrate how the SQUID would work. His company, Engineering Science Analysis Corp., is now working on a Phase II SBIR proposal to secure a \$750,000 grant for more research and tests.

"At the end of Phase II, we should have a product ready to go," says Martinez.

If successful, the SQUID could find a huge market among the military, law enforcement and U.S. Border Patrol. And it's likely that even more products will spawn from the SQUID.



Martin Martinez
President, Engineering
Science Analysis Corp.

"Usually when you come up with an idea, there's always these other things that come up with it," he says. "Sure enough, there are a lot of other things we can do."

Those ideas are not completely patented so he's not sharing the details, but Martinez and his team have a proven record of turning what he calls "crazy ideas" into successful products. They used simulation and product-development techniques, tools and processes used in aerospace industries to design a better baseball bat—one that's less likely to break or cause painful vibrations. The Louisville Slugger Exogrid, which retails for more than \$300, is dubbed "the best Louisville Slugger bat produced to date, period."

By using sophisticated computer programs, Engineering Science Analysis Corp. was able to enlarge the "sweet spot" on a golf club and to design a club that makes a specific sound when it hits the ball just right.

The secret to success for Engineering Science Analysis Corp. is a combination of passion shared among its seven-employee work force and shorter product-development time that allows its customers to get the most bang for their buck.

And, if Martinez gets his way, you could soon be looking at squid in a whole new light—not as a 10-arm creature capable of swimming faster than any other invertebrate, but as an Arizona creation capable of stopping potential terrorists in their tracks all around the world. ■