

A GOOD MAP

A GEOSCIENCES COMPANY OFFERS IMAGERY
ANALYSIS SOFTWARE THAT SUPPORTS MILITARY
MUNITIONS OPERATIONS



Who doesn't love a good map? The borders, the spaces, the glut of visual information packed into every square inch. It's not an uncommon interest. But not everyone can say they've had the chance to turn their passion for maps into an industry-leading company with a history of successful SBIR and U.S. military contracts.

Matthew Heric, the founder of geospatial sciences company International Association of Virtual Org., Inc., (IAVO), has always been a businessman. When he was little, he would offer to mow his neighbors' lawns for a couple bucks apiece. After he received his PhD in geography from Virginia Tech, he moved to Washington, DC, where he secured a job at a small startup with ties to the U.S. Department of Defense. As the company expanded—eventually to nearly 1,000 employees—Heric grew along with it, learning the ins and outs of the military technology sector while working alongside a few industry veterans.

"I sure learned a lot sitting at the elbows of those guys," said Heric, now CEO of IAVO.

When the company was eventually sold to Boeing, Heric was prepared to strike out on his own.

He moved south to North Carolina where he started IAVO as a small consulting company based in Durham.

IAVO began with a broad approach. In addition to power management, the company offered data analytics and human behavioral modeling services. But in the early days, it was the company's geosciences offerings that attracted the most attention.

"We kept getting calls from clients about mapping, imagery, and geodata," Heric said. "I tried to leave that area but kept getting sucked back in."

One of the interested parties was the U.S. Navy, which was attempting to update the navigation system for its Tomahawk missile program. Around 2004, the Naval Air Systems Command issued an SBIR solicitation, which IAVO subsequently won, to expand the company's mapping capabilities for applications that included the Tomahawk program.

Until that point, the military had been using older,

GPS-style technology to route missiles and achieve its mapping goals, but that same GPS network was quickly becoming jammed by the rapid increase in personal cell phone use. With the SBIR contract under its belt, Heric's company was able to pad out its workforce and develop what came to be known as IAPioneer, a groundbreaking imagery analysis software that circumvented the clogged GPS network while, at the same time, fully integrating with DoD's current recording and measurement tools.

"IAPioneer is an imagery viewing system within which is a whole slew of modules, including modules that deal with mapping, modelling and database creation, as well as data searching," Heric said.

"From a military perspective, it essentially is a geoanalytic system used to support munitions operations."

According to Dr. George Rogers with the Naval Sea Systems Command, the company's technology strikes a balance between advanced features and user-friendly functionality, ideal for military application.

"IAVO really excelled at streamlining targeting and geospatial intelligence workflows via the development of highly intuitive interfaces that automated those portions of the work that could be done more reliably by the computer," Rogers said.

Specifically, he added, IAPioneer offers "very efficient" three-dimensional terrain modeling — perfect for mapping urban environments — as well as real-time missile aim point adjustment, both of which help cut down on the time of operations.

"IAPioneer provides a number



of unique targeting and GeoINT capabilities that are not available in any other package," Rogers said.

Since the SBIR that launched IAPioneer, IAVO has grown leaps and bounds, spawning several offshoot companies and a slew of new technologies, as well as winning a handful of SBIR contracts.

"It was the kind of thing that just kind of grew and grew and grew," Heric said. "And all of that is fundamentally related to the investment function of SBIR—our new technologies will still have their genesis in the original SBIR."

"Our new technologies will still have their genesis in the original SBIR."

mentally related to the investment function of SBIR—our new technologies will still have their genesis in the original SBIR.

"I can't tell you how big a fan I am of the SBIR program," he added. "If the U.S. didn't have the SBIR program,

I don't know where we would be tech wise. Overall, with the economic benefit from the SBIR program and its return on investment for the U.S. government, is there a more historically successful program in the U.S? I don't think there is."

As for new developments, Heric said IAVO is currently working to update IAPioneer to a cloud-based platform, with "more automation, more visualization and a seamless workflow." But for the CEO who started his career mowing lawns under the summer sun, the job is never finished.

"People always have this vision that they'll build up a company, sell it to someone like Lockheed, and retire to Boca, but I don't think that's fulfilling," he said with a laugh. "I plan to do this for another 20 years because the work is just fun to do."

"There are a lot of ups and downs, but you just have to keep rolling." ❁



Matthew Heric

International Association of Virtual Org., Inc.

Modernization Priority: Autonomy

Durham, NC • SBIR contract: N00014-04-C-0066 • Agency: Navy • Topic: N02-077, Elevation Data Generation using UA V Imagery