



Aerius Photonics leveraged excellence in the design and manufacture of photonic components and systems to grow from one to thirty employees in eight short years.

AERIUS PHOTONICS

The Aerius Photonics story reads like the perfect SBIR success case study – company starts with SBIR, receives numerous Phase IIIs, is successfully acquired by a major defense company, and team members continue to innovate by going on to form a brand new company. So, how did Aerius Photonics get from point A to where it is today?

PHASE III SUCCESS

Aerius Photonics was acquired by FLIR for \$27 million in 2011.

AGENCIES

NIST, DoD, NASA, NSF

SNAPSHOT

Aerius Photonics and its technologies have evolved from PhD work to a commercially viable SBIR firm and acquisition target by forging relationships and focusing on a clear transition plan.

ATTOLLO ENGINEERING, LLC

1260 Avenida Acasto, Suite B
Camarillo, CA 93012

www.attolloengineering.com

Dr. Jon Geske started Aerius Photonics in late 2003 while in graduate school at University of California, Santa Barbara working under Dr. John Bowers who connected him with the SBIR program. Geske's one-person company won the Air Force SBIR Phase I award for Vertical-Cavity Surface-Emitting Lasers (VCSELs) and before Phase II started a champion within the government recommended that Textron contact Aerius Photonics and provide additional funding to continue work in conjunction with the Phase II. With more work coming online Dr. Geske hired a business partner, Michael MacDougal, a longtime friend and former classmate and colleague who was working in a similar technical area at Rockwell.

During the Phase I and Phase II process, Aerius Photonics cultivated its relationship with the Air Force SBIR program. "A good relationship with AFRL was key to success. It's really important that you do your homework as a small business. We had to go and engage programs, reach out to end users, primes, program managers, and others over and over. We had to be persistent and go through the effort to reach out and leverage all leads. If you have a starting point it helps a lot, but we had to hustle and get in the face of the programs and demonstrate good technology," said Dr. Geske.

The savvy two-person company continued to leverage its contacts to identify new opportunities for its technology – Dr. Michael MacDougal identified an opportunity with his former company, Rockwell, and worked directly with Rockwell through a purchase order to start making imaging detectors for the company and also used NIST SBIR to further fund detector material development. By the end of the NIST Phase I Aerius Photonics was selling focal plane arrays by productizing off of Phase I. While continuing to utilize the SBIR program for technical development, the company also expanded its base of partners to include Raytheon and FLIR.



The company's first Air Force SBIR award laid the groundwork for several successful relationships and new technologies.

“...SBIR allowed us to build our team and is the only reason that most small businesses can afford scientific talent.”

DR. JON GESKE
FOUNDER

“We had to prove we were the best and overcome incumbent technologies and suppliers. To develop these superior solutions, we were able to have a strong staff of PhDs because we had R&D money through the SBIR program – SBIR allowed us to build our team and

is the only reason that most small businesses can afford scientific talent,” said Geske.

“In addition to a good team, you have to get out there and physically meet with program managers and end users and say, ‘I’m going to bring a prototype, I’m going to show them what I have and when the new SBIR topic comes out they have more to go on when evaluating my proposal.’”

Based on its Phase III contracts and demonstrated competency, FLIR acquired Aerius Photonics in 2011 for \$27 million in cash after about four months of negotiations. At the time of the acquisition Aerius Photonics had sixty contracts and thirty employees, and were acquired as FLIR EOC LLC, a wholly owned subsidiary, so that the company could continue to do business and finish out its standing contracts.

“When you get acquired you have to have something that the bigger business needs, being a ‘Jack of all trades, master of none,’ isn’t going to get you acquired. The company needs to justify the purchase – a

quick transition technology that will save them money and time is what they’re looking for,” advised Geske who went on to provide more sage advice for small businesses. “There is a certain amount of personal effort required to succeed – you can’t just write proposals; they all look like words on paper. You need to differentiate by demonstration, forge relationships, and have a long-term plan. It’s really on the small business owner to understand that real people have to read and understand this – give a layman your proposal to review, if they can’t understand it, try again. The person reviewing your proposal isn’t a laser expert they’re a person who wants to see further at night.”

The company won a Tibbetts award in 2011 and worked very closely with UC Santa Barbara to make prototypes using its NSF supported Nanofab. Relationships forged at UC Santa Barbara helped the company to grow and develop new products.

Today, Dr. Geske is at Attollo Engineering, LLC, a new start-up, and is using his expertise to develop Ladar, Lidar, and IR detection and imaging solutions and components. Attollo was founded by Dr. Michael MacDougal with fellow Aerius Photonics employees Andrew Hood and Jon Geske as partners. Attollo continues to work with the SBIR program. In addition to his work with Attollo, Dr. Geske works with other small businesses, including several companies in the SBIR program.