

The Space Laser Business Model

Originating Technology/ NASA Contribution

Creating long-duration, high-powered lasers, the authors, that can withstand the rigors of spatial manipulation and storage dictated out by the underlying environment of space, is work that is unique to NASA. It is complicated, specific work, where each step forward is into uncharted territory.

In the 1990s, as this technology was first being used, NASA gave their wings to a group of "spin-offs" to develop their own business model and supply the Space Agency with the technology it needed. It was still in the name of NASA as a division of Goddard Space Flight Center, but would operate independently out of a contract office.

worked all hours of the day and night to create the cutting-edge technology the Agency required at the time.

Dr. Robert Kilb and Joseph Dallas were directors of the SDC, and led the development and production of active spectrometers, remote sensing, optical instruments. As a pioneer in the area of photonics, Dr. Dallas led basic research, development, and production of semiconductor laser diode products, improving coupling efficiency through novel physical optics modeling and measuring phase-correction techniques. He worked for NASA for 15 years, 11 of which were as a full scientist, and 4 of which were as a contractor.

In the years at the SDC, Dr. Dallas and the team advanced high-power lasers at NASA. The Continuous-Wave Laser System (CWLS) space flight laser, for example, was designed, developed, and assembled at the contract office.



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For more information, contact:

Dr. Paul Magill

Avo Photonics

(215) 441-0107

pmagill@avophotonics.com

Garth Miller

BtB Marketing Communication

(919) 872-8172

gmiller@btbmarketing.com

Photonics company profiled in latest annual NASA publication...

AVO PHOTONICS RECOGNIZED AS NASA SPIN-OFF SUCCESS

HORSHAM, Pa. (February 20, 2006) – Avo Photonics, specialists in optical and RF packaging solutions, has been featured in the latest annual publication from the National Aeronautics and Space Administration (NASA), *NASA Spin-Off* (www.sti.nasa.gov/tto/spinoff2005).

The article titled “The Space Laser Business Model” recognizes Avo Photonics as a company that has the experience, capabilities, resources and systems in place to be a leading technology partner for any organization fulfilling contracts for NASA, the Department of Defense, or others in the military and aerospace industry. The feature article also notes that “Avo Photonics is unique in its combination of high-level engineering support and prototype-to-production facility capabilities. Its customers have a one-stop-shop to see their visions realized.”

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AVO FEATURED IN NASA SPIN-OFF MAGAZINE, PAGE 2

”We offer three distinct services: design, prototyping, and production, all for one specific field: photonics,” said Dr. Joseph Dallas president and chief operating officer for Avo Photonics and former deputy-director of NASA’s Space Lidar Technology Center (SLTC). “With the entire shop set up as a closed-loop production facility, we can take a design from conception through full-scale production of hand-crafted, high-tech parts. Furthermore, we are purely a specialty service firm that does not manufacture its own products, which assures that our customers’ intellectual property is never compromised.”

Avo Photonics routinely follows the classic engineering product development milestones: Systems Requirement Review (SRR), Preliminary Design Review (PDR), and Critical Design Review (CDR). These easily-tracked metrics provide a disciplined framework during the creation of designs, engineering models, engineering test units, and flight/ground-based components and systems. High quality product performance, reliability, and cost control are assured.

Avo Photonics’ technical team consists of former NASA engineers, as well as engineers experienced in production for federal programs. All Avo Photonics employees are U.S. citizens and its manufacturing facility is located just outside of Philadelphia, less than two hours by car or train from the Washington, D.C. area and major federal technology sites, including the NRL, NASA, NIH, and NSA.

For a complete overview of Avo Photonics’ service offerings, visit www.avophotonics.com or call 215-441-0107.

About Avo Photonics

Avo Photonics specializes in photonic design and manufacturing solutions for the communications, military/ aerospace, and medical markets. Avo Photonics’ mission is to provide support services from design through production for products in all markets. Avo can be found on the Internet at www.avophotonics.com.

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To request electronic images or additional information, call 919-872-8172, or e-mail gmler@btbmarketing.com.