

ADSS Awarded \$3.4 Million in Contracts

In September, ADA's most recent spin-off company, Advanced Distributed Sensor Systems (ADSS), received three contracts from various defense agencies with a total value of \$3.4 million. The rapidly growing company, which was spun-off from ADA on October 1, has received over \$10 million in contracts in the past six months.

ADSS develops, markets and manufactures a SensorPod® system that uses advanced sensor technologies and integrated communications to create a situational awareness

network that has defense, homeland security, force protection and commercial applications.

The SensorPod system gathers and communicates vital data to help military and civilian customers make critical operational decisions. The lightweight, rugged devices do not rely on existing communications infrastructure, making them especially suitable for use in locations that are extremely remote and difficult to access.

"These are significant contracts for ADSS and an indication that the ADSS SensorPod system is the preferred solution for quickly obtaining essential environmental information worldwide," said David Jansen, ADSS president. "We are proud that our customers continue to rely on our products and that we are part of our nation's defense network."

"ADSS is a real success story for ADA Technologies," said Clifton H. Brown, Jr., ADA president and CEO. "It further validates our

business model of creating and converting innovative technologies to commercial successes and provides financial rewards for our employee shareholders."

ADA's business model is based on a process that takes technology from concept to market application. The process involves evaluating an early-stage technology idea, securing funding and utilizing the funding to successfully transform the idea into a commercially viable product.

Most of ADA's early stage funding for technology R&D comes from the federal Small Business Innovation Research (SBIR) program. The technology development program that led to the establishment of ADSS started with a single SBIR proposal to the US Army in 1999.

ADSS has been shipping products since 2005. Contact David Jansen at david.jansen@distributedensors.com. □



\$400K NIH Grant Boosts Nano Program

ADA's nanotechnology program received a \$400,000 grant from the National Institute of Biomedical Imaging and Bioengineering, a part of the National Institutes of Health, to develop a nanomaterial for use in cancer imaging and treatment. The new material will act simultaneously as an imaging enhancement agent and a targeted drug-delivery vehicle. The material will kill cancer cells through both thermal and free-radical mech-

anisms. Phase I of the research focuses on synthesizing the novel nanomaterial and validating its effectiveness.

A multi-modal therapeutic and imaging agent that does not damage healthy tissue will have tremendous benefit to researchers and cancer patients. Current cancer treatments lack tumor-specific and effective therapies that do not harm the patient, compromise treatment efficacy or prolong recovery time.

The research, which initially focuses on prostate cancer cells, is being carried out in conjunction with nanotechnology experts at Virginia Tech, Blacksburg, Virginia, and in consultation with the Comprehensive Cancer Center at Wake Forest University, Winston-Salem, North Carolina.

Anticipated growth of its nanotech program, led ADA to open an office in the Virginia Tech Corporate Research Center (CRC) adjacent to the Virginia Tech campus. The new

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Cliff's Notes:

Gyroscopes – You've got to love them!



As a newly minted private pilot, I have great respect for gyroscopes. Gyros provide critical information needed to fly a plane, including stable measurements that are used by the pilot to make occasional adjustments for something called 'precession' – a phenomenon that causes the plane to drift off course.

ADA's business model is stable, just like the gyro in an airplane. We've made a few tweaks here and there over the past eight years (we too experience a bit of precession), but the fundamental concepts haven't changed. As technologies mature, the products (i.e. intellectual property and processes) are spun off into companies called TCEs (Technology Commercialization Entities). TCEs are structured in a way that enables us to reward those individuals who have contributed to the success of the product/process, prepare for an exit event, or enjoy continued income generation.

One such exit event occurred on October 1 when Advanced Distributed Sensor Systems (ADSS) was officially spun off from ADA. Dave Jansen and his team of 10 employees did a superb job of creating innovative products to fill a void in the security market. In the past six months, ADSS received contracts totaling nearly \$10 million!

A second TCE was created with the launch of Pronghorn Technologies, LLC. Pronghorn was established by Dr. Kent Henry to commercialize ADA's oxidant sensor technology. Located in Laramie, WY, Pronghorn has three full-time employees.

ADA created a third yet-to-be-named TCE to commercialize ADA's advanced ultracapacitor technology for applications in hybrid electric vehicles and utility power management. This is Dr. Wen Lu's brainchild! Look for more information on this TCE in upcoming issues of Abstracts.

TCE creation is the 'backend' of ADA's business process. In this issue of Abstracts, you'll note that our newer R&D programs - the 'front end' of our process - are 'spinning' along and making great progress too. I hope you enjoy this issue. As always give me a call or send an email if you wish further dialogue.

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\$400K NIH Grant Boosts Nano Program

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ADA Abstracts

ADA Abstracts is published three times a year by ADA Technologies, Inc.

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Each issue contains news of technologies under development, plus information on grants, projects, and staff.

If you would like more information, call ADA Technologies at (800) 232-0296 or E-mail us at: abstracts@adatech.com.

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office, which opened in June, focuses exclusively on ADA's research and development efforts in nanotechnology, including environmental, health and safety; nanometrology; and nanomedicine.

The CRC's location adjacent to the Virginia Tech campus enables ADA to more closely collaborate with key players in the nanotechnology field, including Virginia Tech's prestigious Institute for Critical Technology and Applied Science (ICTAS).

"It's an honor to be affiliated with such a well-respected university and

one with which I have such close ties and high regard," said Clifton H. Brown, Jr., ADA president and CEO and Virginia Tech graduate.

"We welcome ADA to its new office on the Virginia Tech campus," said Roop Mahajan, Ph.D., ICTAS director. "I am very optimistic that this collaboration between ADA and ICTAS will result in both organizations reaching high levels of achievement, while generating opportunities for growth in cutting-edge research and local employment." □

New Company to Market Oxidant Sensor Technologies



A new company – Pronghorn Technologies, LLC – has been created by ADA to develop and market products based on ADA’s oxidant sensor technology. Based in the Wyoming Technology Business Center (WTBC) on the University of Wyoming campus in Laramie, the new company will adapt ADA’s existing technology for use by industrial and consumer markets.

“Pronghorn Technologies is focused on developing a wide range of commercially viable tools and sensors based on ADA’s innovative oxidant sensor technology. A lack of effective tools to study and monitor electrochemical phenomena has long stymied progress in solving a wide range of marine environmental problems,” said Kent Henry, Ph.D., Pronghorn Technologies CEO and former oxidant sensor

program manager for ADA.

A programmable potentiostat that offers many unique features, including long-term data collection and analysis, is one of the first products to be offered by the new company.

“We expect this potentiostat to be a valuable tool for industries involved in electrode manufacturing, industries that use electrochemical sensors for process monitoring, and research employing electrochemical cells to study multiple chemical systems,” said Dr. Henry.

ADA’s unique oxidant sensor technology enables customers to monitor and control biofilm formation in seawater cooling systems used in submarines and surface vessels. Specifically, ADA’s oxidant sensor monitors the electrolytic halogena-

tion of seawater, a process that uses electricity to convert natural bromide and chloride in seawater to the hypohalous acids hypobromite and hypochlorite.

Hypohalous acids effectively kill marine organisms that invade seawater cooling systems, but are harmful to the environment if released in large concentrations. ADA’s oxidant sensor provides real-time feedback to ensure hypohalous acid concentration levels fall within a narrow range that is effective, yet harmless when discharged to the surrounding environment. Prior to ADA’s R&D efforts, there was no reliable method of monitoring electrolytic halogenation.

Contact Kent Henry at kenth@prongtech.com. □

PhysioNetics® Receives Two NIH Grants

ADA’s PhysioNetics® division received two grants totaling \$995,000 from the National Institutes of Health’s National Institute of Child Health and Human Development. The funding is for development of low-cost, upper-extremity prosthetic devices and technology.



The first grant, in the amount of \$759,000, is to develop a low-cost, upper-extremity prosthesis for under-served populations. It is estimated there are over 25 million upper-extremity amputees worldwide, with approximately 82 percent of these individuals living in developing countries where their survival depends on being able to perform physical labor. Although prosthetic devices would greatly improve their quality of life and productivity, most do not have the

financial resources to pay for such a device.

“PhysioNetics is focused on creating affordable, functional devices that improve the lives of upper-extremity amputees worldwide,” said Brad Veatch, ADA senior research engineer and principal investigator. “By collaborating with funding agencies and humanitarian groups, we hope to supply disadvantaged amputees worldwide

with access to prostheses that will improve their lives and enable them to effectively contribute to their societies.”

The second grant, in the amount of \$196,000, enables ADA to continue development of a new voluntary-opening split-hook terminal device. This device uses a patent-pending pinch force adjustment system that enables the user to more easily grasp objects. Trials of the split-hook show the design to be especially beneficial for children and adults who can only generate low levels of cable tension and those who are at risk for repetitive stress injury. Because the device is relatively inexpensive, it is well suited to children whose rapid growth necessitates frequent changes in prostheses sizes. Contact Brad Veatch at bradv@adatech.com. □

ADA Welcomes New Employees

Allan Carlson has rejoined ADA as Lab Chemist two years after his "retirement" from the firm. Carlson works part-time, supporting laboratory investigations of mercury environmental control technologies. He worked for ADA for six years prior to his retirement.



Enrique Gutierrez is the new Program Manager for ADA's Trace Detection Technology (TDT) divi-



sion. Gutierrez holds a BS in electrical engineering from the Illinois Institute of Technology. He has 20+ years of experience in domestic and international sales, new market development, high-level negotiations and establishing new distribution channels.

Scott Merkley, Associate Research Engineer, is working on ADA's Fine Water Mist, Ultra Capacitor and Air Liquide projects. Merkley holds a BS in chemical engineering from the University of Colorado. His experience includes working as a research assistant at Randolph Research



Group, Boulder.

Sayangdev Naha, Research Engineer, oversees ADA's nanotechnology R&D in the firm's new office in the Virginia Tech Corporate Research Center. Naha has held research and teaching positions at Virginia Tech and the University of Illinois and has been published in several peer reviewed journals. He holds a bachelor's degree in mechanical engineering from Jadavpur University, a master's degree in mechanical engineering from University of Illinois, and a doctorate in engineering science and mechanics from Virginia Tech. □



ADA Makes Fast 50 List

For the third consecutive year, ADA has been named to Deloitte's prestigious Colorado Technology Fast 50, a ranking of the 50 fastest growing technology, media, telecommunications and life sciences companies in Colorado by Deloitte & Touche LLP. With a revenue growth of 64 percent from 2003 to 2007, ADA ranked 38 among Colorado's Fast 50 companies. Rankings are based on companies' five-year revenue growth.



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