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GOVERNOR TAFT GIVE UDRI, ELECTRO-OPTICS EARLY CHRISTMAS

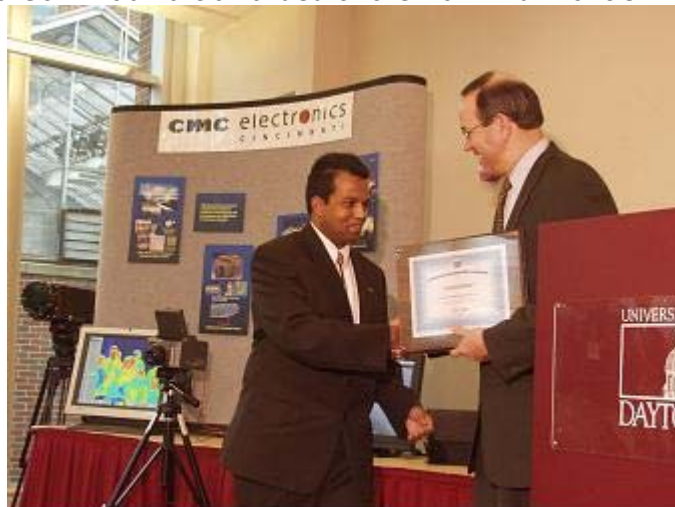
Ohio Gov. Bob Taft awarded two Ohio Third Frontier grants totaling \$3.1 million to the University of Dayton for the development and commercialization of nanomaterials and other emerging technologies at a press conference Monday in the Science Center.

DAYTON, Ohio — Ohio Gov. Bob Taft awarded two Ohio Third Frontier grants totaling \$3.1 million to the University of Dayton for the development and commercialization of nanomaterials and other emerging technologies at a press conference Monday in the University of Dayton Science Center.

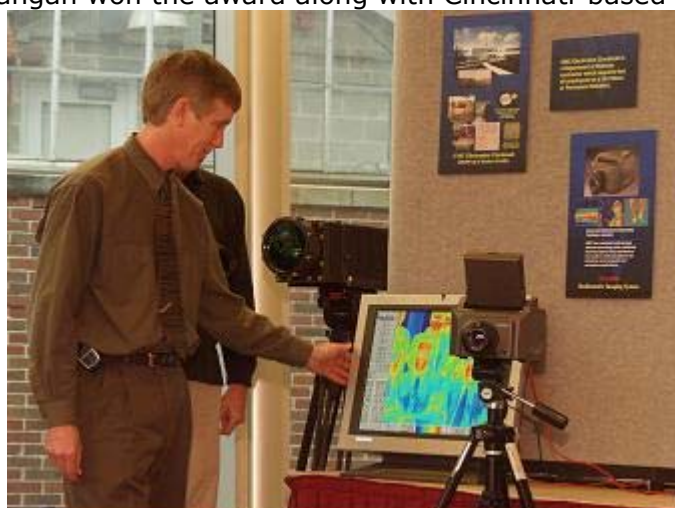
Together, the state expects business growth of close to \$100 million and the creation of 360 jobs.

Andrew Sarangan, assistant professor of electro-optics, received \$1 million for the development and commercialization of long-wave infrared imaging. Sarangan won the award along with Cincinnati-based CMC Electronics and Cleveland-based Essential Research. The state projects business growth of \$10 to \$15 million and 60 jobs as a result of this project. Applications include homeland security, surveillance and border protection.

This is the second Third Frontier grant



Andrew Sarangan receives congratulations from Gov. Bob Taft.



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awarded to Sarangan

in the past two years and the first time money will be used for large-format commercialization of long-wave infrared imaging products. The award allows the UD electro-optics program to purchase additional equipment for its new nanophotonics clean room, which studies infrared imaging.

The clean room was built partially with \$773,000 of Third Frontier money awarded in June 2003 and will be unveiled to the public at 2 p.m. Monday.

Khalid Lafdi, University of Dayton Research Institute (UDRI) carbon group leader and professor of mechanical engineering, and Brian Rice, UDRI composites group leader, received \$2.1 million to produce carbon materials that can be transitioned to Ohio companies for production. They received the award along with the Air Force Research Laboratory, Aircraft Braking Systems, Inc., Nanospense, Northrop Grumman, Timken, Applied Sciences, Inc., General Electric Aircraft Engines, Goodrich Corp., K-Technology Corp., GrafTech International, Lockheed Martin and Materials Research Institute, LLC.



UDRI's Dave Anderson checks out the equipment in the NEST lab that was provided in part by Third Frontier money awarded in 2003.

The state expects \$85 million in revenues and 300 jobs to be generated from this project.

"Gov. Taft's Third Frontier Program is a great opportunity for organizations like the University of Dayton," said Mickey McCabe, UDRI director and UD associate vice president for research. "UD's faculty research coupled with the dedicated staff of the Research Institute give us an advantage in developing and commercializing technologies that are important drivers for economic development in the State of Ohio."

UDRI's partners will act as suppliers or manufacturers, according to Lafdi and Rice. While these technologies have their roots in markets for aerospace and national defense, efforts are under way to develop these new materials for the automotive, electronics and sporting goods markets, especially where a plastic that is electrically conductive is needed. Some of the areas on which the group is focusing include: brakes, bearings, thermal management systems, structural applications for consumer electronics, energy storage, car parts, high-performance bicycles, golf clubs and football helmets.

Carbon is biocompatible with the human body, so some applications

include bone implants, bone plates and hip replacements.

"We are very excited to receive this Third Frontier award from Ohio and would like to thank our supporting companies," Lafdi and Rice said jointly. "The Third Frontier program is a powerful vehicle to transition leading edge research from universities to industry. Our project will serve as a catalyst to grab the attention of industry and pull together the necessary resources to construct an Ohio-based integrated carbon technology economy. This newly evolving "Carbon Valley" is expected to create Ohio jobs in a variety of industries including aerospace, automotive, electronics, education and nanotechnology."

Sarangan says, by examining long wavelengths, automotive manufacturers will be able to find excess heat build-up in the manufacturing process and catch potential failure in automotive components earlier. Enhanced vision applications for car drivers and pilots are other potential markets.

"We are very happy to receive another Third Frontier award," Sarangan said. "The two awards allow us to create a facility that will be among the best in the nation and help create new technologies. Through creating these new technologies, our industry partners like CMC Electronics and Essential Research, along with other Ohio companies, can grow and create new jobs for Ohioans. Our focus is to bring ideas from the laboratory to the marketplace to benefit all of society."

For military purposes, the technology will improve infrared cameras used to identify targets and improve sensors that can detect chemical weapons more quickly and safely.

In the CMC-UD partnership, UD provides the research and an extra lab while CMC focuses on production, according to Joe Haus, chair of UD's electro-optics graduate program, only one of a handful country.

"Our arrangement is an ideal way for CMC to conduct off-site research. CMC Electronics has extensive expertise in infrared product development," Sarangan said. "UD will provide research on future products while CMC continues with production of current products. Together, we offer all components of a great product and are able to leverage our respective strengths into product commercialization." Facilities such as UD's clean room keep the University and its industry partners on the forefront of technology in terms of equipment and high-end development, according to John Devitt, CMC Electronics manager of system analysis and tests.

"It helps us stay competitive in all areas, including job creation," Devitt said. "What Ohio is doing with the Third Frontier is a great story. Other areas of the country, with which we compete, already have university-business collaborations so this helps us stay competitive. It will be a year or two before we see the results of the investments."

Devitt says monitoring job growth is like planting a seed and watching it grow.

That's good news for college students hitting the work force in the near future.

"Our statistics show more than 50 percent of our graduates stay in Ohio," Haus said. "Then, it snowballs from there as graduates either spin-off businesses or continue to grow the companies where they work or other companies in the state. If we can help grow businesses, there will be more job opportunities."



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