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UT secures \$840M from DARPA

University to build manufacturing center for Defense Dept.

Beck Andrew Salgado

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On Thursday morning, the Defense Advanced Research Projects Agency announced that it has selected the Texas Institute for Electronics at the University of Texas as the recipient of \$840 million to build a Department of Defense microelectronics manufacturing center.

In a news release, DARPA said the contract was designed to ensure America's national security and global military leadership. According to the agreement, the Texas Institute for Electronics will establish a national open-access research and development and prototyping fabrication facility that will push semiconductor technology forward.

The hope is that this facility will enable the Defense Department to create higher-performance, lower-power, lightweight and compact defense systems. Such technology could apply to radar, satellite imaging, unmanned aerial vehicles or other systems.

"The University of Texas is honored

to use our vast talent and expertise in service to our country," said Kevin Eltife, chairman of the UT System Board of Regents. "This partnership will allow UT-Austin faculty, staff and students to bolster our national defense and further demonstrate the university's global leadership in technology-related teaching and research."

What is the Texas Institute for Electronics?

The Texas Institute for Electronics is a UT-supported semiconductor consortium. The release specifies that the new microsystem designs will be enabled by 3D heterogeneous integration, or 3DHI — a semiconductor fabrication technology that integrates diverse materials and components into microsystems using precision assembly technologies.

UT to receive \$1.4 billion in total

The project represents a total investment of \$1.4 billion into research at UT. In addition to the \$840 million award from DARPA, the Legislature has already invested \$552 million in the Texas Institute for Electronics, or TIE — which has funded modernization of two UT fabrication facilities.

When all the facilities are complete, they will be available to industry, academia and government, and they are intended to create dual-use innovations supporting the defense sector and the semiconductor industry, including startups, advancing technology for the betterment of society.

According to the release, DARPA's Next Generation Microelectronics Manufacturing Program is among the largest federal awards ever to any UT System institution.

For UT, the investment is a significant step towards President Jay Hartzell's 10-year strategic plan for the university to become the world's highest impact public research university. For students at UT, or considering the school, this is also a win as the facilities pull talent directly from the Cockrell School of Engineering.

"We have an opportunity to not only give our military a competitive edge, but this is the kind of major opportunity that creates jobs, attracts businesses, will grow Austin's innovation ecosystem and cement Texas as a leader in microsystems innovation," Hartzell said in the release.

"TIE is tapping into the semiconductor talent available in the Cockrell School of Engineering, in Texas and nationally to build an outstanding team of semiconductor technologists and executives that can create this national center of excellence in 3DHI microsystems," said S.V. Sreenivasan, Texas Institute for Electronics founder and chief technology officer and UT professor of mechanical engineering.

What is the timeline for the program?

The program has two phases, each 2.5 years in length. In Phase 1, the Texas Institute for Electronics will establish the center's infrastructure and basic capabilities. In Phase 2, the center will engineer 3DHI hardware prototypes important to the Defense Department and automate processes. It will also work with DARPA on separately funded design challenges.

"With the support of our consortium partners, TIE's product development infrastructure and services will enable a true open access facility where future microsystems can be developed for a wide range of customers and can be leveraged for other programs well into the future," said John Schreck, CEO of the Texas Institute for Electronics.

"TIE is tapping into the semiconductor talent available in the Cockrell School of Engineering, in Texas and nationally to build an outstanding team of semiconductor technologists and executives that can create this national center of excellence in 3DHI microsystems."

S.V. Sreenivasan

Texas Institute for Electronics founder and chief technology officer and UT professor of mechanical engineering

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