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# UT startup company participates in government contract to develop new radiation detector

By Christine Long : July 22nd, 2016

The U.S. Department of Homeland Security awarded two Toledo area companies a contract to develop a new device that could enhance security at ports and monitor the more than 17 million land, sea and air shipping containers in transit each day.

Lucintech, a University of Toledo LaunchPad Incubation startup company owned by UT Distinguished University Professor Emeritus of Physics and Astronomy Al Compaan, will work with Lithium Innovations Co. LLC to create a lightweight, portable, sensitive and low-cost radiation detector that can discover neutrons in industrial shipments entering the country.

Lithium Innovations, a Toledo-based company, will provide foil that is nearly 100 percent lithium-6, an isotope that captures neutrons to start the detection process.

“The neutron subatomic particles are very difficult to detect and can penetrate a meter or more through steel or concrete,” Compaan said.

This collaboration leverages each local company’s technologies recently developed for applications outside of radiation detection.

“We are following on our successful exploratory work, which demonstrates a new approach to high-efficiency neutron detection,” Compaan said. “Neutron detectors are also important for oil and gas exploration, as well as nuclear medicine.”

“Advanced screening is an important component of domestic security,” Congresswoman Marcy Kaptur said. “I am especially pleased that two northern Ohio companies are collaborating to produce a nationally significant, state-of-the-art technology that enhances our nation’s security efforts.”

Compaan has been leading a research effort for nearly 30 years in thin-film photovoltaic materials and devices that convert sunlight directly into electricity. His company Lucintech is developing and scaling up innovative processes for making solar windows and sunroofs for vehicles.

Lithium Innovations, which is led by CEO Ford Cauffiel, leads this Phase II Homeland Security Small Business Innovation Research project. The company supplies pure lithium sources for use by manufacturers of dynamic windows that darken by applying a small voltage.