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Professor helps keep soldiers, citizens safe

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Kansas State Collegian

Keeping American troops posted in Iraq safe is the focus of one K-State professor's research.

Last fall, Bill Dunn, associate professor in mechanical and nuclear engineering, was approached by M2Technologies for aid in developing better bomb detection.

M2Technologies develops non-lethal weapons and capabilities. John Blair, program manager for the research contract with the university, is heading the project on M2Technologies side.

"We were looking to develop a protective strategy to help protect civilians from harm," Blair said.

Nearly a year later, enormous strides have been taken toward the completion of the project.

"Our goal is to develop technology that can distinguish explosive materials from other things in a car, and I think we can," Dunn said.

Dunn said the device will use pulses of radiation that will enter the suspicious material and bounce back, reading its chemical composition and density.

Many explosives have similar elemental composition, and technology is being designed to look for elemental patterns of hydrogen and nitrogen that explode, he said.

"This is a known technology," Dunn said. "We are just applying it to this sort of problem."

It will allow soldiers and operators in fields like Iraq to inspect suspicious materials without putting themselves at risk.

A basic prototype is now in development.

"We think we have shown the basic feasibility," Dunn said. "If we had



Bill Dunn, associate professor in mechanical and nuclear engineering, is developing technology to better detect bombs. The project was developed to protect soldiers in war from putting themselves at risk of injury or death.
Christopher Hanewinkel/Collegian

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the funding, we could build it in about a year or 18 months."

Although the research is just in the prototype stage, Dunn and his students remain positive about the project.

"In research you get the first thing done, then try to improve on it," Dunn said.

Eventually, Dunn hopes to improve the detection to pick up smaller objects from further distances.

However, Dunn cautions there is a level of danger in using the bomb detection.

"It utilizes radiation so it must be implemented in a careful and controlled way," he said.

The team said they look forward to the project's completion in the months to come.

"It is a pretty large-scale project," Dominic Pedotto, senior in mechanical engineering, said. "If we figure out a way to make it work, it will have large-scale effect."

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