

# Argonne Team Challenges Physical Security

*Physical security—the art of protecting tangible assets—is the counterpart to cyber security. Physical security can take the form of locks, tamper-indicating seals, guards who stand watch at nuclear facilities, fingerprint scanners and metal detectors, and even cargo security systems that track trucks full of nuclear material. It is high-tech, low-tech, often ancient and usually overlooked. Physical security defenses aren’t challenged very often, but when they are, the results can be catastrophic.*

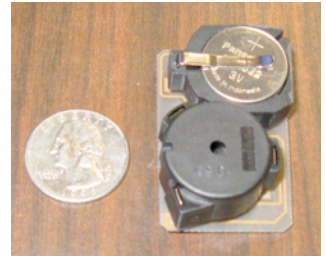
## The Challenge

Using research and development techniques, devise and demonstrate methods to defeat physical security, then develop countermeasures to improve it. These studies will assist in improving national security.

## The Solution

Argonne’s Vulnerability Assessment Team (VAT) conducts multi-disciplinary research and development on physical security devices, systems and programs.

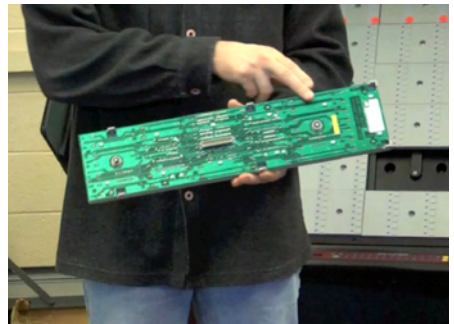
The VAT works extensively in the areas of product anti-counterfeiting, tamper and intrusion detection, cargo security and nuclear safeguards, as well as the human factors associated with security using the tools of industrial and organizational psychology. The VAT also runs a rapid turnaround, one-stop microprocessor shop where Argonne scientists and researchers can order microprocessor solutions (hardware and software) for analog or digital measurements. The VAT hosts the *Journal of Physical Security*, the first scholarly, peer-reviewed journal devoted to physical security R&D.



*The Chirping Tag and Seal developed by the Argonne Vulnerability Assessment Team for securing sealed radiological sources and nuclear material.*

## The Results

Argonne’s VAT experts have revealed the dirty secrets behind electronic voting machines, “high-security” electronic locks, tamper-indicating seals, iris and fingerprint scanners and even GPS navigation systems. Current work includes vulnerability assessments, developing better security devices, consulting and training, and designing specialty field tools for counter-terrorism, emergency response and intelligence applications.



*Tampering with an electronic voting machine.*

**“Real security is thinking like the bad guys,” maintains Roger Johnston, head of Argonne’s VAT.**