Border Security:
Representative Technology Needs

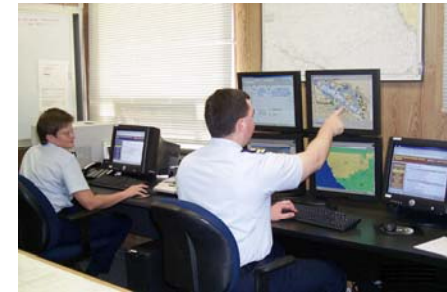**DHS Leads**: Customs & Border Protection and Immigration & Custom Enforcement

- Detection, tracking, and classifying of all threats along the terrestrial and maritime border—In particular, technologies to support tunnel detection and rugged terrain, concealing foliage, water obstacles, mountains, and other environmental constraints

- Improved ballistic protection via personal protective equipment—In particular, a focus on increased effectiveness against a wider-range projectile type, plus lighter weight and integrated helmet protection

- Non-destructive tools that allow the inspection of hidden or closed compartments—In particular, the ability to find contraband and security threats

- Ability for law enforcement officers to assure compliance of lawful orders using non-lethal means—In particular, the ability to disable vehicles/vessels and temporarily incapacitate persons to prevent the infliction of damage or harm

- Ability for law enforcement personnel to quickly identify the origin of gunfire and classify the type of weapon fired

- Improved analysis and decision-making tools that will ensure the development and implementation of border security initiatives

- Non-lethal compliance measures for vehicles, vessels, or aircraft, allowing safe interdiction by law enforcement personnel

Maritime Security:
Representative Technology Needs

DHS Leads: United States Coast Guard

- Wide-area surveillance from the coast to beyond the horizon, including port and inland waterways, for detection, ID, & tracking—In particular, the detection of vessels between the port region and beyond the horizon, especially small vessels with the capability to geo-reference the images

- Data fusion and automated tools for command center operations—In particular, the ability to view entire scenes and provide alerts about anomalous and illegal activity; the automation of the ability to compare current tasking and location of blue forces to new events and recommend courses of action; and the improved ability for agencies to share information and collaborate when not co-located

- Improve the capability to continuously track contraband on ships or containers—In particular, the ability to conceal transponders while maintaining effective transmissions

- Develop improved ballistic personal protective equipment for officer safety

- Vessel compliance through less-lethal compliance methods

- Ability for law-enforcement personnel to detect and identify narcotics, chemical warfare agents, toxic industrial chemicals, explosives, and contraband materials—In particular, the ability to identify multiple threats with one unit/one setup; operate on portable power; be wearable and self contained; and be able to sample for and detect contraband without direct contact

Cargo Security:
Representative Technology Needs

DHS Leads: Customs & Border Protection

- Improved screening and examination by non-intrusive inspection—In particular, the ability to detect or identify contraband items (for example, drugs, money, illegal firearms), threat materials, or stowaways; improve penetration, resolution, throughput, contrast sensitivity, reliability, mobility, and interoperability; and integrate with future Automated Target Recognition capability

- Increased information fusion, anomaly detection, Automatic Target Recognition capability—In particular, automated imagery detection capability for anomalous content (e.g., stowaways, hidden compartments, contraband), and the ability to detect anomalous patterns in shipping data

- Detect and identify WMD materials and contraband—In particular, the ability to detect chemical and biological threats, explosives, and contraband

- Capability to screen 100 percent of air cargo

- Track domestic high-threat cargo—In particular, the ability to track DHS-designated Toxic Inhalation Hazardous (TIH) cargos in domestic transit

- Positively ID cargo and detect intrusion or unauthorized access—In particular, in containerized, palletized, parcel, or bulk/break-bulk maritime and air cargo