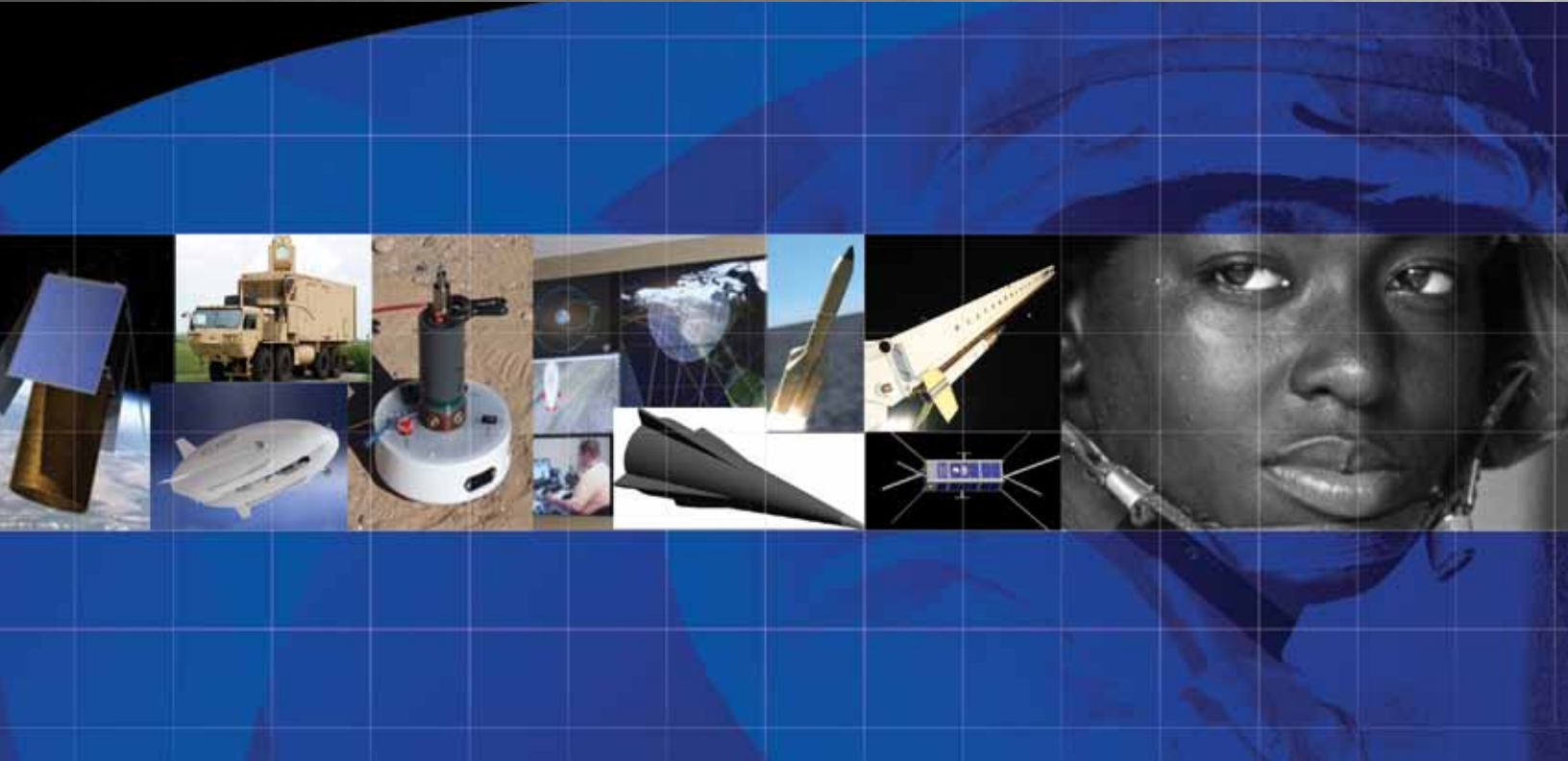




TC

Technical Center



Summary

- Provides critical technologies in the areas of directed energy, tactical space, airships and payloads, cyberspace and missile defense
- Pursues technology development from applied research to address Army requirements
- Actively transitions mature technology to meet Warfighter, DoD and national security needs
- Pursues opportunities for cooperation and partnerships with academia, industry, international and other government agencies.

The U.S. Army Space and Missile Defense Command/Army Forces Strategic Command Technical Center researches, develops, tests and integrates capabilities for materiel solutions in tactical space, missile defense, cyberspace, directed energy and other areas of technology.

The TC focuses on providing critical technologies that meet today's requirements and address future needs enabling Warfighter effectiveness in the core competencies of directed energy, tactical space, airships and payloads, cyberspace and missile defense. TC plans and executes test and evaluation programs and performs related analyses in the areas of high energy lasers, hypersonic weapon systems, targets, and strategic missiles. TC also supports operational elements, fields mature technologies, monitors nuclear arms control and works counter improvised explosive device efforts and space surveillance network/space object identification. To accomplish its goals, the TC pursues numerous technical cooperatives and partnerships with international organizations, academia, industry and other government agencies.

The Technical Center advances research and development for the Army, Department of Defense, U.S. Strategic Command, Missile Defense Agency and other defense-related government organizations in the following areas:

Directed Energy

The TC is the Army lead in high energy laser technology development. Current focus is on the High Energy Laser Mobile Demonstrator that is traceable to the form, fit and function requirements of the future force with potential applications to counter unmanned aerial vehicles and counter rockets, artillery and mortars missions. TC Directed Energy research and development efforts include high power solid state lasers, high energy laser beam control, atmospheric compensation, lethality and field testing.

Tactical Space Technologies

As the Army lead for space R&D, the TC identifies, develops, demonstrates and integrates space technologies in the areas of responsive space and space superiority. Focus areas include persistent beyond line-of-sight communications for forces deployed in remote areas via small satellites; functionally effective resolution imagery via small satellites; ground command and control systems to reduce operator burden; direct downlink of tactical data feeds; and a low cost, small satellite launcher system.

Airships and Payload Technology

TC develops tactically deployable, unmanned, high-altitude, heavier-than-air and lighter-than-air platforms and payloads with long-endurance mission capabilities. Airships and payload technology integrates communications and provides wide area surveillance and persistent intelligence, surveillance and reconnaissance. The TC's Long Endurance Multi-Intelligence Vehicle is a state-of-the-art, medium-altitude hybrid airship intended to enable continuous over-the-horizon communications, wide area surveillance and protection to support uninterrupted theater operations in mountainous terrain.

Cyberspace

The TC is developing tools and technologies for cyberspace operations, including enhanced network-centric capability and a supply chain security initiative. This initiative will identify and examine processes to conduct evaluations of system supply chain risk by: identifying active components, checking for counterfeit components, evaluating embedded software, determining susceptibility of acquisition process and identifying trusted contractors/subcontractors.

Missile Defense Technology

Missile defense technology development areas include seekers, guidance and control systems, propulsion systems, composites and advanced materials, and integrated demonstrations.

Counter Improvised Explosive device

Counter IED research develops new methods to locate and track IED supply lines, creates specialized tools for forensic analysis and safety,

and utilizes new high power microwave sources for IED interdiction. TC provides methods of forensic analysis of captured detonators and IEDs to provide US forces with vital information.

TC Laboratories

Concepts Analysis Lab, Army High Energy Laser Lab, Aerophysics Test Facility, Space Data Exploitation Lab, and Advanced Measurements Optical Range.

Test and Evaluation

Areas of expertise include: test range operations, test planning and execution, test resource management, and analysis of data for missile defense testing. Capabilities include:

- **25K TTL:** Currently developing two easily transportable launchers capable of launching 25,000-pound maximum static load rockets. The design is supportive of launching an array of existing and future concept rockets.
- **ET-1** is a low-cost test article that leverages existing in-production rocket motors, designed to supplement waning flight test inventories and provide a cost-effective alternative to expensive high-fidelity test articles. The ET-1 is focused on lot acceptance and aging and surveillance testing.
- **USAKA/RTS**, located in the Republic of the Marshall Islands, is 9 degrees north of the equator allowing for efficient equatorial space launches and first visibility out of Asia, which provides critical orbital information on most foreign launches. RTS provides an unmatched telemetry, optics and radar instrumentation suite to collect high fidelity metric and signature data both remotely and globally. RTS is transforming from a locally operated range to a globally operated national asset with a new command and control facility located in Huntsville, Ala., that will provide primary control in 2012.

Rapid Transition

Provides innovative capabilities to rapidly assess operational concepts to include the LightGuard Minotaur system, Advanced Hypersonic Weapon (prompt global strike program) and previously mentioned LEMV. LightGuard provides stand-off detection of Homemade Explosives in an operational environment. AHW, a first-of-its-kind glide vehicle, designed to fly within the earth's atmosphere at hypersonic speed and long range, completed its first successful flight test from the Pacific Missile Range Facility in Kauai, Hawaii, in November 2011.



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