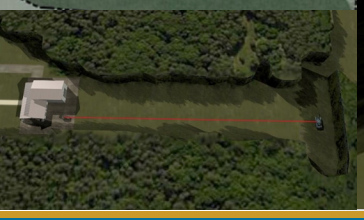
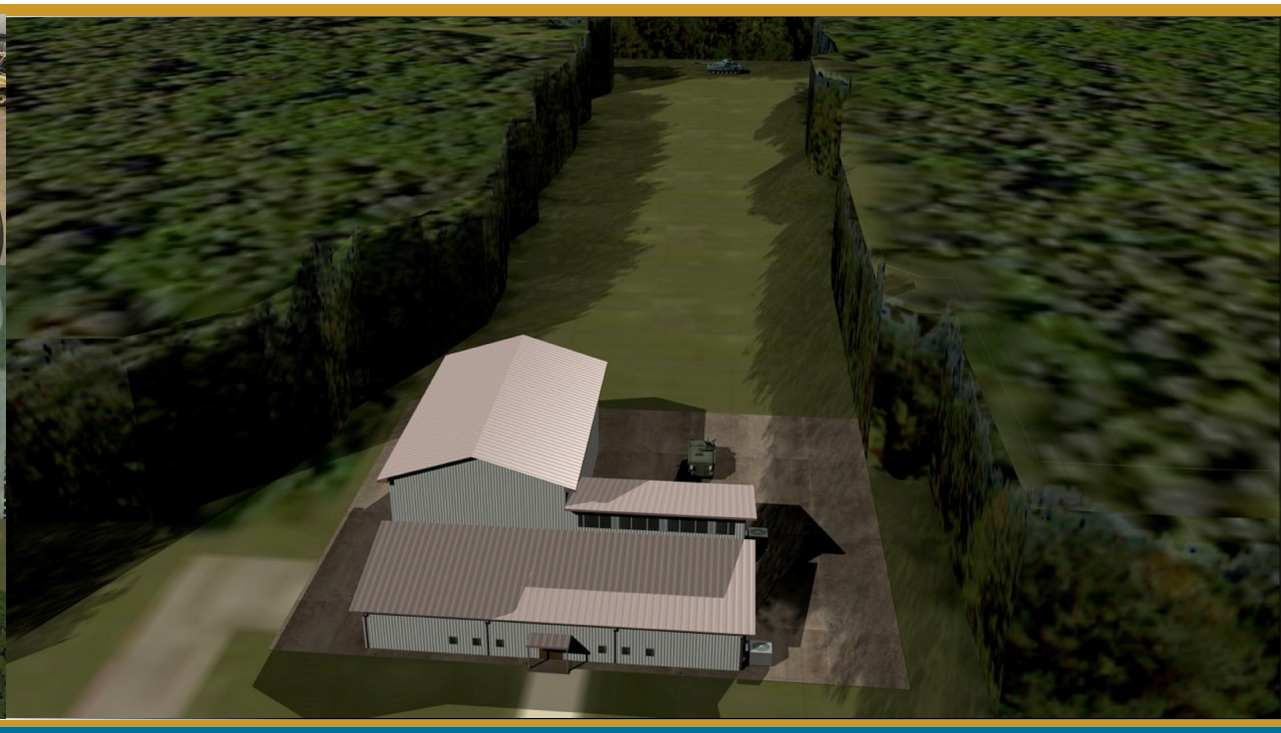
SPACE AND DIRECTED ENERGY TECHNOLOGY COMPLEX





Provide world-class facilities and equipment to enable scientists and engineers to drive technological discovery in space, directed energy and hypersonics

When completed, The U.S. Army Space and Missile Defense Command Technical Center's Space and Directed Energy Technology Complex will be a 163-acre campus hosting multiple research and development facilities. The complex is designed to create a collaborative environment that is essential for innovation and technology development. The workspaces will be designed to be safe, secure, resilient and sustainable. Facilities will be designed for flexibility so they can be easily adjusted to future mission requirements. Currently the Aerophysics Research Facility anchors the complex with the first Directed Energy Laboratory breaking ground in fiscal year 2020. Future Space and Directed Energy Technology Complex facilities will include laboratories for space and hypersonics.

- Space: Environmental Testing, Payload Demonstration, and Assured Position, Navigation, and Timing Labs
- Directed Energy: System Integration, Atmospheric Characterization, Beam Control, Laser Lethality, and High Power Microwave Effects Labs
- Hypersonics: Aerophysics, Hypersonics System Integration, and Aerothermal Integration Labs
- All three facilities will include Hardware in the Loop capabilities

Technology Complex

The U.S. Army Space and Missile Defense Command Technical Center has a legacy of providing warfighters products like the Exoatmospheric Kill Vehicle, Army/Navy Transportable Radar, Forward-Base Mode radars and Terminal High Altitude Area Defense.

Excellence in the Technical Center's three core competencies – directed energy technologies, tactical responsive space technologies and hypersonics technologies – has positioned the Technical Center as the science and technology lead for multiple Army and Department of Defense modernization priorities.

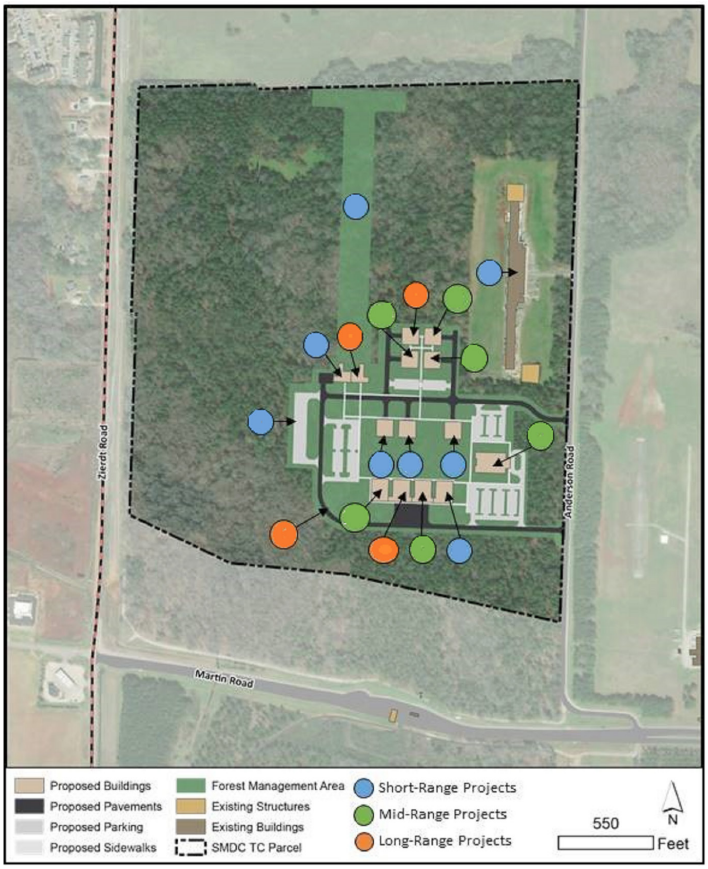
The 2018 Army Modernization Strategy, states that "building the Future Army to outpace 21st century threats requires investing, developing and fielding weapons and platforms with next generation technology by 2028 that provide our formations overmatch against near-peer competitors… We must now begin maturing these technologies and others into innovative, affordable and sustainable capabilities that deliver overmatch to fight future wars," and "potential game changers in the future include… anti-satellite weapons challenging access to space-based capabilities, directed energy and hypersonic vehicles."

The new emphasis on rapidly delivering game-changing technologies in the Technical Center's core competencies to deliver weapon systems for continued warfighter dominance has increased the Technical Center's need for expanded lab space. Development of the Space and Directed Energy Technology Complex will be essential in providing the equipment necessary for the Army of 2028.

By the end of fiscal year 2022 the Technology Complex will include the first of the planned directed energy labs, a directed energy range, and a multi-purpose lab for research and development and test and evaluation activities. The existing Aerophysics Research Facility will also be upgraded and refurbished.

In the following years, the Technology Complex will add additional directed energy labs, space labs and hypersonics labs. Additionally, the complex will include a fabrication lab, a collaboration lab and a shared computer resource lab.

The laboratory space at the Space and Directed Energy Technology Complex will not only enable cutting edge research and development for new weapons systems, the work will continue in sustainment and upgrades as these systems are fielded. The USASMDC Technical Center workforce will continue their excellence in science and technology work as the Technical Center adds new focus areas such as reliability and maintainability. The facilities at the Technology Complex will provide for hands-on mentoring of the next generation of Technical Center scientists and engineers to ensure continued success. The workspace in the facilities will be designed and built to be safe, secure, resilient, and sustainable. In addition, the facilities will be flexible and adaptable to enable the Technical Center to easily adjust to future mission requirements.



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