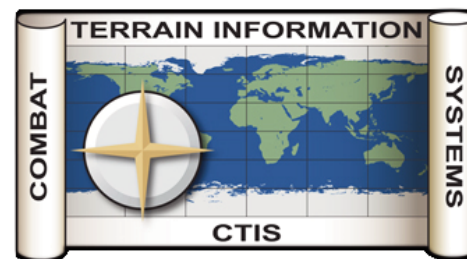


**CTIS—Leading the Way!**

Future CTIS enhancements will provide Army commanders with improved geospatial awareness and detailed geospatial information in ever decreasing time intervals. Some of the future plans include:

- Continuing support of the Battle Command Migration plan to Net-Centric Warfare techniques while transitioning geospatial capabilities into DCGS-A
- Fielding 139 reengineered, redesigned Deployable and 3 redesigned Base versions of the DTSS to replace existing aging units with next-generation capabilities
- Continuing to develop and field Geospatial Services within Service Oriented Architectures (SOA) in support of the coming Global Information Grid (GIG)

CTIS continues to lead the way in providing imagery intelligence and geospatial information services as the framework to geo-reference battlefield information for the Enterprise Geospatial Database (EGD) and to meet the geospatial information requirements of the Army Warfighter.



Government Program Office – Combat Terrain Information Systems  
 U.S. Army Engineer Research and Development Center, Topographic Engineering Center  
 Building 2592, ATTENTION: CEERD-TS-T, 7701 Telegraph Road, Alexandria, VA 22315-3864



[www.it.northropgrumman.com/ITSolutions](http://www.it.northropgrumman.com/ITSolutions)

TASC, 4801 Stonecroft Boulevard, Chantilly, VA 20151-3822 703-818-7400  
 Northrop Grumman Information Technology, 7575 Colshire Drive, McLean, VA 22102 703-556-1144

**Advanced Geospatial Collection, Analysis and Visualization**

**Combat Terrain Information Systems (CTIS)**



When conducting operations, having the right geospatial information at the right time is essential to making critical tactical decisions quickly and efficiently. Timely, accurate geospatial information about the battlefield is needed to maintain strategic control of events. To gather this critical data, Army geospatial teams require modular and portable geographic information and image processing systems.

Northrop Grumman is contracted with the Product Director Combat Terrain Information Systems (PD CTIS) to provide Army and Joint commanders with essential time sensitive geospatial information and analysis through a Net-Centric environment to provide information superiority to today's Warfighters. CTIS supports the Army Command, Control, Communication, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR), Intelligence Preparation of the Battlefield (IPB), Army Command and Control (C2), geospatial visualization, analytical capabilities for weapons and sensor system emplacements, and a host of other topographic information functions.

**Providing Geospatial Information Superiority**

The CTIS family of systems provides geospatial information superiority to the Warfighter from Theater to Brigade. The CTIS systems produce line-of-sight and visibility analysis, cross-country mobility assessments, geospatial visualization products, and other tailored analyses to support Intelligent Preparation of the Battlespace (IPB) and real-time access and storage of time-sensitive geographic data from a variety of data sources. CTIS delivers geospatial-based tactical decision aids, data dissemination, and data management capabilities to support both 2-D and 3-D environments.



**The CTIS family of systems includes:**

- Digital Topographic Support System (DTSS)
  - Digital Topographic Support System – Light (DTSS-L)
  - Digital Topographic Support System – Deployable (DTSS-D)
  - Digital Topographic Support System – Base (DTSS-B)
  - Digital Topographic Support System – Deployable High Volume Map Production (DTSS-D HVMP)
- Engineer Field Planning, Reconnaissance, Surveying, and Sketching Set (ENFIRE)
- Automated Integrated Survey Instruments (AISI)



DTSS-L



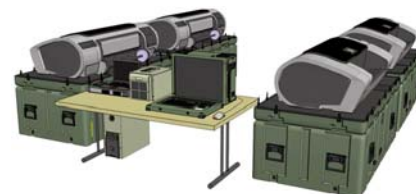
DTSS-D



ENFIRE



DTSS-B



DTSS-D HVMP



AISI

**The CTIS Family of Systems**

**Digital Topographic Support System (DTSS)**

DTSS provides time sensitive geospatial information and analysis to Army and Joint Command and Control (C2) elements utilizing the latest geospatial analysis tools, services and Enterprise Geospatial Database (EGD) needed to provide near-real time and accurate geospatial information and intelligence. DTSS is an integrated, self-contained, geospatial data manipulation and analysis system that provides support to commanders and staff at Brigade, Division, Corps, and Echelons Above Corps (EAC) in planning, preparation, and execution for effective decision making. DTSS supplies critical, timely, and accurate digital and hardcopy geospatial information to support mission planning, rehearsal, and execution. DTSS gives the Warfighter offensive and defensive geospatial analysis capabilities in order to maintain battlefield information superiority.

Functionality includes:

- Receiving, storing and managing National Geospatial-Intelligence Agency (NGA)-produced digital geospatial data
- Generating complex geospatial decision aids (mobility analysis, maneuver prediction, advanced visibility analysis, geospatial analysis, and complex data queries)
- Producing 2-D and 3-D visualization and manipulation of geospatial information
- Generating digital and hardcopy maps

DTSS is evolving capabilities in the current system of systems (SOS) architecture to the future network-centric service oriented architecture (SOA) as a component within the Distributed Common Ground System – Army (DCGS-A).

**ENFIRE**

ENFIRE is a technical engineering tool set designed to generate, manage, analyze, and digitally distribute a wide variety of engineering data. This tool set will significantly enhance current and future force command and control requirements. ENFIRE enables engineers to rapidly perform reconnaissance, surveying, Improvised Explosive Device (IED) reporting, obstacle reporting, construction site planning, engineering project management, and inventory management. This information is transferable via Common Message Processor (CMP) and geodatabases to other ENFIRE sets, Army Battle Command, and Distributed Common Ground System – Army (DCGS-A).

**AISI**

The AISI is an electronic, total station, surveying system for measuring horizontal and vertical angles, and distances at Second Order, Class II accuracies. Construction survey units will use the AISI to perform construction support surveys such as airfields, heliports, and roads, as well as major facility layouts. Topographic survey units will use the AISI to automate conventional survey activities. Conventional survey is used to provide position data in support of weapons systems, communications, intelligence gathering, and command and control activities. These surveys are conducted in direct support of topographic and construction engineer units at Corps and general support of topographic and construction engineer units at Echelons Above Corps (EAC).