ARCHIVED REPORT

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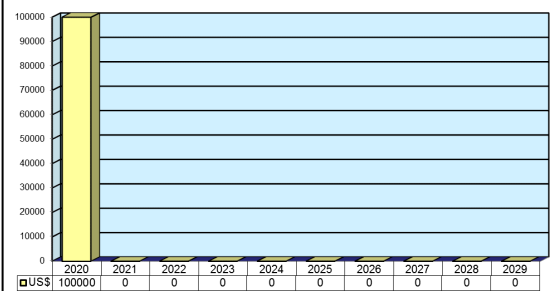
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Assured Worldwide Connectivity

Outlook

- In FY20, Assured Worldwide Connectivity efforts were transferred to C4I Battlespace Dev and Demo (formerly Global Battlespace Awareness)

**Funding Forecast
2020-2029**

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
US$	100000	0	0	0	0	0	0	0	0	0

Orientation

Description. The U.S. Air Force's Assured Worldwide Connectivity project developed and demonstrated advanced net-enabled architectures and communications technologies in support of a secure information grid for worldwide delivery and exchange of near real-time information, including voice, data, video, and imagery.

Sponsor

U.S. Air Force Research Laboratory
   Rome Research Site
   Griffiss Air Force Base, New York

Status. Research and development. Starting in FY20, this work is performed under Project 635321 C4I Battlespace Dev and Demo.

Application. Networking and communications.

Contractors
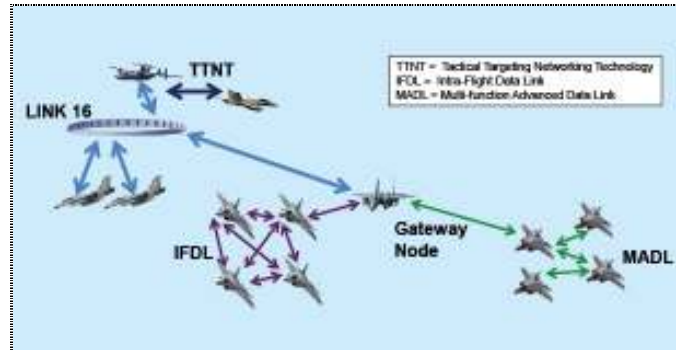
Contractor(s) not selected or not disclosed.

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 22 Commerce Road, Newtown, CT 06470, USA; rich.pettibone@forecast1.com

Assured Worldwide Connectivity
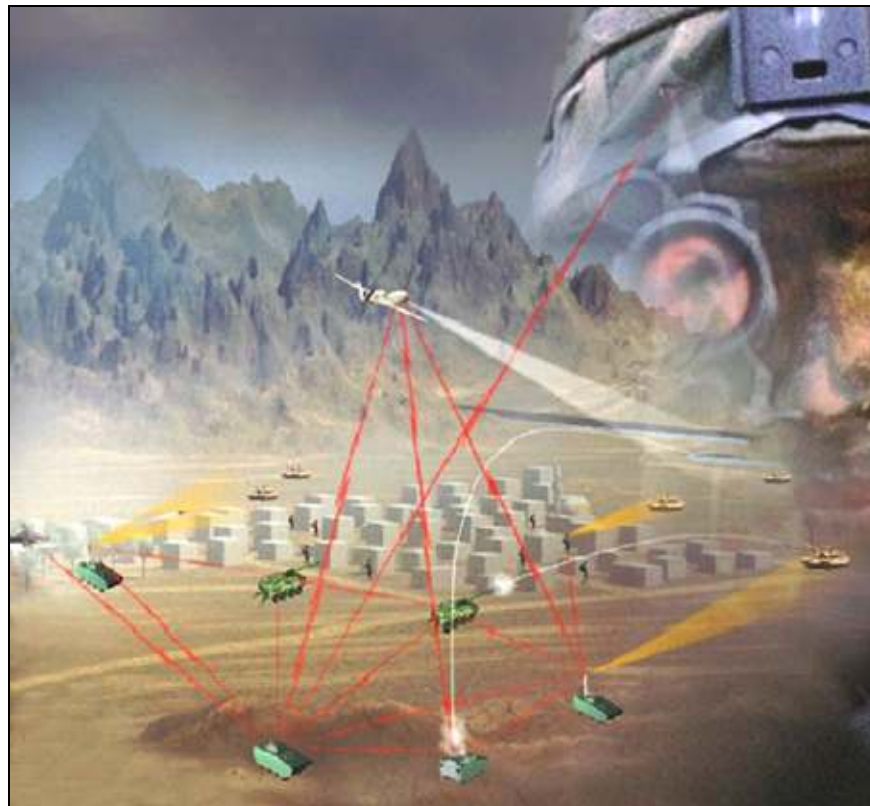
Technical Data

The Assured Worldwide Connectivity project was part of PE#0603788F Battlespace Knowledge Development and Demonstration Technology Development. This project developed and demonstrated intelligent networking transport and management technology in order to provide assured, seamless battlespace connectivity to the U.S. Air Force with a greatly reduced footprint relative to other technologies.

Demand for data could cause gridlock on the information highway.

Source: U.S. DARPA

Network-Centric Connectivity

Source: U.S. Army

Program Review

From FY10-FY13, advanced demonstrations of high-capacity assured access (anti-jam) communications for global spectrum dominance were conducted. These in turn led to the development of cognitive radio technology that will enable mission-specific adaptive optimization of communications links responsive to current conditions, situations, and priorities as each mission is executed. Additional demonstrations of end-to-end quality of service (QoS) and quality of assurance (QoA) performance for various network configuration, management, and implementation scenarios were concluded by the end of FY13.

Demonstrations of new technologies on an airborne testbed in support of the creation of an air-air/air-ground tactical intranet began in FY14 and continued through FY15, along with the development of key technologies to be demonstrated in a laboratory on a software-definable radio testbed.

From FY17-FY18, work centered on development of a network-level encryptor/traffic-aware router to allow enclaves at different security levels to share a common network. In addition, a building-block approach to modular upgradable design was developed and demonstrated.

Project plans for FY19 called for the development of multimission radio frequency capability, and for testing of wideband high-frequency waveforms.

Effective FY20, this work is now performed under the Assured Communications & Networks and Nuclear C3 Modernization efforts within Project 635321 C4I Battlespace Dev and Demo (formerly titled Global Battlespace Awareness).

Funding

	U.S. FUNDING							
	FY18 QTY	FY18 AMT	FY19 QTY	FY19 AMT	FY20 QTY	FY20 AMT	FY21 QTY	FY21 AMT
RDT&E (U.S. Navy) PE#0603788F Battlespace Knowledge Dev & Demo Project 635320 Assured Worldwide Connectivity	-	12.8	-	21.6	-	0	-	0

All $ are in millions.

Source: U.S. Department of Defense FY20 RDT&E Budget Item Justification, R-2

Note: In FY20, Project 635320 Assured Worldwide Connectivity efforts were transferred to Project 635321 C4I Battlespace Dev and Demo as part of a realignment effort.

Contracts/Orders & Options

No contracts valued over $5 million have been identified.

Timetable

Year	Major Development
FY10	Development of capability to geolocate enemy, allied, and non-combatant IP addresses and devices
FY11	Advanced demonstration of high-capacity assured access (anti-jam) communications
FY13	Effects-Based Cyber Defense generates a secure system/network configuration based on architectural specifications and operational requirements
FY16	Resiliency prototype developed with deception capability to confuse attackers
FY17	Development of a "Compact, Rugged, High-Assurance Crypto-Router with Network"
FY18	Development and demonstration of large-area MIMO antenna capabilities
FY20	Efforts transferred to Project 635321 C4I Battlespace Dev and Demo

Assured Worldwide Connectivity

Worldwide Distribution/Inventories

Assured Worldwide Connectivity is a **U.S. Air Force**-led project.

Forecast Rationale

The U.S. Air Force's Assured Worldwide Connectivity project (now C4I Battlespace Development and Demonstration) provides advanced net-enabled architectures and communications technologies in support of global military operations, including a secure information grid for worldwide exchange of near real-time multimedia (i.e., voice, data, video, and imagery) information. In addition, this project develops and demonstrates advanced optical networking and communications for the exchange of air and space-based information on and between U.S. Air Force platforms. These optical networks will be rapidly deployable, mobile, interoperable, and seamless between Air and Space Operations Centers (AOCs) and air and space-based platforms, either en route or in theater.

In FY20, the Assured Worldwide Connectivity project was dissolved and efforts were transferred and absorbed into Project 635321 C4I Battlespace Development and Demonstration as part of a realignment effort.

This report will be archived in 2021.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR RDT&E FUNDING (in US$)												
Designation or Program		**High Confidence**				**Good Confidence**			**Speculative**			
	Thru 2019	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**Total**
MFR Varies												
Assured Worldwide Connectivity <> United States <> Air Force Note: Project dissolved and efforts transferred to Project 635321 C4I Battlespace Dev and Demo in FY20.												
	161,428,000	100000	0	0	0	0	0	0	0	0	0	100,000
Total	161,428,000	100000	0	0	0	0	0	0	0	0	0	100,000