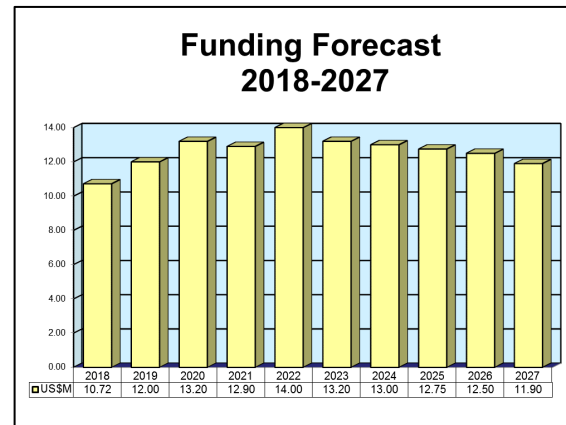## ARCHIVED REPORT

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Information Management and Computational Technology

Outlook

- Some efforts transferred to other programs

- Continued R&D to enhance information flow over the Global Information Grid

- Full field integration and peak operational capability scheduled for 2035

Funding Forecast 2018-2027

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
US$M	10.72	12.00	13.20	12.90	14.00	13.20	13.00	12.75	12.50	11.90

Orientation

Description. The U.S. Air Force's Information Management and Computational Technology project develops technologies that discover, access, and share information in a net-centric environment. The project also develops computing technology that enables USAF information superiority.

Sponsor

United States Air Force
   Pentagon
   Washington, DC

Status. Ongoing research and development.

Application. C4ISR technology development with an emphasis on information management and computer technology.

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

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Managing Battlefield Information for Quick Decision Making.

Source: U.S. DoD

Technical Data

As the importance of information grows in the current net-centric environment, the U.S. Air Force requires the capability to maximize the value, sharing, management, and use of its information and information assets in achieving its mission objectives. In addition, the Air Force requires the development of intelligent on-demand computing to enable information superiority. Technology developed under the Information Management and Computational Technology project is intended to fulfill these two broad requirements.

The Information Management and Computational Technology project is part of Program Element #0602788F (Dominant Information Technology). The project includes the following subproject:

Dissemination Technologies. The Dissemination Technologies subproject investigates and develops technologies for application in "decision-quality" information dissemination services provided via publish, subscribe, and query operations across the Global Information Grid (GIG) to enterprise and tactical assets and U.S. coalition partners.

Program Review

The main push within Project 625316 Information Management and Computational Technology is the development of "dissemination technologies."

Dissemination Technologies. From FY11 through FY16, the Dissemination Technologies effort worked on developing the tools and safeguards required to quickly and reliably transfer information from a higher classification domain to a lower classification domain. During this period, research was conducted into mission-responsive data systems by mapping mission requirements to illustrate information flows.

In FY14 and FY15, development continued of information management services that will be embedded with sensors in order to boost the effective communication bandwidth available to tactical users and link pilots, remotely piloted aircraft (RPA), and ground assets in the field.

By the end of FY14, the effort had developed and demonstrated resource-aware information management services that are responsive to the information needs of active missions by ensuring delivery of the most relevant, high-priority information to the warfighter.

During FY15 and FY16, work continued on the development of cloud-based information management services for "provisioning sufficient computational power for high demand semantic processing of large data sets within mission timeline constraints."

Information Management and Computational Technology

FY17 efforts focused on developing highly scalable mission-oriented middleware that semantically characterizes and contextualizes information in order to automatically identify and deliver mission-relevant information to consumers in federated environments. In addition, the project held a demonstration of multi-platform opportunistic sensor resource management.

In FY18, R&D is being conducted on ways to enable multiple echelons of a battlefield command to adapt operations to changing situations and select from the best set of mission options. Also in development are a set of embedded information management software services and adaptable user interfaces that will automate sensor tasking based on sensor availability and multiple consumer information needs. This work is scheduled to continue through FY19.

Funding

					U.S. FUNDING			
	FY17 QTY	FY17 AMT	FY18 QTY	FY18 AMT	FY19 QTY	FY19 AMT	FY20 QTY	FY20 AMT
RDT&E (U.S. Air Force) PE#0602788F								
Project 625316	-	12.8	-	12.1	-	13.5	-	13.5

	FY21 QTY	FY21 AMT	FY22 QTY	FY22 AMT	FY23 QTY	FY23 AMT	FY24 QTY	FY24 AMT
RDT&E (U.S. Air Force) PE#0602788F								
Project 625316	-	12.9		14.0	-	13.2	-	N/A

All $ are in millions.

N/A = Not Available

Source: U.S. Air Force FY19 RDT&E budget document

Contracts/Orders & Options

No contracts valued over $5 million have been publicly identified.

Timetable

Year	Major Development
FY11	Project start
FY12	Development of tools to analyze codes and dynamic execution profiles
FY13	Cross Domain Technologies enhance information flow across the GIG
FY15	Dissemination Technologies subproject develops responsive autonomous control to achieve tactical sensor control
FY16	Integration of the hardened secure processor with its DRAM memory
FY17	Demonstration of multi-platform opportunistic sensor resource management
FY18	Initiate R&D to enable multiple levels of a battlefield command to adapt to changing situations

Worldwide Distribution/Inventories

Information Management and Computational Technology is a **U.S. Air Force** project.

Information Management and Computational Technology

Forecast Rationale

The U.S. Air Force's Information Management and Computational Technology project develops technologies that discover, access, and share information to better achieve mission objectives. The project also matures computing technology in order to enable U.S. Air Force information superiority.

Research indicates that more than $126 million will be spent on this project over the course of the forecast period. Funding should peak in FY22 at $14 million and then drop gradually for the remainder of the forecast period.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR RDT&E FUNDING (in millions US$)											
Designation or Program	**High Confidence**				**Good Confidence**			**Speculative**			
	Thru 2017	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**Total**
MFR Varies												
Information Management and Computational Technology <> Air Force												
	218.04	10.72	12.00	13.20	12.90	14.00	13.20	13.00	12.75	12.50	11.90	126.17
Total	218.04	10.72	12.00	13.20	12.90	14.00	13.20	13.00	12.75	12.50	11.90	126.17