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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305221F / <i>Network-Centric Collaborative Targeting</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	14.256	10.757	15.049	0.000	15.049	17.761	17.238	12.322	6.557	Continuing	Continuing
675197: <i>NCCT Core Technology</i>	-	14.256	10.757	15.049	0.000	15.049	17.761	17.238	12.322	6.557	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Network Centric Collaborative Targeting (NCCT) is the Air Force program of record for geo-location and is responsible for developing core technologies supporting the horizontal and/or vertical integration of Intelligence, Surveillance and Reconnaissance (ISR) sensor systems. The result of such integration is a multi-intelligence (multi-INT) sensor network. Operationally, NCCT Core Technologies provide a tactical collaborative multi-INT geolocation capability employed against high-value targets. NCCT software supports Machine-to-Machine (M2M) cross-cueing and Internet Protocol (IP) connectivity to coordinate collection activities across the NCCT network. NCCT correlation and fusion software ingests collection data to produce a single, composite track (geolocation and identification) in near real-time for high-value targets. NCCT research and development funding supports evolutionary development of the NCCT message set and network management systems (for example Operations Interfaces, Network Controllers, Fusion Engines, Data Guards, Interface to Command & Control, and Interface to Overhead Intelligence Operations (OIO)), the migration of the NCCT technologies to emerging network centric technologies, global web-enabled services, and satisfying DoD standards and Information Assurance requirements.

NCCT Core Technology includes, but is not limited to, network management software, a network messaging standard, correlation and fusion software, software supporting tactical-to-national Signals Intelligence (SIGINT) Concept of Operations (CONOPS), NCCT multi-level security hardware and software items and operator interfaces. Development funds support software modifications required for technology modernization specific to network and fusion architecture design, data fusion algorithms and cyber security, while keeping pace with evolving adversary tactics, techniques, and procedures (TTPs). FY 2021 funding will be dedicated to completing the transition of NCCT Core Technology to a cloud-enabled architecture across the enterprise, integrating with other intelligence phenomenologies, developing new multi-INT use cases, and the continuation of rapid software deliveries based on continuous user feedback and agile methodologies.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver NCCT weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F.”

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	14.288	10.757	15.077	0.000	15.077
Current President's Budget	14.256	10.757	15.049	0.000	15.049
Total Adjustments	-0.032	0.000	-0.028	0.000	-0.028
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-0.032	0.000	-0.028	0.000	-0.028

Change Summary Explanation

FY19: -0.032 reflects actuals
FY21: -0.028 is inflation adjustment

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
<p>Title: Core Technology</p> <p>Description: Accomplishments and planned efforts include development and upgrade of Network-Centric Collaborative Targeting (NCCT) Core Technology; technical support to users, fielding new user capabilities, and management activities</p> <p>FY 2020 Plans: Completes development efforts to include, but would not be limited to, historical data archiving/retrieval, mission replay, user interface upgrades and "ease of use" functionality/features enhancing the user experience, features improving the Target Definition (TD) management process, cloud computing development efforts, OS transition (from Windows to Linux), and simulation tools/applications upgrades.</p> <p>FY 2021 Plans: Will be dedicated to completing the transition of NCCT Core Technology to a cloud-enabled architecture across the enterprise, integrating with other intelligence phenomenologies, developing new multi-INT use cases, and the continuation of rapid software deliveries based on continuous user feedback and agile methodologies.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: -\$4M reprogramming in FY20. Increase from inflation based on original ramp.</p>	14.256	10.757	15.049
Accomplishments/Planned Programs Subtotals	14.256	10.757	15.049

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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u> <u>Base</u>	<u>FY 2021</u> <u>OCO</u>	<u>FY 2021</u> <u>Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF 03 Line Item 832070: <i>Intelligence Comm Equipment</i>	3.095	3.148	2.997	-	2.997	3.261	3.318	3.378	5.409	Continuing	Continuing

Remarks

E. Acquisition Strategy

The Network-Centric Collaborative Targeting (NCCT) Core Technology capabilities are developed, maintained and sustained with baseline/incremental upgrades plus any Quick Reaction Capability (QRC) developments acquired through the 645th Aeronautical System Group (645 AESG) in accordance with their Program Management Directive (PMD), Class Justification and Approval (J&A), and Life Cycle Management Plan (LCMP) across the full spectrum of system life cycle management ("cradle to grave" support concept). Due to the rapidly changing threat environment encountered during our prolonged commitment to Overseas Contingency Operations (OCO), the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging/evolving Combatant Commander requirements.

645 AESG, Wright Patterson AFB OH, manages the Cost Plus Fixed Fee (CPFF) contracts used to develop NCCT Core Technology. 645 AESG will develop NCCT Core Technology software on common hardware for systems and platforms designated to field this ISR capability. Individual platform program management offices may contract directly with their prime contractors or through the 645 AESG for integration of NCCT capabilities on their respective systems and platforms.

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Air Force		Date: February 2020
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305221F / <i>Network-Centric Collaborative Targeting</i>	Project (Number/Name) 675197 / <i>NCCT Core Technology</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Core Technology				
Version 5.2 - 5.4 Fielding	1	2020	4	2022
Version 6.0 Development, Integration, and Test	1	2019	4	2022