Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force											Date: May 2017	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305221F / *Network-Centric Collaborative Targeting*							
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	-	19.587	22.610	18.842	0.000	18.842	16.982	17.497	17.871	18.238	Continuing	Continuing
675197: *NCCT Core Technology*	-	17.271	20.115	16.295	0.000	16.295	14.395	14.863	15.191	15.503	Continuing	Continuing
675275: *SUTER*	-	2.316	2.495	2.547	0.000	2.547	2.587	2.634	2.680	2.735	Continuing	Continuing

A. Mission Description and Budget Item Justification

Network Centric Collaborative Targeting (NCCT) is the Air Force program of record responsible for developing core technologies and sub-nodal analysis tools to horizontally and/or vertically integrate network collaborative Intelligence, Surveillance and Reconnaissance (ISR) sensor systems within and across intelligence disciplines. Operational uses of core technologies can include, but are not limited to, Signals Intelligence to Signals Intelligence (SIGINT-SIGINT) correlation and Ground Moving Target Indicator to Signals Intelligence (GMTI-SIGINT) correlation. Operational uses of sub-nodal analysis tools can include, but are not limited to, determining which nodes of the adversary's Command, Control, Communications, Computers, Intelligence (C4I) network to engage or protect to achieve desired effects, and modeling execution plans to determine the need to disrupt or monitor the required network aim-points in order to redirect activities based on changing battlefield conditions. NCCT software applications employ Machine-to-Machine (M2M) interfaces and Internet Protocol (IP) connectivity to coordinate sensor cross-cues and collection activities. NCCT correlation and fusion services ingest collection data to produce a single, composite track (geo-location and identification) 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 such as Service Oriented Architectures (SOA), global web-enabled services, and satisfying DoD standards and Information Assurance requirements.

NCCT Core Technology develops the hardware and software to horizontally integrate dissimilar Joint and Coalition Battle Management, Command & Control (BMC2), and ISR assets and systems into integrated target tracks shared across networked platforms. NCCT Core Technology includes, but is not limited to, network management software, operator interfaces, standard network messages and formats, correlation software and data rules of interaction, NCCT multi-level security hardware and software items, and platform specific Platform Interface Modules (PIMs). Prospective Coalition, Joint or Service systems are required to fund the integration of PIMs and associated improvements to core technology software for their respective platform. Development funds are required for software modifications and necessary for continuous modernization and software technologies associated with automation, data fusion, and information assurance/cyber security while keeping pace with evolving adversary tactics, techniques, and procedures (TTPs). FY 2018 RDT&E funding addresses Air Combat Command's validated requirement for the continuous operation of NCCT within the current tactical battlespace of today as well as development in the Core Technology to provide enhanced capabilities for the strategy of operating in highly contested and Anti-Access environments.

SUTER develops concepts, Tactics/Techniques/Procedures (TTPs) and technologies for synchronizing the capabilities of ISR and non-kinetic capabilities in a coordinated fashion with traditional kinetic weapons to prosecute targets connected together or dependent upon some form of communications network. Suter's planning, execution and assessment capability is implemented in a virtual architecture available to all Air Operations Centers (AOCs), taking advantage of the military value added from the synergies of Joint composite ISR, non-kinetic, and/or kinetic strike packages operating against networked target sets. This virtualized Service

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force	Date: May 2017
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*

Oriented Architecture (SOA) utilizes software applications which employ Machine-to-Machine (M2M) interfaces and IP communications to impact these target sets by "attacking" or influencing/shaping links, nodes or end points in the network to include: Radio Frequency (RF) and terrestrial links, switches, routers, hubs, servers, IP addresses, cell phones, antennas, radars, microwave relays, Satellite Communications (SATCOM) receivers, transceivers, etc. The three main pieces of the SUTER Concept of Operations (CONOPS) include: first, the use of SUTER's sub-nodal analysis software to determine which nodes of the adversary's C4I network to engage or protect to achieve desired effects; second, the SUTER's distributed operations architecture to tie together relevant planning cells (e.g. AOCs, Joint Information Operations Warfare Center (JIOWC), etc.) so they can collaborate in developing and modeling the execution plan(s) needed to disrupt or monitor the required network aim-points; and third, via SUTER's combined network Graphical User Interface (GUI), all involved "players" monitor the plan's execution, provide Near-Real Time (NRT) updates to the status of on-going activities, provide continuous assessment/updates of the execution of the plan, and, within authorities (Rules of Engagement/ ROEs), re-direct activities based on changing battlefield conditions. SUTER is the technology that assists Combatant Commanders and Components to exercise synchronized dynamic Command and Control (C2) of ISR, kinetic and non-kinetic Joint operations against conventional and terrorist threat networks. SUTER provides decision makers and operators supporting airborne, ship-borne, cyber and land-based C2ISR platforms and at supporting locations continuous Predictive Battlespace Awareness (PBA) of the information superiority fight. It also incorporates the Machine-to-Machine (M2M) capabilities that rapidly synchronize the employment of kinetic weapons, non-kinetic weapons and ISR assets to target challenging threat systems responsively. SUTER depicts a dynamic, multi-security-level picture of current and predicted threat network status, capitalizing on data inputs from sources such as Modernized Intelligence Database (MIDB), Net-Centric Collaborative Targeting (NCCT), Joint Targeting Database (JTDB), Computer Network Operations Database (CNODB), National Air and Space Intelligence Center (NASIC) Links and Nodes, and Integrated Broadcast Service (IBS). SUTER provides a GUI that can be tailored to support the integration of ISR, kinetic, and non-kinetic composite target packages supporting COCOM and Component specified information superiority effects and objectives. FY 2018 funding is dedicated to optimizing the SUTER architecture within a commercial cloud service (C2S) environment and improve machine-to-machine (M2M) data interfaces via several Intelligence Community data sources while updating data models to existing data sources.

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.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	19.587	22.610	17.788	0.000	17.788
Current President's Budget	19.587	22.610	18.842	0.000	18.842
Total Adjustments	0.000	0.000	1.054	0.000	1.054
• 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	0.000	0.000	1.054	0.000	1.054

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force	Date: May 2017
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*

Change Summary Explanation

FY 2018 $1M was added to integrate enhancements to NASIC data sources for National-to-Tactical fusion.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force			Date: May 2017
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305221F / *Network-Centric Collaborative Targeting*	Project (Number/Name) 675197 / *NCCT Core Technology*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
675197: *NCCT Core Technology*	-	17.271	20.115	16.295	0.000	16.295	14.395	14.863	15.191	15.503	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 responsible for developing core technologies and sub-nodal analysis tools to horizontally and/or vertically integrate network collaborative Intelligence, Surveillance and Reconnaissance (ISR) sensor systems within and across intelligence disciplines. Operational uses of core technologies can include, but are not limited to, Signals Intelligence to Signals Intelligence (SIGINT-SIGINT) correlation and Ground Moving Target Indicator to Signals Intelligence (GMTI-SIGINT) correlation. Operational uses of sub-nodal analysis tools can include, but are not limited to, determining which nodes of the adversary's Command, Control, Communications, Computers, Intelligence (C4I) network to engage or protect to achieve desired effects, and modeling execution plans to determine the need to disrupt or monitor the required network aim-points in order to redirect activities based on changing battlefield conditions. NCCT software applications employ Machine-to-Machine (M2M) interfaces and Internet Protocol (IP) connectivity to coordinate sensor cross-cues and collection activities. NCCT correlation and fusion services ingest collection data to produce a single, composite track (geo-location and identification) 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 such as Service Oriented Architectures (SOA), global web-enabled services, and satisfying DoD standards and Information Assurance requirements.

NCCT Core Technology develops the hardware and software to horizontally integrate dissimilar Joint and Coalition Battle Management, Command & Control (BMC2), and ISR assets and systems into integrated target tracks shared across networked platforms. NCCT Core Technology includes, but is not limited to, network management software, operator interfaces, standard network messages and formats, correlation software and data rules of interaction, NCCT multi-level security hardware and software items, and platform specific Platform Interface Modules (PIMs). Prospective Coalition, Joint or Service systems are required to fund the integration of PIMs and associated improvements to core technology software for their respective platform. Development funds are required for software modifications and necessary for continuous modernization and software technologies associated with automation, data fusion, and information assurance/cyber security while keeping pace with evolving adversary tactics, techniques, and procedures (TTPs). FY 2018 RDT&E funding addresses Air Combat Command's validated requirement for the continuous operation of NCCT within the current tactical battlespace of today as well as development in the Core Technology to provide enhanced capabilities for the strategy of operating in highly contested and Anti-Access environments.

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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Title: Core Technology	17.271	20.115	16.295

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675197 / *NCCT Core Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Description: Accomplishments and planned efforts include development and update of Network-Centric Collaborative Targeting (NCCT) Core Technology; technical support to users, and management activities			
FY 2016 Accomplishments: - Completed dual-node install of Core Tech Software version 5.0.2 for increased information technology support and centralized management and monitoring for the overall architecture - Began development and integration of capabilities within Core Tech Software version 5.1 including Link-16 data ingest - Evaluated certain prospective capabilities for inclusion into the development of Core Tech Software version 5.2 including collaboration of Distributed Mission Operations and Training (DMO/DMT) capability as well as additional systems and data types (e.g. Overhead Persistent Infrared fusion, national data feeds) and fusion for the technology enhancements required for NCCT to operate in a highly contested and Anti-Access environments			
FY 2017 Plans: - Completing the integration and testing of capabilities within Core Tech Software version 5.1 including Link-16 data ingest for track amplification and enhanced track identification and awareness - Continuing evaluation of certain prospective capabilities for inclusion into the development of Core Tech Software version 5.2 including collaboration of Distributed Mission Operations and Training (DMO/DMT) capability as well as additional systems and data types (e.g. Overhead Persistent Infrared fusion, national data feeds) and fusion for the technology enhancements required for NCCT to operate in a highly contested and Anti-Access environments - Beginning development efforts for Core Tech Software version 5.2 • Evaluate air track sources for Air Track to SIGINT correlation capability • Evaluate the collaboration of Distributed Mission Operations and Training (DMO/DMT) capability as well as additional systems and data types (e.g. Overhead Persistent Infrared fusion, national data feeds) and fusion for the technology enhancements required for NCCT to operate in a highly contested and Anti-Access environments - Evaluate prospective commercial cloud services for eventual software transition into the cloud environment for Core Tech Software version 5.3			
FY 2018 Plans:			

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675197 / *NCCT Core Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
- Will complete delivery and install of NCCT software version 5.1 for track amplification and enhanced track identification and awareness via Link 16 ingest capability - Will continue development efforts for Core Tech Software version 5.2 • Evaluation of additional systems and data types, such as OPIR fusion and national data feeds and fusion for the technology enhancements required for NCCT to operate in highly contested and Anti-Access environments • Air track sources for Air Track to SIGINT correlation capability • Interface with DMO/DMT - Will begin development efforts for Core Tech Software version 5.3 • Commercial cloud services for eventual software transition into the cloud environment			
Accomplishments/Planned Programs Subtotals	17.271	20.115	16.295

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 832070: *Intelligence Comm Equipment*	3.517	2.583	3.312	0.000	3.312	3.117	3.172	3.230	3.289	Continuing	Continuing

Remarks

D. 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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675197 / *NCCT Core Technology*

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675197 / *NCCT Core Technology*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Core Technology Development A	SS/CPFF	L-3 ComCept : Rockwall, TX	-	16.271	Jan 2016	5.500	May 2017	0.000		0.000		0.000	Continuing	Continuing	-
Core Technology Development B	SS/CPFF	L-3 ComCept : Rockwall, TX	-	0.000		13.615	Jul 2017	15.248	Jul 2018	0.000		15.248	Continuing	Continuing	-
		Subtotal	-	16.271		19.115		15.248		0.000		15.248	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Security Certification/ Technical Engineering	SS/CPFF	L-3 ComCept : Rockwall, TX	-	0.500	Mar 2016	0.500	Mar 2017	0.500	Mar 2018	0.000		0.500	Continuing	Continuing	-
		Subtotal	-	0.500		0.500		0.500		0.000		0.500	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Allot	645 AESG : Dayton, OH	-	0.500	Mar 2016	0.500	Mar 2017	0.547	Mar 2018	0.000		0.547	Continuing	Continuing	-
		Subtotal	-	0.500		0.500		0.547		0.000		0.547	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force			Date: May 2017
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305221F / *Network-Centric Collaborative Targeting*	Project (Number/Name) 675197 / *NCCT Core Technology*	

	Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	17.271		20.115		16.295		0.000		16.295	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675197 / *NCCT Core Technology*

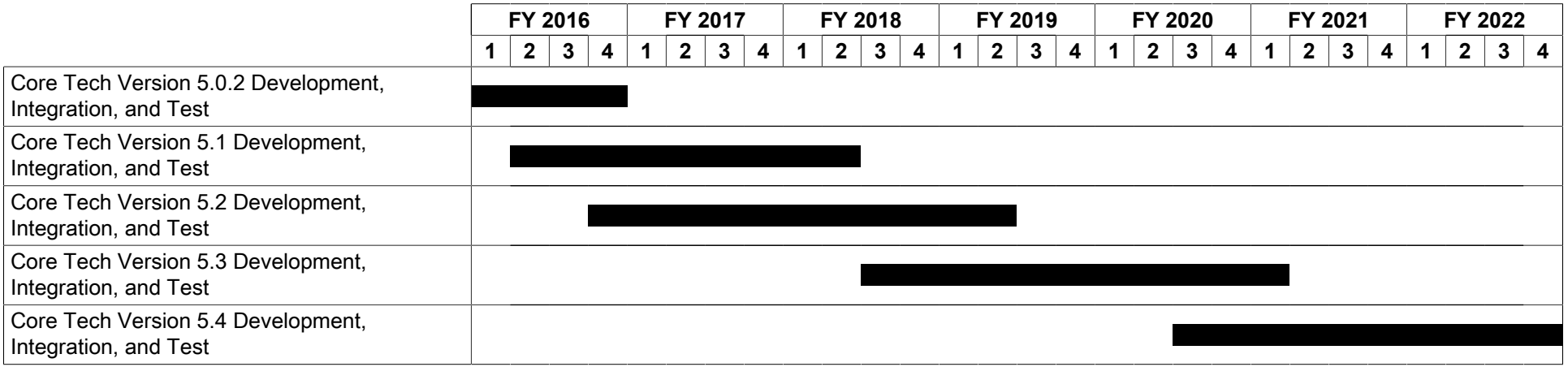

Exhibit R-4A, RDT&E Schedule Details: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675197 / *NCCT Core Technology*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Core Tech Version 5.0.2 Development, Integration, and Test	1	2016	4	2016
Core Tech Version 5.1 Development, Integration, and Test	2	2016	2	2018
Core Tech Version 5.2 Development, Integration, and Test	4	2016	2	2019
Core Tech Version 5.3 Development, Integration, and Test	3	2018	1	2021
Core Tech Version 5.4 Development, Integration, and Test	3	2020	4	2022

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force			Date: May 2017
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305221F / *Network-Centric Collaborative Targeting*	Project (Number/Name) 675275 / *SUTER*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
675275: *SUTER*	-	2.316	2.495	2.547	0.000	2.547	2.587	2.634	2.680	2.735	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

SUTER is a project responsible for developing sub-nodal analysis tools to horizontally and/or vertically integrate network collaborative Intelligence, Surveillance, and Reconnaissance (ISR) sensor systems within and across intelligence disciplines. Operational uses of sub-nodal analysis tools would include, but are not limited to, determining which nodes of the adversary's Command, Control, Communications, Computers, Intelligence (C4I) network are engaged or protected to achieve desired effects, and modeling execution plans to determine the need to disrupt or monitor the required network aim-points in order to redirect activities based on changing battlefield conditions.

SUTER develops technologies for synchronizing the capabilities of ISR and non-kinetic capabilities in a coordinated fashion with traditional kinetic weapons to prosecute targets connected together or dependent upon some form of network. SUTER's planning, execution and assessment capability is implemented in a virtual architecture available to all Air Operations Centers (AOCs), taking advantage of the military value added from the synergies of Joint composite ISR, non-kinetic, and/or kinetic strike packages operating against networked target sets. This virtualized Service Oriented Architecture (SOA) utilizes software applications which employ machine-to-machine interfaces and Internet Protocol (IP) communications to impact these target sets by "attacking" or influencing/shaping links, nodes or end points in the network to include: Radio Frequency (RF) and terrestrial links, switches, routers, hubs, servers, IP addresses, cell phones, antennas, radars, microwave relays, Satellite Communications (SATCOM) receivers, transceivers, etc. The three main pieces of the SUTER Concept of Operations (CONOPS) include: first, the use of SUTER's sub-nodal analysis software to determine which nodes of the adversary's C4I network to engage or protect to achieve desired effects; second, the use of SUTER's distributed operations architecture to tie together relevant planning cells (e.g. AOCs, Joint Information Operations Warfare Command (JIOWC), etc.) so they can collaborate in developing and modeling the execution plan(s) needed to disrupt or monitor the required network aim-points; and third, via SUTER's combined network Graphical User Interface (GUI), all involved "players" monitor the plan's execution, provide Near-Real Time (NRT) updates to the status of on-going activities, provide continuous assessment/updates of the execution of the plan, and, within authorities (Rules of Engagement or ROEs), re-direct activities based on changing battlefield conditions.

SUTER is the technology that assists Combatant Commanders (COCOMs) and Components to exercise synchronized dynamic Command and Control (C2) of ISR, kinetic and non-kinetic Joint operations against conventional and terrorist threat networks. SUTER provides decision makers and operators supporting airborne, ship-borne, cyber and land-based Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR) platforms and at supporting locations continuous Predictive Battlespace Awareness (PBA) of the information superiority fight. It also incorporates the Machine-to-Machine (M2M) capabilities that rapidly synchronize the employment of kinetic weapons, non-kinetic weapons and ISR assets to target challenging threat systems responsively. SUTER depicts a dynamic, multi-security level picture of current and predicted threat network status, capitalizing on data inputs from sources such as Modernized Intelligence Database (MIDB), Net-Centric Collaborative Targeting (NCCT), Joint Targeting Database (JTDB), Computer Network Operations Database (CNODB), National Air and Space Intelligence Center (NASIC) Links and Nodes, and Integrated Broadcast Service (IBS). SUTER provides a GUI that can be tailored to support the integration of ISR, kinetic, and non-kinetic composite target packages supporting Combatant Commands and Component specified information superiority effects and objectives across the full spectrum of conflict from tactical operations to an Anti-Access Area Denial (A2AD) strategy. FY 2018 funding is dedicated to optimizing the SUTER architecture within a commercial cloud

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675275 / *SUTER*

service (C2S) environment and improve machine-to-machine (M2M) data interfaces via several Intelligence Community data sources while updating data models to existing data sources.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Title: SUTER Software Development	2.316	2.495	2.547
Description: Planned efforts include development and release of SUTER software upgrade. ***FY 2016 Accomplishments:*** - Delivered virtual Service Oriented Architecture (SOA) of SUTER software providing worldwide access to all Air Operations Center (AOC) users - Continued development of further software modernization improving security management of software and network, enhanced SUTER displays adding data filtering and layering capabilities, additional data feeds, two new analytical approaches for targeting analysis - Provided a system view capability that breaks out a system into its logical and physical components - Terminated 645th Aeronautical Systems Group (645 AESG) contracts for SUTER development - Began transition of SUTER to Air Force Research Lab (AFRL) ***FY 2017 Plans:*** - Continuing development of further software modernization increments improving security management and introducing flexibility upgrades for operational decision makers that will enable auto generation of target recommendations and further expansion of data sources to inject into SUTER via machine-to-machine interface - Beginning initial development of manual analysis and manual course of action capability to support target identification and to predict effects of actions executed to achieve decision maker objectives - Closing out 645 AESG contracts for SUTER development - Initiating AFRL contracts for continued SUTER development ***FY 2018 Plans:*** - Will continue development of manual analysis and manual course of action capability to support target identification and to predict effects of actions executed to achieve decision maker objectives - Will begin research and development of new machine-to-machine data interfaces for interfacing with several national and defense Intelligence Community data sources, while updating data models of existing interfaced data sources - Will begin research and development of interoperability with Air Operations Center and Air Force Distributed Common Ground System weapon systems • Evaluate the ability to leverage Pivotal Cloud Foundry for eventual development of commercial cloud services capability			
Accomplishments/Planned Programs Subtotals	2.316	2.495	2.547

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675275 / *SUTER*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-

Remarks

D. Acquisition Strategy

Prior to FY 2017, SUTER capabilities were developed, maintained and sustained with baseline/incremental upgrades plus any Quick Reaction Capability (QRC) developments acquired through the 645 AESG. In FY 2017, due to a lack of technical maturity of SUTER's capabilities, the Air Force terminated 645 AESG activities on SUTER and transitioned SUTER program execution responsibilities to Air Force Research Laboratory (AFRL). 645 AESG will transfer FY 2018 SUTER funding to AFRL for execution. AFRL will increase the technical maturity of the SUTER software and capabilities to a level suitable for eventual transition to an Air Force Program of Record best capable to field, upgrade and sustain SUTER capabilities consistent with warfighter requirements.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.