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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0305600F I International Intelligence Technology and Architectures							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	-	9.491	8.464	13.515	0.000	13.515	13.660	13.711	13.780	13.938	Continuing	Continuing
675898: International Intelligence Technology and Arc	-	9.491	8.464	13.515	0.000	13.515	13.660	13.711	13.780	13.938	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

International Intelligence Technology and Architectures oversees, manages, and provides the United States (US) component of the multi-national Battlefield Information Collection and Exploitation Systems (US BICES) with a collaborative environment and intelligence sharing enterprise required for processing and disseminating critical intelligence information between and among US, North Atlantic Treaty Organization (NATO), allied and coalition forces. The US BICES program procures and maintains a standing intelligence information sharing capability across Department of Defense (DoD), Combat Support Agencies, and multiple Combatant Commands (CCMD) for the Office of the Under Secretary of Defense, Intelligence (OUSD(I)). At the request of OUSD(I), US BICES is extended beyond NATO nations into all CCMDs to support their unique partner relationships. This architecture is known as US BICES Extended (US BICES-X). US BICES provides an "enduring" US and Coalition interoperable intelligence and information sharing multi-level secure technical architecture utilizing releasable elements of the Defense Intelligence Information Enterprise (DI2E) framework and functions to support the full spectrum of intelligence operations and dissemination throughout the DoD community. US BICES/US BICES-X has been designated the enduring intelligence and information sharing component of the Mission Partner Environment (MPE).

Research and Development funding will:

- Provide increased intelligence information sharing capabilities in support of US and coalition forces utilizing the US BICES and NATO virtual networks and provide increased database information via Distributed Common Ground System Family of Systems.
- Expand available intelligence disciplines (Geospatial Intelligence, Signal Intelligence, and potentially Human Intelligence) to support US and allied/coalition forces. Support increased intelligence advanced analytics tools, Joint Intelligence Operation Center-IT and DI2E developments to significantly increase the timeliness of intelligence and bring US BICES/NATO Special Operations Forces Headquarters/NATO Intelligence Fusion Center capabilities into the current technology baselines.
- Develop and enhance a federated Trusted Network Environment (TNE) that incorporates the Asian Pacific intelligence Information Network to support the National Defense Strategy.
- Develop multi-level security intelligence bi-laterals and multi-laterals to meet Combatant Commander Integrated Priority Lists.
- Expand capabilities for bi-lateral and multi-lateral federated TNEs in support of CCMD requirements.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total		
Previous President's Budget		3.491	8.464	8.515	0.000	8.515		
Current President's Budget		9.491	8.464	13.515	0.000	13.515		
Total Adjustments		6.000	0.000	5.000	0.000	5.000		
• 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		6.000	0.000					
• Reprogrammings		0.000	0.000					
• SBIR/STTR Transfer		0.000	0.000					
• Other Adjustments		0.000	0.000	5.000	0.000	5.000		
Change Summary Explanation FY19 to FY20 funding increased to support additional TNE testing and integration into MPE.								
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: International Intelligence Technology and Architectures				9.491	8.464	13.515	0.000	13.515
Description: Continue the research and development in emerging and maturing technologies and capabilities for modernizing and transforming US BICES/US BICES-X for improved agility, scalability, access, cybersecurity, and data and information sharing tools and infrastructure.								
FY 2019 Plans: Continue the research and development for future releases of the TNE, to include Identity and Access Management (IdAM), peer-federated chat services, and expanding video capabilities across the enterprise. Continue the test& evaluation of new capabilities, to include the implementation and certification of new services such as VTC, metadata handling, restricted user communities for isolating authoritative data sources, integration of multi-domain relational database operations, and an application programming interface that will enhance information sharing through the use of existing applications like Share Point with the TNE.								

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
<p>Developing and evaluating the roadmap for USD(I) including capabilities to increase the integration and use of virtualization technology; ensuring alignment and interoperability with the DI2E environment, development of new coalition ISR capabilities, and further integration with the Mission Partner Environment (MPE).</p> <p>FY 2020 Base Plans: Continue development of US BICES-X capabilities including further integration of TNE into the Mission Partner Environment, and development and testing of coalition ISR coalition capabilities. These efforts will enable the modernization and transformation of the USBICES/BICES-X worldwide enterprise to enable the instantiation or interconnection of any partner network to support any operation.</p> <p>FY 2020 OCO Plans: N/A.</p> <p>FY 2019 to FY 2020 Increase/Decrease Statement: Funding increased to support additional TNE testing and integration into MPE.</p>					
Accomplishments/Planned Programs Subtotals	9.491	8.464	13.515	0.000	13.515

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• O&M PE 0305600F: <i>Int'l Intel Tech Architecture</i>	173.655	132.665	129.632	-	129.632	92.642	25.050	75.679	9.741	Continuing	Continuing
• OPAF 03 Line item 832050: <i>International Intelligence Technology and Architecture</i>	25.208	8.290	11.386	-	11.386	11.314	10.884	11.167	11.368	Continuing	Continuing

Remarks
The O&M Funding profile in FY21-24 will be updated/corrected in the FY21 President's Budget. The Air Force remains committed to the BICES programs. Details may be provided upon request.

E. Acquisition Strategy
Utilize existing General Dynamics Mission Systems (GDMS) contract number FA8240-18-D-0360. The contract is structured as an Indefinite Delivery Indefinite Quantity (IDIQ) contract with a period of performance beginning 1 April 2018 through 31 March 2024. US BICES also utilizes the Air Force Research Laboratory for majority of the testing of the latest TNE releases. Additionally, US BICES will utilize the General Dynamics Information Technology (GDIT) Indefinite Delivery Indefinite Quantity (IDIQ) contract with a period of performance beginning 1 June 2015 through 31 May 2023. This contract will support the integration lab efforts and the test environment.

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F. 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.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force												Date: February 2019		
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0305600F / <i>International Intelligence Technology and Architectures</i>				Project (Number/Name) 675898 / <i>International Intelligence Technology and Arc</i>				

Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
TNE Software	Various	AFRL : Rome, NY	-	9.491	Jan 2018	8.464	Jan 2019	13.515	Jan 2020	-		13.515	Continuing	Continuing	-	
Subtotal			-	9.491		8.464		13.515		-		13.515	Continuing	Continuing	N/A	

			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	9.491		8.464		13.515		-		13.515	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force			Date: February 2019		
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			Project (Number/Name) 675898 / <i>International Intelligence Technology and Arc</i>		

FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Trusted Network Environment Software Version 3.2 features Conferencing & Video Teleconferencing, Advanced Search, Metadata, XML Messaging, Chat Peer Federation, Federated Virtual Desktop Interface																											
TNE																											
Trusted Network Environment Software Version 3.3 features Web API SDK update, Metadata & advanced search, User-editable GAL features																											
TNE																											
Trusted Network Environment Software Version 4.0 features UX enhancements, Full Motion Video (FMV), improved audio/video performance, and web-based FMV streaming																											
TNE																											
Trusted Network Environment Software Version 4.1 features mission application support, mission database support																											
TNE																											
Trusted Network Environment Software Version 4.2 features fully hosted database applications and layered connection (JWICS to UNCLAS)																											
TNE																											

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force																Date: February 2019																									
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										FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024							
										1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Trusted Network Environment Software Version 5.0 features SSO assertion to low- side domains; encrypted data support																																									
TNE																																									
Trusted Network Environment Software Version 5.1 features Real-time communications (radio over IP), Automated FDO dissemination controls																																									
TNE																																									
Trusted Network Environment Software Version 5.2 features Cloud-based implementation, virtualized connection methods, full-service intelligent fail-over and service continuity																																									
TNE																																									

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force

Date: February 2019

Appropriation/Budget Activity

3600 / 7

R-1 Program Element (Number/Name)

PE 0305600F / International Intelligence
Technology and Architectures

Project (Number/Name)

675898 / International Intelligence
Technology and Arc

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Trusted Network Environment Software Version 3.2 features Conferencing & Video Teleconferencing, Advanced Search, Metadata, XML Messaging, Chat Peer Federation, Federated Virtual Desktop Interface</i>				
TNE	3	2018	3	2019
<i>Trusted Network Environment Software Version 3.3 features Web API SDK update, Metadata & advanced search, User-editable GAL features</i>				
TNE	4	2018	1	2020
<i>Trusted Network Environment Software Version 4.0 features UX enhancements, Full Motion Video (FMV), improved audio/video performance, and web-based FMV streaming</i>				
TNE	1	2019	3	2021
<i>Trusted Network Environment Software Version 4.1 features mission application support, mission database support</i>				
TNE	4	2019	4	2021
<i>Trusted Network Environment Software Version 4.2 features fully hosted database applications and layered connection (JWICS to UNCLAS)</i>				
TNE	4	2020	4	2022
<i>Trusted Network Environment Software Version 5.0 features SSO assertion to low-side domains; encrypted data support</i>				
TNE	4	2020	1	2023
<i>Trusted Network Environment Software Version 5.1 features Real-time communications (radio over IP), Automated FDO dissemination controls</i>				
TNE	4	2020	2	2024

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019	
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305600F / International Intelligence Technology and Architectures		Project (Number/Name) 675898 / International Intelligence Technology and Arc	
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Trusted Network Environment Software Version 5.2 features Cloud-based implementation, virtualized connection methods, full-service intelligent fail-over and service continuity				
TNE	3	2021	4	2024