Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Office of the Secretary Of Defense	Date: February 2015
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603288D8Z / *Science and Technology (S&T) Analytic Assessments*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	-	12.000	14.645	-	14.645	11.531	13.346	16.946	16.956	Continuing	Continuing
P328: *Science and Technology Analytic Assessments*	0.000	-	12.000	14.645	-	14.645	11.531	13.346	16.946	16.956	Continuing	Continuing

Note

FY 2015 New Start Program.

A. Mission Description and Budget Item Justification

This Program Element (PE) directly supports the call for developing innovative capabilities to meet the emerging threats in the areas of Anti-Access/Area Denial (A2/AD) environments, missiles, advanced Integrated Air Defense Systems (IADS), surface warfare, warfare from under the sea, counter-terrorism, and counter-Weapons of Mass Destructions (WMD). With cross-domain challenges in areas such as cyber, electronic warfare, space, and Intelligence, Surveillance, Reconnaissance (ISR) outlined in Sustaining U.S. Global Leadership: Priorities for the 21st Century Defense. The S&T analytic assessments performed under this budget item will include the following activities:

- Threat envelope assessments beyond intelligence community products for identifying gaps in U.S. capability for critical threats (Red teaming).
- Independent assessment of critical capability and technology development (Red teaming).
- Architecture development and evaluation to develop new U.S. capability (Blue teaming).
- Experimentation campaigns to demonstrate relevant technologies in preparation for rapidly transitioning the capability, either directly to warfighters, or to acquisition programs (Blue teaming).

Due to the complexity of these capability gaps, the process for developing and executing these analytic assessments will span fiscal years and may have multiple phases. The emerging nature of the problem sets makes identification of studies beyond the budget year unlikely. Typically, the distribution of effort for studies, experiments and prototypes, and testing and integration will be roughly 30/40/30 percent. The first step in the process is to study problems or gaps identified by threat assessments and develop possible solutions; the second step develops those possible solutions into plans for experiments and prototypes; and finally, selected experiments or prototypes may be pursued to more fully develop the solution(s) for operational testing and integration. Implementation of this process could span a couple of years causing the portfolio to cascade from year to year with each effort moving through the phases of study, experiment, and test.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Office of the Secretary Of Defense	Date: February 2015
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603288D8Z *I Science and Technology (S&T) Analytic Assessments*

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	12.000	12.000	-	12.000
Current President's Budget	-	12.000	14.645	-	14.645
Total Adjustments	-	-	2.645	-	2.645
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Realignment for Higher Priority Programs	-	-	2.678	-	2.678
• Economic Assumptions	-	-	-0.033	-	-0.033

Change Summary Explanation

This is a new start program in FY 2015 to support the higher priorities of acquisition and operations of the Department.

Funds added to expand capability assessments in the areas of Anti-Access/Area Denial (A2/AD) and investments in Defense Innovation Initiatives.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Office of the Secretary Of Defense			Date: February 2015
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603288D8Z / *Science and Technology (S&T) Analytic Assessments*	Project (Number/Name) P328 / *Science and Technology Analytic Assessments*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
P328: *Science and Technology Analytic Assessments*	-	-	12.000	14.645	-	14.645	11.531	13.346	16.946	16.956	Continuing	Continuing

A. Mission Description and Budget Item Justification

This Program Element (PE) directly supports the call for developing innovative capabilities to meet the emerging threats in the areas of Anti-Access/Area Denial (A2/AD) environments, missiles, advanced Integrated Air Defense Systems (IADS), surface warfare, warfare from under the sea, counter-terrorism, and counter-Weapons of Mass Destructions (WMD). With cross-domain challenges in areas such as cyber, electronic warfare, space, and Intelligence, Surveillance, Reconnaissance (ISR) outlined in Sustaining U.S. Global Leadership: Priorities for the 21st Century Defense. The S&T analytic assessments performed under this budget item will include the following activities:

- Threat envelope assessments beyond intelligence community products for identifying gaps in U.S. capability for critical threats (Red teaming).
- Independent assessment of critical capability and technology development (Red teaming).
- Architecture development and evaluation to develop new U.S. capability (Blue teaming).
- Experimentation campaigns to demonstrate relevant technologies in preparation for rapidly transitioning the capability, either directly to warfighters, or to acquisition programs (Blue teaming).

Due to the complexity of these capability gaps, the process for developing and executing these analytic assessments will span fiscal years and may have multiple phases. The emerging nature of the problem sets makes identification of studies beyond the budget year unlikely. Typically, the distribution of effort for studies, experiments and prototypes, and testing and integration will be roughly 30/40/30 percent. The first step in the process is to study problems or gaps identified by threat assessments and develop possible solutions; the second step develops those possible solutions into plans for experiments and prototypes; and finally, selected experiments or prototypes may be pursued to more fully develop the solution(s) for operational testing and integration. Implementation of this process could span a couple of years causing the portfolio to cascade from year to year with each effort moving through the phases of study, experiment, and test.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Science and Technology Analytic Assessments	-	12.000	14.645
Description: Science and Technology Analytic Assessments develops innovative capabilities to meet emerging threats in the areas of Anti-Access/Area Denial (A2/AD) environments, missiles, advanced Integrated Air Defense Systems (IADS), surface warfare, warfare from under the sea, counter-terrorism, and counter-Weapons of Mass Destructions (WMD). Address cross-domain challenges in areas such as cyber, electronic warfare, space, and Intelligence, Surveillance, Reconnaissance (ISR) outlined in Sustaining U.S. Global Leadership.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Office of the Secretary Of Defense		Date: February 2015
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603288D8Z / *Science and Technology (S&T) Analytic Assessments*	**Project (Number/Name)** P328 / *Science and Technology Analytic Assessments*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
In order to accomplish a balanced program, the target ratios of studies, experiments and prototypes, and testing and integration is planned to be 40/50/10 due to limited results ready for testing in the first year. Accordingly, the following activities are planned for FY 2015: Ongoing study efforts: (base level of analytic effort) - Quick Reaction Analytic efforts responding to critical questions related to vulnerabilities to developing missiles, options for electronic warfare capability applied to missile defense, Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR), and undersea engagements. Studies: - Development of analytic tools and analysis for electronic warfare in a complex environment. - Experimental data collection applied to ISR capabilities. - System and technology assessment for warfare from under the sea. Prototyping and Experimentation: - Prototype development of an electronic attack capability for a high priority ballistic missile threat. - Prototype development of an electronic attack for a high priority surface naval engagement. - Prototype development of a next generation electronic warfare capability for both air and surface based kill chains. - Development of capability improvement architecture and prototype concept for assured tactical communications. - Prototype development of a next generation broad coverage threat sensor emulator. Testing: - Threat Sensor Emulator Data Collection			
FY 2016 Plans: In order to accomplish a balanced program, the target ratios of studies, experiments and prototypes, and testing and integration is planned to be roughly 30/40/30 percent. Accordingly, the following activities are planned for FY 2016: Ongoing study efforts: (base level of analytic effort) - Quick Reaction Analytic efforts responding to critical questions related to vulnerabilities to developing missiles, options for electronic warfare capability applied to missile defense, Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR), and undersea engagements. Studies: - Development of analytic tools and analysis for electronic warfare and air superiority in a complex environment.			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Office of the Secretary Of Defense		Date: February 2015
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603288D8Z / *Science and Technology (S&T) Analytic Assessments*	**Project (Number/Name)** P328 / *Science and Technology Analytic Assessments*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
- Experimental data collection applied to a wider range of ISR capabilities. - System and technology assessments for surface and sub-surface warfare. Prototyping and Experimentation: - Continue prototype development of an electronic attack capability for a high priority ballistic missile threat. - Continue prototype development of an electronic attack for a high priority surface naval engagement. - Continue prototype development of a next generation electronic warfare capability for for both air and surface based kill chains. - Development of capability improvement prototype concept for resilient ISR. - Architecture assessment and element prototyping for countering situational awareness resources. Testing: - Testing of capability improvement prototype concept for resilient ISR. - Testing of capability improvement architecture prototype for assured tactical communications. - Testing prototype for next generation electronic warfare capability for both air and surface based kill chains.			
Accomplishments/Planned Programs Subtotals	-	12.000	14.645

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

- Critical gaps in U. S. capability are identified.
- Gaps in U. S. technology development are identified.
- New architectures and evaluation criteria for developing U. S. capability are identified.
- Experiments and prototypes demonstrate new technologies or enable new tactics, techniques and procedures for dealing with emerging threats.