Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Defense Advanced Research Projects Agency	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603766E: *NETWORK-CENTRIC WARFARE TECHNOLOGY*

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	195.582	236.883	259.006	-	259.006	258.106	277.450	264.096	271.190	Continuing	Continuing
NET-01: *JOINT WARFARE SYSTEMS*	-	61.581	73.960	39.363	-	39.363	47.134	78.568	85.766	113.351	Continuing	Continuing
NET-02: *MARITIME SYSTEMS*	-	44.489	34.454	41.943	-	41.943	48.872	69.882	76.330	137.839	Continuing	Continuing
NET-06: *NETWORK-CENTRIC WARFARE TECHNOLOGY*	-	89.512	128.469	177.700	-	177.700	162.100	129.000	102.000	20.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Network-Centric Warfare Technology program element is budgeted in the Advanced Technology Development budget activity because it addresses high payoff opportunities to develop and rapidly mature advanced technologies and systems required for today's network-centric warfare concepts. It is imperative for the future of the U.S. forces to operate flawlessly with each other, regardless of which services and systems are involved in any particular mission. The overarching goal of this program element is to enable technologies at all levels, regardless of service component, to operate as one system.

The objective of the Joint Warfare Systems project is to create enabling technologies for seamless joint operations, from strategic planning to tactical and urban operations. Joint Warfare Systems leverage current and emerging network, robotic, and information technology and provide next generation U.S. forces with greatly expanded capability, lethality, and rapid responsiveness. Critical issues facing this project are: (1) U.S. opponents utilizing systems that are flexible, robust, and difficult to neutralize; and (2) U.S. doctrine that limits the use of firepower to lessen the impact of operations on noncombatants. These problems are magnified in urban and semi-urban areas where combatants and civilians are often collocated, and in peacekeeping operations where combatants and civilians are often indistinguishable. Meeting these challenges places a heavy burden on joint war planning. Understanding opponent networks is essential so that creative options can be developed to counter their strategies. Synchronization of air and ground operations to apply force only where needed and with specific effects is required.

The Maritime Systems project will identify, develop and rapidly mature critical advanced technologies and system concepts for the naval forces role in today's network centric warfare concept. Naval forces play an ever-increasing role in network centric warfare because of their forward deployed nature, their unique capability to operate simultaneously in the air, on the sea and under the sea and their versatile ability to provide both rapid strike and project sustained force. The technologies developed under this project will capitalize on these attributes, improve them and enable them to operate with other network centric forces.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Defense Advanced Research Projects Agency	DATE: April 2013
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B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	208.503	236.883	245.684	-	245.684
Current President's Budget	195.582	236.883	259.006	-	259.006
Total Adjustments	-12.921	0.000	13.322	-	13.322
• 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	-7.239	0.000			
• SBIR/STTR Transfer	-5.682	0.000			
• TotalOtherAdjustments	-	-	13.322	-	13.322

Change Summary Explanation

FY 2012: Decrease reflects reductions for the SBIR/STTR transfer and internal below threshold reprogrammings.

FY 2014: Increase reflects minor program repricing.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Defense Advanced Research Projects Agency			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603766E: *NETWORK-CENTRIC WARFARE TECHNOLOGY*	PROJECT NET-01: *JOINT WARFARE SYSTEMS*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
NET-01: *JOINT WARFARE SYSTEMS*	-	61.581	73.960	39.363	-	39.363	47.134	78.568	85.766	113.351	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The objective of the Joint Warfare Systems project is to create enabling technologies for seamless joint operations, from strategic planning to tactical and urban operations. Joint Warfare Systems leverage current and emerging network, robotic, and information technology and provide next generation U.S. forces with greatly increased capability, lethality, and rapid responsiveness. Critical issues facing this project are: (1) U.S. opponents using systems that are flexible, robust, and difficult to neutralize; and (2) U.S. doctrine that limits the use of firepower to lessen the impact of operations on noncombatants. These problems are magnified in urban and semi-urban areas where combatants and civilians are often co-located and in peacekeeping operations where combatants and civilians are often indistinguishable. Meeting these challenges places a heavy burden on joint war planning. Understanding opponent networks is essential so that creative options can be developed to counter their strategies. Synchronization of air and ground operations to apply force only where needed and with specific effects is required. This project supports all levels of the force structure including: (1) the strategic/operational level by generating targeting options against opponents' centers of gravity that have complex networked relationships; (2) the tactical/operational level by managing highly automated forces with tight coupling between air and ground platforms; and (3) the focused tactical level by developing platforms and tools, which acquire targets of opportunity and cue network-based analysis of likely enemy operations thus maximizing the effectiveness of ground forces in stability and support operations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: High Energy Liquid Laser Area Defense System (HELLADS)	23.589	46.491	24.763
Description: This program builds upon the past achievements of the High Energy Liquid Laser Area Defense System (HELLADS) development program and the Aero-Adaptive Aero-Optic Beam Control (ABC) program, budgeted in DARPA PE 0602702E, Project TT-06. The goal of the HELLADS program is to develop a high-energy laser weapon system that will provide an order of magnitude reduction in weight compared to existing laser systems. HELLADS will enable high-energy lasers (HELs) to be integrated onto tactical aircraft and will significantly increase engagement ranges compared to ground-based systems, in addition to enabling high precision/low collateral damage and rapid engagement of fleeting targets for both offensive and defensive missions. Advancements in beam control and other subsystems that are required for the practical integration of a laser weapon into existing tactical platforms will be explored. With the assistance of the Services, the HELLADS program will pursue the necessary analysis, coordination, and design activity for a prototype laser weapon system incorporating the HELLADS laser system and the ABC turret into air, ground, or sea-based tactical vehicles. While the prototype laser weapon system module is in design and development, the HELLADS 150 kilowatt (kW) laser will be made available for demonstration opportunities and transition to the Army and Navy.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Defense Advanced Research Projects Agency		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603766E: *NETWORK-CENTRIC WARFARE TECHNOLOGY*	PROJECT NET-01: *JOINT WARFARE SYSTEMS*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: - Continued integration efforts to ready the 150 kW laser module for field testing by repolishing and coating optics to handle increased laser flux. - Readied laser beam pointing and tracking optical system for high power operation. - Initiated laser weapon system module prototype conceptual design and system requirements to integrate laser, beam control, power, thermal management, and battle management systems in a configuration able to be integrated to air, ground, and sea-based tactical platforms. - Designed suitable physical and functional platform interfaces for the modularized prototype laser weapon system. ***FY 2013 Plans:*** - Complete risk reduction tests of tracking systems for dynamic targets, demonstrating aimpoint accuracy to support lethal power delivery to test targets in representative battlefield environments. - Complete laboratory checkout and government acceptance of 150 kW laser module; package laser and ship for integration into the high power laser demonstrator system. - Complete high power optics insertion, safety system check-outs, range communications protocol check, and initial high power static operation of laser weapon demonstrator to verify that the laser and its subsystems can safely demonstrate lethal effects on mortars and rockets. - Initiate live fire tests against rocket and mortar fly-outs to demonstrate lethal laser power at mission-relevant ranges. - Complete system requirements review of broad utility laser weapon module subsystems including integrating structure, platform interfaces, beam control, and battle management subsystems for integration on air, ground, or sea-based tactical vehicles. - Initiate preliminary design phase of laser weapon system module prototype for tri-Service employment. - Complete the fabrication of the 150 kW laser and start field test system integration. - Complete subsystem testing of the ground-based demonstrator laser weapon system. - Develop novel beam control alternative concepts designed to enhance lethal power delivery to target in through severe atmospheric turbulence. ***FY 2014 Plans:*** - Complete field testing of ground-based 150 kW demonstrator laser weapon system against rockets and mortars. - Transport demonstrator laser from Army mission (rocket/mortar) relevant ground test site to mountain peak test site to mimic Air Force missions for precision air-to-ground and airborne self-defense demonstrations. - Prosecute live fire targets from mountain peak test site to demonstrate performance of laser weapon system in airborne missions to include targeting of ground vehicles and self-defense against surface to air missiles. - Complete preliminary design and detailed design of laser weapon module prototype's subsystems for integration on a specific air, ground, or sea-based tactical vehicle.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Defense Advanced Research Projects Agency		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603766E: *NETWORK-CENTRIC WARFARE TECHNOLOGY*	PROJECT NET-01: *JOINT WARFARE SYSTEMS*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
- Commence fabrication of the laser weapons system module prototype tailored for the selected Service environment (air, ground or sea) tactical platform. - Initiate preparations for field testing of prototype against the appropriate target set on the selected Service platform.			
Title: Legged Squad Support System (LS3) ***Description:*** The Legged Squad Support System (LS3) program will explore the development of a mission-relevant quadruped platform scaled to unburden the infantry squad and hence unburden the soldier. In current operations, soldiers carry upwards of 50lbs of equipment, in some cases over 100lbs, over long distances in terrain not always accessible by wheeled platforms that support infantry. As a result, the soldier's combat effectiveness can be compromised. The LS3 program will design and develop prototypes capable of carrying 400lbs of payload for 20 miles in 24 hours, negotiating terrain at endurance levels expected of typical squad maneuvers. LS3 will leverage technical breakthroughs of prior biologically inspired legged platform development efforts. It will develop system designs to the scale and performance adequate for infantry squad mission applications, focusing on platform, control, and human-machine interaction capabilities, as well as secondary design considerations, such as acoustic signature. Anticipated service users include the Army, Marines, and Special Forces. ***FY 2012 Accomplishments:*** - Conducted walkout and acceptance testing of system. - Integrated perception and control techniques into the platform to facilitate the use of autonomy. - Conducted trades and selected heavy fuel engine for system upgrade. ***FY 2013 Plans:*** - Complete build of prototype systems resulting in two standard systems and one that utilizes a heavy fueled engine option. - Perform experiments to assess the mobility and perception capabilities of the platform from a technology standpoint. - Begin technical and operational assessments with the U.S. Marine Corps to evaluate the abilities of the LS3 platform within mission objectives as applied to the LS3 mission profile. ***FY 2014 Plans:*** - Support and refine system prototypes as necessary. - Participate in final demonstration activities in coordination with the U.S. Marine Corps.	18.558	13.331	5.000
Title: Robotics Challenge* ***Description:*** *Formerly Robotics Olympics Advancements are being made in land-capable, high degree-of-freedom unmanned platforms to enable mobility over complex terrain. Many current prototypes are inspired by biological systems and while proof-of-principle systems have or	8.000	14.138	9.600

Exhibit R-2A, RDT&E Project Justification: PB 2014 Defense Advanced Research Projects Agency		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
are demonstrating unprecedented mobility, limitations have emerged. Advanced capabilities in perception, control, and physical capability/coordination are needed to work autonomously in human environments. These are critical enablers for performing mission-relevant tasks in austere and remote regions, partially-destroyed roads, high-threat anti-access/area denied environments, rubble-filled areas, and providing greater range/endurance for soldiers, platforms, and personnel. The Robotics Challenge program will boost innovation in autonomous systems and expand platform utility through enhanced actuation, energy density, perception, locomotion, agile reconfiguration, and design efficiency. Program thrusts are centered on a progressive regimen of physical problem solving, real-time team oriented tasks, and dynamic adaptation designed to build "machine trust", especially when integrated with humans in a variety of operational environments. The Robotics Challenge program consists of a series of obstacle course style challenge events that will focus on technology solutions to demonstrate and test robot capabilities for disaster response. Robotics Challenge events will drive advances in power systems, agility and speed, precision in perception tied to platform coordination, dexterity, and impulsive power. Program objectives focus on technologies to expand mobility and extend endurance of unmanned platforms, advanced tactile and manipulation capabilities, and tools for cost effective design, validation, and construction of autonomous technology, and human-robot interaction. The 6.2 portion of this program is budgeted in PE 0602702E project TT-04. Anticipated Service users include the Army, Marines, and Special Forces. ***FY 2012 Accomplishments:*** - Developed online outreach support for the DARPA Robotics Challenge Trials. - Conducted DoD and industry baseline assessment. - Commenced configuration of humanoid robot for top Virtual Disaster Response Challenge teams to test algorithms. ***FY 2013 Plans:*** - Complete development of humanoid robot platform for algorithm testing during DARPA Robotics Challenge Trials. - Develop and validate robot simulation system. ***FY 2014 Plans:*** - Coordinate Service participation in Robotics Challenge and apply simulation system to Service areas of interest. - Conduct DARPA Robotics Challenge Trials.			
Title: Network Targeting ***Description:*** The Network Targeting program developed advanced capabilities for a specified emitter density, operating environment, radio frequency (RF) signal geo-location accuracy, probability of correct RF signal identification, and probability of false alarm. Each phase progressively matured the design and technologies required to achieve system performance goals and moved incrementally toward an operational system. The technology is planned to transition to the Services in FY 2013.	5.634	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Defense Advanced Research Projects Agency		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: - Optimized and integrated algorithms with modified software radio platform. - Improved timing and accuracy capability by inserting chip scale atomic clocks into radio node. - Performed field experiments at military locations to measure the accuracy of the algorithms.			
Title: Chemical Analysis Sans Machinery (CASM) ***Description:*** The Chemical Analysis Sans Machinery (CASM) program sought to develop novel materials and fabrication methods to produce high throughput, autonomous, low cost, chemical analysis devices. This program will transition to the Services. ***FY 2012 Accomplishments:*** - Tested chemical analysis devices against representative levels of appropriate chemicals. - Improved manufacturing processes to demonstrate clear path to low cost production. - Improved durability and robustness of device for increased shelf-life.	5.800	0.000	0.000
Accomplishments/Planned Programs Subtotals	61.581	73.960	39.363

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Specific programmatic performance metrics are listed above in the program accomplishments and plans section.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Defense Advanced Research Projects Agency			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603766E: *NETWORK-CENTRIC WARFARE TECHNOLOGY*	PROJECT NET-02: *MARITIME SYSTEMS*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
NET-02: *MARITIME SYSTEMS*	-	44.489	34.454	41.943	-	41.943	48.872	69.882	76.330	137.839	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The objective of the Maritime Systems project is to identify, develop and rapidly mature critical advanced technologies and system concepts for the naval forces' role in today's network centric warfare concept. Improvements in communications between and among submarines, surface ships and naval aircraft have allowed these forces to operate seamlessly with each other and with other Service's network centric systems. Naval forces will play an ever-increasing role in network centric warfare because of their forward deployed nature, their unique capability to operate simultaneously in the air, on the sea and under the sea and their versatile ability to provide both rapid strike and project-sustained force. The technologies developed under this project will capitalize on these attributes, improve them and enable them to operate with other network centric forces.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Distributed Agile Submarine Hunting (DASH)	36.739	25.454	28.943

Description: The diesel-electric submarine is an asymmetric threat in terms of its cost and consequential growth in numbers relative to our legacy maritime platforms. In addition, these submarines have trended toward lower acoustic signature levels, and have grown in lethality. The Distributed Agile Submarine Hunting (DASH) program intends to reverse the asymmetric advantage of this threat through the development of advanced standoff sensing from unmanned systems. Deep ocean sonar nodes will operate at significant depths in open ocean areas to achieve large fields of view to detect submarines overhead. Each deep node is the maritime equivalent of a satellite, and is referred to as a subullite. The significant field of view, along with the advantage of low-noise phenomena at extreme depths will permit a scalable number of collaborative sensor platforms to detect and track submarines over large areas. For the vast shallow continental shelf areas, the program similarly adopts distributed mobile sensors, but instead leverages insights in non-acoustic sensing from above. The effort is highly focused on achieving new detection modalities with sufficient low power, weight, and size, to enable UAV implementations. Initial efforts will focus on identifying the best detection methods leveraged from state-of-the-art sensors and new physical and operational insights. From this work, prototype systems will evolve through at-sea testing and sensor integration. The program will achieve breakthrough technology for long-range detection and classification, communications, energy management, sensor and platform integration, and robust semiautonomous processing and control for distributed sensing platforms. This program will transition to the Navy.

FY 2012 Accomplishments:

- Completed in-water feasibility sonar measurements using surrogate sensing subsystems.
- Completed designs for fixed passive and unmanned underwater vehicle (UUV)-based deep-ocean subullite prototypes.

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
- Conducted integration and testing of single node prototypes (sensor/communications) in realistic ocean environments. - Demonstrated non-traditional active sonar concept on operationally relevant data and developed a transition plan with the Navy. - Completed non-acoustic sensor and system studies to guide development trajectories for UAV-based ASW. - Initiated non-acoustic sensor designs for UAV-based antisubmarine warfare (ASW). - Initiated data collections for non-acoustic ASW effort. ***FY 2013 Plans:*** - Integrate multiple sonar nodes into system prototypes scalable to large deep-ocean areas for wide area search (relevant to carrier strike group operations) and surveillance. - Demonstrate the ability to detect U.S. submarines with both passive and active sonar showing scalability to detect the quietest of diesel-electric threat submarines. - Commence testing of initial multi-node communication network for persistent connectivity from seafloor-to-shore. - Initiate planning for the demonstration of multi-node systems. - Complete non-acoustic signature discovery and assessment. ***FY 2014 Plans:*** - Complete development of deep sea prototype system of distributed sonar nodes, both passive and active. - Complete development of distributed multi-node communication network for connectivity between seafloor, surface, and shore or ship. - Demonstrate rapid deployment test of fixed passive sonar and conduct a multi-node passive monitoring of a target at sea. - Demonstrate an extended (months) remote monitoring (sea to shore) capability of a passive sonar barrier network at sea. - Demonstrate multi-node UUV-based active sonar in a deep sea test showing detection and tracking of a real target. - Demonstrate combined passive deep sea barrier with handoff to UUV-based active sonar system at sea. - Conduct at-sea demonstration with extended life sonar nodes.			
Title: Structural Logic	0.000	8.000	7.000
Description: The Structural Logic program is developing platform structures and frames that can adapt to varying loads and simultaneously exhibit both high stiffness and high damping. This program will demonstrate the utility of negative stiffness structural elements developed under the Multifunctional Materials and Structures program, budgeted in PE 0602715E, Project MBT-01, in the ridged support frames of real world DoD platforms. As the demands on military platforms increase, so does the need for structures to mitigate the shock and vibrations applied by dynamic environments. Today's structures exhibit limited adaptability and typically achieve either extreme stiffness or damping. In military platforms, extremely stiff structures provide high strength, but readily transfer loads to passengers often resulting in serious injury. Conversely, existing damping structures can reduce the load transferred to passengers, but only at the expense of structural strength and integrity. By demonstrating the ability to combine stiffness, damping, and dynamic range in a single structure, the Structural Logic program will enable the			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
design of military platforms with the ability to continually adapt their properties to match the demands of a dynamic environment. Technology from this program will transition to the Navy. ***FY 2013 Plans:*** - Initiate the design and construction of a sub-scale high-speed planing boat structure that incorporates arrays of adaptive structural subassemblies made up of mechanical programs of tiered negative stiffness structural elements. ***FY 2014 Plans:*** - Complete construction of sub-scale high-speed planing boat incorporating negative stiffness elements; perform system testing and evaluation with Navy partners, demonstrating the technology in a realistic environment.			
Title: Hydra ***Description:*** The Hydra program will develop and demonstrate advanced capabilities for the undersea deployment and employment of unique payloads. Hydra integrates existing and emerging technologies and the ability to be positioned in the littoral undersea battlespace to create a disruptive capability. The system consists of a container with communications, command and control, energy storage, and standard interfaces for payload systems. It will leverage concepts developed under the TEMP program, PE 0602702E, Project, TT-03. The containers are deployed by various means, depending on the need for speed and stealth and remain on the bottom until awakened for employment. Hydra will develop critical enabling technologies for energy storage and recharging, communications, command and control, deployment, and autonomous operations. Technologies from this program will transition to the Navy. ***FY 2014 Plans:*** - Conduct studies to refine the operational trade space, define limits of current technology, and develop new technical approaches. - Initiate concept designs for the container and potential payloads. - Explore innovative approaches for key enabling technologies such as energy storage, communications, and deployment. - Demonstrate key enabling technologies. - Investigate deployment options and initiate system conceptual design.	0.000	0.000	6.000
Title: Unmanned/Minimally-manned Underwater Vehicle (UMUV) ***Description:*** Increasing requirements for missions in shallow littoral waters have created a need for a survivable and cost-effective capability to perform intelligence surveillance and reconnaissance, antisubmarine warfare, special operations forces, and other missions in the littorals. Today we risk manned submarines in waters that are shallower than the length of our hulls and we pit these high value assets against diesel electric submarines that in some cases pose an overmatching threat against our systems in these shallow waters. The Unmanned/Minimally-manned Underwater Vehicle (UMUV) program will develop a	5.500	1.000	0.000

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
vehicle specifically designed to operate in the littoral battlespace with the capability of performing littoral missions that span a wide range of complexity and can be performed with a small manned crew or autonomously (i.e., unmanned) depending upon mission requirements. The UMUV will have the autonomy, range and endurance to drive to the fight from a safe basing location, will be capable of carrying the full range of payloads that are needed to support operational needs in littoral waters, and will provide the capability to perform missions where risk to personnel limits our willingness to execute these missions. The program will explore low-cost derivatives of commercial underwater vehicles, the integration of advanced communication and sensor technologies, and the teaming of the UMUV with manned systems. The UMUV program will transition to the Navy. ***FY 2012 Accomplishments:*** - Performed technology trades to assess key vehicle capabilities. - Developed concept of operations. ***FY 2013 Plans:*** - Explore and evaluate the conceptual design of alternative approaches to the UMUV system.			
Title: Blue Laser for Submarine Laser Communications (SLC) ***Description:*** The Blue Laser for Submarine Laser Communications (SLC) program developed the critical laser technology necessary to support the requirements for Non-Acoustic Anti-Submarine Warfare (NAASW), mine detection, and SLC. This program focused on the world's first wall-plug efficient laser that operates at an optimal water transmission band of open ocean water and at the wavelength of a Cesium Atomic Line Filter, which will enable duplex communications for the submarine at speeds and depths. Technology developed under SLC transitioned to the Navy. ***FY 2012 Accomplishments:*** - Transitioned adaptive data rate controllers and Cesium Atomic Line Filter to the Navy.	2.250	0.000	0.000
Accomplishments/Planned Programs Subtotals	44.489	34.454	41.943

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Specific programmatic performance metrics are listed above in the program accomplishments and plans section.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Defense Advanced Research Projects Agency			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603766E: *NETWORK-CENTRIC WARFARE TECHNOLOGY*	PROJECT NET-06: *NETWORK-CENTRIC WARFARE TECHNOLOGY*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
NET-06: *NETWORK-CENTRIC WARFARE TECHNOLOGY*	-	89.512	128.469	177.700	-	177.700	162.100	129.000	102.000	20.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This project funds classified DARPA programs that are reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Classified DARPA Program	89.512	128.469	177.700
Description: This project funds Classified DARPA Programs. Details of this submission are classified. ***FY 2012 Accomplishments:*** Details will be provided under separate cover. ***FY 2013 Plans:*** Details will be provided under separate cover. ***FY 2014 Plans:*** Details will be provided under separate cover.			
Accomplishments/Planned Programs Subtotals	89.512	128.469	177.700

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Details will be provided under separate cover.