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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2019 Office of the Secretary Of Defense **Date:** February 2018

<b>Appropriation/Budget Activity</b>					<b>R-1 Program Element (Number/Name)</b>							
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>					PE 0604250D8Z I <i>Advanced Innovative Technologies</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	756.649	850.762	1,482.532	1,431.702	-	1,431.702	1,107.245	530.958	357.604	139.287	Continuing	Continuing
250: <i>Advanced Innovative Technologies</i>	756.649	850.762	1,482.532	1,431.702	-	1,431.702	1,107.245	530.958	357.604	139.287	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Strategic Capabilities Office (SCO) identifies, analyzes, demonstrates, and transitions game-changing applications of existing and near-term technology (and other U.S. Government capabilities) to shape and counter emerging threats. The SCO combines capability innovation with concepts of operation and information management to develop novel concepts solving critical national security challenges in partnership with the Services, Defense Agencies, Combatant Commands (CCMDS), Joint Chiefs of Staff, Intelligence Community, and the Office of the Secretary of Defense (OSD).

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
Previous President's Budget	846.470	1,175.832	958.802	-	958.802
Current President's Budget	850.762	1,482.532	1,431.702	-	1,431.702
Total Adjustments	4.292	306.700	472.900	-	472.900
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-10.000	-	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	-	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	33.383	-	-	-	-
• SBIR/STTR Transfer	-18.052	-	-	-	-
• FFRDC	-0.916	-	-	-	-
• FY 2017 Cancelled Account	-0.123	-	-	-	-
• FY 2018 budget amendment	-	306.700	-	-	-
• FY 2019 Program Adjustment	-	-	472.900	-	472.900

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<b>Appropriation/Budget Activity</b> 0400 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0604250D8Z / <i>Advanced Innovative Technologies</i>				<b>Project (Number/Name)</b> 250 / <i>Advanced Innovative Technologies</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
250: <i>Advanced Innovative Technologies</i>	756.649	850.762	1,482.532	1,431.702	-	1,431.702	1,107.245	530.958	357.604	139.287	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The Strategic Capabilities Office (SCO) identifies, analyzes, demonstrates, and transitions game-changing applications of existing and near-term technology (and other U.S. Government capabilities) to shape and counter emerging threats. The SCO combines capability innovation with concepts of operation and information management to develop novel concepts solving critical national security challenges in partnership with the Services, Defense Agencies, Combatant Commands (CCMDS), Joint Chiefs of Staff, Intelligence Community, and the Office of the Secretary of Defense (OSD).

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<b>Title:</b> Advanced Navigation	3.350	-	-
<b>Description:</b> Leverage existing technologies to analyze, build and demonstrate a prototype advanced navigation technique for contested environments and integrate into a mature weapons system.			
<b>Title:</b> Alternate Strike	198.000	175.760	157.383
<b>Description:</b> The Alternative Strike program demonstrates feasibility and utility of launching existing/modified weapons from existing launch platforms. This project will retire risks associated with cross platform integration to enable transition of new weapon/system combinations to Service partners. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.			
<b>FY 2018 Plans:</b>			
<ul style="list-style-type: none"> <li>• Conduct initial design review.</li> <li>• Develop initial weapon designs.</li> <li>• Develop weapon system simulation.</li> <li>• Continue ground testing.</li> </ul>			
<b>FY 2019 Plans:</b>			
<ul style="list-style-type: none"> <li>• Complete final design.</li> <li>• Conduct Systems Integration Lab testing.</li> <li>• Conduct environmental testing.</li> </ul>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<ul style="list-style-type: none"> <li>Conduct ground testing.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Decrease in budget from FY 2018 - FY 2019 is due to tapering-off of long-lead material purchases needed for FY 2020 events.</p> <p><b>Title:</b> AVATAR</p> <p><b>Description:</b> SCO will convert manned aircraft and target drones to avatars in order to develop enhanced combat capabilities. Due to the nature of this project, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>Conduct detailed design and systems engineering activities in support of system architecture, hardware design and platform integration requirements.</li> <li>Establish a ground-based simulator for further system development and testing.</li> <li>Complete design review and execute vendor down-select.</li> <li>Finalize sensor package requirements and select systems for integration.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>Demonstrate autonomy algorithms on surrogate aircraft.</li> <li>Integrate prototype Pilot-Vehicle Interface (PVI) into manned command and control aircraft.</li> <li>Conduct preliminary flight-testing of prototype manned-unmanned teaming capabilities to confirm design and functionality.</li> <li>Complete design review and execute vendor down-select.</li> <li>Continue open systems architecture refinement.</li> <li>Continue autonomous flight behavior algorithm refinement</li> <li>Continue mission and operational effectiveness analysis</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Increase is needed to build and acquire hardware and conduct multiple risk reduction prototype flight test activities.</p>		-	25.000	49.666
<p><b>Title:</b> Breaker</p> <p><b>Description:</b> The Breaker demonstration provides Combatant Commanders with long range effects against targets. This project will demonstrate the feasibility and utility of launching this modified weapon from existing systems and aircraft. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>Conduct preliminary and detailed munition integration and dispense design.</li> <li>Conduct planning for integration into existing Army long-range systems.</li> </ul>		-	47.782	43.707

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<ul style="list-style-type: none"> <li>Order legacy delivery system long lead hardware.</li> <li>Initiate tests to confirm design and functionality.</li> <li>Conduct munition enhancement study to inform recommendations for future improvements.</li> <li>Conduct tailored preliminary design review (tPDR) and tailored critical design review (tCDR) for weapon integration, and function.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>Fabricate hardware and conduct engineering development testing to verify integration and design.</li> <li>Complete aircraft-weapon air-worthiness verification in preparation for captive flight testing and weapon demonstration.</li> <li>Complete ground-based tests to confirm design and functionality.</li> <li>Initiate demonstration flight tests.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Decrease in budget from FY 2018 - FY 2019 for Breaker is in accordance with original approved funding profile.</p>				
<p><b>Title:</b> Carnac</p> <p><b>Description:</b> The Carnac project applies machine learning algorithms and techniques to existing sensors in order to reduce operator workload and data throughput requirements. This project will retire risks associated with upgrading existing on-board processors to support AI to enable transition of dramatically more capable sensors to partners. Due to the nature of this project, specific applications and detailed plans are available at a higher classification.</p> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>Begin data collection activities.</li> <li>Develop model for assessment of machine learning algorithms against sensor data.</li> <li>Demonstrate machine learning algorithms in simulated environments.</li> <li>Complete system design of on-board processor.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The Carnac project is a new start in FY2019.</p>		0.000	-	22.066
<p><b>Title:</b> Command and Control of the Information Environment (C2IE)</p> <p><b>Description:</b> The Command and Control of the Information Environment (C2IE) project provides Combatant Commands, Services, Agencies, and Department of Defense leadership the ability to detect, monitor, understand, and act in the information environment. Due to the nature of this project, specific applications and detailed plans are available at a higher classification level.</p>		31.880	36.570	24.366

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Conduct multiple operational validation demonstrations in support of Combatant Commanders (CCMDs).</li> <li>• Complete accreditation of C2IE components and system on redundant Secret Internet Protocol Router (SIPR) networks.</li> <li>• Refine automated cross-domain data transfer.</li> <li>• Install and test C2IE components and system on Joint Worldwide Intelligence Communication System (JWICS).</li> <li>• Evaluate and down-select Machine Learning solutions.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Conduct multiple operational validation demonstrations.</li> <li>• Refine automated ingest situational awareness data.</li> <li>• Complete accreditation of C2IE components and system on Joint Worldwide Intelligence Communications System (JWICS) networks.</li> <li>• Refine cross-domain data transfer.</li> <li>• Refine Machine Learning solutions for entity, event and network detection.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The bulk of software development will be completed FY 2017- FY 2018. Budget for FY 2019 reflects decreased need for software development.</p>				
<p><b>Title:</b> Contender</p> <p><b>Description:</b> SCO will develop and demonstrate an operational prototype that will extend the range of torpedoes for use in expanded mission sets.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Design and test host platform dynamics.</li> <li>• Conduct in-water risk reduction tests.</li> <li>• Conduct payload launch testing.</li> <li>• Perform subsystem integration planning.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete full-scale water tunnel testing.</li> <li>• Begin non-vehicle in-water testing.</li> <li>• Begin full system land based propulsion testing.</li> <li>• Being phase 4 fabrication &amp; integration of prototype.</li> </ul>		35.550	69.600	89.567

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<ul style="list-style-type: none"> <li>• Complete Shock certs and IA approvals.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The increase in budget from FY 2018 – FY 2019 is needed to forward fund long lead materials to build the weapon system within schedule.</p>				
<p><b>Title:</b> Enhanced Munitions</p> <p><b>Description:</b> Leverage existing technologies to analyze and prototype enhancements to current munitions. This project will retire risks associated with transition of enhanced munitions. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Build and test form factor enhancement article.</li> <li>• Conduct third In-Progress Review of munition enhancements.</li> <li>• Integrate enhancements into munitions test article.</li> <li>• Plan and conduct second ground test of integrated enhanced munition test article.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The funding in FY 2018 will complete the demonstrations.</p>		41.960	29.970	-
<p><b>Title:</b> Ghost Fleet</p> <p><b>Description:</b> SCO will develop and demonstrate fleet integrated, operational prototype unmanned maritime vehicles to fill existing mission requirements for Combatant Commanders. The prototypes will include the platforms, autonomy, Command, Control and Communications (C3) and payload integration. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Build and evaluate unmanned capabilities to support future operational demonstrations.</li> <li>• Begin payload integration activities.</li> <li>• Finalize autonomy architecture to support mission, platform, and payload level autonomy development.</li> <li>• Conduct operational assessments for prototype systems.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete surrogate in-water testing.</li> <li>• Complete platform in-water test event.</li> <li>• Continue integration and fabrication of final platforms.</li> </ul>		-	206.000	187.739

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<ul style="list-style-type: none"> <li>• Complete component level testing and payload integration designs.</li> <li>• Complete autonomy system delivery.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Decrease in funding is due to long lead material purchases, early state surrogate analysis and in-water testing and autonomy developments taking place in prior year.</p>				
<p><b>Title:</b> Hoover</p> <p><b>Description:</b> The Hoover project applies machine learning algorithms and techniques to existing sensors in order to reduce operator workload and data throughput requirements. This project will retire risks associated with upgrading existing on-board processors to support AI to enable transition more capable sensors. Due to the nature of this project, specific applications and detailed plans are available at a higher classification. The Hoover project is a new start in FY 2018.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete system design analysis and trade studies.</li> <li>• Conduct system engineering of modified processor and sensor.</li> <li>• Develop OPSEC plan.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete design and prototype of real-time processor.</li> <li>• Complete machine learning algorithms for existing sensor.</li> <li>• Complete test planning.</li> <li>• Conduct initial flight testing.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The increased budget in FY 2019 is due to significant hardware purchases and integration costs to support range testing.</p>		0.000	46.000	74.500
<p><b>Title:</b> Hornet's Nest</p> <p><b>Description:</b> SCO will develop a multi-mission Unmanned Aerial Vehicle (UAV). Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Conduct initial program and testing review.</li> <li>• Conduct wargames to define operational scenarios.</li> <li>• Conduct subsystem development and testing.</li> <li>• Perform initial analysis for platform integration.</li> </ul>		-	24.000	28.403

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<ul style="list-style-type: none"> <li>• Demonstrate integration of various payloads and capabilities.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Conduct UAV Challenge/Fly-off downselect.</li> <li>• Complete CONOPS development modeling.</li> <li>• Conduct integration of UAV onto platform aircrafts.</li> <li>• Conduct air and ground testing.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The increase in funding from FY 2018 - FY 2019 for Hornet's Nest reflects additional resources required for execution of launch tests not conducted in FY 2018, as well as additional resources required for the challenging task of aircraft platform integration.</p>				
<p><b>Title:</b> Hurt Locker</p> <p><b>Description:</b> The Hurt Locker project demonstrates feasibility and utility of alternative sensor/weapon pairing. This project will retire risks associated with cross platform integration of existing weapons with existing sensors to enable transition of new weapon/sensor combinations to Service partners. Due to the nature of this project, specific applications and detailed plans are available at a higher classification. The Hurt Locker project is a new start in FY 2018.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete candidate system design analysis and trade studies</li> <li>• Conduct environmental control system design</li> <li>• Conduct system modeling and simulation</li> <li>• Conduct sub-system requirements review</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Conduct hardware-in-the-loop/software-in-the-loop system integration testing</li> <li>• Complete launch platform hardware testing</li> <li>• Complete launch platform electronics testing</li> <li>• Complete system communications testing</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The increased budget in FY 2019 is due to additional hardware purchases and testing in FY 2019.</p>		0.000	56.200	63.573
<p><b>Title:</b> Hypervelocity Gun Weapon System (HGWS)</p>		245.184	67.050	-

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<p><b>Description:</b> Cost-effective, large magazine point defense will be demonstrated by closing the fire control loop between existing sensors and prototype projectiles launched from existing families of powder guns. Due to the nature of this project, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete Advanced Projectile design concepts.</li> <li>• Complete target procurement and support flight tests.</li> <li>• Continue closed-loop performance demonstrations by conducting increasingly difficult fly-by engagements.</li> <li>• Deliver Prototype Fire Control Radar and demonstrate enhanced range and precision.</li> <li>• Complete Prototype Surveillance Radar modifications and support demonstrations.</li> <li>• Integrate subsystems and conduct target intercepts.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The funding in FY 2018 will complete the demonstrations.</p>				
<p><b>Title:</b> Kingfisher</p> <p><b>Description:</b> The Kingfisher project will leverage previous investments in undersea systems to demonstrate the feasibility and operational utility of longer range lightweight torpedoes. Due to the nature of this project, specific applications and detailed plans are available at a higher classification.</p> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete weapon design</li> <li>• Conduct platform integration analysis and design</li> <li>• Develop CONOPS</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The Kingfisher project is a new start in FY 2019.</p>		0.000	-	43.607
<p><b>Title:</b> LiTE Saber</p> <p><b>Description:</b> SCO will develop and demonstrate a commercial-enabled tactical command, control and communication capability to create secure tactical communications in Anti-Access / Area Denial (A2/AD) environments.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Conduct preliminary design and systems engineering activities in support of system architecture, hardware design and platform integration</li> </ul>		-	65.000	75.493

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<p>requirements.</p> <ul style="list-style-type: none"> <li>• Establish metrics and measurements.</li> <li>• Establish candidate operating environments (vignettes/concepts of operation).</li> <li>• Conduct analysis to define system characteristics and effectiveness.</li> <li>• Demonstrate LTE on-the-move communications.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Conduct detailed design and systems engineering activities in support of system architecture, hardware design and platform integration requirements.</li> <li>• Integrate prototype Anti-Jamming Interface into End User Device (EUD).</li> <li>• Complete design review and execute vendor down-select.</li> <li>• Continue open systems architecture refinement.</li> <li>• Continue analysis of accreditation of components and system on Secret Internet Protocol Router (SIPR) networks.</li> <li>• Continue analysis to define system characteristics and effectiveness.</li> <li>• Demonstrate secure LTE on-the-move communications.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Increase needed to build and acquire hardware and conduct multiple prototype activities moving from the squad to platoon level while incorporating secure communications solution.</p>				
<p><b>Title:</b> MAVEN</p> <p><b>Description:</b> Leverage advanced commercial technologies to provide advantage to the warfighter in contested environments. Due to the nature of some of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Develop initial data sets.</li> <li>• Demonstrate analytics interfaces with databases.</li> <li>• Demonstrate initial analytic performance.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Analyze algorithm performance.</li> <li>• Integrate algorithms with analytic workflow leveraging existing data.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b></p>		-	16.000	13.907

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
The FY 2019 budget is less than FY 2018 due to a decrease in the number of algorithm developers following a comparative evaluation in FY 2018.				
<b>Title:</b> Miniature Air Launched Decoy – X (MALD-X) <b>Description:</b> SCO will leverage existing low-cost payloads by demonstrating focused upgrades of the low cost Miniature Air-Launched Decoy (MALD) platform (MALD-X).		26.230	-	-
<b>Title:</b> Motley Crew <b>Description:</b> SCO will leverage near term technologies being developed to enable interoperability between weapons. Due to the nature of this project, specific applications and detailed plans are available at a higher classification level. <b>FY 2018 Plans:</b> <ul style="list-style-type: none"> <li>• Conduct detailed design and systems engineering activities in support of system architecture, hardware design and platform integration requirements.</li> <li>• Complete and validate lab, ground and flight test capability development activities.</li> <li>• Conduct component- and subsystem-level platform integration development and testing.</li> <li>• Perform platform testing in operationally relevant scenarios, on ground and inflight, to demonstrate basic collaborative capabilities</li> </ul> <b>FY 2019 Plans:</b> <ul style="list-style-type: none"> <li>• Integrate algorithms into weapon systems.</li> <li>• Integrate mission planning software.</li> <li>• Conduct incremental risk reduction flight-testing of weapon systems.</li> <li>• Continue refinement of algorithms.</li> <li>• Continue mission and operational effectiveness analysis.</li> </ul> <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Increase from FY 2018 to FY 2019 needed to build and acquire hardware and conduct multiple risk reduction prototype flight test activities.		-	32.000	44.700
<b>Title:</b> Perdix Gen 7 <b>Description:</b> Develop next generation micro-UAV (unmanned air vehicle) with improved endurance and processing power to allow for a multi-mission capabilities. <b>FY 2018 Plans:</b>		1.600	7.000	10.927

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Office of the Secretary Of Defense		<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604250D8Z / <i>Advanced Innovative Technologies</i>	<b>Project (Number/Name)</b> 250 / <i>Advanced Innovative Technologies</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<ul style="list-style-type: none"> <li>Finalized baseline design and begin build of the micro-UAV.</li> <li>Test and integrate power source.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>Perform initial flight tests</li> <li>Build and refine micro-UAV.</li> <li>Begin integration of aircraft.</li> <li>Begin test plan for final demonstration.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Increased funding in FY 2019 will allow for the continued development, prototyping, testing and demonstration of the Gen 7 variant of Perdix to allow for smooth transition of capability.</p>				
<p><b>Title:</b> Red Dawn</p> <p><b>Description:</b> The Red Dawn project will leverage previous investments in Special Operations Forces (SOF) capabilities to demonstrate the feasibility of providing Combatant Commanders additional options for early-conflict. Due to the nature of this project, specific applications and detailed plans are available at a higher classification.</p> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>Complete weapon design</li> <li>Conduct platform integration analysis and design</li> <li>Develop CONOPS</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The Red Dawn project is a new start in FY 2019.</p>		0.000	-	112.644
<p><b>Title:</b> Sea Dragon</p> <p><b>Description:</b> A cost-effective capability will be demonstrated by integrating an existing weapon system with an existing Navy platform. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>Complete construction of land-based launch support test site.</li> <li>Commence underwater static testing.</li> <li>Continue planning for in-water translational testing.</li> <li>Commence planning for sea-based tactical demonstration.</li> </ul>		75.968	357.500	148.998

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<ul style="list-style-type: none"> <li>• Continue kill chain analysis within platform communications and fire control system architectures.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete underwater static testing.</li> <li>• Commence construction of sea-based launch support test site.</li> <li>• Commence underwater translational testing.</li> <li>• Continue planning for sea-based tactical demonstration.</li> <li>• Continue kill chain analysis within platform communications and fire control system architectures.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Decrease in budget from FY 2018 to FY 2019 for the Sea Dragon demonstration project is due to purchasing long-lead material items needed in FY 2018 that will not need to be repurchased in FY 2019.</p>				
<p><b>Title:</b> Sea Mob</p> <p><b>Description:</b> SCO is developing a group of Unmanned Surface Vehicles (USVs) capable of cooperative swarming behaviors. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete maturity of Sea Mob autonomy kit for multiple craft.</li> <li>• Conduct in-water exercises against relevant targets for specified missions.</li> <li>• Finalize Sea Mob Technical Data Packages for transition.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The Sea Mob program completes all development objectives in FY 2018 and transitions into a Marine Corps and Naval capabilities in FY 2019.</p>		18.120	10.160	-
<p><b>Title:</b> Sea Stalker</p> <p><b>Description:</b> SCO will leverage existing low-cost, persistent maritime platforms to offer Combatant Commanders immediate options. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Perform payload field testing for operational effectiveness.</li> <li>• Perform in-water integrated payload/platform testing.</li> <li>• Demonstrate platform reliability.</li> <li>• Conduct in-water platform testing with optimized algorithms.</li> </ul> <p><b>FY 2019 Plans:</b></p>		17.390	27.240	26.045

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<ul style="list-style-type: none"> <li>• Demonstrate and test payload capabilities</li> <li>• Finalize final design of platform and payload through testing</li> <li>• Conduct final end-to-end demonstration</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> FY 2019 funds will be used to continue the prototyping and demonstration of the Sea Stalker concept with additional payloads and execute a final end-to-end demonstration.</p>				
<p><b>Title:</b> Serenity</p> <p><b>Description:</b> Leverage existing technologies to analyze and demonstrate a prototype solution to disrupt enemy targeting of critical U.S. assets. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate prototype in a laboratory environment.</li> <li>• Conduct analysis of subsystem alternatives.</li> <li>• Initiate planning for demonstration.</li> <li>• Complete interface control document.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete final prototype packaging.</li> <li>• Complete final operational effectiveness analysis updates.</li> <li>• Test and install first prototype units with packaging in a laboratory environment.</li> <li>• Build and integrate second prototype units.</li> <li>• Start installation engineering prior to testing.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Increase in funding is due to concurrent testing of first prototype units, which begin in FY 2018, and the development of second prototype units and the preparation for integration on a ship test platform.</p>		-	18.000	20.860
<p><b>Title:</b> StormSystem</p> <p><b>Description:</b> StormSystem will leverage existing capabilities to develop a suite of tools that disrupts the adversary cyber exploitation. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p>		-	7.000	8.940

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<ul style="list-style-type: none"> <li>• Conduct initial system demonstration.</li> <li>• Analyze system performance.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Integrate tools into systems.</li> <li>• Begin building prototype infrastructure.</li> <li>• Continue to analyze system performance.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The FY 2019 budget increase is due to transition in efforts from creating modular obfuscation tools to integrating those tools into a deployable prototype system. The FY 2019 budget also includes infrastructure build and testing for housing the integrated system.</p>				
<p><b>Title:</b> Strike-X</p> <p><b>Description:</b> The Strike-X project leverages existing long-range strike capabilities and develops alternative Concepts of Employment (CONEMP) and Tactics, Techniques, and Procedures (TTP) to deliver near-term innovative long-range strike capabilities to Combatant Commanders. Due to the nature of this project, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete detailed design and systems engineering activities in support of system architecture, hardware and software design, and platform integration.</li> <li>• Procure and receive test article hardware to support component-level and system-level testing and integration.</li> <li>• Complete fabrication of system-level demonstrator and initial prototype test articles to facilitate platform integration evaluations.</li> <li>• Complete test site development activities.</li> <li>• Initiate system-level live fire integration and validation engineering tests with demonstrator assets to confirm prototype design to be demonstrated in FY19.</li> <li>• Conduct sensor enhancement trade study and make down-select decision.</li> <li>• Order munition and sensor long lead material.</li> <li>• Conduct munition and sensor preliminary design and conduct system-level preliminary design review (PDR).</li> <li>• Conduct munition and sensor engineering development test (EDT) unit fabrication and assembly.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete test site development activities.</li> <li>• Complete system-level live fire integration and validation engineering tests with demonstrator assets to confirm prototype design.</li> <li>• Conduct and complete system-level prototype demonstration series and evaluate readiness for transition supporting rapid fielding or program of record.</li> </ul>		121.720	114.800	46.706

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<ul style="list-style-type: none"> <li>• Conduct system-level munition-sensor design verification testing (DVT).</li> <li>• Conduct system-level critical design review (CDR)</li> <li>• Initiate munition and sensor demonstration unit fabrication and assembly.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Decrease in budget from FY 2018 - FY 2019 for Strike-X is in accordance with original funding profile.</p>				
<p><b>Title:</b> Third Eye</p> <p><b>Description:</b> Third Eye is a data architecture that leverages existing and emerging sensors to provide real-time tracking and targeting.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Deploy limited operational capability.</li> <li>• Continue to update capability based on operator feedback.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Deploy time-critical targeting limited operational capability.</li> <li>• Transition prototype and enhanced capabilities.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> FY 2019 is the final year for Third Eye. The funding reduction is commensurate with the end of new development and transition of prototype capabilities and transition into service acquisition programs of record.</p>		33.810	35.400	25.162
<p><b>Title:</b> Vanguard</p> <p><b>Description:</b> SCO will provide a capability to detect movements across the battle field. Due to the classified nature of this project, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"> <li>• Initiate sensor configuration design and analysis.</li> <li>• Develop comprehensive program management plan and integrated master schedule.</li> <li>• Examine scalability and component performance characterizations.</li> <li>• Examine sensor and targeting prototype capabilities.</li> <li>• Validate suitability of proposed design.</li> </ul> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete prototype design.</li> <li>• Begin iterative test and design phase to achieve full-scale system design.</li> </ul>		-	8.500	9.437

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<ul style="list-style-type: none"> <li>Field test initial full-scale system.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The increase in budget is necessary to cover the costs of the components required to build-out the full-scale system.</p> <p><b>Title:</b> Wildcat</p> <p><b>Description:</b> The Wildcat project will demonstrate the feasibility and operational utility of artillery. Due to the nature of this project, specific applications and detailed plans are available at a higher classification.</p> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>Complete projectile designs.</li> <li>Initiate long lead purchases of projectile hardware.</li> <li>Conduct initial testing.</li> </ul> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> The Wildcat project is a new start in FY 2019.</p>		0.000	-	103.306
<b>Accomplishments/Planned Programs Subtotals</b>		850.762	1,482.532	1,431.702
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
N/A				
<b>E. Performance Metrics</b>				
Performance metrics are specific to each of the SCO efforts funded under the Advanced Innovative Technologies Program Element. All of which include measures identified in the management approach, Statement of Work (SOW) and Period of Performance (POP). In addition, completions and successes are monitored against schedules and deliverables stated in the initiative's management approach. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.				

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Office of the Secretary Of Defense** **Date:** February 2018

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604250D8Z / <i>Advanced Innovative Technologies</i>	<b>Project (Number/Name)</b> 250 / <i>Advanced Innovative Technologies</i>
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<b>Product Development (\$ in Millions)</b>				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Alternate Strike	MIPR	Various : Various	-	190.399	Jun 2017	148.629	May 2018	12.628	Mar 2019	-		12.628	Continuing	Continuing	-
AVATAR	MIPR	Various : Various	-	-		18.000	Mar 2018	38.700	Nov 2018	-		38.700	Continuing	Continuing	-
Breaker	C/CPFF	Various : Various	-	-		36.706	Oct 2017	33.549	Oct 2018	-		33.549	Continuing	Continuing	-
Breaker- 2	C/FFP	TBD : TBD	-	-		19.439	Jan 2018	19.338	Nov 2018	-		19.338	Continuing	Continuing	-
Contender	MIPR	Various : Various	-	35.550	Jun 2017	69.600	Jun 2018	89.567	May 2019	-		89.567	Continuing	Continuing	-
Enhanced Munitions	MIPR	Various : Various	33.923	38.960	Jan 2017	26.970	Jan 2018	-		-		-	Continuing	Continuing	-
Enhanced Munitions - 2	MIPR	Various : Various	-	3.000	Jan 2017	3.000	Jan 2018	-		-		-	Continuing	Continuing	-
Ghost Fleet	C/Various	Various : Various	-	-		168.920	Jun 2018	154.980	May 2019	-		154.980	Continuing	Continuing	-
HGWS	IA	Various : Various	-	6.934	Feb 2017	1.500	Mar 2018	-		-		-	Continuing	Continuing	-
HGWS - SOSSEC	MIPR	Various : Various	-	6.587	Jan 2017	-		-		-		-	Continuing	Continuing	-
HGWS - DOTC	C/Various	Various : Various	-	-		10.000	Feb 2018	-		-		-	Continuing	Continuing	-
HGWS -4	MIPR	Various : Various	-	35.479	Feb 2017	8.000	Feb 2018	-		-		-	Continuing	Continuing	-
HGWS - 5	MIPR	Various : Various	-	22.648	Feb 2017	-		-		-		-	Continuing	Continuing	-
HGWS - 6	MIPR	Various : Various	-	45.397	Jan 2017	19.250	Feb 2018	-		-		-	Continuing	Continuing	-
HGWS - 7	MIPR	Various : Various	-	17.093	Mar 2017	-		-		-		-	Continuing	Continuing	-
HGWS - 8	MIPR	Various : Various	-	18.531	Jan 2017	6.000	Nov 2017	-		-		-	Continuing	Continuing	-
HGWS - 9	MIPR	Various : Various	-	23.215	Apr 2017	7.400	Nov 2017	-		-		-	Continuing	Continuing	-
Hornets Nest	C/FFP	Various, TBD : Various, TBD	-	-		9.000	Jun 2018	10.000	May 2019	-		10.000	Continuing	Continuing	-
LiTE Saber	MIPR	Various, TBD : Various	-	-		65.000	Jul 2018	76.000	Jun 2019	-		76.000	Continuing	Continuing	-
MAVEN	MIPR	Various, TBD : Various	-	-		16.000	Mar 2018	14.000	Apr 2019	-		14.000	Continuing	Continuing	-
Motley Crew	MIPR	Various : Various	-	-		25.000	May 2018	30.000	Jan 2019	-		30.000	Continuing	Continuing	-
Perdix Gen 7	FFRDC	Various : Various	-	1.600	Jun 2017	7.000	Apr 2018	11.000	May 2019	-		11.000	Continuing	Continuing	-
Sea Dragon	Various	Various : Various	81.000	45.990	Dec 2016	263.744	Jan 2018	65.000	Nov 2018	-		65.000	Continuing	Continuing	-
Sea Mob	MIPR	Various : Various	-	8.920	May 2017	3.760	Mar 2018	-		-		-	Continuing	Continuing	-
Sea Mob - 2	MIPR	Various : Various	19.985	9.200	Dec 2016	6.400	Jun 2018	-		-		-	Continuing	Continuing	-
Sea Stalker	MIPR	Various : Various	25.341	12.140	Jun 2017	25.333	Jun 2018	24.385	Apr 2019	-		24.385	Continuing	Continuing	-

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<b>Product Development (\$ in Millions)</b>				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Serenity	Various	Various : Various	-	-		18.000	Jun 2018	21.000	May 2019	-		21.000	Continuing	Continuing	-
Storm System	Various	Various, TBD : Various	-	-		7.000	Apr 2018	9.000	Mar 2019	-		9.000	Continuing	Continuing	-
Strike-X	MIPR	Various : Various	-	82.232	Nov 2016	57.170	Dec 2017	-		-		-	Continuing	Continuing	-
Strike-X - 2	Various	Various, TBD : Various	-	26.571	Aug 2017	17.781	Feb 2018	12.000	Dec 2018	-		12.000	Continuing	Continuing	-
Third Eye	MIPR	Various, TBD : Various	-	28.500	Jul 2016	20.320	May 2018	12.264	May 2019	-		12.264	Continuing	Continuing	-
Vanguard	C/Various	Various, TBD : Various	-	-		3.300	Jun 2018	5.910	Jan 2019	-		5.910	Continuing	Continuing	-
<b>Subtotal</b>			160.249	658.946		1,088.222		639.321		-		639.321	Continuing	Continuing	N/A

<b>Support (\$ in Millions)</b>				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Alternate Strike	Various	Various : Various	-	0.598	May 2017	3.348	Mar 2018	124.460	May 2019	-		124.460	Continuing	Continuing	-
AVATAR	MIPR	Various : Various	-	-		7.000	Jan 2018	11.300	Feb 2019	-		11.300	Continuing	Continuing	-
Breaker	MIPR	Various : Various	-	-		11.076	Dec 2017	10.158	Dec 2018	-		10.158	Continuing	Continuing	-
Ghost Fleet	MIPR	Various : Various	-	-		12.360	Mar 2018	11.340	May 2019	-		11.340	Continuing	Continuing	-
HGWS	Various	Various : Various	453.278	39.684	Mar 2017	8.800	Jan 2018	-		-		-	Continuing	Continuing	-
Hornets Nest	MIPR	Various : Various	-	-		7.500	Apr 2017	8.403	Jan 2019	-		8.403	Continuing	Continuing	-
Motley Crew	MIPR	Various : Various	-	-		1.500	Dec 2017	1.500	Jan 2019	-		1.500	Continuing	Continuing	-
Sea Dragon	Various	Various : Various	-	1.420	Dec 2016	3.260	Nov 2017	12.603	Dec 2018	-		12.603	Continuing	Continuing	-
Sea Stalker	MIPR	Various : Various	-	1.200	Dec 2016	1.907	Jan 2018	1.835	Dec 2018	-		1.835	Continuing	Continuing	-
Strike-X	MIPR	Various : Various	-	12.917	Dec 2016	39.849	Dec 2017	13.510	Dec 2018	-		13.510	Continuing	Continuing	-
Third Eye	MIPR	Various : Various	-	3.210	Apr 2017	3.480	May 2018	1.950	Apr 2019	-		1.950	Continuing	Continuing	-
Vanguard	MIPR	Various : Various	-	-		4.700	Dec 2017	2.890	Dec 2018	-		2.890	Continuing	Continuing	-
<b>Subtotal</b>			453.278	59.029		104.780		199.949		-		199.949	Continuing	Continuing	N/A

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<b>Test and Evaluation (\$ in Millions)</b>				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Advanced Navigation	MIPR	Various : Various	25.000	3.350	May 2017	-		-		-		-	Continuing	Continuing	-
Alternate Strike	MIPR	Various : Various	-	7.033	Apr 2017	23.783	May 2018	19.848	Dec 2018	-		19.848	Continuing	Continuing	-
C2IE	Various	Various : Various	43.122	31.880	Jul 2017	36.570	May 2018	24.366	Jun 2019	-		24.366	Continuing	Continuing	-
Carnac	MIPR	Various : Various	-	-		-		22.066	Dec 2019	-		22.066	Continuing	Continuing	-
Ghost Fleet	Various	Various : Various	-	-		24.720	Dec 2017	22.680	Jan 2019	-		22.680	Continuing	Continuing	-
HGWS	MIPR	Various : Various	75.000	5.568	Jan 2017	1.000	Jan 2018	-		-		-	Continuing	Continuing	-
HGWS - 2	MIPR	Various : Various	-	24.935	Jun 2017	22.367	May 2018	16.016	Jan 2019	-		16.016	Continuing	Continuing	-
Hoover	C/Various	Various : Various	-	-		46.000	Jun 2018	74.500	Mar 2019	-		74.500	Continuing	Continuing	-
Hormets Nest	MIPR	Various : Various	-	-		7.500	Apr 2018	20.000	May 2019	-		20.000	Continuing	Continuing	-
Hurt Locker	C/Various	Various : Various	-	-		56.200	Feb 2018	63.573	Dec 2019	-		63.573	Continuing	Continuing	-
Kingfisher	C/Various	Various : Various	-	-		-		43.607	Feb 2019	-		43.607	Continuing	Continuing	-
Mald-X	Various	Various : Various	-	26.230	Jul 2017	-		-		-		-	Continuing	Continuing	-
Motley Crew	MIPR	Various : Various	-	-		5.500	Jan 2018	13.500	Apr 2019	-		13.500	Continuing	Continuing	-
Red Dawn	MIPR	Various : Various	-	-		-		112.644	Dec 2018	-		112.644	Continuing	Continuing	-
Sea Dragon	Various	Various : Various	-	27.641	Dec 2016	53.790	Jun 2018	33.000	Dec 2018	-		33.000	Continuing	Continuing	-
Sea Stalker	Various	Various : Various	-	4.050	Dec 2016	-		-		-		-	Continuing	Continuing	-
Strike-X	MIPR	Various : Various	-	-		-		21.510	Mar 2019	-		21.510	Continuing	Continuing	-
Third Eye	MIPR	Various : Various	-	2.100	Mar 2017	11.600	Feb 2018	1.116	Dec 2018	-		1.116	Continuing	Continuing	-
Vanguard	MIPR	TBD : Various	-	-		0.500	May 2018	0.700	Jan 2019	-		0.700	Continuing	Continuing	-
Wildcat	MIPR	Various : Various	-	-		-		103.306	Oct 2018	-		103.306	Continuing	Continuing	-
<b>Subtotal</b>			143.122	132.787		289.530		592.432		-		592.432	Continuing	Continuing	N/A

	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	756.649	850.762	1,482.532	1,431.702	-	1,431.702	Continuing	Continuing	N/A

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2019 Office of the Secretary Of Defense		<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604250D8Z / <i>Advanced Innovative Technologies</i>	<b>Project (Number/Name)</b> 250 / <i>Advanced Innovative Technologies</i>

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
<b>BREAKER Product Development</b>																												
Product Development																												
<b>C2IE Platform Integration</b>																												
Platform Integration																												
<b>C2IE Transition Management</b>																												
Transition Management																												
<b>Contender Product Development</b>																												
Product Development																												
<b>HGWS - Product Development</b>																												
Product Development																												
<b>Perdix Gen 7 - Product Development</b>																												
Product Development																												
<b>Sea Dragon - Product Development</b>																												
Product Development																												
<b>Strike X - Product Development</b>																												
Product Development																												
<b>Serenity - Product Development</b>																												
Product Development																												
<b>Alternative Strike - T &amp; E</b>																												
Test & Evaluation																												
<b>AVATAR - T &amp; E</b>																												
Test & Evaluation																												
<b>BREAKER - T &amp; E</b>																												
Test & Evaluation																												

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**Exhibit R-4, RDT&E Schedule Profile:** PB 2019 Office of the Secretary Of Defense **Date:** February 2018

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604250D8Z / <i>Advanced Innovative Technologies</i>	<b>Project (Number/Name)</b> 250 / <i>Advanced Innovative Technologies</i>
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	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
<b>C2IE - T &amp; E</b>																												
Test & Evaluation																												
<b>Contender - T &amp; E</b>																												
Test & Evaluation																												
<b>Enhanced Munitions - T &amp; E</b>																												
Test & Evaluation																												
<b>Ghost Fleet - T &amp; E</b>																												
Test & Evaluation																												
<b>Hornet's Nest - T &amp; E</b>																												
Test & Evaluation																												
<b>HGWS - T &amp; E</b>																												
Test & Evaluation																												
<b>LiTE Saber - T &amp; E</b>																												
Test & Evaluation																												
<b>MAVEN - T &amp; E</b>																												
Test & Evaluation																												
<b>Motley Crew - T &amp; E</b>																												
Test & Evaluation																												
<b>Sea Dragon - T &amp; E</b>																												
Test & Evaluation																												
<b>Sea Mob - T &amp; E</b>																												
Test & Evaluation																												
<b>Sea Stalker - T &amp; E</b>																												
Test & Evaluation																												
<b>Storm System - T &amp; E</b>																												

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**Exhibit R-4, RDT&E Schedule Profile:** PB 2019 Office of the Secretary Of Defense **Date:** February 2018

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604250D8Z / <i>Advanced Innovative Technologies</i>	<b>Project (Number/Name)</b> 250 / <i>Advanced Innovative Technologies</i>
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	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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

Test & Evaluation																												
<b>Strike X - T &amp; E</b>																												
Test & Evaluation																												
<b>Serenity - T &amp; E</b>																												
Test & Evaluation																												
<b>Third Eye - T &amp; E</b>																												
Test & Evaluation																												
<b>Vanguard - T &amp; E</b>																												
Test & Evaluation																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Office of the Secretary Of Defense		<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604250D8Z / <i>Advanced Innovative Technologies</i>	<b>Project (Number/Name)</b> 250 / <i>Advanced Innovative Technologies</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>BREAKER Product Development</i></b>				
Product Development	1	2018	4	2020
<b><i>C2IE Platform Integration</i></b>				
Platform Integration	2	2017	4	2018
<b><i>C2IE Transition Management</i></b>				
Transition Management	4	2018	4	2019
<b><i>Contender Product Development</i></b>				
Product Development	1	2017	4	2020
<b><i>HGWS - Product Development</i></b>				
Product Development	1	2017	4	2018
<b><i>Perdix Gen 7 - Product Development</i></b>				
Product Development	4	2017	4	2020
<b><i>Sea Dragon - Product Development</i></b>				
Product Development	1	2017	4	2017
<b><i>Strike X - Product Development</i></b>				
Product Development	1	2017	4	2019
<b><i>Serenity - Product Development</i></b>				
Product Development	1	2017	4	2020
<b><i>Alternative Strike - T &amp; E</i></b>				
Test & Evaluation	1	2017	4	2020
<b><i>AVATAR - T &amp; E</i></b>				
Test & Evaluation	1	2018	4	2022

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2019 Office of the Secretary Of Defense **Date:** February 2018

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604250D8Z / <i>Advanced Innovative Technologies</i>	<b>Project (Number/Name)</b> 250 / <i>Advanced Innovative Technologies</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>BREAKER - T &amp; E</i></b>				
Test & Evaluation	4	2017	3	2019
<b><i>C2IE - T &amp; E</i></b>				
Test & Evaluation	4	2017	4	2018
<b><i>Contender - T &amp; E</i></b>				
Test & Evaluation	1	2017	4	2020
<b><i>Enhanced Munitions - T &amp; E</i></b>				
Test & Evaluation	1	2017	3	2018
<b><i>Ghost Fleet - T &amp; E</i></b>				
Test & Evaluation	1	2018	4	2020
<b><i>Hornet's Nest - T &amp; E</i></b>				
Test & Evaluation	1	2018	2	2020
<b><i>HGWS - T &amp; E</i></b>				
Test & Evaluation	1	2017	3	2019
<b><i>LiTE Saber - T &amp; E</i></b>				
Test & Evaluation	1	2017	3	2020
<b><i>MAVEN - T &amp; E</i></b>				
Test & Evaluation	1	2018	3	2020
<b><i>Motley Crew - T &amp; E</i></b>				
Test & Evaluation	1	2018	3	2020
<b><i>Sea Dragon - T &amp; E</i></b>				
Test & Evaluation	1	2017	4	2017
<b><i>Sea Mob - T &amp; E</i></b>				
Test & Evaluation	1	2017	4	2018
<b><i>Sea Stalker - T &amp; E</i></b>				

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2019 Office of the Secretary Of Defense **Date:** February 2018

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604250D8Z / <i>Advanced Innovative Technologies</i>	<b>Project (Number/Name)</b> 250 / <i>Advanced Innovative Technologies</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test & Evaluation	1	2017	3	2019
<b><i>Storm System - T &amp; E</i></b>				
Test & Evaluation	2	2017	3	2020
<b><i>Strike X - T &amp; E</i></b>				
Test & Evaluation	2	2017	3	2019
<b><i>Serenity - T &amp; E</i></b>				
Test & Evaluation	2	2017	3	2020
<b><i>Third Eye - T &amp; E</i></b>				
Test & Evaluation	2	2017	3	2019
<b><i>Vanguard - T &amp; E</i></b>				
Test & Evaluation	1	2018	3	2020