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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2020 Office of the Secretary Of Defense **Date:** March 2019

|   |   |
|---|---|
| <b>Appropriation/Budget Activity</b><br>0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i> | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z I <i>Advanced Innovative Technologies</i> |
|---|---|

| COST (\$ in Millions)                        | Prior Years | FY 2018   | FY 2019   | FY 2020 Base | FY 2020 OCO | FY 2020 Total | FY 2021 | FY 2022 | FY 2023 | FY 2024 | Cost To Complete | Total Cost |
|--|-------------|-----------|-----------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element                        | 1,539.914   | 1,423.173 | 1,387.539 | 1,312.735    | -           | 1,312.735     | 818.285 | 517.187 | 207.127 | 176.633 | Continuing       | Continuing |
| 250: <i>Advanced Innovative Technologies</i> | 1,539.914   | 1,423.173 | 1,387.539 | 1,282.735    | -           | 1,282.735     | 803.285 | 502.187 | 192.127 | 161.633 | Continuing       | Continuing |
| 295: <i>SCO Cyber Efforts</i>                | -           | 0.000     | 0.000     | 30.000       | -           | 30.000        | 15.000  | 15.000  | 15.000  | 15.000  | 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. Program Change Summary (\$ in Millions)**

|                                     | <u>FY 2018</u> | <u>FY 2019</u> | <u>FY 2020 Base</u> | <u>FY 2020 OCO</u> | <u>FY 2020 Total</u> |
|-------------------------------------|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget         | 1,482.532      | 1,431.702      | 1,107.245           | -                  | 1,107.245            |
| Current President's Budget          | 1,423.173      | 1,387.539      | 1,312.735           | -                  | 1,312.735            |
| Total Adjustments                   | -59.359        | -44.163        | 205.490             | -                  | 205.490              |
| • Congressional General Reductions  | -              | -              |                     |                    |                      |
| • Congressional Directed Reductions | -              | -106.000       |                     |                    |                      |
| • Congressional Rescissions         | -              | -              |                     |                    |                      |
| • Congressional Adds                | 25.000         | 65.000         |                     |                    |                      |
| • Congressional Directed Transfers  | -              | -              |                     |                    |                      |
| • Reprogrammings                    | 14.000         | -              |                     |                    |                      |
| • SBIR/STTR Transfer                | -26.180        | -              |                     |                    |                      |
| • FFRDC Reduction Section 8024(f)   | -2.179         | -3.163         |                     | -                  | -                    |
| • Congressional Reduction           | -70.000        | -              |                     | -                  | -                    |
| • Other Program Adjustments         | -              | -              | 205.490             | -                  | 205.490              |

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 250: *Advanced Innovative Technologies*  
 Congressional Add: *Smarter Machine Learning*  
 Congressional Add: *Quartermaster Pathfinder*

|  | FY 2018 | FY 2019 |
|--|---------|---------|
|  | 24.952  | 24.943  |
|  | -       | 39.909  |
| Congressional Add Subtotals for Project: 250 | 24.952  | 64.852  |

**UNCLASSIFIED**

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|---|---|

| <u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u> | FY 2018 | FY 2019 |
|--|---------|---------|
| Congressional Add Totals for all Projects  | 24.952  | 64.852  |

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|--|--------------------|----------------|----------------|---------------------|---|----------------------|----------------|----------------|---|-------------------------|-------------------------|-------------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Office of the Secretary Of Defense |                    |                |                |                     |   |                      |                |                |   | <b>Date:</b> March 2019 |                         |                   |
| <b>Appropriation/Budget Activity</b><br>0400 / 4   |                    |                |                |                     | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> |                      |                |                | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |                         |                         |                   |
| <b>COST (\$ in Millions)</b>   | <b>Prior Years</b> | <b>FY 2018</b> | <b>FY 2019</b> | <b>FY 2020 Base</b> | <b>FY 2020 OCO</b>  | <b>FY 2020 Total</b> | <b>FY 2021</b> | <b>FY 2022</b> | <b>FY 2023</b>  | <b>FY 2024</b>          | <b>Cost To Complete</b> | <b>Total Cost</b> |
| 250: <i>Advanced Innovative Technologies</i>   | 1,539.914          | 1,423.173      | 1,387.539      | 1,282.735           | -   | 1,282.735            | 803.285        | 502.187        | 192.127   | 161.633                 | 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 2018</b> | <b>FY 2019</b> | <b>FY 2020</b> |
|--|----------------|----------------|----------------|
| <b>Title:</b> Alternate Strike   | 171.508        | 153.033        | 34.637         |
| <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 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> <li>• Conduct ground testing.</li> </ul>  |                |                |                |
| <b>FY 2020 Plans:</b>  |                |                |                |
| <ul style="list-style-type: none"> <li>• Continue ground testing.</li> <li>• Complete flight test readiness.</li> </ul>  |                |                |                |
| <b>FY 2019 to FY 2020 Increase/Decrease Statement:</b>   |                |                |                |
| The decrease of \$118.396 million from FY 2019 to FY 2020 is due to due to planned program completion  |                |                |                |
| <b>Title:</b> Angel  | -              | -              | 95.000         |
| <b>Description:</b> Specific applications and detailed plans are available at a higher classification level. This program is a new start in FY 2020.   |                |                |                |

**UNCLASSIFIED**

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| <b>Appropriation/Budget Activity</b><br>0400 / 4   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |

| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   | <b>FY 2018</b> | <b>FY 2019</b> | <b>FY 2020</b> |
|---|----------------|----------------|----------------|
| <p><b>FY 2020 Plans:</b><br/>Specific applications and detailed plans are available at a higher classification level. This program is a new start in FY 2020.</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>This is a new start program in FY 2020.</p>   |                |                |                |
| <p><b>Title:</b> Aurora</p> <p><b>Description:</b> The Aurora program provides mission planning and execution aids to support fleet operations. Specific applications and detailed plans are available at a higher classification level. The Aurora program is a new start in FY 2020.</p> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete final integrated architecture design</li> <li>• Develop decision aid model</li> <li>• Develop threat models</li> <li>• Test planning tools</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>This is a new start program in FY 2020.</p>   | -              | -              | 20.000         |
| <p><b>Title:</b> Avatar</p> <p><b>Description:</b> The Avatar program develops enhanced manned-unmanned capabilities. Due to the nature of this project, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate autonomy algorithms on platforms.</li> <li>• Conduct preliminary 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 behavior algorithm refinement</li> <li>• Continue mission and operational effectiveness analysis</li> </ul> <p><b>FY 2020 Plans:</b><br/>Continue open systems architecture refinement.</p> <ul style="list-style-type: none"> <li>• Continue autonomous behavior algorithm refinement</li> <li>• Continue mission and operational effectiveness analysis</li> <li>• Continue hardware in the loop testing of prototype manned-unmanned teaming capabilities to confirm design and functionality.</li> </ul> | 24.395         | 49.553         | 79.172         |

**UNCLASSIFIED**

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| <b>Appropriation/Budget Activity</b><br>0400 / 4   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |                |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>  |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| <ul style="list-style-type: none"> <li>• Continue flight demonstration of autonomy behaviors on platforms.</li> <li>• Initiate integration of payloads onto operational platforms.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The increase of \$29.619 million from FY 2019 to FY 2020 is needed to build and acquire hardware and software, integrate the components, and conduct multiple risk reduction prototype flight tests.</p>   |   |   |                |                |
| <p><b>Title:</b> Breaker</p> <p><b>Description:</b> The Breaker demonstration provides Combatant Commanders with long range effects against targets. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete payload analysis</li> <li>• Complete payload system-subsystem design.</li> <li>• Complete subcomponent redesign, provide hardware/ software test support, and fabricate hardware supporting engineering development testing (EDT).</li> <li>• Complete subsystem tests to confirm final system design and functionality to be demonstrated.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Conduct and complete test equipment upgrades and provide test support</li> <li>• Conduct and complete system build and checkout and acceptance testing</li> <li>• Conduct prototype demonstration tests.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The increase of \$12.899 million from FY 2019 to FY 2020 for Breaker is consistent with the original funding profile.</p> |   | 46.626  | 31.635         | 44.534         |
| <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. 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.</li> <li>• Demonstrate machine learning algorithms in simulated environments.</li> </ul>   |   | -   | 22.016         | 22.973         |

**UNCLASSIFIED**

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| <b>Appropriation/Budget Activity</b><br>0400 / 4  | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |                |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| <ul style="list-style-type: none"> <li>• Complete system design.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Continue data collection activities.</li> <li>• Demonstrate application of machine learning algorithms.</li> <li>• Perform test &amp; evaluation to determine technical and operational effectiveness.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The increase of \$.957 million from FY 2019 to FY 2020 is due to algorithm test and evaluation work.</p>  |   |   |                |                |
| <p><b>Title:</b> Chaos</p> <p><b>Description:</b> The Chaos program provides a novel capability to support ground operations. Specific applications and detailed plans are available at a higher classification level. The Chaos program is a new start in FY 2020.</p> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete prototype design</li> <li>• Acquire and repurpose existing hardware</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>This is a new start program in FY 2020.</p>   |   | -   | -              | 16.000         |
| <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> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Continue program transition activities.</li> <li>• Continue assessment of performance for additional analytic components.</li> <li>• Continue incremental software development, system integration, and testing cycle of the C2IE software.</li> <li>• Continue developmental, operational, and interface testing of C2IE software.</li> <li>• Continue conducting multiple validation demonstrations and workshops for Combatant Commanders (CCMDs).</li> <li>• Continue development of automated ingest of blue situational awareness data sources.</li> <li>• Continue development of automated ingest of intelligence data sources.</li> <li>• Continue development of Machine Learning solutions for entity, event and network detection.</li> </ul> |   | 35.685  | 24.311         | -              |

**UNCLASSIFIED**

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| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| <ul style="list-style-type: none"> <li>• Conduct multiple operational validation demonstrations.</li> <li>• Complete accreditation of C2IE components and system on Joint Worldwide Intelligence Communications System (JWICS) networks.</li> <li>• Complete cross-domain data transfer.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>Program will transition to the Joint Staff as resource sponsor and requirements oversight with Air Force PEO C3I&amp;N executing program management and acquisition strategy.</p>   |   |   |                |                |
| <p><b>Title:</b> Contender</p> <p><b>Description:</b> SCO will develop and demonstrate an operational prototype that will enable more capable weapons system. Due to the nature of this project, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete sub-assembly lab testing.</li> <li>• Conduct operational testing of sub assembly components • Conduct integration and conduct full-scale lab testing</li> <li>• Begin fabrication &amp; integration of prototype</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete prototype assemblies and system wide integration.</li> <li>• Complete full scale operational testing.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$14.842 million from FY 2019 to FY 2020 is due to the shift from procurement of hardware and long lead parts and subassembly fabrication to integration and demonstration testing activities.</p> |   | 67.916  | 89.363         | 74.521         |
| <p><b>Title:</b> Eclipse</p> <p><b>Description:</b> The Eclipse program accelerates the maturation and fielding of emerging disruptive technologies. Specific applications and detailed plans are available at a higher classification level. The Eclipse program is a new start in FY 2020.</p> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete prototype design</li> <li>• Conduct initial test</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b></p>   |   | -   | -              | 25.000         |

**UNCLASSIFIED**

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| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>  |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| This is a new start program in FY 2020.  |   |   |                |                |
| <b>Title:</b> Enhanced Munitions   |   | 29.245  | -              | -              |
| <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.        |   |   |                |                |
| <b>Title:</b> Ghost Fleet  |   | 131.151   | 137.426        | 136.940        |
| <b>Description:</b> SCO will develop and demonstrate fleet integrated, operational prototype unmanned maritime vehicles to fill existing mission requirements for Combatant Commanders. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.                |   |   |                |                |
| <b>FY 2019 Plans:</b>  |   |   |                |                |
| <ul style="list-style-type: none"> <li>• Complete initial platform modifications.</li> <li>• Complete component level testing and payload integration designs.</li> <li>• Complete autonomy system delivery.</li> <li>• Conduct initial prototype underway testing.</li> </ul>   |   |   |                |                |
| <b>FY 2020 Plans:</b>  |   |   |                |                |
| <ul style="list-style-type: none"> <li>• Complete design for physical modifications of final platforms.</li> <li>• Conduct integration of Government Furnished Equipment.</li> <li>• Complete platform final alterations and sea worthiness validations.</li> <li>• Conduct sea-based experimentation demonstrations.</li> </ul>     |   |   |                |                |
| <b>FY 2019 to FY 2020 Increase/Decrease Statement:</b>   |   |   |                |                |
| The decrease of \$.486 million from FY 2019 to FY 2020 is due to the shift from a material procurement and vessel modification period to a final integration of payloads and final demonstration period.   |   |   |                |                |
| <b>Title:</b> Hoover   |   | 46.000  | 74.331         | 74.223         |
| <b>Description:</b> The Hoover project applies machine learning algorithms and techniques in order to reduce operator workload and data throughput requirements. 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. |   |   |                |                |
| <b>FY 2019 Plans:</b>  |   |   |                |                |
| <ul style="list-style-type: none"> <li>• Complete prototype design.</li> </ul>   |   |   |                |                |

**UNCLASSIFIED**

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| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| <ul style="list-style-type: none"> <li>• Complete machine learning algorithms for existing sensor.</li> <li>• Complete test planning.</li> <li>• Conduct initial testing in relevant environment.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete design development.</li> <li>• Continue integration activities.</li> <li>• Demonstrate machine learning algorithms in relevant environment.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$.108 million from FY 2019 to FY 2020 is due to minor pricing adjustments.</p>  |   |   |                |                |
| <p><b>Title:</b> Hornet's Nest</p> <p><b>Description:</b> The Hornet's Nest program 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 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Conduct prototype build.</li> <li>• Continue behavior algorithms.</li> <li>• Conduct air and ground testing.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Continue modeling and simulation of system.</li> <li>• Conduct system flight demonstration.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$7.555 million FY 2019 to FY 2020 is due to planned program execution schedule.</p> |   | 23.419  | 28.338         | 20.783         |
| <p><b>Title:</b> Hurt Locker</p> <p><b>Description:</b> The Hurt Locker project demonstrates feasibility and utility of alternative system deployment. This program will retire risks associated with cross platform integration of existing weapons control systems. Due to the nature of this project, specific applications and detailed plans are available at a higher classification. New start in FY 2018.</p> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete system and subcomponent designs and interface control documents.</li> <li>• Complete Materiel procurement of long lead items.</li> <li>• Begin hardware prototyping and software development.</li> </ul>   |   | 56.200  | 63.428         | 21.772         |

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| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>  |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| <ul style="list-style-type: none"> <li>• Conduct software-in-the-loop system integration &amp; testing.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Continue hardware and software system integration.</li> <li>• Complete hardware prototyping.</li> <li>• Conduct full HWIL/SWIL testing.</li> <li>• Complete communications testing.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$41.656 from FY 2019 to FY 2020 is due to completing the majority of non-recurring design plans and procuring of high value materials in FY 2019.</p>   |   |   |                |                |
| <p><b>Title:</b> Hypervelocity Gun Weapon System (HGWS)</p> <p><b>Description:</b> The HGWS program provides cost-effective point defense from existing combat systems. Due to the nature of this project, specific applications and detailed plans are available at a higher classification level.</p>  |   | 65.427  | -              | -              |
| <p><b>Title:</b> Kingfisher</p> <p><b>Description:</b> The Kingfisher project will leverage previous investments in maritime systems to demonstrate the feasibility and operational utility of naval weapons. 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>• Define specific weapons interface and integration requirements.</li> <li>• Develop preliminary weapon design.</li> <li>• Initiate subscale and subcomponent testing.</li> <li>• Develop CONOPS.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete subscale and subcomponent test.</li> <li>• Complete detailed weapons design.</li> <li>• Conduct platform integration analysis.</li> <li>• Develop initial SW design and builds.</li> <li>• Initiate full scale test planning and safety coordination.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b></p> |   | -   | 43.508         | 76.500         |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Office of the Secretary Of Defense   |   | <b>Date:</b> March 2019   |                |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 4   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |                |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>  |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| The \$32.992 increase from FY 2019 to FY 2020 is due to increased activity to finalize design, conduct integration, complete subscale test and initiate preparations for full scale test events.   |   |   |                |                |
| <p><b>Title:</b> LiTE Saber</p> <p><b>Description:</b> The LiTE Saber program will develop and demonstrate a ubiquitous tactical command, control and communication capability in relevant combat environments. 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>• Conduct detailed design and systems engineering activities in support of system architecture, hardware design and platform integration requirements.</li> <li>• Complete design review and execute vendor down-select and follow-on contract.</li> <li>• Continue open systems architecture refinement.</li> <li>• Continue analysis to define system characteristics and effectiveness.</li> <li>• Demonstrate initial capability.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Validate and Verify design and systems engineering activities in support of system architecture, hardware design and platform integration requirements.</li> <li>• Initiate transition to Program of Record.</li> <li>• Continue open systems architecture refinement.</li> <li>• Continue analysis to define system characteristics and effectiveness.</li> <li>• Complete test plan and final capability demonstration.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The increase of \$19.685 million from FY 2019 to FY 2020 is to test and demonstrate system scalability.</p> |   | 63.428  | 75.321         | 95.006         |
| <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 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 2020 Plans:</b></p>  |   | 15.613  | 13.875         | 10.886         |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Office of the Secretary Of Defense   |   | <b>Date:</b> March 2019   |                |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 4   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |                |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>  |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| <ul style="list-style-type: none"> <li>Continue algorithm development for improved performance.</li> <li>Perform test &amp; evaluation to determine technical and operational effectiveness.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$2.989 million FY 2019 to FY 2020 is due to a down-selection in the number of algorithm providers selected for deployment.</p>  |   |   |                |                |
| <p><b>Title:</b> Motley Crew</p> <p><b>Description:</b> The Motley Crew project will leverage near term technologies being developed to enable higher capability in weapons systems. Due to the nature of this project, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>Integrate algorithms into weapon systems.</li> <li>Conduct risk reduction of weapon systems.</li> <li>Continue refinement of algorithms.</li> <li>Continue mission and operational effectiveness analysis.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>Continue refinement of algorithms.</li> <li>Continue mission and operational effectiveness modeling and simulation.</li> <li>Execute final demonstration of the system.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$18.867 million from FY 2019 to FY 2020 is due to long lead item purchases made in FY 2018.</p> |   | 31.226  | 44.598         | 25.731         |
| <p><b>Title:</b> Perdix Gen 7</p> <p><b>Description:</b> Develop next generation micro-UAV (unmanned air vehicle) with improved endurance and processing power to allow for multi-mission capabilities. Due to the nature of this project, specific applications and detailed plans are available at a higher classification level.</p> <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>Continue developing mission planning software.</li> </ul>  |   | 6.831   | 10.902         | 7.917          |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Office of the Secretary Of Defense   |   | <b>Date:</b> March 2019   |                |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 4   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |                |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>  |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| <ul style="list-style-type: none"> <li>• Begin test plan for final demonstration.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Continue iterative flight testing of autonomous airborne capabilities.</li> <li>• Complete mission planning software.</li> <li>• Begin program of record transition activities.</li> <li>• Conduct final prototype flight demonstration in operationally representative environment.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$2.985 million from FY 2019 to FY 2020 is due to risk reduction activities carried out in FY 2018.</p>   |   |   |                |                |
| <p><b>Title:</b> Red Dawn</p> <p><b>Description:</b> The Red Dawn project will leverage previous investments to demonstrate the feasibility of providing Combatant Commanders additional options. 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> <li>• Initiate subsystem procurement.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Initiate carriage system assembly.</li> <li>• Initiate system procurement and assembly.</li> <li>• Conduct subsystem testing.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$63.896 million from FY 2019 to FY 2020 is due to program baseline developing, demonstrating, and transitioning multiple capability efforts.</p> |   | -   | 72.479         | 8.583          |
| <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 platform. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Conduct live fire demonstration.</li> </ul>  |   | 353.557   | 148.659        | 46.514         |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Office of the Secretary Of Defense   |   | <b>Date:</b> March 2019   |                |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 4   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |                |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>  |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| <ul style="list-style-type: none"> <li>• Commence construction of launch support test site.</li> <li>• Continue testing in relevant environment.</li> <li>• Continue planning for tactical demonstration.</li> <li>• Continue analysis for fire control system architectures.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete testing in relevant environments.</li> <li>• Complete technical data package for system installation.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$102.145 million from FY 2019 to FY 2020 is due to completing the majority of non-recurring design plans and procuring of high value materials 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>   |   | 9.914   | -              | -              |
| <p><b>Title:</b> Sea Stalker</p> <p><b>Description:</b> The Sea Stalker 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 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete and demo payload/ launch system testing.</li> <li>• Complete effector integration and testing.</li> <li>• Develop and adapt secondary payload capability for platform system.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Conduct secondary payload integrated test.</li> <li>• Conduct Final Demonstration</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$10.151 million from FY 2019 to FY 2020 is due to development costs and efforts ending and shifting support to final tests and demonstrations.</p> |   | 26.581  | 25.986         | 15.835         |
| <p><b>Title:</b> Serenity</p>  |   | 17.565  | 20.813         | 8.907          |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Office of the Secretary Of Defense  |   | <b>Date:</b> March 2019   |                |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 4  | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |                |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| <p><b>Description:</b> The Serenity project will leverage existing technologies to analyze and demonstrate a prototype solution to ensure survivability of 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 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 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Environment and operability testing.</li> <li>• System Integration.</li> <li>• Build systems for FY 2021 installation.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$11.906 million from FY 2019 to FY 2020 is due to sequencing of prototype development, testing, and purchase of long lead time components.</p> |   |   |                |                |
| <p><b>Title:</b> Shawshank</p> <p><b>Description:</b> The Shawshank program provides Special Operations Forces new and enhanced capabilities. Specific applications and detailed plans are available at a higher classification level. The Shawshank program is a new start in FY 2020</p> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete engineering feasibility</li> <li>• Complete prototype designs</li> <li>• Build and test models</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>This is a new start program in FY 2020.</p>   |   | -   | -              | 120.900        |
| <p><b>Title:</b> StormSystem</p>  |   | 6.831   | 8.920          | 5.938          |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Office of the Secretary Of Defense |   | <b>Date:</b> March 2019   |
| <b>Appropriation/Budget Activity</b><br>0400 / 4   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |

| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   | <b>FY 2018</b> | <b>FY 2019</b> | <b>FY 2020</b> |
|---|----------------|----------------|----------------|
| <p><b>Description:</b> StormSystem will leverage existing capabilities to develop a suite of tools that disrupts the adversary cyber capabilities. Due to the nature of these projects, specific applications and detailed plans are available at a higher classification level.</p> <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 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete component integration efforts of component tools into systems.</li> <li>• Establish operational beta test capability at transition partner facilities</li> <li>• Analyze system interoperability at operational locations.</li> <li>• Integrate additional gov't systems</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The decrease of \$2.982 million from FY 2019 to FY 2020 is due to planned funding for spiral development of the program. Focus for FY 2019 integration efforts of disparate components shifts to infrastructure and full system interoperability during FY 2020. FY 2019 required additional funding to surge integration efforts between disparate components. FY 2020 will complete the outlier components, but primarily focus on the analysis of the system capability and interoperability at the transition partner's location.</p> |                |                |                |
| <p><b>Title:</b> Strike-X</p> <p><b>Description:</b> The Strike-X project provides alternatives to deliver near-term innovative 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 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> <li>• Build and develop prototype systems.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b></p>  | 112.023        | 46.600         | -              |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Office of the Secretary Of Defense  |   | <b>Date:</b> March 2019   |                |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 4  | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |                |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   |   | <b>FY 2018</b>  | <b>FY 2019</b> | <b>FY 2020</b> |
| Program is complete after FY 2019. No funds are requested in FY 2020.   |   |   |                |                |
| <p><b>Title:</b> Third Eye</p> <p><b>Description:</b> Third Eye is a data architecture that leverages existing and emerging sensors. Due to the nature of this project, specific applications and detailed plans are available at a higher classification level.</p> <p><b>FY 2019 Plans:</b></p> <ul style="list-style-type: none"> <li>• Deploy limited operational capability.</li> <li>• Transition prototype and enhanced capabilities.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Continue to update capability based on operator feedback.</li> <li>• Develop limited capability to deploy the target production capability.</li> <li>• Update algorithms and validate through demonstration.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b></p> <p>The decrease of \$15.209 million from FY 2019 to FY 2020 is due to a limited capability achieving IOC in FY19 and completing transition. FY 2020 funding supports continued testing and transition for all Uniformed Services.</p> |   | 34.786  | 25.105         | 9.896          |
| <p><b>Title:</b> Vanguard</p> <p><b>Description:</b> The Vanguard project will provide a capability to provide situational awareness 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 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> <li>• Field test initial full-scale system.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Complete full scale test planning and safety coordination.</li> <li>• Continue to analyze system performance and refinement.</li> <li>• Continue full-scale system test.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b></p> <p>The decrease of \$2.985 million from FY 2019 to FY 2020 due to the planned program execution schedule.</p>   |   | 8.294   | 9.416          | 6.431          |
| <b>Title:</b> Wildcat   |   | -   | 103.071        | 178.136        |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Office of the Secretary Of Defense | <b>Date:</b> March 2019 |
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| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |
|--|---|---|

| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   | FY 2018   | FY 2019   | FY 2020   |
|---|-----------|-----------|-----------|
| <p><b>Description:</b> The Wildcat project will demonstrate the feasibility and operational utility of enhanced weapon capability. 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 artillery designs.</li> <li>• Initiate long lead purchases of hardware.</li> <li>• Conduct initial testing.</li> </ul> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>• Continue testing of components at high setback.</li> <li>• Continue testing component integration.</li> <li>• Conduct initial integration testing.</li> </ul> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>The increase of \$75.065 million from FY 2019 to FY 2020 is due to moving from design to testing at various ranges and fixing any hardware design issues discovered.</p> |           |           |           |
| <p><b>Title:</b> Hypervelocity Projectile (HVP)</p> <p><b>Description:</b> These funds were part of the FY 2018 Omnibus Reprogramming action to begin design and fabrication of a custom data-collection projectile that can collect in-bore electromagnetic (EM) flux data on the railgun.</p>   | 14.000    | -         | -         |
| <b>Accomplishments/Planned Programs Subtotals</b>   | 1,398.221 | 1,322.687 | 1,282.735 |

|   | FY 2018 | FY 2019 |
|---|---------|---------|
| <p><b>Congressional Add:</b> Smarter Machine Learning</p> <p><b>FY 2018 Accomplishments:</b> FY 2018 Congressional add.</p> <p><b>FY 2019 Plans:</b> FY 2019 Congressional add.</p> | 24.952  | 24.943  |
| <p><b>Congressional Add:</b> Quartermaster Pathfinder</p> <p><b>FY 2019 Plans:</b> FY 2019 Congressional add.</p>   | -       | 39.909  |
| <b>Congressional Adds Subtotals</b>   | 24.952  | 64.852  |

**C. Other Program Funding Summary (\$ in Millions)**  
N/A

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Office of the Secretary Of Defense |   | <b>Date:</b> March 2019   |
| <b>Appropriation/Budget Activity</b><br>0400 / 4   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |

**C. Other Program Funding Summary (\$ in Millions)**

**Remarks**

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

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 2020 Office of the Secretary Of Defense** **Date:** March 2019

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| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |
|--|---|---|

| <b>Product Development (\$ in Millions)</b> |                        |                                |             | FY 2018 |            | FY 2019 |            | FY 2020 Base |            | FY 2020 OCO |            | FY 2020 Total |                  |            |                          |
|---|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item                          | Contract Method & Type | Performing Activity & Location | Prior Years | Cost    | Award Date | Cost    | Award Date | Cost         | Award Date | Cost        | Award Date | Cost          | Cost To Complete | Total Cost | Target Value of Contract |
| Alternate Strike                            | MIPR                   | Various : Various              | 198.030     | 171.508 | May 2018   | 153.033 | Mar 2019   | 34.637       | Feb 2020   | -           |            | 34.637        | Continuing       | Continuing | -                        |
| Angel                                       | C/TBD                  | Various : Various              | -           | -       |            | -       |            | 95.000       | Dec 2019   | -           |            | 95.000        | Continuing       | Continuing | -                        |
| Aurora                                      | C/TBD                  | Various : Various              | -           | -       |            | -       |            | 20.000       | Dec 2019   | -           |            | 20.000        | Continuing       | Continuing | -                        |
| Avatar                                      | MIPR                   | Various : Various              | -           | 24.395  | Mar 2018   | 49.553  | Apr 2019   | 79.172       | Dec 2019   | -           |            | 79.172        | Continuing       | Continuing | -                        |
| Breaker                                     | C/CPFF                 | Various : Various              | -           | 46.626  | Jul 2018   | 31.635  | Jan 2019   | 44.534       | Jan 2020   | -           |            | 44.534        | Continuing       | Continuing | -                        |
| Carnac                                      | MIPR                   | Various : Various              | -           | -       |            | 22.016  | Jan 2019   | 22.973       | Nov 2019   | -           |            | 22.973        | Continuing       | Continuing | -                        |
| Chaos                                       | C/TBD                  | Various : Various              | -           | -       |            | -       |            | 16.000       | Dec 2019   | -           |            | 16.000        | Continuing       | Continuing | -                        |
| C2IE  | MIPR                   | Various : Various              | 75.002      | 35.685  |            | 24.311  |            | -            |            | -           |            | -             | Continuing       | Continuing | -                        |
| Contender                                   | MIPR                   | Various : Various              | 35.550      | 67.916  | Jun 2018   | 89.363  | May 2019   | 74.521       | Nov 2019   | -           |            | 74.521        | Continuing       | Continuing | -                        |
| Eclipse                                     | C/TBD                  | Various : Various              | -           | -       |            | -       |            | 25.000       | Dec 2019   | -           |            | 25.000        | Continuing       | Continuing | -                        |
| Enhanced Munitions                          | MIPR                   | Various : Various              | 75.883      | 29.245  | Jan 2018   | -       |            | -            |            | -           |            | -             | Continuing       | Continuing | -                        |
| Ghost Fleet                                 | C/Various              | Various : Various              | -           | 131.151 | Jun 2018   | 137.426 | May 2019   | 136.940      | Nov 2019   | -           |            | 136.940       | Continuing       | Continuing | -                        |
| HGWS  | IA                     | Various : Various              | 774.349     | 65.427  | Mar 2018   | -       |            | -            |            | -           |            | -             | Continuing       | Continuing | -                        |
| Hoover                                      | MIPR                   | Various : Various              | -           | 46.000  | Jul 2018   | 74.331  | Apr 2019   | 74.223       | Mar 2020   | -           |            | 74.223        | Continuing       | Continuing | -                        |
| Hornet's Nest                               | MIPR                   | Various : Various              | -           | 23.419  | May 2018   | 28.338  | Dec 2019   | 20.783       | Mar 2020   | -           |            | 20.783        | Continuing       | Continuing | -                        |
| Hurt Locker                                 | MIPR                   | Various : Various              | -           | 56.200  | Jul 2018   | 63.428  | Jan 2019   | 21.772       | Jan 2020   | -           |            | 21.772        | Continuing       | Continuing | -                        |
| Kingfisher                                  | MIPR                   | Various : Various              | -           | -       |            | 43.508  | Jan 2019   | 76.500       | Jan 2020   | -           |            | 76.500        | Continuing       | Continuing | -                        |
| LiTE Saber                                  | MIPR                   | Various, TBD : Various         | -           | 63.428  | Sep 2018   | 75.321  | Jul 2019   | 95.006       | Oct 2019   | -           |            | 95.006        | Continuing       | Continuing | -                        |
| Maven                                       | MIPR                   | Various, TBD : Various         | -           | 15.613  | Mar 2018   | 13.875  | Apr 2019   | 10.886       | Mar 2020   | -           |            | 10.886        | Continuing       | Continuing | -                        |
| Motley Crew                                 | MIPR                   | Various : Various              | -           | 31.226  | May 2018   | 44.598  | Jan 2019   | 25.731       | Jan 2020   | -           |            | 25.731        | Continuing       | Continuing | -                        |
| Perdix Gen 7                                | FFRDC                  | Various : Various              | 1.600       | 6.831   | Apr 2018   | 10.902  | May 2019   | 7.917        | Jan 2020   | -           |            | 7.917         | Continuing       | Continuing | -                        |
| Red Dawn                                    | MIPR                   | Various : Various              | -           | -       |            | 72.479  | Feb 2019   | 8.583        | Feb 2020   | -           |            | 8.583         | Continuing       | Continuing | -                        |
| Sea Dragon                                  | Various                | Various : Various              | 156.051     | 353.557 | Jan 2018   | 148.659 | Jan 2019   | 46.514       | Jan 2020   | -           |            | 46.514        | Continuing       | Continuing | -                        |
| Sea Mob                                     | MIPR                   | Various : Various              | 38.105      | 9.914   | Mar 2018   | -       |            | -            |            | -           |            | -             | Continuing       | Continuing | -                        |
| Sea Stalker                                 | MIPR                   | Various : Various              | 42.731      | 26.581  | Jun 2018   | 25.986  | Apr 2019   | 15.835       | Jan 2020   | -           |            | 15.835        | Continuing       | Continuing | -                        |
| Serenity                                    | Various                | Various : Various              | -           | 17.565  | Jun 2018   | 20.813  | May 2019   | 8.907        | Feb 2020   | -           |            | 8.907         | Continuing       | Continuing | -                        |



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| <b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2020 Office of the Secretary Of Defense |   | <b>Date:</b> March 2019   |
| <b>Appropriation/Budget Activity</b><br>0400 / 4   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |

| FY 2011 |   |   |   | FY 2012 |   |   |   | FY 2013 |   |   |   | FY 2014 |   |   |   | FY 2015 |   |   |   | FY 2016 |   |   |   | FY 2017 |   |   |   |
|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| 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</b>            |                      |
| Product Development       |                      |
| <b>Contender</b>          |                      |
| Product Development       | ████████████████████ |
| <b>HGWS</b>               |                      |
| Product Development       | ████████████████████ |
| <b>Perdix Gen 7</b>       |                      |
| Product Development       | ████                 |
| <b>Serenity</b>           |                      |
| Product Development       | ████████████████████ |
| <b>Alternative Strike</b> |                      |
| Product Development       | ████████████████████ |
| <b>AVATAR</b>             |                      |
| Product Development       |                      |
| <b>C2IE</b>               |                      |
| Product Development       | ████                 |
| <b>Enhanced Munitions</b> |                      |
| Product Development       | ████████████████████ |
| <b>Ghost Fleet</b>        |                      |
| Product Development       |                      |
| <b>Hornet's Nest</b>      |                      |
| Product Development       |                      |
| <b>Hurt Locker</b>        |                      |
| Product Development       |                      |

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**Exhibit R-4, RDT&E Schedule Profile:** PB 2020 Office of the Secretary Of Defense **Date:** March 2019

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| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |
|--|---|---|

|                            | FY 2011 |   |   |   | FY 2012 |   |   |   | FY 2013 |   |   |   | FY 2014 |   |   |   | FY 2015 |   |   |   | FY 2016 |   |   |   | FY 2017 |   |   |   |
|----------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
|                            | 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><i>LITE Saber</i></b>   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>MAVEN</i></b>        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>Motley Crew</i></b>  |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>Sea Dragon</i></b>   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>Sea Mob</i></b>      |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>Sea Stalker</i></b>  |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>Storm System</i></b> |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>Strike X</i></b>     |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>Third Eye</i></b>    |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>Vanguard</i></b>     |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>Chaos</i></b>        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>Aurora</i></b>       |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Development        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| <b><i>Eclipse</i></b>      |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |

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**Exhibit R-4, RDT&E Schedule Profile:** PB 2020 Office of the Secretary Of Defense **Date:** March 2019

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| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |
|--|---|---|

|  | FY 2011 |   |   |   | FY 2012 |   |   |   | FY 2013 |   |   |   | FY 2014 |   |   |   | FY 2015 |   |   |   | FY 2016 |   |   |   | FY 2017 |   |   |   |
|--|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
|  | 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 |

|                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Product Development |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Shawshank</b>    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Product Development |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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

|                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>BREAKER</b>            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Product Development       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Contender</b>          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Product Development       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>HGWS</b>               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Product Development       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Perdix Gen 7</b>       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Product Development       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Serenity</b>           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Product Development       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Alternative Strike</b> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Product Development       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>AVATAR</b>             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Product Development       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>C2IE</b>               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Product Development       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Enhanced Munitions</b> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Product Development       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Ghost Fleet</b>        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |





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| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Office of the Secretary Of Defense |   | <b>Date:</b> March 2019   |
| <b>Appropriation/Budget Activity</b><br>0400 / 4  | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |

Schedule Details

| Events by Sub Project     | Start   |      | End     |      |
|---------------------------|---------|------|---------|------|
|                           | Quarter | Year | Quarter | Year |
| <b>BREAKER</b>            |         |      |         |      |
| Product Development       | 1       | 2018 | 4       | 2020 |
| <b>Contender</b>          |         |      |         |      |
| Product Development       | 1       | 2017 | 4       | 2020 |
| <b>HGWS</b>               |         |      |         |      |
| Product Development       | 1       | 2017 | 4       | 2018 |
| <b>Perdix Gen 7</b>       |         |      |         |      |
| Product Development       | 4       | 2017 | 4       | 2020 |
| <b>Serenity</b>           |         |      |         |      |
| Product Development       | 1       | 2017 | 4       | 2020 |
| <b>Alternative Strike</b> |         |      |         |      |
| Product Development       | 1       | 2017 | 4       | 2020 |
| <b>AVATAR</b>             |         |      |         |      |
| Product Development       | 1       | 2018 | 4       | 2022 |
| <b>C2IE</b>               |         |      |         |      |
| Product Development       | 4       | 2017 | 4       | 2018 |
| <b>Enhanced Munitions</b> |         |      |         |      |
| Product Development       | 1       | 2017 | 3       | 2018 |
| <b>Ghost Fleet</b>        |         |      |         |      |
| Product Development       | 1       | 2018 | 4       | 2020 |
| <b>Hornet's Nest</b>      |         |      |         |      |
| Product Development       | 1       | 2018 | 2       | 2020 |

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2020 Office of the Secretary Of Defense **Date:** March 2019

|  |   |   |
|--|---|---|
| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |
|--|---|---|

| Events by Sub Project      | Start   |      | End     |      |
|----------------------------|---------|------|---------|------|
|                            | Quarter | Year | Quarter | Year |
| <b><i>Hurt Locker</i></b>  |         |      |         |      |
| Product Development        | 2       | 2018 | 4       | 2021 |
| <b><i>LiTE Saber</i></b>   |         |      |         |      |
| Product Development        | 1       | 2017 | 3       | 2020 |
| <b><i>MAVEN</i></b>        |         |      |         |      |
| Product Development        | 1       | 2018 | 3       | 2020 |
| <b><i>Motley Crew</i></b>  |         |      |         |      |
| Product Development        | 1       | 2018 | 3       | 2020 |
| <b><i>Sea Dragon</i></b>   |         |      |         |      |
| Product Development        | 1       | 2017 | 4       | 2020 |
| <b><i>Sea Mob</i></b>      |         |      |         |      |
| Product Development        | 1       | 2017 | 4       | 2018 |
| <b><i>Sea Stalker</i></b>  |         |      |         |      |
| Product Development        | 1       | 2017 | 4       | 2020 |
| <b><i>Storm System</i></b> |         |      |         |      |
| Product Development        | 2       | 2017 | 3       | 2020 |
| <b><i>Strike X</i></b>     |         |      |         |      |
| Product Development        | 2       | 2017 | 3       | 2019 |
| <b><i>Third Eye</i></b>    |         |      |         |      |
| Product Development        | 2       | 2017 | 3       | 2019 |
| <b><i>Vanguard</i></b>     |         |      |         |      |
| Product Development        | 1       | 2018 | 3       | 2020 |
| <b><i>Chaos</i></b>        |         |      |         |      |
| Product Development        | 1       | 2020 | 4       | 2022 |
| <b><i>Aurora</i></b>       |         |      |         |      |

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2020 Office of the Secretary Of Defense **Date:** March 2019

|  |   |   |
|--|---|---|
| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>250 / <i>Advanced Innovative Technologies</i> |
|--|---|---|

| <b>Events by Sub Project</b> | <b>Start</b>   |             | <b>End</b>     |             |
|------------------------------|----------------|-------------|----------------|-------------|
|                              | <b>Quarter</b> | <b>Year</b> | <b>Quarter</b> | <b>Year</b> |
| Product Development          | 1              | 2020        | 4              | 2022        |
| <b><i>Eclipse</i></b>        |                |             |                |             |
| Product Development          | 1              | 2020        | 4              | 2022        |
| <b><i>Shawshank</i></b>      |                |             |                |             |
| Product Development          | 1              | 2020        | 4              | 2022        |

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**Exhibit R-2A, RDT&E Project Justification:** PB 2020 Office of the Secretary Of Defense **Date:** March 2019

|  |   |  |
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| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>295 / <i>SCO Cyber Efforts</i> |
|--|---|--|

| COST (\$ in Millions)         | Prior Years | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total | FY 2021 | FY 2022 | FY 2023 | FY 2024 | Cost To Complete | Total Cost |
|-------------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 295: <i>SCO Cyber Efforts</i> | -           | 0.000   | 0.000   | 30.000       | -           | 30.000        | 15.000  | 15.000  | 15.000  | 15.000  | 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)**

|  | FY 2018 | FY 2019 | FY 2020 |
|--|---------|---------|---------|
| <b>Title:</b> Ike  | 0.000   | -       | 30.000  |
| <b>Description:</b> The Ike program provides a joint cyber platform. Specific applications and detailed plans are available at a higher classification level. The Ike program is a new start in FY 2020. |         |         |         |
| <b>FY 2020 Plans:</b>  |         |         |         |
| <ul style="list-style-type: none"> <li>• Complete architecture design</li> <li>• Integrate collection data</li> <li>• Build and test analysis models</li> </ul>  |         |         |         |
| <b>FY 2019 to FY 2020 Increase/Decrease Statement:</b>   |         |         |         |
| This program is a new start in FY 2020.  |         |         |         |
| <b>Accomplishments/Planned Programs Subtotals</b>  | 0.000   | -       | 30.000  |

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

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

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**Exhibit R-2A, RDT&E Project Justification:** PB 2020 Office of the Secretary Of Defense **Date:** March 2019

|  |   |  |
|--|---|--|
| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>295 / <i>SCO Cyber Efforts</i> |
|--|---|--|

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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|  |   |  |
|--|---|--|
| <b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2020 Office of the Secretary Of Defense |   | <b>Date:</b> March 2019  |
| <b>Appropriation/Budget Activity</b><br>0400 / 4   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>295 / <i>SCO Cyber Efforts</i> |

|                            | FY 2018 |   |   |   | FY 2019 |   |   |   | FY 2020 |   |   |   | FY 2021 |   |   |   | FY 2022 |   |   |   | FY 2023 |   |   |   | FY 2024 |   |   |   |
|----------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
|                            | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 |
| <i>Product Development</i> |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Ike                        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |

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|   |   |  |
|---|---|--|
| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Office of the Secretary Of Defense |   | <b>Date:</b> March 2019  |
| <b>Appropriation/Budget Activity</b><br>0400 / 4  | <b>R-1 Program Element (Number/Name)</b><br>PE 0604250D8Z / <i>Advanced Innovative Technologies</i> | <b>Project (Number/Name)</b><br>295 / <i>SCO Cyber Efforts</i> |

Schedule Details

| Events by Sub Project             | Start   |      | End     |      |
|-----------------------------------|---------|------|---------|------|
|                                   | Quarter | Year | Quarter | Year |
| <b><i>Product Development</i></b> |         |      |         |      |
| Ike                               | 1       | 2020 | 4       | 2024 |