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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

| Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i> | | | | | R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence Center (JAIC)</i> | | | | | | | |
|---|-------------|---------|---------|--------------|--|---------------|---------|---------|---------|---------|------------------|------------|
| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
| Total Program Element | 0.000 | 183.834 | 137.058 | 10.033 | - | 10.033 | - | - | - | - | Continuing | Continuing |
| JA1: <i>Joint Artificial Intelligence Center (JAIC)</i> | 0.000 | 183.834 | 137.058 | 10.033 | - | 10.033 | - | - | - | - | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The JAIC was established to preserve and expand our military advantage in support of the Department’s 2018 National Defense Strategy (NDS). As a primarily executing body it will accelerate the delivery of Artificial Intelligence (AI) enabled capabilities, scale the Department-wide impact of AI, and synchronize Department of Defense (DoD) AI activities to expand Joint Force advantages. The JAIC mission is to accelerate the delivery of AI to achieve impact scaled across the DoD at relevant speed to transform the DoD and ensure the nation maintains a competitive advantage. JAIC capitalizes on Project Maven’s efforts as the pathfinder AI initiative for the DoD to further critical AI architecture and prototyping to rapidly expand AI to other mission areas. As JAIC efforts prove relevant, they will expedite technology transition from the laboratory to operational use, and increase Joint Force capability. Most military data storage, utilization, and analytic tools and systems were designed pre-AI and require specialized integration to enable the insertion of algorithms into their software baseline. JAIC capabilities are commercial technology initiatives that insert commercial AI into existing programs of record.

JAIC will execute an initial sequence of cross-functional use cases to demonstrate value and create momentum, called National Mission Initiatives (NMI). NMIs will rapidly develop and deploy AI across the Joint Force for selected high-priority, pressing operational or business reform challenges. Additionally, JAIC will work closely with individual components to help identify, shape, and accelerate component-specific AI deployments. NMI efforts will include selecting commercial and academic partners for prototypes, and develop standardized processes with respect to data, testing and evaluation, and cybersecurity. JAIC will use lessons learned from these initial projects to establish new processes and standards that will be repeatable across additional projects and immediately relevant to the Joint Force. This will be done in collaboration with partners across technology companies, consulting firms, academia, government labs, Federally Funded Research and Development Centers (FFRDC), services, and international partners.

To support NDS, the JAIC will catalyze and develop AI capabilities to enhance readiness and lethality and ensure DoD maintains an advantage over adversaries. JAIC will spearhead this unique opportunity to expand the competitive space across all domains with AI. JAIC efforts will directly contribute to increased military readiness towards a more lethal Joint Force, it will strengthen alliances and attract new partners by focusing on global problems, and it will enable Departmental reform to increase performance and affordability. JAIC will cultivate workforce talent by recruiting, developing, and retaining high-quality personnel to enable the development and delivery of AI. This will bring critical skills into the department by drawing outside expertise, and leveraging small companies, start-ups, and universities. Implementing AI at a speed of relevance hinges on the ability to integrate AI better than our adversaries, and the JAIC will enable the Department to adapt AI into how it fights. JAIC will focus on speed of delivery, continuous adaptation, and frequent capability delivery sprints. To fully realize this potential, the JAIC will pioneer AI approaches across the full scale of the global enterprise in a manner that is jointly interoperable with allies, partners, military Services, and agencies. Specifically, JAIC will identify and implement new organizational approaches, establish key AI building blocks and standards, develop and attract AI talent, and introduce new operational models that will enable DoD to systematically take advantage of AI at enterprise scale. The JAIC will fulfill the National Security Strategy and NDS to ensure conventional overmatch through dual-use commercial technology and partnered DoD-developed AI. The JAIC will collaborate with non-governmental organizations, corporations, strategic influencers,

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and partners and allies. JAIC will seize the initiative to lead the world in the development and adoption of transformative defense AI solutions that are safe, ethical, and secure. JAIC will spearhead this effort, engaging with the best minds in government, the private sector, academia, and international community.

| B. Program Change Summary (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 183.834 | 132.058 | 128.049 | - | 128.049 |
| Current President's Budget | 183.834 | 137.058 | 10.033 | - | 10.033 |
| Total Adjustments | 0.000 | 5.000 | -118.016 | - | -118.016 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | 5.000 | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Adjustment | - | - | -118.016 | - | -118.016 |

Change Summary Explanation

The decrease of -\$118.010 in FY 2022 reflects a realignment from RDT&E BA 7 (-\$106.434) to the newly created BA 8: Software and Digital Technology for the Software Pilot Program. Additional decrease of -\$11.582 for re-phasing adjustment (-\$10.375) and technical adjustments (-\$1.207).

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| Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency | | | | | | | | | | Date: May 2021 | | |
| Appropriation/Budget Activity 0400 / 7 | | | | | R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence Center (JAIC)</i> | | | | Project (Number/Name) JA1 / <i>Joint Artificial Intelligence Center (JAIC)</i> | | | |
| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
| JA1: <i>Joint Artificial Intelligence Center (JAIC)</i> | 0.000 | 183.834 | 137.058 | 10.033 | - | 10.033 | - | - | - | - | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

The JAIC was established to preserve and expand our military advantage in support of the Department’s 2018 National Defense Strategy. As a primarily executing body it will accelerate the delivery of Artificial Intelligence (AI) enabled capabilities, scale the Department-wide impact of AI, and synchronize DoD AI activities to expand Joint Force advantages. The JAIC mission is to accelerate the delivery of AI to achieve impact scaled across the DoD at relevant speed to transform the DoD and ensure the nation maintains a competitive advantage. JAIC capitalizes on Project Maven’s efforts as the pathfinder AI initiative for the DoD to further critical AI architecture and prototyping to rapidly expand AI to other mission areas. As JAIC efforts prove relevant, they will expedite technology transition from the laboratory to operational use, and increase Joint Force capability. Most military data storage, utilization, and analytic tools and systems were designed pre-AI and require specialized integration to enable the insertion of algorithms into their software baseline. JAIC capabilities are commercial technology initiatives that insert commercial AI into existing programs of record.

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| Appropriation/Budget Activity 0400 / 7 | R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence Center (JAIC)</i> | Project (Number/Name) JA1 / <i>Joint Artificial Intelligence Center (JAIC)</i> |
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governmental organizations, corporations, strategic influencers, and partners and allies. JAIC will seize the initiative to lead the world in the development and adoption of transformative defense AI solutions that are safe, ethical, and secure. JAIC will spearhead this effort, engaging with the best minds in government, the private sector, academia, and international community.

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

| | FY 2020 | FY 2021 | FY 2022 |
|--|---------|---------|---------|
| <p>Title: Joint Artificial Intelligence Center (JAIC)</p> <p>Description: JAIC develops, tests, prototypes and demonstrates innovative AI, Machine Learning (ML), data infrastructure, and model/algorithm test and assessment capabilities to integrate AI capabilities across numerous domains and technical areas including maintenance and supply chain, personnel recovery, infrastructure assessment, geospatial monitoring during disaster, and cyber sense making. JAIC develops and evaluates integrated prototype technologies in realistic operating environments with DoD entities to assess the performance or cost reduction potential of applying such advanced technology to scale across multiple services. JAIC does this by aligning rapid prototype projects under NMIs and leverages existing commercial technology for DoD use, built upon a common architecture that enables the DoD to rapidly scale AI capability.</p> <p>FY 2021 Plans: JAIC will begin to transition the lines of effort in the areas of Joint Logistics Operations formally Predictive Maintenance (PMx) and Humanitarian Assistance and Disaster Relief (HA/DR) to service and component partners. These capabilities are expected to be available on the Joint Common Foundation (JCF) for reuse by many. As soon as an NMI has fully transitioned ongoing lines of effort, those JAIC resources will be aligned to kick off new AI Capability lines of effort in accordance with the direction of the DOD AI ESG. The JAIC will mature AI enabled capabilities in the National Mission Initiative Areas of Joint Information Warfare formally Cyber Sense-making, Business Process Transformation formally Intelligence Business Automation, Joint Warfighting Operations and Warfighter Health and will begin to plan and prepare for their transition to component transition partners. The JAIC will begin up to 5 new lines of effort within the six National Mission areas. By FY21, 90% of NMIs Development and Test will be accomplished in the JCF. The JCF will provide a collaboration portal for the DoD, a registry for DoD AI Projects and optimized JCF virtual environments provisioned with the right tools, suited to the users and developers assigned to given project. In FY21 the JCF will begin testing capabilities on the SIPR domain. In FY21 the JAIC will continue the Joint Information Warfare formally Cyber Sense-making NMI that was begun in FY20 to shrink timelines for cyber-threat situational awareness using AI anomaly detection and network exploration techniques. In FY21 the NMI will leverage the CSSP gold standard benchmark dataset, and the completed GOTS assessments o AI-enabled cyber threat detection applications to deploy the highest performing tools and models, along with the lessons learned, to the Joint Common Foundation for wide-spread adoption. In FY21 the JAIC will begin the Business Process Transformation formally Intelligent Business Automation (IBA) NMI to increase the effectiveness and efficiency of routine tasks by enabling DoD staff to use robotic process automation (RPA) and other AI tools. In FY21, based on the most promising RPA technologies and workflows, this NMI will gain temporary authority to operate (ATO) and authority to connect (ATC), and will conduct operational experiments. The Intelligent Business Automation (IBA) will deliver</p> | 183.834 | 137.058 | 10.033 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 |
|---|----------------|----------------|----------------|
| <p>a platform of Robotic Process Automation (RPA) services and platform to save manhours, reduce routine errors in back-office processes.</p> <p>In FY21 the JAIC will continue the Joint Warfighting NMI started in FY20 to increase the speed, precision and agility of warfighting through improved Joint All-Domain Command and Control (JADC2), the autonomous application of systems, sensors, and targeting solutions, and accelerated AI-enabled mission command. The Joint Warfighting NMI will continue to develop and mature the application platform for JADC2 using open-API tools to automate the fusion and curation of a unified purpose-built information set. Based on the FY20 assessment of current tools, techniques and data sources within scope for the JADC2 platform, the approved architecture and a repeatable data curation and fusion pipeline, the JW NMI will design and build AI enabled workflows related to the identification, tracking and targeting within a well understood and appropriately governed data-driven command and control eco system.</p> <p>In FY21 the JAIC will continue the Warfighter Health NMI to accelerate health classification, individual diagnoses, and enable resilient field medicine. In FY21, this NMI will leverage the structured Medical Readiness repository of data created in FY20 to reduce the time it takes to perform Readiness and Disability Adjudications hours to minutes per warfighter. In FY21 this NMI will expand on early successes dynamically classifying disabling conditions. The NMI will leverage the Medical Readiness data, architecture, and repeatable AI pipeline to train a machine to recognize all 50 categorically disabling conditions, in anticipation of wide deployment during subsequent fiscal years.</p> <p>FY 2022 Plans:</p> <p>In FY22, Joint Information Warfare formally Cyber Sensemaking/ JAIC will further support integration of AI/ML MISO solutions for effective understanding, messaging, and influencing within the changing information environment. The JAIC will also align resources to kick off new AI capability lines of effort in accordance with the direction of the DOD AI Executive Steering Group (ESG). The JAIC will continue development of AI/ML products ANMVIS, BlueVector, MADHAT, Cyber Data Framework, Analytic Support Officers (ASO) Ecosystem Concept, and Medifor.</p> <p>The Threat Reduction and Protection formally the Humanitarian Assistance/Disaster Relief (HA/DR) will continue efforts building AI Capability in the areas of Damage Assessment, Full Motion Video, and Search and Rescue and continue development of Damage Assessment and Road Obstruction Product Line. JAIC will continue development efforts and work towards a Joint Common Foundation (JCF) Enterprise Environment and Full Operating Capability (FOC) by FY22.</p> <p>In FY22, the Joint Warfighting Operations Initiative will continue to develop and begin to transition AI/ML products lines Target Development, Wargaming, Gargoyle, Precision Targeting, and The Assistant Secretary of the Air Force (Acquisition, Technology and Logistics) (SAF/AQ) to mission partners. The JAIC will also continue resourcing AI/ML products in the areas of Electromagnetic Spectrum Operations (EMSO) and Strategic Mobility in accordance with the direction of the DOD AI Wxecutive Steering Group (ESG). In FY22, The Joint Warfighting Operations mission initiative will deliver the Terrestrial Reconnaissance and Surveillance and sUAS product to partners for field testing, complete field testing and deliver to Army G-Boss Program office and service program. Integrate Strategy Robot into ATO, Joint Staff J8 - User Interface for existing air-to-air Force Structure</p> | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 |
|---|----------------|----------------|----------------|
| <p>Planning Tool and Joint Staff J8 - All-Domain Force Structure Planning Tool. Project Smart Sensor - Full- onboard processing and navigation and transition to U.S. Air Force Special Operations Command Program Executive Office Fixed Wing (AFSCO PEO FW) and MQ-9 Reaper Drone (MQ-9) System Program Office (SPO).</p> <p>In FY22, The Warfighter Health mission initiative will work with the Defense Health Agency (DHA) to transition the initial rollout of Medical Imagery Analysis to Military medical diagnosis facilities. The JAIC will continue work in Medical Imaging, Suicide Intervention & Prevention, Point of Injury Decision Support, and Data Commons AI/ML products.</p> <p>In FY22, The JAIC's Business Process Transformation initiative will work with the DoD Comptroller's Advanced Analytics (ADVANA) Team, Office of Chief Management Officer (OCMO)/Washington Headquarters Services, OCMO/Data Insights Directorate, and Undersecretary Defense for Intelligence USD(I) and will begin to test and integrate GAMECHANGER with multiple user groups. The JAIC will also continue to development of Humanless Unmatched Transactions (HUnT), Acquisition Alert, MyNavy HR, and Army Talent Assignment Recommender and begin transition efforts to partners.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The decrease of -\$127.025 from FY 2021 to FY 2022 reflects a realignment from RDT&E BA 7 (-\$106.434) to the newly created BA 8: Software and Digital Technology for the Software Pilot Program. A decrease of -\$11.582 for re-phasing adjustment (-\$10.375) and technical adjustments (-\$1.207). Also a decrease of -\$5.000 is due to the one-time cost for the geo-analytics effort in FY 2021, additional decrease attributed to the transition of two Predictive Maintenance/Joint Logistics Operations AI products, the H-60 Engine Health Model to the US Army 160th SOAR and Fort Rucker Aviation Center of Excellence. (-\$4.009).</p> | | | |
| Accomplishments/Planned Programs Subtotals | 183.834 | 137.058 | 10.033 |

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

N/A

Remarks

D. Acquisition Strategy

The JAIC acquisition, management, and contracting strategy follows guidance outlined in the DoD 5000 series directives, Federal Acquisition Regulation (FAR) and FAR supplement policies and procedures. Management uses project management tools and meetings to ensure delivery of stated capabilities and performance criteria.

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| Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency | | Date: May 2021 |
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| FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | |
|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| 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 |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency | | Date: May 2021 |
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Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Joint Artificial Intelligence Center (JAIC)</i> | | | | |
| Joint Artificial Intelligence Center (JAIC) | 2 | 2020 | 4 | 2026 |