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**Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / Distributive Interactive Simulations (DIS) - Eng Dev
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	12.182	8.189	8.802	-	8.802	8.621	8.500	9.044	9.155	0.000	64.493
C74: Devel Simulation Tech	-	0.911	1.022	1.031	-	1.031	1.041	1.042	1.054	1.065	0.000	7.166
C77: Army Geospatial Data Master Plan	-	5.521	0.568	1.137	-	1.137	0.879	0.749	1.209	1.235	0.000	11.298
C78: One Semi-Automated Forces	-	5.750	6.599	6.634	-	6.634	6.701	6.709	6.781	6.855	0.000	46.029

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

The program element "Distributive Interactive Simulations - Engineering Development" applies to the Army's Advanced Simulation Program, which enables operational readiness and the development of concepts and systems for the Future Force through the application of new simulation technology and techniques. The development and application of simulation technology will provide the means to link electronically a range of various simulation tools in a manner that is transparent to the user. The amalgam of simulations and tools is linked together to enable execution of an event; to verify the scenarios, tactics/techniques and procedures; to train testers on new hardware/software; and to conduct trial test runs before costly live field tests. The tools developed are available for reuse by developers and users of simulations throughout the Army.

Project C74 funds the HQDA-chartered mission of the Simulation-to-Mission Command Interoperability (SIMCI) Overarching Integrated Product Team (OIPT) in support of Army Training and Readiness. The SIMCI OIPT mission is to provide policy recommendations to Army senior leadership to improve organizations by allowing Soldiers to fight in the same manner in which they train. This is accomplished by interoperability between Mission Command (MC) systems and the Modeling and Simulation (M&S) systems the Army uses to stimulate MC systems for training Soldiers and their Leaders. SIMCI also invests in targeted solutions to critical problem areas that exist between MC and Simulations. The SIMCI OIPT, led by Program Executive Office (PEO) Simulation, Training, and Instrumentation (STRI) and PEO Command Control Communications-Tactical (C3T), uses focused collaborative processes among its 30+ Army organizations to identify key/critical interoperability shortfalls and the required materiel solutions.

Project C77, Army Geospatial Data Master Plan, focuses on activities that start with data acquisition from multiple sources and culminate in (1) accurate, robust and timely geospatial data and data management and (2) integration and conversion tools that support multiple battle command, training and mission-rehearsal applications. Project C77 continues development efforts associated with the Ground-Warfighter Geospatial Data Model (GGDM) and Geospatial Data Standards.

Project C78, One Semi-Automated Forces (OneSAF), develops and delivers a software application that represents activities of units and forces in simulation to support Army Training and Readiness. The application is used by Army agencies to support the concept evaluation, experimentation, materiel acquisition and training throughout the communities. The focus of this project is systems/software engineering and design for development and evolution of the architecture and software tools for a universal system of Army computer-generated forces -- OneSAF. OneSAF is a high fidelity brigade-and-below SAF that represents a full range of operations, systems and control processes in support of stand-alone and embedded training and Research, Development and Acquisition (RDA) simulation applications. OneSAF is fully

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<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>
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interoperable with the Army's emerging virtual, live, and division-and-above constructive simulations and provides next-generation simulation products. OneSAF replaces a variety of legacy simulations used within the Army to support analytic and training simulation activities.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Previous President's Budget	12.453	8.189	8.206	-	8.206
Current President's Budget	12.182	8.189	8.802	-	8.802
Total Adjustments	-0.271	0.000	0.596	-	0.596
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.271	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.596	-	0.596

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

**Project:** C77: *Army Geospatial Data Master Plan*

Congressional Add: *FY22 Congressional Add - Bathymetric Unmanned Littoral LiDar for Operational GEOINT (BULLDOG)*

Congressional Add Subtotals for Project: C77

Congressional Add Totals for all Projects

	<b>FY 2022</b>	<b>FY 2023</b>
	5.000	-
	5.000	-
	5.000	-

**Change Summary Explanation**

Increased funding due to revised economic assumptions.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2024 Army **Date:** March 2023

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C74 / <i>Devel Simulation Tech</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
<i>C74: Devel Simulation Tech</i>	-	0.911	1.022	1.031	-	1.031	1.041	1.042	1.054	1.065	0.000	7.166
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Project C74 funds the HQDA-chartered mission of the Simulation-to-Mission Command Interoperability (SIMCI) Overarching Integrated Product Team (OIPT) in support of Army Training and Readiness. The SIMCI OIPT mission is to provide policy recommendations to Army senior leadership to improve organizations by allowing Soldiers to fight in the same manner in which they train. This is accomplished by interoperability between Mission Command (MC) systems and the Modeling and Simulation (M&S) systems the Army uses to stimulate MC systems for training Soldiers and their Leaders. SIMCI also invests in targeted solutions to critical problem areas that exist between MC and Simulations.

The SIMCI OIPT provides the following: (1) Advisor to Army Leadership--improve MC and M&S interoperability programs, policies, directives, resourcing, and procedures; (2) Technical Investment--sponsor/support initiatives that seek common solutions to critical interoperability issues surrounding MC and M&S systems; (3) Outreach--conduct & participate in interoperability outreach activities. SIMCI investments consist primarily of cost-sharing initiatives, leveraging initial system solutions of acquisition programs to enhance the interoperability of multiple systems in the Joint Operational Environment. SIMCI investments accelerate implementation within MC and M&S systems, of common data models and information exchanges that are used by other Services and coalition nations.

FY 2024 base funding in the amount of \$1.031 million continues progress with embedding simulation into Mission Command Systems, continues management of the SIMCI OIPT's Army-wide collaborative, interoperability enhancement activities, including architecture alignment, data model alignment, common standards, components, and products. It is focused first on reducing costs and improving capabilities in the areas of automating Operational Plans, Orders, and Reports in support of Army, Joint, and Coalition operations. Objectives are: identify and articulate to HQDA senior leadership specific standards that require Army-wide implementation; co-develop data standards, architecture standards, implementation specifications and Joint/Coalition products; continue transition of SIMCI knowledge and proof-of-principle products to Army and Joint acquisition programs.

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

	FY 2022	FY 2023	FY 2024
<b>Title:</b> Program Management for the SIMCI Overarching Integrated Product Team (OIPT) Projects.	0.911	0.985	1.031
<b>Description:</b> Program Management of the SIMCI OIPT's Army-wide collaborative, interoperability enhancement activities, including architecture alignment, data model alignment, common standards, components, and products. The OIPT consists of a Product Director, engineers, and finance personnel.			
<b>FY 2023 Plans:</b> Will continue management and support of the SIMCI OIPT'S Army-wide collaborative, interoperability enhancement activities, including architecture alignment, data model alignment, common standards, components, and products. Will continue focus			

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<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C74 / <i>Devel Simulation Tech</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p>on gap-analysis of the current model and simulation programs and capabilities in the areas of Live, Virtual, and Constructive (LVC) simulations. This will support the Vice Chief of Staff of the Army's request to find redundancy within the Modeling and Simulation (M&amp;S) community and reduce it. Objectives are to compare the current M&amp;S capabilities with what will be required in the upcoming LVC-Information Assurance (LVC-IA) and Synthetic Environment (SE) environments.</p> <p><b>FY 2024 Plans:</b> Will continue management and support of the SIMCI OIPT'S Army-wide collaborative, interoperability enhancement activities, including architecture alignment, data model alignment, common standards, components, and products. Will continue focus on gap-analysis of the current model and simulation programs and capabilities in the areas of Live, Virtual, and Constructive (LVC) simulations. This will support the Vice Chief of Staff of the Army's request to find redundancy within the Modeling and Simulation (M&amp;S) community and reduce it. Objectives are to compare the current M&amp;S capabilities with what will be required in the upcoming LVC-Information Assurance (LVC-IA) and Synthetic Environment (SE) environments.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Minor increase in funding from FY2023 to FY2024 is due to economic assumptions.</p>			
<p><b>Title:</b> SBIR/STTR Transfer</p> <p><b>FY 2023 Plans:</b> Funding transferred in accordance with Title 15 USC §638</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding transferred in accordance with Title 15 USC §638</p>	-	0.037	-
<b>Accomplishments/Planned Programs Subtotals</b>	0.911	1.022	1.031

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

**Remarks**  
SIMCI uses other contract vehicles (internal/external) and awards money to work on specific technical projects. This provides the opportunity to leverage technical expertise from different agencies. SIMCI chooses projects that enhance current capabilities, closes the gaps of existing capabilities, and makes the determination for future projects that affect both the Mission Command and Live, Virtual, Constructive simulations environment. SIMCI only chooses those projects that meet specific requirements and criteria as stated above. It is one of SIMCI's missions to locate, utilize, or upgrade those projects or specific products that do just that.

**D. Acquisition Strategy**  
SIMCI Overarching Integrated Product Team (OIPT) resources are allocated to multiple organizations in both the Mission Command (MC) and Modeling and Simulation (M&S) communities. The funds are contracted to execute approved functions and to projects that advance the efforts of SIMCI and components-based architecture

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<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C74 / <i>Devel Simulation Tech</i>

alignment. Products developed transition to the lead or sponsor's program which then maintains the product for the cost savings of itself and other programs in both communities. The primary focus for these projects are the following: Embedded simulations with current Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) systems, gap-analysis for current simulations, and the proper implementation of Next-Generation modeling and simulation capabilities in regards to the Synthetic Training Environment (STE).

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C74 / <i>Devel Simulation Tech</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Program Management	Various	PEO STRI : Orlando, FL	10.703	0.140	Jan 2022	0.140	Jan 2023	0.140	Jan 2024	-		0.140	Continuing	Continuing	Continuing
SBIR/STTR Transfer	TBD	PEO STRI : Orlando, FL	0.326	-		0.037		-		-		-	0.000	0.363	-
<b>Subtotal</b>			11.029	0.140		0.177		0.140		-		0.140	Continuing	Continuing	N/A

<b>Support (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
SIMCI Program/OIPT Support	Various	Various : Various	8.534	0.746	Jan 2022	0.820	Jan 2023	0.866	Jan 2024	-		0.866	Continuing	Continuing	Continuing
Army Initialization Program and Technical Work Groups (TWG)	Various	Various : Various	0.766	0.025	Jan 2022	0.025	Jan 2023	0.025	Jan 2024	-		0.025	Continuing	Continuing	Continuing
<b>Subtotal</b>			9.300	0.771		0.845		0.891		-		0.891	Continuing	Continuing	N/A

<b>Project Cost Totals</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
	20.329	0.911	1.022	1.031	-	1.031	Continuing	Continuing	N/A

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2024 Army</b>		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C74 / <i>Devel Simulation Tech</i>

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Implementation of Initialization Products	[Redacted]																											
Transition of simulation initialization capability	[Redacted]																											
Data Model applications and reference implementations	[Redacted]																											
C2 Adapter Web Services and Tools	[Redacted]																											
Quarterly SIMCI OIPT Meeting	[Redacted]																											
Annual Project Call	[Redacted]																											

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2024 Army</b>		<b>Date: March 2023</b>
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C74 / <i>Devel Simulation Tech</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Implementation of Initialization Products	1	2010	4	2028
Transition of simulation initialization capability	1	2010	4	2028
Data Model applications and reference implementations	1	2010	4	2028
C2 Adapter Web Services and Tools	1	2010	4	2028
Quarterly SIMCI OIPT Meeting	1	2010	4	2028
Annual Project Call	1	2010	4	2028

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>				<b>Project (Number/Name)</b> C77 / <i>Army Geospatial Data Master Plan</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
<i>C77: Army Geospatial Data Master Plan</i>	-	5.521	0.568	1.137	-	1.137	0.879	0.749	1.209	1.235	0.000	11.298
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The Army Geospatial Enterprise (AGE) provides the geospatial foundation, consisting of accurate, robust, and timely 2D and 3D geospatial data, robust tools and services, in support of mission command, intelligence, training, mission-rehearsal and other mission-applications. It addresses the implementation and acceleration of Army modernization objectives focused on enhancing situational awareness to the warfighter.

This effort provides a geospatial standards-based framework that enables the management, dissemination, and update of 2D and 3D geospatial data and services within the Army Geospatial Enterprise (AGE) across Mission Command, Cross-Functional Team (CFT) initiatives, and with our National and UAP partners ensuring a common operational picture enhancing soldier situational awareness and increasing mission success. Provides support to synthetic training environment, network and soldier lethality cross functional teams. Establishes a geospatial enterprise architecture framed around geospatial standards that enable address geospatial data, services, and application interoperability from National to tactical as required by as Department of Defense Instruction (DoDI) 5000.56, AR 115-11 - Geospatial Information and Services, Geospatial Annex to COE IP, Net-Enabled Mission Command ICD, OMB-Circular A-119 and A-130, the FY17 NDAA (National Defense Authorization Act), section 875, 10 U.S. Code 2223, Public Law 108-237, Standards Development Organization Advancement Action of 2004 and Public Law 108-113, National Technology Transfer and Advancement Act of 1995 and Public Law 82-436.

Key lines of effort include Ground-Warfighter Geospatial Data Model (GGDM), development and maintenance of geospatial Standards, and integration with the Army Modelling and Simulation Enterprise. FY 2024 funding continues development efforts associated with the Ground-Warfighter Geospatial Data Model (GGDM) and integration with the Army Modelling and Simulation Enterprise.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> Ground-Warfighter Geospatial Data Model (GGDM)	0.110	0.110	0.330
<b>Description:</b> The GGDM incorporates common data elements that conform to standards mandated by the Department of Defense Information Technology Standards Registry (DISR) for the National System for Geospatial Intelligence (NSG). Incorporating common geospatial data standards into the GGDM makes the Programs of Record (POR) consistent with new DISR-mandated geospatial intelligence standards for the NSG and ensures interoperability from National to Tactical. The implementation of GGDM across the Army increases system-interoperability at the geospatial data level. This effort includes the update and maintenance of the GGDM to enable interoperability in support of Army Modernization.			
<b>FY 2023 Plans:</b>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p>Initiate development of the next version of GGDM based upon revisions to the National System for Geospatial-Intelligence (NSG) Application Schema (NAS) as well as new requirements from the US Army, especially as result from HQDA EXORD 154-20 (Army 3D Geospatial Data Integration Strategy), USMC, and ABCANZ Allies. Provide GGDM training classes to Army and USMC personnel. Ensure major Army PORs are implementing the GGDM (I.E. DCGS-A and SECORE). Assess GGDM capability to support 3D to enable Army modernization.</p> <p><b>FY 2024 Plans:</b> Continue development of GGDMNext based upon GGDM assessment, emerging modernization requirements and changing technology (3D, AR and VR) and maintain capability to support current fielded systems. Includes additional revisions due to changes in the National System for Geospatial-Intelligence (NSG) Application Schema (NAS) as well as the National Geospatial-Intelligence Agency, USMC, and ABCANZ Allies. Update GGDM training classes to reflect changes to model and potential 3D capabilities. Ensure major Army PORs are implementing the GGDM (i.e., ISA and SECORE).</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase funds for initial integration of 3D data into Ground Warfighter Geospatial Data Model enabling interoperability from National to Tactical systems significantly enhancing soldier situational awareness.</p>			
<p><b>Title:</b> Geospatial Data Standards</p> <p><b>Description:</b> Army Geospatial Standards including data standards and standards for services to manage, process and disseminate and utilize geospatial data. Alignment of industry and Open geospatial standards from organizations such as the Open Geospatial Consortium (OGC) and others into the Army Geospatial Enterprise (AGE). This effort includes addressing high priority Army gaps in international consensus standards enabling interoperability across the National System for Geospatial Intelligence and our international partners and develops standards roadmap.</p> <p><b>FY 2023 Plans:</b> Will continue collaboration with industry and other agencies to develop new geospatial data and services standards, DOD Profiles of these standards, and technology implementations of these standards. Focus on furthering development of standards to further releasable basemap tiles to enable 2D raster tiled maps, GeoVolumes API, and detailed assessment of vector tile maps and to develop modifications/updates elevation data formats and services. Maintain Geospatial Standards compliance matrix, Std-V1, in alignment with quarterly updated NSG standards and DoD Information Technology Standards and Profile Registry (DISR) cycle updates of GEOINT standards and coordinate results with Army CIO/G6 and ASA(ALT) Programs. Will continue to provide SME support on geospatial data and technology standards to Army PORs. Continue integration of multiple geospatial standards (both 2D and 3D) specifically in support of extending One World Terrain (OWT) capabilities into non-training-like applications, such as</p>	0.411	0.437	0.807

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p>mission planning, mission rehearsal, and Army operations. The integration of 2D and 3D maps in Army systems will enable the soldier with cutting-edge geospatial capabilities and over match moving forward.</p> <p><b>FY 2024 Plans:</b> Continue industry and other Government agencies collaboration to develop new geospatial data and services standards, DOD Profiles of these standards, and technology implementations of these standards. Focus will be on emerging modernization requirements and addressing high priority Army gaps enabling Army interoperability including maintaining standards support for existing fielded 2D systems and emerging 3D/AR/VR capabilities. Will continue to provide SME support on geospatial data and technology standards to Army PORs. Continue to utilize to perform integration of multiple geospatial standards (both 2D and 3D) in support of One World Terrain (OWT) and Integrated Visualization Augmentation System (IVAS) to support applications such as mission planning, mission rehearsal, and Army operations. The integration of 2D and 3D maps in Army systems will enable the soldier with cutting-edge geospatial capabilities and over match moving forward.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> New geospatial standards development needed to support Mission Command and Army modernization enabling interoperability from National to Tactical systems significantly enhancing soldier situational awareness.</p>			
<p><b>Title:</b> SBIR/STTR Transfer</p> <p><b>FY 2023 Plans:</b> Funding transferred in accordance with Title 15 USC §638</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding transferred in accordance with Title 15 USC §638</p>	-	0.021	-
<b>Accomplishments/Planned Programs Subtotals</b>	0.521	0.568	1.137

	<b>FY 2022</b>	<b>FY 2023</b>
<p><b>Congressional Add:</b> FY22 Congressional Add - Bathymetric Unmanned Littoral LiDar for Operational GEOINT (BULLDOG)</p> <p><b>FY 2022 Accomplishments:</b> Analysis and finalization of the optimal airborne bathymetric collection platform to support high altitude data collection to enable littoral operations. Identification of process to support real-time terrain collection, and creation of littoral 3 dimensional artificially enabled models. Engineering, airworthiness and accuracy validation. Engineering/production alternatives to optimize size, weight, power and bathymetric data acquisition/data processing.</p>	5.000	-

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<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C77 / <i>Army Geospatial Data Master Plan</i>

	<b>FY 2022</b>	<b>FY 2023</b>
Strategy to transition current prototype into an operational capable deployable unit.		
<b>Congressional Adds Subtotals</b>	5.000	-

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

N/A

**Remarks**

**D. Acquisition Strategy**

Resources are allocated to several critical geospatial projects in support of the Army Geospatial Data Integrated Master Plan (AGDIMP) and the Army Geospatial Enterprise (AGE).



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2024 Army</b>			<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C77 / <i>Army Geospatial Data Master Plan</i>	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Ground Warfighter Geospatial Data Model																												
Geospatial Data Standards																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Army		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C77 / <i>Army Geospatial Data Master Plan</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Ground Warfighter Geospatial Data Model	1	2010	4	2028
Geospatial Data Standards	1	2010	4	2028

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>				<b>Project (Number/Name)</b> C78 / <i>One Semi-Automated Forces</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
C78: <i>One Semi-Automated Forces</i>	-	5.750	6.599	6.634	-	6.634	6.701	6.709	6.781	6.855	0.000	46.029
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

One Semi-Automated Forces (OneSAF) develops and delivers a software application that represents activities of units and forces in simulation to support Army Training and Readiness. The application is used by Army agencies to support the concept evaluation, experimentation, materiel acquisition and training. The focus of this project is systems/software engineering and design for development and evolution of the architecture and software tools for a universal system of Army computer-generated forces -- OneSAF. OneSAF is a high fidelity brigade-and-below SAF that represents a full range of operations, systems and control processes in support of stand-alone and embedded training and Research, Development and Acquisition (RDA) simulation applications. OneSAF is fully interoperable with the Army's virtual, live, and division-and-above constructive simulations.

FY 2024 base funding in the amount of \$6.634 million allows for continued development of the software product line prioritized and approved by the Training and Doctrine Command (TRADOC). This funding also provides for the management of the infrastructure, equipment, laboratories, and processes needed to develop, test, and release the required product baseline.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p><b>Title:</b> Engineering and Manufacturing Development (EMD) phase contract activities for the One Semi-Automated Forces program.</p> <p><b>Description:</b> Continue EMD phase contract activities for the OneSAF program.</p> <p><b>FY 2023 Plans:</b> Will continue the development of software capabilities based on OneSAF P3Is as prioritized and approved by TRADOC. Will continue the software development of functionality that enhances architectural services, components, synthetic environment and infrastructure of the OneSAF Product Line and will provide for software integration, test and release of required software refreshes and Version 12.0.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Transitioning to software engineering activities.</p>	4.451	5.008	-
<p><b>Title:</b> Government System Test and Evaluation for the One Semi-Automated Forces (OneSAF) program.</p> <p><b>Description:</b> Government System Test and Evaluation for the OneSAF program.</p> <p><b>FY 2023 Plans:</b></p>	1.010	1.050	1.050

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army		<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C78 / <i>One Semi-Automated Forces</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p>Will provide for the conducting of software, test, integration and release for Version 11.0. Will provide support to the user community in conducting experiments, analyses, and validation events for integration into the Home Station Training Federation, Network Integration Events (NIE), Battle Lab Collaborative Simulation Environment (BLCSE), Entity Simulation Service (ESS) in support of Joint Land Component Constructive Training Capability (JLCCTC), and other Live, Virtual and Constructive (LVC) applications.</p> <p><b>FY 2024 Plans:</b> Will provide for software, test, integration and release for Version 13.0. Will provide support to the user community experiments, analyses, and validation events for integration into the Home Station Training Federation, Network Integration Events (NIE), Battle Lab Collaborative Simulation Environment (BLCSE), Entity Simulation Service (ESS) in support of Joint Land Component Constructive Training Capability (JLCCTC), and other Live, Virtual and Constructive (LVC) applications.</p>				
<p><b>Title:</b> Government Program Management for the One Semi-Automated Forces (OneSAF) program.</p> <p><b>Description:</b> Government Program Management for the One Semi-Automated Forces (OneSAF) program.</p> <p><b>FY 2023 Plans:</b> Will provide a portion of program management, engineering and technical oversight, contract support, and travel for support of site surveys and Subject Matter Experts for the development of OneSAF.</p> <p><b>FY 2024 Plans:</b> Will provide a portion of program management, engineering and technical oversight, contract support, and travel for support of site surveys and Subject Matter Experts for the development of OneSAF.</p>		0.289	0.300	0.300
<p><b>Title:</b> SBIR/STTR Transfer</p> <p><b>FY 2023 Plans:</b> Funding transferred in accordance with Title 15 USC §638</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding transferred in accordance with Title 15 USC §638</p>		-	0.241	-
<p><b>Title:</b> Software Engineering activities for the One Semi-Automated Forces Program</p> <p><b>Description:</b> Continue development activities for the OneSAF program.</p> <p><b>FY 2024 Plans:</b></p>		-	-	5.284

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army		<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C78 / <i>One Semi-Automated Forces</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p>Will continue the development of software capabilities as prioritized and approved by TRADOC. Will continue the software development of functionality that enhances architectural services, components, synthetic environment and infrastructure of the OneSAF Product Line and will provide for software integration, test and release of required software refreshes and Version 13.0.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase from FY2023 to FY2024 funding is transitioning requirements from EMD phase contract activities to SW Engineering activities.</p>				
<b>Accomplishments/Planned Programs Subtotals</b>		5.750	6.599	6.634
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
<p>OneSAF manages two Task Orders under one Indefinite Delivery/Indefinite Quantity (ID/IQ) Production and Support contract. The Task Order for support includes Program Management; Development and Customer support; Training; Travel and Other Direct Costs (ODC). The Task Order for Production includes Capability Improvements; Tailored Product Baseline Release; Capability Concurrence; and Integration, Test, and Release. The OneSAF Production and Support contract is tailored to fully serve the current and evolving needs of the user community.</p> <p>The enhancements will be executed within the development line as modifications to the released baseline via Engineering Change Proposals (ECPs); Change Requests (CRs); and correction of deficiencies identified as Problem Test Reports (PTRs) and Deficiency Reports (DRs) by the user community.</p> <p>In FY 2024, the program will continue with yearly releases of the OneSAF Software versions containing performance enhancements resulting from the development and integration of TRADOC Prioritized Improvements, concurrency enhancements, user feedback, corrections of deficiencies identified as Problem Test Reports (PTR) and Deficiency Reports (DR) and Co-Developers handovers. The OneSAF program will continue to manage the single award contract for the continuing development and maintenance of the software baseline as well as continue to manage the Integrated Development Environment (IDE).</p> <p>The current contract ends in FY 2024 and a new contract will be awarded. The program anticipates a seamless transition with no gap in coverage and no negative impacts in the ability of OneSAF to meet user needs.</p>				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604760A / Distributive Interactive Simulations (DIS) - Eng Dev				C78 / One Semi-Automated Forces							
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Program Management	Various	PEO STRI, Orlando, FL : Various	29.512	0.289	Oct 2021	0.300	Oct 2022	0.300	Oct 2023	-		0.300	Continuing	Continuing	Continuing
SBIR/STTR Transfer	TBD	PEO STRI : Orlando, FL	0.460	-		0.241		-		-		-	0.000	0.701	-
<b>Subtotal</b>			29.972	0.289		0.541		0.300		-		0.300	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Software Development	C/CPFF	Riptide : Orlando, FL	19.439	4.026	Dec 2021	4.583	Dec 2022	4.859	Oct 2023	-		4.859	Continuing	Continuing	Continuing
<b>Subtotal</b>			19.439	4.026		4.583		4.859		-		4.859	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Domain Analysis	Various	Various : Various	6.664	0.125	Dec 2021	0.125	Dec 2022	0.125	Oct 2023	-		0.125	Continuing	Continuing	Continuing
Architecture Engr & Tech Spt	SS/FP	MITRE FFRDC : Aberdeen Proving Ground, MD	6.623	0.300	Dec 2021	0.300	Dec 2022	0.300	Oct 2023	-		0.300	Continuing	Continuing	Continuing
<b>Subtotal</b>			13.287	0.425		0.425		0.425		-		0.425	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
OneSAF Integration, Evaluation and Test	Various	Various : Various	16.359	0.835	Dec 2021	0.875	Dec 2022	0.875	Oct 2023	-		0.875	Continuing	Continuing	Continuing
OneSAF Verification, Validation & Accreditation	Various	Various : Various	7.976	0.175	Dec 2021	0.175	Dec 2022	0.175	Oct 2023	-		0.175	Continuing	Continuing	Continuing



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2024 Army</b>			<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C78 / <i>One Semi-Automated Forces</i>	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
P3I Requirements Development																												
P3I																												
OneSAF Version Release 11.0 (Concurrency Updates)	1 V11.0																											
OneSAF Version Release 12.0 (Concurrency Updates)					2 V12.0																							
OneSAF Version Release 13.0 (Concurrency Updates)									3 V13.0																			
OneSAF Version Release 14.0 (Concurrency Updates)													4 V14.0															
OneSAF Version Release 15.0 (Concurrency Updates)																	5 V15.0											
OneSAF Version Release 16.0 (Concurrency Updates)																					6 V16.0							
OneSAF Version Release 17.0 (Concurrency Updates)																									7 V17.0			
OneSAF Support																												
Life Cycle Software Support																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Army		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604760A / <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>Project (Number/Name)</b> C78 / <i>One Semi-Automated Forces</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
P3I Requirements Development	1	2006	4	2028
OneSAF Version Release 9.0 (Concurrency Updates)	2	2020	2	2020
OneSAF Version Release 10.0 (Concurrency Updates)	2	2021	2	2021
OneSAF Version Release 11.0 (Concurrency Updates)	2	2022	2	2022
OneSAF Version Release 12.0 (Concurrency Updates)	2	2023	2	2023
OneSAF Version Release 13.0 (Concurrency Updates)	2	2024	2	2024
OneSAF Version Release 14.0 (Concurrency Updates)	1	2025	1	2025
OneSAF Version Release 15.0 (Concurrency Updates)	3	2026	3	2026
OneSAF Version Release 16.0 (Concurrency Updates)	3	2027	3	2027
OneSAF Version Release 17.0 (Concurrency Updates)	3	2028	3	2028
OneSAF Support	1	2006	4	2028