Exhibit R-2, RDT&E Budget Item Justification: PB 2024 United States Special Operations Command	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*

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	1,609.920	108.312	148.062	156.097	-	156.097	155.005	166.758	179.336	193.859	Continuing	Continuing
S200: *Advanced Technology Development*	1,516.554	89.712	122.081	129.741	-	129.741	128.249	139.497	151.558	165.355	Continuing	Continuing
SF101: *Engineering Analysis*	93.366	18.600	25.981	26.356	-	26.356	26.756	27.261	27.778	28.504	Continuing	Continuing

A. Mission Description and Budget Item Justification

Advanced Technology Development (Project S200) conducts rapid prototyping and Advanced Technology Demonstrations (ATDs). ATDs provide a means for evaluating the utility of emerging/advanced technologies in operationally relevant environments with special operations forces (SOF) users. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. ATDs also address projects that are a result of unique joint special mission or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase. The ATD investment strategy is aligned to establish future SOF capability in support of Joint Warfighting Concepts. This project received Congressional Adds in FY 2022; assessing and tracking tactical forces initiative ($4.000 million); and identity threat mitigation and force protection initiative ($15.000). This project received Congressional Adds in FY 2023; identity threat mitigation and force protection ($17.000 million); C-130J autonomous capabilities ($7.000 million); gesture control integration project ($5.000 million); unmanned aerial systems electronic deception ($1.500 million); and global data analytics and visualization ($8.000 million).

Engineering Analysis (project SF101) provides rapid response capability for the investigation, evaluation, and demonstration of technologies for SOF platform (ground, air, and maritime) and soldier system-unique requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: sensor integration; enhanced situational awareness; near-real-time intelligence to include data fusion, threat detection and avoidance; electronic support measures for threat geo-location and specific emitter identification; navigation; target detection; weapon performance integration; and future SOF platform and soldier system requirements. This project provides additional engineering analysis and testing required to transition items from national forces to theater forces.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 United States Special Operations Command	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	112.415	118.877	121.097	-	121.097
Current President's Budget	108.312	148.062	156.097	-	156.097
Total Adjustments	-4.103	29.185	35.000	-	35.000
• Congressional General Reductions	-	-0.915			
• Congressional Directed Reductions	-	-8.400			
• Congressional Rescissions	-	-			
• Congressional Adds	-	38.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.103	-			
• Adjustments to Budget Year	-	-	35.000	-	35.000

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: S200: *Advanced Technology Development*		
Congressional Add: *Identity Threat Mitigation and Force Protection Initiative*	14.453	17.000
Congressional Add: *Assessing and Tracking Tactical Forces Initiatives*	3.854	-
Congressional Add: *C-130J Autonomous Capabilities*	-	7.000
Congressional Add: *Gesture Control Integration Project*	-	5.000
Congressional Add: *Unmanned Aerial Systems Electronic Deception*	-	1.500
Congressional Add: *Global Data Analytics and Visualization*	-	8.000
Congressional Add Subtotals for Project: S200	18.307	38.500
Congressional Add Totals for all Projects	18.307	38.500

Change Summary Explanation

Funding:

FY 2022: Net decrease of $4.103 million is due to a reprogramming of funds to the congressionally mandated Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) programs.

FY 2023: Net increase of $29.185 million is due to Congressional Adds for Identity Threat Mitigation and Force Protection ($17.000 million); C-130J Autonomous Capabilities ($7.000 million); Gesture Control Integration Project ($5.000 million); Unmanned Aerial Systems Electronic Deception ($1.500 million); Global

Data Analytics and Visualization ($8.000 million), a Congressional Directed Reduction in Engineering Analysis (-$8.400 million) for reduced growth and a Congressional General Reduction for Federally Funded Research and Development Centers (-$0.915 million).

FY 2024: Net increase of $35.000 million supports High Speed Vertical Takeoff and Landing (HSVTOL) engineering development activities and technology risk reduction of critical technologies such as materials, propulsion and flight controls ($25.000 million) and an increase to support the United States Special Operations Command Rapid Defense Experimentation Reserve (RDER) selected effort for demonstration and experimentation of a critical capability ($10.000 million).

Exhibit R-2A, RDT&E Project Justification: PB 2024 United States Special Operations Command			Date: March 2023
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / *SOF Advanced Technology Development*	Project (Number/Name) S200 / *Advanced Technology Development*	

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
S200: *Advanced Technology Development*	1,516.554	89.712	122.081	129.741	-	129.741	128.249	139.497	151.558	165.355	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for rapid prototyping, Advanced Technology Demonstrations (ATDs) and Joint Capability Technology Demonstrations. It is a means for demonstrating and evaluating the utility of emerging/advanced technologies in operationally relevant environments with Special Operations Forces (SOF) users. This project integrates disruptive solutions and emerging technologies and then presents them in technology demonstrations, in conjunction with joint experiments and other assessment events. Evaluation results often facilitate the initiation of new programs and the insertion of appropriate technologies to acquisition programs. This program element leverages key stakeholder relationships with the Department of Defense and government technology developers to address unique, joint special mission or area-specific needs for which a few rapid prototypes must be developed on a responsive basis, or of sufficient time sensitivity to accelerate prototyping efforts of a normal acquisition program in any phase.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: SOF Special Technology Project	65.460	77.408	86.924
Description: This project integrates emerging technologies and presents them in technology demonstrations, in conjunction with joint experiments and other assessment events. This project will continue to exploit and integrate emerging technologies to enable SOF to conduct assigned military responsibilities and expand in support of integrated deterrence. Increases focus on next generation effects, particularly effects that are scalable or non-kinetic; capitalizes on commercial and government discoveries in data and analytics; explores future emplacement and access opportunities, sensor and sensor fusion technology, and biotechnologies and human interface capabilities. Also funds experimentation and concept development to equip the future SOF warfighter.			
FY 2023 Plans: Continue the development and insertion of technology into existing programs. Technologies include, but are not limited to: reduced signature profiles; next generation effects; assured communications; command and control systems; machine learning/ artificial intelligence; sensors; information sources; emplacement and access; and situational awareness tools; revolutionary materials; power and energy enablers; and technologies that reduce the load of the operator. Continue development of technologies supporting undersea, ground and air mobility. Evaluate and develop opportunities to leverage the electromagnetic spectrum to meet operational requirements. Continue the integration of critical technologies focused on providing the dismounted special operator with leap-ahead capabilities via innovative collaborative processes. Continue to develop sensors, surveillance, network and data management technology to provide tactically relevant situational awareness at the point of need. Continue			

Exhibit R-2A, RDT&E Project Justification: PB 2024 United States Special Operations Command		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S200 / *Advanced Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
effort for field prototype system incorporating technologies likely to transition to fielded systems. Based upon agreed technology maturity metrics, transfer successful projects into programs of record, and conduct field experimentations at various venues to facilitate technology insertion. Continue the United States Special Operations Command's (USSOCOM) focus on modernization supporting advanced technology development. ***FY 2024 Plans:*** Continues the development and insertion of technology into existing programs. Technologies include, but are not limited to: reduced signature profiles; next generation effects; assured communications; command and control systems; machine learning / artificial intelligence; sensors; information sources; emplacement and access; situational awareness tools; revolutionary materials; power and energy enablers; and technologies that reduce the load of the operator. Continues development of technologies supporting undersea, ground and air mobility. Evaluates and develops opportunities to leverage the electromagnetic spectrum to meet operational requirements. Continues the integration of critical technologies focused on providing the dismounted special operator with leap-ahead capabilities via innovative collaborative processes. Continues to develop sensors, surveillance, network and data management technology to provide tactically relevant situational awareness at the point of need. Continues effort for field prototype system incorporating technologies likely to transition to fielded systems. Based upon agreed technology maturity metrics, transfer successful projects into programs of record, and conduct field experimentations at various venues to facilitate technology insertion. Continues the USSOCOM's focus on modernization supporting advanced technology development. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase of $9.516 million is in line with USSOCOM's modernization efforts and guidance to increase funding in Advanced Technology Development in the areas of edge computing, data experimentation, and data fusion, as well as continued advancements in information operations and electronic warfare technologies.			
Title: Classified Sub-Project ***Description:*** Classified Sub-Project (provided under separate cover). ***FY 2023 Plans:*** Details provided under separate cover. ***FY 2024 Plans:*** Details provided under separate cover. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase of $1.644 million details provided under separate cover. Sub-project is reported in accordance with Title 10, United States Code, Section 119(a)(1), in the Special Access Program Annual Report to Congress.	5.945	6.173	7.817
Title: Rapid Defense Experimentation Reserve (RDER)	-	-	10.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 United States Special Operations Command		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S200 / *Advanced Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: USSOCOM Rapid Defense Experimentation Reserve development effort. ***FY 2024 Plans:*** Begins USSOCOM Rapid Defense Experimentation Reserve development effort. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase of $10.000 million is to begin USSOCOM Rapid Defense Experimentation Reserve development effort.			
Title: High Speed Vertical Takeoff and Landing (HSVTOL) ***Description:*** In conjunction with Defense Advanced Research Projects Agency, HSVTOL supports the development and demonstration of agile and responsive air mobility capabilities to support runway independent operations, increased speed of maneuverability, and to provide the ability to penetrate anti-access (A2)/anti-denial (AD) environments. ***FY 2024 Plans:*** Begins efforts focused on early engineering activities for a HSVTOL demonstration platform and risk reduction of critical technologies such as materials, propulsion and flight controls. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase of $25.000 million is for HSVTOL technology demonstrator design and engineering development efforts.	-	-	25.000
Accomplishments/Planned Programs Subtotals	71.405	83.581	129.741

	FY 2022	FY 2023
Congressional Add: Identity Threat Mitigation and Force Protection Initiative	14.453	17.000
FY 2022 Accomplishments: This effort funded the development of Identity Threat Mitigation Systems for integration into the SOF Digital Ecosystem. Capabilities developed under this effort will provide enhanced identity protection and monitoring capabilities, incorporate new data sources, and enhance data fusion and display methods. Software-intensive Identity Threat Mitigation systems will be managed in accordance with agile methodologies and best practices. ***FY 2023 Plans:*** This effort funds the continued development of Identity Threat Mitigation Systems for integration into the SOF Digital Ecosystem. Capabilities developed under this effort will provide enhanced identity protection and monitoring capabilities, incorporate new data sources, and enhance data fusion and display methods.		

Exhibit R-2A, RDT&E Project Justification: PB 2024 United States Special Operations Command		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S200 / *Advanced Technology Development*

	FY 2022	FY 2023
Software-intensive Identity Threat Mitigation systems will be managed in accordance with agile methodologies and best practices.		
Congressional Add: Assessing and Tracking Tactical Forces Initiatives ***FY 2022 Accomplishments:*** Expanded the Assessing & Tracking Tactical (ATTAC) Forces study to include retrospective analysis of baseline measurements in a long term monitored Special Operations Forces (SOF) population to demonstrate the ability to detect, prevent, and treat cognitive deficits, injury, or illness associated with Traumatic Brain Injury (TBI) and blast exposures associated with combat and training related events. Continued an analysis of blast gauge data correlated with other biometrics and medical history to assess the ability to correlate blast exposure with any trends in the incidence of injury, disease, cognitive decline, behavioral health concerns, or other measures to prevent or correct any effects of Repeated Sub-concussive Blast Exposure. Outcomes aimed to provide tactics, techniques, and procedures that can be incorporated into training and operations to reduce the effects of exposures and extend the career of SOF personnel and quality of life following service.	3.854	-
Congressional Add: C-130J Autonomous Capabilities ***FY 2023 Plans:*** This effort funds the development, integration and demonstration of automation and reduced flight deck crew workload on a C-130J platform. Capabilities developed under this effort will provide for elevated mission capabilities, extends operational time of the aircraft, increases safety for flight crews, and significantly cuts down on costs by reducing aircrew.	-	7.000
Congressional Add: Gesture Control Integration Project ***FY 2023 Plans:*** This effort funds the development of wearable gesture control technology that is agnostic to drone hardware, enhances interoperability, and compresses the sensor-to-shooter workflow in a “mosaic warfare” environment.	-	5.000
Congressional Add: Unmanned Aerial Systems Electronic Deception ***FY 2023 Plans:*** This effort funds the fabrication of initial small, unmanned aerial systems (sUAS) prototypes based on design work completed under an FY 2022 plus-up. The sUAS will be a purpose-built, Government-owned unmanned platform with the payload, range, speed and survivability required by USSOCOM operators to complete their mission.	-	1.500
Congressional Add: Global Data Analytics and Visualization	-	8.000

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	FY 2022	FY 2023
FY 2023 Plans: This effort funds the integration of university-led supply chain analytics with open source, commercial, government and local contributor data to provide a supply-chain decision support capability at the tactical and operational level.		
Congressional Adds Subtotals	18.307	38.500

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 United States Special Operations Command			Date: March 2023
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / *SOF Advanced Technology Development*	Project (Number/Name) SF101 / *Engineering Analysis*	

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
SF101: *Engineering Analysis*	93.366	18.600	25.981	26.356	-	26.356	26.756	27.261	27.778	28.504	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides a rapid response capability to support Special Operations Forces (SOF) programs and capabilities across the enterprise. The purpose is to correct system deficiencies, improve asset life, and enhance mission capability through the means of feasibility studies, analysis of alternatives, pre-developmental risk reduction studies, and engineering analyses. This project provides the engineering required to improve the design and performance integrity of the SOF equipment and software and to integrate disruptive “off-the-shelf” technologies to meet current and emergent capability gaps. This project also conducts risk reduction studies, analyses, and demonstrations to support emerging, time-critical equipment, weapons, and sensor enhancements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: National to Theater Engineering Analysis	2.234	2.375	2.431
Description: Provides additional engineering analysis and testing required to transition items from national forces to theater forces. ***FY 2023 Plans:*** Continue additional testing and evaluation required on various equipment items such as communications, intelligence, weapons, and operator protection planned for transition to SOF Theater Forces. ***FY 2024 Plans:*** Continues additional testing and evaluation required on various equipment items such as communications, intelligence, weapons, and operator protection planned for transition to SOF Theater Forces. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase of $0.056 million supports additional testing and evaluation required on various equipment items.			
Title: Engineering Analysis	12.546	19.606	19.925
Description: Funding supports the development of rapid response capabilities to support SOF platform and soldier systems. Supports technology development to correct system deficiencies, improve platform asset life, and enhance mission capabilities. Supports engineering assessments and evaluation of technology feasibility, producibility, and integration into next generation soldier equipment. Supports engineering analysis activities to address platform survivability such as signature management, situational awareness, and versatile mission equipment (payloads, communications, and weapons) to achieve SOF mission objectives. Prioritizes insertion of emergent technology into Programs of Record in a timely manner.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2023 Plans: Continue to assess concepts and prototypes that provide increased capability of SOF mobility platforms to include improvements to meet emerging threats. Assess and evaluate advanced methods to deliver next generation effects. Identify, assess, and evaluate improved network and data management systems that incorporate significant improvements to operate in contested environments, systems that improve situational awareness on the battlefield, and disruptive technologies to enable Intelligence, Surveillance and Reconnaissance in future environments. Continue to assess materials, concepts, and prototypes to increase operator effectiveness and situational awareness in all environments. Continue engineering analysis activities to improve SOF platform mission survivability. Activities include signature management (acoustic, infrared, radio frequency), situational awareness with full spectrum threat warning and countermeasures, and versatile mission equipment (payloads, communications, and weapons) to improve SOF survivability in less than permissive operating environments. ***FY 2024 Plans:*** Continues to assess concepts and prototypes that provide increased capability of SOF mobility platforms to include improvements to meet emerging threats. Assesses and evaluates advanced methods to deliver next generation effects. Identifies, assess, and evaluates improved network and data management systems that incorporate significant improvements to operate in contested environments, systems that improve situational awareness on the battlefield, and disruptive technologies to enable ISR in future environments. Continues to assess materials, concepts, and prototypes to increase operator effectiveness and situational awareness in all environments. Continues engineering analysis activities to improve SOF platform mission survivability. Activities include signature management (acoustic, infrared, radio frequency), situational awareness with full spectrum threat warning and countermeasures, and versatile mission equipment (payloads, communications, and weapons) to improve SOF survivability in less than permissive operating environments. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase of $0.319 million supports developing rapid response capabilities by responsively integrating disruptive technology into programs of record in the areas of data fusion, next generation effects and information dominance through a variety of acquisition pathways. These funds are key to overcoming the valley of death that is exacerbated by leap-ahead technology development that is not aligned with standard acquisition methodologies and timelines.			
Title: Experimentation Force ***Description:*** Funding supports the integration of technology with operational vignette-based experiments designed to stimulate innovative applications across all domains addressing SOF specific modernization needs. ***FY 2023 Plans:***	3.820	4.000	4.000

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Continue the development of innovative concepts, conduct experimentation to develop hyper-enabled teams capable of conducting globally integrated special operations across all domains. ***FY 2024 Plans:*** Continues the development of innovative concepts, conducts experimentation to develop hyper-enabled teams capable of conducting globally integrated special operations across all domains.			
Accomplishments/Planned Programs Subtotals	18.600	25.981	26.356

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A