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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 United States Special Operations Command **Date:** April 2022

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 1160402BB / <i>SOF Advanced Technology Development</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	1,517.264	92.656	112.415	118.877	-	118.877	121.097	116.604	116.147	118.271	Continuing	Continuing
S200: <i>Advanced Technology Development</i>	1,441.618	74.936	93.019	84.496	-	84.496	86.241	81.348	80.386	81.993	Continuing	Continuing
SF101: <i>Engineering Analysis</i>	75.646	17.720	19.396	34.381	-	34.381	34.856	35.256	35.761	36.278	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 demonstrating and evaluating the utility of disruptive solutions and emerging/advanced technologies in as realistic a operational environment used by Special Operations Forces (SOF). 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. This United States Special Operations Command ATD investment strategy is aligned to establish future SOF capability in support of Joint Warfighting Concepts.

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. Provides additional engineering analysis and testing required to transition items from national forces to theater forces.

B. Program Change Summary (\$ in Millions)	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>
Previous President's Budget	96.861	93.415	0.000	-	0.000
Current President's Budget	92.656	112.415	118.877	-	118.877
Total Adjustments	-4.205	19.000	118.877	-	118.877
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	19.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.670	-			
• SBIR/STTR Transfer	-3.535	-			
• Adjustments to Budget Year	-	-	118.877	-	118.877

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

Project: S200: *Advanced Technology Development*

Congressional Add: *Identity Threat Mitigation and Force Protection Initiative*

Congressional Add: *Assessing and Tracking Tactical Forces Initiatives*

Congressional Add Subtotals for Project: S200

Congressional Add Totals for all Projects

	FY 2021	FY 2022
	9.635	15.000
	-	4.000
	9.635	19.000
	9.635	19.000

Change Summary Explanation

Funding:

FY 2021: Net decrease of -\$4.205 million is due to a reprogramming of funds to the congressionally mandated Small Business Innovative Research (SBIR)/Small Business Technology Transfer (STTR) programs (-\$3.535 million) and a reprogramming from Program Element (PE) 1160402BB SOF Advanced Technology Development to PE 1160431BB Warrior Systems in support of Maritime Precision Engagement Munition (MPE-M) (-\$0.670 million).

FY 2022: Net increase of \$19.000 million is due to a Congressional Add for assessing and tracking tactical forces initiatives (\$4.000 million) and a Congressional Add for identity threat mitigation and force protection initiative (\$15.000 million).

FY 2023: Funding increase of \$118.877 million reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

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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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
S200: <i>Advanced Technology Development</i>	1,441.618	74.936	93.019	84.496	-	84.496	86.241	81.348	80.386	81.993	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 DOD 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 2021	FY 2022	FY 2023
Title: SOF Special Technology Project	59.476	67.849	78.323
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 2022 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 leap-ahead capabilities via innovative collaborative processes. Continue to develop sensors, surveillance, network and data management technologies to provide tactically relevant situational awareness at point of need. Continue effort			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<p>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.</p> <p>FY 2023 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; and 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 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 USSOCOM's focus on modernization supporting advanced technology development.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Increase of \$10.474 million is consistent with USSOCOM's focus on modernization supporting the advanced technology development of edge computing, data experimentation and data fusion, as well as continued advancements in information operations and electronic warfare technologies.</p>			
<p>Title: Classified Sub-Project</p> <p>Description: Classified Project (provided under separate cover).</p> <p>FY 2022 Plans: Details provided under separate cover.</p> <p>FY 2023 Plans: Details provided under separate cover.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Increase of \$0.003 million will be provided under separate cover. This project is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.</p>	5.825	6.170	6.173
Accomplishments/Planned Programs Subtotals	65.301	74.019	84.496

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		FY 2021	FY 2022
Congressional Add: Identity Threat Mitigation and Force Protection Initiative FY 2021 Accomplishments: Additional details provided upon request. FY 2022 Plans: This effort funds 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.		9.635	15.000
Congressional Add: Assessing and Tracking Tactical Forces Initiatives FY 2022 Plans: Expand 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. Continue 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 aim 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.		-	4.000
Congressional Adds Subtotals		9.635	19.000

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

N/A

Remarks

D. Acquisition Strategy

N/A

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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
SF101: <i>Engineering Analysis</i>	75.646	17.720	19.396	34.381	-	34.381	34.856	35.256	35.761	36.278	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 2021	FY 2022	FY 2023
<p>Title: National to Theater Engineering Analysis</p> <p>Description: Provides additional engineering analysis and testing required to transition items from national forces to theater forces.</p> <p>FY 2022 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.</p> <p>FY 2023 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.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Increase of \$0.048 million is to support additional testing and evaluation required on various equipment items.</p>	2.198	2.327	2.375
<p>Title: Engineering Analysis</p> <p>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. Rapidly addresses technology needs for insertion into Programs of Record.</p>	11.668	13.069	28.006

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<p><i>FY 2022 Plans:</i> 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 tailorable lethality. 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 ISR 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, but are not limited to, 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.</p> <p><i>FY 2023 Plans:</i> 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, but are not limited to, 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.</p> <p><i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Increase of \$14.937 million supports initiatives in areas such as Data Fusion, Next Generation Effects and Information Dominance which is consistent with USSOCOM's focus on modernization to develop rapid response capabilities by inserting technology through a variety of acquisition pathways.</p>			
<p><i>Title:</i> Experimentation Force</p> <p><i>Description:</i> Funding supports the integration of technology with operational vignette-based experiments designed to stimulate innovative applications across all domains addressing SOF specific modernization needs.</p> <p><i>FY 2022 Plans:</i></p>	3.854	4.000	4.000

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
Continue the development of innovative concepts and conduct experimentation to develop hyper-enabled teams capable of conducting globally integrated special operations across all domains. FY 2023 Plans: Continues the development of innovative concepts and conducts experimentation to develop hyper-enabled teams capable of conducting globally integrated special operations across all domains.				
Accomplishments/Planned Programs Subtotals		17.720	19.396	34.381
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy N/A				