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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 The Joint Staff **Date:** February 2020

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0303166J <i>I Support to Information Operations (IO) Capabilities</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	35.809	0.638	0.553	0.545	-	0.545	0.545	0.545	0.545	0.545	Continuing	Continuing
001: <i>Joint Information Operations Range</i>	35.809	0.638	0.553	0.545	-	0.545	0.545	0.545	0.545	0.545	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Joint Information Operations Range (JIOR) provides DoD with a closed-loop network that forms a global live-fire information operations range complex. JIOR uses encrypted tunneling over existing transport networks to conduct mission rehearsal, training, testing, concept development and experimentation in support of Information Operations (IO), Electronic Warfare (EW), Offensive Cyber Operations (OCO), Defensive Cyber Operations (DCO), Spectrum Warfare, Space Operations, and Special Operations Forces mission areas in a realistic threat representative environment. JIOR provides the capability to train and certify Cyber Mission Forces on the full spectrum of cyber weapons/capabilities without risk of observation or fratricide. JIOR is accredited by DIA for operations at Unclassified through Top Secret-Special Compartment Information (TS-SCI) in a Multiple Independent Levels of Security (MILS) environment. JIOR is approved for use by Special Access Programs (SAP), Special Access Required Programs (SAR), and for Special Technical Operations (STO). JIOR provides Combatant Commands, Services and Agencies (C/S/A's) and key allied partners the ability to test deployment and gain insights into advanced cyberspace and Electronic Warfare (EW) capabilities under current and future operational environments. JIOR integrates available cyberspace ranges with the training/test communities providing access to low density/high demand test and training resources including critical infrastructure, cyber targets, internet traffic, and opposing forces. JIOR supports Presidential policy and CJCS mandates for training, certification, and recertification of 6000+ cyber mission forces and DoD/Interagency cyber vulnerability assessments. C/S/A's conduct hundreds of mission rehearsal, training, testing, and experimentation events on the JIOR annually.

B. Program Change Summary (\$ in Millions)

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	0.652	0.553	0.545	-	0.545
Current President's Budget	0.638	0.553	0.545	-	0.545
Total Adjustments	-0.014	0.000	0.000	-	0.000
• Congressional General Reductions	0.000	-			
• Congressional Directed Reductions	0.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	0.000	-			
• Congressional Directed Transfers	0.000	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.014	-			

Change Summary Explanation

Project funding decrease from FY 2020 to FY 2021 reflects minor program adjustment to maintain program balance.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 The Joint Staff										Date: February 2020		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0303166J / Support to Information Operations (IO) Capabilities				Project (Number/Name) 001 / Joint Information Operations Range			
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
001: Joint Information Operations Range	35.809	0.638	0.553	0.545	-	0.545	0.545	0.545	0.545	0.545	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Information Operations Range (JIOR) provides DoD with a closed-loop network that forms a global live-fire information operations range complex. JIOR uses encrypted tunneling over existing transport networks to conduct mission rehearsal, training, testing, concept development and experimentation in support of Information Operations (IO), Electronic Warfare (EW), Offensive Cyber Operations (OCO), Defensive Cyber Operations (DCO), Spectrum Warfare, Space Operations, and Special Operations Forces mission areas in a realistic threat representative environment. JIOR provides the capability to train and certify Cyber Mission Forces on the full spectrum of cyber weapons/capabilities without risk of observation or fratricide. JIOR is unique within the Department of Defense and is accredited by DIA for operations at Unclassified through Top Secret-Special Compartment Information (TS-SCI) in a Multiple Independent Levels of Security (MILS) environment. JIOR is approved for use by Special Access Programs (SAP), Special Access Required Programs (SAR), and for Special Technical Operations (STO). JIOR provides Combatant Commands, Services and Agencies (C/S/A's) and key allied partners the ability to test deployment and collaboratively gain insights into advanced cyberspace and Electronic Warfare (EW) capabilities under current and future operational environments. JIOR integrates available cyberspace ranges with the training/test communities providing access to low density/high demand test and training resources including critical infrastructure, cyber targets, internet traffic, and opposing forces. JIOR supports Presidential policy and CJCS mandates for training, certification, and recertification of 6000+ cyber mission forces and DoD/Interagency cyber vulnerability assessments. C/S/A's conduct hundreds of mission rehearsal, training, testing, and experimentation events on the JIOR annually.

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

	FY 2019	FY 2020	FY 2021
Title: Joint Information Operations Range	0.638	0.553	0.545
Description: The Joint Information Operations Range (JIOR) is a closed-loop network that forms a live-fire, distributed range complex utilizing encrypted tunneling to conduct mission rehearsal, training, testing, and experimentation in a threat representative environment to support Information Operations (IO), Cyberspace, Electronic Warfare (EW), Spectrum Warfare, Space Operations and Special Operations Forces (SOF) mission areas.			
FY 2020 Plans: Continue testing and evaluating new, cutting edge technologies and refining networking configurations for optimization of the JIOR. Refine network automation strategy.			
FY 2021 Plans: Continue testing and evaluating new, cutting edge technologies and refining networking configurations for optimization of the JIOR. Refine network automation strategy.			
FY 2020 to FY 2021 Increase/Decrease Statement:			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
Decrease from FY 2020 to FY 2021 reflects minor program adjustment to maintain program balance.			
Accomplishments/Planned Programs Subtotals	0.638	0.553	0.545

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

N/A

Remarks

D. Acquisition Strategy

N/A