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

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605236A / <i>Integrated Tactical Communications</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
Total Program Element	-	-	12.447	22.901	-	22.901	7.624	7.334	7.201	7.281	0.000	64.788
CQ1: <i>Tactical Communication Network Evaluation (TCNE)</i>	-	-	12.447	22.901	-	22.901	7.624	7.334	7.201	7.281	0.000	64.788

A. Mission Description and Budget Item Justification

Integrated Tactical Network-Rapid Prototyping (ITN-RP) is directly aligned to the Army Network Modernization Strategy Line of Effort 1 (LOE 1) Unified Network; LOE 2, Common Operating Environment (COE), LOE 3, Interoperability; and LOE 4, Command Post Mobility and Survivability.

To deliver the network in support of Army2030 Multi Domain Operations, the Army outlined ITN Capability Sets (CS) in Fiscal Years 2021,2023,2025,2027 and 2029. In this end-to-end tactical network approach, each CS builds and improves off the previous iteration by leveraging the latest commercial technology with existing Program of Record solutions. The CS process is informed by synchronized experimentations, evaluations, and user feedback through developmental and operational tests. The ITN-RP mission represents the development phases of the Cap Sets.

The mission of ITN-RP is to deliver the network System of Systems (SoS) validation of the N-CFT's Design Goals for every Capability Set and equip operational units with residual prototype capability. ITN-RP will develop the system of systems (SoS) network architecture through continuous test and evaluation to include user/soldier feedback, lab-based risk reduction (LBRR), Field Based Risk Reduction (FBRR) and concept development. These events help to identify network gaps in formation types, mitigate risk and mature capabilities that are ready for SoS integration within the Integrated Tactical Network. ITN-RP will deliver network architectures that have been validated at a representative scale in an operational environment prior to fielding.

FY 2024 resources will be used to execute SoS architecture development through: engineering analysis, lab-based testing, cyber electromagnetic activities and an operational demonstration. Lab and field-based testing will address cyber vulnerabilities that reduce risk related to the integration of the system of system architecture.

The total cost of the Integrated Tactical Network (ITN) Middle Tier of Acquisition effort is \$76 million RDT&E from FY23 to FY28. The ITN MTA is fully funded across the Future Years Defense Program.

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B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	12.447	7.737	-	7.737
Current President's Budget	0.000	12.447	22.901	-	22.901
Total Adjustments	0.000	0.000	15.164	-	15.164
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	15.164	-	15.164

Change Summary Explanation

Increase due to testing in support of Capability Set System of Systems network baseline development to include: Electronic Warfare Operational Test, three Cyber Electro-Magnetic activities and a Operational Demonstration. Testing represents the only Army level System of Systems operational test for the Capability Sets.

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Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605236A / <i>Integrated Tactical Commun</i> <i>ications</i>				Project (Number/Name) CQ1 / <i>Tactical Communication Network</i> <i>Evaluation (TCNE)</i>			
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
CQ1: <i>Tactical Communication Network Evaluation (TCNE)</i>	-	-	12.447	22.901	-	22.901	7.624	7.334	7.201	7.281	0.000	64.788
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In this end-to-end tactical network approach, each CS builds and improves off the previous iteration by leveraging the latest commercial technology with existing Program of Record solutions. The CS process is informed by synchronized experimentations, evaluations, and user feedback through developmental and operational tests. The ITN-RP mission represents the development phases of the Cap Sets.

The mission of ITN-RP is to deliver the network System of Systems (SoS) validation of the N-CFT's Design Goals for every Capability Set and equip operational units with residual prototype capability. ITN-RP will develop the system of systems (SoS) network architecture through continuous test and evaluation to include user/soldier feedback, lab-based risk reduction (LBRR), Field Based Risk Reduction (FBRR) and concept development. These events help to identify network gaps in formation types, mitigate risk and mature capabilities that are ready for SoS integration within the Integrated Tactical Network. ITN-RP will deliver network architectures that have been validated at a representative scale in an operational environment prior to fielding.

FY 2024 resources will be used to execute SoS architecture development through: engineering analysis, lab-based testing, cyber electromagnetic activities and an operational demonstration. Lab and field-based testing will address cyber vulnerabilities that reduce risk related to the integration of the system of system architecture.

The total cost of the Integrated Tactical Network (ITN) Middle Tier of Acquisition effort is \$76 million RDT&E from FY23 to FY28. The ITN MTA is fully funded across the Future Years Defense Program.

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

	FY 2022	FY 2023	FY 2024
Title: Program Management Support	-	0.945	1.308
Description: Funding for this purchases SETA support for the ITN-RP program. Funding goes toward Program management, program execution, major events, reporting, funds execution, contract management, and logistical support. Includes participation in program planning and Integrated Product Team meetings.			
FY 2023 Plans: FY23 funds will provide overall management and oversight to implement ITN acquisition strategy and evaluation.			
FY 2024 Plans:			

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605236A / <i>Integrated Tactical Commun ications</i>	Project (Number/Name) CQ1 / <i>Tactical Communication Network Evaluation (TCNE)</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
FY24 funds will provide overall management and oversight to implement ITN acquisition strategy and evaluation through additional testing events. FY 2023 to FY 2024 Increase/Decrease Statement: Increase in personnel due to additive test events				
Title: Engineering Technical Support Description: Engineering & Technical Analysis Support FY 2023 Plans: FY 2023 funds will provide technical systems engineering support to evaluate technical alternatives and perform communication architecture analysis to identify alternatives to reduce cost, improve performance, and achieve ITN objectives. Funds will facilitate technical test support for candidate products utilized within ITN's iterative evaluation and capability implementation strategy. FY 2024 Plans: FY 2024 funds will provide technical systems engineering support to evaluate technical alternatives and perform communication architecture analysis to identify alternatives to reduce cost, improve performance, and achieve ITN objectives. Funds will facilitate technical test support for candidate products utilized within ITN's iterative evaluation and capability implementation strategy. FY 2023 to FY 2024 Increase/Decrease Statement: Increase in personnel due to additive test events		-	1.416	1.757
Title: Test and Evaluation Description: Testing will include a series of events to identify network capabilities, gaps and potential enhancements to improve mission effectiveness and lethality for a designated unit formation. The results of the events will facilitate the planning preparation, and coordination of the proposed system of system network architecture for a capability set. FY 2023 Plans: ITN testing and evaluation will utilize a series of System of Systems assessments that gather multiple data points which include Lab Based Risk Reduction (LBRR), Technical Test(TT) and Cyber Testing Events. These are collaborative events that provide feedback regarding cybersecurity resiliency, risk reduction and network performance prior to an operational demonstration. FY 2024 Plans: ITN testing and evaluation will utilize a series of System of Systems assessments that gather multiple data points which include Lab Based Risk Reduction (LBRR), Technical Test(TT), Electronic Warfare Operational Test, three Cyber Tests and a culminating		-	9.632	19.836

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
Cap Set Operational Demonstration. These are collaborative events that provide feedback regarding cybersecurity resiliency, risk reduction and network performance prior to an operational demonstration FY 2023 to FY 2024 Increase/Decrease Statement: Increase due to testing in support of Capability Set System of Systems network baseline development to include: Electronic Warfare Operational Test, three Cyber Electro-Magnetic activities and a Operational Demonstration. Testing represents the only Army level System of Systems operational test for the Capability Sets.				
Title: SBIR/STTR Transfer Description: Funding transferred in accordance with Title 15 USC §638 FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638 FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638 for FY23		-	0.454	-
Accomplishments/Planned Programs Subtotals		-	12.447	22.901
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy The Army will use a rapid prototyping Middle Tier Acquisition (MTA) that will develop and demonstrate multiple prototypes and will validate and demonstrate new / innovative capabilities to meet emerging military needs by conducting a continuous prototyping process. The product of ITN rapid prototyping will provide Warfighters a residual enhanced operational capability and will posture the Army for decisions on follow on MTA rapid fielding efforts or tailored DoD Instruction 5000.02 program acquisitions following each iteration. The ITN will purchase the commercial off the shelf items needed by utilizing various contractual vehicles, to include Common Hardware System 5th Generation (CHS-6), indefinite delivery/indefinite quantity, Defense Logistics Agency and Global Tactical Advanced Communication Systems II. ITN-RP program is currently under MTA through Oct 2024. Program is working Acquisition Shaping Panel with PEO C3T to address authority in FY25 and out.				

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

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Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	SS/CPFF	Booz Allen Hamilton : APG	-	-		0.945	Feb 2023	1.308	Feb 2024	-		1.308	0.000	2.253	-
Subtotal			-	-		0.945		1.308		-		1.308	0.000	2.253	N/A

Remarks
RS3 SETA Contract picks up option year in February of each year.

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering and Technical Support	SS/IDIQ	MITRE/Booz Allen Hamilton : Various	-	-		1.416	Dec 2022	1.757	Dec 2023	-		1.757	0.000	3.173	-
Subtotal			-	-		1.416		1.757		-		1.757	0.000	3.173	N/A

Remarks
MITRE Engineering and Technical Support

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation	C/Various	Testing : Various	-	-		9.632	Dec 2022	19.836	Jan 2023	-		19.836	0.000	29.468	-
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.454	Apr 2023	-		-		-	0.000	0.454	-
Subtotal			-	-		10.086		19.836		-		19.836	0.000	29.922	N/A

			Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-	12.447	22.901	-	22.901	0.000	35.348	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
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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
CS25 Baseline Development					[Bar]				[Bar]																			
CS 25 User Juries									[Bar]																			
CS25 CEMA									[Bar]																			
CS 25 Lab Based Risk Reduction									[Bar]																			
CS 25 Technical Test													[Bar]															
CS25 Ops Demo																	[Bar]											
CS25 Operational EW																	[Bar]											
CS25 Preliminary Design Review									▲ CS25 PDR																			
CS25 Critical Design Review													▲ CS25 CDR															
CS25 Fielding Decision																	▲ CS25 Fielding Decision											
CS27 Baseline Development																	[Bar]											
CS27 Preliminary Design Review																					▲ CS27 PDR							
CS27 Critical Design Review																									▲ CS27 CDR			

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
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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																												
CS27 Fielding Decision																					6 CS27 Fielding Decision																																			
CS29 Baseline Development																					7 CS29 PDR																																			
CS29 Preliminary Design Review																																																					9 CS29 File			
CS29 Fielding Decision																																																					8 CS29 CDR			
CS29 Critical Design Review																																																								

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CS25 Baseline Development	1	2023	2	2024
CS 25 User Juries	1	2023	4	2023
CS25 CEMA	3	2023	4	2024
CS 25 Lab Based Risk Reduction	1	2023	2	2024
CS 25 Technical Test	1	2024	1	2024
CS25 Ops Demo	3	2024	4	2024
CS25 Operational EW	3	2024	4	2024
CS25 Preliminary Design Review	3	2023	3	2023
CS25 Critical Design Review	2	2024	2	2024
CS25 Fielding Decision	4	2024	4	2024
CS27 Baseline Development	4	2024	2	2026
CS27 Preliminary Design Review	2	2025	2	2025
CS27 Critical Design Review	2	2026	2	2026
CS27 Fielding Decision	4	2026	4	2026
CS29 Baseline Development	4	2026	2	2028
CS29 Preliminary Design Review	2	2027	2	2027
CS29 Fielding Decision	4	2028	4	2028
CS29 Critical Design Review	2	2028	2	2028

Note

Baseline Development includes hosting several testing events to include Lab Based Risk Reduction, technical test, and Cyber Events to burn down risk and identify gaps in the network architecture. CS27 & CS29 will undergo similar testing to establish network baseline that will ultimately lead to a fielding decision.