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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3620F: <i>Research, Development, Test & Evaluation, Space Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</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	-	0.000	0.000	54.689	0.000	54.689	44.709	29.432	42.036	42.813	Continuing	Continuing
65A001: <i>Counter Satellite Communications System</i>	-	0.000	0.000	50.453	0.000	50.453	36.057	20.627	33.066	33.679	Continuing	Continuing
65A005: <i>Offensive Counterspace (OCS) C2</i>	-	0.000	0.000	2.252	0.000	2.252	6.621	6.738	6.866	6.991	Continuing	Continuing
65A013: <i>BOUNTY HUNTER</i>	-	0.000	0.000	1.984	0.000	1.984	2.031	2.067	2.104	2.143	Continuing	Continuing

A. Mission Description and Budget Item Justification

In FY 2021, PE 1206421F, Counterspace Systems efforts were transferred to Appropriation 3620, Research, Development, Test & Evaluation, Space Force, PE 1206421SF, Counterspace Systems from Appropriation 3600, Budget Activity 05 due to the creation of a new Appropriation for Space Force.

Acquisition Decision Memorandum (ADM) April 24th 2009, directed all capabilities identified in the October 4th 2006, Counter Communications System (CCS) Block 20, Joint Requirements Oversight Council (JROC) approved Capability Development Document (CDD) shall be accomplished as Pre-planned Product Improvement Program (P3I) upgrades to the CCS Block 10. On April 11th 2016, Air Force Space Command (AFSPC) updated ADM adding additional responsibility for CCS Block 10.3 Meadowlands.

CCS provides expeditionary, deployable, reversible offensive space control (OCS) effects applicable across the full spectrum of conflict. It prevents adversary Satellite Communications (SATCOM) in Area of Responsibility (AOR) including Command & Control (C2), Early Warning and Propaganda, and hosts Rapid Reaction Capabilities in response to Urgent Needs. This program effort includes architecture engineering and studies, system hardware design and development, software design and integration, and testing and demonstration of capabilities to provide disruption of satellite communications signals.

The FY 2021 funding request was reduced by \$4.156 million to account for the availability of prior year execution balances.

Space acquisition must respond with speed and agility to emerging adversary threats. Space & Missile Systems Center (SMC) is transforming the organization and implementation of space acquisition to an enterprise approach, maximizing innovation and resiliency, leveraging international, commercial, and mission partnerships, and managing program/project priorities according to an integrated unclassified/classified enterprise space architecture. Expanding the appropriate acquisition authorities and contract mechanisms to deliver capability sooner, SMC will strategically execute experimentation, prototyping, risk reduction, and other efforts to develop new or repurpose capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Counterspace weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392SF and 1206398SF.

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Appropriation/Budget Activity 3620F: <i>Research, Development, Test & Evaluation, Space Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>
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Bounty Hunter (BH) supports the Defensive Space Control of US systems in a specific AOR and provides the capacity to prevent effective adversary use of Command, Control, Communications, Computers, and Intelligence (C4I). Continuing annual agile development is needed to meet new user needs in an ever changing threat environment.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Bounty Hunter weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	54.689	0.000	54.689
Total Adjustments	0.000	0.000	54.689	0.000	54.689
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	54.689	0.000	54.689

Change Summary Explanation

FY 2021: +\$54.689M; funds starting in FY 2021 were transferred from RDT&E, Air Force to RDT&E, Space Force. This total includes a \$31.266M increase to CCS to accelerate CCS B10.3 Meadowlands and technique development to counter advancing threats and develop advanced training environment for next generation threats.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Air Force										Date: February 2020		
Appropriation/Budget Activity 3620F / 5					R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>				Project (Number/Name) 65A001 / <i>Counter Satellite Communications System</i>			
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
65A001: <i>Counter Satellite Communications System</i>	-	0.000	0.000	50.453	0.000	50.453	36.057	20.627	33.066	33.679	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Acquisition Decision Memorandum (ADM) April 24th 2009, directed all capabilities identified in the Oct 4th 2006 CCS Block 20, Joint Requirements Oversight Council (JROC) approved Capability Development Document (CDD) shall be accomplished as Pre-planned Product Improvement Program (P3I) upgrades to the Counter Communications System (CCS) Block 10. On April 11th 2016, Air Force Space Command (AFSPC) signed and updated ADM adding additional responsibility for CCS Block 10.3 Meadowlands.

CCS provides expeditionary, deployable, reversible offensive space control (OCS) effects applicable across the full spectrum of conflict. It prevents adversary Satellite Communications (SATCOM) in Area of Responsibility (AOR) including Command & Control (C2), Early Warning and Propaganda, and hosts Rapid Reaction Capabilities in response to Urgent Needs. This program effort includes architecture engineering and studies, system hardware design and development, software design and integration, and testing and demonstration of capabilities to provide disruption of satellite communications signals.

The FY 2021 funding request was increased by \$31.266 million for the Fix CCS for C4I and increased by \$0.966 million for the JETSS Architecture Realignment.

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

	FY 2019	FY 2020	FY 2021
Title: Counter Communications System (CCS) Pre-planned Product Improvement (P3I) Program	0.000	0.000	50.453
Description: Develop, integrate, test and field the CCS P3I program. This is an incremental approach to deliver Block 20 CCS capabilities.			
FY 2020 Plans: N/A			
FY 2021 Plans: Continue P3I development, integration and testing of the Block 10 P3I Meadowlands program. Include additional CCS Block 20 capabilities in CCS Block 10.3 Meadowlands, design forward garrison systems, mission specific emulators, training environment and multi-range integration. Accelerate development of new mission techniques to meet advancing threat and integrates techniques into the CCS program of record. Begin implementation of Agile development approach for development of weapon system software. Rapidly respond and implement system resiliency and situational awareness necessary to operate in the contested space domain. RDT&E funding is required to support this transformation and enable Space Superiority end-to-end integration activities such as, but not limited to, program office support, studies, technical analysis, experimentation, prototyping,			

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Air Force		Date: February 2020
Appropriation/Budget Activity 3620F / 5	R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>	Project (Number/Name) 65A001 / <i>Counter Satellite Communications System</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
architectural development, systems engineering, demonstrations, testing, command and control integration, mission partner integration, and space test/combat range events.			
FY 2020 to FY 2021 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	0.000	0.000	50.453

C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• SPAF 01 1206421SF: <i>Counterspace Systems</i>	-	-	65.540	0.000	65.540	65.623	66.819	62.756	1.999	0.000	262.737

Remarks

D. Acquisition Strategy

All contracts in this program element will be awarded using competitive procedures to the maximum extent possible, to upgrade existing capabilities as well as to acquire next generation capabilities through incremental acquisitions.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3620F / 5	R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>	Project (Number/Name) 65A001 / <i>Counter Satellite Communications System</i>
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Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
Block 10 P3I Development	Various	Various : El Segundo, CA	-	-		-		40.015	Feb 2021	-		40.015	Continuing	Continuing	-
Technical Mission Analysis	RO	Aerospace Corp : El Segundo, CA	-	-		-		0.737	Oct 2020	-		0.737	Continuing	Continuing	11.144
Enterprise Systems Engineering and Integration	C/FFP	AT&T : El Segundo, CA	-	-		-		0.202	May 2021	-		0.202	Continuing	Continuing	-
Counterspace Architecture Development	C/CPFF	NGMS : Redondo Beach, CA	-	-		-		0.966	Jan 2021	-		0.966	Continuing	Continuing	-
Subtotal			-	-		-		41.920		-		41.920	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
Security	C/CPAF	Mantech : El Segundo, CA	-	-		-		2.254	Nov 2020	-		2.254	Continuing	Continuing	-
Miscellaneous Support Services	Various	Various : TBD	-	-		-		0.009	Nov 2020	-		0.009	Continuing	Continuing	-
Subtotal			-	-		-		2.263		-		2.263	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
FFRDC	RO	Aerospace Corp : El Segundo, CA	-	-		-		0.772	Oct 2020	-		0.772	Continuing	Continuing	-
A&AS	Various	Various : El Segundo, CA	-	-		-		5.421	May 2021	-		5.421	Continuing	Continuing	-
Other Support	Various	Various : El Segundo, CA	-	-		-		0.077	Oct 2020	-		0.077	Continuing	Continuing	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Air Force		Date: February 2020
Appropriation/Budget Activity 3620F / 5	R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>	Project (Number/Name) 65A001 / <i>Counter Satellite Communications System</i>

	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	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
CCS B10.3																												
10.3. Development																												
Technique development (2x per year)																												
10.3 System Deliveries #1-4																												
10.3 Development Test/Operational Test																												
10.3 Sustainment																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Air Force		Date: February 2020
Appropriation/Budget Activity 3620F / 5	R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>	Project (Number/Name) 65A001 / <i>Counter Satellite Communications System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CCS B10.3				
10.3. Development	1	2021	3	2023
Technique development (2x per year)	2	2021	4	2025
10.3 System Deliveries #1-4	1	2023	2	2023
10.3 Development Test/Operational Test	1	2023	3	2023
10.3 Sustainment	2	2023	4	2025

Note
For CCS B10.2, 14 systems delivered plus 2 trainers.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3620F / 5	R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>	Project (Number/Name) 65A005 / <i>Offensive Counterspace (OCS) C2</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
65A005: <i>Offensive Counterspace (OCS) C2</i>	-	0.000	0.000	2.252	0.000	2.252	6.621	6.738	6.866	6.991	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This effort supports the evolution of command and control (C2) and mission planning capabilities in support of the fielding and employment of Counterspace Systems. It provides for the integration and upgrade of collaborative tools to link deployable counterspace systems with Joint Warfighting C2 systems and to enable integrated planning and execution of the counterspace mission. Upgraded capabilities will be integrated into current and future command and control systems. This program will leverage the Joint Execution and Tasking System for Space (JETSS) effort in C2 for future space control and counterspace mission capabilities. Requirements for this program are derived from Space Force Headquarters prioritized requirements, in accordance with AFSPC 63-104.

The FY 2021 funding request was reduced by \$4.156 million to account for the availability of prior year execution balances.

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

	FY 2019	FY 2020	FY 2021
Title: Joint Execution and Tasking System for Space (JETSS)	0.000	0.000	2.252
Description: Evolve with upgrades the counterspace mission planning and C2 capability to support counterspace systems space control warfighter activities.			
FY 2020 Plans: N/A			
FY 2021 Plans: Develop product line for higher protection level to support multiple classification levels, risk reduction efforts, and provide upgraded capabilities to support evolutionary C2 initiatives, Counterspace Operations for Combined Space Operations Center (CSpOC) and National Space Defense Center (NSDC), and integration into Battle Management Command and Control (BMC2). Rapidly respond and implement system resiliency and situational awareness necessary to operate in the contested space domain. RDT&E funding is required to support this transformation and enable end-to-end integration activities such as, but not limited to, program office support, studies, technical analysis, experimentation, prototyping, architectural development, systems engineering, demonstrations, testing, command and control integration, mission partner integration, and space test/combat range events.			
FY 2020 to FY 2021 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	0.000	0.000	2.252

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Air Force Date: February 2020

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
3620F / 5	PE 1206421SF / <i>Counterspace Systems</i>	65A005 / <i>Offensive Counterspace (OCS) C2</i>

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

N/A

Remarks

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D. Acquisition Strategy

All contracts will be awarded using competitive procedures to the maximum extent possible to acquire next generation capabilities through incremental acquisitions.

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3620F / 5	R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>	Project (Number/Name) 65A005 / <i>Offensive Counterspace (OCS) C2</i>
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FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
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

JETSS	
C2 Product Line Development	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Air Force		Date: February 2020
Appropriation/Budget Activity 3620F / 5	R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>	Project (Number/Name) 65A005 / <i>Offensive Counterspace (OCS) C2</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
JETSS				
C2 Product Line Development	1	2021	1	2025

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Air Force										Date: February 2020		
Appropriation/Budget Activity 3620F / 5					R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>				Project (Number/Name) 65A013 / <i>BOUNTY HUNTER</i>			
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
65A013: <i>BOUNTY HUNTER</i>	-	0.000	0.000	1.984	0.000	1.984	2.031	2.067	2.104	2.143	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Bounty Hunter (BH) supports the Defensive Space Control of US systems in a specific AOR and provides the capacity to prevent effective adversary use of Command, Control, Communications, Computers, and Intelligence (C4I). Continuing annual agile development is needed to meet new user needs in an ever changing threat environment.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Bounty Hunter weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F.

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

	FY 2019	FY 2020	FY 2021
Title: Bounty Hunter	0.000	0.000	1.984
Description: Develop new capabilities for the Bounty Hunter program to maintain operational capability. Specific accomplishments are classified.			
FY 2020 Plans: N/A			
FY 2021 Plans: Resolve any new tech obsolescence HW and SW challenges with new system component purchases for additional new system delivery to a new AOR. Prepare R&D plan for new total system upgrade to BH 3.0 to allow for system component consolidation and consideration for remote operation. Rapidly respond to reach and maintain pace with the threat environment and implement system resiliency and situational awareness necessary to operate in the contested space domain. Continue transition of some R&D activities from MITRE to a commercial vendor. Activities may include, but are not limited to program office support, studies, technical analysis, experimentation, prototyping, etc.			
FY 2020 to FY 2021 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	0.000	0.000	1.984

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Air Force	Date: February 2020
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Appropriation/Budget Activity 3620F / 5	R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>	Project (Number/Name) 65A013 / <i>BOUNTY HUNTER</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u> <u>Base</u>	<u>FY 2021</u> <u>OCO</u>	<u>FY 2021</u> <u>Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• SPAF 01 CTRSPC: <i>Counterspace Systems</i>	1.121	-	-	-	-	-	-	-	-	0.000	1.121

Remarks

BH was established as a new start in FY16 as a JCTD project in response to a JUON in 2010. BH was established as a Program of Record (PoR) in March 2019.

D. Acquisition Strategy

Contracts funded for this program shall be awarded to MITRE, a Federally Funded Research and Development Center (FFRDC). The establishment of a commercial vendor has yet to be determined.

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3620F / 5	R-1 Program Element (Number/Name) PE 1206421SF / <i>Counterspace Systems</i>	Project (Number/Name) 65A013 / <i>BOUNTY HUNTER</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>BOUNTY HUNTER</i>				
Bounty Hunter Agile Development 2021	1	2021	4	2021
2021 Continuous Delivery	2	2021	1	2022
Bounty Hunter Agile Development 2022	1	2022	4	2022
2022 Continuous Delivery	2	2022	1	2023
Bounty Hunter Agile Development 2023	1	2023	4	2023
2023 Continuous Delivery	2	2023	1	2024