Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army											Date: February 2018	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 2: *Applied Research*					R-1 Program Element (Number/Name) PE 0602270A / *Electronic Warfare Technology*							
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
Total Program Element	-	34.528	27.144	25.571	-	25.571	26.008	26.451	26.868	27.415	0.000	193.985
475: *ELECTRONIC WARFARE COMPONENT TECHNOLOGIES (CA)*	-	10.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.000
906: *Tactical Electronic Warfare Applied Research*	-	24.528	27.144	20.203	-	20.203	21.063	21.506	21.824	22.270	0.000	158.538
CYB: *Applied Offensive Cyber*	-	0.000	0.000	5.368	-	5.368	4.945	4.945	5.044	5.145	0.000	25.447

Note

Project funding was realigned in FY19 from Project 906, Tactical Electronic Warfare Applied Research to Project CYB, Applied Offensive Cyber. Funding was realigned in accordance with Volume 2B, Chapter 18, of the DoD Financial Management Regulation (FMR), requiring all "cyberspace activities" funding move into pure budget Projects.

A. Mission Description and Budget Item Justification

This Program Element (PE) designs and validates electronic warfare (EW) components, both hardware and software, that deny, disrupt, or degrade the enemy's use of the electromagnetic spectrum for offensive or defensive operations. This is accomplished through the investigation of electronic support measures (ESM); countermeasures against communications systems and networks; the design and fabrication of sensors used to identify and locate threat forces in an asymmetric environment; and threat warning and electronic countermeasures (ECM) against munitions sensors, missile guidance systems, targeting systems, and explosive hazards. Project 906 supports protection of high-value ground platforms, aircraft and the Soldier from threat surveillance and tracking systems, imaging systems, and advanced radio frequency (RF)/electro-optical (EO)/infrared (IR) guided missiles, artillery, and smart munitions. Information fusion research addresses sensor correlation and fusion, relationship discovery, and management services through use of automated processing, as well as software that applies higher level reasoning techniques to support automated combat assessment. Project 906 also supports research and application of key EW sensors, direction finders and jammers to intercept, locate, and disrupt current and emerging communications and non-communications threat emitters to provide vital quality combat information directly to users in a timely and actionable manner. It focuses on detection of threat sensors and emitters associated with weapon systems, targeting systems and command, control, communications, computers, and intelligence systems and networks. Project CYB designs, creates, evaluates, and applies emerging cyber techniques and cyber situational awareness technologies to enhance Army capabilities and to mitigate risks and investigates cyber collection and mapping technologies to offer real time cyber situational awareness to enable interpretation of current threats and predict future enemy activities. .

Work in this PE complements PE 0602120A (Sensors and Electronic Survivability), PE 0602782A (Command, Control, Communications Technology), PE 0603270A (Electronic Warfare Technology), and PE 0603772A (Advanced Tactical Computer Science and Sensor Technology); and is coordinated with PE 0603710A (Night Vision Advanced Technology) and PE 0603794A (Command, Control and Communications Advanced Technology).

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army	Date: February 2018
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 2: *Applied Research*	**R-1 Program Element (Number/Name)** PE 0602270A *I Electronic Warfare Technology*

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering Science and Technology priority focus areas and the Army Modernization Priorities.

Work is performed by the Army Research, Development and Engineering Command, Aberdeen Proving Ground, MD.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	25.466	27.144	26.575	-	26.575
Current President's Budget	34.528	27.144	25.571	-	25.571
Total Adjustments	9.062	0.000	-1.004	-	-1.004
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	10.000	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.926	-			
• Adjustments to Budget Years	-	-	-1.004	-	-1.004
• FFRDC	-0.012	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2017	FY 2018
Project: 475: *ELECTRONIC WARFARE COMPONENT TECHNOLOGIES (CA)*		
Congressional Add: *Congressional Program Increase*	10.000	-
Congressional Add Subtotals for Project: 475	10.000	-
Congressional Add Totals for all Projects	10.000	-

Change Summary Explanation

FY17 Congressional increase in 475 Electronic Warfare Component Technologies

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 2	R-1 Program Element (Number/Name) PE 0602270A / *Electronic Warfare Technology*	Project (Number/Name) 475 / *ELECTRONIC WARFARE COMPONENT TECHNOLOGIES (CA)*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
475: *ELECTRONIC WARFARE COMPONENT TECHNOLOGIES (CA)*	-	10.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.000

Note

Congressional Increase

A. Mission Description and Budget Item Justification

Congressional Interest Item funding for Electronic Warfare technology applied research.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018
Congressional Add: Congressional Program Increase	10.000	-
FY 2017 Accomplishments: N/A		
Congressional Adds Subtotals	10.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 2	R-1 Program Element (Number/Name) PE 0602270A / *Electronic Warfare Technology*	Project (Number/Name) 906 / *Tactical Electronic Warfare Applied Research*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
906: *Tactical Electronic Warfare Applied Research*	-	24.528	27.144	20.203	-	20.203	21.063	21.506	21.824	22.270	0.000	158.538

Note

Project funding was realigned in FY19 from Project 906, Tactical Electronic Warfare Applied Research to Project CYB, Applied Offensive Cyber. Funding was realigned in accordance with Volume 2B, Chapter 18, of the DoD Financial Management Regulation (FMR), requiring all "cyberspace activities" funding move into pure budget Projects.

A. Mission Description and Budget Item Justification

This Project designs, fabricates, evaluates, and applies key electronic warfare (EW)/information operations technologies to enhance platform survivability (to include ground combat vehicles, aircraft, and the dismounted Soldier) and to intercept, track and locate current and emerging threat munitions, communications and non-communications threat emitters. This project applies recent advances in radio frequency (RF), infrared (IR), and electro-optical (EO) sensors and jamming sources to detect, locate, deceive, and jam threats (to include radar directed target acquisition systems, target-tracking sensors, surface-to-air missiles (SAMs), air-to-air missiles (AAMs), top attack weapons, and electronically fuzed munitions). This project also pursues the ability to neutralize improvised explosive devices. This project designs information systems to provide vital, quality combat information directly to users in a timely, actionable manner in accordance with concepts for future force intelligence operations. This Project investigates RF collection and mapping technologies to offer real time emitter detection, location, and identification. In addition, this project enables a remote capability to disrupt, deny, or destroy threat communication signals and enables fusion (automated assimilation and synthesis) of battlefield intelligence data to enable interpretation of current threats and future enemy activities. This allows commanders to develop operational courses of action in time to act decisively and in a pre-emptive manner.

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering Science and Technology priority focus areas and the Army Modernization Strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Multi-Intelligence Data Fusion and Targeting	2.560	2.780	-
Description: This effort investigates, designs and codes advanced automated exploitation and fusion analysis tools, applications, and software services for the creation of improved intelligence products, common information management and information dissemination systems to facilitate collaboration between intelligence and mission command functions. This will provide relevant and timely information in support of command decisions, such as high value identification and targeting in an asymmetric environment. Work being accomplished under Program Element (PE) 0603772A/Project 243 complements this effort. In FY 2019, efforts are realigned to ?Data Analytics for Situational Awareness? to support the Army science and technology (S&T) priorities as identified at the December 2016 S&T Army Requirements Oversight Council by the Chief of Staff of the Army.			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 2	**R-1 Program Element (Number/Name)** PE 0602270A / *Electronic Warfare Technology*	**Project (Number/Name)** 906 / *Tactical Electronic Warfare Applied Research*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
FY 2018 Plans: Mature predictive analyst tools to determine patterns, anomalies and behavior to correlate and exploit big data sources; develop techniques and software tools to correlate dark web with clear web organizational personas; develop cyber threat indicators and ratios for identification of group patterns, tactics, techniques and procedures; and apply stylometry and authorship principles to cyber content to identify and group adversarial cyber themes. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** In FY 2019, efforts are realigned to ?Data Analytics for Situational Awareness? to meet Army priority for Network/C3I.			
Title: Data Analytics for Situational Awareness ***Description:*** This effort researches and designs spectrum sensing, electronic sensing and intelligence collection technologies and analytics to enhance overall situational understanding within a contested battlespace. Efforts focus on developing the analytics necessary to taking advantage of the expanding number of data sources available by leveraging existing tactical receivers and other tactical data feeds. Work being accomplished under Program Element (PE) 0603772A/Project 243 complements this effort. In FY 2019, efforts are realigned to support the Army science and technology (S&T) priorities as identified at the December 2016 S&T Army Requirements Oversight Council by the Chief of Staff of the Army. ***FY 2019 Plans:*** Will identify relevant tactical receiver data and emerging Internet of Things (IoT) data sources, to include publicly available information, enriching the existing cyber terrain and electromagnetic operations environment; will investigate potential correlation points with non-traditional datasets to identify cyber events; and will explore new data analytics, fusion algorithms and semi-automated analytical methods to process and exploit the extended datasets to support cyber situational understanding. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** New effort to meet Army priority for Network/C3I.	-	-	2.946
Title: Offensive Information Operations Technologies ***Description:*** This effort designs, codes and evaluates techniques for radio frequency (RF) network mapping, surgical disruption and unobtrusive operations in the presence of host nation networks. Electronic warfare capabilities include detection, location, classification, mapping and disruption of RF networks and providing data to a user. Work being accomplished under PE 0602270A/Project CYB and PE 0603270A/Projects CY3 and K15 complements this effort. In FY 2019 cyber work in this effort was moved to Project CYB per an Office of the Secretary of Defense directive to identify cyber investments in cyber unique Projects. In FY 2019, efforts are realigned to support the Army science and technology (S&T) priorities as identified at the December 2016 S&T Army Requirements Oversight Council by the Chief of Staff of the Army.	7.857	7.984	2.470

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 2	**R-1 Program Element (Number/Name)** PE 0602270A / *Electronic Warfare Technology*	**Project (Number/Name)** 906 / *Tactical Electronic Warfare Applied Research*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
FY 2018 Plans: Validate advanced, software techniques to perform various cyber/EW functions against identified SOIs and devices of interest (DOIs); conclude requirements investigation and analysis of software architecture to allow the tactical commander to direct and control cyber functions from EW and SIGINT platforms across/within security domains and battlespace domain resources; and incorporate the results of cyber laboratory experiments into the next generation architecture requirements and analysis of analytic tools that can inform the commander's situational understanding; and design and code the data models necessary for the delivery of CEMA data products to the intelligence enterprise. ***FY 2019 Plans:*** Will investigate emerging networks to identify shortfalls in capability to detect, identify and map network nodes; identify future analytic, sensor, and data research needs; and investigate techniques for surgical disruption and unobtrusive operation within native network infrastructures. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease funding in Offensive Cyber Technologies to meet Army priority for Network/C3I, and Offensive Cyber Technologies STO task ends in FY18.			
Title: Multispectral Threat Warning and Countermeasures, formerly Multispectral Threat Warning ***Description:*** This effort investigates and evaluates software and warning sensor/countermeasure components to increase probability to detect and defeat current and evolving small arms and man-portable air defense system (MANPADS) type threats for aviation platforms using modeling and simulation (M&S) and hardware in the loop (HWIL) simulations. Work being accomplished under PE 0603270A/Project K16 complements this effort. ***FY 2018 Plans:*** Investigate threat agnostic warning algorithms to increase probability of detection of threats and provide identification and position information to the countermeasure system for an increased probability of defeat; based upon feasibility study results, investigate novel techniques using lasers of higher energy than currently used to increase the probability of defeat of threats not previously encountered; use M&S to develop new threat scenarios and mature HWIL simulations that sense the electro-magnetic environment to assess existing countermeasure capabilities against previously unknown threats; investigate higher fidelity countermeasures and incorporate them into the simulation environment; investigate threat agnostic countermeasure techniques against previously unknown threats and investigate the effects of combined EO/IR/RF technologies to defeat both multiple and multi-spectral threats. ***FY 2019 Plans:***	5.051	6.605	6.935

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 2	**R-1 Program Element (Number/Name)** PE 0602270A / *Electronic Warfare Technology*	**Project (Number/Name)** 906 / *Tactical Electronic Warfare Applied Research*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Will investigate technologies to indiscriminately detect and defeat broad classes of threats; will conduct analysis of next-generation detect technologies with focus on machine learning algorithms to enable detection of unrecognized threat features; will conduct analysis of advanced defeat technologies focusing on new lasers and laser materials and build a breadboard laser to indiscriminately degrade electro-optical (EO) threat sensor performance; will investigate radio frequency (RF) digital hardware and software techniques that are adaptive to agile RF threats; will use M&S to iteratively train machine learning algorithms to perform threat classification and optimize laser countermeasure and RF technique development; and assess performance of technologies (e.g., machine learning, lasers, etc.) and techniques independently and incorporate them into a digital M&S platform. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase to assess performance of technologies and techniques independently and incorporate them into a digital modeling and simulation platform.			
Title: Multi-Function Intelligence, Surveillance and Reconnaissance Technologies	8.060	8.771	7.352
Description: This effort investigates and codes software algorithms and techniques to intelligently integrate tactical Intelligence, Surveillance, and Reconnaissance (ISR) sensors, improve their individual performance and increase the effectiveness of battlespace awareness/intelligence data in an area of operations. Efforts focus on networking of sensors and open, scalable common radio frequency (RF) architectures for terrestrial and aerial sensors. Work being accomplished under PE 0603270A / Project K15 and PE 0603772A / Project 243, PE 0602709A/project H95 and PE 0603701A / Project K70 complement this effort. ***FY 2018 Plans:*** Conduct experiments on reference design for multi-channel receiver architecture to assess baseline performance of commercial and Government off the shelf (COTS/GOTS) receivers to determine optimal size, weight, and power and cost for a variety of electronic warfare (EW) and Signals Intelligence (SIGINT) missions, including direction finding and beamforming functions; continue to mature and validate Open RF Architecture interface specifications to support advanced interference mitigation between RF functionalities (e.g., communications, SIGINT and blue force jamming); mature interface specifications of intermediate processing functions to enable multi mission EW and SIGINT operations; standardize application interfaces across cyber, EW and SIGINT mission spaces to enable coordinated command and control (C2) of these capabilities to better address emerging threat signal classes; and begin investigation of Next Generation Radar architecture for compatibility with EW and SIGINT missions and architectures. ***FY 2019 Plans:*** Will research enhanced next generation techniques for distributed sensing and single sensor geolocation to enable detection, and geolocation of advanced threats and inform requirements for future hardware designs; will investigate state of the art electronic situational awareness technique susceptibility to adversarial use of next generation RF deception and jamming; will investigate cyber hardening of sensor component technology for front-end sensors; investigate a best-of-breed low-cost HF software defined			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 2	**R-1 Program Element (Number/Name)** PE 0602270A / *Electronic Warfare Technology*	**Project (Number/Name)** 906 / *Tactical Electronic Warfare Applied Research*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
radio for use in an open multifunction ISR platform to be utilized in a hostile cyber environment; will explore trade space of shared multi-function next generation hardware for Radar, SIGINT and EW; perform tradeoff studies to understand the feasibility and impact of executing multi-function capabilities from a common RF array with consideration for advancing threat electronic protection capability; and will perform laboratory sensing data collections and analysis to address the applicability of a multi-function sensor. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease due to conclusion of work to mature interface specifications of intermediate processing functions to enable multi mission EW and SIGINT operations.			
Title: Electronic Warfare Architectures and Countermeasures ***Description:*** This effort investigates and evaluates the technical specifications of a family of threats to develop non-kinetic countermeasures. Work being accomplished under PE 0603270A/Project K16 complements this effort.	1.000	-	-
Title: Multi Function Electronic Warfare (MFEW) Technique Development ***Description:*** This effort investigates and develops electronic warfare (EW) techniques critical to countering communications, such as networked command and control nodes or improvised explosive device threats, and radars, such as ground surveillance and counter-fire radars. The techniques developed are system agnostic and applicable to a wide variety of EW and electronic countermeasure applications, and they can be used to improve the performance and expand the functionality of both current and future EW system capabilities. Work being accomplished under PE 0603270A/Project K16 complements this effort. ***FY 2018 Plans:*** Investigate and perform vulnerability analysis on emerging commercial communications capabilities and investigate/develop EW techniques and methods (such as active, reactive, surgical and protocol based software) to defeat specific commercial communications systems while maximizing waveform jamming effectiveness, minimizing transmission time and reducing jamming power. ***FY 2019 Plans:*** Will investigate and perform vulnerability analysis on emerging threats (including, but not limited to, tactical communications, ground surveillance radar, and counter-fire radar systems) and mature EW techniques and methods (such as active, reactive, surgical, and protocol based software) with the goals of maximizing EW waveform jamming effectiveness, minimizing transmission time, and reducing jamming power to defeat Army relevant threats. ***FY 2018 to FY 2019 Increase/Decrease Statement:***	-	1.004	0.500

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 2	**R-1 Program Element (Number/Name)** PE 0602270A / *Electronic Warfare Technology*	**Project (Number/Name)** 906 / *Tactical Electronic Warfare Applied Research*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Decrease effort in MFEW to meet Army priority for Network/C3I.			
Accomplishments/Planned Programs Subtotals	24.528	27.144	20.203

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 2	R-1 Program Element (Number/Name) PE 0602270A / *Electronic Warfare Technology*	Project (Number/Name) CYB / *Applied Offensive Cyber*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
CYB: *Applied Offensive Cyber*	-	0.000	0.000	5.368	-	5.368	4.945	4.945	5.044	5.145	0.000	25.447

Note

Project funding was realigned in FY19 from Project 906, Tactical Electronic Warfare Applied Research to Project CYB, Applied Offensive Cyber. Funding was realigned in accordance with Volume 2B, Chapter 18, of the DoD Financial Management Regulation (FMR), requiring all "cyberspace activities" funding move into pure budget Projects.

A. Mission Description and Budget Item Justification

This Project designs, creates, evaluates, and applies emerging cyber techniques and cyber situational awareness technologies to enhance Army capabilities. This Project leverages behavioral Modeling and Simulation to mitigate risks and investigates cyber collection and mapping technologies to offer real time cyber situational awareness to enable interpretation of current threats and predict future enemy activities. This allows commanders to develop operational courses of action in time to act decisively and in a pre-emptive manner.

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering Science and Technology priority focus areas and the Army Modernization Strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Offensive Information Operations Technologies	-	-	5.368
Description: This effort designs, codes and evaluates cyber architectures, software, tools and techniques that identify and capture data traversing targeted networks for the purpose of Cyber Electro Magnetic Activity (CEMA) or otherwise countering adversary communications. Cyber capabilities include detection, identification, exploitation, direction finding (DF), geolocation, and denial of service. Work being accomplished under PE 0603270A/Projects CY3 and K15 and PE 0602270A/Project 906 complements this effort. Project funding was realigned in FY19 from Project 906, Tactical Electronic Warfare Applied Research to Project CYB, Applied Offensive Cyber. Funding was realigned in accordance with Volume 2B, Chapter 18, of the DoD Financial Management Regulation (FMR), requiring all "cyberspace activities" funding move into pure budget Projects..			
FY 2019 Plans: Will investigate utilizing Machine Learning for threat assessment, decision aid, and mission choreography; will determine algorithm design needs for recognition and Battle Damage Assessment for the purposes of survey, network topology understanding, and effect assessment; will refine CEMA interface definitions to include a mechanism for service/capability discovery to address solidifying mission management across Unified Land Operations platforms.			
FY 2018 to FY 2019 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 2	**R-1 Program Element (Number/Name)** PE 0602270A / *Electronic Warfare Technology*	**Project (Number/Name)** CYB / *Applied Offensive Cyber*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Project funding was realigned in FY19 from Project 906, Tactical Electronic Warfare Applied Research to Project CYB, Applied Offensive Cyber. Funding was realigned in accordance with Volume 2B, Chapter 18, of the DoD Financial Management Regulation (FMR), requiring all "cyberspace activities" funding move into pure budget Projects..			
Accomplishments/Planned Programs Subtotals	-	-	5.368

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A