SAS-172

"MULTI-DOMAIN OPERATIONS WARGAME"

RESEARCH TASK GROUP

CONNECTIONS UK CONFERENCE

06.09.2023

HOW WE UNDERSTAND MDO

BLUE UNDERSTANDING

- **Integration Across Domains:** Prioritize synchronization and coordination within and across domains.
- **Rapid Adaptability & Decision-Making:** Emphasize swift response and adaptability in the face of evolving modern battlefields and emerging technologies.
- **Collaboration & Partnerships:** Address modern threats through multi-branch defense collaboration and cooperation with allies and inter-departmental entities.
- **Balancing Tactical & Strategic Perspectives:** Align immediate tactical operations with overarching strategic objectives and goals.

RED UNDERSTANDING

- **Non-Traditional Warfare Methods:** Prioritize precision, speed, and information in operations.
- **Integrated Air Strikes & Non-Military Methods:** Leverage massive, coordinated strikes and non-military approaches, often with broader implications.
- **System-to-System Confrontations:** Emphasize on information denial and exploitation.
- **Automated Decision-Making Trend:** Recognize the growing importance of automating decision processes in warfare.
- **Increasing Role of Non-Kinetic Strategies:** Acknowledge non-kinetic approaches as pivotal in achieving warfare objectives.

GREEN UNDERSTANDING

- **Operational Strengthening & Personnel Enhancement:** Emphasize bolstering operational capabilities in a MD environment with a focus on personnel growth, equipment augmentation, and tailored training programs.
- **Extended Mobility & Asymmetric Defense:** Prioritize the capability to operate remotely for extended durations, highlighting asymmetric operations and Anti-Access/Area Denial systems.
- **Conventional Threat Awareness:** Recognize the presence and impact of high-lethality conventional weapon systems in modern conflicts.
- **Preparedness & Point of Injury Care:** Emphasize the significance of readiness and the need for strategies like point of injury care and prehospital medicine in the face of threats.

NATIONAL EXPECTATIONS

NATO

- Sees MDO as integral to its broad political and military strategy.
- Emphasizes rapid planning, battlespace management, and execution across all domains to gain an advantage.
- Focuses on breaking the relationship between the levels of operation and synchronizing cross-domain effects.
- Information Domain vs Cyberpsace

UK

- Focuses on Multi-Domain Integration (MDI) to ensure seamless cooperation across defense components, other government departments, and allies.
- Views MDI as a mindset requiring substantial changes in defense and government.
- Defines several domains for MDI: Air, Cyber, Electromagnetic, Maritime, Land, and Space.

USA

- Views MDO as a way to integrate joint and Army capabilities across all domains to defeat advanced enemy defenses.
- Sees MDO as a tool to create relative advantages, achieve objectives, and consolidate gains.
- Stresses disciplined initiative, mission command culture, and rapid adaptability in uncertain situations.

Germany

- Envisions a future battlefield that is hyper, hybrid, and total, necessitating multidimensional cooperation.
- Believes that while technology is essential for MDO, non-technical aspects like leadership philosophy, training, and mindset are equally crucial.

France

- Regards MDO as a response to new international challenges, aiming to preserve military advantage and initiative for the Allies.
- Acknowledges potential opportunities with MDO but also recognizes unaddressed strategic questions and challenges.
- Warns against focusing solely on tactical successes at the expense of broader strategic vision.

Ukraine

- Acknowledge and respond to extensive multi-domain battles across the nation involving conventional weapons.
- Recognize the high lethality posed by conventional weapon systems deployed by adversary forces.
- Given the increased morbidity and mortality, emphasize prehospital care and global health engagement strategies to mitigate battlefield casualties.
- POI Care and Immediate Response: Implement point of injury care guidelines and damage control measures to reduce battlefield casualties.

Poland

- Prioritize the strengthening of the Armed Forces through increased personnel, equipment, and adapted training.
- Emphasize capabilities for unique and non-traditional warfare methods.
- Work on creating systems for battlefield isolation and hindering adversarial movements.
- Enhance the forces' ability to move swiftly and efficiently in the battlefield.
- Focus on the ability to sustain operations away from permanent locations for longer durations.

MULTI-DOMAIN WARGAMING CHALLENGES

RoE in Peacetime
Dealing with the limitations and rules of engagement that apply during peacetime scenarios.

Adversary and Ally Understanding of MDO and Other Concepts
Ensuring that the game accurately models how both adversaries and allies perceive and respond to MDO, including strategies, doctrines, and objectives.

Interoperability
Different military domains (land, sea, air, space, cyber) often use distinct equipment, tactics, and communication systems.

Information Domain
Managing the flow of information and disinformation across various domains, ensuring players can leverage information effectively for strategic advantage.

Time
Dimension of time in military operations. i(speed of decision-making, synchronization of actions, the impact of delays)

Rate of Attrition
Accounting for the rate at which military forces and capabilities are depleted or lost in combat, which can significantly affect the game's dynamics and outcome.

Command and Control (C2)
Representing command and control structures for each domain and their interaction.

Level of Warfare
Incorporating various levels of warfare (tactical, operational, and strategic) into the game scales and complexities of military operations.

Cyber Operations
Incorporating cyber warfare as a distinct domain and addressing the complexities of cyber operations.

Reserve
Balancing the use of reserve forces (incl. deployment, readiness, and strategic employment)

Logistics
Managing the supply chain, transportation, and support structures required to sustain military operations (incl. procurement, distribution, and maintenance of resources)

WOMEN IN COMMAND: HYBRID THREAT RISING

Scan to download the SAS-172 leaflet

VALIDATION

WOMEN IN DEFENCE

KING'S College LONDON

Civil Service

UNITED STATES MILITARY ACADEMY WEST POINT

ALLIED COMMAND TRANSFORMATION

THE UNIVERSITY OF AUCKLAND
Te Whare Wananga o Tamaki Makaurau
NEW ZEALAND

Defence Academy of the United Kingdom

NATO OTAN

NATO OTAN
Wargaming Initiative for NATO 2023
Rome, Italy
26 - 28 June 2023

G U W S

Partnership for Peace Training Center
Peace at home, peace in the world.

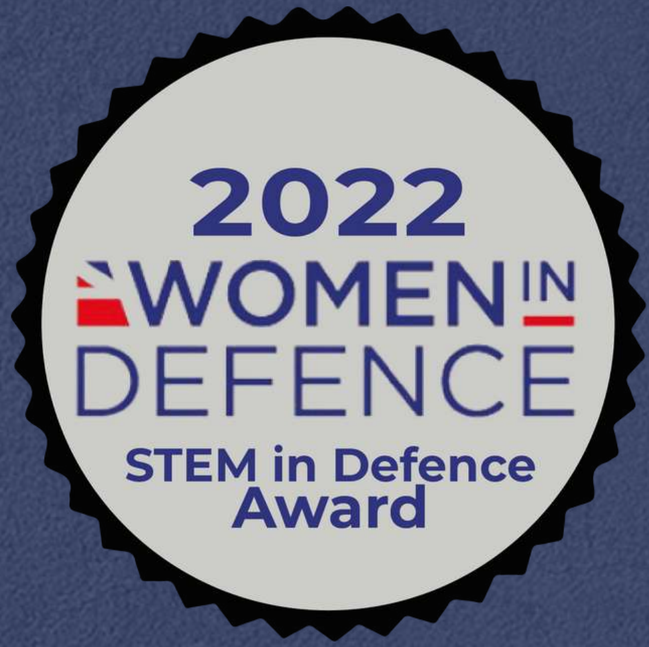
Connections UK

Beyond Solitaire

AWARDS

Military Simulation & Training Awards Winner of 2022

International Serious Play Awards Gold Medal Winner of 2022



Women in Defence UK Stem in Defence Award of 2022

PREVIOUS WORK

SOURCE DOCUMENTS

HYBRID WAR MODEL

NATO UNCLASSIFIED
RELEASABLE TO AUS, FIN AND SWE

NORTH ATLANTIC TREATY ORGANIZATION

SCIENCE AND TECHNOLOGY ORGANIZATION

AC/323(SAS-127)TP/792

STO TECHNICAL REPORT TR-SAS-127

Hybrid Warfare: Implications for NATO
(La guerre hybride : Implications pour l'OTAN)

This Report documents the findings of the SAS-127 Research Specialist Team on Hybrid Warfare.

This document should be announced and supplied only to NATO, Government Agencies of NATO Nations and their bona fide contractors, and to other recipients approved by the STO National Coordinators.

Ce document ne doit être notifié et distribué qu'à l'OTAN, aux organismes gouvernementaux des pays membres de l'OTAN, ainsi qu'à leurs contractants dûment habilités et qu'aux autres demandeurs agréés par les Coordonnateurs Nationaux de la STO.

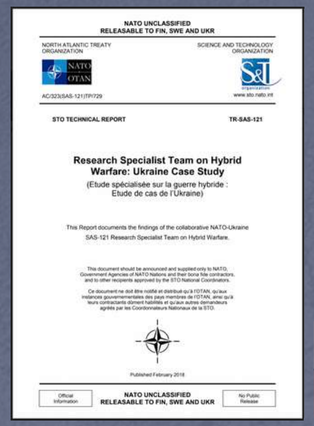
Published May 2018

NATO UNCLASSIFIED
RELEASABLE TO AUS, FIN AND SWE

Official Information | No Public Release

Hybrid Warfare of NATO STO: The General Game Scenarios modelled from SAS-127 Report named Implications for NATO

EVENT SCENARIOS


NATO UNCLASSIFIED
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NORTH ATLANTIC TREATY ORGANIZATION

SCIENCE AND TECHNOLOGY ORGANIZATION

AC/323(SAS-121)TP/729

STO TECHNICAL REPORT TR-SAS-121

Research Specialist Team on Hybrid Warfare: Ukraine Case Study
(Etude spécialisée sur la guerre hybride : Etude de cas de l'Ukraine)

This Report documents the findings of the collaborative NATO-Ukraine SAS-121 Research Specialist Team on Hybrid Warfare.

This document should be announced and supplied only to NATO, Government Agencies of NATO Nations and their bona fide contractors, and to other recipients approved by the STO National Coordinators.

Ce document ne doit être notifié et distribué qu'à l'OTAN, aux organismes gouvernementaux des pays membres de l'OTAN, ainsi qu'à leurs contractants dûment habilités et qu'aux autres demandeurs agréés par les Coordonnateurs Nationaux de la STO.

Published February 2018

NATO UNCLASSIFIED
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Official Information | No Public Release

Research Specialist Team on Hybrid Warfare of NATO STO : The Event Scenarios Modelled from Ukranian Case Study Reports

STRATCOM SCENARIOS

The Strategic Communication (STRATCOM) Scenarios adapted from NATO Strategic Communication Center of Excellence Database

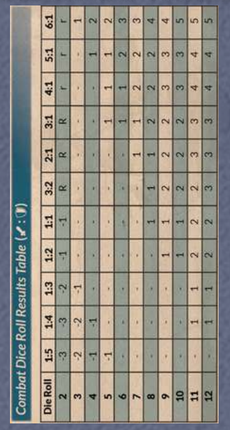
CYBER ATTACK SCENARIOS

The Cyber Attack Scenarios of NATO gathered from Cyber Security Excellence Center International Lock Shields Cyber Exercise.

ORBAT (ORDER OF BATTLE)

The Army Lineup and ORBAT which is modelled from Institute for the Study of War Reseources.

SIMULATION TABLES


Combat Dice Roll Results Table (↱ : 1)

Die Roll	1:5	1:4	1:3	1:2	1:1	3:2	2:1	3:1	4:1	5:1	6:1
2	-3	-3	-2	-1	-1	R	R	R	r	r	r
3	-2	-2	-1	-	-	-	-	-	-	-	1
4	-1	-1	-	-	-	-	-	-	-	1	2
5	-1	-	-	-	-	-	-	1	1	2	3
6	-	-	-	-	-	-	1	1	2	2	3
7	-	-	-	-	1	1	2	2	3	3	4
8	-	-	-	1	1	2	2	3	3	4	5
9	-	-	-	1	2	2	3	3	4	5	5
10	-	-	1	2	2	3	3	4	5	5	6
11	-	1	1	2	2	3	4	5	5	6	6
12	1	1	2	2	3	4	5	5	6	6	6

War Simulation Graphics made by over modelling of the game named Strike! created by DSTL and Ministry of Defense of England

OFFICIAL

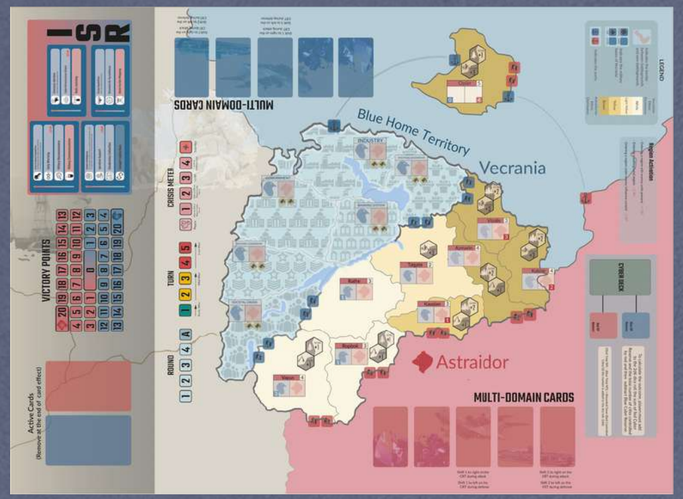
[dstl]

STRIKE! Battlegroup Tactical Wargame Rules

PREVIOUS WORK

HYBRID THREAT RISING GAME ELEMENTS

MAP



CARDS

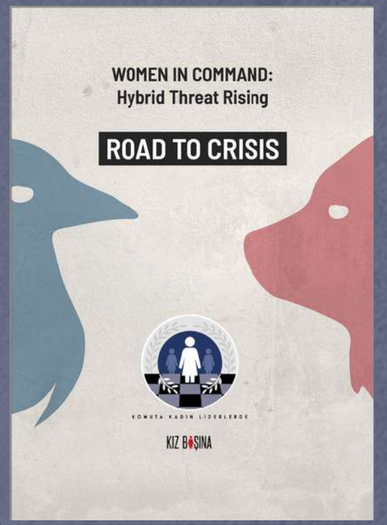
Event Cards

Cyber Attack Cards

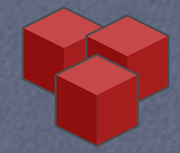
Military Deck

Multi-Domain Cards

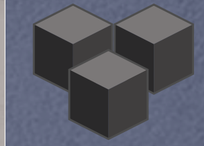
ROAD TO CRISIS



HUMANITARIAN MODULE



Civilian Tokens



Destruction Tokens

Aid & Logistics Tokens

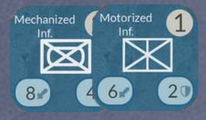
PLAYER AIDS

TOKENS

RED Units

Resource Point

Trackers



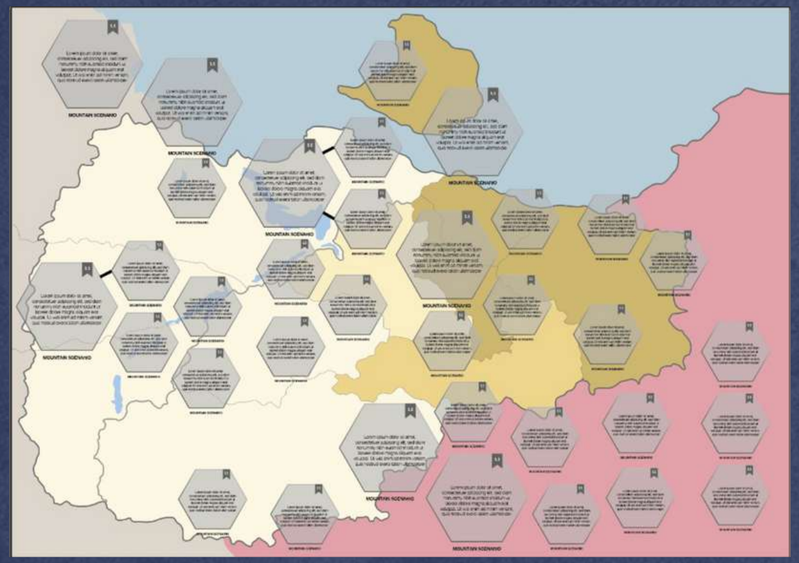
BLUE Units

Influence and Control Tokens

TUTORIAL

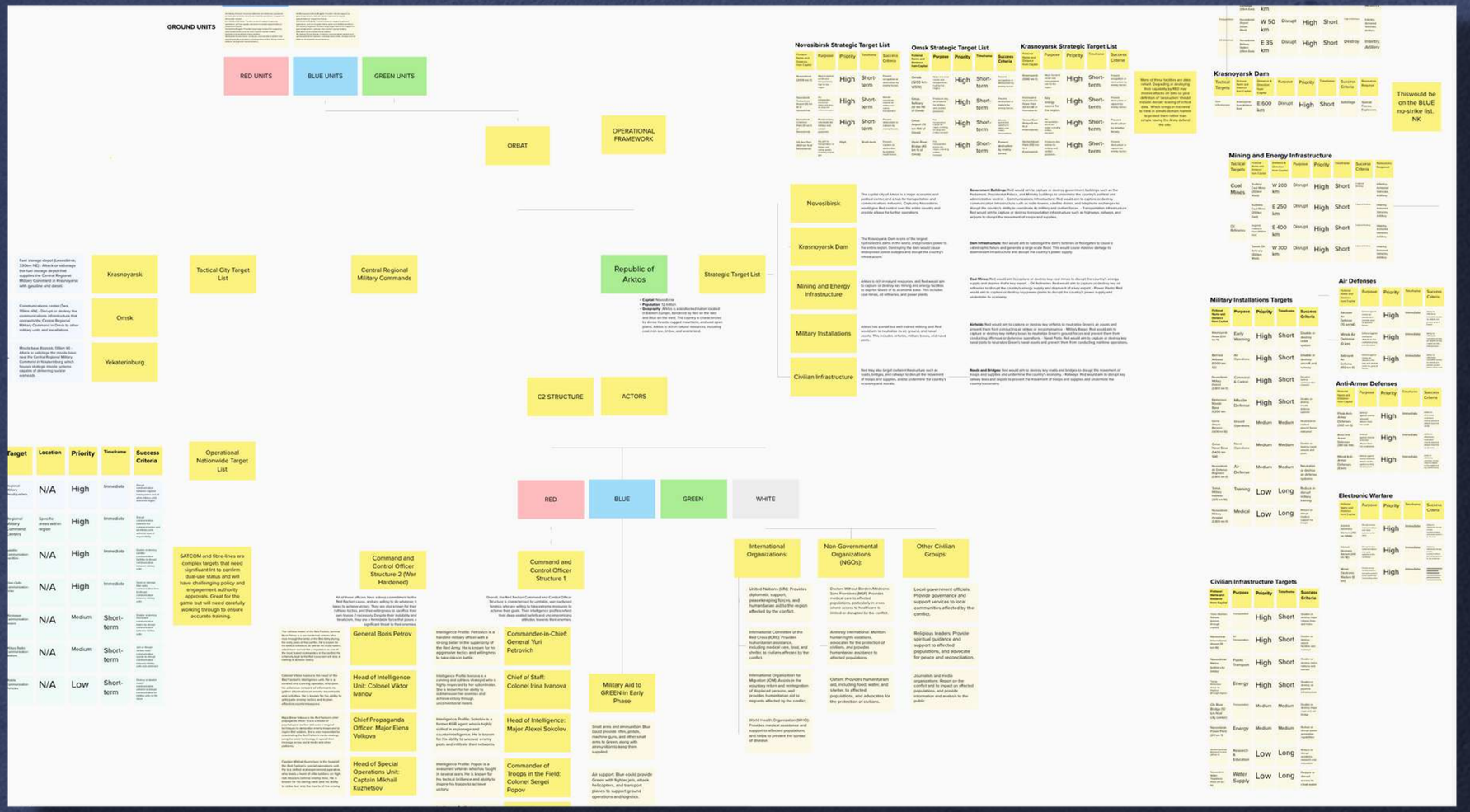
The Humanitarian Panel

SAS-172 MDO WARGAME



PROTOTYPING

THE SCENARIO



THE SCENARIO

The game is structured into 12 operational months, each reflecting the dynamics of a hybrid conflict scenario.

PHASE 1

RED forces employ psychological operations and special forces to infiltrate the GREEN territory, while the GREEN faction, reinforced by BLUE, responds with ambushes, cyber attacks, and plans joint exercises. Personnel losses remain minimal.

PHASE 2

The conflict escalates as all factions ramp up efforts in all domains, particularly on Sea, Air, and Land. Propaganda campaigns, cyber attacks, and space reconnaissance are used to support operations. As RED loses internal control, an uprising begins.

PHASE 3

Tensions intensify as the RED population within GREEN join the fight as non-state actors. The uprising in RED borders leads to the capture of nuclear facilities by rebels. As RED tries to manage division among citizens as a failed state, GREEN has to defend its territory from RED citizens within.

PHASE 4

With complete breakdown of the RED country, warlords with access to nuclear and military resources take control.The conflict reaches its peak and all domains become fully engaged with BLUE involvement. Logistics capabilities become critical targets as the factions seek to undermine each other. Reconnaissance and EW operations are utilised to maximise the impact of all actions.

SAS-172 MDO WARGAME

A toolkit of MDO operations.

State-of-the-Art Research

OWS SCENARIOS

Assassin’s Mace, SEVER, UKRAINE, ZAPAD and TAIWAN

INDUSTRY LEADER WARGAMES

Exercise Specular Strike!, Littoral Commander

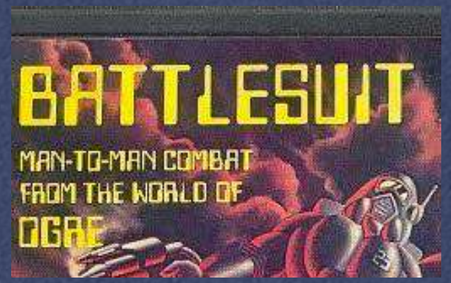
STATE-OF-THE-ART RESEARCH

Commercial Wargames

Next War Series

Fleet Marine Force

Sniper! & Patrol!



Battlesuit

Command & Colors Napoleonics

Supply Lines of the American Revolution

Operational Naval Wargame for Analysis

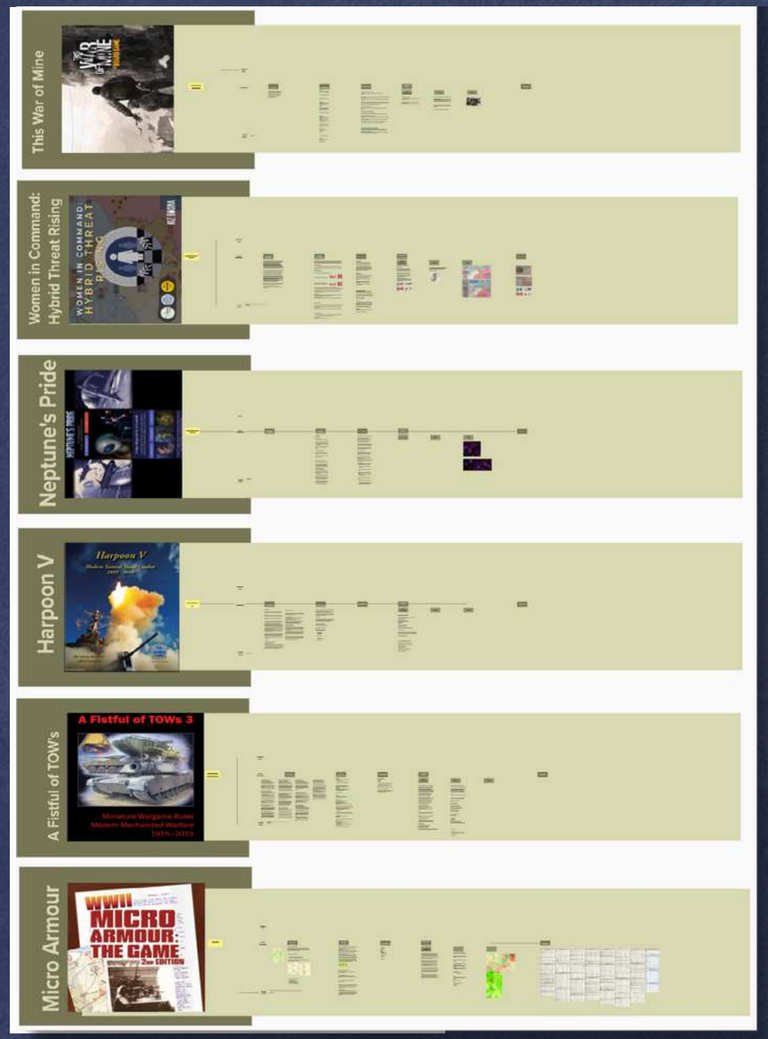
Harpoon V

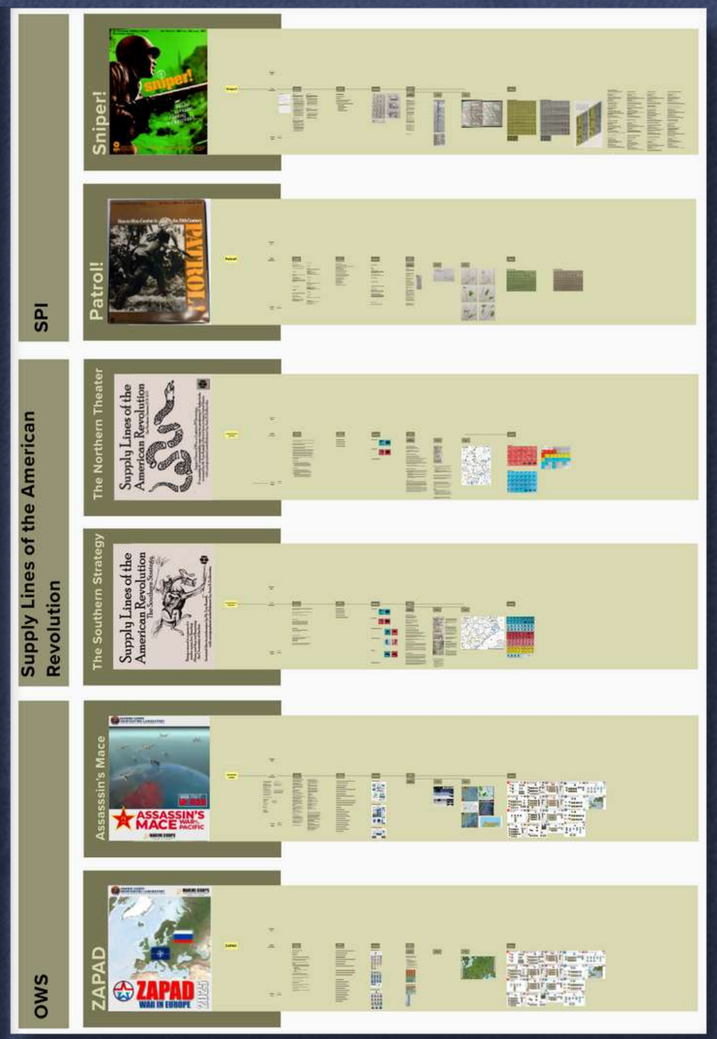
Micro Armour Wargame

+ Advanced Squad Leader, Israeli Airforce Leader, 2050 The Last City, Global War 2025, Persian Incursion and many more.

STATE-OF-THE-ART
RESEARCH

MULTI-DOMAIN WARGAMING INDEX V1





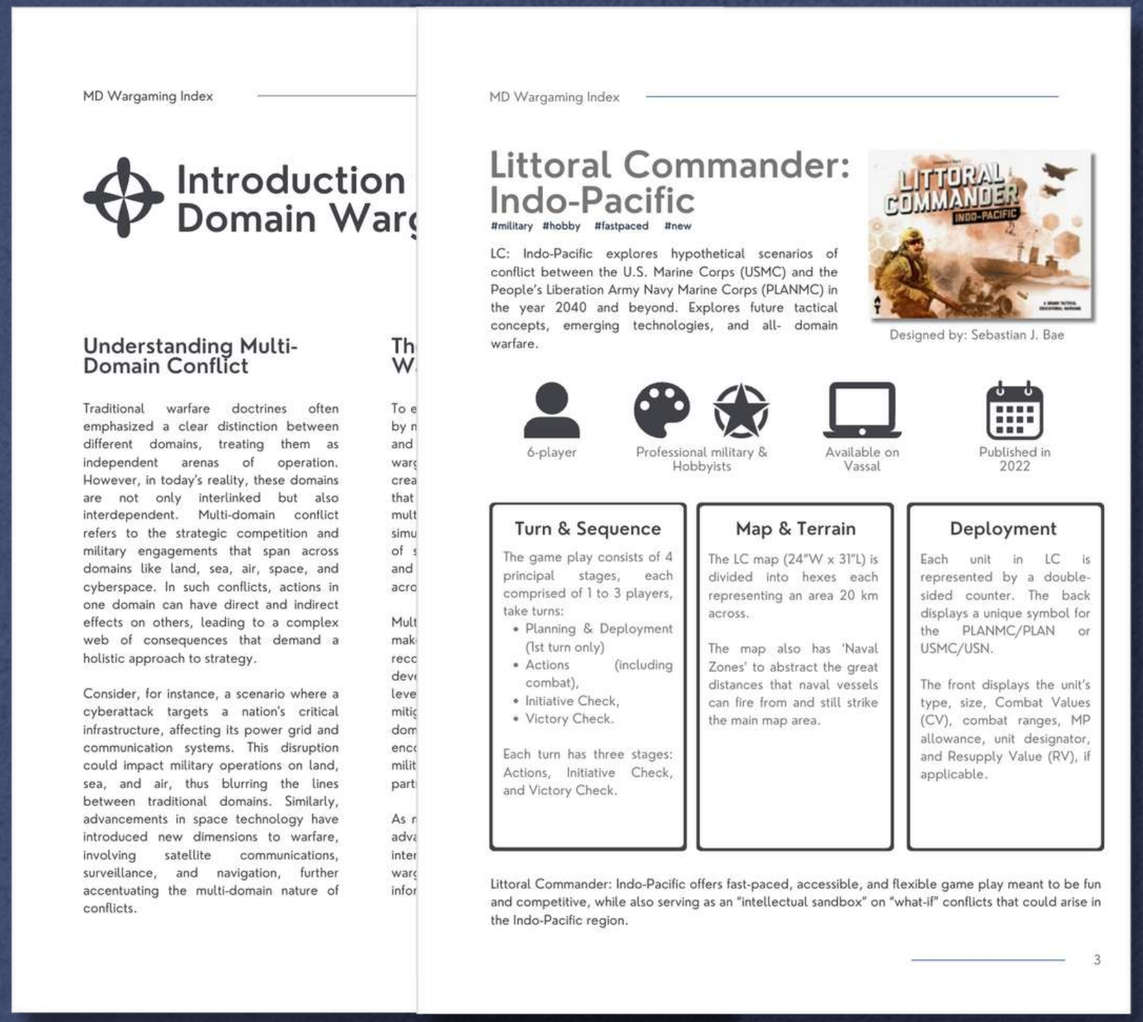
PROTOTYPING

MULTI-DOMAIN WARGAMING INDEX V2

A booklet of wargames which contain multi-domain or relative elements.
Each wargame is examined based on

- Scenario
- Audience
- Player
- Turn & Sequence
- Map & Terrain
- Deployment

Sign-up to receive the booklet when finalised!



MD Wargaming Index

Introduction
Domain Warg

Understanding Multi-Domain Conflict

Traditional warfare doctrines often emphasized a clear distinction between different domains, treating them as independent arenas of operation. However, in today's reality, these domains are not only interlinked but also interdependent. Multi-domain conflict refers to the strategic competition and military engagements that span across domains like land, sea, air, space, and cyberspace. In such conflicts, actions in one domain can have direct and indirect effects on others, leading to a complex web of consequences that demand a holistic approach to strategy.

Consider, for instance, a scenario where a cyberattack targets a nation's critical infrastructure, affecting its power grid and communication systems. This disruption could impact military operations on land, sea, and air, thus blurring the lines between traditional domains. Similarly, advancements in space technology have introduced new dimensions to warfare, involving satellite communications, surveillance, and navigation, further accentuating the multi-domain nature of conflicts.

MD Wargaming Index

Littoral Commander: Indo-Pacific

#military #hobby #fastpaced #new

LC: Indo-Pacific explores hypothetical scenarios of conflict between the U.S. Marine Corps (USMC) and the People's Liberation Army Navy Marine Corps (PLANMC) in the year 2040 and beyond. Explores future tactical concepts, emerging technologies, and all- domain warfare.

Designed by: Sebastian J. Bae

6-player | Professional military & Hobbyists | Available on Vassal | Published in 2022

Turn & Sequence

The game play consists of 4 principal stages, each comprised of 1 to 3 players, take turns:

- Planning & Deployment (1st turn only)
- Actions (including combat),
- Initiative Check,
- Victory Check.

Each turn has three stages: Actions, Initiative Check, and Victory Check.

Map & Terrain

The LC map (24"W x 31"L) is divided into hexes each representing an area 20 km across.

The map also has 'Naval Zones' to abstract the great distances that naval vessels can fire from and still strike the main map area.

Deployment

Each unit in LC is represented by a double-sided counter. The back displays a unique symbol for the PLANMC/PLAN or USMC/USN.

The front displays the unit's type, size, Combat Values (CV), combat ranges, MP allowance, unit designator, and Resupply Value (RV), if applicable.

Littoral Commander: Indo-Pacific offers fast-paced, accessible, and flexible game play meant to be fun and competitive, while also serving as an "intellectual sandbox" on "what-if" conflicts that could arise in the Indo-Pacific region.

3

STATE-OF-THE-ART
RESEARCH

REPRESENTED SUBJECTS

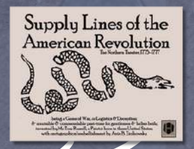
Naval
Engagement

Littoral
Engagement

Regional Counter
Insurgency Operation

Securing the Narrow Gap,
Mountain, Cold Weather

Humanitarian
& Dynamic Disaster
Response



Logistics for Joint
Operations

Red Nation Territory Push

Diplomacy

QUESTIONS AND ANSWERS

CONTACT INFORMATION

Women in Command Project

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