Task Force 59

Innovation at the Tactical Edge

Captain Jim Lovell Royal Navy
Combined Task Force 59
Unmanned & Artificial Intelligence Integration

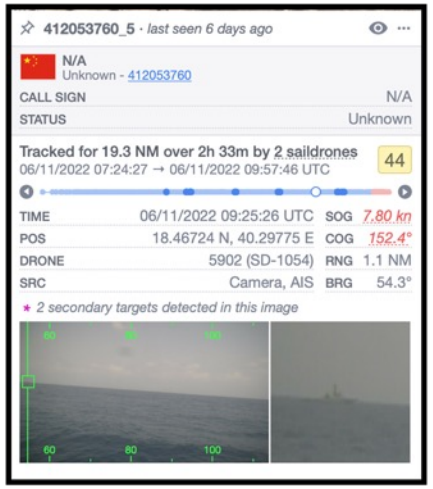
JULY 2023

The Challenge at Hand

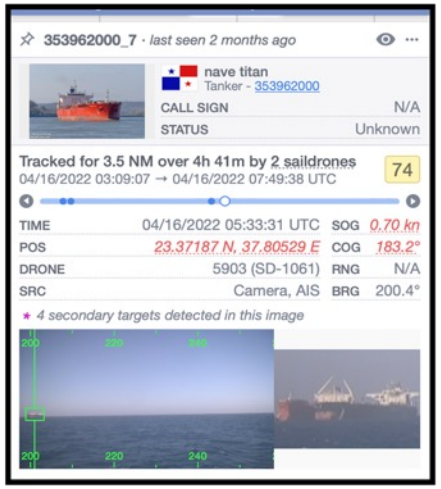
Innovating Processes to Rapidly Solve 5th Fleet Operational Challenges in the Threat Environment.

5th Fleet Threat Environment →

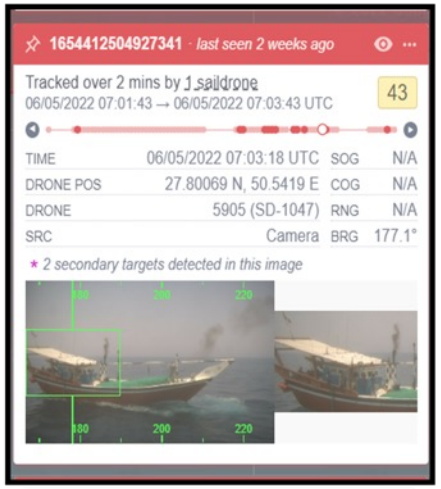
Real threats in the 5th fleet Area of Responsibility (AOR) exist today. Dual Use Unmanned Systems (UxS), Artificial Intelligence (AI), and mesh networks can provide the operators *broader coverage* and *deeper understanding* of the environment.



Chinese Warship skirting KSA TTW in Southern Red Sea



Ship to Ship oil Transfer in Central Red Sea



Dark targets - Iranian flagged dhow not transmitting AIS in Arabian Gulf

UxS Identification of Real-World 5th Fleet Threats

Our Vision

TF59 – *A Force Provider*

OBJECTIVES

Operational Impact:

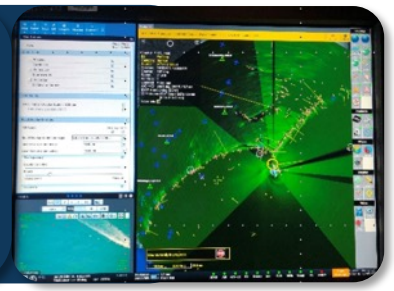
Operationally deployed UxS aiding end users' mission execution.

Regional Partnerships:

Integrated deterrence through a multi-domain, multi-national UxS fleet.

Information Sharing:

Accessible hybrid fleet providing near real time sensor access across the AOR.



EFFECT

An Operationalized, Partner UxS Fleet with kit strategically located across the AOR...

...Integrated with AI, shared with and accessed by any operator....

...in near real time for tactical use, achieving a predictive Maritime Domain Awareness (MDA) state.

Our Approach – *The Capability Sprint Model*

Identify, Adapt, & Rapidly Deploy Dual-Use Commercial Technology to Address Current 5th Fleet Needs.

OPERATIONAL EXPERIMENTATION

- "Burn-in" model to demonstrate tech operational maturity, determine capability limits, & evaluate organic and inorganic tech enhancements to increase operational value.
- Side-by-side iteration w/ operators & tech providers

COMMERCIAL TECH IDENTIFICATION

- Continuous tech scanning to identify capabilities that address fleet capability gaps.
- Partner & share challenges w/ relevant DoD orgs.

DEFENSE INNOVATION UNIT NAVALX

ITERATIVE IMPROVEMENTS

Continuous Sprints - Upgrade & Redeploy

- Continue iteration w/ tech providers based on user feedback, operational needs.
- Redeploy tech into progressively more challenging environments.

OPERATIONAL DEPLOYMENT

- Deploy proven tech against bounded challenges.
- Promote partner integration of proven tech to strengthen combined capabilities.

UNCLASSIFIED

Digital Horizon 2022

17 industry partners, 15 advanced systems, 10 of which were new to 5th Fleet

DH22 Single Pane of Glass

Persistent ISR

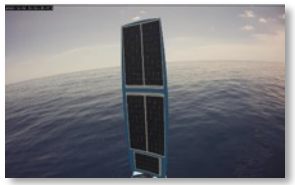

Triton USV


Data Xplorer USV


X3 USV


Explorer USV


SP-48 USV


Blue Bottle USV
Remote AUKUS Participation

Interceptors


Arabian Fox USV


Seagull USV


T-38 Devil Ray USV

Utility


WAM-V 16 USV


WAM-V 22 USV


DriX USV

Aerial MDA


Flexrotor UAV


VBAT UAV


SAMS-T UAV

Resilient Comms.


StreamCaster Mesh Network

Full Stack AI & CV


PICARD Platform


Computer Vision DC&T

Strengthening Partnerships & Scaling Capabilities

Establishing the World's First Partner UxS Fleet.

UNMANNED SYSTEMS:
Innovating maritime capabilities

ROBOTICS OPERATIONS CENTER:
Establishing regional innovation hubs

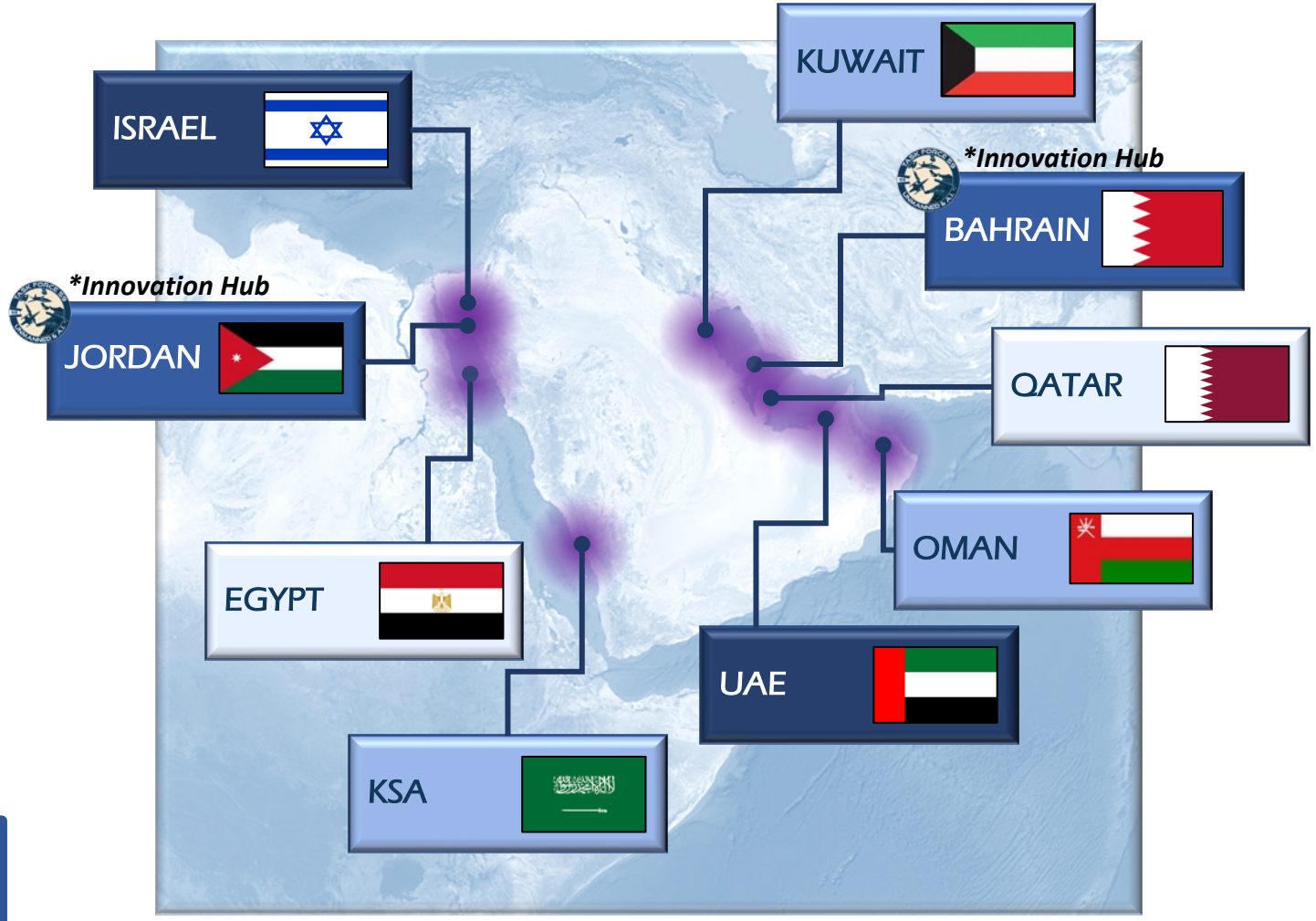
COMBINED TASK FORCE:
Regional partners to join as staff of TF59

AI TOOL SHARING:
Integrating AI tools & capabilities

REGIONAL MESH NETWORK:
Building resilient communications

ACADEMIC PARTNERSHIPS:
Enabling regional knowledge sharing

And READY to partner with Pakistan, Lebanon, and Yemen



Collaborative Wins

Proving UxS Utility to End-Users

- First UxS Interceptor Strait of Hormuz (SOH) Transit with TF55 & USCG
- First UxS MEDEVAC with TF56
- First UxS High Value Unit (HVU) Escort
- First Vertical Takeoff & Landing (VTOL) off DDG with TF55
- Establishment of the J-ROC in Jordan
- SECURE SEAS Data Sharing in the Red Sea
- USV and AI model integration with the UAE
- Positioning of persistent ISR vehicles in Oman

" Keeping ahead of our competitors requires us to rapidly field state-of-the art systems. Speed matters." – CNO

Thank you!