



Combined Task Force 59

Operationalizing Innovation at the Tactical Edge

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Combined Task Force 59

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CTF-59 in the Beginning



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

- ❖ Focus on MDA
- ❖ Foundational Experimentation with UxS & AI
- ❖ Learning the hard lessons
- ❖ Increasing sailor familiarity with UxS & AI applications
- ❖ Pure commercial technology designed for different applications
- ❖ Process Innovation

412053760_5 - last seen 6 days ago

N/A
Unknown - 412053760

CALL SIGN N/A
STATUS Unknown

Tracked for 19.3 NM over 2h 33m by 2 saildrones
06/11/2022 07:24:27 → 06/11/2022 09:57:46 UTC

44

TIME 06/11/2022 09:25:26 UTC SOG 7.80 kn
POS 18.46724 N, 40.29775 E COG 152.4°
DRONE 5902 (SD-1054) RNG 1.1 NM
SRC Camera, AIS BRG 54.3°

* 2 secondary targets detected in this image

Chinese Warship skirting KSA TTW in Southern Red Sea

353962000_7 - last seen 2 months ago

nave titan
Tanker - 353962000

CALL SIGN N/A
STATUS Unknown

Tracked for 3.5 NM over 4h 41m by 2 saildrones
04/16/2022 03:09:07 → 04/16/2022 07:49:38 UTC

74

TIME 04/16/2022 05:33:31 UTC SOG 0.70 kn
POS 23.37187 N, 37.80529 E COG 183.2°
DRONE 5903 (SD-1061) RNG N/A
SRC Camera, AIS BRG 200.4°

* 4 secondary targets detected in this image

Ship to Ship oil Transfer in Central Red Sea

1654412504927341 - last seen 2 weeks ago

Tracked over 2 mins by J saildrone
06/05/2022 07:01:43 → 06/05/2022 07:03:43 UTC

43

TIME 06/05/2022 07:03:18 UTC SOG N/A
DRONE POS 27.80069 N, 50.5419 E COG N/A
DRONE 5905 (SD-1047) RNG N/A
SRC Camera BRG 177.1°

* 2 secondary targets detected in this image

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

UxS Identification of Real-World 5th Fleet Threats

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



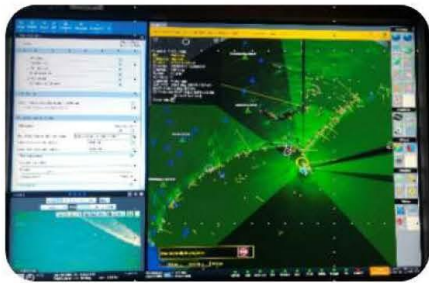
Operationalizing 59: *the Force Provider*



OPERATIONAL IMPACT:
Operationally deployed UxS supporting 5th Fleet Missions



REGIONAL PARTNERSHIPS:
Integrated deterrence through a multi-domain, multi-national Hybrid Fleet



INFORMATION SHARING:
Accessible hybrid fleet providing near real time sensor access across the region





The Capability Sprint Model



Technology agnostic approach to validate UxS & AI in an operational, contested environment.

EXPERIMENTATION & VALIDATION

- "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 address fleet capability gaps.
- Partner & share challenges w/ relevant DoD orgs.



ITERATION & INTEGRATION

- Continue iteration w/ tech providers based on user feedback, operational needs.
- Redeploy tech into progressively more challenging environments.
- Integration of capability with end user in experimentation environment

OPERATIONAL DEPLOYMENT

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





Experimentation to Operations



In 2023, CTF59 accomplished 60,000+ hours at sea across 34 operations and exercises with 23 different UxS across a variety of applications.

Top Achievements

- ◆ **First Straits of Hormuz USV Transit:** 6x total with interceptor USVs.
- ◆ **Operation Freebird:** 78 sorties and 500+ operating hours of Vertical Takeoff & Landing (VTOL) UAV operations from 6 different USN ships.
- ◆ **Operation Gatekeeper:** 6,000+ operating hours of persistent USV ISR to counter illegal Maritime activity.
- ◆ **Data Infrastructure & Cross Domain Solution (CDS):** Unclass Robotics Operations Center (ROC) to Secret Maritime Operations Center (MOC) UxS FMV relay.
- ◆ **Leader Software:** GOTS software for automated NRT data collection, cataloguing, and storage of heterogeneous data from commercial UxS.



CTF-59, the Battlelab



The lessons learned in 5th fleet are scalable to other fleet's and the broader USN.

Increasing Tech Effectiveness & Strengthening USN / DoD Partnerships



INTERCEPTOR USV + LOITER STRIKE MUNITIONS



FLEXROTOR VTOL UAS JP5 VARIANT

OPERATION GATEKEEPER DATA IMPROVEMENTS & SHARING

- *In partnership with Naval Postgraduate School*

GPS-DENIED PAYLOADS FOR UAS & USV

- *In partnership with NavalX, ONR, & In-O-Tel*

UXS EDGE COMMUNICATION

- *In partnership with NAVWAR, DIU, & OUSD R&E*





Current Priorities



➤ Arabian Gulf Pattern of Life

- Potential Tech: data analytics platforms, ATR, commercial data, EW sensors, commercial buoys, long endurance ISR (USVs & UAVs)

➤ Afloat & Shore Based C-UAS

- Potential Tech: Non-kinetic solutions, kinetic solutions, detection capability

➤ MCM Autonomous Finish Capability

- Potential Tech: full end to end MCM USVs, mine neutralization, ATR

➤ UxS Augmentative Payloads

- Potential Tech: GPS-denied, kinetic payloads, edge compute payloads

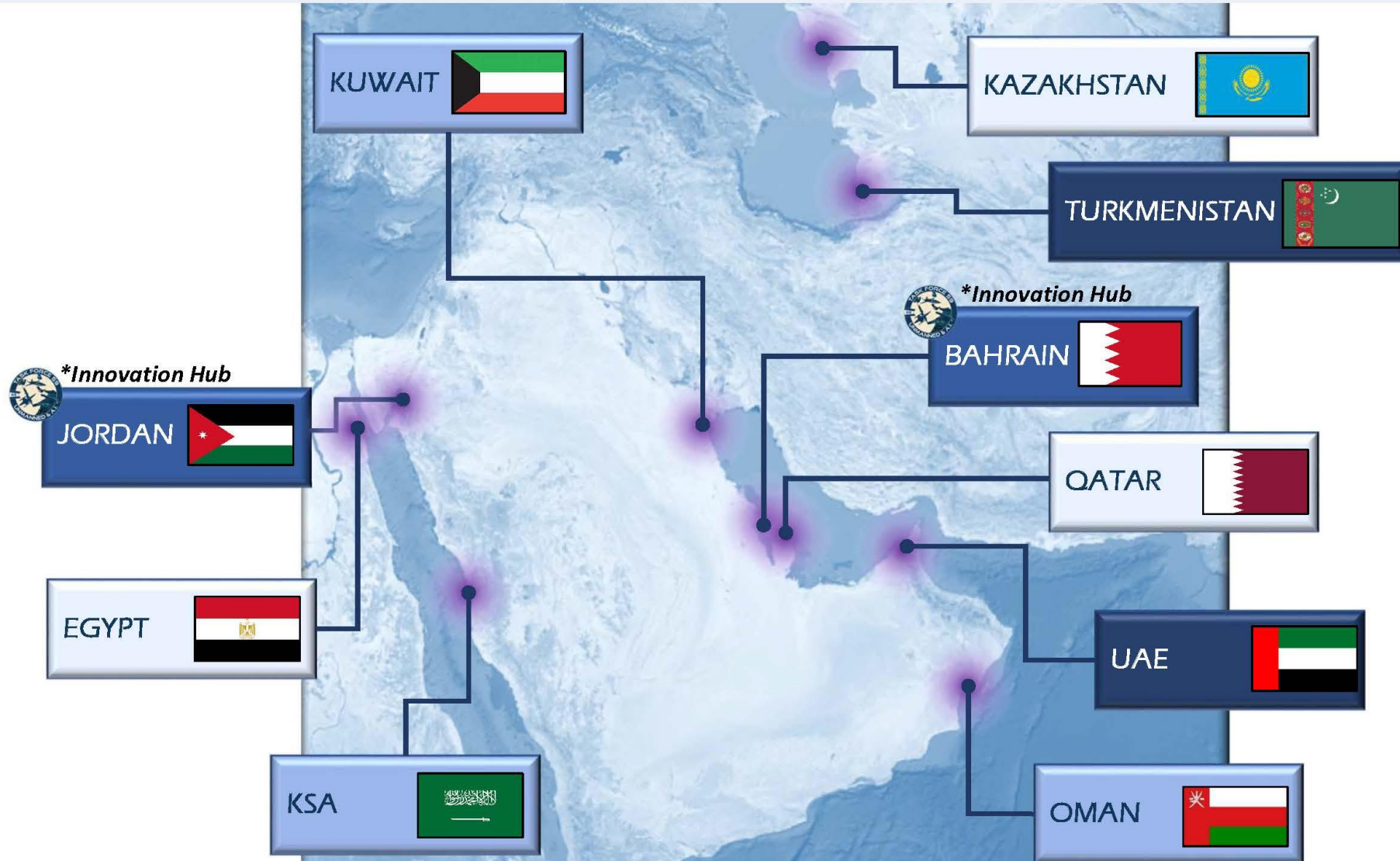




Strengthening Partnerships & Scaling Capabilities



Establishing the World's First Partner UxS Fleet



UNCLASSIFIED



Thank you!



In Theater UxS Experimentation



CTF-59 has experimented with 20+ unique UxS from 17 industry partners.

CURRENT UXS BULLPEN

Persistent ISR



Triton USV



Data Xplorer USV



Lightfish USV



T12 USV



Voyager USV

Interceptors



Arabian Fox USV



T-38 Devil Ray USV

Utility



WAM-V 22 USV



DriX USV

Aerial MDA



Flexrotor UAV