OTTI Update:
Synthetic Test and Training Capability

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" We must contribute to the Joint Warfighting Concept, enabled by Joint All-Domain Command and Control, and place capability in warfighters' hands faster- through innovation, experimentation and rapid prototyping, and a collaborative approach with our service and industry teammates.

GEN CHARLES Q. BROWN, JR.
AIR FORCE CHIEF OF STAFF

Accelerate Change or Lose, **Aug 2020**

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The Readiness Challenge

Air Force capabilities and the capabilities of our potential adversaries are advancing at a rate which challenges our ability to provide realistic and relevant operational training.

The Air Force requires a robust synthetic test and training capability, which enables realistic and high-fidelity test and training in a seamless and connected virtual environment. This capability must cross multiple generations of aircraft and associated training systems.

Airmen will Fight like they Train

OTTI Priorities and Progress

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Priority	Progress and Efforts	Remarks
Level 4 Synthetic Capability	• Funded in FY22 to kickstart effort; expecting substantial funding in the FYDP	• AFLCMC/XA moving out aggressively, but effort requires significant industry participation
NTTR and JPARC to Level 4	• Will field ARTS v1 and ARTS v2 at NTTR; prioritizing ARTS v3	• NTTR/JPARC projected to Level 4
Six PTRs to Level 3	• ARTS V2s are funded for the six PTRs	• Current funding supports Level 3
VTTC to Level 4+	• Continuing to populate the facility	
Optimize Airspace	• Working dynamic airspace test cases with FAA	• Secured funding for dynamic airspace test cases
Tailored ADAIR	• Working with ACC to define requirement in terms of both quality and quantity and to synchronize current initiatives • ADAIR-UX	• First ADAIR working to create ADAIR enterprise plan upcoming
R&D for Blended Training	• Flight following Navy R&D efforts • Met with Navy and LCMC/WNS to explore DMO options for upcoming exercises	
Tailored Cyber	• Transition Joint IO Range (JIOR) to ACC by FY22 • Upgrade Cyber Test and Training Range (CTTR) to Level 4	• P-plan pending approval for JIOR transition

Need for a Robust Synthetic Capability

- **We must revamp our current operational training so we can deliver the level of high-end training required to defeat our adversaries**

- **Due to range constraints, threat replication and surveillance issues, advanced training must migrate to the synthetic environment to meet requirements**

- **OTTI Synthetic Test and Training Capability**

  - *Synthetic Test Environment LOE* **— JSE designed to provide solution**

  - *Common Synthetic Training Environment LOE* **— Capability development underway**

  - *Simulator Concurrency and Distributed Training LOE* **— Support to simulator programs and DMO efforts must continue**

  - *Common Simulator Architecture LOE* **— SCARS effort designed to shift legacy sims to government-owned modular open system architecture**

  - *Policy LOE* **— Overcoming long-standing challenges/stovepipes to achieve objectives through integration and Synchronization**

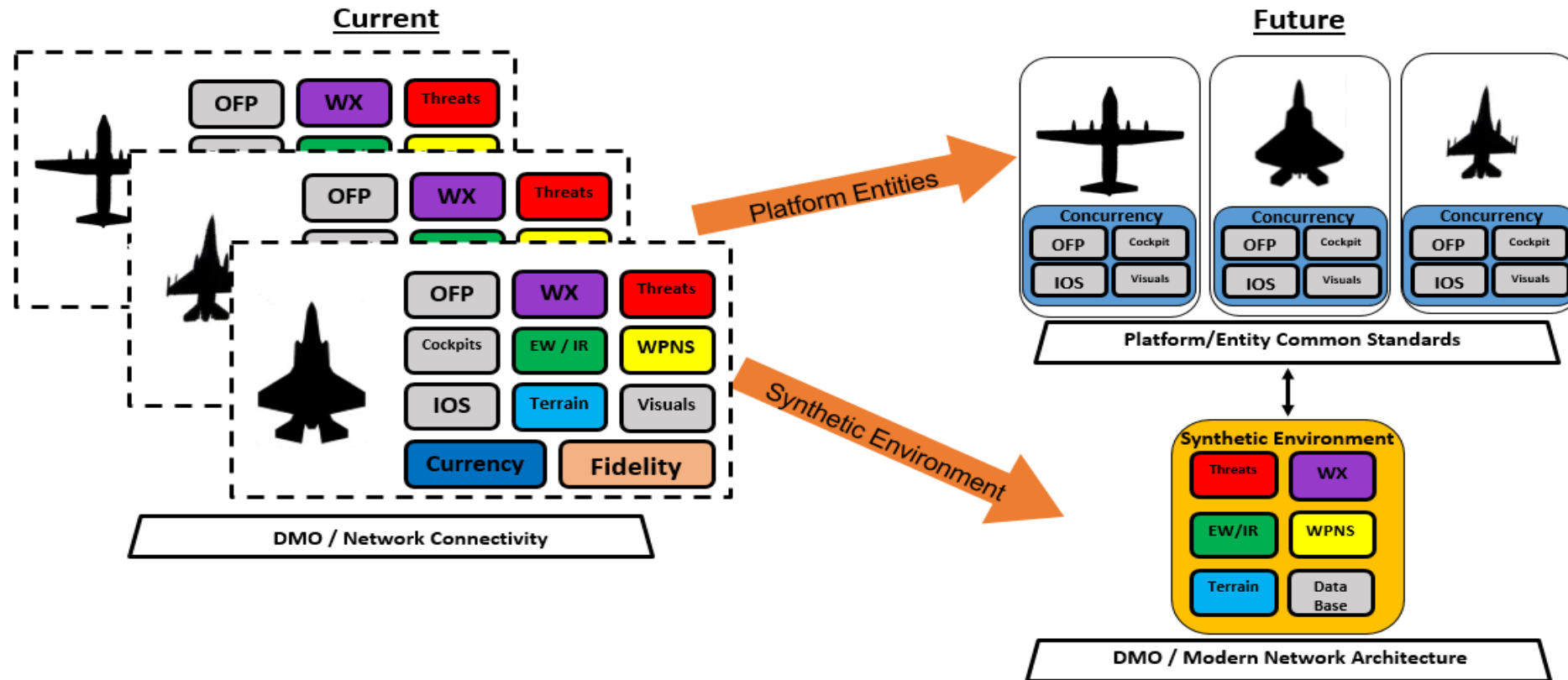# *Common Synthetic Training Environment (CSTE)*

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- **The Air Force Common Synthetic Training Environment (CSTE) development concept will develop capability to deliver:**
  - **Robust / persistent synthetic training capability that supports peer/near-peer conflict readiness**
  - **5th generation combat training capability linked to the Pacific Deterrence Initiative**
  - **Solutions to address live-fly training limitations: range constraints, threat replication, and surveillance issues**

- **Money—Motivation**
  - **Funded in FY22 to kickstart effort; expecting substantial funding in the FYDP**

- **AFLCMC/XA moving out aggressively, but effort requires significant industry participation**
  - **Industry business model needed that supports hosting both non-proprietary and proprietary models simultaneously, while addressing multi-level security requirements**

Synthetic Transformation

Separate the simulator from the dozens of proprietary environments and replace with a common synthetic training environment (CSTE)