



WNS OVERVIEW

Simulation & Training Community Forum (STCF)

24 April 2024 | Col Matt "T2" Ryan

Simulators Snapshot



75 Programs



600+ Members Strong

FY23



747 Contract Actions



\$3.1B Active Year
(includes \$1.3B for FMS)



667 Funding Documents

supporting



9

MAJCOMS



ANG



29

Program Offices



Navy



23

Countries



2,300+

Training Devices
Over 93% of the Air Force inventory



Simulators Program Execution



Division Chief (SML)

Deputy

Air Combat (ML)

Bombers / Special Mission

B-1 Training Systems
B-2 Training Systems
B-52 Training Systems
E-3 DRAGON
E-3 FCT
E-3 MTS
E-3 MTC
E-4B

Fighters / Attack

A-10 ATS
F-15 EX
F-15 TDAS
F-15C/E MTC
F-16 STP
F-35 DMO SPT
T2

Air Mobility (ML)

Airlift

C-5 Training Systems
C-17 Training Systems
C-130 ATS/MTS
C-130J MATS
C-130 ANG RWST
HC/MC-130J

Tankers

KC-10 Training Systems
KC-46A ATS
KC-46A MTS
KC-135 Training Systems
KC-135 BOSS (ANG)

SOF/AETC (ML)

SOF/UAV

AFSOC ACTS
JTC TRS
KDAM ATARS C&I
RATS CLS/TSSC

AETC

A&OP Training Systems
Spatial D
T-1A GBTS
T-6 GBTS
T25 SECT
T-38CATS
URT GBTS
VTRAT

Innovation Cell

OTI (ML)

Distributed Training Systems

CAF DMO
MAF DMO
ANG OTS
LVC
XCITE / NGTS

Common Architecture & Standards

SCARS

OTE - JSE (ML)

Blue Air

Night One Blue Air
In-A-Box Updates

Virtual Environment

Night One Other Platforms
Environment Development
Environment Enhancements

Operations & Governance

Enterprise Integration
Operations & Sustainment
JSE Program Governance

FMS (ML)

Fighter Programs

F-15 Japan F-16 Korea
F-15 Qatar F-16 Morocco
F-15 RSAF F-16 Pakistan
F-16 BSB F-16 Romania
F-16 Egypt F-16 Singapore
F-16 Greece F-16V Taiwan
F-16 Iraq T-6 Vietnam
F-16 Jordan

Airlift / Tanker Programs

C-17 Australia C-130J New Zealand
C-17 NATO KC-46 Japan
C-130 Egypt

FMS New Business

Analysis & Integration

Program Control

Strategic Planning/Roadmaps
TSA IDIQ Contracts
Enterprise Scheduling
Analysis & Metrics
WN SIO Liaison
PMRT Admin
CPAR Focal Point
USAF New Business

Division Action Group

A&AS Management
Administrative Support
Quality Assurance
Self-Inspection / MICT
Supplies / GPC
Travel / DTS
Knowledge Mngt
Timekeeping / ATAAPS
Awards & Decorations
SIMS University

Simulators Leadership



**DIVISION CHIEF /
SENIOR MATERIEL LEADER**
Col C, 'Matt' Ryan



**DEPUTY DIVISION
CHIEF**
Penny Mason



**CHIEF OF
CONTRACTING (PK)**
Susan Winn

DEPUTY
Abby Hoefler



**CHIEF OF
ENGINEERING (EN)**
Kelly Navarra

DEPUTY
Jeff Pfladderer

**CHIEF OF
FINANCE (FM)**
Bruce Comer

DEPUTY
Steve Heyl



**CHIEF OF
LOGISTICS (LG)**
Richard Swain

DEPUTY
Michael Baldwin



**CHIEF OF
TEST (T&E)**
Christopher Lowe

DEPUTY
VACANT



**AIR COMBAT
Branch Chief**
Renee Sauerland

DEPUTY
Michael Hayes

EN – Susan Schemmel/
Djauna Prewitt
FM – Eric Gilley
LG – Michael Baldwin
PK – Abby Hoefler

Fighter/Attack
Maj Anthony Maxie

Bombers/Special Mission
Maj Alex Hermes



**AIR MOBILITY
Branch Chief**
Monika Mapley

DEPUTY
Rex Easley

EN – Barry Green /
Gernai Bledsoe
FM – Brooke Gibson
LG – Vacant
PK – Richard Fries

Airlift
Holly Hogsett

Tankers
Rex Easley (Acting)



**SPECIAL OPS & AETC
Branch Chief**
Lt Col Josh Trantham

DEPUTY
Vacant

EN – Brian Woehrman /
Greg Enochian
FM – Josh Elliott
LG – Vacant
PK – Shane Hemmerich

Special OPS
Stan Cadell

Air Education
Maj Sean Morris

Innovation Cell
Douglas Patton



**OPERATIONAL TRAINING
INFRASTRUCTURE
Branch Chief**
Lt Col Drew Frazier

EN – Mike Baker /
Dan Raddick
FM – Emily Zimmerman
LG – Vacant
PK – Shane Hemmerich

**Distributed Training
Systems**
Vacant

**Common Architecture &
Standards**
Scott Poznanski



**OPERATIONAL TRAINING
ENVIRONMENT
Branch Chief**
Lt Col John Kovacic

DEPUTY
Johnny Clark

EN – Tom Casey
FM – Tiffany Ehresman
LG – TBD
PK – TBD

Blue Air
Lt Col Blake Bradford

Virtual Environment
Vacant

Operations & Governance
George Tomen



**FMS
Branch Chief**
Doug Rogers

EN – Terri McBeth /
Dan Phillips
FM – Eric Ellsworth
LG – Tonita Davis
PK – Michael Carbone

Fighter Programs
Tanya Hopson

Airlift / Tanker Programs
Vacant

New Business
Jesse Dewberry



**ANALYSIS &
INTEGRATION
Branch Chief**
Scott Cummings

EN – Jeff Pfladderer
FM – Steve Heyl
LG – Vacant
PK – Abby Hoefler
T&E – Vacant

Program Control
Vacant

Division Action Group
Kara Truelove

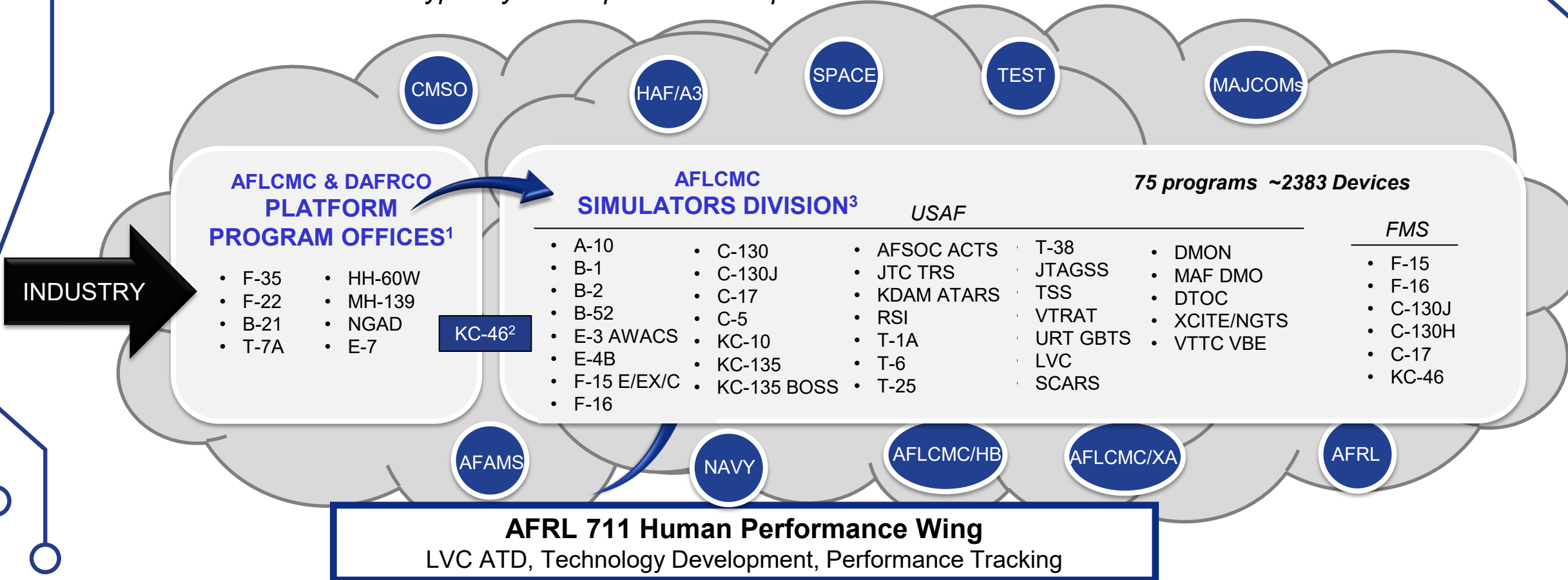
As of Apr 24

Simulator Universe



Typical Air Force Simulator Program Lifecycle

**Sims typically developed with new platforms then transition to Sim SPO*



INDUSTRY

AFLCMC & DAFRCO PLATFORM PROGRAM OFFICES¹

- F-35
- F-22
- B-21
- T-7A
- HH-60W
- MH-139
- NGAD
- E-7

KC-46²

AFLCMC SIMULATORS DIVISION³

- A-10
- B-1
- B-2
- B-52
- E-3 AWACS
- E-4B
- F-15 E/EX/C
- F-16
- C-130
- C-130J
- C-17
- C-5
- KC-10
- KC-135
- KC-135 BOSS

USAF

- AFSOC ACTS
- JTC TRS
- KDAM ATARS
- RSI
- T-1A
- T-6
- T-25

75 programs ~2383 Devices

- T-38
- JTAGSS
- TSS
- VTRAT
- URT GBTS
- LVC
- SCARS

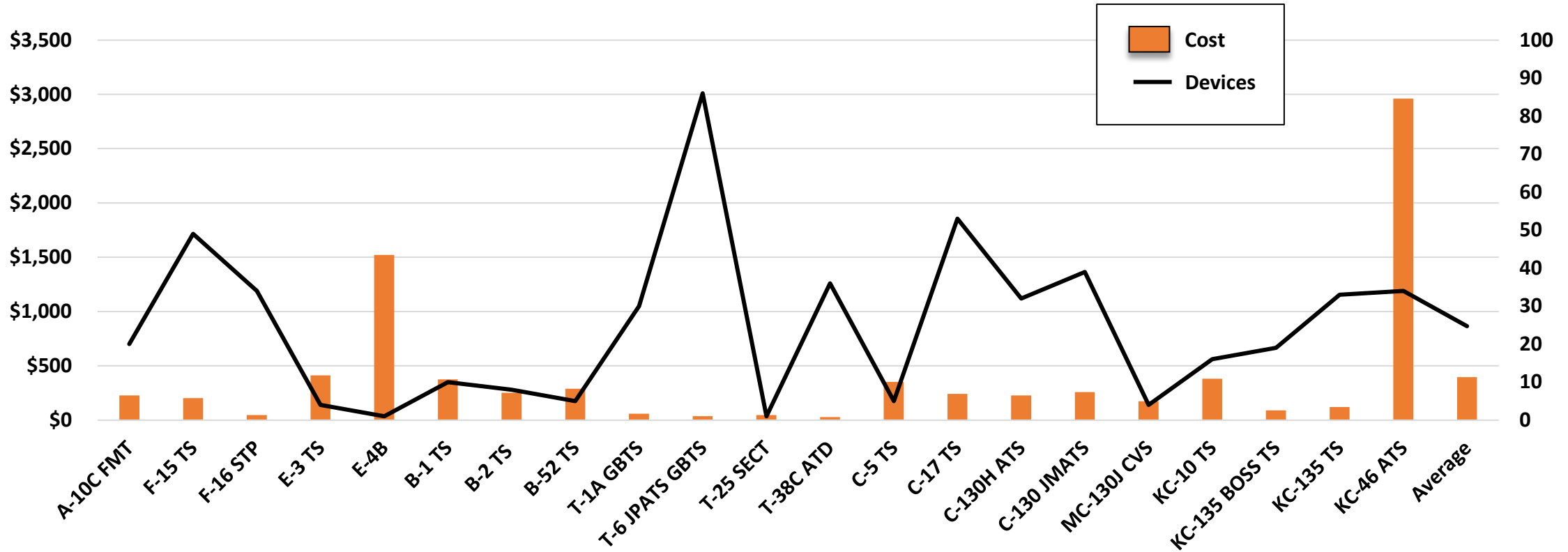
FMS

- F-15
- F-16
- C-130J
- C-130H
- C-17
- KC-46

AFRL 711 Human Performance Wing
LVC ATD, Technology Development, Performance Tracking

Large Portfolio Touching Virtually Every Aspect of our Warfighters Training Environment

2024 Operational Costs per Training System Flying Hour



Purpose: Support Lead Command ability to make informed funding decisions

- Tool to measure device fleet health like aircraft platform
- Data equals average operating costs per hour per device per operating year (does not include Engineering Change Proposals (ECPs) costs)

Guiding Efforts

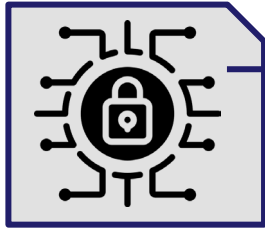


- Implementing Simulator Common Architecture Requirements and Standards (SCARS)
- Developing, fielding and sustaining a common synthetic environment (Joint Simulation Environment)
- Increasing the capability and interoperability of distributed training networks
- Ensuring sufficient concurrency, fidelity, connectivity, and recapitalization of training systems

SCARS Overview



STAGE 1



Efficient Cybersecurity

- Reduced cyber risk, effort for ATOs, and training system down-time for cyber maintenance

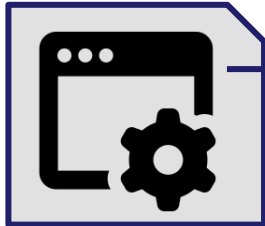
STAGE 2



Common Architecture

- Reliability improved, minimized maintenance, and reduced cost of functional improvements

STAGE 3

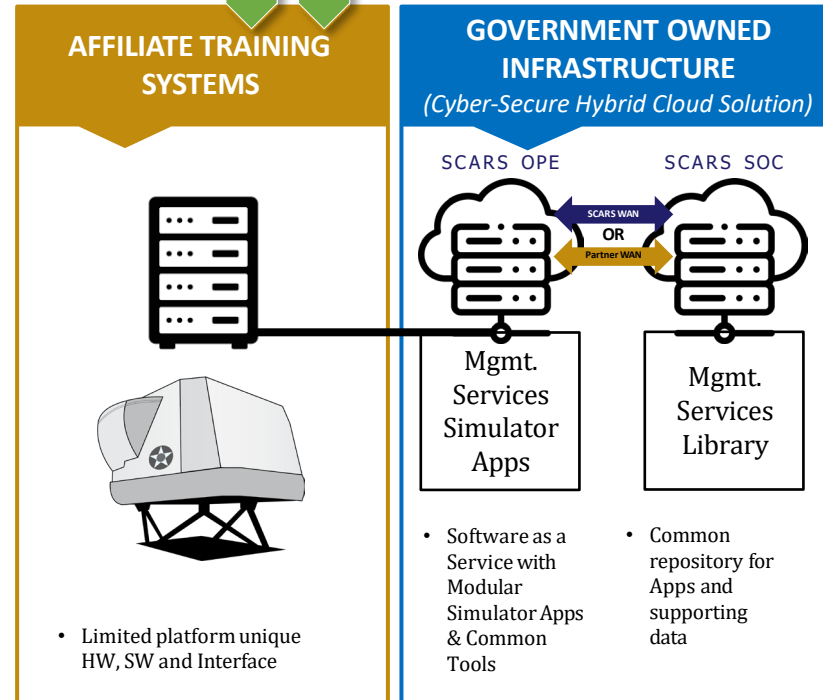


Standard Applications

- Application and database re-use across platforms and consistent performance enhances “fair fight”



Migration To Simulator Common Architecture



Joint Simulation Environment

Delivering High-End Warfighting Proficiency



“More Instructor Under Training sorties completed in one week than in typical 12-18 months”

“Best threat rep we’ve ever seen”

“First time I’ve had a sense of fear in the cockpit”

“By far the best training we can get”



- Past two years: TOPGUN (x11), USAF Weapon School (x6), Operational Units (x27)
- 50,000+ weapons engagements / 1200+ missions executed / 9,000+ F-35 sorties / 900+ pilots

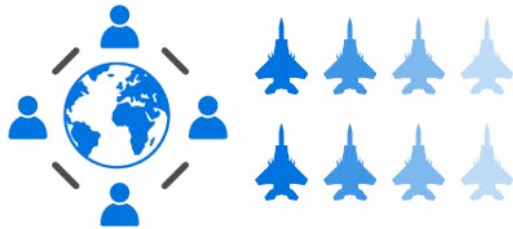
JSE Vision



PLATFORM OPERATIONAL TEST AND MISSION EFFECTIVENESS ASSESSMENTS



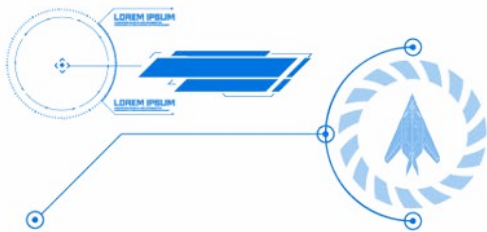
TACTICS DEVELOPMENT IN HIGH DENSITY THREAT ENVIRONMENT



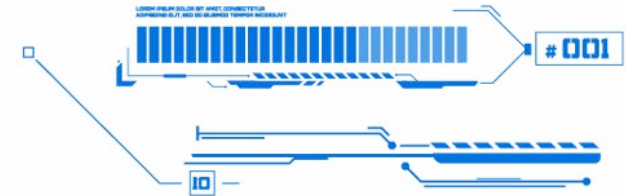
LARGE FORCE TRAINING



HIGH-FIDELITY, MULTI-PLATFORM WARFIGHTING CAPABILITY ASSESSMENTS



NEW CAPABILITY RESEARCH & DESIGN



JSE Multi-Site Concept



SUPER SITE

- Highest fidelity platform representation with Man In The Loop (MITL)
- Highest fidelity environment and threats
- Highest fidelity threat representation
- Supports high end training, tactics dev, and OT



FLEET / CAF SITE

- Fidelity dialed back a notch
- Smaller footprint, less hardware, and fewer support staff required
- Reinforces learning achieved at “super sites” to maintain proficiency



DEPLOYABLE SITE

- Training solution on a small scale
- Lower fidelity, all entities “constructive” except own ship
- Reinforces learning at other levels to maintain proficiency while deployed



INDUSTRY SITE

- Industry partners developing new capabilities and OFP in high fidelity, common environment

SCARS vs JSE



SCARS

SIMULATOR COMMON ARCHITECTURE,
REQUIREMENTS AND STANDARDS



- The building blocks
- Basic Standards for Training Systems
- Common Architecture across different platforms
- Basis for Remote Cybersecurity Scans of Training Systems



JOINT SIMULATION ENVIRONMENT



- Digital environment for system test and warfighter training
- Starting with 5th Gen systems
- Authoritative threat models
- Connects different classification levels & accesses

JSE vs Distributed Networks



JOINT SIMULATION ENVIRONMENT



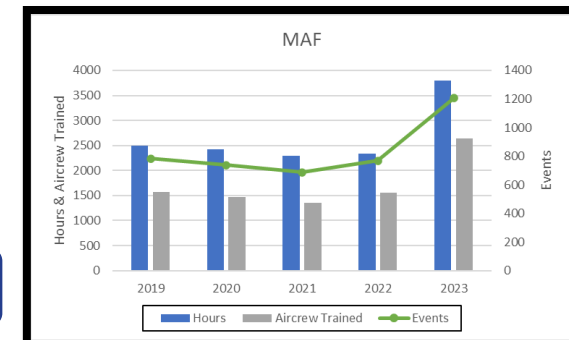
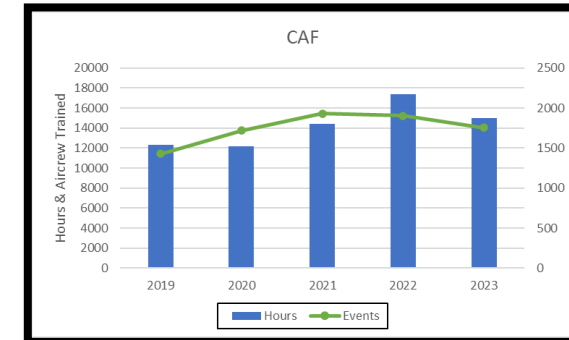
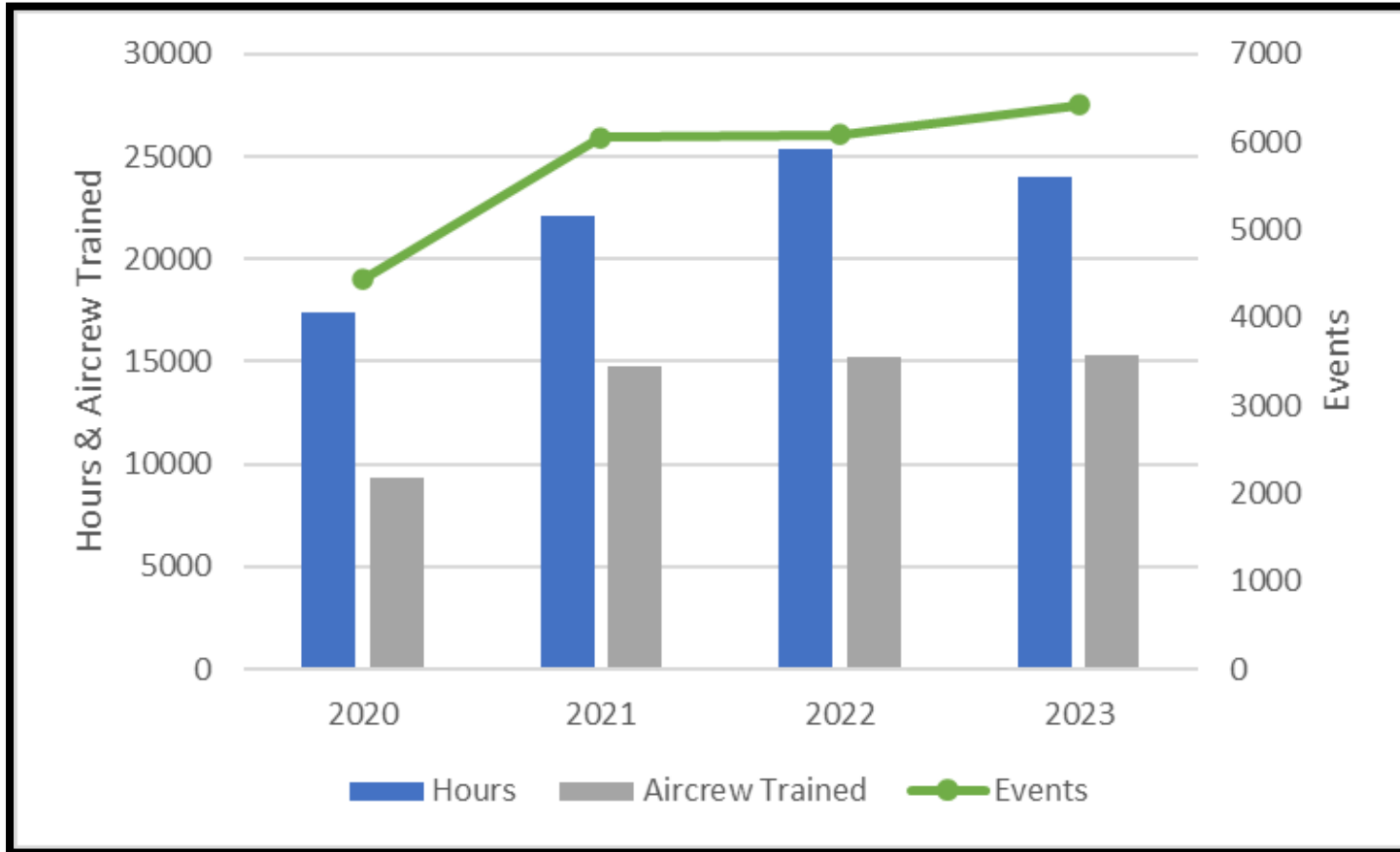
- JSE is currently only for 5th Gen training
- Supports test and experimentation missions
- Environment not a network

Distributed Training Networks



- Current networks used primarily for 4th Gen CAF and MAF aircraft
- No test mission
- Network that connects geographically separated sims

Distributed Training Utilization



Requirement for distributed training is increasing as AF focuses on integration training

Innovation Cell



- Guides/standardization (e.g., XR guideline)
- New business
- Industry engagement/market research center
- Science fairs/vendor engagements

Key Take-Aways



- JSE is an Air Force priority program to field the synthetic training and test environment of the future...AF vision is ubiquitous use
- SCARS designed to make training more affordable and sustainable with common services/apps and common h/w baseline
- AF is increasingly focused on interoperability/integration training

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