Simulators Division (AFLCMC/WNS) Update

11 August 2021

Col John Kurian
Senior Material Leader
Simulator Division

2021 SUCCESSES

KC-135 Contract Award - CAE

SIMULATORS PITCH DAY

Game-Changing Training Technology

10 Contracts Awarded

KC-10 Award – Nova Technologies

T-53 ATD Device Delivery – Frasca

F-16 Balad, AB Iraq Device Delivery – L3 Harris

JTC TRS Contract Award – LINK, L3 Harris

C-130J MATS Device Deliveries – Lockheed Martin

**General Charles Brown,
Air Force Chief of Staff**

- **Uncontested USAF Dominance is not Assured**
  - How should training architectures evolve to ensure success in any high-end fight?

- **Good Enough Today will Fail Tomorrow**
  - Simulator Common Architecture Requirements and Standards (SCARS)
  - Common Synthetic Training Environment (CSTE)
  - Digital Engineering

- **We must Collaborate Within and Throughout to Succeed**
  - Scale and sustain innovation initiatives

- **Empowered Airman can Solve any Problem**
  - Trust the Members to 'Run with Scissors'
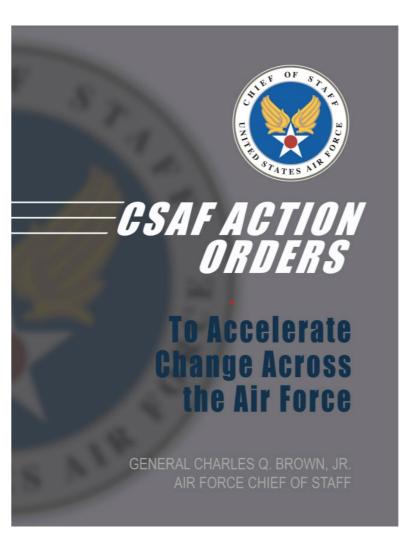
- **Consequences of Failure – and Success – are Profound**

- **Airmen**
  - Find and enhance universal skillsets that are important to Airmen
  - Must be resilient and ready to operate and succeed in the High end fight

- **Bureaucracy**
  - Must increase speed and efficiency to effectively work with Industry Partners
  - Needs a 'tune-up' to deliver at the speed of relevance
  - Streamline decision-making, eliminate redundancies and limit bureaucratic levels

- **Competition**
  - USAF must understand and master the competitions at the heart of the mission

- **Design Implementation**
  - Work within future budget constraints to re-shape the future of training

The Future….

- **Narrow opportunity to modernize the fleet**
- **Interim National Security Guidance provides path for Peer Competition**
- **Long Term Vision will make short term changes easier**
- **Budget Constraints and Issues**
- **Legacy Platforms mean Relevance not Age**
- **Acquisition Reform – Digital Engineering is Critical**
- **How do platforms sense and share data at the speed of relevance**

T-7

Lt Gen David Nahom interview with Mitchell Institute, July 2021

"*When it comes to modern combat, if your don't like change, you're going to really dislike irrelevance*" Maj Gen Mark Kelly, Commander USAF ACC
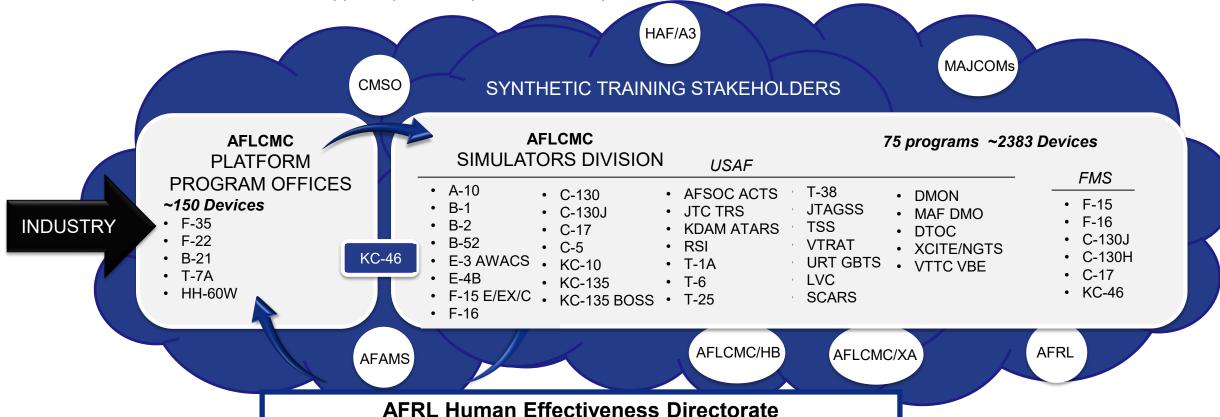
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SYNTHETIC TRAINING ENVIRONMENT

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Typical Air Force Simulator Program Lifecycle

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

HAF/A3

MAJCOMs

CMSO

SYNTHETIC TRAINING STAKEHOLDERS

INDUSTRY

AFLCMC PLATFORM PROGRAM OFFICES
~150 Devices
- F-35
- F-22
- B-21
- T-7A
- HH-60W

KC-46

AFLCMC SIMULATORS DIVISION   *USAF*

75 programs ~2383 Devices

- 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

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

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

- DMON
- MAF DMO
- DTOC
- XCITE/NGTS
- VTTC VBE

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

AFAMS

AFLCMC/HB

AFLCMC/XA

AFRL

Tech Transition

AFRL Human Effectiveness Directorate
LVC ATD, Technology Development, Performance Tracking

How should WNS portfolio evolve to support 21st Century Force Training Needs?
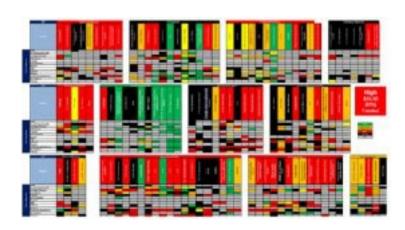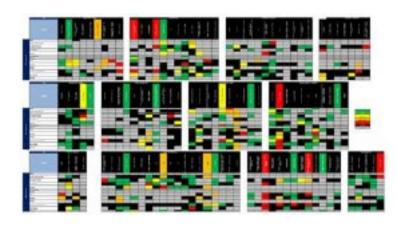
WSS POM Heat Map Trend

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FY21 POM

FY22 POM

FY23 POM

AF WSS 21POM

- Requirements: 17.8B
- Funded: $15.7B
- FY20-21 Growth: $1.4B
- Percent Funded: 88.1%
- Risk: Moderate

AF WSS 22POM:

- Requirements: 18.6B
- Funded: $15.6B
- FY21-22 Growth: $0.8B
- Percent Funded: 83.9%
- Risk: High

AF WSS 23POM:

- Requirements: 21.0B
- Funded: $15.1B
- FY22-23 Growth: $2.4B
- Percent Funded: 71.7%
- Risk: Failure
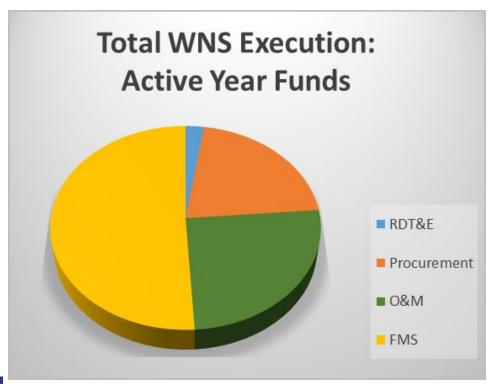
Source: CAFDEx, FY20-23 POM RQMTs, does not include USSF

- **WNS training systems in CAM portfolio are funded to failure point**
  - **Requirements are outstripping budget**
  - **Air Force is prioritizing sustainment of those weapon systems which strengthen the fight, in accordance with the NDS**
  - **Requirements within the WNS portfolio, identified above failure, are at risk**
    - **Obsolescence, tech refresh, concurrency upgrades**
    - **WNS continually working to maximize budget execution and UFR processes to garner additional capability as funding is available**
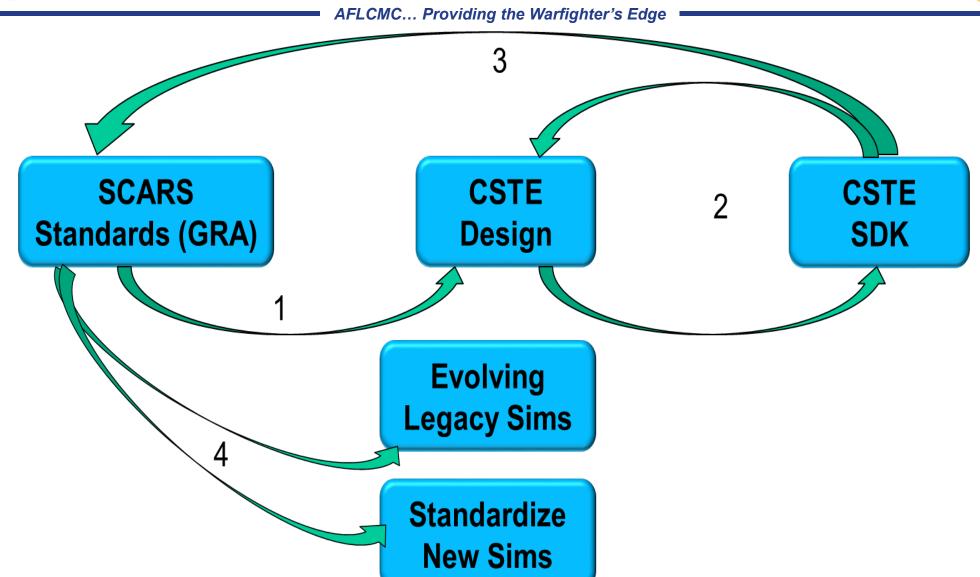
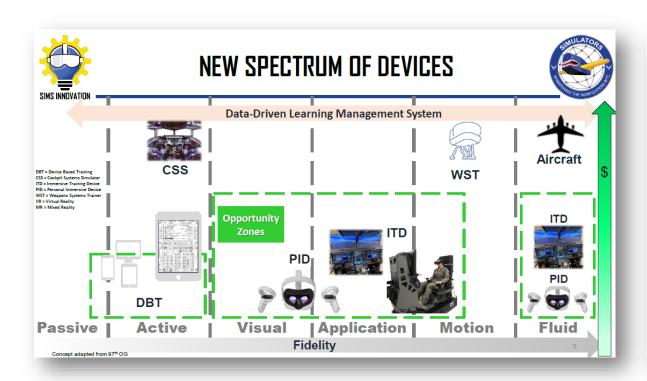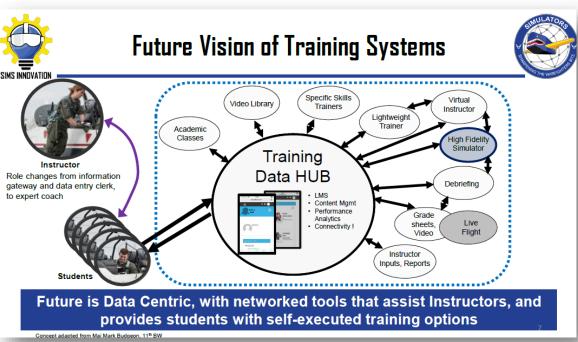**Total WNS Execution: Active Year Funds**

- RDT&E
- Procurement
- O&M
- FMS

How do we keep what we have relevant and ready?

SCARS Standards (GRA)

CSTE Design

CSTE SDK

Evolving Legacy Sims

Standardize New Sims

1

2

3

4

NEW SPECTRUM OF DEVICES

Data-Driven Learning Management System

DBT = Device Based Training
CSS = Cockpit Systems Simulator
ITD = Immersive Training Device
PID = Personal Immersive Device
WST = Weapons Systems Trainer
VR = Virtual Reality
MR = Mixed Reality

CSS — Aircraft — WST — ITD — PID — DBT — Opportunity Zones

Passive | Active | Visual | Application | Motion | Fluid

Fidelity

Concept adapted from 97th OG

Future Vision of Training Systems

Instructor
Role changes from information gateway and data entry clerk, to expert coach

Students

Video Library — Specific Skills Trainers — Lightweight Trainer — Virtual Instructor — High Fidelity Simulator — Academic Classes — Debriefing — Grade sheets, Video — Live Flight — Instructor Inputs, Reports

Training Data HUB
• LMS
• Content Mgmt
• Performance Analytics
• Connectivity !

Future is Data Centric, with networked tools that assist Instructors, and provides students with self-executed training options

Concept adapted from Maj Mark Budgeon, 11th BW

How do we scale the *right* innovations at the enterprise level and sustain?

Key Take-Aways

- We value your partnership and appreciate your feedback as we work through near term execution challenges

- WNS has the expertise to develop *and* sustain the training environment of the future; however, we need to rebalance our portfolio to better support 21st Century Force training needs

- Near term focus: successfully execute SCARS and keep training systems relevant and ready in a challenging fiscal environment

- Strategic goal is to ensure SCARS and CSTE architectures are compatible

- Innovation Activities: how do we scale and sustain right initiatives?

- I/TSEC 2022: Air Force is Host Service

UPCOMING COMPETITIVE ACQUISITIONS

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KEY
- Full and Open
- TSA III
- Undecided

Mar 23 - C-17 CLS – Apr 24

Aug 22 KDAM ATARS– Jul 23

Jan 22 Man in the Loop - Jun 22

Nov 21 – B-52 TS - Oct 22

Oct 21 – MAF DMO - Apr 22

Sep 21 - T-38C TS Jul 22

Aug 21 – T-1A GBTS- Apr 22

2021   2022   2023

SIMULATORS LEADERSHIP

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SENIOR MATERIEL LEADER
Col John Kurian

MANAGEMENT OPS
Scott Cummings

DEPUTY FOR PROGRAM OPERATIONS
John Carr

DEPUTY FOR PROGRAM INTEGRATION
Penny Mason

CHIEF OF ENGINEERING (EN)
Paul Phillips

DEPUTY
Jeff Pfledderer

CHIEF OF FINANCE (FM)
Kristen O'Sullivan

DEPUTY
Bruce Comer

CHIEF OF LOGISTICS (LG)
Mark Neville

DEPUTY
Joe Gerling

CHIEF OF CONTRACTING (PK)
Christine Diehl

DEPUTY
Karen Palomaki

AIR COMBAT
Branch Chief
Stefan Craw

EN – Craig Siefert /
Susan Schemmel
FM – Natalie Pickett
LG – Chris Covert
PK – Nathan Shrider

Bombers / AWACS
Maj Stephen Chupp

Fighters / Attack
Maj Renee Terriquez

AIR MOBILITY
Branch Chief
Greg McCan

DEPUTY
Rex Easley

EN – Barry Green /
Gernai Bledsoe
FM – Beth Truesdale
LG – Joe Gerling
PK – Norm Willis

Airlift
Rob Schafer

Tankers
Lt Col Juan Ramirez

SPECIAL OPS & AETC
Branch Chief
Lt Col Abigail Ono

EN – Brian Woehrman /
Greg Enochian
FM – Kim Hoshor
LG – James Brown
PK – Shane Hemmerich

Special OPS & UAV
Jacob Kolb

Air Education
Mike Astahoff

OPERATIONAL TRAINING INFRASTRUCTURE
Branch Chief
Lt Col Drew Frazier

EN – Vacant/ Mike Baker
FM – Steve Heyl
LG – Christal Green
PK – Shane Hemmerich

Enterprise Development
Maj David Meyn

Distributed Training Systems
Lt Col Ross Uhler

Common Architecture & Standards
Mike Burns

FMS
Branch Chief
Doug Rogers

EN – Susan Schemmel
FM – Eric Ellsworth
LG – Josh Sowers
PK – Karen Palomaki

Fighter Programs
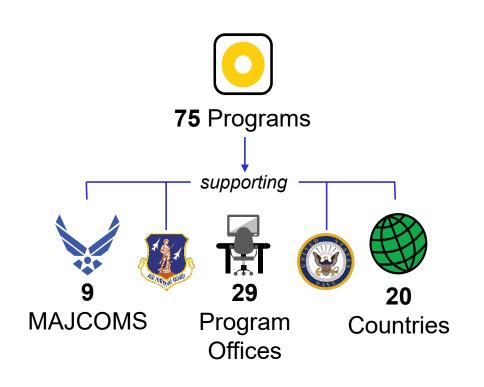TBD

Airlift / Tanker Programs
Gail Sheridan

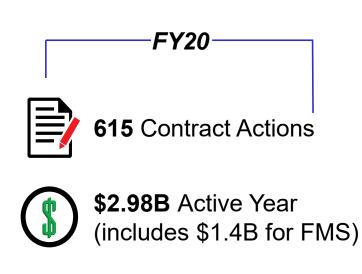**New Business**
Latasha Blake-Hubbard

As of Jun 21

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SIMULATORS SNAPSHOT

75 Programs

supporting

9 MAJCOMS

29 Program Offices

20 Countries

560+ Members Strong

2,300+ Training Devices
Over 93% of the Air Force inventory

FY20

615 Contract Actions

$2.98B Active Year (includes $1.4B for FMS)

788 Funding Documents

- **Compliance to SCARS common control standards will reduce ATO documentation**

- **USAF is consolidating the number of Authorizing Officials across the Training System Classification boundaries**

- **DevSecOps will fulfill a number of cybersecurity controls necessary to onboard applications to the SCARS Evaluated Products List (EPL)**

VISION

To become the premier warfighting digital twin – real, ready, and lethal; capability delivered at the speed of relevance.

- **Move from command segregated missions scenarios (stovepipe) to a joint warfighter environment**
  - Massive multiplayer option—simulate entire AF going to war

- **Enable Train-How-We-Fight vision**
  - Multiservice, multinational
  - Fully live virtual integrated, full spectrum missions

- **The Center of Excellence for Simulators**

- **Go Faster Smarter** (AI, VR, quick innovation, new Ctr approaches)
  - Innovation Cell
  - Partner w/ AFRL, DoD Agencies, small business, non-traditionals, Sister Services
  - Explore new game-changing technologies to enhance readiness

- **Simulators Division New Business Office**
  - Dedicated to developing simulator capability for international partners
  - Experience with FMS processes and awareness of industry capability

- **Success in combining like country requirements into one contractual vehicle to reduce cost to partnering countries**
  - Combines aspects of both bilateral FMS and Cooperative Development Efforts
  - Countries will only pay a portion of the development cost and receive the end capability within a typical FMS Period of Performance

- **Virtual Reality**
  - Many Aircrew training devices are currently using AR training modules, particularly for immersive, familiarization training tasks early in the curriculum
  - Pilot Training Transformation is exploring the use of VR in the training curriculum
    - Pilot Training Next has already implemented
  - Simulators Divison is exploring how VR capabilities can be used as part of the spectrum of training devices
  - Providing lower cost immersive training devices to supplement the high-fidelity simulators
- **Artificial Intelligence**
  - Predictive analytics to refine training content for individual students
  - Virtual instructor to analyze student performance and give feedback
  - AI controlled virtual entities that play other roles in a training scenario
- **Simulators Division is working on a number of training projects involving these elements with different training units and MAJCOMs**

Industry Challenge: How to scale and sustain innovation initiatives

- **AF Modeling and Simulation Executive**
  - Effectively synchronize USAF and USSF investments in M&S
  - Lead strategic efforts to reduce costs, shorten schedules and expand capabilities such that DAF readiness is improved to defeat current and future threats

- **AF Operational Training Infrastructure 2035 Flight Plan**
  - Establishes imperative to train as we intent to fight and 12 lines of effort to provide relevant and realistic operational training environment

- **Collaboration Forums**
  - Operational Test and Training Cross Function Team (HAF/A3 Led)
  - MAJCOM Summit (Simulators Division Led)

- **Telework/Hybrid work environment still in flux**

- **Technology is critical enabler**
  - Need for VPN with appropriate and robust bandwidth
  - Software tools that are current and compatible with Industry

- **Leadership focus: Staying Connected**
  - Extra effort by Team and Supervisors to connect
  - Onboarding can be challenging
  - Collaboration and teaming is possible in this environment