

# *B-2 Test Team*

*Testing*

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*Training*

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*Tactics*

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*Innovation*

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*Operations*

## *NDIA Keynote Speech: B-2 Operational Test*



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Commander, 72 Test  
and Evaluation Squadron**



Last updated: 26 July 2020  
POC: Lt Col Stiles

*"Perfecting Lethality"*



# OVERVIEW



- **My Background**
- **72 TES Mission**
- **B-2 Test Enterprise**
- **Operational Test & Operations Tempo**
- **FY20 Projected B-2 Operations Test Schedule**
- **B-2 Sustainment Roadmap**
- **DT at Whiteman AFB**
- **Challenges**



# LT COL BRIAN 'HAZNO' STILES



- '02 USAFA Graduate Distinguished Grad
- MS in Mech Eng from Rice University ('04)
- 2000+ hours AF flight time (B-2 & T-38)
- AF Fellow – SNL Weapon Intern Prgm ('15B)
- '15-'17: Led B-2 Requirements at AFGSC
- '18-'20: Director of Ops of 72 TES
- Commander since May '20

Everything We Know About The B-2 Spirit  
Emergency Landing in Colorado Springs



Official Investigation Pending. Internet  
Buzzing with Speculation About Cause.





# 72 TES MISSION



**Execute OT&E of the B-2 bomber weapon system**

**Evaluate the effectiveness and suitability of B-2 Software, Weapons, Mission Planning, Survivability and Tactics**

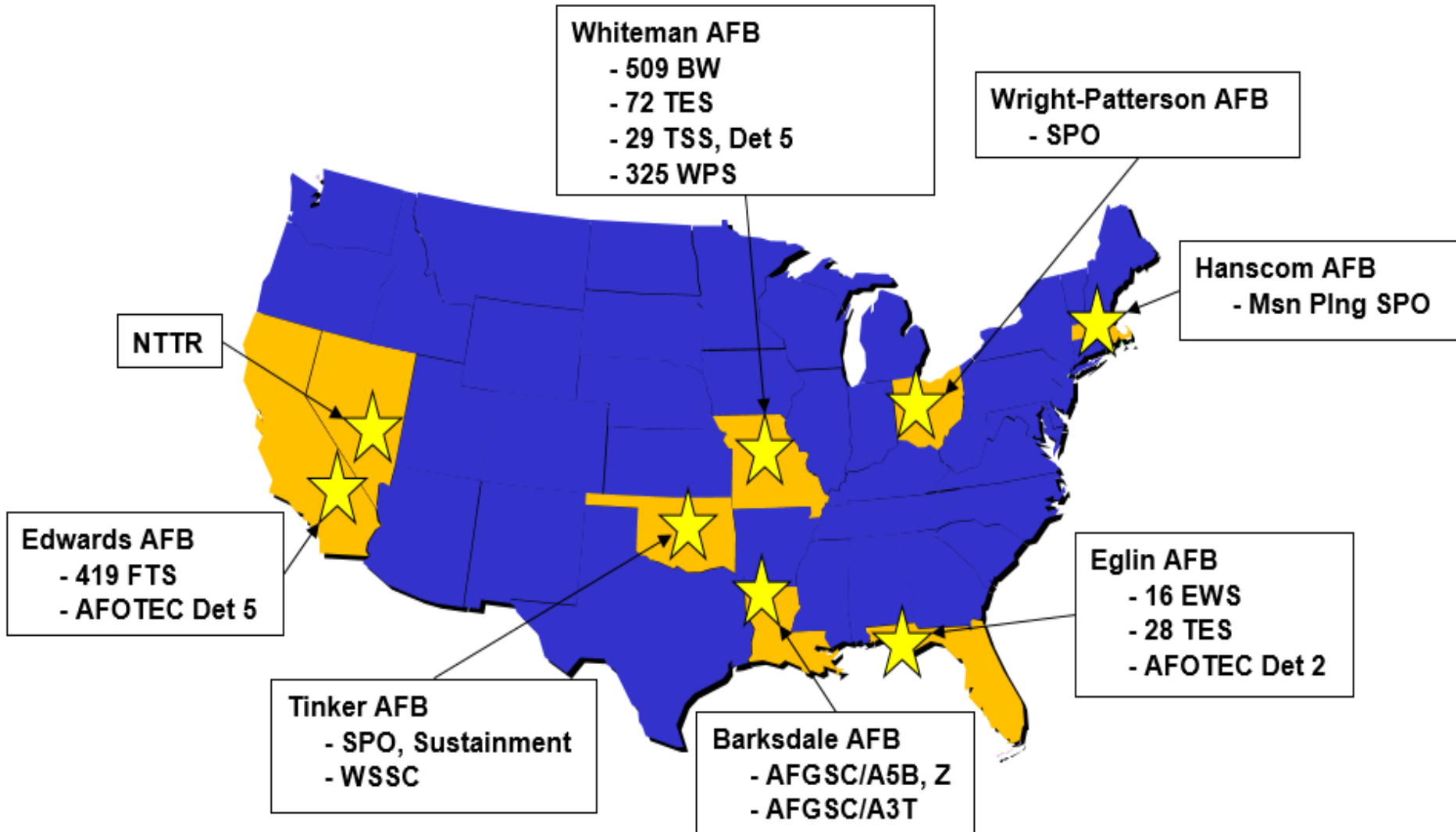
**Coordinate the B-2 Nuclear Weapon System Evaluation Program**

**Provide Tactical and Technical expertise to U.S. Air Force headquarters, Department of Defense agencies and industry in development of B-2 employment techniques**

***Accomplish this through  
FDE, TD&E and NucWSEP***



# B-2 TEST ENTERPRISE





# OPERATIONAL TESTING



## ■ Sources of our Tests

- Acquisitions (e.g., IFC FDE, MPE, Weapons, etc.)
- Operations (e.g., WEPTAC TIPs, requests from users, etc.)
- All require ACC tasking/scope

## ■ Force Development Evaluation (FDE)

- Effectiveness and Suitability
- Scope of test determined by the SUT
- Analysis of range and aircraft data, operator observations
- Fielding Recommendations
- Common FDEs are for IFCs, Mission Planning, LO Mods

## ■ Tactics Development and Evaluation (TD&E)

- Tests generated from WEPTAC or T3WG
- Develops and/or assesses TTPs
- Most common TD&Es are Survivability missions

## ■ Operational Utility Evaluation (OUE), Operational Assessments (OA)

- Lower fidelity, less rigorous operational look

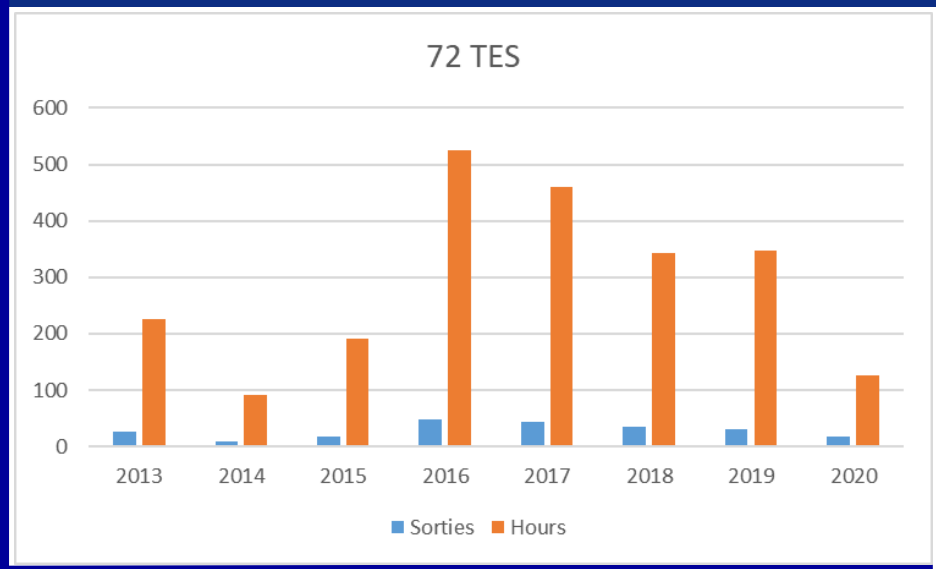




# 72 TES OPS TEMPO

## Previous Ops Tempo

- FY 2013- 224.8 hrs/ 27 sorties
- FY 2014- 92.3 hrs/ 10 sorties
- FY 2015- 190.1 hrs/ 17 sorties
- FY 2016- 525.2 hrs/ 48 sorties
- FY 2017- 459.2 hrs/ 43 sorties
- FY 2018- 343.8 hrs/ 34 sorties
- FY 2019- 346.9 hrs/ 30 sorties



## Current Ops Tempo

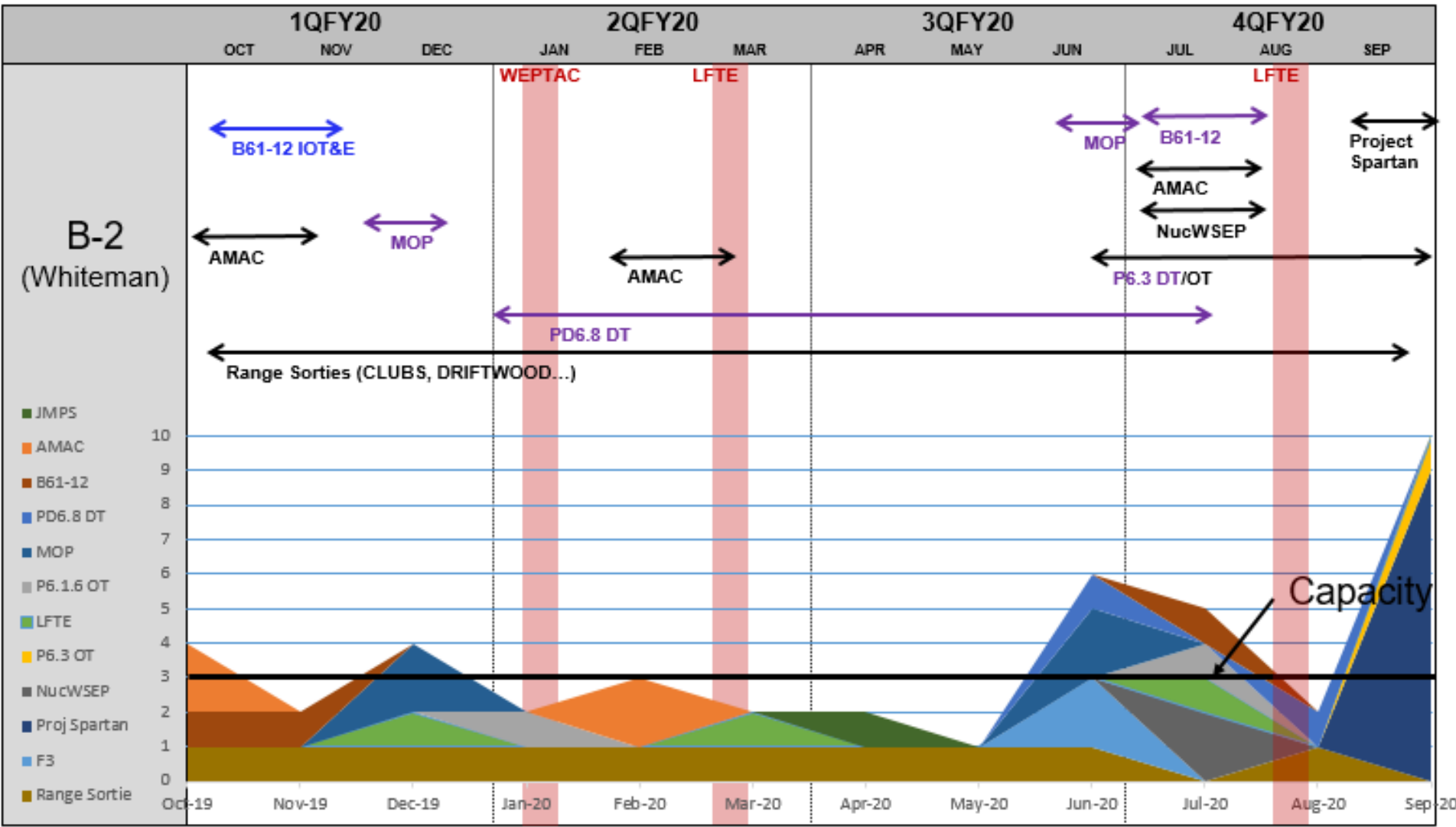
- FY 2020- 125.8 hrs/ 17 sorties (a/o June 2020)
- Projected to be 250 hrs by the end of FY20

## Programs Supported

- New IFCs (P6.3 / P6.4)
- Weapons (MOP / B61-12)
- System 2 AMAC
- LFTE
- F3s
- “Other Stuff”



# FY 20 PROJECTED B-2 OPS TEST



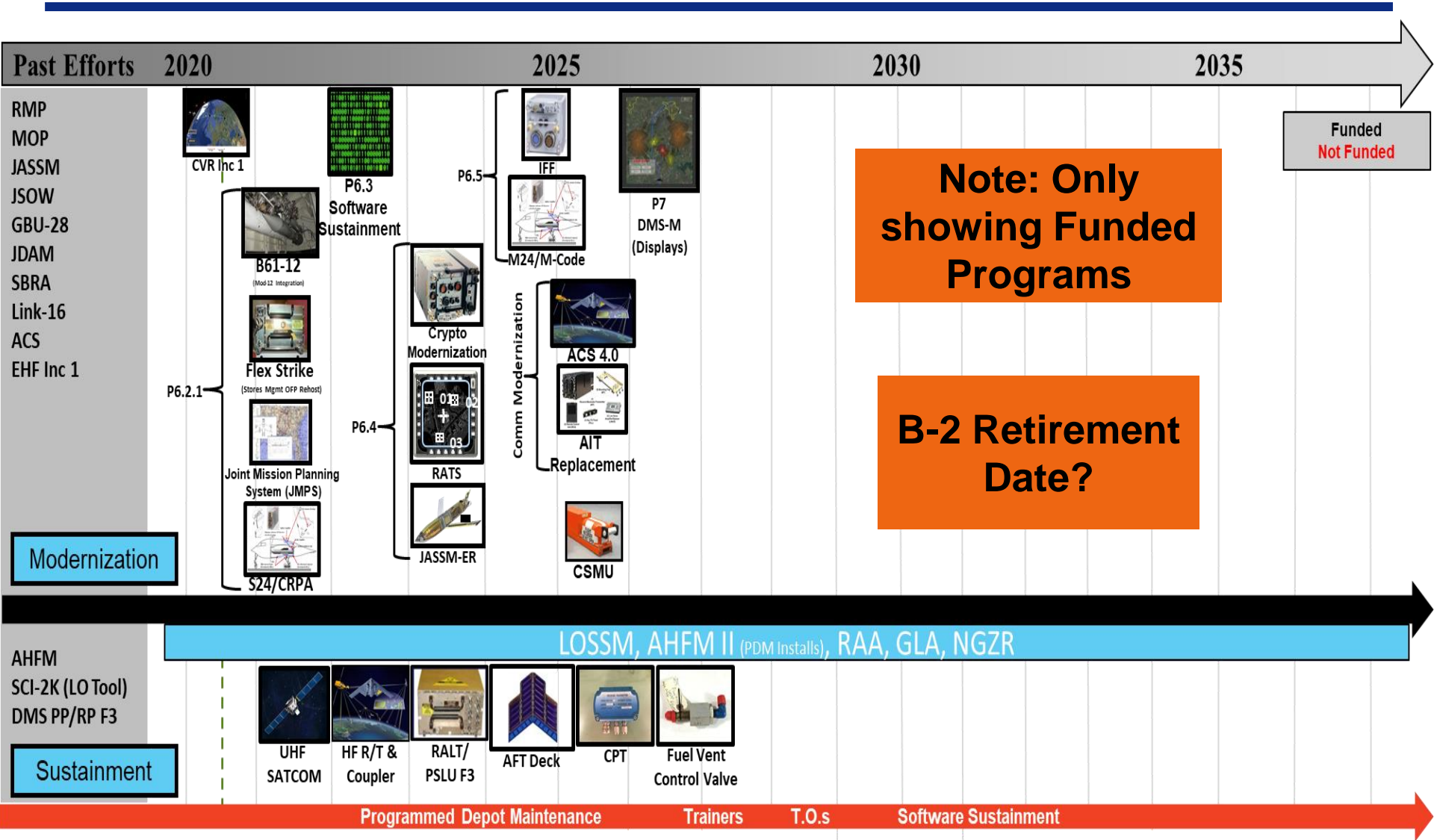
OT AFOTEC DT Supt

*"Perfecting Lethality"*





# B-2 SUSTAINMENT ROADMAP



*"Perfecting Lethality"*



# B-2 SUSTAINMENT ROADMAP



<p><b>Flex Strike Phase 1</b></p>		<ul style="list-style-type: none"> <li>◦ Needed for B61-12 integration</li> <li>◦ Provides multiple wpn enhancements</li> <li>◦ Needed for all future wpns mods</li> <li>◦ Fields: 2 a/c modified</li> </ul>	P6.2.1
<p><b>B61-12 Integration</b></p>		<ul style="list-style-type: none"> <li>◦ Integration Contract awarded Jan 2015</li> <li>◦ Defining Thermal environment for B-2</li> <li>◦ C/D Ring RLA configuration discussion</li> <li>◦ Fields: 2 a/c modified</li> </ul>	
<p><b>GPS Antenna Upgrade</b></p>		<ul style="list-style-type: none"> <li>◦ Counter GPS Jamming</li> <li>◦ Adds CRPA Antenna and SASSM Receiver</li> <li>◦ M-Code Receiver will field w/P6.4</li> <li>◦ Fields: 2 a/c modified</li> </ul>	P6.4
<p><b>Radar Aided Targeting System (RATS)</b></p>		<ul style="list-style-type: none"> <li>◦ Provides GPS-like quality solution w/o GPS</li> <li>◦ Software Only Integration for B61-12</li> <li>◦ Fully funded FY19-21 (\$43M)</li> <li>◦ Fielding starts in 3QFY21</li> </ul>	
<p><b>Crypto Mod Upgrades</b></p>		<ul style="list-style-type: none"> <li>◦ NSA-mandate cryptographic mods</li> <li>◦ UHF/HF/Link-16 Terminal</li> <li>◦ Fielding starts in 3QFY21</li> </ul>	P6.5
<p><b>JASSM-ER Integration</b></p>		<ul style="list-style-type: none"> <li>◦ Software Only Integration</li> <li>◦ Funded; req's \$18.5M in FY21 to complete</li> <li>◦ Fielding starts in 3QFY21</li> </ul>	
<p><b>IFF Mode 5/S</b></p>		<ul style="list-style-type: none"> <li>◦ EUROCONTROL mandates Mode S by 2016</li> <li>◦ ADS-B Out has been deferred</li> <li>◦ Funded in FY18 POM</li> <li>◦ <b>Fielding starts in 3QFY22</b></li> </ul>	P7
<p><b>Defensive Management System Modernization (DMS-M)—B-2 Displays Modernization</b></p>		<ul style="list-style-type: none"> <li>◦ Needed for A2/AD fight</li> <li>◦ Provides in flight real-time auto-routing</li> <li>◦ Fully funded in FY20 PB</li> <li>◦ Schedule tripwire to Joint Staff in-progress</li> <li>◦ <b>De-Scoped to displays only – COAs in work</b></li> </ul>	



# DT AT WHITEMAN AFB



## BACKGROUND

- Developmental Test (DT) efforts have started executing out of WAFB due to aircraft availability and configuration limitations at Edwards AFB, CA
- Form, Fit, Function (F3) DT support includes contributions from 72 TES instrumentation, MX, engineer, and pilot personnel



## F3 SCOPE

- Scheduled F3 projects:
  - Cabin Pressure Transducer (CPT), 8 hr sortie
  - UHF SATCOM, 1 ground test and 1 sortie
  - HF RX/TX, 1 ground test and 1 sortie
  - HF Coupler, 1 ground test and 1 sortie
- F3 projects often do not require dedicated sorties and can be executed concurrently with other test objectives

## DT SCOPE

- All Future P6.3+ DT Programs
  - PD6.8 (P6.3) currently in test at Whiteman AFB
  - P6.4 in test in early 2021
  - P6.5 in test in early 2022
- Require Dedicated sorties / AC configs
- Coordinate w/ 419 FTS on test
- Data analysis by EDW



## ■ Test Capacity Throughput

- Aircraft availability and reliability, B-2 fleet management
- Range availability and capabilities

## ■ Security Issues

- B-2 enterprise not on a common network, Operational vs. Acquisition
- Barriers among platforms, limited TTPs

## ■ Enterprise Issues

- DT/OT transition to Whiteman
- Modeling & Simulation