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# **AVCATT UH-72A Upgrade Industry Day**

Orlando, Florida  
January 14, 2013

# Agenda

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<b>Time (14 Jan)</b>	<b>Topic</b>	<b>Location</b>	<b>POC</b>
0900-0905	Opening Remarks	Partnership II CR 208	Lead Project Director (Bell)
0905-0910	Introductions	Partnership II CR 208	All
0910-0915	Purpose	Partnership II CR 208	Lead Project Director (Bell)
0915-0930	AVCATT General Capabilities	Partnership II CR 208	Project Director (Slepov)
0930-0945	UH-72A Contract Requirements	Partnership II CR 208	Contract Specialist (Baird)
0945-1015	UH-72A Technical Requirements	Partnership II CR 208	AVCATT Engineer (Hanchi)
1030-1700*	Available suite storage	AVCATT Suite 11	AVCATT Engineer (Bailey)
1100-1545*	UH-72A Data Gathering	Orlando Executive Airport	AVCATT Engineer (Hanchi)
<b>Time (15 Jan)</b> 0800-1145	UH-72A Data Gathering	Orlando Executive Airport	AVCATT Engineer (Hanchi)

\* The attendees will be broken into groups for these two topics

# PM CATT (Virtual and Gaming)

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**Project Manager**  
**COL Harold A. Buhl, Jr.**

**Deputy Project Manager**  
**Mr. Fran Fierko**

**Combat Developers:**  
 -TCM - Virtual  
 -TCM - Gaming  
 - Army Training Support Command

TCM = TRADOC Capabilities Managers



**Army National Guard Coordinator**  
**Mr. Jim Godfrey**

**Assistant Project Manager Medical Simulation (APM MedSim)**  
**LTC Wilson Ariza**

**Assistant Project Manager Close Combat Tactical Trainer (APM CCTT)**  
**Mr. John Foster**

**Business Manager**  
**Mr. Michael Hunter**

**Deputy Director Engineering**  
**Mr. Rob Parrish**

**Acquisition Logistician Chief**  
**Mr. Tim Priebe**

**Supervisor Contracts**  
**Mr. Doug Greenwood**



**Product Manager Air and Command Tactical Trainers (PM ACTT)**  
**LTC Mark Bliss**



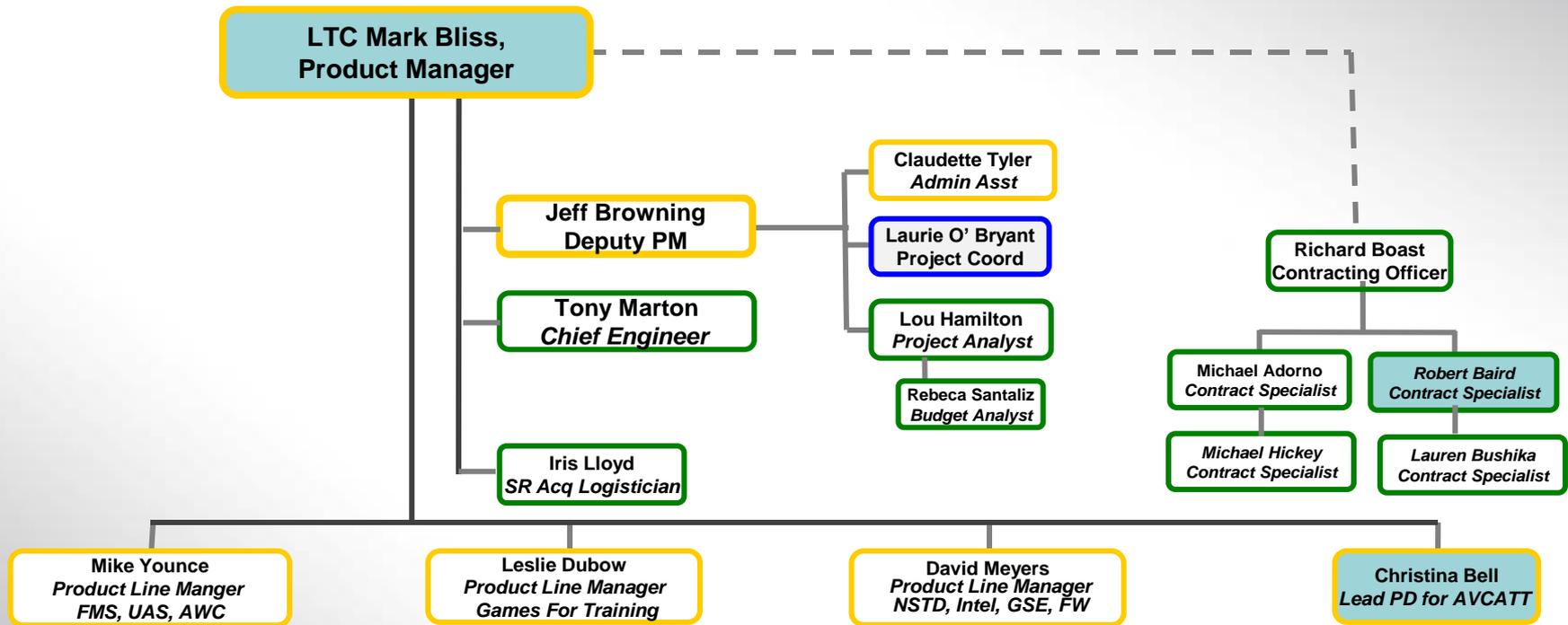
**Product Manager Special Operations Forces Training Systems (PM STS)**  
**LTC Richard Hagerty**



**Product Manager Ground Combat Tactical Trainers (PM GCTT)**  
**LTC Mark Evans**

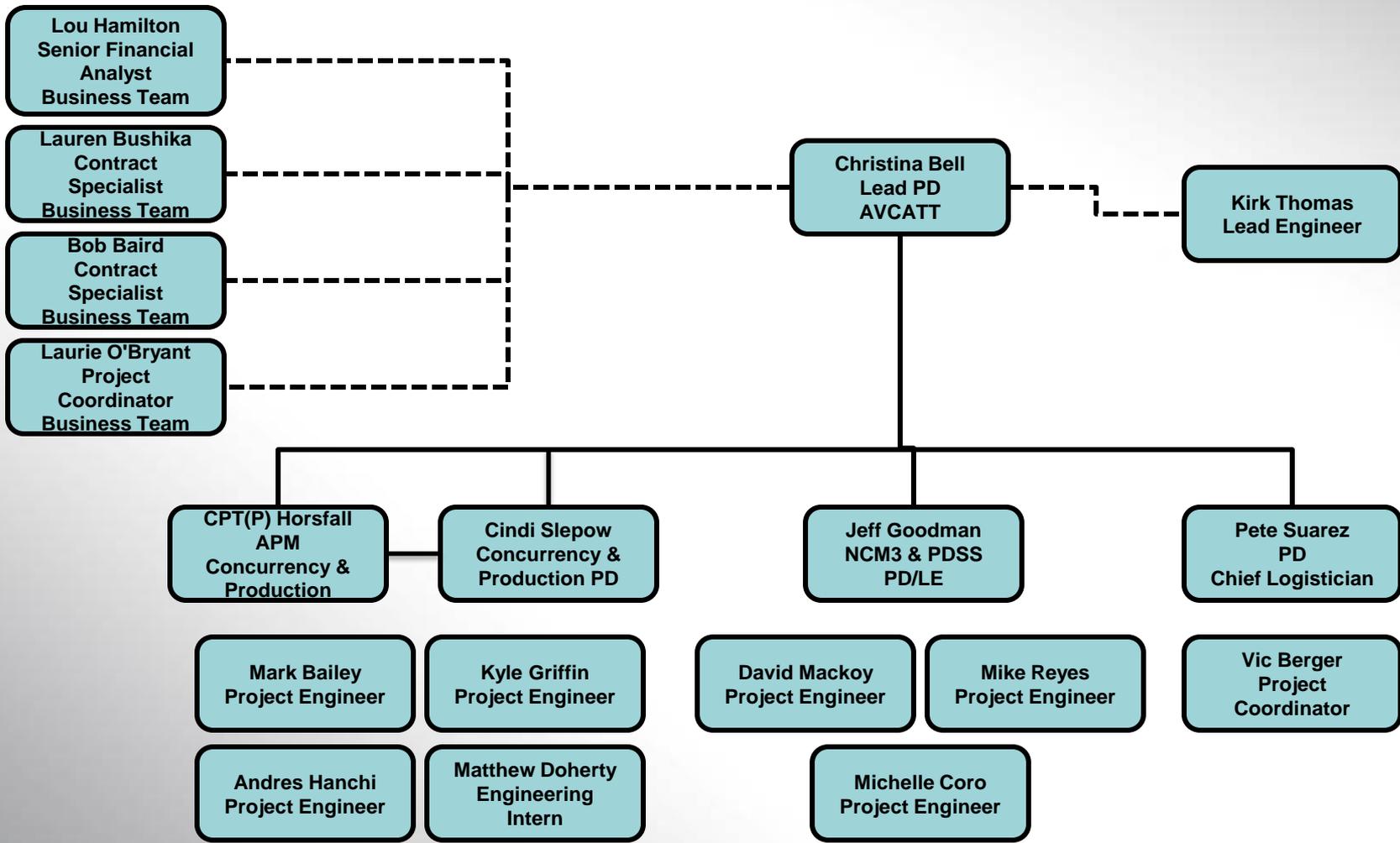
# PM ACTT Product-Line Organization

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# AVCATT Team Organization

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# Purpose

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- ❑ Inform Industry of a new procurement to support the AVCATT UH-72A Upgrade
- ❑ Gain Industry insight
- ❑ Provide an overview of the AVCATT UH-72A Upgrade requirements, as well as provide Contractors the opportunity to view an AVCATT suite and current hardware storage
- ❑ Allow Industry to collect data on the UH-72A aircraft



**Briefed by Cindi Slepow –Project Director**

# **SYSTEM OVERVIEW**

# AVCATT General Capabilities

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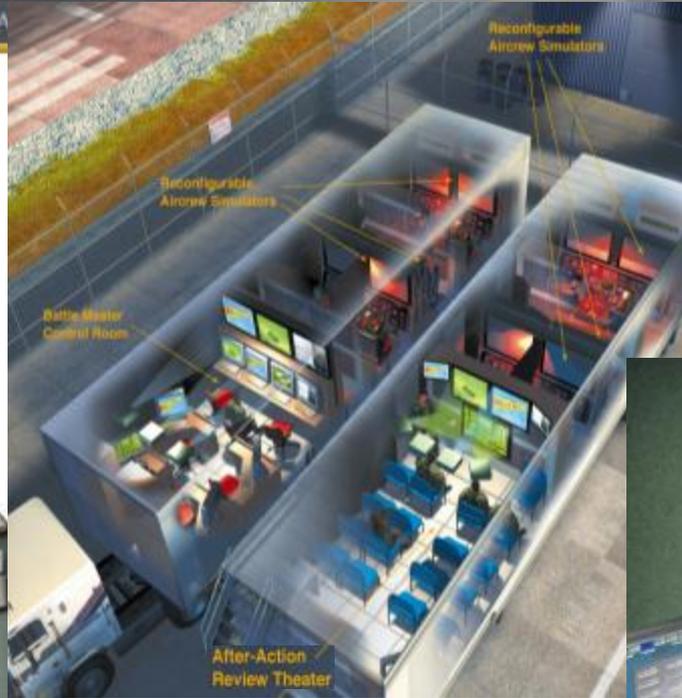
- ❑ The AVCATT is a mobile, transportable, multi-station virtual simulation device designed to support aviation unit collective and combined arms training.
- ❑ The AVCATT is a mobile, transportable, multi-station virtual simulation device designed to support aviation unit collective and combined arms training. AVCATT provides six manned modules re-configurable to any combination of attack, reconnaissance, lift and/or cargo helicopters. There are four role player stations for battalion/squadron staff, combined arms elements, integrated threat or friendly semi-automated Forces (SAF). Exercise record/playback with simultaneous AAR capability. 23 of 23 suites are currently fielded. The program has been recently upgraded with the Non-Rated Crew Member Manned Module (2 locations only) and SE Core & OneSAF.

# AVCATT System Layout



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Trailers



Role Players



AAR

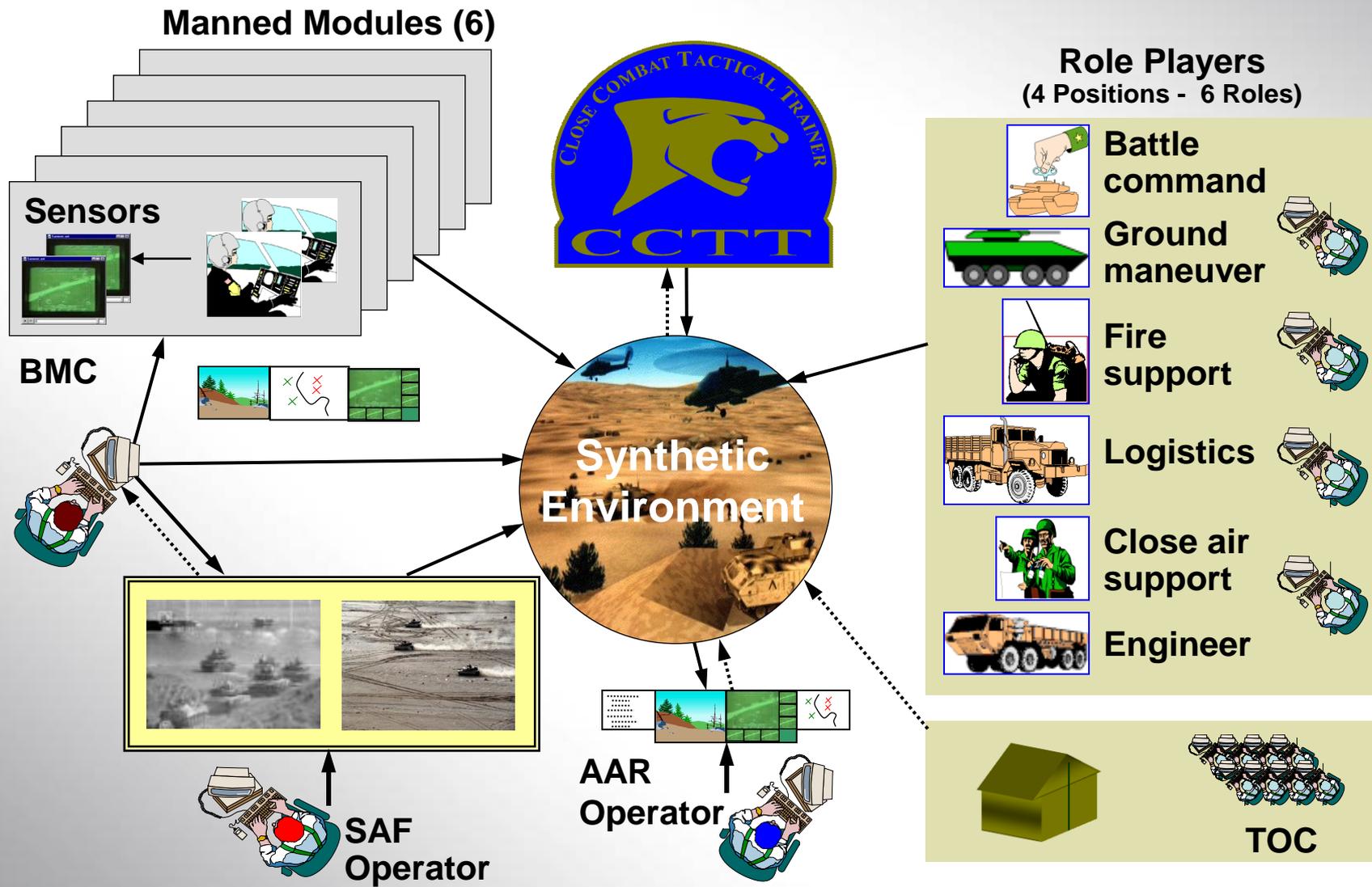


6 MMs



# AVCATT Architecture

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# AVCATT Configurations

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## Existing Configurations



UH-60 A/L  
"Blackhawk"



CH-47D  
"Chinook"



OH-58D Block II  
"Kiowa Warrior"



AH-64A  
"Apache"



AH-64D  
Block I, Lot 6.1  
Block II, Lot 10  
"Longbow"

## Future U.S. Configurations



UH-60M  
"Blackhawk"



CH-47F  
"Chinook"



OH-58F  
"Kiowa Warrior"



UH-72A  
"Lakota"



AH-64D  
Block II, Lot 13.1  
AH-64E  
"Longbow"

MUM-T Capability



# AVCATT Fielding

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<u>Suite</u>	<u>Location</u>	<u>Delivery Date</u>	<u>Suite</u>	<u>Location</u>	<u>Delivery Date</u>
1	Illesheim, GE (A)	Jan 04	13	Fort Drum, NY (A)	Apr 07
2	Fort Carson, CO (C)	Dec 03	14	Fort Hood, TX (A)	Aug 07
3	Smyrna, TN (R)	Sep 03	15	Hammond, LA (C)	Oct 07
4	Eastover, SC (R)	Sep 03	16	Albany, NY (R)	Feb 08
5	Camp Humphries, Korea (A)	Aug 05	17	Fort Rucker, AL (A)	Apr 08
6	Fort Stewart, GA (A)	Jun 05	18	Fort Leonard Wood, MO (R)	May 08
7	WAATS (R)	Jun 05	19	Schofield Barracks, HI (A)	Aug 08
8	Fort Bliss, TX (A)	Jan 06	20	Grand Prairie, TX (R)	Sep 09
9	Fort Riley, KS (A)	Jun 06	21	Fort Campbell, KY (A)	Dec 09
10	JBLM, WA (C)	Jun 06	22	Frankfort, KY (C)	Oct 09
11	Fort Bragg, NC (A) (Orlando for Development Support May 12 –May 13)	Aug 07	23	Fort Campbell, KY (A)	Dec 09
12	EAATS (R)	Feb 07	A = Active Component Installation (12) R = Reserve Component or ANG Regional Sites (7) C = Multi-Compo Installation (4)		



AVCATT UH-72A Fielding Locations



## Recently Completed

- SE Core databases, models and OneSAF Integration + Digital Comms
- OH-58D CDS4 Block II Concurrency
- SAF Computers
- NCM3 Suites 1-2
- IPDG & BRPS Computers

## Future

- UH60M and CH47F
- NCM3 Suites 3-16
- LVC-IA
- Ac Survivability Eq (ASE)
- AH64D Bl II Lot 13.1
- AH64E
- OH-58D with MUM-T
- OH-58F (CASUP)
- ✓ UH-72A

**Briefed by Robert Baird – Contracts Specialist**

# **CONTRACTUAL REQUIREMENTS**

Contractual Requirements not final at this time

# Contract Schedule/Calendar

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Event	Date
Sources Sought Notice (SSN) Issued	19 October 2012
UH-72A Industry Day	14-15 January 2013
Draft Solicitation Posted	11 February 2013
Release of Final Solicitation	29 March 2013
Pre-Proposal Conference Question Submission	05 April 2013
Pre-Proposal Conference	11 April 2013
Solicitation Question Submission	18 April 2013
Solicitation Answers Posted	25 April 2013
Proposal Submission	29 April 2013
Contract Award	30 July 2013

# AVCATT UH-72A Sources Sought Notice

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**Released:** 19 October 2012

## **Purpose of the SSN**

- Conduct market research
- Identify any companies that possess capabilities and resources
- Identify any commercial items to meet the Government's need
- Obtain feedback on various acquisition approaches

# Anticipated Acquisition Strategy\*

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- Not to Exceed 5 year STOC II contract
  - CLIN 0001: AVCATT UH-72A Requirements Development (Base)
  - CLIN 0002\*\*: AVCATT UH-72A First Article Development and Test (Option)
  - CLINs 0003 - 0012\*\*: AVCATT UH-72A Retrofits (Options)
  - CLIN 0013: Visual Upgrade in support of UH-72A (Option)
- National Guard funded; CLINs will be executed based upon funding received from Requiring Activity
- Combination of cost and fixed price CLINs
- NAICS 333319 - Other Commercial and Service Industry Machinery Manufacturing

**\*No final decisions/determinations have been made at this time.**

**\*\*CLINs 0003-0012 may not be executed sequentially.**

# Anticipated Acquisition Strategy, Cont'd\*

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- Evaluation factors to include:
  - Design Basis Aircraft data acquisition strategies
  - GPR Solution
  - Hardware and Software Integration Approach
  - Test Strategy
  - Cost
- Delivery order on a competitive basis IAW FAR Part 16.505 and the Special Contract Requirement entitled Delivery/Task Order Ordering Procedures found at paragraph H.16 under the PEO STRI Omnibus Contract II (STOC II) multiple award contract
- Award made on a best value/trade-off basis

**\*No final decisions/determinations have been made at this time.**



Briefed by Andres Hanchi – Engineer

# TECHNICAL REQUIREMENTS

Technical Requirements not final at this time

# Technical Requirements

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## **Changes to the AVCATT system to support the incorporation of the simulated UH-72A configuration into the AVCATT fleet**

- Three UH-72A manned module versions
  - Standard Configuration (Slick)
  - Security and Support Configuration (MEP)
  - Medevac Configuration
- AVCATT system changes to support the UH-72A mission

# UH-72A Mission

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**Execute Light Utility Helicopter missions and execute tasks as part of an integrated effort with other government agencies and non-governmental organizations in a “permissive environment”**

## **National Guard**

- ❑ Homeland Security (HLS) as part of Security and Support (S&S) Aviation Battalions
  - Terrorism Response
  - Civil Search and Rescue Operations
  - Border Patrol
  - Damage Assessment

## **Active Component**

- ❑ Table of Distribution and Allowance (TDA) Units
  - Logistics Support
  - Medical Support

**Example Task : Detect and React to Opposing Forces**

# UH-72A Standard Configuration

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## Cockpit

- Glass Cockpit
- Wide Field of View
- LCD Displays
- 3 Axis Autopilot

## Performance

- Low-noise rotor blades
- Twin Engine
- Maximum Speed 145 knots
- Endurance up to 3.35 hours
- Engine Inlet Barrier Filter (Selected Units)



## Communications

- Interagency VHF/UHF
- Intercom System

## Capacity

- 1107 lbs Payload Load
- Up to 6 Passengers
- Unobstructed Cabin/Cargo Flat Floor
- External Mounted Electric Hoist Capable
- 1500 lbs Cargo Hook

## Interagency Communications

- Standard Configuration
  - One Wulfsberg RT-5000
  - Two Wulfsberg P2000
  - P25 (Compliant) with Trunking



## Navigation

- IFR/VFR
- Night Vision Goggles
- Dual GPS
- Mode S Transponder
- Radar Altimeter

## Secure Communications

- ARC-231 (GFE)
- VHF-AM/FM, UHF-AM
- Maritime, SINGARS
- KY-58 Secure Communications



# UH-72A Security & Support Configuration

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## Observer Console

- 15' Touch screen Display
- Keyboard, track ball, EO/IR and Search Light controller



## Moving Map

- Street, Topo, VFR, IFR Enroute
- Interfaces with EO/IR

## Cockpit Screens

- 2 x 10' Touchscreen Displays
- Displays Moving Map, EO/IR Imagery



## Digital Video Recorder

- >3 hour recording
- Removable Media



## Communication

- 2 Wulfsberg RT-5000 w/ single control head
- ARC-231



## Search Light

- 40 Mil Candlepower
- Slaved to EO/IR



## Electro-Optical / Infra-Red

- Centerline Mount FLIR
- Day Camera/Low Light TV
- Laser Pointer



## Data Comm

- Video Downlink - Real Time Video
- 30 fps
- >30 nm range



# UH-72A MEDEVAC Configuration

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## Standard UH-72A Lakota with...

- Red Cross Emblem
- 2 NATO Standard Litters
- Environmental Control Unit (ECU)
- Engine Inlet Barrier Filter (Select Units)
- Side Facing Bench Seats (Unit Option)
- Medical Supply Unit
- External Mounted Electric Hoist



# AVCATT Challenges

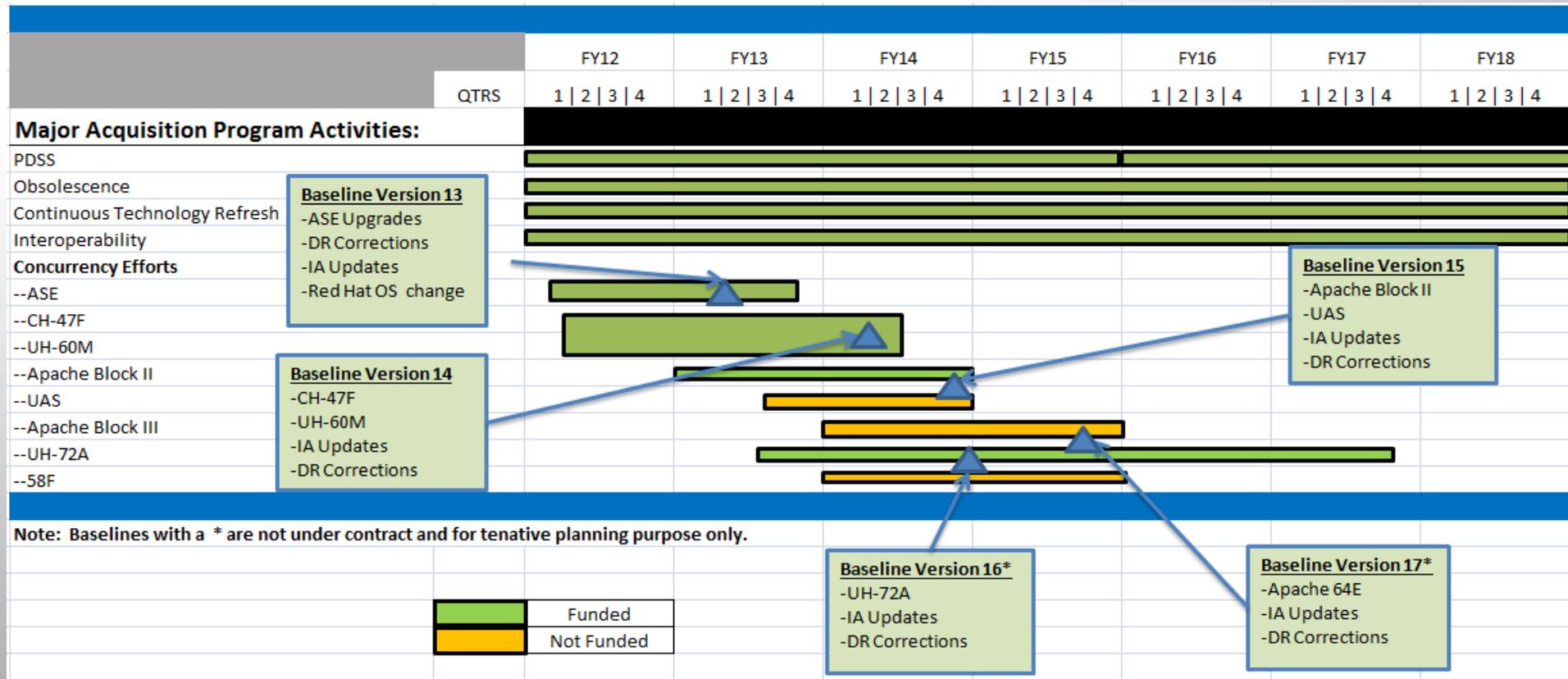
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- ❑ Communication and Coordination
- ❑ Complicated system
  - Trailer Mounted
  - Reconfigurable
  - 200+ computers in two trailers
  - Space Constraints
  - Heat Issues
- ❑ Multiple Developmental Efforts going on at the same time.

# AVCATT Baseline Release Schedule

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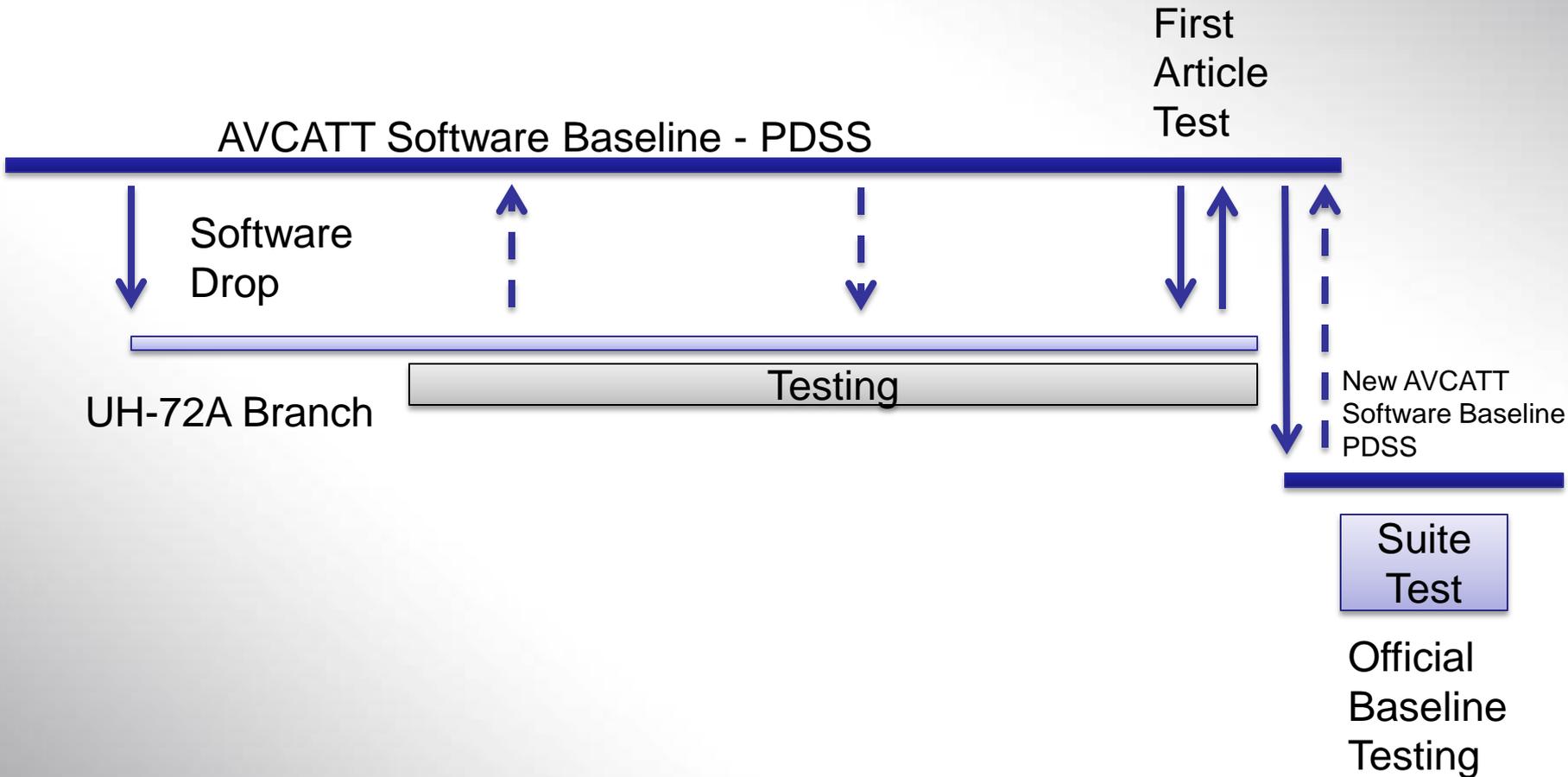


## **The contractor for this effort will be responsible for the following:**

- Developing the solution per the SOW, System Requirement Document, and Fidelity Analysis
- Developing and integrating a UH-72A flight model based on real performance or instrumented aircraft data
- Integrating and testing their solution
- Coordinating software drops and pulls with the AVCATT PDSS baseline
- Resolving any DR's in an IPT environment, this includes resolving which DRs fall under which scope.
- Coordinating their software into an official AVCATT PDSS baseline release
- Supporting Final Acceptance of the Software Load on an actual AVCATT Suite with an official AVCATT release.

# Baseline Verification

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# Hardware Management

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**The contractor for this effort will be responsible for the following:**

- Developing the solution per the SOW, System Requirement Document, and Fidelity Analysis
- Integrating and testing their solution
- Testing the Hardware solution on an AVCATT PDSS Software Baseline at one of the AVCATT Suites
- Responsible for fielding Hardware out to the AVCATT (See Slide 13) Fleet
- Design Considerations
  - Lifecycle Support
  - Heat produced
  - Space limitations in a trailer solution
  - Information Assurance
  - Reliability, Availability, Maintainability
  - Transferability, the UH-72A Kits must be able to operate on ANY AVCATT Suite. Example: If a suite never receives a UH-72A upgrade, a UH-72A kit from another suite must still be able to be installed on that suite. A kit must be fully self contained and movable to another suite. Any kit related suite modifications cannot be permanently fixed and tied to that suite only.
  - No additional storage space other than the two trailers is available

# Government Furnished Information

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## **Access will be provided to the following AVCATT material:**

- Design Documents
- Architecture Documents
- Interface Documents
- Drawings
- Technical Publications
- Training Material
- Current Baseline
- Subject Matter Experts (SME)
- Latest AVCATT baseline\*

**No Original Equipment Manufacturer (OEM) material will be provided for this effort**

\*Source code will not be available for software with Proprietary code

# Sample Proprietary Software\*

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- ❑ FIO Linkage
  - The Link Federated Input / Output (FIO) interfaces analog discrete, analog voltage and serial digital input/output hardware signals to the simulation software.
- ❑ SoftDRLMS
  - Soft Digital Radar Land Mass Simulation (sDRLMS) is the Link trade name for the software-based radar simulation
- ❑ Sensor Video Recording System
  - The Link Sensor Video Recording System (SVRS) is a scaleable PC-based computer system used to monitor, record and play back high resolution video imagery within the AVCATT training system

\*Attachment to the RFP will provide further information

# Integration/Test Asset Availability

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## FACTS:

- The Government's requirement for the AVCATT UH-72A Upgrade is that Government Acceptance Testing (GAT) be conducted on an AVCATT Suite.
- Integration and testing leading up to GAT will require at least one AVCATT manned module, but could require more than one manned module for communication system testing.
- UH-72A integration of other AVCATT aircraft types must be tested as part of the UH-72A contract.
- The Government will not be able to dedicate a Software Engineering Environment (SEE) (manned module/lab asset) solely to this effort.
- Fixed Funding Available

## Possible Approaches\*

**Example 1 - Contractor can use a SEE (1 MM, BMC, RPs) on a Part Time Basis**

**Example 2 - Contractor can procure hardware for a "Mini-SEE"**

**Example 3 - Contractor can use an AVCATT Government Furnished Suite at their location, with or without the suite Contractor Logistics Support (CLS) crew**

**\*These approaches are not all inclusive; Offeror's can propose something different than these examples that meets RFP requirements.**



## Example 1-Offeror Use Orlando SEE :

- ❑ Government can guarantee use of the Orlando SEE (located in L-3 Communications facility) for integration and test until complete with this phase of the delivery order
  - No less than 50% of a 40 hour work week, but no more is guaranteed
  - One Manned Module, one Battle Master Controller (BMC), one Role Player Workstation available
- ❑ With this option, the Government will schedule time on a fielded suite for GAT preparations and GAT (assume Eastover, South Carolina for proposal)
  - Offeror's travel costs for these activities must be included in the proposal and subsequently the Total Evaluated Price in the Government's evaluation
  - CLS crew support will not be included in Offeror's Total Evaluated Price, since they will be at home station



## Example 2-Offerrer Procure Mini-SEE :

- ❑ Offeror can procure a subset of an AVCATT suite (Mini-SEE) required to perform integration and lower level testing
  - Definition of “required” left up to the Offeror
  - Labor and material cost activities must be included in the Offeror’s proposal and subsequently the Total Evaluated Price in the Government’s evaluation
- ❑ With this option, the Government will schedule time on a fielded suite for GAT preparations and GAT (assume Eastover, South Carolina for proposal)
  - Offeror’s travel costs for these activities must be included in the proposal and subsequently the Total Evaluated Price in the Government’s evaluation
  - CLS crew support will not be included in Offeror’s Total Evaluated Price, since they will be at home station



## Example 3-Offeror Use Government Furnished Suite and CLS Crew:

- ❑ Government will move an AVCATT suite (including CLS crew) to the winning Offeror's facility for integration, lower level testing and GAT
  - Offeror can propose any duration for the AVCATT Suite to be located at their facility (dependent upon individual Offeror's approach)
  - The cost for the Suite move to/from the Offeror's facility and CLS travel/per diem costs, though borne by the Government on a different contract, would be included in the Offeror's Total Evaluated Price
  - No CLS overtime included – Offeror must plan on 40 hour testing on Suite for required duration
  - Facility requirements (power, pad, tie downs) are the responsibility of the Offeror
- ❑ Suite move and CLS travel and monthly per diem costs will be provided by the Government at RFP release for Offeror's consideration when determining their preferred test approach



## Example 3-Offeror Use Suite and NOT CLS Crew:

- ❑ Government will move an AVCATT suite (excluding CLS crew) to the winning Offeror's facility for integration, lower level testing and GAT
  - Offeror can propose any duration for the AVCATT Suite to be located at their facility (dependent upon individual Offeror's approach)
  - The cost for the Suite move to/from the Offeror's facility, though borne by the Government on a different contract, would be included in the Offeror's Total Evaluated Price
  - Facility requirements (power, pad, tie downs) are the responsibility of the Offeror
  - Operation and maintenance costs of the suite while it is in the Offeror's facility would be included in the Total Evaluated Price
- ❑ Suite move will be provided by the Government at RFP release for Offeror's consideration when determining their preferred test approach

# Hardware Requirements

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## **A new UH-72A configuration will be added to the AVCATT fleet**

- Pilot / Copilot Cyclic and Collective Controls
  - Main Instrument Panels
  - Center Console
  - Overhead Console
  - Additional hardware if necessary
- 
- **Storage and Heat must be considered when planning**
  - **The developed AVCATT UH-72A kit must be capable of operating on ANY AVCATT suite.**
  - **Transferability, the UH-72A Kits must be able to operate on ANY AVCATT Suite. Example: If a suite never receives a UH72A upgrade, a UH-72A kit from another suite must still be able to be installed on that suite. A kit must be fully self contained and movable to another suite. Any kit related suite modifications cannot be permanently fixed and tied to that suite only.**

# Software Highlights

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- Integrate or Emulate the UH-72A Operational Flight Program (OFP)
- Integrate or Emulate the UH-72A Flight/Engine Model
- Create and integrate HOST UH-72A simulation
- Update the Semi-Automated Forces (SAF) for the UH-72A
- Update the Battle Master Controller (BMC)
- Update the After Action Review (AAR)
- Update SE Core gateway to add the UH-72A
- Create and integrate SAF models and behaviors to meet the requirements of the collective tasks listed in the Fidelity Analysis
- Integrate visual GFI CM2 moving models from SE Core



# Questions?\*

\*Following this briefing, questions other than those about the UH-72A aircraft must be submitted in writing to the Contract Specialist [bob.baird@us.army.mil](mailto:bob.baird@us.army.mil)

# Suite 11 Data Collection

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**Monday, 14 January 2013**

<b>Company</b>	<b>Time</b>
L3	1030-1100
QinetiQ-NA	1110-1140
ADACEL	1150-1220
Fidelity	1230-1300
CAE	1310-1340
Metters	1350-1420
SAIC	1430-1500
Thales	1510-1540
AEgis	1550-1620
AVT	1630-1700
S3I	1710-1740

POC: Mark Bailey 321 689 7989

Location: 12351 Research Parkway, Orlando, FL 32826



# UH-72A Data Collection

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## Monday, 14 January 2013

Company	Time
CAE	1100-1145
L3	1200-1245
Thales USA	1300-1345
ADACEL	1400-1445
Fidelity	1500-1545

## Tuesday, 15 January 2013

Company	Time
AVT	0800-0845
SAIC	0900-0945
Metters	1000-1045
AEgis	1100-1145

POC: Andres Hanchi 407 446 8168

Location: SHELTAIR

321 North Crystal Lake Dr.  
Orlando, FL 32803



## DRIVING DIRECTIONS: PII to UH-72A at SHELTAIR

### TOLL FREE DRIVING

- Turn left departing PII parking at Technology Pkwy
- Turn right at the 1st intersection onto Science Dr
- Turn left onto FL-434 E/N Alafaya Trail/State Road 434 E
- Turn right onto FL-50 W/E Colonial Dr and continue 8.6 mi
- Turn left onto Maguire Blvd / N Crystal Lake Dr for approximately 0.5 mi
- Make a left turn into SheltAir on the left

# Area Map

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## UH-72A at SHELTAIR





## DRIVING DIRECTIONS: PII to UH-72A at SHELTAIR

### DRIVING WITH TOLLS - \$2.25

- Turn left departing PII parking at Technology Pkwy
- Turn left at the 1st intersection onto Science Dr
- Turn right onto right onto Ingenuity Dr
- Turn left at the light onto Challenger Pkwy
- Continue on Challenger Pkwy / **FL-408 W** for approximately 10 mi
- Exit FL-408 W at N Crystal Lake [12B]
- Turn right at the light onto N Crystal Lake approximately .5 mi SheltAir
- Turn right into SheltAir parking

# Area Map

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## UH-72A at SHELTAIR



# Area Map

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## UH-72A at SHELTAIR

