



MDA Test Contracts Small Business Forecast



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Agenda



- **MDA Directorate for Test Overview**
- **MDA Test Contracts Overview**
- **Advanced Research Center (ARC) Support, Mission, and Capabilities**
- **Path Forward**



Directorate for Test Overview



Mission

- Plan, program, budget, staff, and manage a comprehensive Ballistic Missile Defense System (BMDS) test program.
- Characterize ballistic missile defense capabilities and support fielding of an integrated, effective capability.

Scope of Activity

- Three Pronged Test Approach
- Flight Test
- Ground Test
- Exercises & Wargames

Major Functions

- Integrated Master Test Plan
- Test Events
- Infrastructure

Senior Leadership

- Major General James Dickinson, Director for Test
- Mr. Stephen Beard, Deputy Director for Test



Test Contracts Overview



| Contract # | Prime Contractor | Short Description | Scope | Business Type | Potential Value | Award Date | End Date |
|------------------|---|-------------------|--|---------------------------------------|-----------------|------------|-----------|
| HQ0006-07-D-0002 | Colsa Corporation | ARC | Facility, supervision, management, operations, and technical resources to support the Advanced Research Center (ARC). | Small Business | \$ 422,000,000 | 17-Sep-07 | 16-Sep-17 |
| HQ0147-14-D-0002 | Arctic Slope Regional Corp (ASRC) / Analytical Services, Inc. | MDDC | Missile Defense Data Center (MDDC) support. Includes data center operations, support of test design, planning, products, and analysis infrastructure operations. | Small Business | \$ 435,000,000 | 10-Oct-13 | 10-Oct-23 |
| HQ0147-14-D-0004 | Wolf Creek Federal Services, Inc. | Range Ops | Range operations and infrastructure test support. | 8a Small Business Alaska Native Corp. | \$ 19,500,000 | 10-Sep-14 | 9-Sep-19 |
| HQ0147-11-D-0014 | L-3 Comm. / Aeromet | ABS | Airborne Sensors (ABS) operations, support, improvement, modernization, and technology development | Large Business | \$ 450,000,000 | 23-Jun-11 | 22-Jun-21 |



ARC Support



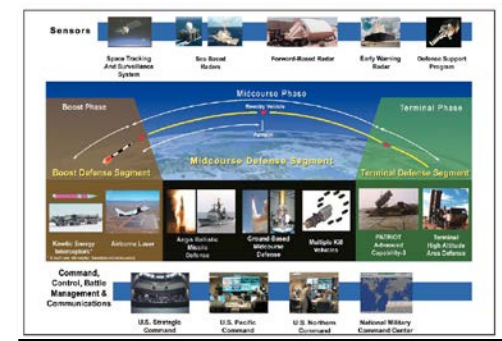
Current Contract Details

- **Scope:** Facility, supervision, management, operations, and technical resources to support the Advanced Research Center (ARC).
- **Type:** ID/IQ with fixed price labor and cost-only ODCs.
- **Duration:** 10 years (Sept 2007 to Sept 2017)
- **Incumbent:** Colsa Corporation
- **Value:** \$422 million ceiling
- **NAICS:** 541712



ARC MISSION

- **ARC has supported Missile Defense > 40 years**
 - **At current location since 1987 and doubled in size**
- **Provide Support to Missile Defense Engineering, Development, Integration, Testing, and Analysis of the Ballistic Missile Defense System (BMDS)**
- **Provide High Performance Test Resources and Engineering Services for Ground Test (GT) and Flight Test (FT) Risk Reduction Activities**
 - **Element-Specific GT, BMDS-Wide GT, Warfighter Exercises, Pre/Post FT Support, Real World Events, Fast Events, Operator Training, Developmental Element Testing**
- **Current focus is testing with Hardware-in-the-Loop (HWIL) representations of BMDS elements**
 - **Testing in the ARC is critical to deploying new capabilities for the warfighter**





BMDS Ground Test Resources

MDIOC
(BGTC, C2BMC)
Colorado Springs, CO



SBIRS BOA/ESL
Azusa, CA



AEGIS LABS
Pt Loma, CA / Moorestown, NJ



AN/TPY-2
Woburn, MA



SBIRS TSC
MDIOC, CO



SED
(THAAD, Patriot)
Redstone, AL



ARC
(GMD, SBX, Cobra-Dane,
UEWR, AN/TPY-2)
Huntsville, AL



ARC – Advanced Research Center
ARCTEC – ARC Test Execution and Control
GMD – Ground-Based Mid-Course Defense
BGTC – BMDS Ground Test Capability
BID – BMDS Integration & Development Center

PSEM – Patriot System Effectiveness Model
BOA – BMDS Overhead Non-Persistent Infrared Asset
ESL – External Sensors Lab
ISTC – Integrated System Test Capability

SED – System Engineering Directorate
TSC – Test Support Capability
SBX – Sea-Based Radar
UEWR – Upgraded Early Warning Radar
MDIOC – Missile Defense Integrations & Operations

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WHAT IS THE ARC?

Facility



- 95,000 Square Feet
- Reconfigurable
- Houses Numerous MDA Test Labs
- Unique Computer/Network Capabilities
- Secure Operations
- Provides Synergy Between Missile Defense Programs

Element Representations

- GMD Fire Control and Weapon System
- Sensor Representations:
 - SBX
 - UEWR
 - Cobra Dane
 - AN/TPY-2
- SSF/OSF Framework Nodes
- Test Execution Controller (TEC)



Network/Comm Capabilities

- Defense Research Engineering Network Service Delivery Point – 700Mbps
- MDA Classified Net/MDA Unclassified Net
- Mission Voice
 - MDA VOIP, DRSN IST, Flight Test Comms, Chat, GT Specialized Comms
- Cyber Protection - Fire Walls/Network Intrusion Detection
- Warfighter & Test Specific Comms

“People” Make it Work

- Government Management of Facility, Lease, and Contract
- Contract Vehicle for Laboratory Users to Procure Services, Travel, and HW/SW
- Engineering Services for ARC Labs
 - Network/Communications
 - Systems Integration
 - Information Assurance
- Operation & Sustainment Support
 - Security
 - Property Management
 - User Services



ARC TESTBEDS

Director for Test



Integrated System
Test Capability 1



ARC Training and
Operations Center



Test Execution
Controller 2

Director for Engineering



Single Stimulation
Framework



Test Execution
Controller 1

Ground-Based Midcourse



GME-Analysis and
Performance Lab



Prime Consolidated
Integration Lab

Sensors



AN/TPY-2
(3)

UEWR
(7)

Cobra
Dane
(3)

SBX
(3)

Israeli Program



Israeli
Cooperative
Program
Office



ARC TESTBEDS

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Integrated System Test Capability (ISTC)-1 and ISTC-2 are system level representations of several components of the Ballistic Missile Defense System (BMDS). They include a Hardware-in-the-Loop representation of the Ground-based midcourse segment, as well as, several of the sensor systems. Both flight tests and ground tests can be run in either ISTC. ISTC-2 also provides a BMDS Development and Integration venue for component testing of new functionality, risk mitigation for formal events, fielded system assessment with rapid turnaround to meet fielding decisions, while maintaining operational capability to support the Warfighter



GME-Analysis and Performance Lab (GME-A) provides a single focus for BMDS-Level integrated test planning. GME's primary areas of analysis are: predicting performance of an integrated T&E architecture for executable system level flight tests; and evaluating performance of MDA element configurations



ARC Training and Operations Center (ATOC) is an environment to support command, control, display and communications functions to train flight test execution mission operators in a variety of simulated missions



The Israeli Test Bed (ITB) is a real-time, medium-fidelity, human-in-the-loop simulation system of theater missile defense (TMD) assets jointly developed and owned by Israel Missile Defense Organization (IMDO) and MDA. It supports MDA integrated ground tests by providing interoperability representation of the Arrow and David's Sling Weapon Systems. Investigates combined TMD architecture studies, Israeli TMD studies, and development of concepts for the battle management centers (BMC) of the Arrow and David's Sling Weapon Systems



Single Stimulation Framework (SSF) integrates models and scenario framework across the Ballistic Missile Defense System (BMDS) elements. It accurately represents the performance of fielded BMDS given a variety of threats and environments



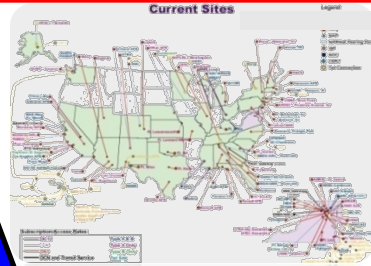
ARC Test Execution Controller (TEC) and ARC TEC-2 provide connectivity, execution, control and data collection for HWIL BMDS System Level GT



PCIL is managed by GMD and is the MDA test facility used to perform Pre-Mission Tests (PMTs) and Post Flight Reconstruction (PFR) of GBI Launch Events. PCIL contains representations of all GM components, the SN Strategic Surveillance sensors (UEWRs, CDU), interfaces to other MDA components, and the DE test frame work (SSF) in a configurable architecture. PCIL is the only MDA test lab with a High Fidelity Brass Board Hardware-in-the-Loop (CE-I/CE-II BBHWIL) GBI representation required for Flight Test Risk Reduction

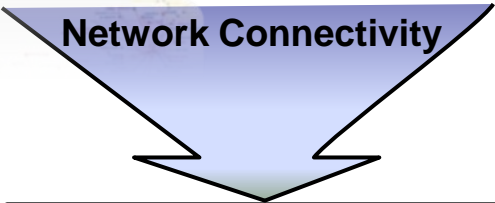


ARC COMPONENTS



- Defense Research and Engineering Network
- MDA Classified Network
- MDA Unclassified Network

Integrated Testbeds



Key Industry Partners

+ 45 Other Partners

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The MDA ARC is the focal point for Missile Defense Testing, Engineering, Development, Integration, and Analysis of the BMDS



ARC Path Forward



- **Request for Information**

- Request for Information was posted to FedBizOps on March 1, 2016
- Responses were received by March 22, 2016

- **Acquisition Strategy**

- **Participation**

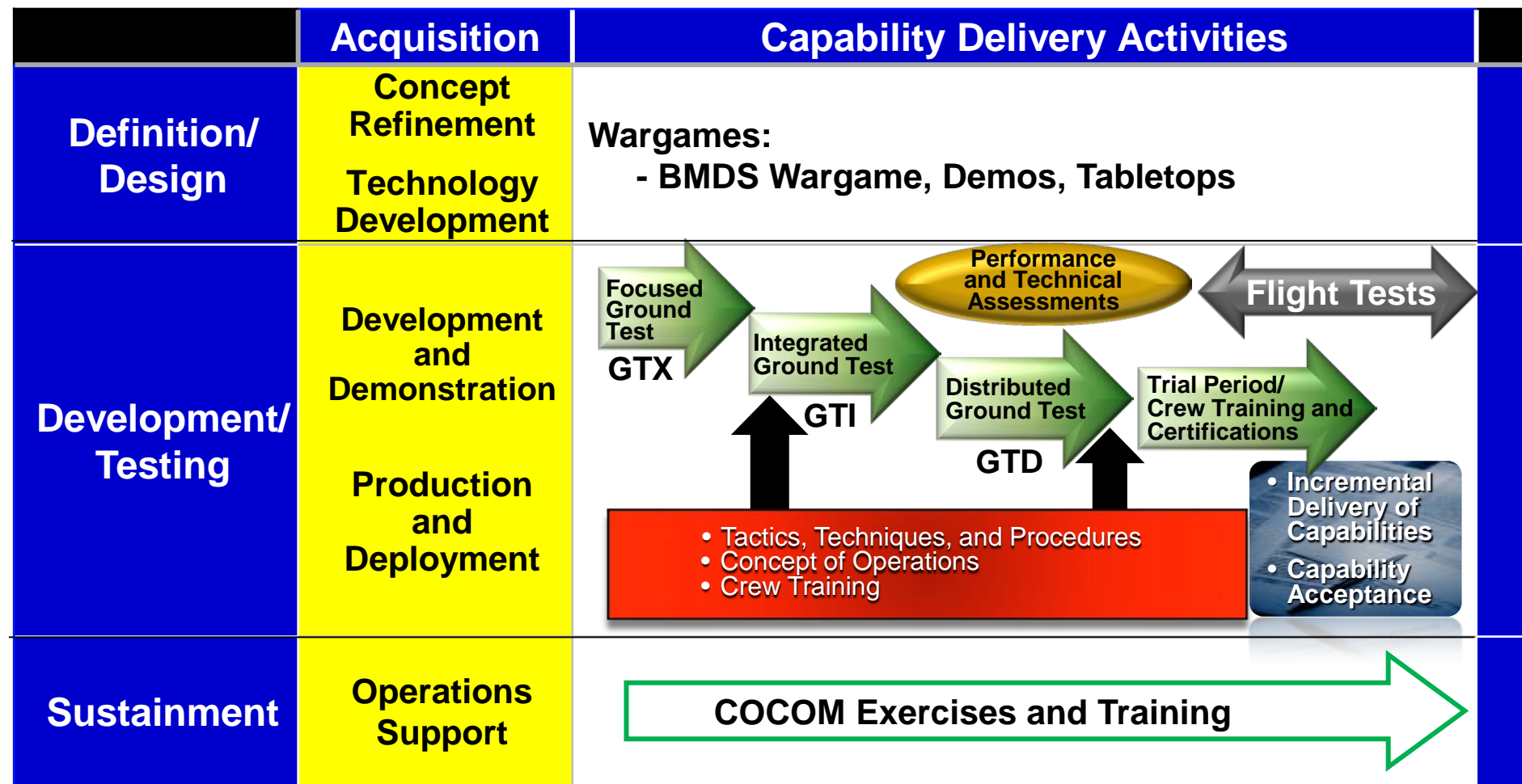


BACKUPS

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GROUND TEST INTEGRATION



BMDS - Ballistic Missile Defense System
 COCOM - Combatant Command
 GTD - Distributed Ground Test
 GTI - Integrated Ground Test
 GTX - Focused Ground Test

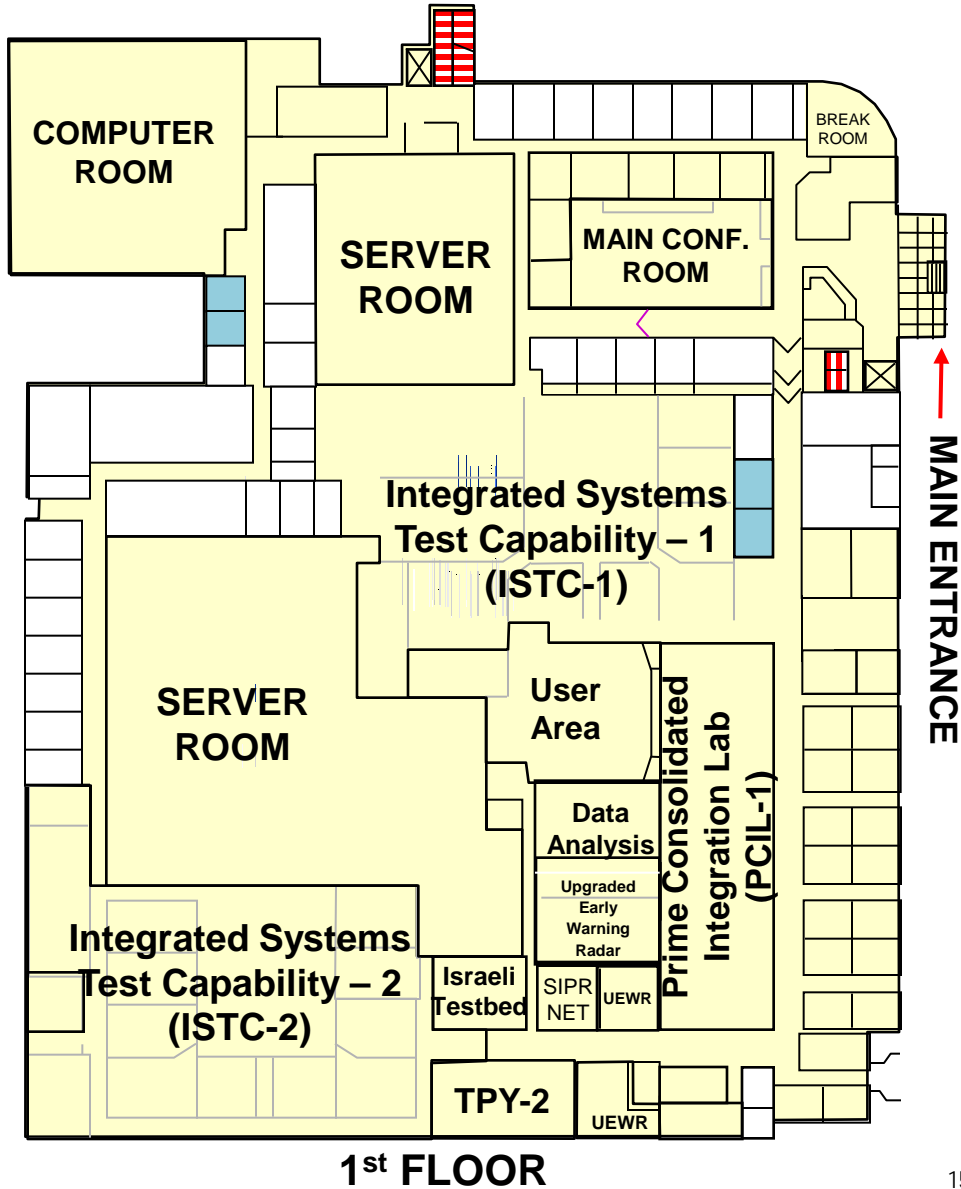
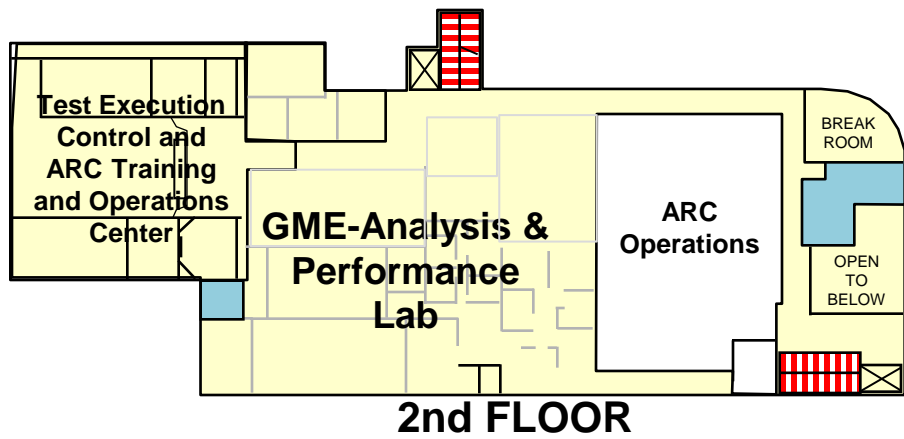
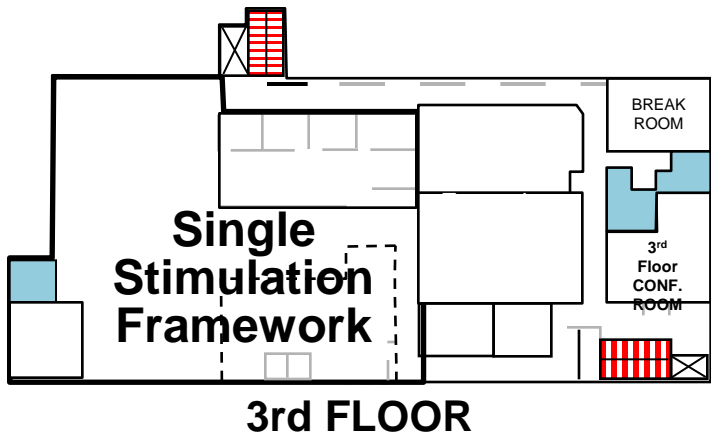
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ARC FLOOR PLAN



Restrooms

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