



# *Common Range Integrated Instrumentation System (CRIIS)*

National Defense Industrial Association  
*49<sup>th</sup> Annual Targets, UAVs & Range Operations  
Symposium & Exhibition*



## **CRIIS Program Overview** **October 2011**

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# Outline



- **Background**
- **Strategy**
- **Accomplishments**
- **Summary**



# CRIIS



- **Development Funded by OSD via Central Test & Eval Investment Program**
  - CTEIP Highest Priority Program
- **Production and Sustainment Funded by Each Service**
- **Advanced Tri-Service Range Instrumentation System**
  - Supports 5th Generation Fighters
  - Provides Sub-meter High Dynamic Tracking Accuracy with Secure Datalink
    - Top Secret & Multiple Independent Levels of Security Capable
- **50-Person Project Office**
- **\$500M Development and Production Value**
- **Prime Contractor: Rockwell Collins, Cedar Rapids, IA**

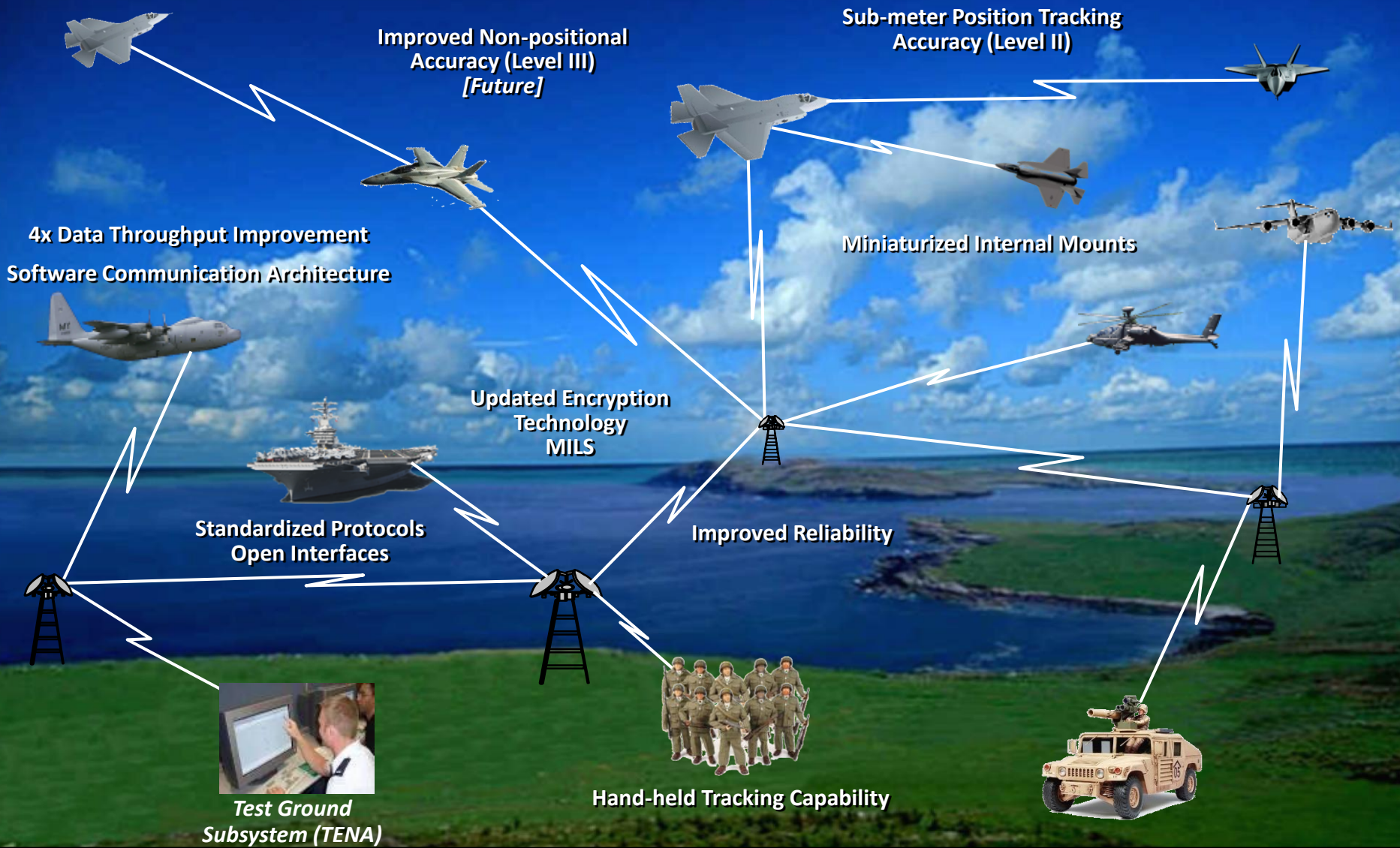


# ***Background***

- **Primary Function: Test Data Collection**
  - Land, Sea, and Airborne Platforms (Including F-22A and F-35)
  - Requires Equipment More Accurate than System Under Test (SUT)
- **CRIS Provides:**
  - High Accuracy Time, Space, Position Information (TSPI) of SUT
  - Secure Datalink(s) Transmit Real Time TSPI and Aircraft Data
    - Avionics
    - Weapons Targeting and Status Data
    - Aircraft Status
- **CRIS Maximizes Interoperability Among T&E Ranges**
- **Potential Use on Training Ranges**
- **CRIS Development Funded by Central Test & Evaluation Investment Program**
  - CRIS Production and Sustainment Funded by Individual Services

***CRIS is A Test Range Replacement of the Existing GPS Based ARDS  
With Advanced Datalink, TSPI, Security Features***

# CRIS Overview



**Test Package Directive (TPD) Issued 7 Jul 10**



# Functional Configurations



## INCREMENT 1

Configurations 1, 2, 3



*Config. 1  
Dismounted Soldier*

Level IB TSPI  
Mid Range DL  
Encryption



*Config. 2  
Low Dynamic Vehicles*



*Config. 3  
Ship-to-Shore*

Level IB TSPI  
Extended Range DL

## INCREMENT 2

Configurations 4, 5, 6

Level II TSPI  
High Throughput DL  
Encryption



*Config. 4 Pod*



*Config. 5 Moderate Accuracy  
Multi-Package Internal Mount*



*Config. 6 Moderate Accuracy  
Single Package Internal Mount*

## INCREMENT 3

Configurations 7, 8



*Config. 7 High Accuracy  
Multiple-Package Internal Mount*

Level III TSPI  
High Throughput DL  
Encryption



*Config. 8 High Accuracy  
Single Package Internal Mount*

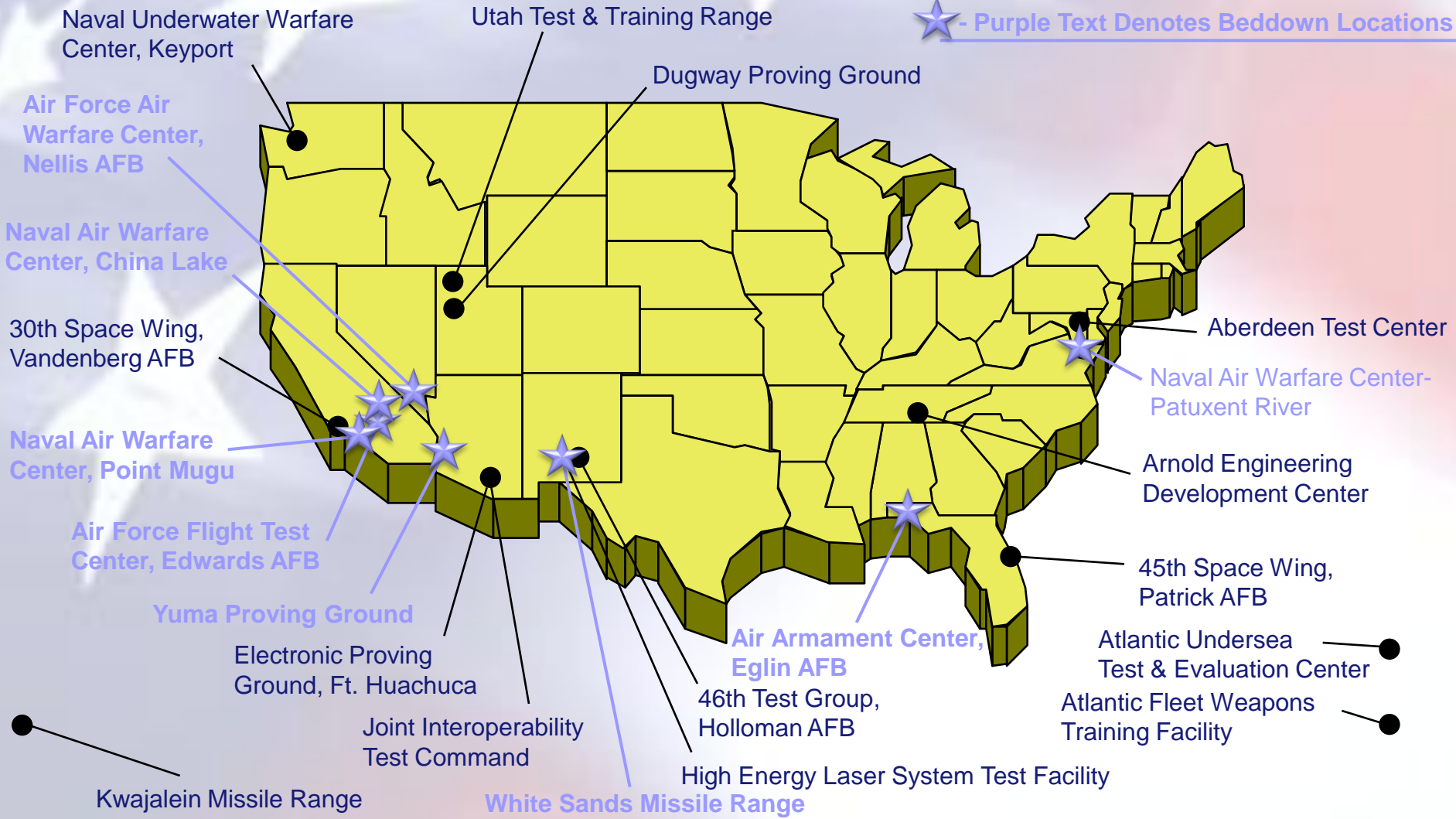
**Ground Subsystem (GS)**



# Major Range and Test Facility Base (MRTFB) and Initial Beddown Locations



★ - Purple Text Denotes Beddown Locations





# Accomplishments/Status

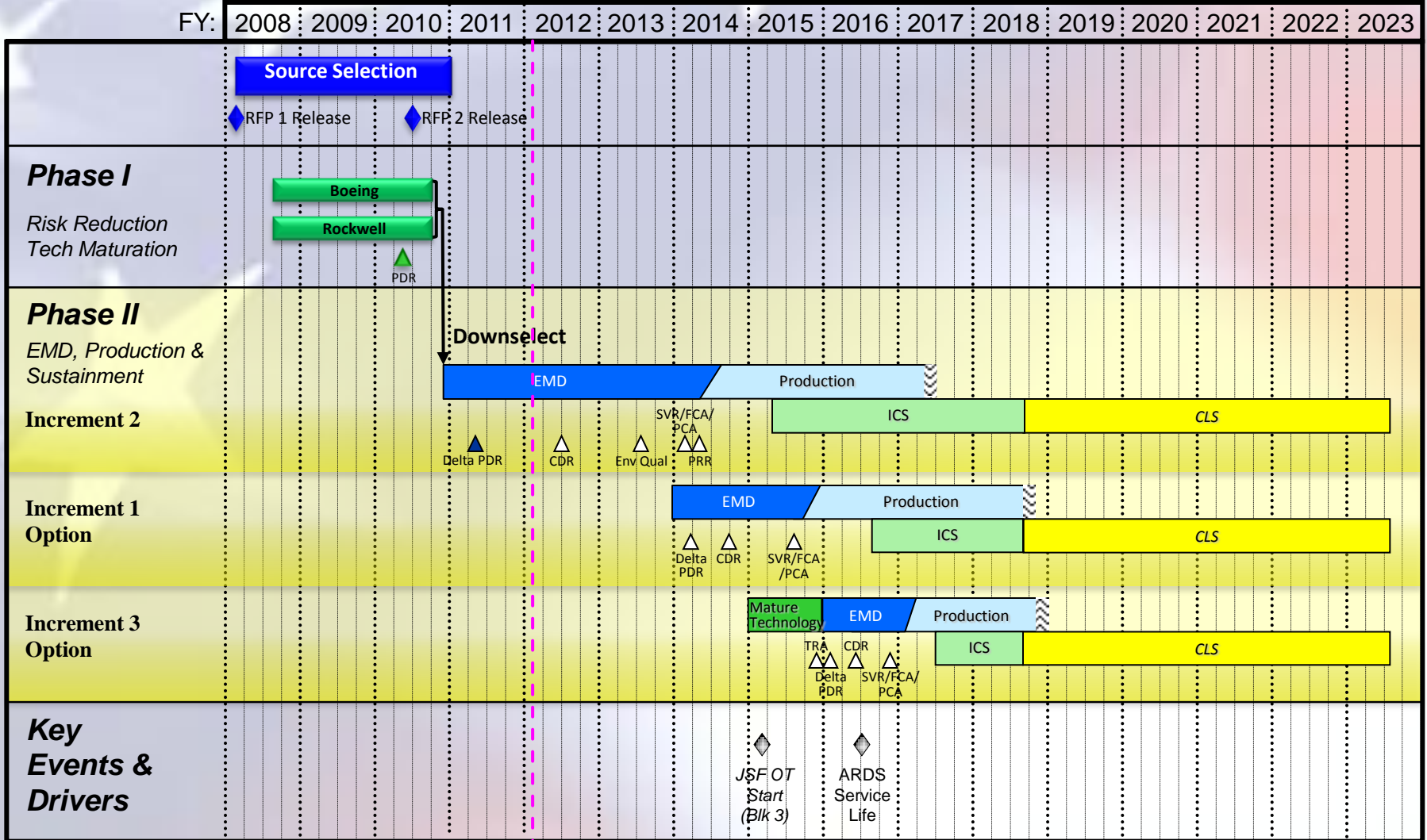


- **Phase I Completed May 2010 – On Time and Within Budget**
  - ✓ Matured and Demonstrated TSPI Technology
  - ✓ Reduced Risk, Demonstrated High Throughput Datalink
  - ✓ Developed System Architecture and Preliminary Design, PDR
  - ✓ Conducted Phase II Source Selection
    - ✓ Fixed Price Production Options in Hand
    - ✓ Sustainment Strategy in Place
  
- **Phase II EMD Activities Accomplished/Planned**
  - ✓ Completed Delta PDR 15-17 Feb 11
  - ✓ Developed Prototype Boards
  - Complete Detailed Design and Demonstration
  - Perform Qualification Testing, Verification, and Validation
  - Conduct Technical Reviews: CDR, TRR, PCA, FCA
  - Develop Proof of Design/Manufacturing Units
  - Transition to Production & Sustainment





# CRIS Program Schedule





# Sustainment Approach



Sustainment Activities	ICS	CLS
Depot Repair Facility (for All Assets that Cannot be Repaired at O-level)	✓	✓
On-Call Tech Support 24/7 Via Phone	✓	✓
On-Site Tech Support Visit (Once per Year per Range)	✓	
RAMPOD Data Maintenance for Depot Assets	✓	✓
Central Stocking Location	✓	✓
Spares Management	✓	✓
Ship Repaired Assets to Ranges	✓	✓
Demil and Disposal		✓
Performance-Based Logistics (Material Availability and Material Reliability)		✓



# Summary

- **CRIIS is Funded and Executing Phase II**
- **CRIIS Technologies are Leading Edge**
  - **TSPI Pushing GPS Boundaries**
  - **Secure High Throughput, High Spectrally Efficient Datalink**
- **CRIIS is a Future Enabler**
  - **Conducive to Live, Virtual, Constructive Applications**
  - **Potential Operational Use**