



Common Range Integrated Instrumentation System (CRIIS)

National Defense Industrial Association
*50th Annual Targets, UAVs & Range Operations
Symposium & Exhibition*



CRIIS Program Overview October 2012

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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
 - Multiple Independent Levels of Security Up To Top Secret Capable
- **50-Person Project Office**
- **\$415M Development and Production Value**
- **Prime Contractor: Rockwell Collins, Cedar Rapids, IA**

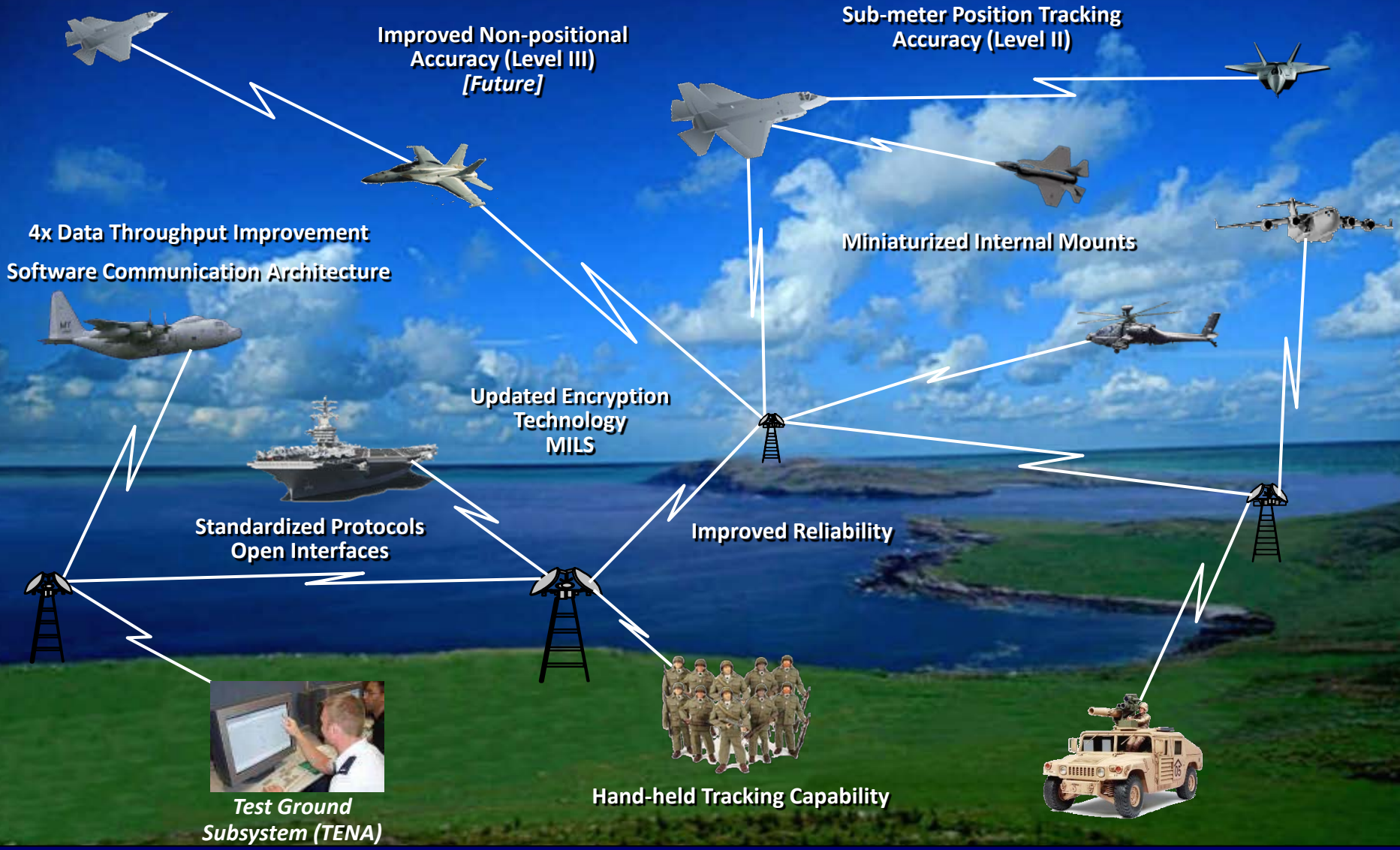


Background

- **Primary Function: Test Data Collection**
 - 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**

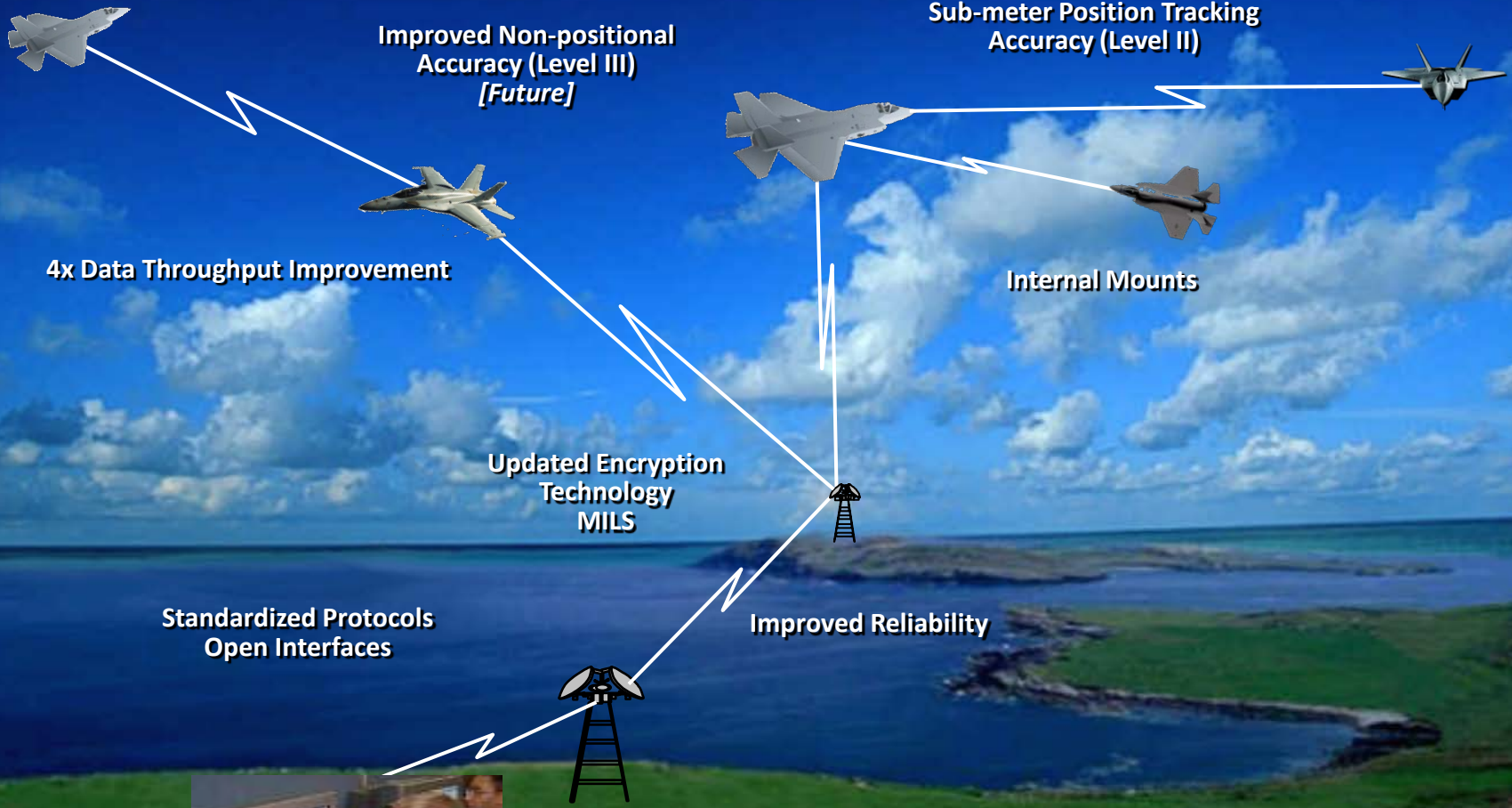
***CRIS is A Test Range Replacement of the Existing GPS Based ARDS
With Advanced Datalink, TSPI, Security Features***

CRIS Original Overview



Test Package Directive (TPD) As Of 7 Jul 10

CRIS Current Overview



Test Ground Subsystem (TENA)

Test Package Directive (TPD) Updated 31 July 12



Functional Configurations



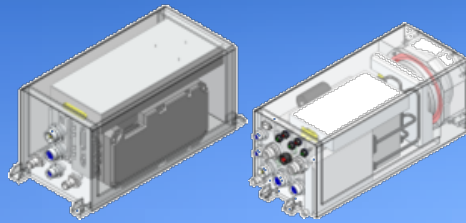
Participant Packages

Level II TSPI, High Throughput DL, Encryption

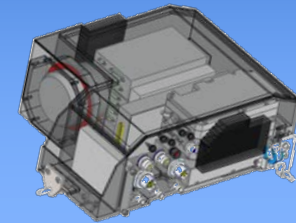
Cfg 4 Pod for Legacy Aircraft



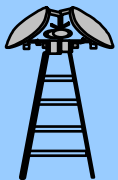
Cfg 5 Liquid Cooled Internal Mount for 5th Gen Aircraft



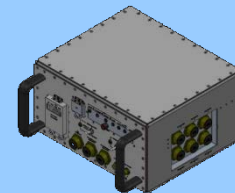
Cfg 6 Air Cooled Internal Mount for Legacy Aircraft



Ground Subsystem



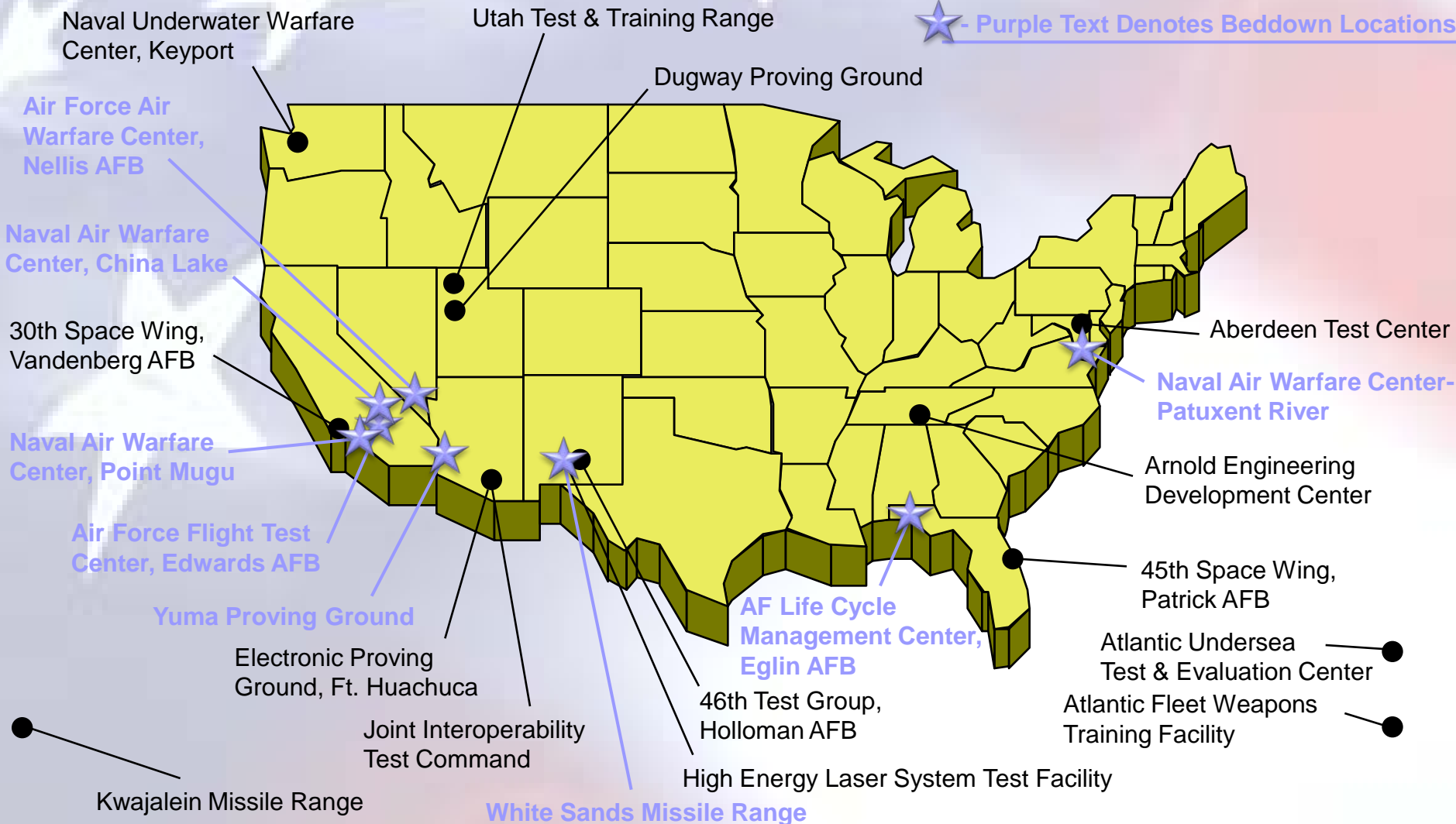
Portable Test Set





Major Range and Test Facility Base (MRTFB) and 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

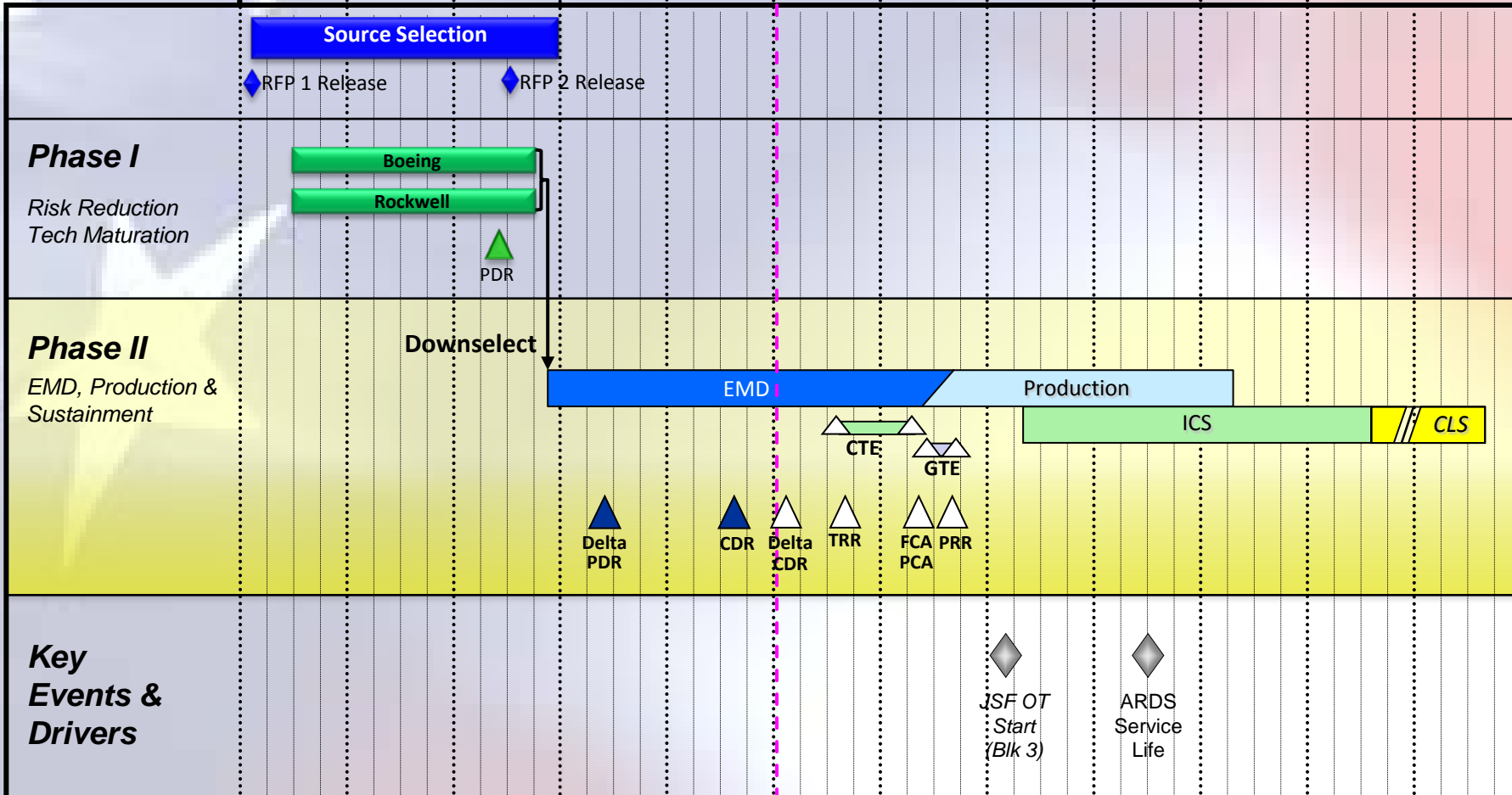
- **Phase II EMD Activities Accomplished/Planned**
 - ✓ Completed Delta PDR 15-17 Feb 2011
 - ✓ Developed Prototype Boards
 - ✓ Completed CDR 21-24 May 2012
 - ✓ Completed 15 TSPI and Datalink Contractor Test Flights
 - ✓ Started Hardware Integration in Contractor System Integration Lab
 - Perform Site Surveys and Site Activations
 - Perform Qualification Testing, Verification, and Validation
 - Develop Proof of Design/Manufacturing Units
 - Perform Contractor Testing and Government Testing at Ranges
 - Transition to Production & Sustainment



CRIS Program Schedule



(as of May 2012) FY: 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 ...//... 2023





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**