

# Joint Biological Point Detection System (JBPDS) Overview

**09 April 2003**

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# JBPDS Multiple Configurations

## Tailored for Multiple Service Employment

Consistently Demonstrates Top Performance & Greatest Operational Flexibility

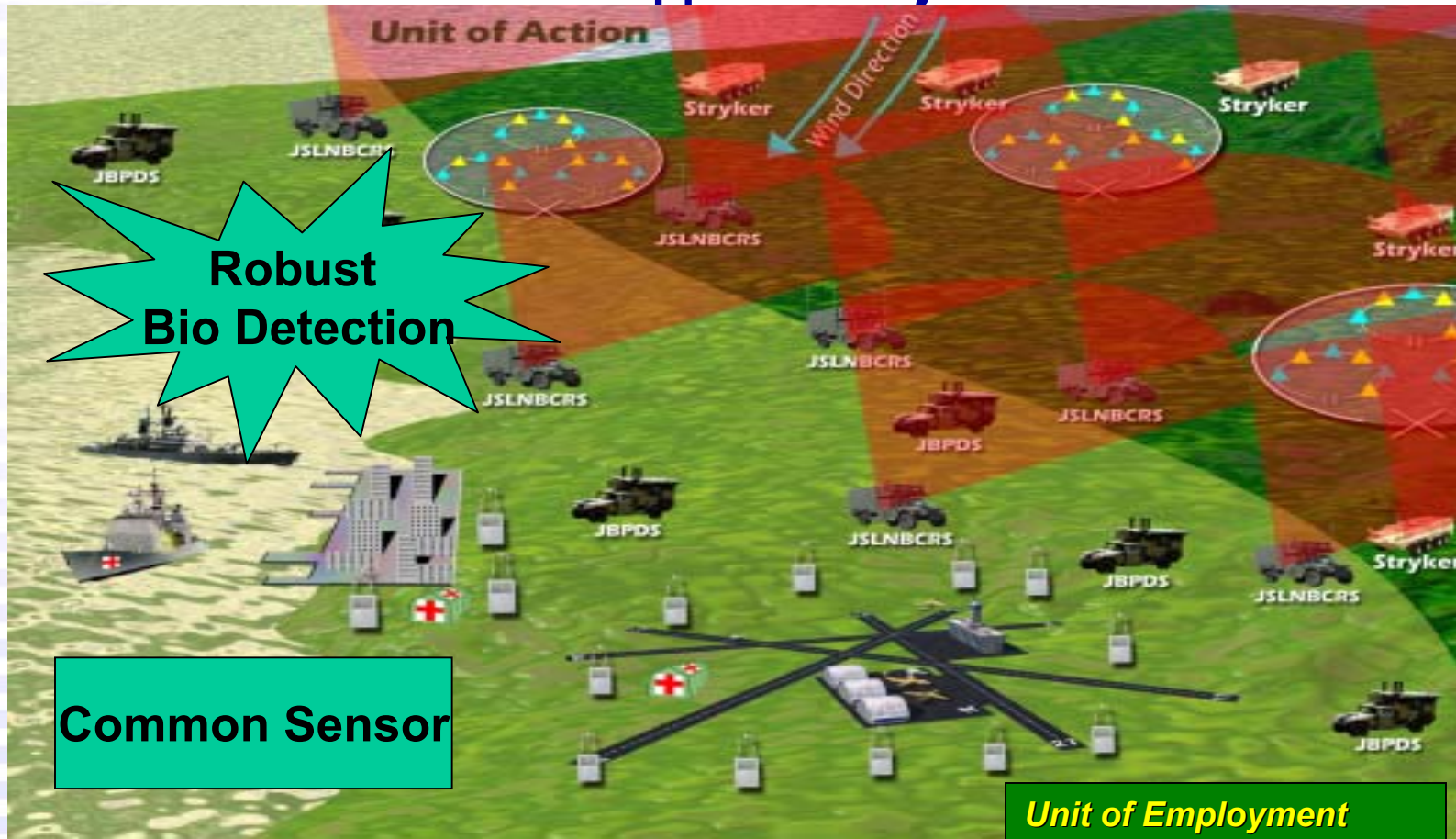
Capability Across  
Joint Battlespace  
for  
Use By All Services



Proven Top Performer for Biological Detection

# Employment Concept

## JBPDS in Support of Objective Force



**Robust Bio Detection**

**Common Sensor**

**Unit of Employment**

- Facilitate Deployment: Conduct Bio surveillance at APOE/D & SPOE/D
- Develop the Situation: Conduct Bio surveillance at key facilities to “detect to treat”
- Shape: Provide Bio situational awareness reporting and continue monitoring

# Key Performance Requirements List

Key Performance Parameter	Threshold (Objective [in braces])
Detection Concentration (ACPLA)	Greater/equal to IBAD/BIDS
Identification Time/Probability	Greater than or equal to 0.98 in less than 15 minutes
False Positive Identification	Less than or equal to two percent* of analyses conducted
Reliability	Reliability of $\geq 0.92$ [T] ( $\geq 0.98$ [O])
Availability	Availability of $\geq 0.90$ [T]( $\geq 0.98$ )[O]
Maintainability	<p>Mean Time Between Operational Mission Failure (MTBOMF) of <math>\geq 144</math> hours (<math>\geq 594</math> hours [O])</p> <p>Mean Corrective Maintenance Time for Operational Mission Failure Repair (MCMTOMFER) (also referred to as Mean Repair Time) of <math>&lt; 5</math> hours [T] (<math>&lt; 1</math> hours [O]).</p>

## Capability Focus Areas

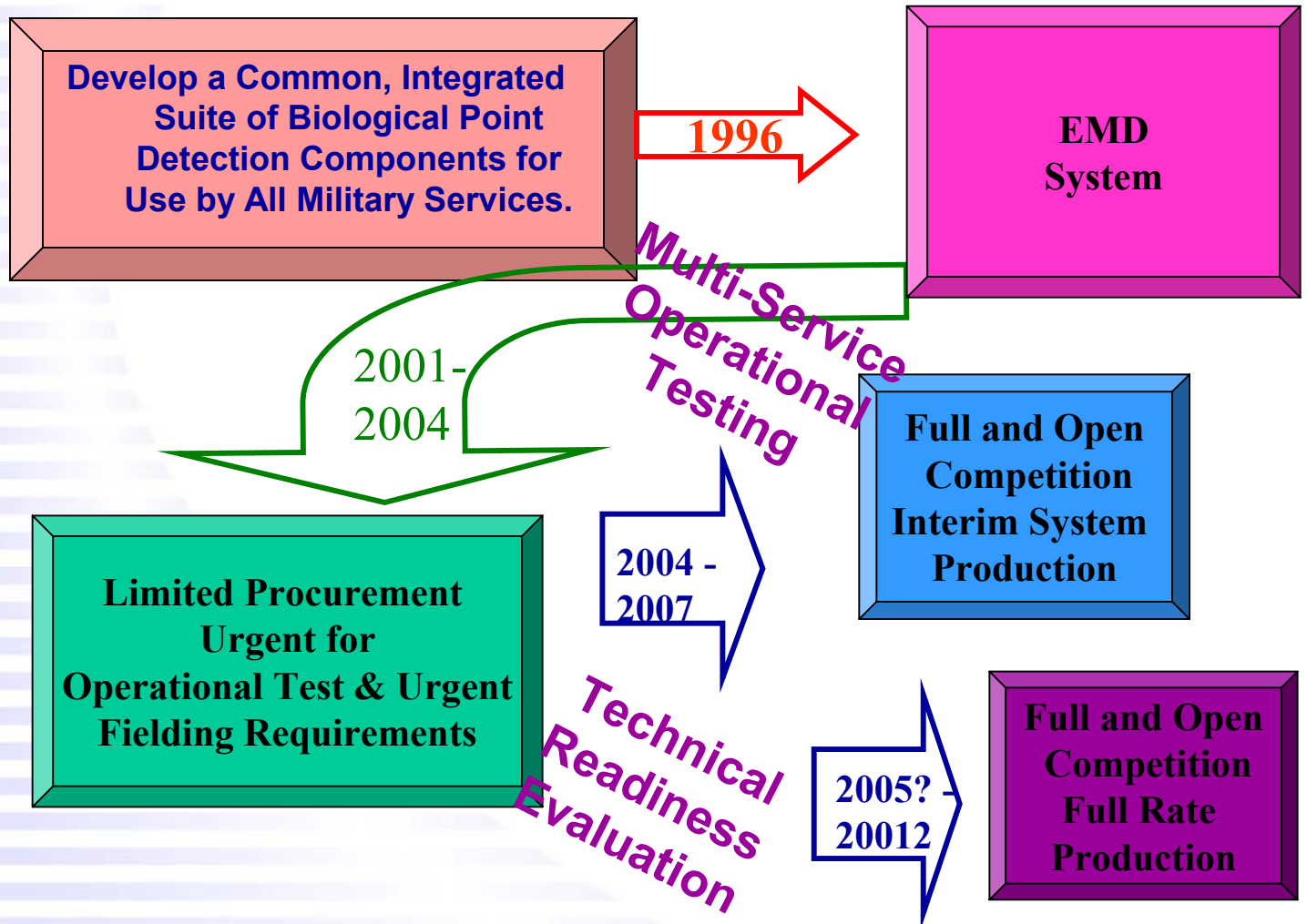
- **Performance:**
  - Improved Triggers
  - Improved sensitivity
  - Maintain Low False Positives
- **Suitability**
  - Reliability
  - Logistic Footprint & cost

### *Performance Specification:*

- **26** Performance Requirements
- **11** Reliability, Availability & Maintainability Requirements
- **15** Interface Requirements
- **21** Physical & Environmental Requirements
- **12** Transportability, Design & Safety Requirements

**JBPDS has shown significant advances in effectiveness and suitability over legacy systems**

# Joint Biological Point Detection System Acquisition Overview



## Schedule/ Industry Opportunities

- Program Initiation 1Q96
- IOC 4Q03
- FOC 4Q12
- Technology Readiness Evaluation 4Q03
  - Detection, Collection, Networking
- Draft RFP Interim Production Contract 3Q03
  - Projected Award 3Q04
- RFP Full Rate Production 1Q05??

## Contract Plans

- **Currently in LRIP**
  - Must undergo Additional Phases of Operational Testing
- **Type Classify Jun 03**
- **Level 3 APBI May 03**
  
- **Interim System Production Contract**
  - Award 3Q04
  - Performance Spec based contract
  - ~ 800 systems
  - Fixed Price Contract
  
- **Full Rate Production Contract**
  - Award FY05 (??)
  - Performance Spec based contract
  - Up to 1600 systems

**Full and Open  
Competition  
Interim System  
Production**

**Full and Open  
Competition  
Full Rate  
Production**



## Contracting Opportunities (cont).

- **Contractor Logistics Support (FY04)**
  - Legacy Systems (400 plus systems)
  - Repair, Parts, Consumables, and Surveillance
  - Must Deploy with unit
  - LOGJAMS

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## Quantities / Funding

### Joint Acquisition Objectives:

Army	876
Marines	69
Air Force	1,165
Navy	495
Other	11
JSIPP	TBD
<b>TOTAL</b>	<b>2,616</b>

### Total JBPDS funding in POM FY04-09

Funding Estimates (BY\$):

**Total**  
**(\$ in millions)**

RDT&E	9.4
Proc	384.4

# BACK UP SLIDES

## **Technologies Barriers**

- **Increased Detection sensitivity**
- **Reduced Identification time and False Alarm rate**
- **Increased Reliability**
- **Reduce Power Consumption**
- **Communications and Network Software Management**
- **Advanced Construction Materials and Sub-components to Reduce Weight**

# JBPDS Bio-Suite Overview

## Cyclone Collector/Concentrator

- Draws 850 liters of air/minute (lpm)
- Impacts aerosols into aqueous solution

## Identifier

- Automatically inoculates and reads 10 assays simultaneously
- Single-use assays use antibody-antigen reactions for specific detection & identification of biological warfare agents.

## Local Control System

- Ruggedized, touch-screen PC
- Operator interface

## Confirmatory Sample Vials

- Provides liquid samples of suspect agent

## Electrical/Data Interface Panel

## Fiber-optic & Radio Modems

- Allows remote operation of sensor from up to 5 kilometers away

## Bio Agent Warning Sensor

- Continuous sampling of air (90 lpm)
- Illuminates suspect particles with UV micro laser
- Analyzes 1 elastic and 2 fluorescent light returns to determine presence of bio material

## Purge Air System

## Fluidic Transfer System

- "Circulatory system" - transfer collection fluids & samples between reservoirs, collector, identifier, and confirmatory sample vials


**PIT STOP Design**

# JBPDS Operator Interface

**JBPDS Main Panel**

JBPDS Unit ID: 192.168.2.51 Date/Time: 281803ZDEC99

**Bio Event**

 Clear


Bio Event Log

**Modes**


Standard

Change Mode

**Status**

Time/Location/Weather 

Samples and Consumables

Components 

**Options**

Configuration

Audio/Visual

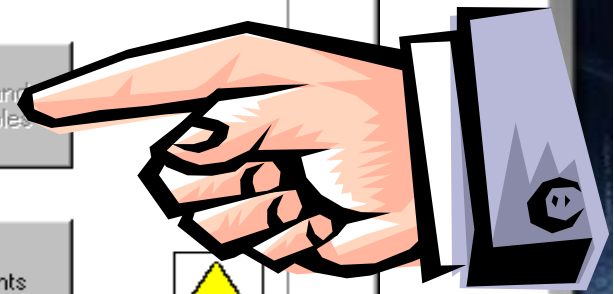
**System**

Detector: Active

Collector: Inactive

Identifier: Inactive

Close Activity Log Help



Minimal Training & Manning Burden – Fully Automated

# Summary

## Challenges To Industry

- **Future Production may require:**
  - Partnering
  - Teaming
  - Leader / Follower Program
- **Follow On Fielding Support requires maintenance, training and logistics expertise**
- **Challenge Is To Merge All The Technical Solutions Into an Acceptable Single System – *Integration***