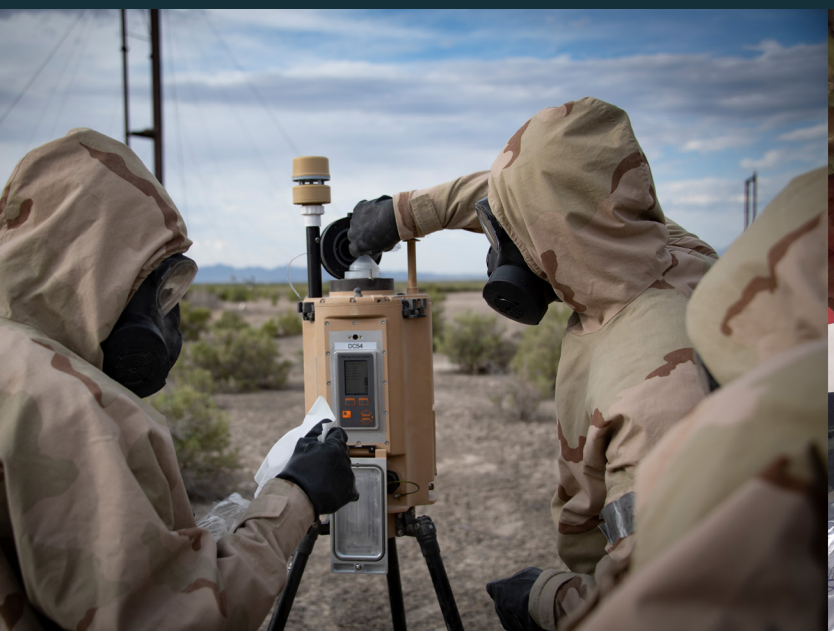
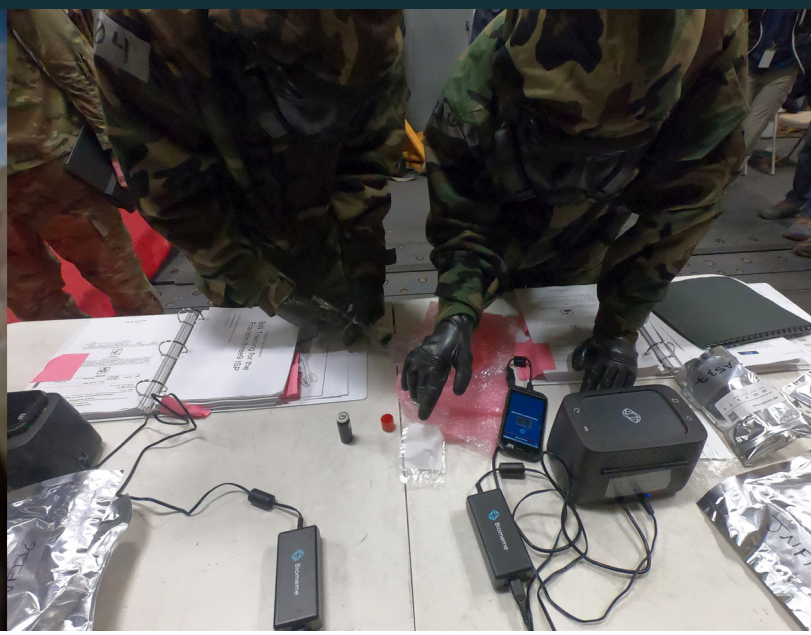
Joint Biological Tactical Detection System (JBTDS)





DOT&E approved the Joint Biological Tactical Detection (JBTDS) Milestone C (MS C) TEMP in September 2023. In FY24, the program office completed a portion of the test matrix from the DOT&E-approved test plan for identifier testing. Identifier testing is scheduled to be complete by 2QFY25. The Army conducted a multi-Service operational test and evaluation (MOT&E) for the biological warfare agent (BWA) identifier in September 2024, to support a critical operational need for that JBTDS component. DOT&E will publish a classified MOT&E report in 3QFY25 to assess the BWA identifier's operational effectiveness, suitability, and survivability. The full system MOT&E is scheduled for 4QFY25. DOT&E will publish another MOT&E report on the JBTDS as a whole system to support the full-rate production decision in 1QFY26.

SYSTEM DESCRIPTION

The JBTDS consists of an integrated man-portable BWA aerosol detector and sample collector, a base station, a meteorological station, a GPS receiver, a sample extraction kit, and a handheld BWA identifier with consumable assays. The detector and sample collector can be connected to the base station using a Service-provided, closed, or restricted local area wired or wireless network to enable remote monitoring and reporting.

MISSION

Army, Marine Corps, and Navy units will deploy JBTDS during major combat, stability, and strategic deterrence operations where an adversary's employment of BWAs could severely disrupt

military operations or cause hazardous exposure to warfighters or civilians. Service units equipped with the JBTDS will conduct biological surveillance missions to detect the presence of, collect samples, identify, and warn forces of the BWA threat. The JBTDS is intended to support commanders' force protection actions, support medical planning, and provide information to enable consequence management. The Special Operations Command will employ the JBTDS identifier to identify BWA in samples to support intelligence gathering and forensics analyses.

PROGRAM

JBTDS is a joint Acquisition Category II program which was authorized in August 2023 to enter the production and deployment phase of acquisition. DOT&E approved the MS C TEMP in September 2023. The Marine Corps, National Guard Bureau, and U.S. Special Operations Command desire the BWA identifier component earlier than the targeted May 2026 full-rate production decision for the whole system. The program office desires to field the identifier component in July 2025. The program office plans to complete identifier chamber developmental testing in 2QFY25 according to the DOT&E-approved test plan. The program completed an MOT&E for the identifier component September 2024. The full system MOT&E is scheduled for 4QFY25.

» MAJOR CONTRACTORS

- Chemring Sensors & Electronic Systems – Charlotte, North Carolina
- Biomeme – Philadelphia, Pennsylvania

TEST ADEQUACY

The program is scheduled to complete all developmental and operational testing of all components in 4QFY25. The program conducted a subset of laboratory developmental testing of the identifier beginning in February 2024 to demonstrate its ability to recognize a series of BWAs. The laboratory conducted these tests in accordance with the DOT&E-approved test plans and TEMP. In addition, the program conducted a technical cooperative vulnerability and identification developmental test in March 2024 to initially explore if cyber vulnerabilities exist. DOT&E did not observe these tests.

The Army conducted the MOT&E of the BWA identifier component in September 2024 in accordance with the DOT&E-approved test plan. DOT&E observed the MOT&E, which demonstrated how warfighters use the identifier in operational settings. The laboratory testing and the MOT&E will form the basis for DOT&E's classified MOT&E report, which is expected in 3QFY25, prior to the fielding of the identifier component.

PERFORMANCE

» EFFECTIVENESS, SUITABILITY, AND SURVIVABILITY

DOT&E will assess the operational effectiveness, suitability, and survivability of the JBTDS's BWA identifier component in the classified 2QFY25 MOT&E report. The program has not improved assay performance as recommended in the DOT&E FY23 Annual Report. The program intends to make improvements in the future.

DOT&E will assess the operational effectiveness, suitability, and survivability of the JBTDS whole system in a second classified MOT&E report, expected in 1QFY26.

RECOMMENDATIONS

The Joint Product Manager should continue to address the following recommendations from the FY23 Annual Report:

1. Mitigate identified vulnerabilities to electromagnetic effects.
2. Add cyber-specific topics to the training curriculum to better enable operators to recognize cyber threats and to protect, mitigate, and recover from hostile cyber actions.
3. Continue to address recommendations found in the classified annex of the July 2023 JBTDS operational assessment report.

4. Improve the identifier assays to meet performance requirements.