



The Biosurveillance Ecosystem (BSVE)



What is the Biosurveillance Ecosystem (BSVE)?

The BSVE is a rapidly emerging capability being developed by the DTRA Chemical and Biological Technologies Department to enable real-time biosurveillance for early warning and course of action analysis.

What can/will the BSVE do?

The system already has a virtual, customizable, Analyst Workbench that can:

- Provide applications (“Apps”) capable of analyzing and visualizing near real-time global epidemic and outbreak information from unique data sources, including point of need diagnostics data;
- Allow for User-to-User collaboration (report sharing, chat, and “circles of trust”);
- Provide advanced machine learning algorithms that draw from novel health and non-health resources.

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The BSVE will provide a user-friendly, customizable system designed by Users. This includes:

- ✓ **Interoperability:** Amazon web services (AWS) cloud-based, open source, unclassified environment fusing disparate data sources in real time with advanced visualization analytics
- ✓ **Configurability:** Users can customize their BSVE Analyst Workbench to support their activities regardless of location, skill level, resources
- ✓ **Sustainability:** Downloadable Software Developers Kit (SDK) will allow for externally developed analytics (disease spread models, baseline deviation algorithms, new data sources/visualizations) to be integrated rapidly into the BSVE for use. SDK allows users, researchers, students, and citizens to participate.
- ✓ **User-derived, User-Tested:** Users (DoD/Interagency/Local/State Public Health) provided a unique set of requirements that drives BSVE development. Users test functionality at every milestone against those requirements. Feedback is incorporated into the BSVE development cycle.

Making the World Safer

The BSVE provides capabilities for potential correlations allowing for disease prediction and forecasting, similar to the functionality of weather forecasting.

An Integrated JSTO Program: BSVE is the integration framework for capabilities in development at JSTO including ‘Buddy Care’ and Role 1 BSV-mission specific diagnostic devices whose results are sent wirelessly or via text message to BSVE cloud and displayed in the BSVE Analyst Workbench in real-time using ONC standards.

DTRA is currently working with collaborators throughout the ‘Whole of Government’, Industry, and Academia on the BSVE to ensure a compatible, broad-sourced, cutting edge technology system.