

Alvin Liem<sup>1,2</sup>, Pierce Roth<sup>1,2</sup>, Patrick Carcel<sup>1,2</sup>, Jessica Hill<sup>1,2</sup>, Ed Fochler<sup>1,2</sup>, Matthew Caples<sup>4</sup>, Michael Phillips<sup>4</sup>, Maya Munk<sup>4</sup>, Andrew Kilianski<sup>1,5</sup>, Lorenzo Hankla<sup>3,4</sup>, Brady Redmond<sup>3</sup>, C. Nicole Rosenzweig<sup>1</sup>, Peter Emanuel<sup>1</sup>

<sup>1</sup>US Army Edgewood Chemical Biological Center, APG, MD; <sup>2</sup>OptiMetrics, Inc. Abingdon, MD; <sup>3</sup>Joint Program Executive Office for Chemical and Biological Defense, APG, MD; <sup>4</sup>Booz Allen Hamilton, Belcamp, MD; <sup>5</sup>National Research Council-Defense Threat Reduction Agency;

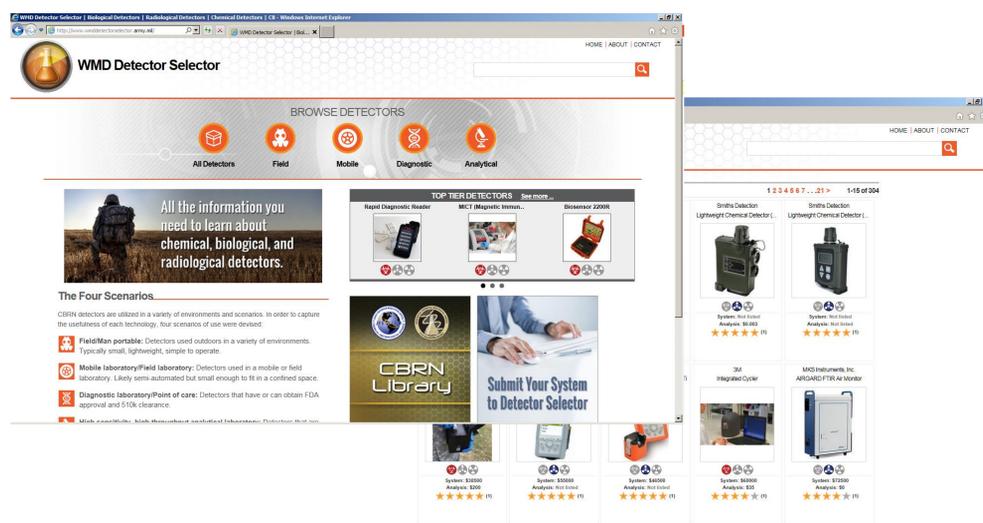
## Background

The World Wide Web is particularly well suited for storing and making information easily accessible. Web technologies are a natural fit for BioScience-related tasks, and this can help users to quickly locate information that would otherwise require large amounts of time to find. This improves efficiency and promotes collaboration in challenging environments. Here, we present three BioScience-related applications that leverage the power of the Web.

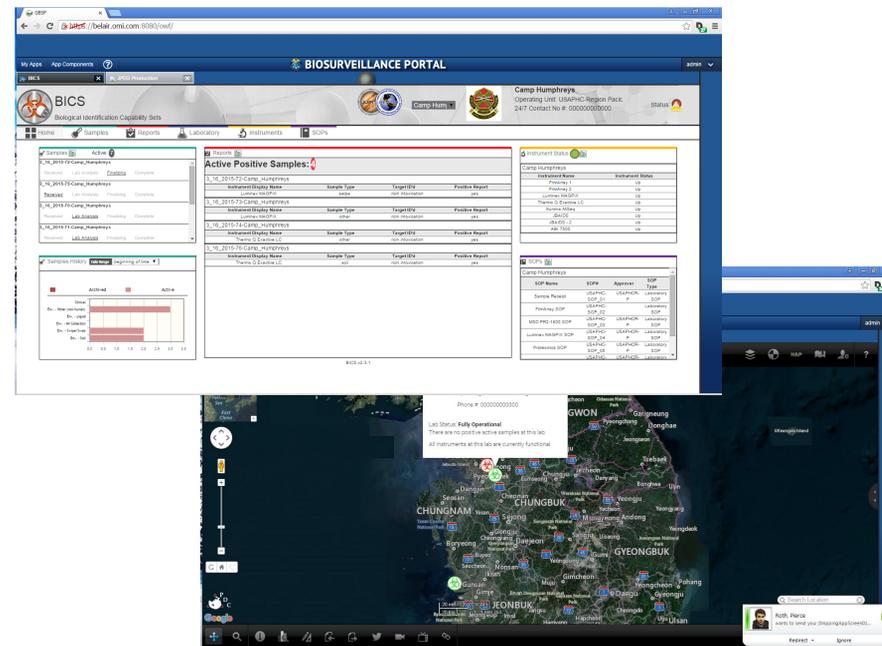
## WMD Detector Selector

The WMD Detector Selector is located at <http://www.wmddetectorselector.com>

- Provides quick access to large amounts of information in an easy to use interface
- Contains detailed information about chemical, biological, and radiological detection devices
- Devices are ranked by tier according to their suitability for certain scenarios
- Provides the ability to search on specific criteria, such as power requirements and portability, as well as free text searches
- Gives users the ability to rate devices based on their experiences
- Is accessible worldwide, anywhere there is an internet connection
- Is built on Microsoft ASP.NET technologies, including IIS, Javascript, and SQL server
- Over 3000 visitors have viewed the website since going live in August 2014



## Biological Identification Capability Sets



Also currently in development is an application supporting the Biological Identification Capability Sets (BICS) leg of the Joint United States Forces Korea Portal and Integrated Threat Recognition (JUPITR) Advanced Technology Demonstration (ATD). This Web application is being implemented within the Global Biosurveillance Portal, which is also part of the JUPITR program.

- Designed to provide quick access to laboratory information
- Tracks samples that arrive at BICS laboratories
- Stores information about the analysis of samples
- Serves as a central repository for laboratory, sample, analysis, instrument, and SOP information
- Includes map integration to present location information to users
- Built on platform independent technologies like Java, Javascript, JBoss, Ozone Widget Framework, PostgreSQL

## Shipping Bio

A third application, currently in development, assists first responders in navigating the procedures and regulations surrounding the transport of biological samples from a collection location to a laboratory.

Personnel dealing with the transport of biological samples often do not need to do so frequently. Therefore, it can be very easy for such personnel to forget certain procedures or to make mistakes. The Shipping Bio Application is an electronic guideline designed to accelerate the process of preparing a shipment.

- Runs on desktop computers and mobile devices, with or without an active data connection
- Guides the user through step-by-step questions and procedures to ease the process of navigating shipping regulations, packaging and documentation requirements.
- Provides additional guidance from resources like the Emergency Response Guidebook and the USAMRIID "blue book".
- Includes international shipping regulation information to ensure shipments are not delayed by regulatory bodies
- Integrated with a database of Laboratory Response Network locations to aid in handling and transporting domestic samples.
- Includes a map integration guide for the user, should he/she be transporting the sample themselves
- Built to be platform independent using technologies like Java, Javascript, Cordova, Bootstrap, scxml

