

Diamond B Technology Solutions (DBTS) retained exclusive rights to develop the L-REAC system (Local-Rapid Evaluation of Atmospheric Conditions) from the U.S. Army Research Laboratory (ARL) at White Sands New Mexico, which we have rebranded as LR-x®. This license includes an on-going collaborative work relationship with ARL as we commercialize and enhance the technology.

Focused on First Responders

LR-x® is paradigm shifting technology in toxic chemical release incidents and wildfire safety mitigation. The LR-x® system maps wind field over topography and toxic plume footprints providing first responders situational awareness in evaluating airborne hazards in near real time. LR-x® utilizes up-to-date 3D models to ensure proper safe zones are established and to assist in proper threat mitigation based on localized atmospheric conditions. The LR-x® system also helps with wild fire suppression efforts and tracking dangerous wildfire smoke.

Key Features

No other technology provides continuously updated modeling necessary for making critical decisions related to threat assessment, on-site muster zone location, evacuation considerations, and containment approach. In addition to the following key features LR-x® includes 4 forecast models to facilitate long-term response to relative health threat levels:

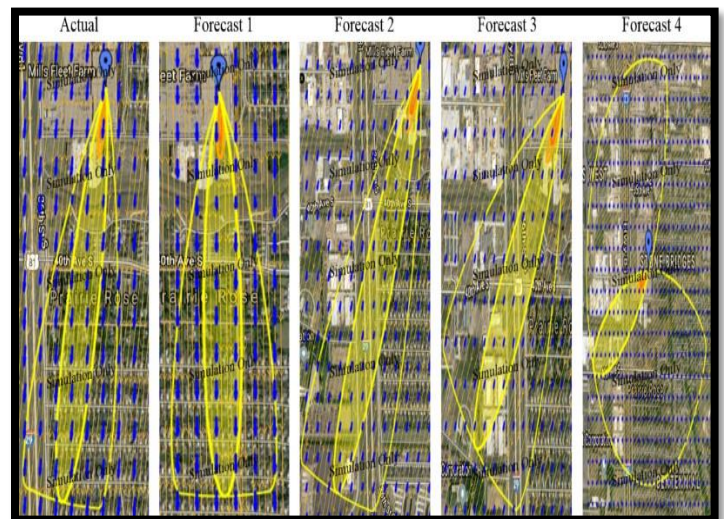
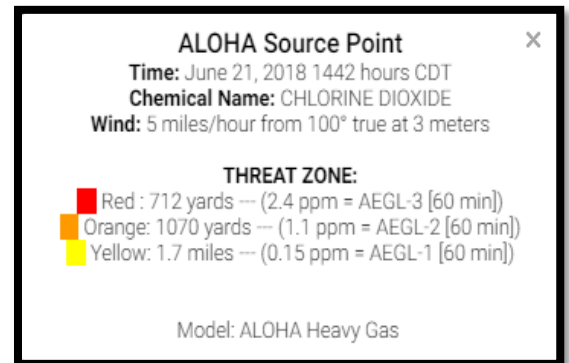
- ✓ Web enabled and mobile friendly for Android and iOS devices
- ✓ Integrated with Google Maps
- ✓ Point-and-click incident location
- ✓ Patented 3D wind field over terrain model
- ✓ ALOHA integration for plume modeling
- ✓ Dropdown chemical list of Tier 2 chemicals and rate of release input
- ✓ Database includes topographical maps of entire USA and US Territories utilizing USGS 1 Arc-second Digital Elevation Models (DEMs)
- ✓ Capability to ingest LIDAR scanned data
- ✓ Tier 2 chemical data base for all U.S. reporting entities/locations (updated monthly)
- ✓ Geolocates and utilizes nearest reporting public weather station for initial assessment
- ✓ Accepts sensor data from site deployed sensors for hyper-local extended response
- ✓ Initial wind field and plume models produced in less than 5 minutes and refreshed every 2 minutes
- ✓ Acute Exposure Guideline Levels (AEGL) displays in parts per million (PPM)
- ✓ Capability to perform simulations for training
- ✓ All incidents are saved in model history for after action reporting

Outreach and Collaboration

As we extend our process of system upgrades and enhancements from the original ARL technology, DBTS is seeking collaboration with experts in a variety of fields in efforts to expand our knowledge base of first responder needs and the protocols and safety needs of various industries that manage critical industry infrastructure.

Over a Decade of Research

“The L-REAC® System concept is a product of the 2003–2007 White Sands Missile Range (WSMR) Urban Field Studies. The primary goal for L-REAC® is to improve Soldier/civilian situational awareness of environmental airborne hazards during potentially life-threatening events.” *Local-Rapid Evaluation of Atmospheric Conditions (L-REAC®) System, Design and Development Volume 5 (Mobile L-REAC® System “Proof of Concept” and Four Feasibility Studies) by Gail Vaucher, ARL-TR-6275 December 2012.*



Who We Are

Diamond B Technology Solutions is the technology arm of Diamond B Companies which owns multi-industry business ventures throughout the United States and Canada. Please visit our website: www.diamondbts.com