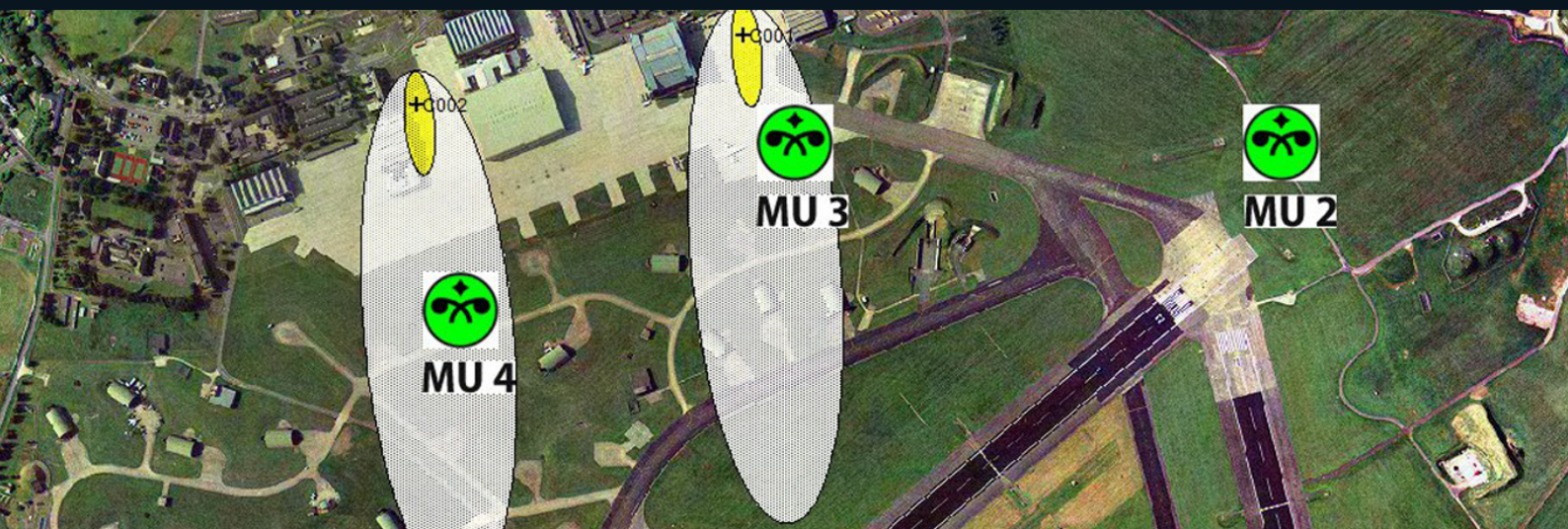# CBRN-Sim

Real-time simulation of CBRN Ground and Airborne Contamination

Key Features

- Planning tool that allows the instructor to plan a scenario with chemical hazards including ground contamination and vapour, radiological hazards and nuclear fallout

- Simulation executer that provides the realistic sensor readings related to a given position and time based on the simulated scenario. The position and time can be based on a simulated route or actual GPS reading

- The ability to add materials that generate false positive results for some of the sensor types

- Compatible with a wide range of raster, vector and satellite image formats and support links to OGC web services with WMS data

- National Language Support can be provided

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Product Highlights

CBRN-Sim adds real-time simulation of CBRN Ground contamination and Airborne hazards to SCIM® and CBRNE-Frontline for Operator Sensor Integration Training.

CBRN-Sim is a planning tool that allows an instructor to plan a scenario with chemical hazards including ground contamination and vapour, radiological hazards and nuclear fallout.

CBRN-Sim provides the ability to add materials that generate false positive results for some of the sensor types.

Enhanced Training Capability

- One of the key assets of the software is its ability to allow any form of training to be carried out, in the classroom or static on a platform without that platform moving into a training area. Full realism can be achieved by moving the platform in the training area and getting relevant sensor results based on crew actions. By not moving the platform this will be more of an environmental benefit and save on any platform running costs. CBRN-Sim can also work without the actual sensors being switched on; this saves on valuable instrument consumables.

Seamless Integration into SCIM® and CBRNE-Frontline

- All chemical and radiological sensors supported by SCIM® can also be used during CBRN-Sim simulations. SCIM® and CBRNE-Frontline with CBRN-Sim included will give visual and audible alarms, when entering a simulated hazard environment or will alarm at the correct distances for stand-off detection as during operational use.

- The system can also be configured to ensure that when the system alarms, it sends automated messages to Bruhn NewTech's CBRN-Analysis software application.

Realistic simulation

- The simulation takes into account which commands the operator has sent to the sensor, for example to change detection libraries to make the simulation as realistic as possible.

Actual or Simulated data

- CBRN-Sim allows the instructor to mix actual and simulated data, for example the instructor can choose to use actual data from a meteorological sensor, while simulating other sensors. Likewise, the software can use actual GPS time and locations if required or use a simulated route that has to be checked during the training or exercise.

GIS-based planning

- The planning tool contains a GIS system, which allows the instructor to get an overview of the planned chemical hazards including ground contamination and vapour, radiological hazards and nuclear fallout.
- The GIS system is compatible with a wide range of mapping and satellite imagery formats.

Exercise Management

- Each exercise that is conducted is stored in a scenario library which can be reused or modified by the instructor. The simulation scenario is invisible to the personnel being trained. When the task or exercise is complete the instructor can use the logged information to evaluate the simulated contamination that was encountered on route and which commands the operator issued to the sensors as a result.

Product Specifications

The CBRN-Sim package consists of
- CBRN-Sim DVD incl. a User's Reference Guide
- Hardware key (if required)

Note - CBRN-Sim is used together with SCIM®, which is an Export Controlled software application covered by category ML21.a in EU directive 2014/108/EU.

Technical Specifications

Hardware Requirements

Components	Requirement
Processor	Intel Core-2 or AMD Dual Core or higher, 1.5GHz or faster
Free memory (after OS loaded)	≥1.5 GB
Graphics/memory	≥32 MB, ≥16-bit colours
Screen	≥1024x768
DVD-drive	Yes – for installation
Hard disk space (Application and CBRN data)	≥1 GB
Hard disk space (Map)	At least 5 GB (depends on maps to be used)
USB port	If dongle (security key) is required

Note - If the program must run simultaneously with other applications, the requirements should be extended accordingly.

Software Requirements

| Operating System (OS)	Service Packs
Windows 7 Pro, 32-bit or 64-bit	
Windows 8.1 Pro, 32-bit or 64-bit	The latest Service and Security Packs must be installed.
Windows 10 Pro, 64-bit	

Related Products

SCIM®

- SCIM® stands for "Sensor Connectivity Information Management" and is a software hub that provides sensor connectivity to multiple sensor types and brands in a single and effective display.

- The system allows collection of sensor data and formatting of that data into standard CBRN messaging for further dissemination via built-in communication applications. The software enables the capture of sensor data that can then be transmitted for further investigation. SCIM® is futureproofed as it allows any sensor or instrument to be replaced or added as technology advances.
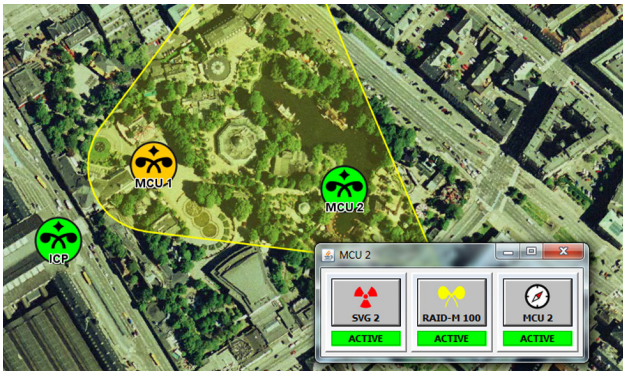
CBRNE-Frontline

- CBRNE-Frontline is a CBRNe Incident and Information management application for use in a wide range of situations requiring accurate incident and hazard prediction information to be made available to initial responders as rapidly as possible.

- CBRNE-Frontline is intuitive and easy to understand, removing some of the complexities associated with CBRNe hazard prediction and information management. This ease of use makes it an ideal tool for non-CBRNe specialists.
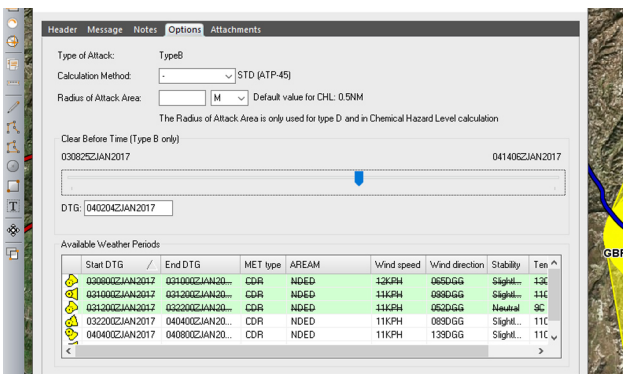
CBRN-Analysis

- CBRN-Analysis is an advanced, off-the-shelf software-based CBRN Information Management Software Application that includes Hazard Prediction and Warning and Reporting (W&R).

- It provides commanders with rapid and accurate information to increase their CBRN situational awareness within an area where CBRN materials may be used.

- CBRN-Analysis effectively supports and enhances risk-management in all phases of an operation, both in the planning and pre-deployment phase, in-theatre and in the post-conflict or recovery phase.

Additional Information

More information can be found at: **www.bruhn-newtech.com.**

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