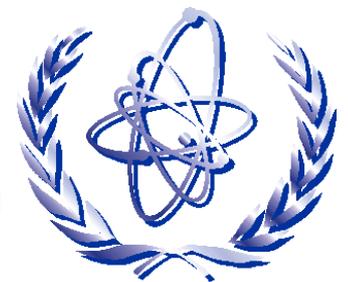


enhanced radiological detection instrument training

IAEA International Symposium on Nuclear Security
Vienna International Centre, 30 March – 3 April 2009



Limitations in current training



Credit: V. Mouchkin/IAEA

Limitations in current training

- The use of real radiation DIM devices for training mandates the use of hazardous radiation sources.



Credit: Courtesy of Pacific Northwest National Laboratory

Safe simulation of radioactive sources



Categories of simulation training instruments

- Generic simulation instruments.
- Substitution simulation instruments.
- Substitution probes for use with real radiation instruments.



Future simulation training instruments

- Comprehensive and expanding range of simulators for dosimeters, survey meters and spectrometers.



working with
automess



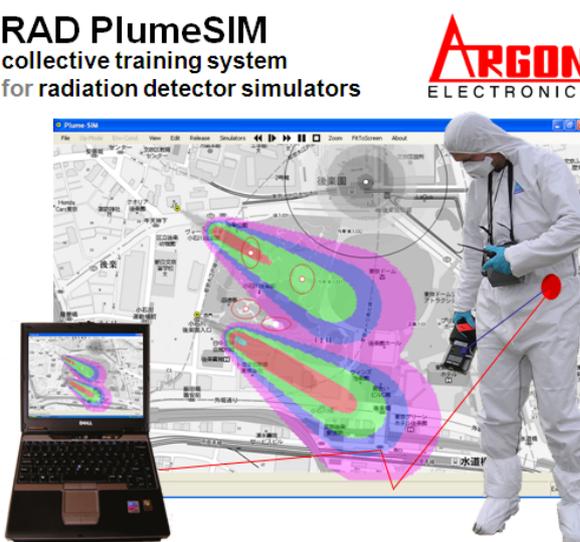
A Mirion Technologies Company



PlumeSIM

- Individual Argon simulation systems are compatible with the PlumeSIM wide area classroom and live field exercise training system for multiple personnel and remote instruments.

RAD PlumeSIM
collective training system
for radiation detector simulators



ARGON
ELECTRONICS

Argon Electronics' RAD PlumeSIM wide-area collective instrumented training system enables remote instructor management of our radiological simulator instruments under a fully configurable 'virtual plume', in real time, over user selected mapping. Instructors can now manage the detection instrument training of multiple personnel, selecting the parameters for the activation of simulation instruments (including the type of threat, the release of single and multiple sources, and a full range of environmental conditions), and record the actions of trainees from a single location.

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World Leaders in CBRN, Gas and HazMat simulation



Planning Mode - the virtual plume
Innovative system design permits the use of common file format map images and even 'home made' sketches of the proposed training area. Easy to use menus enable the instructor to quickly set and adjust the source type(s), strength, and the location and nature of the release source, as well as the desired environmental conditions. Areas of increased deposition and 'hot spots' may be marked. Exercise parameters can be saved for repeating defined scenarios with absolute fidelity.

Classroom mode
Using simple gamepad controllers trainees are able to move themselves as icons around an on-screen display of the training area. The scenario is activated, and subsequent 'contact' with a simulated radioactive material will result in the appropriate activation of their simulation instruments which are connected to the control base by a short range radio link. All student 'movement' is recorded in the session and can then be played back for analysis prior to departing for the field training area.

Live field exercise mode
With the students deployed to the desired external training area the instructor can monitor their GPS marked location on the control base map via a long range radio comms link in real time. Once again the virtual plume scenario is activated and, providing the student is fielding the correct type of instrument for the nature of the simulated threat, has prepared the instrument properly, and the levels of simulated radiological material are sufficient to be recognised by the particular device, then the display of that simulation instrument will indicate the appropriate response to any contact with a simulated source. Where environmental conditions inhibit the ability to obtain or maintain continuous long range radio communication, the selected scenario can be pre-loaded on the simulation instruments for timed activation.

Post-event environmental simulation and after action review
PlumeSIM records student and vehicle positions and time against simulated dose received so once out of the virtual plume, automatically activated personal and vehicle simulation sources permit decontamination training to be carried out. A full record of a student's actions is also captured for reviewing equipment use and suggesting improvements at the end of the exercise.

No redundancy of existing simulation systems
Existing users of Argon detection simulation instruments will be able to upgrade their equipment for use with PlumeSIM.

Product data sheets for our simulation instruments are available to download from our website, or will be supplied in hard copy on request.
A free CBRN Training Equipment Guide on CD-ROM is also available on request.

Contact us: Argon Electronics LLP
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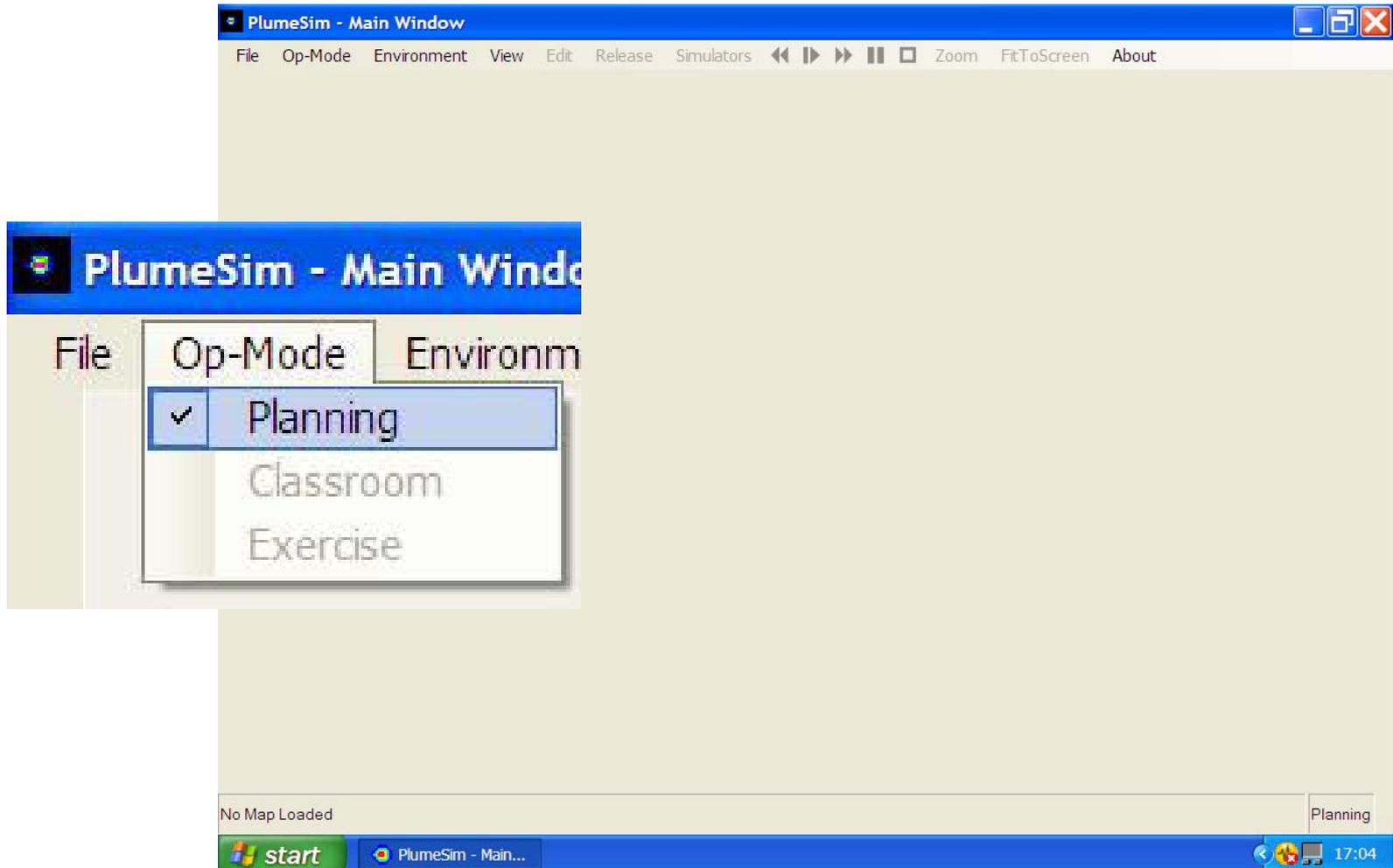
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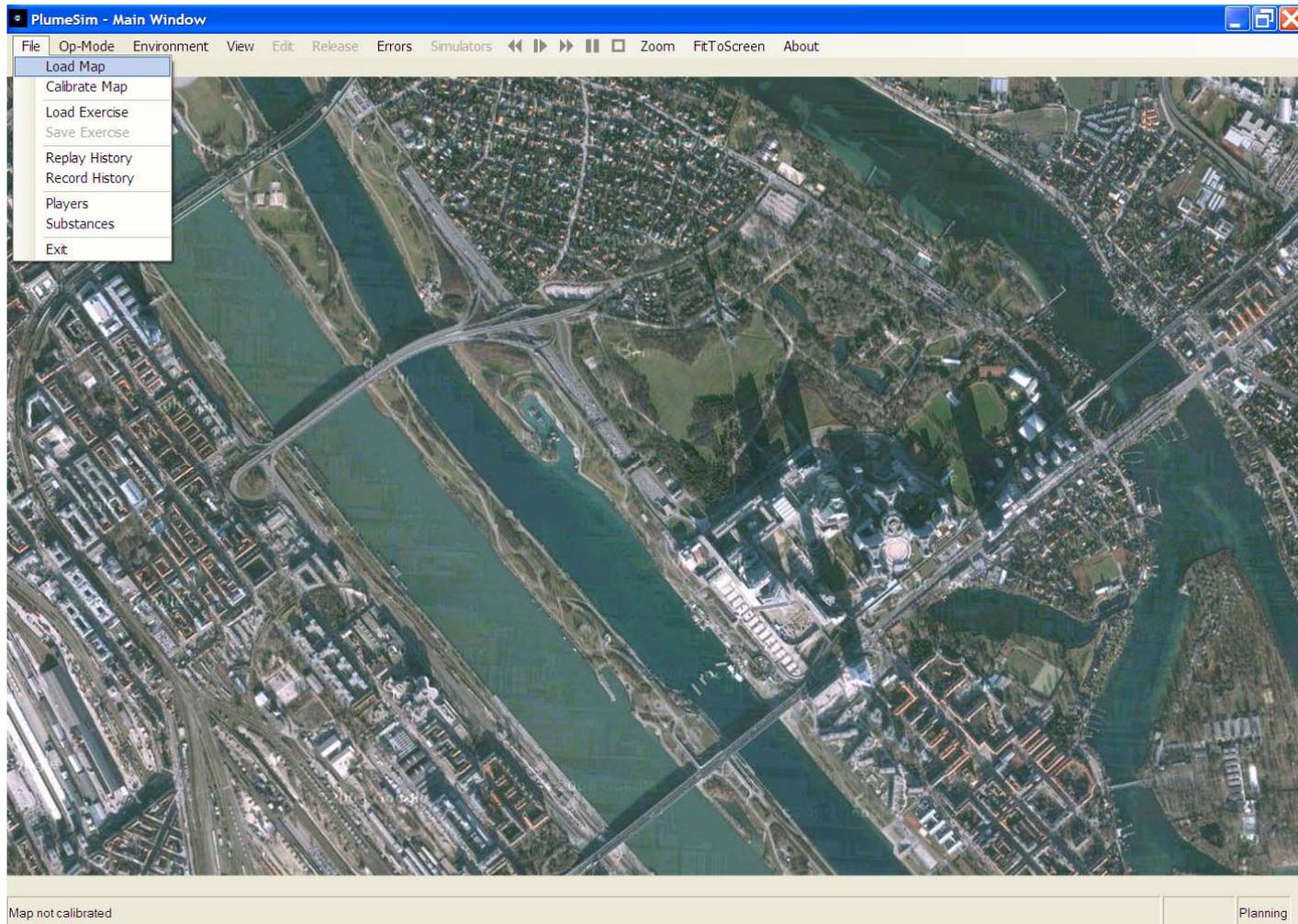
PlumeSIM – modes of operation

- Three operational modes enable comprehensive scenario creation and training operation.



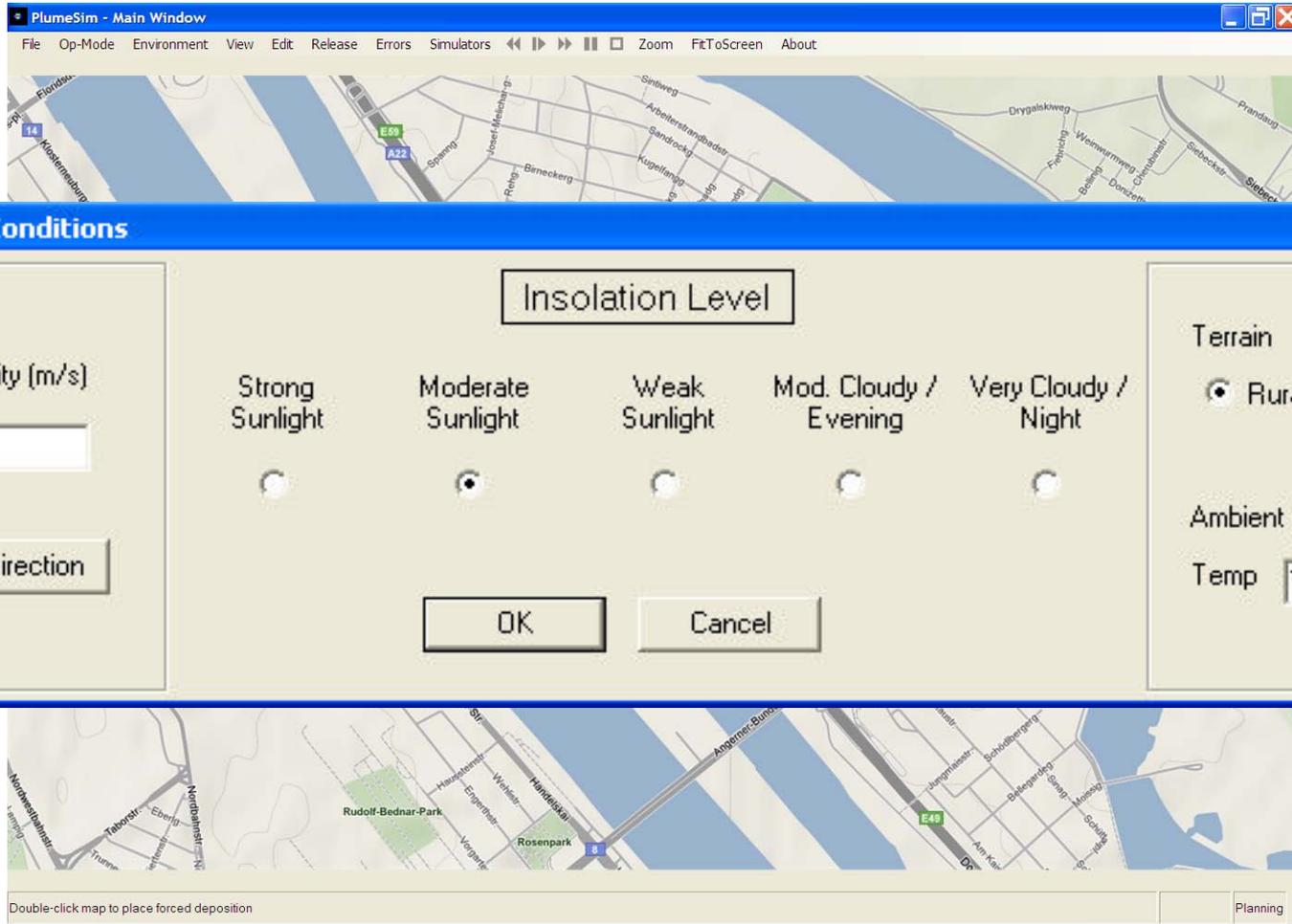
PlumeSIM – planning mode

- Easy to adapt to multiple locations with user selected mapping.



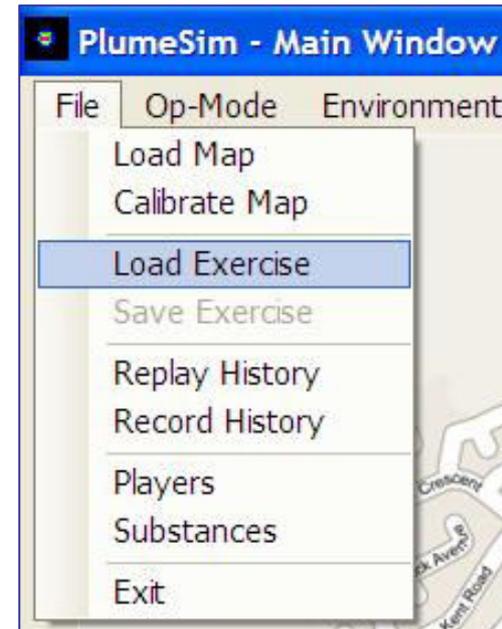
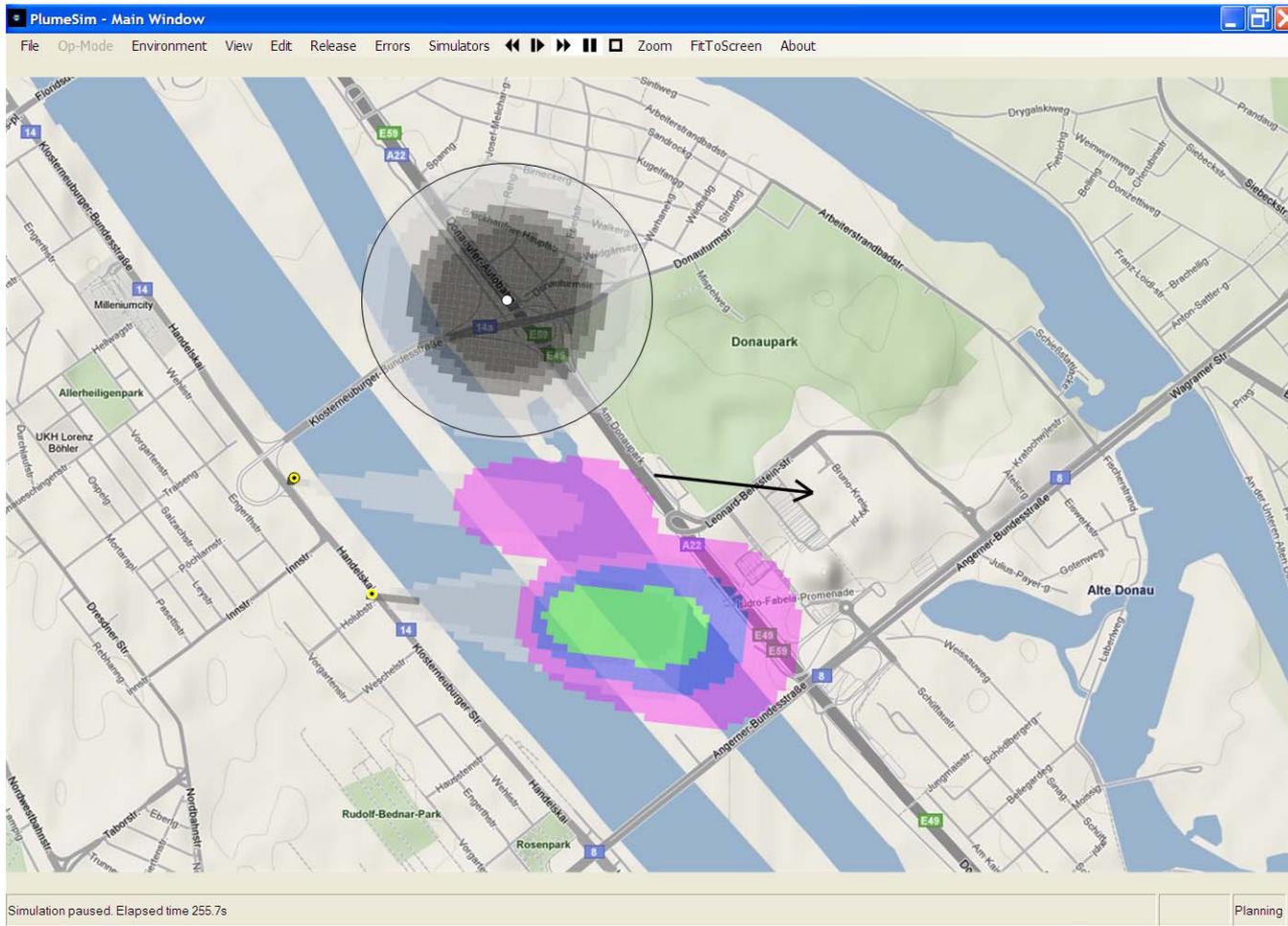
PlumeSIM – planning mode

- Easy to set environmental options from drop-down menu.



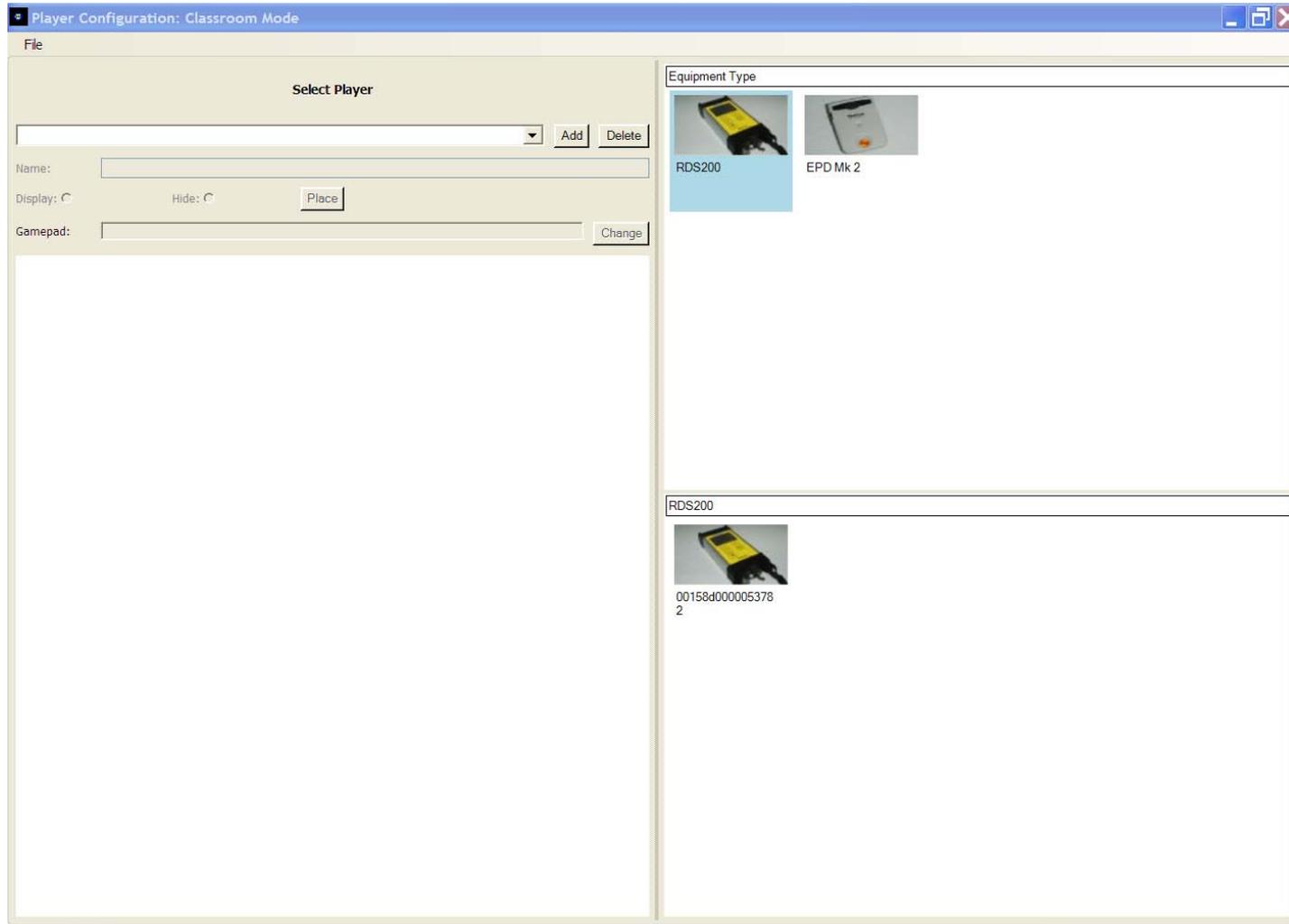
PlumeSIM – planning mode

- Multiple virtual radiation sources as plumes and ‘hot spots’ with optional deposition that can be edited by scenario planners.



PlumeSIM – classroom mode

- Drag-and-drop assignment of simulators



PlumeSIM – classroom mode

- Short range radio communication of scenarios to simulation instrument(s).



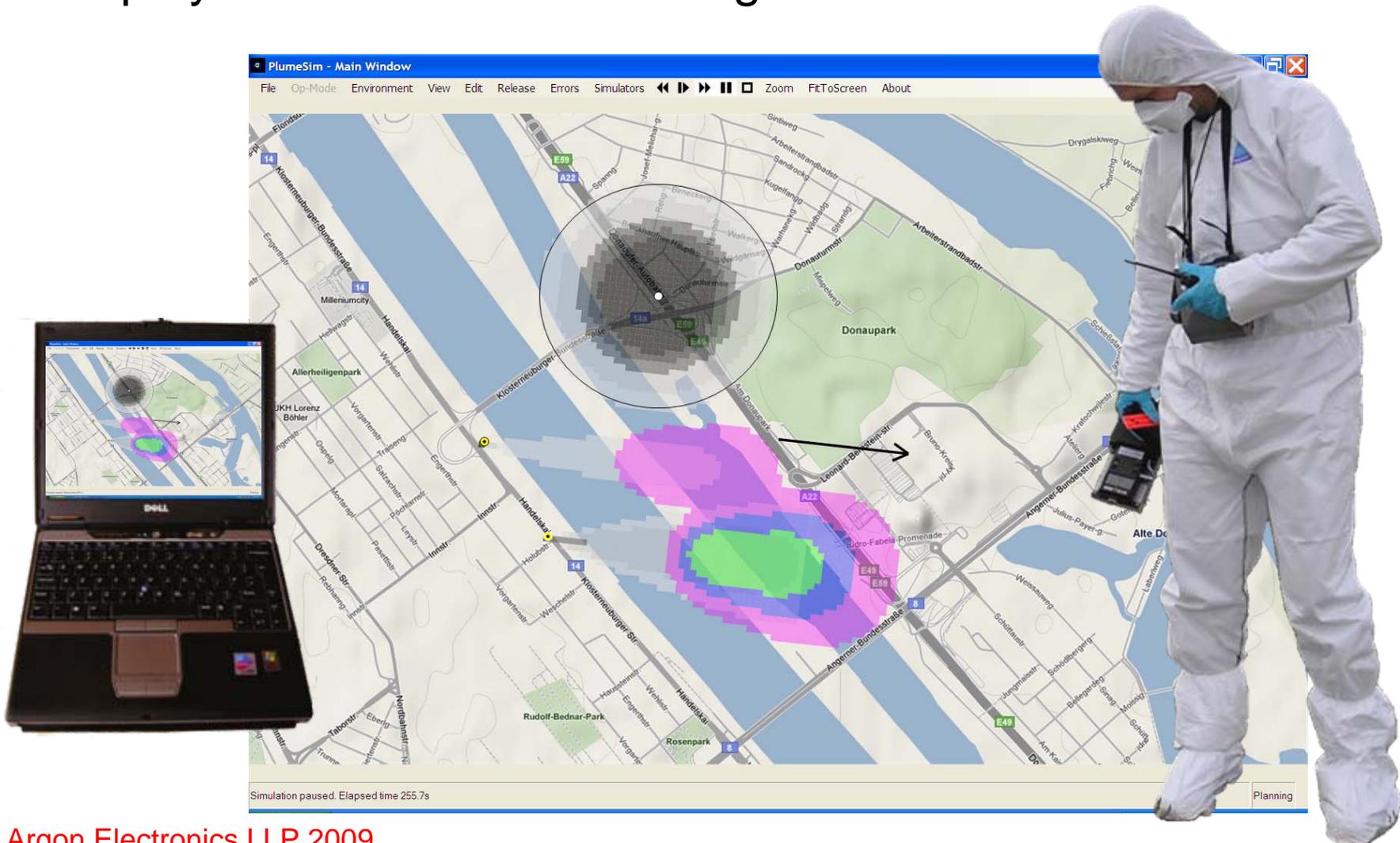
PlumeSIM – classroom mode

- Short range radio communication of scenarios to simulation instrument(s).



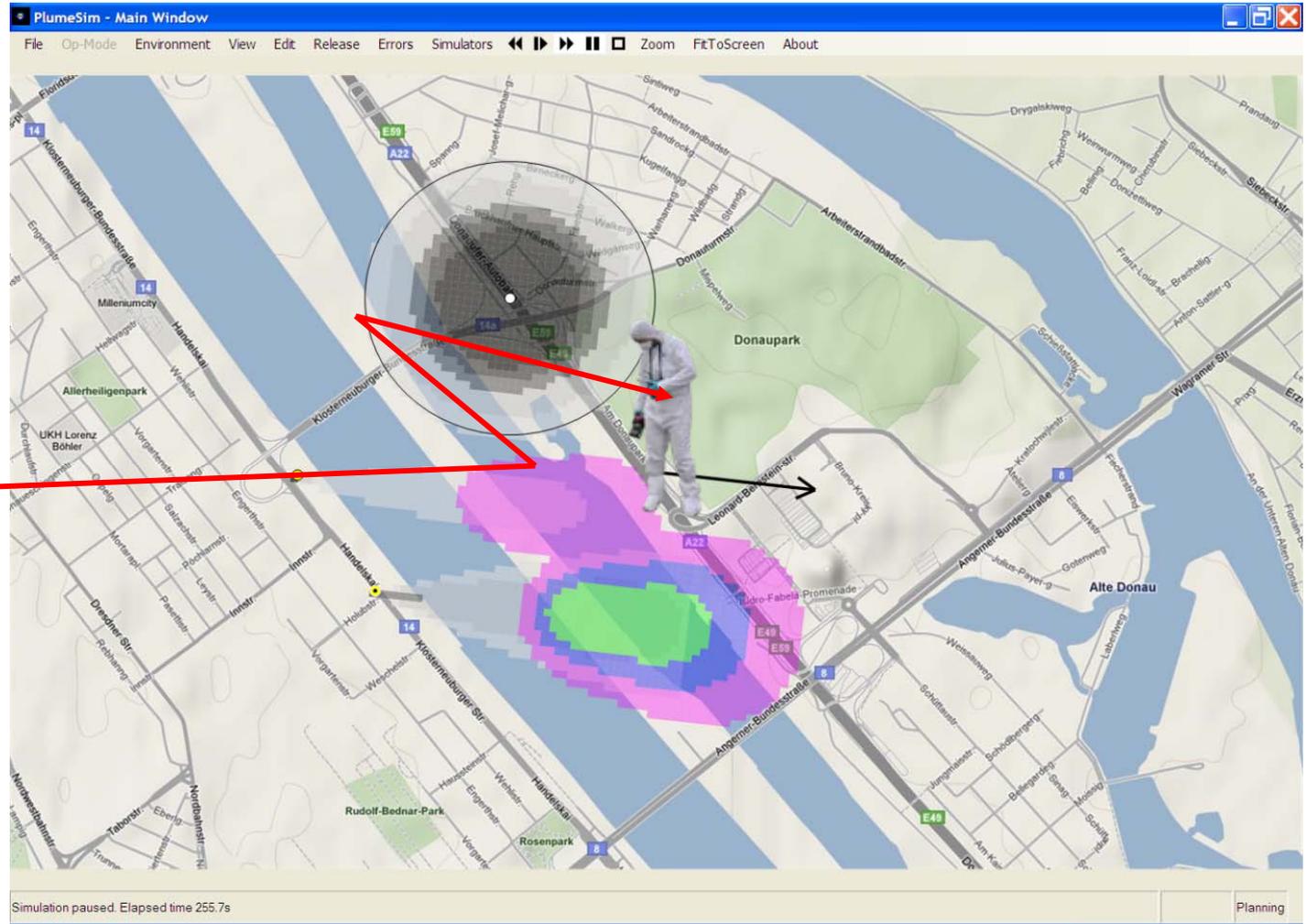
Plume SIM – live field exercise mode

- Fully instrumented, remotely controlled, multi-player real-time field training.



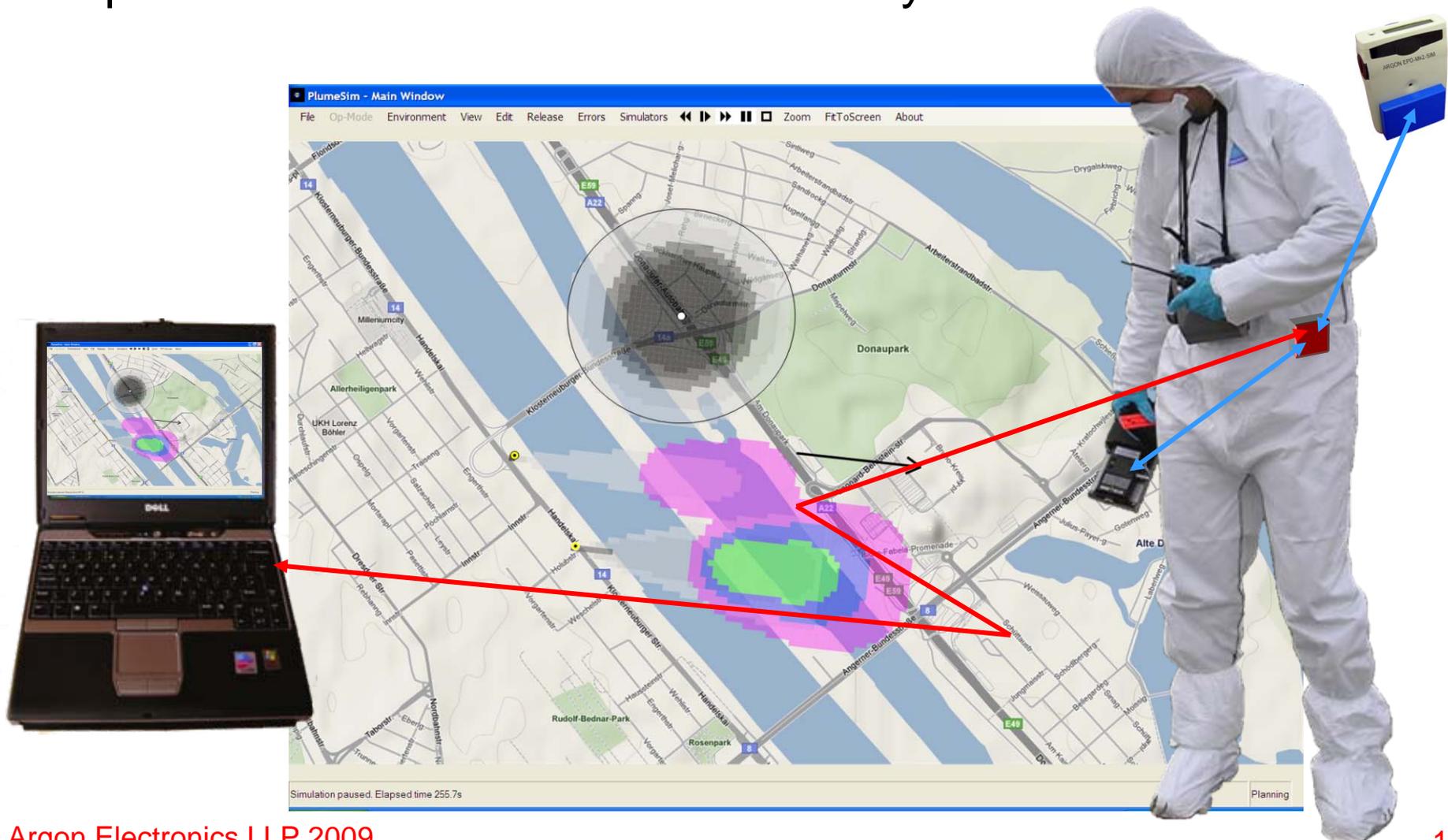
Plume SIM – live field exercise mode

- Position of trainees monitored by GPS.



Plume SIM – live field exercise mode

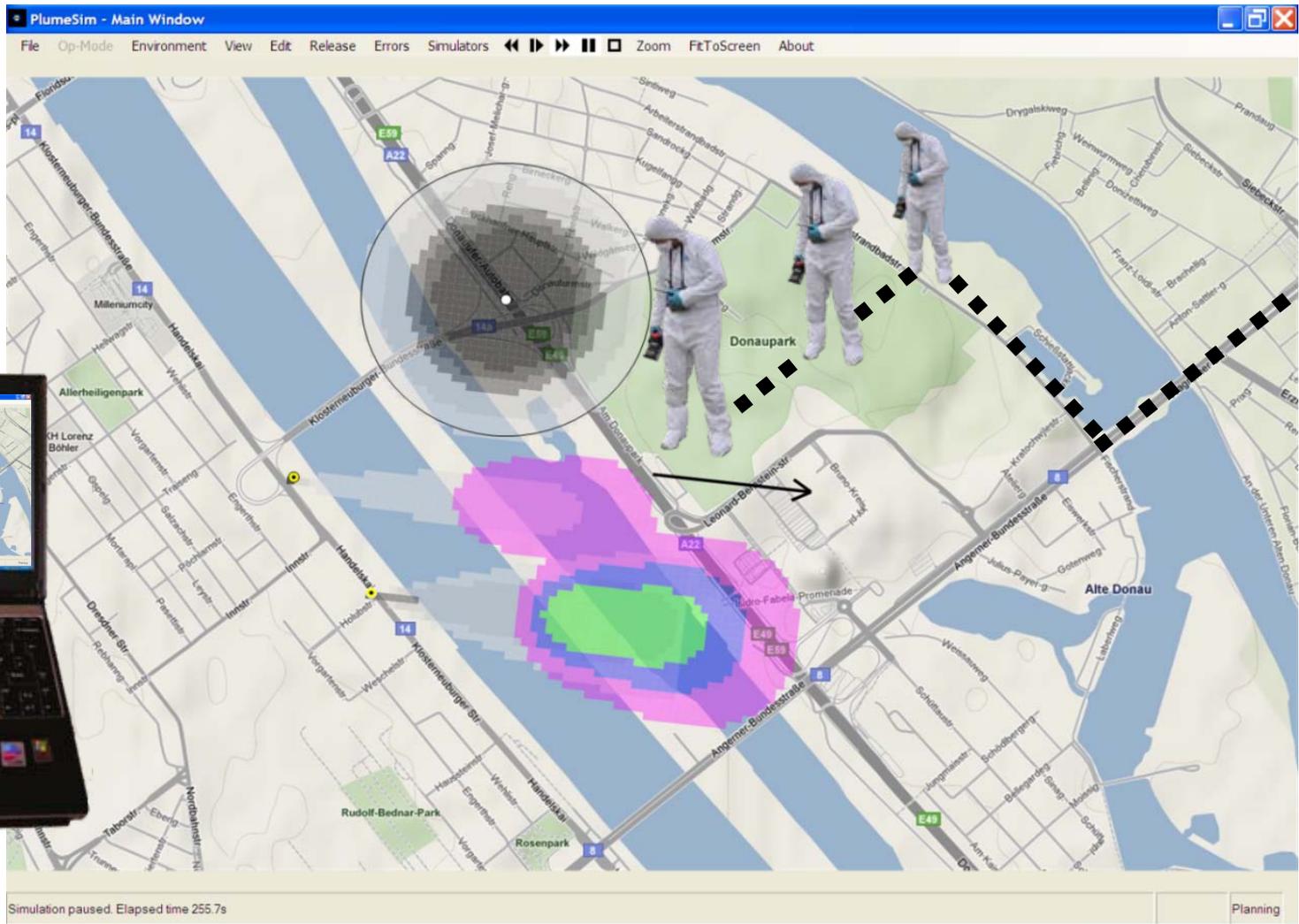
- Scenario communicated through a radio link to multiple simulation instruments via a Player Unit.



Plume SIM – live field exercise mode



- Instrument use and student movement reported and recorded.



Contact information



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