CAE GESI™-SiTA Classroom Education

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With today's armed forces facing a multitude of different roles, the importance of comprehensive and operation-specific training becomes more critical. At CAE, our entire focus is on creating simulation-based solutions that address these new and emerging training requirements. From traditional training for combat readiness to non-traditional roles such as operations other than war (OOTW), peacekeeping and humanitarian assistance, military operations in urban terrain (MOUT), joint and multi-national operations, and more, CAE is supporting defence and homeland security forces worldwide through innovation and technology.

The CAE GESI™-SiTA Classroom Application

By evolving CAE's renowned GESI™ (German: SIRA) constructive simulation system, CAE has created a new simulation tool called CAE GESI™-SiTA (Simulation-based Tactical training for military Academies) for student education in a classroom environment.

The CAE GESI-SiTA classroom application offers a unique foundation to experience and learn tactical basics at a new level of detail and interactivity. Specifically designed for military academies, CAE GESI-SiTA allows the student to become more immersed than before in real-world battlefield scenarios and in-depth tactical training. For the first time, clear and comprehensive illustrations of complex tactical situations are available, showing the relationship between forces, time and terrain. This makes CAE GESI-SiTA the ideal tool for in-depth education in a classroom environment.

Core Technology

CAE GESI™ core technology provides the platform for CAE GESI-SiTA and helps students to meet the challenges of the most basic to the most complex of simulated military operations. Key features include:

- Field-of-vision algorithm;
- Display of weapon range and effects;
- Scalable maps and 3D visualization of the terrain;
- Weapon system database editor;
- Route calculation algorithms;
- Workflow models for logistics (CSS) and medical services;
- Scenario editor including operation, barrier and fire plan overlays;
- Single entity resolution with up to 32,000 elements and multiple parties;
- Weather modelling affecting battlefield operations;
- Operations other than war (OOTW) implementation.

These features allow a battlefield representation and include specific details that are defined when planning and conducting tactical manoeuvres and operations. Planning exercises evolve in real-time, since all environment parameters affecting the exercise and military models are accurately replicated.

Transparency and Dynamic Interaction

The tactical content using simulation technology expands upon the previously limited teaching methods to deliver a higher level of transparency by visualizing the possibilities and restrictions on the battlefield. Comparisons can easily be drawn between opposing forces at any time via statistics or simulation replays, thus delivering better understanding and comprehension. The classroom system allows for review of entire battles and illustrates key criteria such as force ratios, losses, lines of sight, logistic situations and any relevant data of the involved parties. The detail provided through CAE GESI-SiTA reveals the fundamental reasons for tactical developments in battlefield scenarios. Consequently, results become retraceable and credible with tactical outcomes more comprehensible.

Educational Network

Available as a hardware or software solution, the educational network links student tactical workstations to the instructor's desktop, thus enabling the instructor to monitor the work of each individual student. Using the educational network, the speed of the entire training event can be synchronized to the individual progress of students, giving the instructor transparency regarding where students stand, how workgroups elaborate solutions and where support is required. In order to gain full attention, the instructor can clear and deactivate all desktops with just one push of a button. Additionally, the network can be used to display the screen contents of individual student workstations using a projector for a subsequent discussion of results and solutions with the entire class.

System Configuration

The system configuration tool provides an easy way to determine and store different classroom setups as well as workgroup configurations and individual settings for the involved workstations. The configuration tool further defines whether students work on single or team simulations and provides a complete overview of the classroom setup at any time.
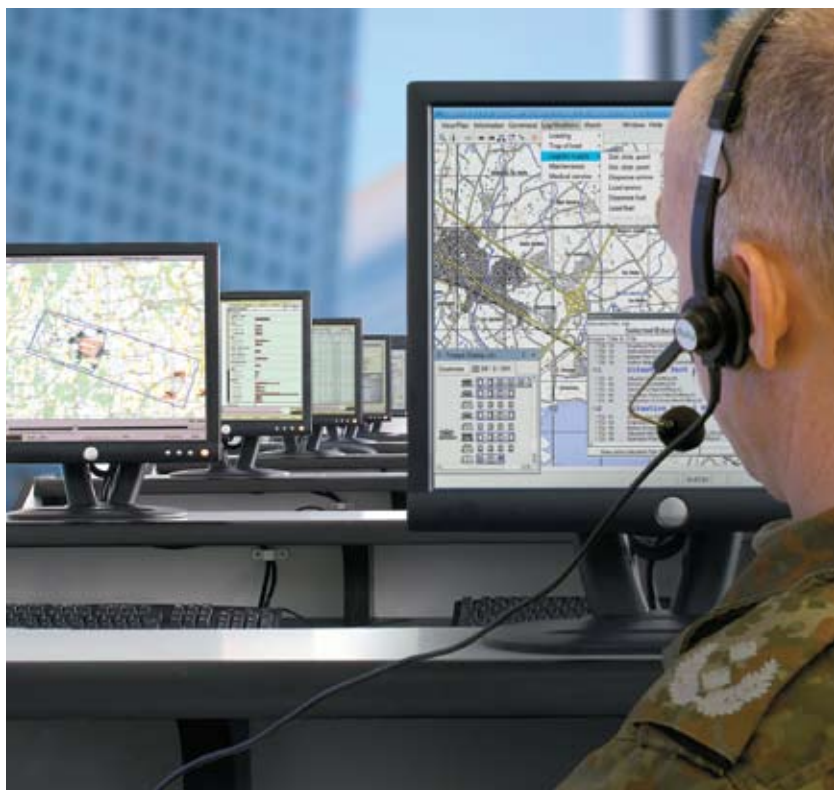
User Interface

Tactical markers and symbols on dynamic maps are used for the graphic display of the combat situation. The system is operated by means of an easy to use graphical user interface. Together with the use of standard military maps on the screen, a quick identification and familiarization is ensured, especially for military users.

Customers

The CAE GESI-SiTA classroom application has been in use at the Norwegian Military Academy in Oslo since 2006. Germany and Austria are both evaluating this type of system for use within their military academies.

CAE GESI-SiTA makes even complicated tactical issues easy to understand and speeds up the learning process significantly. With the CAE GESI-SiTA system, the instructor saves time and more importantly, has the ability to cover more advanced topics and teach to higher learning objectives.

Education Plan

Students can easily navigate through lessons using the education plan, based on the didactical architecture derived from tactical training at military academies. All contents are only a mouse click away, whether displaying an operation plan overlay on the map or launching a workgroup simulation to explore different solutions for a mission. The education plan allows the student to easily open documents such as PDF files, network and web content or simulation-based applications by just clicking on the related menu item. Each item can be deactivated or made accessible by the instructor at any time, providing students with a clearly arranged didactical path and allowing instructors the opportunity to combine classical documents and simulation resources in one easy-to-use navigation tool.

Feedback and Presentation

Results and highlights of simulation-based missions in workgroups or single-user mode can be analyzed, discussed and prepared for presentation using the after-action-review tool. Key features include:

- Recording of complete exercises;
- Creation of event bookmarks (manually and automatically) during the exercise for easy retrieval and analysis;
- Creation of tactical situation graphics, either as snapshots or dynamic replays including full simulation functionality;
- Extensive statistical overviews;
- Assembly of presentations.

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