



Scarce resources, equally competing requirements, complex situations, rapid decision-making training and readiness of personnel and equipment – these are situations that today’s NATO leadership continually face. How can technology approach these issues? How can technology help decision-makers overcome these obstacles?

In today’s budget-conscious environment, it is extremely important for North American Treaty Organization (NATO) countries to employ affordable and yet sophisticated simulation training resources to maintain readiness. Many countries, however, do not have the financial and human capital resources required to enhance their national training and readiness capabilities to promote interoperability among alliance forces.

Latvia, in the Baltic region of Northern Europe, serves as an example of how a nation can use technology to more effectively utilize scarce resources. The Latvian Armed Forces faced a shortage of computer-assisted simulation solutions for training military personnel.

They needed to find a cost-effective tool to meet their training and readiness requirements and provide real-world scenarios to improve the quality of their military training.

The challenge the Latvian Armed Forces faced was twofold. First, the military had to develop a simulation capability with features and functionality available in more sophisticated and expensive military simulation training tools. Secondly, the armed forces needed to find a way to meet their training and long-term sustainment requirements at a price the nation could afford.

Program Executive Office-Simulation, Training and Instrumentation (PEO-STRI) awarded training contracts to Alion Science and Technology. Alion has worked closely with representatives of a number of NATO nations to help them put together a strategy to incorporate modeling and simulation in their training and educational programs. Alion found that many of the countries were buying feature-rich simulation systems with features that far exceed their current existing requirements and capabilities. The findings showed that

Above

Latvian Master Trainer, Corporal Evita Martina teaches Battle Command Operator classes.

Image credit: Author.

oversized systems were costly to install, maintain and sustain. This was further complicated by the additional subject matter experts needed to maintain and sustain these systems. These factors placed an additional financial burden on a nation’s budget, particularly significant with smaller countries.

As a result of these findings, it was clear there was a need to adapt and rethink strategies to respond to the needs of smaller countries. There needed to be an intermediate level of simulation between the highly capable U.S. joint simulations and the commercial type computer games that could be used to address a nation’s constructive simulation requirements in a manner “good enough” to support these requirements, but much less costly in terms of simulation procurement, training and sustainment costs. In the case of the

Bringing Military Simulation Capabilities to Latvian Armed Forces

Sometimes 'good enough' exceeds all expectations. Harry Thompson describes the successful implementation of a constructive simulation capability in a budget conscious country.

Latvian Armed Forces, simulation solutions were reviewed that would suit the military's objective to support its operational units. After in-depth research, VT MĀK's Battle Command software was selected to meet the military requirements. VT MĀK's Battle Command military tactical trainer provides similar features and functionality as more costly systems and allows ground combat commanders to practice their planning and execution skills within a compelling simulated environment. Battle Command helps commanders develop warfighting skills by allowing them to plan the battle, fight the battle and review the battle.

Alion worked with VT MĀK to tailor Battle Command to make it cost-effective and comprehensive. Engineers weighed the costs and benefits of each element of the Latvian military solution. This included defining customer needs and controlling expenses. Alion took Battle Command simulation software to a different level by integrating it in both a training program and an educational program to meet the Latvian military's requirements to use

the simulation countrywide – not just in one central simulation center. This approach addressed the Latvian senior leadership's vision to push simulation use through a distributed, easy-to-use manner down to the lowest possible level nationwide.

Among the support Alion provided to the Latvian Armed Forces were overall program management, advanced user training, terrain database development, extended on-site support and operational use helpdesk support. Latvian users were taught how to effectively install and use the software and how to build their own terrain to use with the software. Subject matter experts developed a massive library of more than 100 individual function guides or checklists (in addition to the normal user's manual) for the various functions associated with Battle Command operation and terrain development.

Train the Trainers

An integral part of making the simulation software cost-effective involved establishing a technically and operationally proficient Latvian program man-

agement office to provide oversight of all simulation activities, act as a helpdesk and provide "master trainers" for the future nationwide use expansion. The "master trainers" were trained through the "training the trainer" approach. Alion worked with selected military personnel, who previously did not have extensive simulation experience, and taught them how to employ the simulation tool, helping them to become effective "master trainers." These "master trainers" are now able to pass on their knowledge to other military personnel, enabling them to operate the battle simulation program on their own.

Additionally, the Latvian forces were trained to run major brigade-level exercises without external subject matter experts. This saved the Latvian military an additional \$1.5 million during the first year. Subsequent savings of \$1.5 million per year is expected in program sustainment costs since Latvia Armed Forces do not require on-site U.S. experts. This training and fielding approach better ensures and protects the investment by the U.S. and Latvia in simulation by establishing a capability for Latvia to

sustain and grow its simulation capability with its own people and resources within a budget they can afford.

Program Management

Alion's role as the program management and subject matter expert included support of nationwide training exercises with the Latvian Armed Forces using VT MÄK's Battle Command desktop training simulation. These brigade-level exercises were the culmination of a five-month long project that included fielding, new equipment training and advanced training.

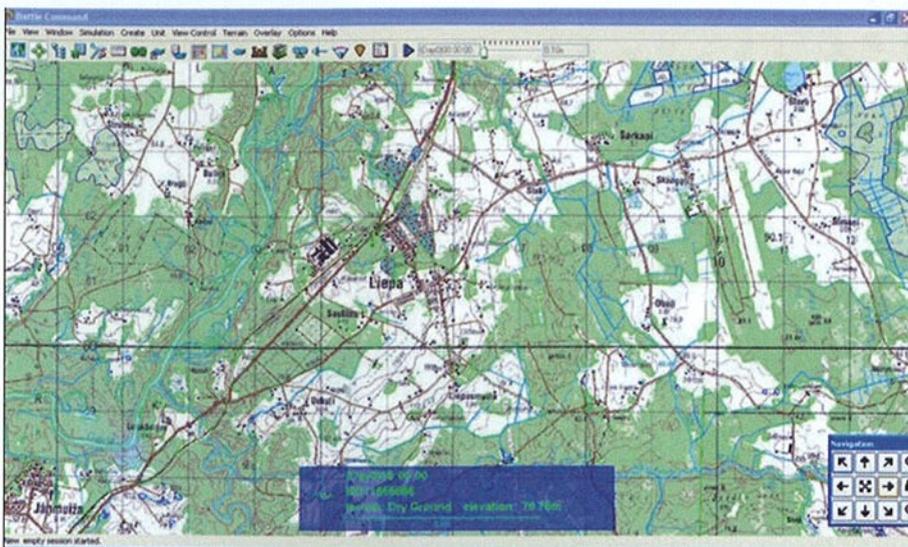
Originally, this annual national level training exercise was scheduled to be a live field exercise but the exercise was scheduled for cancellation due to budget restrictions. However, with the fielding of the Battle Command simulation, it was determined that the training objectives could be accomplished using a simulation tool at a considerable savings. Therefore, Latvian military leaders decided to replace the previously planned, and cancelled, live training with a constructive simulation training exercise using Battle Command.

Interoperability with Command & Control Systems

During the exercise planning and development process prior to the national exercise, the Latvian senior leadership discussed the possibilities of using their tactical Command and Control Personal Computer (C2PC) system, which is a U.S. command and control tool, in the simulation exercise. They would normally use this system in live field exercise operations in their command posts but were trying to determine how it could be used by the command centers to track the battle in this simulation exercise.

Because Battle Command simulation can interoperate with other simulations and systems such as command and control systems, it was worth exploring with the Latvian military. Similar type interoperability during exercises had been performed with Battle Command, so an experiment as part of the national exercise was arranged in Latvia for determining the effectiveness of the interoperability between the Battle Command simulation and the Latvian C2PC system.

The result was highly successful.



Above
View of Latvian terrain near the city of Liepa in Battle Command simulation.
Image credit: Author.

With the installation of a small software program from VT MÄK and some small modifications, within 10 minutes, the battlefield picture of all friendly and identified enemy units in the simulation were being displayed in the C2PC system in the main brigade headquarters, just as it would have been in a live exercise. The Latvian senior leadership decided at that point to continue the remainder of the exercise using the C2PC to Battle Command linkage. There were no issues with its use during the exercise, and it greatly added to the realism of the training for the Latvia command posts and their staffs. This achievement provided the Latvian military with limitless options for support of future exercises.

The Result

The fielding of Battle Command provided the Latvian Armed Forces with its first simulation capability at nearly one-third the cost of procuring and fielding a more complex simulation tool. The Latvian military leaders proved that the multipurpose simulation tool:

- Is able to be used in a large national simulation center;
- Suits classroom environments;
- Serves as an enhancement/sustainment tool to other simulation tools in use;
- Can be used in solo mode as a study aide;
- Is able to support distributed exercises

with locations throughout Latvia and the world;

- Is interoperable with the Latvian real-world command and control system; and
- Meets training and educational needs through a software system that has the same type of coding as more complex simulations but is easier to operate.

Additionally, the training and supportive approach resulted in overall annual savings for the Latvia military of \$1.5 million in sustainment costs. The management plan provided subject matter experts to initially train the Latvia forces for the normal three week new equipment training period, which is part of the standard PEO-STRI program of support. Alion further conducted two additional training periods of four weeks to six weeks and concluded with a comprehensive exercise. This entire process took less than six months to complete, instead of the normal one full initial year plus follow-on additional years of subject matter expert support.

Despite budget cuts, the approach with reasonable procurement and fielding and program management costs has provided the Latvian Armed Forces another option for a national simulation capability which has greatly increased the military's ability to train - a simulation capability with all of the characteristics and capabilities of a large system for good performance.

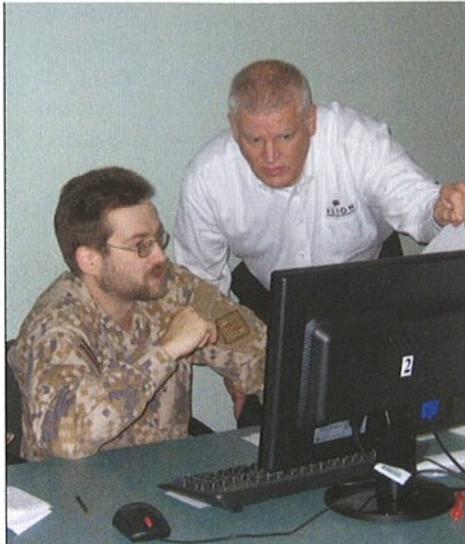
Not only did the fielded simulation program exceed its identified requirements, Alion trained the Latvian military personnel to use the software within six months and left the country ahead of schedule. This resulted in savings that

the country can use for needs that would otherwise have been spent on continuing sustainment support.

The Latvian Armed Forces program demonstrated that Alion can deliver simulation capabilities quickly and cost effectively, reducing the cost of ownership by eliminating costs associated with ongoing support and sustainment. By lowering capital investments requirements, this approach lowers the entry barrier for smaller countries that want to increase and enhance their armed forces simulation training programs and capability.

Future

The leadership of the Latvian Armed Forces envisions the use of this simulation capability across all levels of their military services. Simulation will be used to train Home Guard forces, in academic institutions and training facilities, and in various small unit organizations throughout the country in distributed or stand-alone exercises. The key to the Latvian military's training success is reasonable procurement and fielding costs and vastly reduced sustainment costs. This intermediate level simulation



Left

Harry Thompson (right), Alion Science and Technology Program Manager, and Major Andris Auliciems review results of training exercise in preparation for After Action Review (AAR) of the exercise.

Image credit: Author.

system is constructed so that Latvian personnel can rapidly learn to operate, maintain and sustain all associated simulation functions on their own.

Cost and complexity have forced many smaller countries to put off adopting a simulation training program or accept an extremely complex solution with minimal sustainment support and training. Latvian senior military officials along with the Office of Defense Cooperation chief in Latvia conducted extensive research

on the options available to address their requirements with the funding they had available. The Latvia military's implementation of the Battle Command simulation capability serves as an example to other NATO countries that they can afford to enhance their national training capabilities through various means and not just the standard, expensive and highly technical options of the past. **ms&t**

About the Author

Harry Thompson serves as International Programs Business Manager and Vice President for Program Management, Alion Science and Technology. He has worked in the modeling and simulation community for more than 20 years and in the international and NATO M&S environment for more than 14 years, the last 10 years with Alion.

STILL SWITCHING THE OLD WAY?

Try the New Linx™ Cross X Format™ Switchers

RGB or DVI on Every Input

DVI Output

HDCP Compliant

Advanced EDID Management



(510) 814-7000 www.rgb.com sales@rgb.com

