



NATO SCHOOL



ISSUE NO. 5

TODAY

ADL Working Group
Celebrating 10 Years
Serving NATO/PfP

ADL WG

Origins & Achievements

e-Learning

Student Oriented, Network Based Education
The Romanian Perspective On e-Learning

Web 2.0

In the Learning Process

Marketing ADL

The Portuguese Experience

**Special
Edition
Advanced
Distributed
Learning**

ADL & the Road We're On
Do You Speak "NATO English"?

With Articles From:

Allied Command Transformation, the International
Relations and Security Network (ISN), the Baltic
Defence College and the German Bundeswehr

**Training &
Education
Anytime,
Anywhere**



ADL courses - web-based collaboration

distance
learning

ONLINE COMMUNITIES
OF PRACTICE

anytime, anywhere

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INTRODUCTION

We are proud to feature the PIP Consortium ADL Working Group in this Special Edition of the NATO School Today. Over the past ten years, the working group, commonly referred to as the ADL WG, has spearheaded an effort to bring innovative and effective methods,

practices and technology to the NATO Alliance and the Partnership for Peace Program to enhance education and training initiatives. Congratulations to all members and supporters. We hope you enjoy this short chronicle of some of the events of the past ten years and we thank

the contributors for offering their perspectives of where we've been and where we're headed.

Technology has changed, but the goals of sharing content and concepts via multinational networks have only grown stronger over the years, as we hope you will see in the following articles.

Even though we celebrate past successes, the ADL WG must not rest on its laurels. The Alliance and its Partners need our outputs more than ever as the challenges, such as the Afghanistan mission, are some of the largest ever facing NATO. We urge all members to make sure the work remains relevant, useful, practical and accessible.

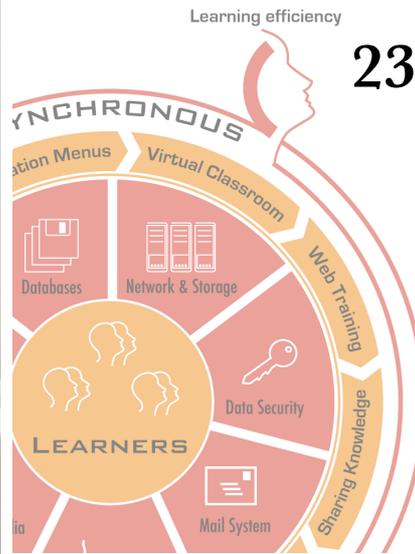
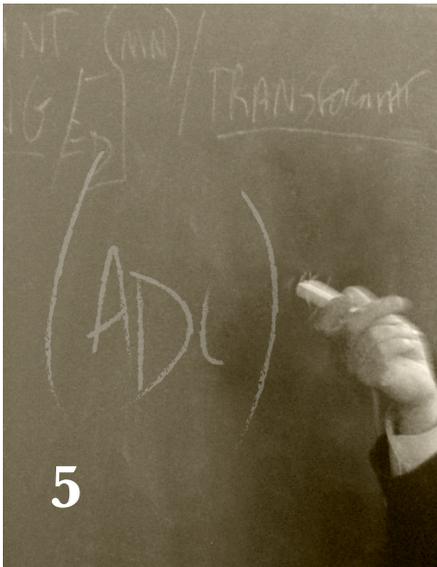
Plus, the cycle of innovation never ceases. We must continue to embrace, adopt, and extend, new ideas and technologies that deliver better services "anytime, anywhere." Recent years have shown us that the Web has spawned radically new ideas, practices and behaviors, which we apply to better serve our audience. We should be ready for more changes including enhanced mobile capabilities and cloud computing, to name just a few.

Ten years from now, today's tech may seem quite antiquated, yet rest assured that the spirit of mutual support and benefit with the aim of improving education and training will remain consistent in decade to come.

Finally, newcomers are always welcome. We want to expand and grow. To keep up to date on this dedicated, dynamic, and engaging group, be sure to join us online via the PIP Consortium Website at Consortium.pims.org/adl-wg.

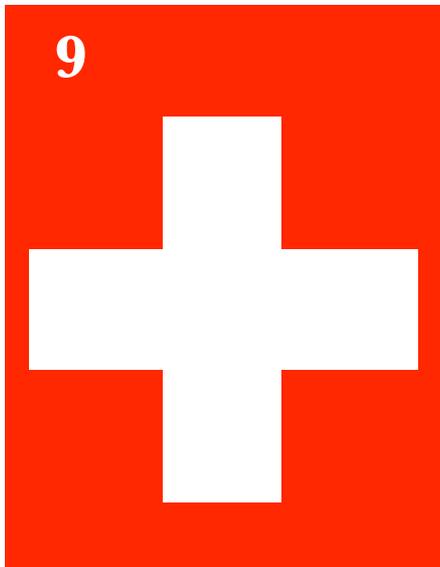
Tanja Geiss & Gigi Roman

Guest Editors, NATO School Today & Representatives of the ADL Office at the NATO School.



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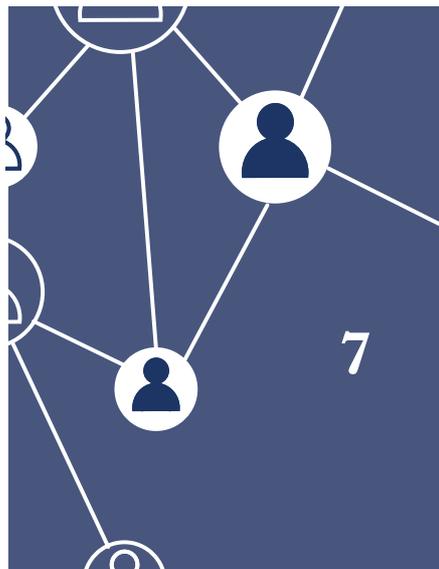
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WELCOME TO THE NATO SCHOOL



Colonel Mark Baines,
US Army
Commandant,
NATO School
Oberammergau

A GREETING FROM THE COMMANDANT

On behalf of the academic staff and students, I welcome the ADL Working Group to the NATO School Oberammergau for its tenth anniversary meeting that marks a decade of service to NATO/PIP.

The NATO School is honored to host this event as we have participated actively in the group since its inception and have benefited greatly from the advancements made by its members.

To put it simply, distributed and collaborative learning methods and technology have transformed the way the NATO School trains students and conducts its day-to-day operations. Through the use of ADL courses and the Web-based NATO School Members Portal, we effectively engage our community members before, during and after their residency.

Students are better prepared upon arrival when they review materials via a learning management system or when they communicate with course directors via interactive groups ahead of time. On campus, course syndicate work has adapted the use of our Web portal utilities to share information and practice scenarios in innovative ways. Upon departure, we no longer have to burn as many costly CD-ROMS for students as content is available at anytime, from anywhere via our Members' portal. Finally, this environment has become a hub for our outreach to alumni, subject matter experts and other emergent communities of practice.

These successes including, 6000 members on the NATO School Members Portal where all unclassified courses are supported, are certainly due to technological advancements, but I also would like to highlight the importance of the human factor. A knowledgeable, motivated, and outgoing ADL team and early adopters among the faculty and students have been critical to the successful adaptation of the technology to our business processes and to make tools like ADL Courses and Web environments an integral part of the NATO School community culture.

For me, the ADL Working Group showcases these elements - the latest technology and the bright talent who work hard to make the concepts come to life in support of NATO and PIP objectives. The NATO School, along with the greater education and training network of NATO, looks forward to reaping the rewards of future discoveries and innovations that the ADL Working Group brings forth in the decade to come.

Sincerely,

Colonel Mark Baines, US Army
Commandant, NATO School Oberammergau

ADL WORKING GROUP ORIGINS AND ACHIEVEMENTS

Q&A with Joe Camacho

By Gigi Roman and
Tanja Geiss

Recently, Gigi Roman and Tanja Geiss sat down with Joe Camacho, the government program director for the U.S. Department of Defense's Joint Knowledge Development and Distribution Capability whose group operates three Joint Knowledge Online portals. He discussed ten years of Advanced Distributed Learning, where it stands today, and how it benefits multinational partners who use ADL to complement the education and training programs in their organizations.



Q: How did the ADL Working Group start?

A: About 10 years ago, Advanced Distributed Learning (ADL) was brought up at a PIP Consortium Conference in Sofia, Bulgaria. I remember standing in front of a group of about 30 or 40 people with a piece of chalk. I went to the board and scribbled the letters "ADL," then asked the group "Does anybody know what those three letters mean?" Of course nobody did. That's how the ADL Working Group in the PIP Consortium began.

Q: How did the working group grow and evolve?

A: As different nations started to participate and ADL technologies continued to mature, the ADL Working Group began developing courseware, adopting tools and standards, recruiting new members, and eventually deploying a learning management system with multiple courses to benefit members of the PIP Consortium. Those early successes led to additional NATO and partner nations wanting to participate and to make use of the courseware.

Q: When did the ADL WG come of age?

A: Eventually, the PIP Consortium ADL Working Group grew to a point where it was recognized by NATO as being a key contributor not only for ADL tools but also for courseware that would directly benefit NATO. So NATO embraced the ADL Working Group, and coordinated closely with it in order to produce a larger effort within NATO and the Partnership that would be of increased benefit to participants in both organizations.

We have been fortunate in the past year to take the ADL Working Group's efforts and align them with those of the NATO Training Group, Working Group on Individual Training and Education Developments (WG IT&ED). Now the WG IT&ED and the PIP Consortium ADL Working Group are combining forces in order to provide enhanced tools, courseware, expertise and training not only to the partner nations, but to all NATO nations.

"Does anybody know what those three letters mean?"

Joe Camacho

Advanced
Distributed
Learning

ADL

Q: What are the success stories that come to mind?

A: Some of the achievements made over the past 10 years are extraordinary. For example, the VIKING exercises, run out of Sweden, utilize Advanced Distributed Learning prerequisites that originated from the tools and courseware developed by the ADL Working Group. Additionally, US and multinational augmentees deploying in support of today's NATO ISAF mission receive pre-deployment training, not only at the NATO School in-residence course, but also from online ISAF courseware that would not have been possible if the ADL Working Group had not developed the supporting tools and distribution capabilities.

Q: Why is the group successful?

A: The great partnership inside the PfP Consortium in general and the ADL Working Group in particular was directly enabled over the years by organizations such as the US Joint Forces Command, NATO's Allied Command Transformation, and the Swiss International Relations Security Network (ISN). Because the NATO formal training organization has embraced ADL, we now have a full capability across NATO and the Partnership that employs ADL tools, processes and distribution infrastructure to benefit participants in those organizations.

The ADL Working Group continues to grow along with the NATO School's use of ADL, with Allied Command's Transformation's expanding use of ADL and ADL capabilities, and in my program, the US Joint Forces Command's Joint Knowledge Online. We continue to work and coordinate with the ADL Working Group to increase development and distribution capabilities on the United States' side.

Q: What is your key message to the participants on this 10th Anniversary?

A: I congratulate everyone who has helped the ADL Working Group get to where it is today. I am proud to have been a part of that ten year heritage, from very humble beginnings to now, and am honored to help celebrate this great partnership on our ten year anniversary. Thank you very much for taking the time for allowing me to talk about what I believe to be one of the greatest successes of the PfP Consortium. ✦

ADL WG...

By the
Numbers...

more than **100** courses

over **150** members

10 Years Supporting
NATO/PfP



**Congratulations
and thank you to all participants,
supporters and students.**

ADL WG Board

Reto Schilliger, ISN (Switzerland) Chair

Greta Keremidchieva, Rakovski NDA (Bulgaria) Vice-Chair

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NATO & PARTNERSHIP FOR PEACE

E-LEARNING: THE CDT MODEL

By Frank Koprivier

Partnership for Peace (PfP) nations and NATO member states looking to increase skills and competency often face the following conundrum: How to grow and extend the training capacity of the military even when budgets shrink?

Over the past ten years, a network of Cooperative Development Teams (CDTs) spanning many nations emerged to help address this challenge. This emergent model of collaborative engagement and mutually beneficial production has since been formalized under the ADL Working Group (ADL WG) moniker. To accomplish its mission the ADL WG employs standards-based and open source technology and delivers the content via the Internet. This multinational group has consistently aimed to help nations achieve the success in distributed education and training “anytime, anywhere.”

The foundation for this e-Learning success story was laid in 1999 when Switzerland and the United States signed a memorandum of understanding to “create a mechanism to exchange common education and training content” and to “establish common methods” as well as “share Internet-based technologies to provide global just-in-time training.” These key objectives were a guiding force for the first consortium of six organizations who helped guide the initiative and for the newer participants who joined along the journey.

In 2001, Canada, Germany, Switzerland, Ukraine, and the United States collaborated to put the ideals into practice by developing a new Web-based Learning Management System (LMS) to host online courses. Also, a prototype course authoring tool was created to streamline the course development process. With the Internet-based course “infrastructure” in place, the group needed to develop a course to showcase the initiative. The result was a five-lesson course titled, “Introduction to NATO”. Each nation developed one of the lessons and the final product was a well received. Updated versions of this flagship course continue to be used and it remains one of the most accessed and completed courses.

The success of the initial meetings and outputs prompted members to establish semi-annual conferences to continue refining the development process. The ADL Working Group was born.

Over time, the ADL WG developed an organizational committee structure to help the consortium run smoothly. A Steering Committee plans future events and manages funding issues, while the Technical Committee experiments with technical solutions and refines the software code for better functionality. The Developers Committee aims to improve the instructional design process in order to produce more effective courses. Additional training and technical workshops and oversight meetings are held on a regular basis.

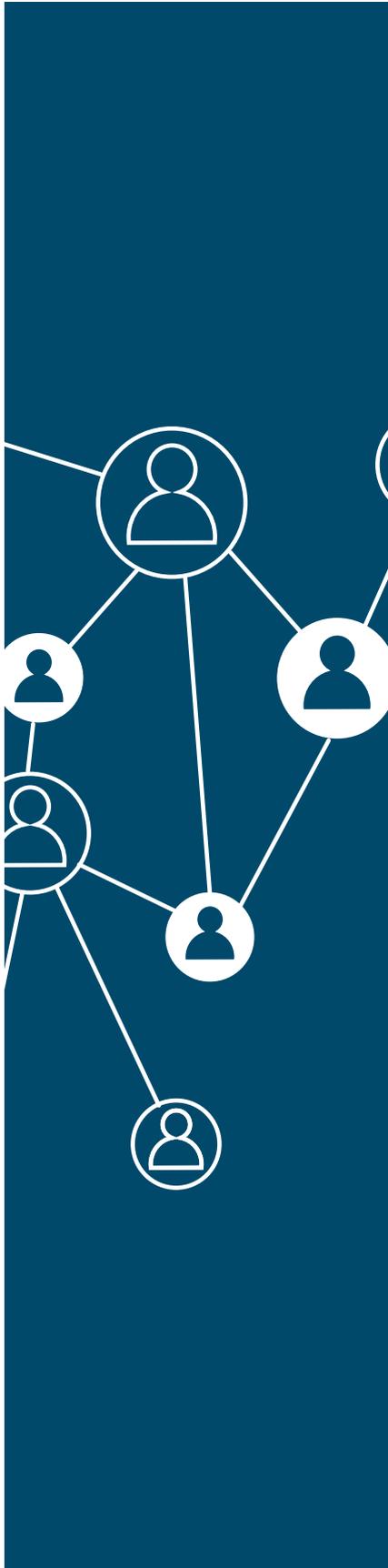
At the heart of the ADL WG initiative are the Cooperative Development Teams, as they carry out the bulk of the development work and their example of multinational cooperation drives the group

Since 25% of all future military training may soon occur over the Internet, free applications available to all partner nations is a reality.

forward. CDTs focus on converting traditional learning material to web-enabled interactive courseware. With the success of “Introduction to NATO”, more courses were collaboratively developed. Course categories include Military Basics, Peacekeeping, Humanitarian, Legal, and Operations and Planning. Quickly, the PfP Learning Management System (PfP LMS) was stocked with materials open to all interested participants including military professionals, government civilians, university students, and others.

To produce the content, a typical CDT is composed of a team leader, web content developers and systems engineers. Over ten years, a core group of individuals from five nations that has now grown to twenty-two and more nations are expressing interest and willingness to contribute to these vital developments for all NATP and PfP nations

Beyond their internal work, CDTs meet twice a year to exchange information and improve the LMS. Hands-on workshops, as well as cultural events generate camaraderie and friendship - critical success



factors for this initiative. These sessions allow participants to reaffirm their international connections, trust and relationships that have helped sustain the ADL WG momentum. It is a model that has seen success in the Trans-Atlantic theater and has potential to be replicated on a global scale.

The fact that the ADL WG conducts its development work in a way that content and technology can be re-used has also spurred growth. In addition to a learning management system that is developed in an open source manner, the content itself is also quickly shareable. That is because the ADL adopted common principles early on. All CDTs conform to the the SCORM (Shareable Content Object Reference Model) standard. Originally, SCORM was developed by the US Department of Defense through its Advanced Distributed Learning Co-Labs, and this standard has assisted in the multinational collaboration by providing a structure for re-using learning content. ADL's enhancements to NATO and PIP interoperability using a common infrastructure is a major step forward to providing enhanced learning no matter the location or time zone.

In 2003, in response to the efforts of the ADL WG, the NATO Military Committee validated the prototype concept in by stating it should be extended and supported by voluntary national contributions in order to enable the ADL service to members and partners.

good. The Cooperative Development Teams using standards-based and open source technologies and content models will remain a mechanism in support of online learning to create a common framework for conflict resolution. 🌐

Frank Koprivier is the CDT Content Administrator at USJFCOM.



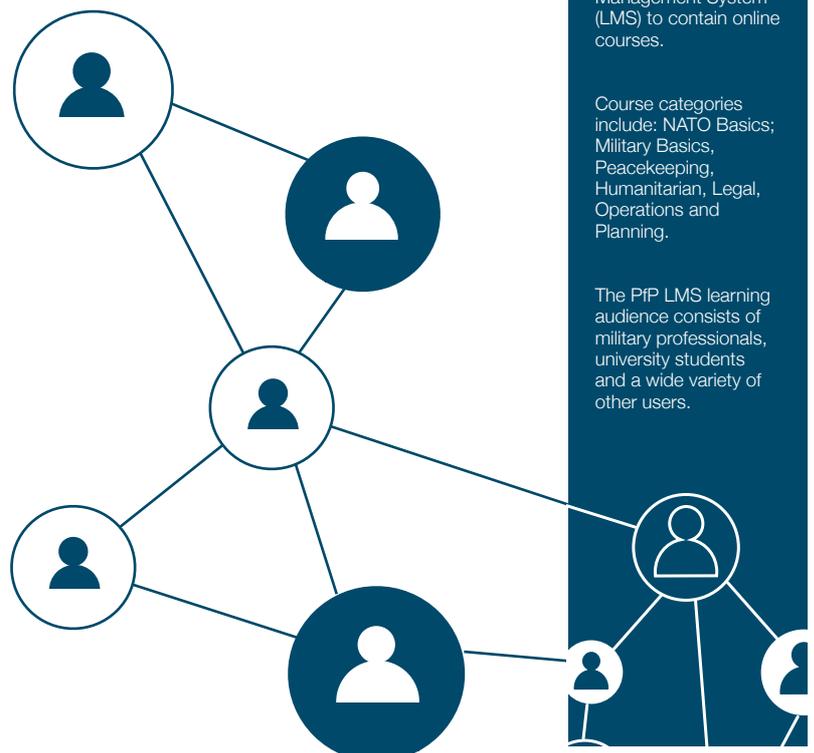
Three Objectives:

- *Create a mechanism to exchange common education and training content among NATO and PifP Nations.*
- *Establish common education and training methods for e-Learning courses.*
- *Share internet-based technologies to provide global just-in-time training.*

Official recognition has only spurred continued growth. Recently, ADL products have helped prepare multinational military staff for the Modeling and Simulation SWEDINT VIKING Series and for participation in the NATO International Security Assistance Force (ISAF). The latter course provides relevant battle theater information to coalition partners.

Looking ahead, the ADL WG will stay relevant by developing new courses that confront major challenges of our time: cultural awareness; building defense institutions, battlefield communications, peacekeeping techniques and language training. The next generation of courses will incorporate more multimedia features and gaming simulations that allow for real-time, guidance. Increased use of Web-based environments will better support virtual communities offering multi-way communication features. This “blended approach” will continue to evolve while efforts are made to further market the courses to a global audience. The SCORM standard will continue to enable new courses to be more rapidly produced and in a cost effective manner as modules will be discoverable via federated searches of databases containing reusable course content.

Overall, the paradigm shift to Internet-based training has been enhanced by the mutual collaboration of nations willing to offer their unique talents for the greater



FACTS & FIGURES

Total course completions from the combined LMS instances are more than 6,000.

In 2001, five nations (Canada, Germany, Switzerland, Ukraine, and the United States) collaborated to produce a new web-based Learning Management System (LMS) to contain online courses.

Course categories include: NATO Basics; Military Basics, Peacekeeping, Humanitarian, Legal, Operations and Planning.

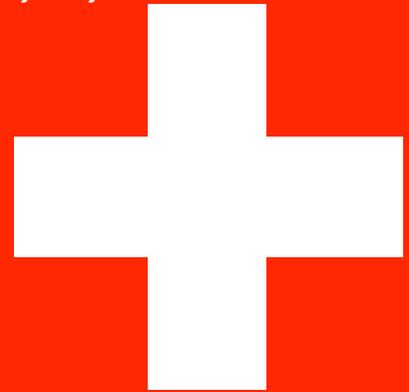
The PifP LMS learning audience consists of military professionals, university students and a wide variety of other users.



“The open source solutions of ISN and their use by ADL WG members have led to a considerable output of content to support the goals of the PfP Consortium. I am happy to see that Switzerland’s support has resulted in cost effective international ADL activities and a strong ADL community of professionals. And I am looking forward to the further developments.”

Alfons Beeler

*Deputy Head Strategic and International Affairs
General Secretariat DDPS
Security Policy*



ISN Website: <http://isn.ethz.ch>

ADL Working Group and the International Relations and Security Network (ISN)

By Reto Schilliger

Athena, the goddess of wisdom, peace, warfare and strategy, features prominently as the symbol of the PfP Consortium. So one could say it is in the spirit of Athena that the Advanced Distributed Learning (ADL) methods and practices help spread wisdom around the world using the international networks of people and the power of the Internet. The tenth anniversary of the ADL Working Group (ADL WG) offers a chance to highlight past successes and the continued potential of cross collaboration between

nations and institutions in the field of e-Learning. This article provides a perspective of the evolution of the ADL WG and chronicles the group’s special connection to the International Relations and Security Network (ISN) in Zurich, Switzerland, which has supported the ADL WG as a Swiss contribution to the PfP Consortium since its inception.

Starting in 1994, the Defense Security Network (DefSecNet), the direct predecessor to the ISN, shared the aims of improving knowledge sharing among international relations and security professionals across Europe. It was re-christened as the ISN to reflect its academic research interests and by

1996, became part of the of the Swiss contribution to the NATO Partnership for Peace (PfP) initiative. Since then, the ISN has established a range of valuable solutions to assist NATO member states and partners in their peace-building efforts, such as ePRIME.

e-Learning played an important role at ISN from the beginning. The ISN’s early e-Learning activities for the Swiss Military Academy and the Swiss Department of Defense formed a solid basis for a broader, international engagement in the field of Advanced Distributed Learning.

In 1998, the ISN e-Learning department focused its efforts on the development of joint training programs for

the newly established Partnership for Peace Consortium of Defense Academies and Security Studies Institutes, which focused its efforts on Eastern Europe.

A year later, at the NATO/EAPC Summit in Washington, the ISN was commissioned to establish a task force to coordinate, plan and implement an Advanced Distributed Learning (ADL) initiative within the PIP Consortium. These steps led to the founding of the ADL WG.

In 2000, the ISN launched the first online editor for ADL content production. More than 60 courses have since been produced by ADL WG members including the NATO Defense College Rome, NATO School Oberammergau, ACT and many more. "Introduction to NATO" is just one of many courses serving NATO directly.

Interoperability Approach & Open Source Solutions

All e-Learning activities within the ADL WG have one thing in common: the requirement for content to be easily exchanged between different online learning platforms. The key approach to what is called

production kit for the ADL WG, which was launched in spring 2009. The widely used kit offers descriptions on how to run international projects and a range of forms and checklists to support the work of specialized, multinational teams.

With the support of the ISN's open source solutions for the production and delivery of e-Learning content and a freely accessible learning platform, the ADL WG has grown into a network of ADL specialists with considerable output.

Today, close to 70 online learning modules are available and being used for education and training by NATO, EAPC-Nations, the PIP Consortium, ACT and numerous institutions around the globe. They are accessible via the PIP Learning Management System at <http://pfp.ethz.ch>.

Reto Schilliger is the Head of ISN e-Learning and serves as the ADL WG Chair

"The significant multinational ADL achievements of the Partnership for Peace, the Partnership for Peace Consortium, Allied Command Transformation, and US Joint Forces Command owe their success in no small measure to the support provided by ISN under the 1999 Swiss/US Memorandum of Understanding. The MOU, to be renewed in late 2009 as a Terms of Reference, will enable additional successes over the next ten years, including enhanced collaboration between the PfPC's ADL Working Group and the NATO Training Group's Working Group on Individual Training and Education Developments."

Joe Camacho, Director, Joint Knowledge Development & Distribution Capability, US Joint Forces Command

'interoperability' in e-Learning is a common standard. In the defense community, this standard is represented by the Shareable Content Object Reference Model (SCORM). The ISN has strongly supported this standard and contributed to its development. In 2004, the ISN e-Learning team organized the 1st ADL "Plugfest" in cooperation with the ADL-Co-Lab at ETH Zurich. Since then, the ISN has worked closely together with SCORM representatives in the US.

ISN e-Learning is committed to open source solutions to ensure affordability for all potential partners. This not only applies to content production tools but also to the web platforms required for delivery of online training. Early on, the ISN decided to utilize the open source learning management system ILIAS to support the PIP Consortium learning platform. In addition to the development of production tools, the ISN has played a major role in turning ILIAS into one of the first learning management systems to fully support the SCORM standard by contributing functionality such as the runtime engine necessary for displaying SCORM content.

During the last two years, ISN e-Learning has focused on the development of a new online SCORM content editor to be integrated into ILIAS. The new ILIAS SCORM Editor will provide instructional designers a range of new features including the possibility to add more multimedia elements, while maintaining key interoperability requirements.

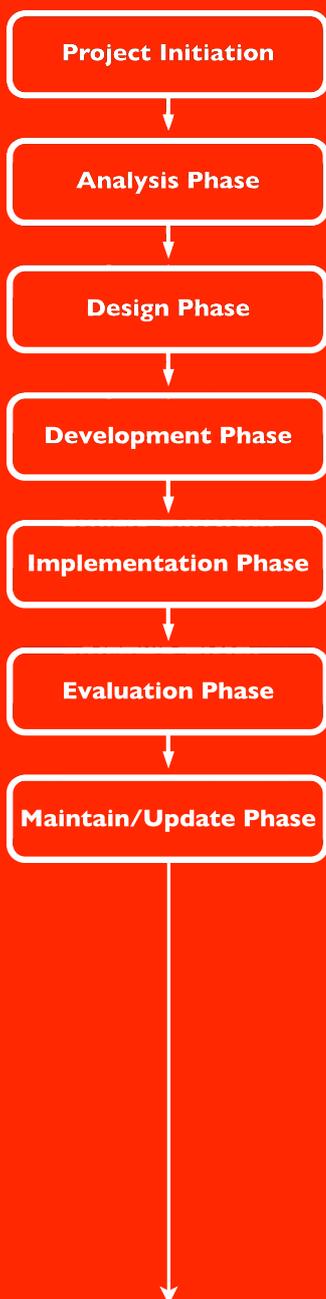
The e-Learning Production Process

Affordable tools are just one prerequisite for the production of interoperable content. Equally important is following a carefully designed process. The ISN established a comprehensive content



ISN
ETH Zurich

ADL PRODUCTION PROCESS



The ISN Website: <http://isn.ethz.ch>

"The PfP Consortium is proud to include the volunteer experts of the ADL WG, who operate on the critical interface between pedagogy and technology. The exponential worldwide growth of ADL in the last decade vindicates the foresight of the group's founders and has been a good investment for the U.S. Warsaw Initiative Fund, our principal source of support for the WG. Going forward, I look to the ADL WG to help Partner nation militaries develop their own ADL capability, benefiting from the know-how and economical solutions pioneered by the WG. Meanwhile, the ADL WG continues to provide courses that are useful to Partner nations striving to increase understanding of NATO nations' methods within their own defense and security establishments."

Henri Bigo
Executive Director
PfP Consortium of Defense Academies and Security Studies Institutes

US-Swiss Terms of Reference

The current Terms of Reference between Switzerland and the US describe the ISN mission as follows:

Activities are primarily directed in support of nations and institutions in the Euro-Atlantic Partnership Council (EAPC); that is PfP and NATO countries. Internet-based products and services will be developed, deployed and supported among the nations involved in those activities, and may be shared as appropriate with other national and/or international beneficiaries. Product and service activities can be grouped according to the four categories:

1. Content, e.g. development of e-learning materials used by defense and security study institutions;
2. Advisory services, e.g. workshops and publications about documented best practices relevant to the use of e-learning within defense and security policy education;
3. Technologies, e.g. the creation of multinational content repositories, the development of common content authoring and maintenance tools, and the hosting of a multinational learning management system;
4. National or international capabilities, e.g. development of worldwide Internet-accessible information sharing opportunities, certificate and degree programs of common benefit.

The ISN in Brief

The ISN is the online service of the Center for Security Studies (CSS) at the Swiss Federal Institute of Technology (ETH Zurich). It was founded in 1994 as a means of improving cooperation among security policy institutes and to make research programs, projects and papers widely available on the Internet. The ISN is a leading open access information service for international relations and security professionals. It offers a portfolio of free, high-quality information services; provides e-Learning consulting, content and technology services and products; and delivers technical, editorial and administrative support to its online communities. The ISN is jointly funded by the Swiss Department for Defence, Civil Protection and Sport (DDPS) and ETH Zurich.

The ISN has produced a range of courses together with the Center for Security Studies and external partners. Together with the renowned Geneva Centre for the Democratic Control of Armed Forces (DCAF) and the Geneva Centre for Security Policy (GCSP), the ISN also produced an online course for the Partner Action Plan for Defence Institution Building (PAP-DIB), which has just recently been re-launched in a new version.

One of the ISN's e-Learning missions is to maintain and expand the ADL WG network. As Switzerland and the ISN are major supporters of the ADL WG's activities, it traditionally chairs the ADL WG board. In 2009, at the Kiev Meeting of the ADL WG, Reto Schilliger was elected as the new chair.

The ISN's website is a comprehensive platform with four sections: Current Affairs, Digital Library, Communities and Partners and e-Learning. More information can be found at <http://www.isn.ethz.ch>.

DISTANCE TRAINING AND ACHIEVEMENTS



By Andrea Neusius

The German Bundeswehr is an innovation leader in the field of distance training as the implementation of distance training is in full swing across all organizational areas.

By establishing the Center for Technology-Based Education and Training at Helmut Schmidt University / Bundeswehr University Hamburg in April 2009, the Bundeswehr supported its claim to the role as a leader in innovation for activity-oriented training. Apart from giving a push of modernization for training in the armed forces, the newly established center also contributes to the development of the educational landscape in Germany.

The challenges of an army in action and the paradigms of a knowledge society have motivated the Bundeswehr to strongly support distance training for the qualitative and economic optimization of its training structures. Introducing distance training as a third pillar of training in addition to classroom training and practical duty takes this development into account. The "Framework Directive on Distance Training in the Bundeswehr", issued by the Chief of Staff, Bundeswehr, in June 2008, made distance training an integral part of the training syllabus.

As the leading scientific institution for distance training in the Bundeswehr, the Center for Technology-Based Education and Training was officially established by the Vice Chief of Staff, Vice Admiral Kühn, and the President of Helmut Schmidt University / Bundeswehr University Hamburg. Both in terms of concept and personnel, the new center has emerged from the project group for distance training established at the Bundeswehr University in 2002. Currently a staff of about 30 people work at the center.

The development of distance training is an important research focus. Consistent orientation to action makes distance training in the Bundeswehr particularly attractive, which is why it is also to be considered far more advanced than classical e-learning. In action-oriented training scenarios, learning tasks incorporate realistic situations into distance training. The three main pillars of the didactic implementation of distance training include "simulation", "cooperation" and "communication." "Simulation" refers to "dry runs" under real-life conditions with the learner developing competence by performing realistic tasks. "Cooperation" provides an opportunity for groups to develop synergy and to minimize mistakes in the construction of knowledge at an early stage. "Communication", on the other hand, includes the exchange of partial results and the effective coordination of approaches in the field of distance training.

Ongoing research projects for the armed forces illustrate the didactic implementation in practice: since 2006 instructors receive follow-on training for the conduct of distance training measures during routine operations in the form of teletutor training. In this context, the Center for Technology-Based

Education and Training is responsible for the scientific development and also provides implementation support for the Armed Forces Office. Moreover, the Center for Technology-Based Education and Training is in the process of implementing three pilot projects aimed to link distance training with simulation-based training. Another highly interesting project carried out on behalf of the Armed Forces Office is about the development of a study platform for the Federal College for Security Policy Studies. Here the foundations are laid for a moderated knowledge management as a core element of Federal College follow-on training offers. In the medium term this means that as part of the "individual training in the Bundeswehr" modernization project, 200 training courses will have to be transformed into distance training measures.

The didactic concepts of the Center for Technology-Based Education and Training are appreciated even outside the Bundeswehr. The center is, for example, responsible for providing didactic consultation and scientific support for a masters study program on "renewable energy sources" to be carried out in cooperation with Hamburg University for Applied Sciences and Hamburg Innovation GmbH. Relevant activities are aimed, among other things, at successfully transferring the lessons learned from distance training to private enterprise and public educational establishments. The resulting gain in knowledge is used for achieving increased quality in distance training also in the Bundeswehr.

The effects of distance training of the Bundeswehr and the Center for Technology-Based Education and Training reach far beyond the sphere of the armed forces. By organizing the 7th Distance Training Convention of the Bundeswehr next year, the center will provide an adequate platform to position the Bundeswehr as a source of innovation in the field of training and education. The 7th Distance Training Convention of the Bundeswehr will take place at Helmut-Schmidt-University Hamburg from 7th to 9th September 2010.

The Convention is appreciated both by scientists and private and public training institutions for the interdisciplinary and international exchange of information on technology-based education and training. This year's 6th Distance Training Convention was also attended by the NATO ADL Working Group featuring Mr. Joseph Camacho as a keynote speaker.

It is observed not only by many training institutions, but also by science and public service that the Bundeswehr has taken a position as an innovation leader. The work of the Center for Technology-Based Education and Training is of particular interest to the academic scene, because funding of the center is done almost exclusively with third-party research funds raised through contracts for research of armed forces and economy. Not only is this organizational form in a humanities environment new to Helmut Schmidt University, but also for the entire university landscape in Germany. ☉

Andrea Neusius works at the Center for Technology - Based Education and Training

A DYNAMIC ADL PROGRAM AT THE NATO SCHOOL



"Building a Knowledge Community is essential. "

Dr. Jim Barrett,
Director Learning Management at Canadian Defence Academy (Ret)

NATO School Members Portal Facts:

6000 + registered members
110+ GB traffic total/year
130 online course groups and communities of practice
7000 blogs, files, events, pages, surveys, polls
260 new users/month (average)

Pre-learning materials are available in the class groups after a resident course, participants have access to updated materials via the portal.

By Tanja Geiss and Gigi Roman

Established in 2005, the ADL Office manages and coordinates the distributed learning efforts at NATO School Oberammergau (NSO) and it collaborates with other NATO and PIP Training and Education Institutions and Development Teams.

One aim is to provide students online courses in conjunction with NATO School courses, so they learn essential information before arriving on site. This ensures all students start with a similar foundation of knowledge in order to make residency sessions more productive and effective.

As of today, the NATO School ADL Office has developed thirty online courses and it constantly updates and develops new courses to ensure NATO School course participants receive the correct information to complete their resident classes successfully.

The practice of utilizing ADL for pre-learning and course preparation has

succeeded at NATO School based on the increasing number of enrolled students and greater number and variety of ADL courses. NATO School Course Directors benefit from this cost-effective way to prepare students before they step foot on campus. When NATO School students enter the classroom they are already well prepared to actively participate in panel discussions and syndicate work.

Over the past few years, the NATO school has broadened the scope of its collaborative and distributed learning offerings. Beyond pre-learning tools, the ADL Office provides a variety of methods and means to enhance individual training and learning. The office has developed methods to improve instructor led course preparation, created e-readings and has helped build communities of practice. With a variety of learning tools, Course Directors can focus better on the special needs of the audience.

Beyond pre-learning materials, the ADL Office produced courses of broader interest, which give students supplementary

information on current NATO topics, such as Terrorism, Trafficking in Human Beings and NATO Rules of Engagement.

As technology and methods evolved so has the NATO School. Since January 2008, the NATO School Members Portal, a Web 2.0-based knowledge management utility, was developed as the school's latest asset to ensure students get the best possible training before, during and after their NATO School resident course. The NATO School Members Portal facilitates collaboration on study projects by allowing students to share documents and capture discussions, as well as post and share video clips, podcasts, tutorials, and links. It also serves as a way for course participants to informally discuss and comment on work during and after their NATO School residency. The portal gives them access to updated course material, members' contact information, and community news updates. Even classes taught by Mobile Training Teams are prepared online. Course directors, instructors and subject matter experts meet together virtually to share lesson plans and

NEW ONLINE COURSE @ the NATO School

course materials and they develop the course plan and schedule before meeting on site.

NATO School's ADL Office actively supports the Academic Departments with a variety of ADL Courses and communities on NATO School Members Portal. The most updated list of ADL Courses developed by NATO School ADL Team can be found on the NATO School Members Portal, <http://members.natoschool.org>.

Emerging communities of practice are also supported via the Web, which can be quickly tailored and scaled to support new groups. For example, NATO Education and Training Community of Practice brings together almost 70 graduates of the four NEITMS courses. Procurement and Contracting, PIP Training Centers, Non-Commissioned Officers are also subjects for communities developed within the last year. With blogs, calendaring, file sharing and distributed web publishing, participants can share and collaborate - all in real time.

Throughout the years, ADL has become an essential part of the NATO School's training and teaching program. Through this development process, the ADL office has found that continuous learning can be best achieved when online learning and resident classes are developed to complement each other with special attention and respect for the needs of the knowledge community. ☉



Tanja Geiss is the NATO School ADL Chair and Gigi Roman is the Coordinator for Distributed and Collaborative Learning at the NATO School.

NATO Procurement & Contracting

The NATO School ADL Office recently completed NPC 120, Intermediate Contracting Course, the second part of a four course series designed for the audience of 200 plus NATO professionals who perform Procurement and Contracting (P&C) duties. These individuals are the only ones authorized to commit NATO funds via contracts with commercial entities.

This series of courses is being developed through a partnership among SHAPE J8 P&C, the Defense Acquisition University (Germany campus) and NATO School. All courses are open to any NATO or PfP member nation personnel, however, the professional certification is available only for those currently holding a NATO PE or CE procurement position.

These courses are available on PfP LMS and ACT LMS online at the following URLs

<https://jadl.act.nato.int/>
<http://pfp.ethz.ch/>

CERTIFICATION PROGRAM COURSE SUMMARY:

- ◆ NPC 110 begins with an introduction to planning mission support strategies as well as market research. It continues with an overview on the Bi-Strategic Command Directive 60-70, and discuss different methods of acquisition and types of contracts. The course closes with a chapter on competition and the acquisition plan development.
- ◆ NPC 120 consists of five lessons: Basics of Contract Law, Source Selection Processes, Contract Award Committee Procedures, Contract Management and the Quality Assurance Program.
- ◆ NPC 210 and 220 are scheduled to be completed in 2010 and will focus on Advance Contract Administration Pre-Award and Post Award.
- ◆ The two levels of procurement certification will be based on a pass rate of 85% on the examination.
- ◆ Level 1 Certification exam will be based on ADL Courses NPC 110 and NPC 120, along with key P&C regulations, namely, Bi-SC Directive 60-70. Level 2 Certification (exam) will be based on the two new ADL courses in development and the NATO Financial Regulations.
- ◆ These new ADL courses and P&C Professional Certification are intended to elevate the capabilities and knowledge of personnel entrusted by NATO to execute funds. It also represents a first for the NATO School, by working directly with a functional area to enhance their entire workforce in NATO.

THE CERTIFICATION PROGRAM...

has four elements and are the foundation for the new Professional Certification Program for personnel:

- ▶ **EDUCATION** – Education in business related studies.
- ▶ **EXPERIENCE** – Experience doing contracting in the NATO environment or in their respective nation.
- ▶ **ADL CONTRACTING COURSES** – Two have been completed and two are still under development.
- ▶ **EXAMINATIONS** – Exams for each of the ADL courses and two levels for certification.

ACT JADL

By Dr. Gökay Sürsal and Vincenzo Colucci

In April 1999 at the NATO Summit in Washington D.C., Heads of State and Governments of the Alliance stressed the potential of information and remote communication technologies when they endorsed the PfP Training and Education Enhancement Program (TEEP). They asked that existing and emerging technologies be explored within NATO that an EAPC-wide learning and simulation network and training programs be established in a cost-effective way.

The TEEP program was endorsed during the NATO Summits in Prague (2002) and Istanbul (2004) as well. At the Riga Summit in 2006, the Alliance upgraded cooperation with the EAPC/PfP countries and highlighted the requirement to further enhance NATO/PfP interoperability as part of the transformation agenda. It noted the development of the NATO Response Force (NRF) and expansion of cooperative efforts to

*NATO/PfP ADL Learning
Management System Home Page
<http://jadl.act.nato.int>*

Central Asia and the Caucasus as key initiatives.

Nations that collaborate with NATO benefit from increased interoperability, the opportunity to take part in the development of command concepts and doctrine, and better awareness of technology advancements among participating nations.

Following the decisions made at the NATO Summit in 1999 and the subsequent Military Committee tasking (MCM-064-03), Allied Command Transformation (ACT) was made the lead authority in developing Joint Advanced Distributed Learning for NATO and its Partners (MCM-458/1). This tasking led to the creation of a mission-focused, Joint Advanced Distributed Learning (JADL) and Simulation Section within the Joint Education & Training Division (JET) within HQ Supreme Allied Command Transformation in 2003.

As NATO transforms, probably, no other tool has been as effective as education and training. And to this end, NATO/PfP Joint Advanced Distributed Learning and Simulation Capability brings education and training to those who needs it anywhere, anytime and assists in transforming NATO intellectually, culturally and militarily.



Allied Command Transformation provides learning management systems (LMS) to support NATO / Partner student's access to ADL courses. These system are accessible from the NATO unclassified and classified networks as well as from ISAF Mission Secret Network.

ADL @ ACT

In 1997, the US Department of Defense (DoD) developed Advanced Distributed Learning (ADL) as a modern approach to training. One result was a standard called SCORM (Sharable Content Object Reference Model) that commercial developers adopted quickly and it is now an internationally accepted industry standard for e-Learning. NATO has adopted this standard for all e-Learning development.

The intent of ADL was to provide DoD personnel access to high quality education and training, tailored to individual needs and delivered in a cost effective manner, whenever and wherever required. DoD envisioned using the Internet and other virtual or private wide-area networks, distributed learning experts, learning management and diverse support tools to ensure a "learner-centric" ADL system. DoD sees ADL programs as part of a continuum of learning that encompasses many learning methodologies.

ACT along with 23 other ADL development teams from NATO and Partner nations are constantly developing new courses to meet the requirements of our users. Working with NATO educational and training facilities as well as operational and exercise academic studies, ADL is providing "anytime, anywhere" education and training capability.

The JADL Course Catalogue hosted at jadl.act.nato is a 'living document'. As the world is changing in many aspects (social, political, military, etc.) all the time, the catalog is constantly extended and revised to reflect the impact of these changes on the courses. Additional courses can be found on the PfP LMS at <http://pfp.ethz.ch>.

We are continually working to improve our service. Your suggestions, comments, updates or other feedback will be greatly appreciated. To discuss the development of a new course or for further information on existing courses please contact Dr. Gökay Sürsal at Joint Education and Training, jadladmin@act.nato.int.

Dr. Gökay Sürsal is the Head of Joint Advanced Distributed Learning and Simulation Section, HQ Supreme Allied Commander Transformation. Vincenzo Colucci, C.W.O.(OR9) IT Army, is the JADL Administrator at the JET Division Education Branch, HQ SACT.

How to access online courses

STEPS TO ACCESS ONLINE COURSES

1. Type **jadl.act.nato.int** in a web browser address bar (no http:// or www. required)

Once logged in, you will notice two video files: "How to login to NATO ADL LMS" and "What is ADL". These videos have useful introductory information for first time users.

2. Click on the **CD disk icon** on the right side column of the homepage to check your computer to see if it has the required software to run the courses. This step will check your computer plug-ins and offer you links to download missing programs.
3. Complete the **Registration Form**. The user login and password you select will be your login once the account is activated. (Please remember your login and password!)

Note: that fields marked with a **red asterisk are mandatory**.

- ➔ In the field where you are asked to provide a **KEYWORD** or reason for requesting access to **ILIAS**, type the keyword you are provided or the reason you want to access and a sponsor. This information will let us know you are legitimate user.
 - ➔ Remember, the keyword is not the same as password. Do not use the keyword when you log-in.
 - ➔ Scroll down and complete all the required fields.
 - ➔ Read and accept (with checkbox) the User Agreement before submitting the form.
4. If filled out properly, the account will be activated within 24 to 48 hours and you will receive a confirmation email. If you do not get a confirmation e-mail, check your junk mail filter. After 48 hours, attempt to log-on to make sure it is running properly. If it is still disabled, send a e-mail to the JADL ADMIN team at JADLAdmin@act.nato.int.

Steps to follow for Registered Users:

1. From the ADL main page, open the courses you want to access by clicking on the corresponding icon such as **NATO Courses, ISAF, NTCI, Steadfast Series, Academic Outreach, NATO Civilian Online Training** on the left side column under **ADL Courses Access** title.
2. **Login:** If you already have an account activated, please click on the **Log in button** and use the user login/password you have established during registration as a new user.

For the most up to date information go to the **Course Catalogue Search engine at:**
<http://jadl.act.nato.int>

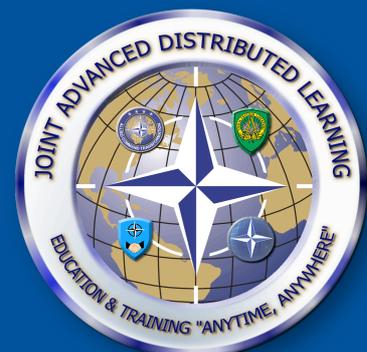
ACT ADL STATS:

- ✔ **ISAF:** Over 1400 users taking courses to prepare them for their tour in ISAF.
- ✔ **NRF:** Over 200 users currently taking courses with many more planned for the 2009 Steadfast Series.
- ✔ **NATO Education Facilities:** Over 3800 users taking courses in support of NATO and Partners Educational and Training institutions.
- ✔ **We work with 22 cooperative development terms from NATO/PfP Nations.**



ACT ALSO SUPPORTS:

- ✔ **NATO Training Cooperation Initiative**
- ✔ **Steadfast Exercise Series**
- ✔ **Academic Outreach**
- ✔ **Viking Series**
- ✔ **NATO Civilian Training**



A current course listing can be found at jadl.act.nato.int

WHERE in the WORLD?



1999 - NATO Summit, **Washington, D.C.**: Endorsement of PfP Training & Education Enhancement Program (TEEP)



1999 - US - Swiss Memorandum of Understanding Signed

1999 - Presentation in **Sofia, Bulgaria**: ADL mentioned for the first time at PfP Consortium Conference in Sofia



2002 - NATO Summit - **Prague, Czech Republic**



2002 - Developers Meeting in **Garmisch, Germany**



2002 - Meeting at the 5th Annual PfP Consortium Conference in **Paris, France**



2004 - First Joint ADL-WG and Curriculum Development Working Group Meeting in **Geneva, Switzerland**



2003 - Meetings in **Ontario, Canada, Brno, Czech Republic & Berlin, Germany**

2004 - NATO Summit - **Istanbul, Turkey**

2007 - JOINT ADL-WG AND ED-WG IN **ZURICH, SWITZERLAND**

2008 - Meeting in **Zurich, Switzerland**



2006 - NATO Summit - **Riga, Latvia**



2007- Meeting in **Bucharest, Romania**



2008 - Meeting at the PfP Consortium ADL-WG Forum in **Sofia, Bulgaria**



2008 - Meeting at the PfP Consortium ADL-WG Forum and e-Learning conference of the Swiss Armed Forces at "Bernner Kaserne" in **Berne, Switzerland**: SCORM 2004/1.2 editor launched

2009 - Meeting in **Kiev, Ukraine**



2001 - Release of English Skills for Staff Officers (ESSO I) ADL Course for Multinational Operations at the 4th Annual PfP Consortium Conference in **Moscow, Russia**



2000 - Agenda meeting held at NDC, in **Rome, Italy**

2001 - Meeting in Geneva, Switzerland: Premiere of "Introduction to NATO" - **NATO's very FIRST ONLINE COURSE!**

2002 - WORKSHOP ON COMMUNICATIONS DESIGN, CONSTRUCTIVIST TOOLS AND ASSESSMENT IN **KIEV, UKRAINE**

2001 - Workshop in **Zurich, Switzerland**

PfP Web Classroom Draft Concept Presented

2004 - Meeting at the 7th Annual PfP Consortium Conference in **Bucharest, Romania**

2005 - ADL OFFICE ESTABLISHED AT THE NATO SCHOOL OBERAMMERGAU



2006 - "Interoperability Forum" & "Creating ADL Content for Online Learning" Seminar in **Tbilisi, Georgia**

2005 - Meeting in **Kiev, Ukraine**

2005 - PfP Conference in Vienna - Presentation of the PfP Learning Management System powered by ILIAS



2005 - Joint ADL-WG and CD Working Group Meeting in **Reichenau an der Rax, Austria**

2009 - First course developed with new SCORM Editor NATO Procurement and Contracting 120 - NATO School

2009 - ADL-WG 10th Anniversary Meeting - NATO School, Oberammergau, Germany



ADL & THE ROAD WE'RE ON

By Nina Pasini Daibler and Lori Sirger

For more than 10 years the Advanced Distributed Learning (ADL) Initiative has been on a journey to impact learning and training for the United States Federal agencies. For the last few months we've been hard at work evolving to meet future needs while preserving the usefulness of our past work. We remain dedicated to the accessibility, interoperability, durability and reusability of distributed learning; in whatever environment learners are engaged. Our efforts include a laboratory to support testing and information gathering requirements, as well as updates to the Sharable Content Object Reference Model (SCORM) and plans for its future. As we taken this journey, we've reached some milestones, and mapped the road ahead.

Learning Technology Laboratory

The new ADL Learning Technology Lab (LTL) is designed to support your testing and information gathering requirements. The LTL, a virtual lab with staffed operational facilities in both the ADL Co-Lab Hub in Alexandria, Virginia, and the Joint ADL Co-Lab in Orlando, Florida, maintains installations of multiple open source, commercial off-the-shelf, and government off-the-shelf SCORM 2004-certified content authoring, management, and delivery systems, including learning management systems (LMSs). ADL makes these systems available to the public for testing and information purposes and it is a "must visit" for anyone researching learning technology in a vendor neutral, bias-free environment.

SCORM 2004 4th Edition

Acting on feedback from the ADL Community, ADL collected and analyzed reported issues to produce SCORM 2004 4th Edition. The release of 4th Edition includes the SCORM documentation suite, Test Suite, and Sample Run-Time Environment. It addresses defects in, and adds enhancements to, the previous versions of SCORM 2004. A significant outcome of these enhancements is increased interoperability across learning management systems (LMSs) and more flexibility for programmers who need to make data persistent during sequencing experiences. Among the enhancements are:

- Sharing generic run-time data between SCOs: SCOs within a single activity tree can now use a new ADL extension run-time data model element to store and share learner tracking information between SCOs.
- Sharing additional objective data between SCOs: SCO-reported objective information (via `cmi.objectives.n`), such as minimum, maximum, and raw scores, can now be shared across SCOs and across activity trees.
- Jump Navigation Request: Content developers can now directly affect conditional branching across the activity tree from within a SCO without the evaluation of sequencing control modes. This allows more flexibility in sequencing and rendering the LMS-provided table of contents.
- Rolling-up partial completion information: Partial completion status reported by SCOs will now roll-up. This enables more accurate evaluation of an activity tree's partial



completion status, rather than relying strictly on the Boolean complete/incomplete values.

ADL RELOAD Editor 2004

Content developers around the world have been using the RELOAD Editor www.reload.ac.uk, an open source content packaging tool, to package SCORM content for several years. After the release of SCORM 2004, ADL played a significant role in creating and maintaining RELOAD's ability to support SCORM 2004, including both sequencing and content packaging capabilities. With the recent release of SCORM 2004 4th Edition, ADL decided to update RELOAD to support changes to and new features in 4th Edition.

The ADL RELOAD Editor includes resolutions to issues identified with the RELOAD Editor Version 1.3.2 and the addition of many SCORM 2004 3rd and 4th Edition support enhancements. The RELOAD Editor enables creation, modification, and export of SCORM-conformant content packages that may also include ADL Registry metadata. It also supports SCORM 2004 4th Edition content packages. We recommend upgrading to the ADL RELOAD to take full advantage of the product corrections and enhancements, especially for SCORM 2004 4th Edition development.

Future of SCORM

In addition to the recent release of SCORM 2004 4th Edition, ADL is updating its technical roadmap for SCORM and the ADL Registry. At this time, ADL will retain stewardship of SCORM and will continue to work with all standards organizations to advance and improve SCORM's capabilities. As part of this effort, ADL will be collaborating with various learning specifications and standards organizations to achieve its goals. ADL has not determined the exact nature or scope of any of these collaborative efforts.

ADL respects the efforts and opinions of all learning standards organizations and strives to maintain collaborative relationships with them because we all have the same goals in mind – delivering open, interoperable, high-quality, and easily accessible learning. As a U.S. Department of Defense-sponsored initiative, ADL participates in the work of many different learning standards organizations, including the IEEE Learning Technology Standards Committee, IMS Global Learning Consortium, Aviation Industry CBT Committee (AICC), Schools Interoperability Framework Association (SIFA), MedBiquitous, Learning Education and Training Systems Interoperability Federation (LETSI), and others, without favoring the processes, approaches, or products of any single organization.

Immersive Learning

Immersive Learning Technologies are a new path for ADL, and are emerging as powerful tools for delivering learning in ways that enhance the DoD's ability to provide more engaging and accurate learning, education, and training. ADL is investigating how games, virtual worlds, and Web 2.0 and mobile technologies can be implemented across DoD and how they can be integrated with traditional learning environments. We're very excited about

the possibilities of immersive learning and will be looking for ways new technologies can meet learner needs anytime, anywhere.

Monitoring Our Progress

Over the past year we've added some new ways to keep you update on ADL's journey. In addition to our Web site www.ADLNet.gov, we're on Twitter, @ADL_Initiative, and have started a group on the professional networking group on LinkedIn, Advanced Distributed Learning Initiative. We're looking forward to finding new ways to keep in touch with the learning community, and would love to hear from you on the best ways to do just that.

The Road Ahead

The road ahead may have some bends and bumps, but we're looking forward to the ride. ADL is making great strides that will impact learners around the world. We are engaging stakeholders to initiate a needs and scoping effort. We're leading a harmonization effort and facilitating broader community engagement. We're going to support organizations that profile ADL work. We are initiating efforts to generalize the SCORM API in a phased approach that will ultimately lead to a general model.

Maybe, and most importantly, we believe in the power of global collaboration. We realize that the kind of effort we are part of is not done alone. Our partners on this journey are a big part of how we got where we are and will help us get where we're going. We thank all of our partners around the world for your support and we look forward to our journey together. 🌐

Nina Pasini Daibler and Lori Singer work for the ADL Initiative Outreach.

ADL WG MEETING

SEE YOU IN

CHISINAU, MOLDOVA MAY 2010

*The ADL WG meeting will be hosted by
Armed Forces Military Institute in Chisinau,
Moldova 17-21 May 2010*

*For more info please check ADL WG online
on PfP Consortium website:*

<https://consortium.pims.org/adl-wg>



ELTEC | A course helping NATO & PfP Officers communicate effectively



By Peggy Garza,
Greta Keremidchieva,
and Dr. Kateryna Synytsya

Effective communication is a typical challenge for international organizations like NATO. Many military officers posted abroad learn English and other foreign languages at home institutions. But NATO seems to have a language of its own with expressions, language nuances, and a pace that is not easily taught.

One officer new to Brussels recalled, "I was not prepared to express my ideas clearly at meetings. By the time I was ready to get my words out, it was too late because we had moved on to another topic."

Due to the importance of electronic correspondence, another new officer needed to find a creative way to train on the job, "I had to wait until I received a few e-mails and then I copied how they were written. I wish I could have been given some models of well-written e-mails before starting my NATO assignment."

Such is the rationale behind the genesis of the English Language Training Enhancement Course (ELTEC). ELTEC is an ADL course specially designed to help NATO/PfP staff officers working in multinational environments learn professional terminology and job-related language skills.

ELTEC was originally conceived and subsequently developed by several members of the PfP Consortium's ADL Working Group. This multinational "ELTEC Team" of instructional designers and English language teaching experts combined innovative course design with best English language teaching practices.

When developing the course, staff officers identified the five major language challenges they faced in performing their jobs, including: participating in meetings, listening and responding promptly in face-to-face and telephone communications,

understanding the variety of accents of native and non-native speakers of English, effective report and e-mail writing, and acronyms and abbreviations.

The recently released ELTEC Version 1 attempts to help students answer these challenges. It is composed of three independent modules: Oral Communication, Written Communication, and Participation in Meetings. The topics covered in each module are those identified in the needs analysis as language difficulty areas. The modular structure and web-based delivery allow individuals preparing for a NATO assignment to

ELTEC is based on sound foreign language teaching methods. The instructional objectives are developed through presentations, examples and a variety of exercises and activities sequenced from the simple to the complex.

practice pertinent English language skills at their own pace, in a non-threatening environment. ELTEC modules can also be used by NATO/PfP staff officers as a refresher or as an on-the-job reference guide.

ELTEC is not a general English course. ELTEC requires at least a STANAG 6001 Level 2 competence in listening, speaking, reading and writing, and builds on that foundation by focusing on targeted professional language skills and NATO-specific contexts. Authenticity and job-related language are stressed by using authentic scenarios, documents and language samples collected from Allied Command Transformation and the NATO School.

Recordings of different native and non-native speakers are incorporated to approximate a multinational environment. All acronyms and abbreviations are from NATO sources.

Additionally, ELTEC addresses multiple learning styles by incorporating an effective balance of text, audio, animation, and photos. Since language learning can be accelerated through interaction and meaningful application of the language, ELTEC provides lots of authentic communication practice.

Most of the lessons support development of some specific skill, such as writing e-mails, or the language of meetings, by offering explanations and exercises. Interactive activities include playing a role in a dialog, following directions using oral instructions, selecting the best remarks in an oral dialog, etc. Open-ended activities are supplied with samples of the expected results. Student progress in listening comprehension, vocabulary enhancement, and grammar is evaluated by multiple choice, multiple answer and fill-in-the-blank questions.

ELTEC is the product of a multinational effort targeting a multinational audience. ELTEC Team members, from Bulgaria, Ukraine and the U.S.A., collaborated in a distributed and asynchronous manner. The Ukrainian Cooperative Development Team was responsible for the instructional design and the development of the content objects, while the subject matter experts were NATO content providers and English language teaching specialists. Piloting of the modules took place at the George C. Marshall European Center for Security Studies.

To sum up, the multinational ELTEC effort exemplifies the values and methods of the ADL Working Group. 🌐

ELTEC Version 1 is available on the PJP Learning Management System located online at: <http://pjp.ethz.ch> and on NATO JADL Learning Management System located at: <https://jadl.act.nato.int/>

*Peggy Garza is the Chair of the English/German Language Department at the Partner Language Training Center Europe (PLTCE)
Greta Keremidchieva works at the Rakovsky National Defense Academy (Bulgaria)
Dr. Kateryna Synytsya leads the Ukrainian Cooperative Development Team.*



Sample Screenshots from ELTEC Lessons



**Anytime,
Anywhere**

STUDENT ORIENTED, NETWORK BASED EDUCATION

THE ROMANIAN PERSPECTIVE ON E-LEARNING

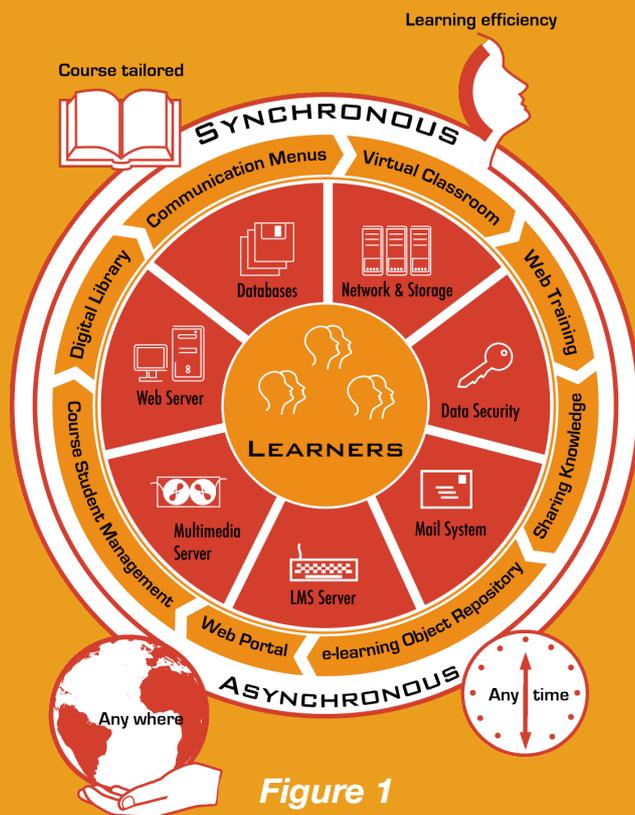


Figure 1

By Col. Prof. Ion Roceanu

The Romanian Advanced Distributed Learning Department (RoADL-D) vision centers on a “Student Oriented, Network Based Education” concept as part of its core mission to develop and manage multilevel, standardized, online learning curricula according to ADL principles.

The RoADL-D promotes e-Learning and e-Training for civilian and military personnel for lifelong learning and military education. The department is involved in research projects developed at the national, European Union (EU), and NATO levels, and offers expertise on creating SCORM 2004-compliant educational content, authoring tools, and integrated systems for education and training.

In pursuit of these goals, the RoADL-D, seeks local and international opportunities to collaborate on the development of technical frameworks and standards with participants from government, industry, and academia.

Concept Development

In the autumn of 2004, the senate of the “Carol I” National Defense University decided to investigate the possibility of adding e-Learning technology to its educational capabilities

and services. From this historical decision, a research project called “e-Learning Pilot Centre for Security and Defense” was initiated inside the national research program. A year later, the Advanced Distributed Learning Department was formed.

We started out to create an integrated educational system that develops and manages effective distance learning curricula in accordance with national educational laws and ADL principles.

When defining the e-Learning components, we grounded our thinking with general educational and training objectives, the NDU mission, and the military and civilian educational and training frameworks.

Also, we had to define the center of gravity of our enterprise around which we could build the system. We decided that even if major aspects of e-Learning systems are technical, the most important factors are the people - the learners and tutors connected by educational and training content. Subsequently, the ADL Master Plan was formulated around three factors - technical, human and content aspects and was titled “Student Oriented, Network based education.”

Managing the process of the ADL capabilities development

Starting with military training requirements and the Bologna process documents, a five step master plan was developed to be carried out over three years. The steps included: Learn about e-Learning and ADL; Develop an ADL architectural framework; Develop technical capabilities; Create distance learning educational curricula; and Create a new didactical and content development approach.

Learning the ABCs of ADL

At first, we set out to study some key issues:

- ▶ Fundamental theories about e-learning: distance learning, advanced distributed learning, on-line learning, web based training
- ▶ Teaching and learning processes based on information technology, including: instructional design, digital content development, pedagogical aspects, adult education learning
- ▶ Technical tools and e-Learning systems: learning management systems, learning content management system, authoring tools in content development, contents standardization, especially SCORM
- ▶ Best practices and case studies: virtual campuses for universities, advanced distributed learning in NATO and the PIP Consortium, e-Learning in the military and civilian institutions, private sector experience

ADL Architecture Framework

The core our master plan was the end-state vision, which was based on our objectives, direction of effort, SWOT analysis, logistics and financial support, among other issues. After discussion and deliberation, the “Carol I” NDU e-Learning project’s end-state vision was developed:

“To create a student oriented, distributed network based education that provides valuable digital standardization of content and delivers knowledge wherever, whenever and to whomever necessary”

This vision was based on the role and mission of our institutions within the military and national education systems. Also, the NDU must follow abide by the military training requirements for NATO and the national educational system as well as EU agreements. As a result, the ADL department is divided in two and is defined as “e-Education” and “e-Training.”

e-Education is based on the Bologna Process and focuses on developing Educational Services Support. Those fall under the national educational requirements for bachelor and master’s degrees, doctoral studies, post-graduate on-line courses.

e-Training conforms closely with NATO requirements and standards for developing individual and collective military capabilities. e-Training relies on the Advanced Distributed Learning

The Romanian ADL environment is comprised people, technical resources and educational services.

We deliver educational and training solutions with a number of web-based utilities, including: Learning Management Systems, knowledge portals, collaborative tools, and a digital library.

e-Learning Educational Services

Full Online Courses

When conducting full courses, all steps from subscription to final evaluation are carried out online. Currently, the NDU offers five certificated online courses and fourteen others that are freely accessible.

The course content complies with SCORM standards and can be reused by the ADL community and in-house developers. Furthermore, all content is shared among the ADL stakeholders of the NATO Training Group. In this way, experience in SCORM development, and subject matter expertise are shared with an effort to expand knowledge and drive down costs.

Blended Learning

Three blended courses are offered at NDU. For these courses, about one third of educational activities are conducted on site and at least two thirds, on-line. Consequently, the ADL environment has to be able to combine SCORM content courses and other content formats within one single curriculum. Content types include: html, word, excel, ppt. file, pdf, pictures, and video. Due to the complexity of the educational objectives and restrictive content sequencing, this kind of course is harder to manage exclusively online.

Educational Services Supporting Higher Level Education

The ADL system should provide a virtual collaborative space between teachers and students. In addition of collaborative tools, it is necessary to offer real-time access to knowledge and content repositories

concept and based on SCORM standards. A SCORM-based course repository has been built to deliver synchronous and asynchronous experiences.

Lessons Learned

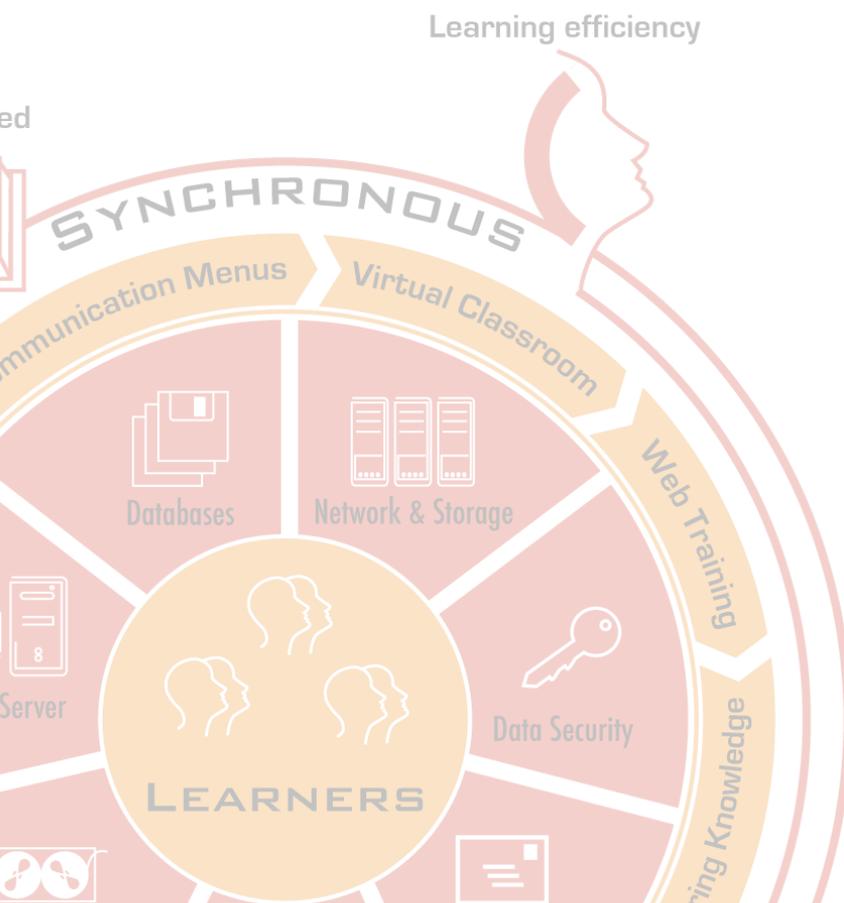
Along this development path, the ADL project in Romania benefited from knowledge and support of other institutions. The project would have not been implemented as quickly without support from the ADL community, especially the NATO Training Group IT&ED, ADL Initiative, PFP Consortium ADL WG, NATO ACT and USJFCOM.

Finally, in an effort to pass along knowledge we've gained in the process, we offer a few lessons learned from the development process.

- ▶ e-Learning is 90% educational objectives and only 10% technology
- ▶ Attract the students, teachers will join
- ▶ Less talk about e-Learning, demonstrate the results
- ▶ At the beginning, short and useful courses yield good results
- ▶ Give students more freedom during the learning process
- ▶ Create incentives for students. Recognize them for taking courses
- ▶ Deliver tutoring support. The students appreciate it as they feel they are part of a learning environment.
- ▶ Limit the student-teacher ration to 20-30 students per tutor. ☺

Col. Prof. Ion Roceanu, PhD., is the Director of the Romanian ADL Department

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The Tech Specs: How we power the e-Learning effort

With our e-learning model as a starting point (Figure 1), we concentrated on building a distributed network capacity to deliver both **synchronous and asynchronous educational support services**.

From our perspective, the technical specifications comprise of hardware and communications infrastructure, learning management systems, software, and content development authoring tools.

Our **Hardware and communications infrastructure** consists of e-learning laboratory with sixteen workstations, Internet connectivity, NDU's Intranet, Romanian MoD Intranet, server farm, network storage, as well as various equipment and peripherals.

The lab is also offers space for face-to-face didactical activities using the SCORM content for certain courses which cannot be delivered by Internet.

The NDU deploys two different **LMS's** for two different purposes. The first is used mostly in delivering synchronous digital content and integrated curricula for courses. It is based on commercial off-the-shelf software. The second systems is an open-source LMS named ILIAS, which is designed to manage the on-line courses.

It is important that tutors have the possibility to tailor courses in accordance with the specific educational objectives and the learners' profile by reorganizing the sequence of objects and by adding, replacing or modifying the content.

The **software** components include operating systems, security solutions, database management tools, a virtual library, and web and portal development tools. Both commercial and open-source software is used for servers and network operating systems. Microsoft XP Professional is used for workstations. At this moment, the IT department is research future commercial and open source solutions for our future technical implementation.

Digital **content authoring tools** are specialized software programs that are either standalone or embedded into the LMS.

ON THE LEADING EDGE OF ADL DEVELOPMENT?



By Frederic Labarre and Taivo Seppa

The recent development of an ADL pre-reading package for the Baltic Defence College (BALTDEFCOL) has demonstrated that despite tight resources, it is possible to create useful learning materials by following best practices regarding the specialized roles for members of a development team.

By assigning clear lines of responsibilities among Subject Matter Experts (SMEs), Instructional Designers (IDs), and IT specialists (ITs) - the so-called ADL development “trinity” - each party could focus on its strengths when producing courseware. Even at institutions like BALTDEFCOL, which do not have dedicated IDs, this arrangement allows SMEs to focus on content and leaves the IT department to focus on technical implementation.

To reach this current stage, many steps have been taken starting from the inaugural NATO/PIF Education and Training Network (NPETN) conference held at BALTDEFCOL in June 2006. This meeting raised awareness about the potential of e-Learning and has brought the BALTDEFCOL closer than ever before to partners who were developing ADL projects.

In early 2008, the Head of Department of Political and Strategic Studies (Head DPS) was put in charge of a plan to develop the ADL capabilities at BALTDEFCOL. A key point was that the Head DPS’ previous posting had been ADL Chair at the NATO Defense College in Rome, Italy, which brought the advantage of an existing network of ADL experts.

Further progress was made In April 2008, when a joint team from Allied Command Transformation (ACT) and US Joint Forces Command (USJFCOM) briefed BALTDEFCOL on the status of NATO/ACT distance learning developments, program management, and technical innovation.

As a result of the meeting the IT staff was integrated into the process of ADL production, and made aware of the capabilities of the improved ILIAS Learning Management System (LMS). Also, the meeting triggered the drafting of a Concept Paper for ADL as guideline for the College.

The Concept Paper first called for the insertion of existing ADL courses into the College’s existing curriculum. A few suitable courses were identified and offered to the student body as optional support to onsite learning.

Most importantly, the Concept Paper called for clear lines of responsibilities between SMEs, IDs, and ITs - a policy that was formalized in January 2009.

Along with a suggestion by JFCOM, it is on this basis, that the BALTDEFCOL initiated its ADL development process with the design and creation of an ADL “pre-reading” package, entitled “Welcome to BALTDEFCOL”. This program takes the shape of a general introduction to the institution and to its in-processing methods for students and visitors. It is distributed via ILIAS and CD-ROM.

Developing “Welcome to BALTDEFCOL”

By splitting specialized duties and applying development principles learned at the ADL Cooperative Development Training (CDT) in Latina, Italy, in February 2009 and at ADL Forum in Suffolk, VA in September 2009, the course has taken shape. Exposure to networks of experts has been critical to ADL development efforts.

For this package, the Head DPS provided a story board, texts, and voice over recordings. Then, the IT media specialist added video and photographic media to embellish the product.

There were a few encounters between the SME and the IT to iron over some glitches, but basically, full creative license was given to the IT, code writers, media and graphic specialists.

Other colleagues collaborated with the development as well. In August 2009, the Acting Course Director JCGSC, retired US Army Lieutenant Colonel Ron LaGrone provided text and his voice to the “virtual in-processing” portion. This contribution represented increased level of buy-in of technological solutions to help deliver learning at the BALTDEFCOL.

The “Welcome to BALTDEFCOL” project utilizes state-of-the-art Flash technologies with streaming video. The product is housed on the server located at the BALTDEFCOL, but can be accessed across oceans.



At the time of writing, the “Welcome to BALTDEFCOL” program is to “go live” with the opening of the Civil Servants’ Course which will start in January 2010. This will enable the IT section to develop the feedback mechanisms and update the schedule to integrate user comments.

In total, the project proved itself to be highly optimized; the SME gathered and developed the material to be delivered, and the IT specialists developed a creative solution on as to how to bring the knowledge to the audience.

With the help of dedicated staff and partners, this success has propelled the BALTDEFCOL to the cutting edge of distance learning delivery in just a few short months. ☺

Frederic Labarre is the Head of the Department of Political and Strategic Studies and Taivo Seppa is an IT Assistant.

VIRTUAL BATTLESPACE

How mobile and immersive technologies are transforming NATO training.

By Michael Utz

Only a few years ago the Advanced Distributed Learning (ADL) Section at Headquarters Allied Commander Transformation (HQ SACT) started out with a clean slate and a very ambitious goal: set up a Learning Management System (LMS) within NATO to provide high quality "anytime-anywhere" learning to NATO, PFP and other associated countries. Using regular conferences, most recently the annual NATO ADL Forum (September 2009), as an opportunity to take stock, it can be safely said, that a lot has been achieved at HQ SACT and at many other institutions of the ADL community. The results have surpassed the initial requirements.

However, what was advanced yesterday is seen as commonplace today. In today's rapidly changing world it is certainly most true for all things related to online technologies. When the goals for the NATO LMS were initially set, the main challenges were to get people online, provide students with updated learning materials, and supply tutors and administrators with accurate feedback and data like learning progress and course utilization. While broadband internet connections were already common standard for most users, the World Wide Web (the Web) was still a world apart and mobile internet was an exotic and expensive service.

Today, people 'Twitter' or update their Facebook status from the unlikeliest places and dive into Virtual Worlds like Second Life (which is as important as their First Life to some). Younger generations have accepted the style of modern communication -- including Web 2.0 tools and Web communities -- as part of their everyday life. Virtually everyone in the community is 'part of the web'. Now, our students expect learning materials to be available online and at a high level of detail and sophistication, we wouldn't have dared to dream about even a year ago.

For our current projects, this creates challenges in three interdependent areas:

1. Establishing/improving the integration of (temporarily) offline activities.
2. Providing content optimized for mobile devices.
3. Providing an immersive learning experience.

The first challenge can be seen as an enabler for the other two. It is closely connected to future enhancement of the SCORM standard. While it is an ongoing concern for distributing NATO courses to students on 'offline' networks, e.g. national (military) networks with no or insufficient internet/NATO intranet

connections, this issue has to be (and is) addressed on a conceptual level first.

The other two challenges have a direct and immediate impact on our current course development. Mobile devices have become an integral part of many people's daily routine. The iPhone is probably the most popular, but there are many similar powerful devices and even an entry level cell phone has online capabilities. On a comparable level, the Web is 'invading' our living rooms in the guise of netbooks and multimedia computers.

First tests have shown that 'simple' courses, which only rely on JavaScript (the bare minimum to enable LMS-student communication) and media enriched pages work well on iPods, PDAs, etc. However, they also made us very aware of the fact, that smaller screens and different user interfaces (e.g. touch screens) require adaptation of the course design, that go beyond simply downscaling the graphics.

With a proof-of-concept course, we will demonstrate user-friendly presentation of learning content on mobile devices, ergonomic design of navigation and test and processes to minimize the effort of having a dedicated 'mobile version' of courses. Potential uses for mobile devices to support NATO operations



NATO ACT learning materials on mobile devices are becoming more common and learners demand access from quite literally, anywhere and at anytime.

“With Mobile Devices and Virtual Worlds, two new and fascinating opportunities for ADL have emerged.”



graphic details:

Four screen shots from NATO Virtual Battlespace 2, a licensed version Bohemia Interactive's 'Virtual Battle Space 2' (VBS2) for training purposes among NATO and PfP members. Such training tools aim to bring trainees as close as possible to real life situations, where they face simulated IED-disposal and cultural awareness situations.

Graphic Details:

screen shots from NATO Virtual Battlespace 2, a licensed version Bohemia Interactive's 'Virtual Battle Space 2' (VBS2) for training purposes among NATO and PIF members.

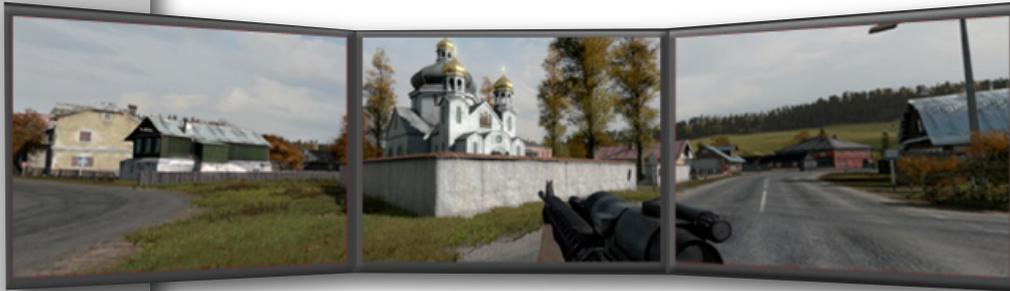
VIRTUAL BATTLESPACE CONTINUED

"Now, our students expect learning materials to be available online and at a high level of detail and sophistication, we wouldn't have dared dream to about even a year ago"

could be in the role of hand held reference devices loaded with a visual and audio course on the operation a NATO weapon or radio device for example. The course could be available in the native language and used at the student's home or in class. Support to a Operational Mentor and Liaison Team (OMLT) could be an excellent use for mobile devices.

For mobile devices, the challenge is mainly defined by the available devices, but the

training, supporting 'live' training and saving costs by reducing the need of travel. At this point, VBS NATO is a standalone platform, but the task of integrating simulation assets and a LMS has been taken up by several institutions. With promising prototypes emerging, the seamless jump from a lesson into virtual training is in close reach.



requirements for providing an immersive and more interactive experience for learners depend on the software used to create the Virtual Worlds.

As part of the Snow Leopard Project, NATO has acquired "NATO VBS2", a version of Bohemia Interactive's 'Virtual Battle Space 2' (VBS2) with a licensing system tailored to NATO's needs. VBS2 has evolved from the 'Operation Flashpoint' and 'Armed Assault' computer games and is a highly professional training and simulation platform in use by a number of NATO countries. While even the gaming version offer surprising fidelity, VBS2 offers a new level of realistic interactions and effects. By definition it cannot replace real live training (and it is not intended to), but it can take trainees as close to a situation as possible without actually being there. As a first step, NATO is planning to distribute the VBS NATO client version as a package with standalone tactical training missions, enabling trainees to practice C-IED procedures and improve their cultural awareness at no additional cost. In further steps, the same technology may be used in multiplayer missions on local networks and eventually via the internet. With both standalone tactical training scenarios and multiplayer missions being available to all NATO and PIP members, NATO will have a powerful means of enhancing existing classroom based

With Mobile Devices and Virtual Worlds, two new and fascinating opportunities for ADL have emerged. Tools and capabilities that already exist today invite us to advance and transform our services to provide the best available learning anytime and anywhere. ☉

*Michael Utz is a Major, DEU Army
NATO HQ, SACT, JET ED, ADL/Sim*

MARKETING NATO/PfP ADL CONTENT

The Portuguese Experience

By Manuel Goncalves

Since it was created ten years ago, the ADL Working Group has been a key actor to implement the ADL track of the NATO Advanced Distributed Learning and Simulation Initiative.

because first time “clients” will disappear after reviewing unsatisfactory courses - despite even the best marketing efforts.

Showcasing the ADL efforts is very important if we want to profit from the reusability of courses and Sharable Content Objects. This reusability can continuously and positively affect the cost/efficiency factor as the number of users increases.

Thinking about this issue, the Portuguese Atlantic Committee (PAC) discovered they could make a modest, but worthwhile contribution to this goal by taking advantage of their connections within the Portuguese academic community. The PAC established up dedicated working areas for institutions in the LMS to enable this community to access the PfP LMS and its courses. With this step, political science or international relations institutions could integrate content in their curricula and professors could conduct formal ADL activities with their students using the LMS.

In 2007, the Portuguese Atlantic Committee moved forward with a Project for Cooperation with the ADL Working Group. In the framework of this project, a working area was set up for the PAC, where Portuguese academic institutions could conduct specific ADL activities.

So far, this initiative has been very successful. Student opinion has been positive and professors are looking at these ADL activities as important support tools for traditional classroom methods. In two years, the number of academic institutions joining the program has

Showcasing the ADL efforts is very important if we want to profit from the reusability of courses...

Supporting these efforts, the PfP Learning Management System (LMS), powered by ILIAS, and the ACT LMS, have become important pillars of NATO-sponsored ADL activities. These structural elements, combined with the Cooperative Development Team’s (CDT) successful approach to content production, has achieved remarkable results, as testified by the large number of courses currently available.

To build on these successes, it is my view that two important issues should now be addressed more closely by the ADL WG. First, the maintenance of courses should be an elevated priority. Second, the ADL framework and content available should be better showcased and marketed to NATO, Partner Nations and beyond.

While some particularly dynamic courses require a high degree of attention from their “owners” to ensure they can continue to be used by students and researchers, this has not been the rule for all institutions which are responsible for courses hosted on the LMS. More institutions need to take note of the effort being made at the NATO Defence College to keep the “Introduction to NATO” relevant. They conduct regular reviews every six months and promote, in my view, an example of best practices in this field. This is a resource and planning issue that more institutions should address going forward.

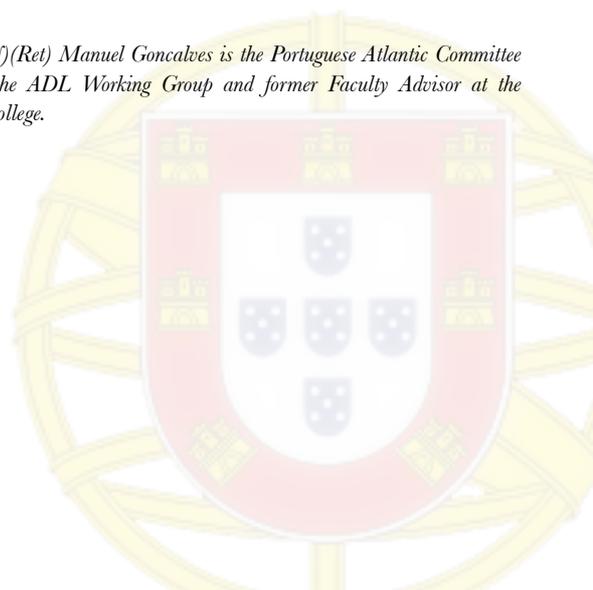
Additionally, I would like to highlight a second issue that could be the key to significantly enhance NATO and PfP ADL. In the same way as the success of a library is measured by the number of patrons, the success of an LMS depends on the number of students taking courses. Naturally, the quality of the content is also important

increased from two to seven.

As a result of this project, some 500 students have been using the PfP LMS and, perhaps more importantly, the courses have been taken under the tutorship of their professors yielding approximately 700 certificates. These students have become familiar with a learning environment where they can find a wide variety of courses on matters which may be very useful for their studies and research.

Looking at these results in Portugal, I am convinced that we can easily increase these figures by a factor of 10 times in the near future. If something similar were done in the other countries of our community, it would undoubtedly contribute to significantly enhancing the achievements of which we are all already proud. 🌐

Captain (N)(Ret) Manuel Goncalves is the Portuguese Atlantic Committee representative to the ADL Working Group and former Faculty Advisor at the NATO Defence College.



WEB2.0 IN THE LEARNING PROCESS

NATO SCHOOLTODAY November 2009



So everyone around you is touting how great Web 2.0 is, but what is it, and what does it mean for your education?

By Dr. Kathaleen Reid-Martinez

According to Christopher Dede, a professor at the Harvard Graduate School of Education, Web 2.0 is understood by many to be a second generation of the web that allows for extensive communities to be built in the virtual environment. This generation of the web includes social networking, such as the familiar Ning, LinkedIn, Second Life, Facebook, and Myspace; wikis, as in Wikipedia and other websites that allow for the collaborative creation and management of information; and folksonomies, which allows web users to classify and cluster information according to their needs. This latter is referred to by such terms as tagging and bookmarking. Use of multiple Web 2.0 capabilities results in more efficient and effective means of learning. Web 2.0 expert Tim O'Reilly notes the new web capabilities allow us to "harness collective intelligence" in ways not possible before their development. Interaction and collaboration are front and center in this harnessing process.

This interactive dimension of the Web allows for the creation, collaboration, and sharing of ideas and information. Typical technologies include weblogs (blogs), videologs (vlogs), RSS (Real Simple Syndication), and other social collaboration tools. Most important is that these technologies and applications allow for not just one-to-many communication as found in the traditional professor to students, but for many-to-many communication. For example, blogs written by learners are no longer just for the eyes of the professor as in days past when a student submitted a paper to the professor. Today's learners may have their work posted on the web where it is read by the professor, fellow learners, professionals in the field of study, and curious lookers interested in the topic. Feedback can come from any of those sources and the blog can be linked to multiple sites in the virtual community, not just linked to the professor. In other words, the student has become a part of the professional community interacting with experts around the globe, entering debates on the subject matter, problem solving with global teams before he or she even completes a course or approaches graduation.

In keeping with the work of Dede, Advanced Distributed Learning (ADL) within NATO and Partners for Peace Consortium divides these technologies into three categories: (1) sharing, as found in Facebook, videoblogging and photosharing; (2) thinking, represented by blogs and online discussion formats such as that found in online or blended learning courses; and (3) co-creating, which occurs in the creation of wikis and mashups (taking different media sources and merging them into one multi-media presentation, as when you take a video and merge it with your favorite song, thus putting together video and audio according to your taste to express your thoughts and emotions). In this way, learners within the defense institutions using the ADL system are establishing during the educational process their own interpretations, knowledge and wisdom around essential areas of study related to security and defense. In the process, they can see more quickly how the many facets of culture and policy interweave, while they are working in a

collaborative fashion to balance the tension between simplicity and clarity in response to complex global and national security issues.

Most significant for the learner is that the new technologies found in the NATO and PFP-C ADL learning environment cross boundaries of time and space by offering synchronous (chat rooms, live video and audio streaming, and texting capacities) and asynchronous opportunities (discussion forums and wikis) to collaborate and to learn. This is a most important feature of the ADL learning for the highly mobile PFP-C and NATO military and security communities. Students now move and learn at and between their classrooms, work

geographically located and where others are located.

For learners, this opens new pathways of learning in the ADL environment. No longer will learners go to the website just to read what a professor wants them to learn, but now they will perform experiments and gain experiences in multiple settings besides the classroom with their professors guiding them through those learning experiences via the ubiquitous technologies. The learners will add their gleanings from these multiple settings to the collaborative information located in central digital repositories where they, along with their fellow learners and professionals around the globe, are systematically building

A move from... “I think therefore I am” into a social view of learning in which, “We participate, therefore we are”...

assignment sites, homes, and other locales where they may be stationed on temporary duty. Today's defense learners require on demand and just-in-time learning that meets their scheduling and deadline requirements within their personal and professional lives. They collaborate through time, geographic and cultural space, and different media for multiple purposes while learning.

As this indicates, technologies provide the social networks that are becoming essential to the learning process. They also provide the platform for the learning. For example, the PFP-C and NATO ADL uses Illias, a learning management system, as the platform to house virtual classrooms for more than 10,000 NATO School and PFP-C learners. These virtual classrooms can serve as the hub through which learners connect with each other, their professors, and build repositories of knowledge as they glean information from the field. By the convergence of technologies (cell phones morphing into new objects that serve as a compass through the GPS systems and computers so you can surf the web on your phone) security and defense personnel gain the ability to collaborate and stay connected at all times.

Even more, the ubiquitous nature of the technologies is changing the way learners think about their environment as these objects become indispensable in the shaping of our daily activities. No longer does your cell phone just let you receive that call from the commanding officer. It also gives you additional capacity to continue your collaboration and shaping of your team, which is a part of you whether you are at your desk or in the field. At the same time that same cell phone can also tell you exactly where you are—well, at least where you are

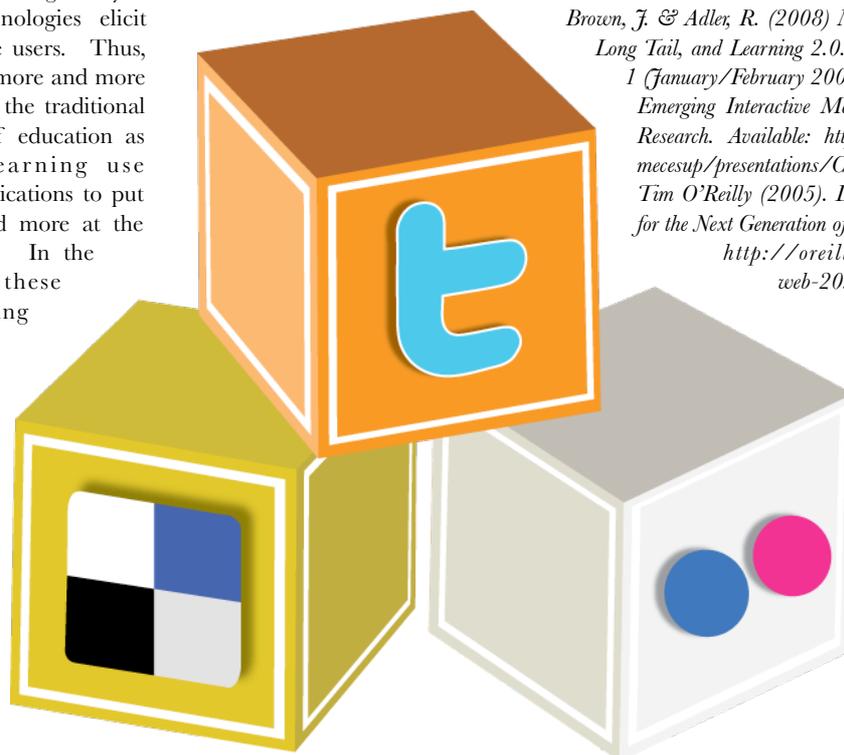
knowledge on given security and defense issues and topics. This lets the learner not just read and write about these things, but let's the student immediately become an active participant in shaping and interpreting new information in the security and defense arenas.

In education, this technology is also revolutionizing how we do the business of education. Learners can now order materials or pay fees with their credit cards through the web on their cell phones, check their academic status including course completion rates and grades as they wait for a meeting to start, submit assignments to a learning management system, go to a virtual library - and many other activities all through their learner portals located on the websites of defense institutions or the Consortium. This changes the staffing requirements of the defense institutions in the areas of student support as well as the roles and functions of other administrators and even faculty who now function as support and facilitators to these more autonomous, mobile learners who need on demand learning to accommodate their rapidly changing security contexts.

In conclusion, as a society, we have moved from the world coming to our desktops where we had access to information from world-wide experts, to synchronous and asynchronous multi-user, interactive virtual environments that allow role play and interactions through avatars, rhetoric, visual images and audio. We are now moving into ubiquitous computing that can be wearable wireless devices such as watches and clothing that will augment our temporal and geographic reality. From these technological “connecting points” we will gather information, perform experiments in the field, and share what

is learned with practitioners related in multiple ways to security and defense.

As this suggests, learners today will be a central part of building knowledge as they learn to assimilate and use the masses of information available to them. In the future, learners will be measured on their reputation in their fields, accomplishments, and experience rather than by exams. Knowledge will be created with a community of practitioners rather than residing within a professor. The world of education will be changed by how we want to use the Web 2.0 and newly evolving technologies. Even more education will be changed by the processes these technologies elicit from and through the users. Thus, learning will become more and more a demand-pull versus the traditional supply-push model of education as innovations in learning use technologies and applications to put the learner more and more at the center of education. In the learning process, these students are creating pathways of knowledge for life-long learning. As Brown and Adler put it, in this collaborative process learners move from the Cartesian model of education, "I think therefore I am" into a social view of learning



in which "We participate, therefore we are." This shift with its capacity to let students be active participants in shaping our environment is critical for the security and defense personnel who must respond quickly to rapidly changing global and national contexts. ☉

Dr. Kathaleen Reid-Martinez, Ph.D., is the Vice President of Azusa Pacific University.

Credits:

Brown, J. & Adler, R. (2008) Minds on Fire: Open Education, the Long Tail, and Learning 2.0. EDUCAUSE Review, vol. 43, no. 1 (January/February 2008): 16–32 Dede, C. (2009). Emerging Interactive Media: Implications for Teaching and Research. Available: <http://www.laspau.harvard.edu/idia/mecesup/presentations/ChrisDede.pdf> Tim O'Reilly (2005). Design Patterns and Business Models for the Next Generation of Software. Available: <http://oreilly.com/web2/archive/what-is-web-20.html>

USEFUL NATO/ADL LINKS:

PfP Consortium: <https://consortium.pims.org>

PfP LMS: <http://pfp.ethz.ch>

JADL / ACT LMS: <https://jdl.act.nato.int>

NATO School Online: <http://www.natoschool.nato.int>

NATO School Members Portal: <https://members.natoschool.org>

ISN: <http://www.isn.ethz.ch>

ADLnet Advanced Distributed Learning: <http://www.adlnet.gov>

ADL @ NDU in Romania: <http://adlunap.ro>

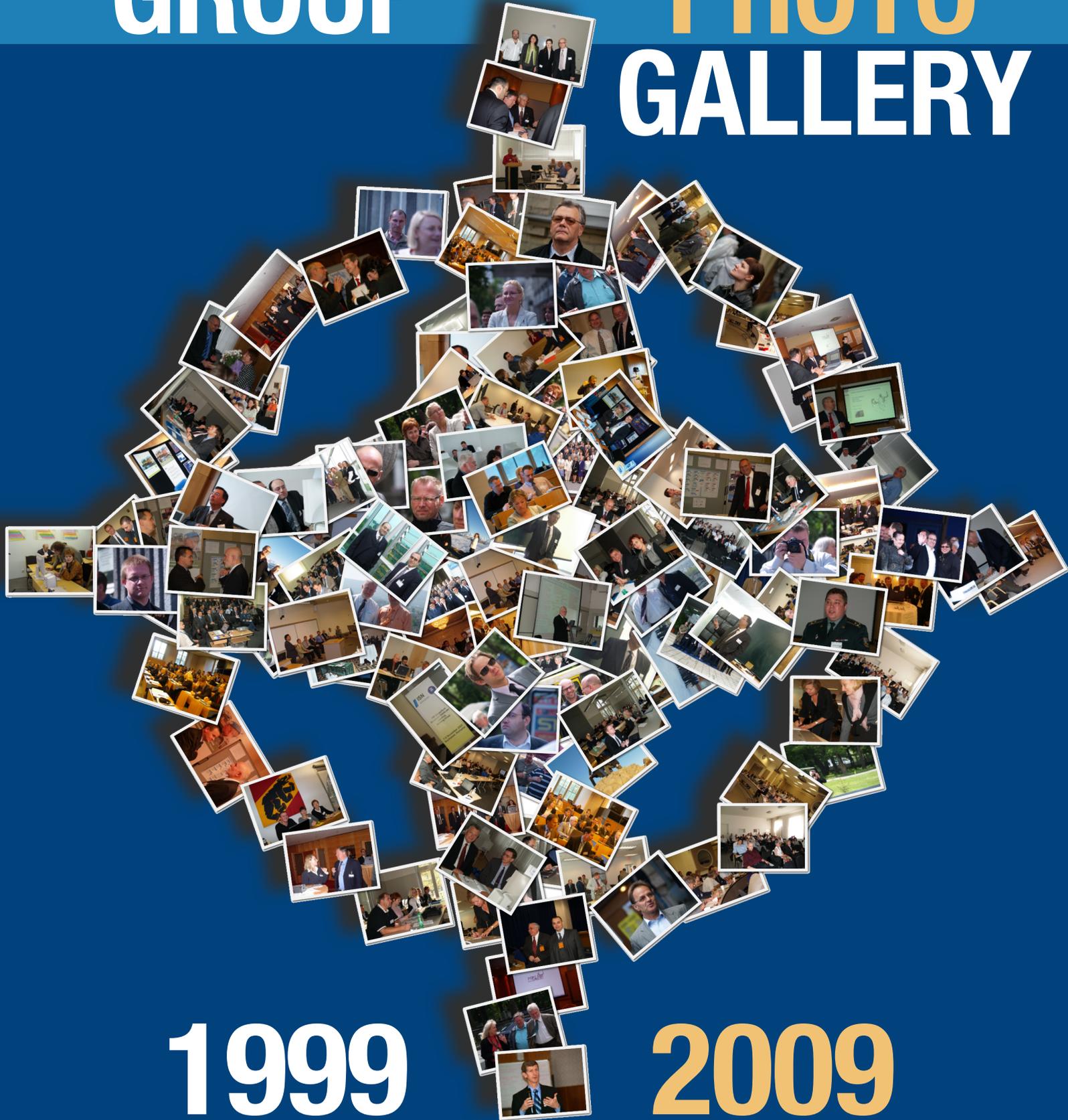
NATO Defence College: <http://www.ndc.nato.int>

"G. S. Rakovski" National Defence Academy: <http://rdsc.md.government.bg>

Baltic Defence College: <http://www.bdcoll.ee>

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www.natoschool.nato.int