

# Future Forces®

## EXHIBITION & CONFERENCE

### I N T E R N A T I O N A L



**OPEN NATO FUTURE SOLDIER WORKSHOP**  
16 - 17 OCTOBER 2014, PVA EXPO PRAGUE, CZECH REPUBLIC

ORGANISED AS THE PART OF FUTURE FORCES EXHIBITION & CONFERENCE 2014

- Specialised two-day accompanying event for soldier system experts, industry leaders and R&D centres
- Updates of the on-going and future soldier system projects, acquisition plans, challenges in the new materials, laboratory testing and technologies
- Ballistic & Fragment Protection; Blast; Flame, Flash & Heat;

ENDORSED BY: 



**CAPABLE LOGISTICIAN WORKSHOP**  
16 - 17 OCTOBER 2014, PVA EXPO PRAGUE, CZECH REPUBLIC

ORGANISED AS THE PART OF FUTURE FORCES EXHIBITION & CONFERENCE 2014

- Specialised two-day accompanying event for logistics experts, industry leaders and R&D centres
- Updates of the on-going and future logistics projects, acquisition plans, challenges in the new materials, laboratory testing and technologies

ENDORSED BY: 



**UNMANNED SYSTEMS WORKSHOP**  
16 - 17 OCTOBER 2014, PVA EXPO PRAGUE, CZECH REPUBLIC

ORGANISED AS THE PART OF FUTURE FORCES EXHIBITION & CONFERENCE 2014

- Specialised two-day accompanying event for unmanned systems experts, industry leaders and R&D centres
- Updates of the on-going and future deployment, acquisition plans, new technologies, legal aspects etc.

The Unmanned Systems Workshop will also be the first in its field to tackle the current controversy over the technology head-on.

ENDORSED BY: 



**OPEN NATO CBRN WORKSHOP**  
16 - 17 OCTOBER 2014, PVA EXPO PRAGUE, CZECH REPUBLIC

ORGANISED AS THE PART OF FUTURE FORCES EXHIBITION & CONFERENCE 2014

- A two-day taking international professional event to deepen joint, interagency, intergovernmental, multinational industry and academia cooperation
- Security Policy Aspects in CBRND
- CBRND Capabilities and International Concepts
- CBRND National Concepts and Lessons Learned
- Future Challenges in CBRN-related R&D and Technology Highlights
- Trends and Challenges in CBRND Market

ENDORSED BY: 

<b>FSW</b>	<b>CLW</b>
<b>USW</b>	<b>CBRNW</b>

# WORKSHOPS

## 2014

# 16 - 17 October 2014

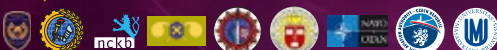
PRAGUE, CZECH REPUBLIC

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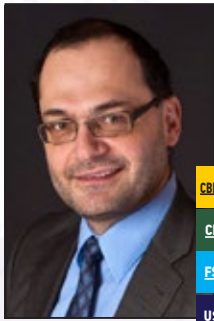
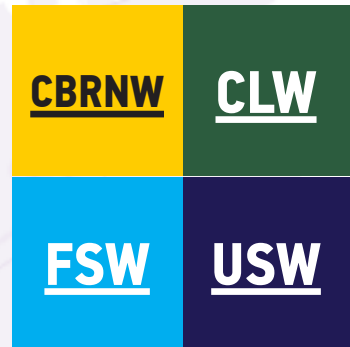
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# FUTURE FORCES WORKSHOPS TEAM



**Mr. Pavel Zelenka**  
Director of Foreign Relations



**Mr. Radomir Mikes, MSc. (COL Ret.)**  
Open NATO CBRN Workshop  
Chairman



**Mr. Jiri Stirba, (LTC Ret.)**  
Open NATO Future Soldier Workshop  
Chairman



**LTC Jan Mazal, Ph.D.**  
Unmanned Systems Workshop  
Chairman



**COL (GS) Miroslav Pelikan,  
Dipl. Eng., MPA**  
Capable Logistician Workshop  
Chairman



**Mr. Petr Jedlink, Dipl. Eng.**  
Capable Logistician Workshop  
Vice – Chairman



**MAJ Pavlina Cebakova**  
Capable Logistician Workshop  
Workshop Coordinator



**Ms. Karolina Machova**  
Workshop Production Manager



**Mrs. Olga Peskova**  
Press & PR



**Ms. Marcela Markova**  
Workshop Assistant



**Ms. Silvie Simkova**  
Exhibition Manager



# A MESSAGE FROM DIRECTOR OF FOREIGN RELATIONS

Dear Open NATO Future Soldier, Open NATO CBRN, Capable Logistician and Unmanned Systems Workshops Attendees,

I would like to express my deep appreciation for your attendance in our first Future Forces Event.

The aim of our team is to provide all participants with the top level event with an international programme which allows you to obtain the most in-depth information on the subject matter of each workshop.

Apart from our workshops there will be an exhibition and dynamic presentation to see the latest technologies, solutions and products produced by international and regional defence and security industry.

We would especially like to thank for the support we have had from the Ministry of Defence of the Czech Republic, General Staff of the Armed Forces of the Czech Republic, University of Defence, Military Research Institute, JCBRN Defense Centre of Excellence, Czech Technical University in Prague, Technical University of Liberec, Civil Aviation Authority Czech Republic, MLCC, NATO HQ, NSPA, EDA, EUROPOL, UN, UNICRI who all helped to set the agenda and provided key contacts to make this event what it is today.

We would also like to thank to our sponsors and partners.



We hope that our event helps you to built strong relationship with all and also that you enjoy the first Future Forces Workshops.

Yours Truly,

**Mr. Pavel Zelenka**  
Director of Foreign Relations

Tel: (420 – 603) 520 520  
Email: zelenka@natoexhibition.org

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# OPEN NATO FUTURE SOLDIER WORKSHOP

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ENDORSED BY:



FSW

## Chairpersons:



### Mr. Jiri Stirba, LTC Ret.

OPEN NATO Future Soldier Workshop Chairman, CZE



Jiri Stirba is a former logistics officer of the Czech Armed Forces. Since retiring he has contracted as a military advisor and business consultant. Jiri is currently a member of the Future Forces Exhibition & Conference - Military & Security Advisory Committee.

Appointed Chairman of the "Open NATO Future Soldier Workshop".

Experience: 29 years in logistics - former LOG Material Base Commander, Senior Officer EU Military Staff (LOG & Resources Division), Development & Testing Centre for CCIEP - Deputy Chief, Quartermaster Staff Officer at Regiment HQ and Division HQ, CZE representative to the NATO LCG/DSS-CCIEP (Clothing, Individual and Protective Equipment) Working Group.



### Ms. Jana Barancicova

NATO AC/225 (LCG DSS - CCIEP), Vice-Chairperson, CZE



Logistic Agency  
 Logistic Materiel Supply Center  
 Coordination a Project Worker  
 Position: Vice-Chairperson AC/225(LCGDSS-CCIEP)

## Speakers:



### BG Pavel Adam

Director of the Division of Capabilities Development and Planning; General Staff, Armed Forces of the Czech Republic, CZE



- from 1 July 2013 - Capabilities Development and Planning Division Director
- from 1 November 2012 - Support forces HQ COM
- from 1 June 2012 - Support forces HQ DCOM
- from 1 September 2011 - Support forces HQ COS
- 2007-2011 - NATO HQ Brussels - Regional Security and Cooperation Division - Deputy Director
- 2007 - Military Intelligence Deputy Director




**BG William E. Cole**

Commanding General, Natick Soldier Systems Center, Deputy Commanding General of the U.S. Army Research, Development and Engineering Command (ARDEC); U.S Army, USA



He served as project manager for Soldier Protection and Individual Equipment from July 2009 to June 2012. During that time he made frequent trips to Natick to leverage the Soldier Systems Center's expertise in developing uniforms, body armor and parachutes. He then deployed to Afghanistan for 11 months as the director of forward operations for the Office of the Assistant Secretary of the Army for Acquisition Logistics and Technology, and also for RDECOM. BG William E. Cole most recently spent the last four months serving as the chief of staff at ASA (ALT).


**BG Odd-Harald Hagen**

Chairman of the NATO Army Armaments Group (NAAG) (AC/225), NATO



Brigadier General  
 Norwegian Ministry of Defense  
 November 2013 – Present (1 year) Oslo

Deputy Director General (ZIC), Department of Management and Financial Governance. Main areas of responsibility:  
 1) Prepare annual defense budgets  
 2) Plan and develop the Armed Forces' activities, organisation and structure in accordance with the long term plan and  
 3) Management and financial governance of the Armed Forces and the Defence Estates Agency

Chairman of the NATO Army Armaments Group,  
 NATO Headquarter, Brussels  
 November 2013 – Present (1 year)

The NATO Army Armaments Group (NAAG) is responsible for Land and Joint Armaments Cooperation to support and contribute to NATO Capabilities, in particular the Materiel and Interoperability Lines of Capability Development, while supporting and being supported by the other Lines of Capability Development, i.e. Doctrine, Organization, Training, Leadership, Personnel and Facilities (DOTMLPFI). The NAAG seeks to create synergy among the procurement, research and technology, and industrial communities.


**Mr. Dirk Louwers**

Marketing Manager Life Protection, DSM Dyneema - Workshop Main Partner, NLD



After achieving his MSc in Engineering at the Eindhoven University of Technology, he joined DSM in 1997. At DSM, he has working in supply chain and commercial positions. Since 2006 he is part of the Life Protection team within DSM Dyneema. In his current role, he is responsible for marketing of Life Protection in the region Europe, Middle-East and Africa. He also holds an MBA from IMD, Switzerland, as well as an MPhil (Wildlife Management) from the University of Pretoria, South-Africa.


**Dr. Karl-Heinz Rippert**

Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBW), Koblenz, DEU



- 2000 Head of laser & optronics section and R & T branch semiconductors, laser & optronics, radar technologies and pattern & information processing.  
 Panel member of NATO RTO SET, WEAG, Working Group 6, etc.
- 2004 Head of Dismounted Soldier Systems Programs IdZ  
 Leader R & T soldier equipment, Member NATO AC225, RTO, EDA
- 2008 Head of soldier personal equipment, curator Carl Crantz society
- 2013 Head of optronics, lasers and acoustics branch


**Mr. Marek Kalbarczyk**

Project Officer Land Systems Technologies, European Defence Agency, EDA



Marek Kalbarczyk is working at the EDA as Project Officer Land Systems Technologies from 2013. He is responsible for moderating CapTech Ground Systems where R & T activities in support of areas as ground vehicles, unmanned ground vehicles, soldier systems, C-IED or Non-Lethal Weapons are conducted. He is professional soldier in the Polish Army with colonel rank and his last national position was R & T Point of Contact to EDA and NATO Science and Technology Organization. He also served in NATO environment as an information manager in Allied Land Component Command in Heidelberg, DE and did an operational tour in the ISAF HQ Afghanistan between 2007 and 2008.


**LTC Paweł SWEKLEJ**

General Command of the Polish Armed Forces, Armament &amp; Military Equipment Division, POL



LTC Paweł SWEKLEJ is senior specialist of Weapon Management and Development Division, Inspectorate of The Land Forces, General Command of The Polish Armed Forces. LtCol is responsible for requirements, implementation of the new system into the Army and. supervising their right exploitation and test procedures of equipment.

In 2004 LTC SWEKLEJ was designated to the 15 Military Agency as Quality Assurance Representative. In 2006 he was transferred to Land Forces Command where he served as a specialist. In 2012 he was transferred to Afghanistan to supervising the exploitation of the armament.


**MAJ Magnus Hallberg**

Land Warfare Centre, PM Soldier Equipment, NATO AC/225 LCG DSS Vice-Chairman, SWE



Maj Magnus Hallberg joined the Swedish army 1989. He has mostly served as an infantry/recce officer.

After serving as company commander of a mechanized coy and after completed battalion commander course he was posted as test and trial leader for the Swedish soldier modernization program MARKUS. Since 2009 he holds the position Product manager Personal Protection and Equipment at Land Warfare Centre, Swedish Armed Forces.

Magnus is also Deputy Chairman of Land Capability Group on Dismounted Soldier System.


**Dr. Bülent TÜDES**

ProgrammeManager, LB General and Cooperative Services Programme, NATO Support Agency, NATO



Dr. Bülent TÜDES served 27 years in Turkish Air Force, mostly as a Professeur in Air Force Academy and also research and development programs. After his retirement; since 1999, he has been working as the General and Cooperative Services Programme Manager at NSPA. He is specialized in operational and multinational logistics, environmental and energy security, and project management. His responsibility areas are the ammunition procurement/demilitarization, naval worldwide support, disposal activities, procurement of deployable camps, procurement of dismounted soldier systems, night vision systems and medical items, and also special projects.


**Prof. Karim Abdel-Malek**

Biomedical Engineering, Director - Center for Computer Aided Design, The University of Iowa, USA



Dr. Karim Abdel-Malek is internationally recognized in the areas of robotics and human simulation. He is a Professor of Biomedical Engineering at the University of Iowa. He is the Director of the Center for Computer Aided Design, a world renowned research center with 7 units and about 150 researchers. Dr. Malek leads projects with all services of the US Military (US Army, US Navy, US Air Force, and the US Marines), and several industry partners including Ford, GM, Chrysler, Rockwell Collins, Caterpillar, and others. He received his MS and PhD in robotics from the University of Pennsylvania and his BS in mechanical engineering from the University of Jordan. He has published over 110 journal publications and is on the board of 3 private companies.


**Mr. Magnus Riezebos**

Technical project manager, VOSS (improVed Operational Soldier System), MOD, NLD



Derek Riezebos, as technical specialist New Energy Technologies has over 7 years experience in projects involving energy storage and novel energy technologies. In these 7 years he has achieved successes in business development and setting up new projects, leading & managing project, provide technical expertise and advice and implementation of project results into operations as displayed in the paragraph 'detailed professional experience'. Next to these projects he also successfully set up the KEMA (now DNV GL) battery laboratory in Arnhem and participated in different knowledge and standardisation committees.


**Mr. Niels Dierckx**

Manager Business Development Defense, Special Products, FOKKER Aerostructures B.V., NLD

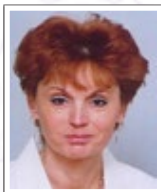


Niels Dierckx started his career as a combat engineer. After attending the Royal Netherlands Military Academy he held various positions at the 11th (NLD) Air Manoeuvre Brigade (platoon leader), 43rd (NLD) Mechanized Brigade (company operations officer) and the 13th (NLD) Motorized Brigade (brigade operations officer). He was also head of the 32-week long combat engineer platoon leader course. During these years he has been deployed to Afghanistan (ISAF) in operational roles multiple times.

Currently, Niels is Business Development Manager Defense at Fokker Technologies. His main focus is the business line Special Products, which focuses on using aerospace technology in a non-aerospace and defense environment. Special Products has five business lines: Mobile systems, Missiles, F135 nozzle (static structure and sync ring), Space and the E-Lighter.

Niels holds a degree in civil engineering from Twente Technical University and an MBA from Nyenrode Business University.




**Ing. Martina Vikova, PhD.**

Defense Scientist of CC &amp; D Group, Technical University of Liberec, CZE



Doctor Viková is the senior lecturer of Textile Science at the TUL. She's scientific activities are in the areas of color changeable materials, textile material science, textile chemistry and sensors mainly.

Doctor Viková started the academic professional carrier in 2002 and she is working at Department of Material Engineering of Faculty of Textile Engineering of TUL until today. She engaged in earlier professional carrier as independent designer in KIO Elitex Company Liberec for one year, two years as research worker at Department of Nonwoovens Technical University of Liberec, then as a head of Quality management department in company Textilana Liberec for four years, as a head of Wholesale and foreign trade department for the company Rasl and Son Liberec for two years. She defends her PhD. at Heriot Watt University in Scotland (UK) in 2011. In October 2002 she has started working as Head of research group "SMART textiles" of Czech National Research Centre "Textile" and since 2006 she is a member of experts group TEG6 of European Union.

Currently she is head of research group IA3 of the project OP VaVpl „Innovative products and environmental technologies“, registration number CZ.1.05/3. 1. 00/14.0306. She is author or co-author of 1 book, about 15 scientific papers published in journals and more than 60 scientific contributions on the international conferences.


**Assoc. Prof. Eng. Michal Vik, Ph.D.**

Defense Scientist of CC &amp; D Group, Technical University of Liberec, CZE



Doctor Vik is the associate professor of Textile Science at the TUL. His scientific activities are in the areas of Color Science (Color and Appearance Measurement, Color Difference Formula Development, Quality Control, Development and Design of Instruments), Textile Material Science (Smart Materials, Advanced Microscopy) and Textile Finishing (surface modification - plasma, photo-polymerization) mainly.

Associate professor Michal Vik started the cooperation with Faculty of Textile Engineering of TUL in 1989 and currently working at Department of Material Engineering. His habilitation process was successfully concluded in 2005. He was a head of academic faculty senate from 1996 to 2003. He also worked in faculty management as vice dean for external relation from 2003 – 2005 and as a vice dean for foreign relation from 2006 to 2008. Associate professor Michal Vik is since 1999 member of Optical Society of America, 1994 – 2000 board member of Czech Society of Textile Chemist and Colourist, since 1999 board member of ČNK CIE (Czech National Committee), which is a national society of International Commission on Illumination – CIE, since 2003 member of Division 1 of International Commission on Illumination (CIE) and member of CIE Technical committees (TC1-55, TC1-63, TC1-72 TC2-61). Starting from 2010 he is an expert member of European Technology Platform – Textile.

Currently he is head of colorimetry group and Laboratory Color and Appearance Measurement of the Department of Material Engineering. He is author or co-author of 1 book, about 17 scientific papers published in journals and more than 90 scientific contributions on the international conferences.


**Mr. Adam Jobanek, MSc.**

Defense Scientist of CC &amp; D Group, Military Research Institute Brno, CZE



1996 to 1998 – Primary and secondary school teacher

1998 to 2005 – Military Institute of Protection, Department: „ Camouflage and Deception“

2005 till today – Military Research Institute, Department: „ Camouflage and Deception“

Areas of research:

- Camouflage, Concealment, Deception,
- Lab and field Assessment of camouflage means in VIS, IR and MW areas.

Since 2004 Head of the accredited Laboratory for camouflage means testing


**Doc. Ing. Antonin Havelka, CSc.**

Technical University of Liberec, CZE



Associate professor Antonín Havelka is an erudite specialist in areas of clothing and ready made clothing production including the preparation of production, the partitioning and assembling process, ironing and shaping for classical and technical textile based products. He is currently oriented to the development of methods for textile and clothing comfort evaluation including evaluation of transport moisture effects, development in the area of textile sensors, conducting paths and sensors suitable for use in smart textile and wearable electronics. He is active in the R & D & I projects and cooperation with industrial partners which demonstrate his results. He publishes many original articles at scientific conferences and journals. He is the coauthor of patents and utility models for specific application area.


**Prof. Ing. Jiri Militky, CSc.**

Technical University of Liberec, CZE



Professor Jiří Militký is the university professor of Textile Science at the TUL. His scientific activities are in the areas of textile physics, textile material engineering, nanocomposites and statistical data treatment mainly. From 2001 to 2003 he was vice chancellor for science and foreign relations of TUL. Since 2004 to 2008 he was again a dean of the faculty. Currently he is head of Department of Textile Materials. He is author or co-author of 16 books, about 120 scientific papers published in journals and more than 400 scientific contributions on the international conferences.





**Mr. Joao Carlos Matos**

DSM Dyneema - Workshop Main Partner, NLD



Application Development Manager - Life Protection, DSM Dyneema  
 2009 – till now  
 Senior Application Engineer  
 NXP Semiconductors  
 2006 – 2008



**Mr. J. R. Smith**

Multinational Engineer Coordinator Joint, Interagency, Intergovernmental and Multinational Division  
 U.S. Army Maneuver Support Center of Excellence; NATO JCG ISR / CCDO Chairman, USA



Professional Experience:  
 Multinational Military Engineer Specialist, US Army Maneuver Support Center of Excellence,  
 Fort Leonard Wood, Missouri, USA, 2003-present.  
 Combat Systems Branch Chief, Engineer Requirements and Determination Division, Capabilities Developments and Integration Directorate,  
 US Army Maneuver Support Center of Excellence, Fort Leonard Wood, Missouri, USA, 1999-2009  
 US Army Military Engineer, US Army Corps of Engineers, 1978-1998.



**Dr. Jiri Plachy**

Head of CCDO Group, Military Research Institute Brno, CZE



1995 to 2005 – Military Institute of Protection, Department: „ Camouflage and Deception“  
 2005 till today – Military Research Institute, Department: „ Camouflage and Deception“  
 Areas of research:  
 ■ Camouflage, Concealment, Deception,  
 ■ Methods for UV, VIS, IR and radar testing.  
 Since 1988 Deputy Head of the Department  
 Since 2000 Head of the Department



**Mr. Richard Macha, LTC Ret.**

Industrial Cooperation Division, Czech MoD, CZE



His current office position is on Czech Ministry of Defence – Industrial Cooperation Division. He was also working on Embassy of the Czech Republic in state of Israel and in Austria. He was on UN Mission in IRAQ as a UNGCI, guard and communication officer. Education: DISAM-Ohio, International Course on FMS Programme in USA; IDARM-California, Defence Acquisition Management, Procurement and Contracting Course in USA



**Mr. David Goosman**

NATO AC/225 LCG DSS-C4I & A Chairman, USA



Mr. David Goosman is the Marine Corps Chief Systems Architect and responsible for acquisition policy and procedures to ensure DODAF compliant architectures support all acquisition programs at Marine Corps Systems Command and PEO Land Systems. He is a FEAC-certified Enterprise Architect and additional responsibilities include the Marine Corps representative on the Joint Enterprise Standards Committee, the Interoperability Steering Group, and serves as the Marine Corps Information Support Plan (ISP) Manager. Mr. Goosman arrived at Marine Corps Systems Command, Quantico, VA on August 31, 2009 and is currently assigned to the Deputy Commander, Systems Engineering Interoperability Architectures and Technology (SIAT) Directorate as the Director, Architecture and Interoperability Certification Division.

Mr. Goosman retired from the US Air Force in 2002 with over 21 years active duty service as a Mission Crew Commander with over 3000 hours on the E-3 (AWACS). Other operational experience includes assignments with NATO AWACS, Geilenkirchen, Germany; 8th Air Force Air Operations Center, Barksdale, LA; Southwest Air Defense Sector, March AFB, CA; 606 Air Control Squadron, Basdhal, Germany; and 7th Avionic Maintenance Squadron, Carswell AFB, TX. He participated in various combat operations to include Operation Northern Watch (Iraq), Operation Allied Force (Kosovo), Operation Enduring Freedom (Afghanistan), and Operation Noble Eagle (US).

He has a Masters of Science in Management Information Systems from the University of Maryland University Colleges and a Bachelors of Science in Computer Science and Engineering from the University of Texas at Arlington.

# OPEN NATO FUTURE SOLDIER WORKSHOP PROGRAMME

## Thursday 10/16/2014

**08:30 - 09:15** Registration

**09:30 - 09:40** Chairman's Welcome and Opening Remarks

*Mr. Jiri Stirba, LTC Ret. – OPEN NATO Future Soldier Workshop Chairman, CZE*

*Ms. Jana Barancicova - NATO AC/225 LCG DSS / CCIEP Vice-Chair, CZE*

### Session A: Future Soldier / Dismounted Soldier Systems Projects & Lessons Learned

**09:40 - 10:00** Czech Modernization Plans & Perspectives; Vojak 21 (V21)

*BG Pavel Adam - Director of the Division of Capabilities Development and Planning; General Staff, Armed Forces of the Czech Republic, CZE*

**Presentation abstract:**

This presentation is mapping continual process of "Future Soldier" development within the Czech Armed Forces since 1996. Analysis of current and future threats was used to identify main gaps amongst all parts of this integral program and to define ways-ahead to bridge those ones. Clear and budget balanced comprehensive approach has been defined to achieve main goals. This is a milestone on route to fully operational enhanced soldiers' capability in three main areas: protection, combat efficiency and information management. Also this is a clear mission statement for coming "The Czech Armed Forces Development Concept".

**10:00 - 10:25** US Army Dismounted Soldier Systems

*BG William E. Cole - Commanding General, Natick Soldier Systems Center Deputy Commanding General of the U.S. Army Research, Development and Engineering Command (ARDEC); U.S. Army, USA*

**10:25 - 10:45** The NATO perspective on Army Armaments development

*BG Odd-Harald Hagen - Chairman of the NATO Army Armaments Group (NAAG) (AC/225), NATO*

**10:45 - 11:10** MORNING COFFEE BREAK

**11:10 - 11:30** Dyneema® protective materials, for lightweight combat proven armour solutions - Trends in protection, new material developments & sustainability

*Mr. Dirk Louwers – Marketing Manager Life Protection, DSM Dyneema - Workshop Main Partner, NLD*



**11:30 - 11:50** The German Dismounted Soldier Project Infanterist der Zukunft - Erweitertes System (IdZ-ES) and First Impressions from AFG

*Dr. Karl-Heinz Rippert - Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBW), Koblenz - With Infantry School, Hammelburg, representatives participation, DEU*

**Bullets of the briefing:**

- based on operational requirements the basic layout philosophy will be given as an introduction
- layers of clothing and protection as well as weapons and optics/optronics will be briefed on together with the hardware presentation
- an functional overview of the C4I -components also together with the hardware presentation will be given
- preliminary findings with the system in service (mountain infantry and mechanized infantry) will be drafted
- follow-on procurement 2015-2019 with major changes will be drafted including the harmonization to the new combat clothing system and protection

**11:50 - 12:10** Combat Equipment for Dismounted Soldier (CEDS) - Feasibility Study Programme

*Mr. Marek Kalbarczyk - Project Officer Land Systems Technologies, European Defence Agency, EDA*

**Abstract:**

The Combat Equipment Dismounted Soldier Feasibility Study Programme (CEDS FSP) is research and technology collaboration programme between 8 EDA member states (FI, AT, DE, ES, FR, PT, SE and RO) with objective is to identify possibilities offered by innovative technologies for soldier systems in the following areas: (i) observation, (ii) energy, (iii) human factors and (iv) survivability. The programme consists of 9 project from which 7 are contacted by EDA and 2 are in kind contribution. Most of the projects started at the end of 2013 and the results are expected by the end of 2015. The outcome of the programme will be used to review CEDS Common Staff Requirements (CSR). The presentation will provide overview of the CEDS FSP programme and its projects.

**12:10 - 12:30** Panel Discussion

**12:30 - 13:40** LUNCH & NETWORKING



- 13:40 - 14:00 The Polish Future Soldier (TYTAN) Project Lessons Learned and Update**  
*LTC Paweł Szwedek, General Command of the Polish Armed Forces, Armament & Military Equipment Division, POL*
- 14:00 - 14:20 Future Soldier technologies in context of the future battlefield – Soldier systems trends and priorities within NATO**  
*MAJ Magnus Hallberg, Land Warfare Centre, PM Soldier Equipment, NATO AC/225 LCG DSS Vice-Chairman, SWE*
- Abstract:**
- Lessons Learned from operations in area of DSS, Soldier Burden
  - Swedish Soldier Programme (MARKUS) Update
  - Demands on the increasing Soldier Mobility vs. Relevant emerging technologies in Personal Protection
  - Mid & Long term Key Capability Requirements and priorities in soldier systems
- 14:20 - 14:50 Dismounted Soldier Equipment and Future Technologies**  
*Dr. Bülent Tüdes, Programme Manager, NATO Support Agency (NSPA), NATO*
- 14:50 - 15:10 Panel Discussion**
- 15:10 - 15:30 AFTERNOON COFFEE BREAK**

### Session B: Lethality: Weapon Systems, Optics and Sensors

- 15:30 - 15:50 GruntSim: A US Marines Expeditionary Rifle Squad Simulator**  
*Prof. Karim Abdel – Malek, Biomedical Engineering, Director - Center for Computer Aided Design, The University of Iowa, USA*
- Abstract:**
- GruntSim™ is a software tool developed under the ETOWL effort that enables an acquisition professional to assess biomechanical and physiological effects of loading configurations of gear on the warfighter's performance. GruntSim™'s capability allows for the import of new designs of equipment while operating a specified set of task activities such as walking, jumping, going to prone, getting up from prone, stairs ascending, and ladder climbing and while assessing its impact on human performance. GruntSim™ provides acquisition professionals with a scientific environment for conducting trade- off analysis of gear on warfighter performance.
- 15:50 - 16:20 The E-Lighter. Designed and built by Fokker, contracted by the Dutch MOD as part of their VOSS program**  
*Mr. Derek Riezebos - Technical project manager, VOSS (improVed Operational Soldier System), MOD, NLD*  
*Mr. Niels - Manager Business Development Defense, Special Products, Fokker Aerostructures B.V., NLD*
- 16. 20 – 16.35 Color changeable materials and advanced colorimetry**  
*Assoc. Prof. Eng. Michal Vik, Ph.D., Ing. Martina Viková, PhD. – Technical University of Liberec, CZE*
- Abstract:**
- The presentation explains the basic concepts of SMART materials; especially color changeable materials usable as sensors, camouflage patterns, etc. and difficulties of its characterization. For example problem with measurement of kinetic behavior of photochromic pigments applied on substrates such as textiles, plastics, etc. by standard spectrophotometer is relatively long time period between individual measurements and impossibility of measuring whole color change during exposure without interruption of illumination of sample during measurement. It means standard testing methods are limited in specific fields of application of such materials. Based on long-term experience of Laboratory Color and Appearance Measurement, we developed original experimental system with short time scanning of color change. We proved effectiveness of new original measuring system and as latest development we present compact usable construction of universal measuring device, which is usable as standard spectrophotometer, dynamic spectrophotometer and fatigue tester.
- 16:20 Chairman's Closing Remarks**  
*Mr. Jiri Stirba, LTC Ret. – OPEN NATO Future Soldier Workshop Chairman, CZE*


**FOKKER**  
 TECHNOLOGIES

## Friday 10/17/2014

- 08:30 - 09:15 Registration**
- 09:30 - 09:40 Chairman's Welcome and Opening Remarks**  
*Mr. Jiri Stirba, LTC Ret. – OPEN NATO Future Soldier Workshop Chairman, CZE*

**Session C: Survivability: Soldier Readiness, Protection, Endurance**
**09:40 - 09:55 Smart Textiles for Future Forces**

*Mr. Adam Jobanek MSc. - Defense Scientist of CC & D Group, Military Research Institute Brno, CZE*

**Abstract:**

A presentation describes current basic areas of interest concerning "Smart Textiles" science and technology with special reference to the three-year long efforts of the NATO/STO (RTD) Research Task Group SET-109 RTG-60 „Smart Textiles for the NATO Warfighter" in collecting data, conducting research and development, and assessing available textiles-based technologies.

The presentation also describes the Task Group activities focused on the state-of-the-art in available commercial products, research, development, and processing of materials, fibres, yarns, and finished textile platform for targeted soldier technologies as well as about emerging new materials and applications areas for further development of science and technologies for Smart Textiles.

**09:55 - 10:10 Smart Textile application and its quality**

*Doc. Ing. Antonin Havelka, CSc. - Technical University of Liberec, CZE*

**Abstract:**

- smart sensors in textile, wearable electronics, technical textile with smart application,
- evaluation of termophysiological comfort, complex quality evaluation of textile materials.

**10:10 - 10:25 Protective textile for clothing and technical application and their quality evaluation**

*Prof. Ing. Jiri Militky, CSc. - Technical University of Liberec, CZE*

**Abstract:**

- protective textile application for extreme environment, safety textile application for civilian rescue services mainly by incorporated optical fibers, complex monitoring and signal analysis for health monitoring of people,
- advance laboratory analysis and expertise for application and incorporation of nano-particles, nanotechnologies, quality evaluation.

**10:25 - 10:40 Panel Discussion**
**10:40 - 11:00 Lightweight head protection with Dyneema® based helmets**

*Mr. Joao Carlos Matos – DSM Dyneema - Workshop  
Main Partner, NLD*

**11:00 - 11:20 MORNING COFFEE BREAK**
**11:20 - 11:35 SIGNATURE MANAGEMENT - Enhancing Future Force Survivability**

*Mr. J. R. Smith - Multinational Engineer Coordinator Joint, Interagency, Intergovernmental and Multinational Division U.S. Army Maneuver Support Center of Excellence; NATO JCG ISR / CCDO Chairman, USA*

**Abstract:**

The Aim of the this presentation is to highlight the need to cultivate emerging technologies for their usefulness and application in supporting military camouflage, concealment, deception and obscurants (CCDO) capabilities in a "system of systems" approach in order to enhance the survivability of coalition personal and materiel on future operations. Through a four pronged approach, those who determine military requirements must leverage their relationships with members of the fields of science and technology, academia, and the supporting industrial base. The desired outcome from this presentation is to reinforce the ties between the military establishment, science and technology, academia, and industry in order to work more closely in identifying those areas where new technology may provide a leap-ahead advantage. This advantage will critically improve the methods currently used by our forces and negate the successful employment of counter-surveillance systems and practices presented by current threats. In conclusion, the desired end state will strengthen the relationships of the diverse community having an interest in CCDO with an ultimate goal of providing the optimal capabilities and best practices to the military to enhance the security and survivability of coalition forces.

**11:35 - 11:50 Adaptive Camouflage**

*Dr. Jiri Plachy - Head of CCDO Group, Military Research Institute Brno, CZE*

**Abstract:**

A presentation solves basic problems of layers changing VIS as well as IR radiation of target within surroundings. It describes basic terms of reference of adaptive camouflage in basic parts of an electromagnetic spectrum within some research projects.

A solution for these spectrums is solved in detail with using of special materials on the surface.

A conclusion includes theoretic kinds of VIS and IR camouflage against surveillance fire systems as well as high precise weapons.

**11:50 - 12:05 Panel Discussion**
**12:05 - 12:25 SANTOS: The Virtual Soldier**

*Prof. Karim Abdel-Malek - Biomedical Engineering, Director - Center for Computer Aided Design,  
The University of Iowa, USA*



**12:25 - 12:45 The Czech Future Soldier Project - Operations Lessons Learned / Interoperability**

*Mr. Richard Macha, LTC Ret. - Industrial Cooperation Division, Czech MoD, CZE*

**Abstract:**

Czech project "V-21" Soldier of the 21 century.

- Procurement phases of the equipment of the arms commodities within V-21 project
- Lessons Learnt from Peace Operations of the Czech forces deployment abroad
- Interoperability requirements, EU and NATO initiatives (SD -Smart Defence, CFI -Connected Forces Initiative, Battle Groups)
- Implementation of NATO Standards - STANAGs within NAAG (NATO Armament Group)

**12:45 - 13:05 NATO LCG/DSS C4I & A SUB-WORKING GROUP - STANAG 4677 Capabilities**

*Mr. David Goosman - NATO AC/225 LCG DSS-C4I & A Chairman, USA*

**Abstract:**

NATO LCG/DSS C4I & A, STANAG 4677: Summary and Overview of Coalition Interoperability at the Dismounted Soldier Level

**13:05 Chairman's Closing Remarks**

*Mr. Jiri Stirba, LTC Ret. - OPEN NATO Future Soldier Workshop Chairman, CZE*

# DISCUSSION PANELS - HALL 6

**16OCT**  
09.30 – 12.00  
**“Flame, Flash & Heat”  
Panel**

**Custodian:**  
NATO LCG DSS/CCIEP Sub-WG  
representative (NOR)

**PARTICIPATION:**  
CCIEP members:  
BEL, CZE, FRA(3), GER, GBR, HUN,  
LTV, LTU, NOR, NLD, USA(3)

•

**Industry:**  
TenCate (NLD);  
KERMEL (FRA);  
HQH SYSTEM (CZE);  
UTEXBEL (BEL);  
Glanzstoff (GER);  
Aclima (NOR);

•

**Military & Academia:**  
Technical University of Liberec  
(CZE);

**16OCT**  
13.00 - 17.00  
**“Ballistic & Fragment  
Protection” Panel**

**Custodian:**  
NATO LCG DSS/CCIEP Sub-WG  
representative (CAN)

**PARTICIPATION:**  
CCIEP members:  
BEL, CAN, CZE, FRA(3), GER(2),  
GBR, HUN, LTV, LTU, NLD, NOR,  
USA(2)

•

**Industry:**  
DSM Dyneema (NLD);  
Revision Military (CAN);  
TenCate (NLD);

•

**Military & Academia:**  
EOD COE (NATO);  
University of Defense (CZE);  
Technical University of Liberec  
(CZE);

**17OCT**  
09.30 – 12.00  
**“Blast”  
Panel**

**Custodian:**  
NATO LCG DSS/CCIEP Sub-WG  
representative (USA)

**PARTICIPATION:**  
CCIEP members:  
BEL, CZE, FRA, GER, GBR, HUN,  
LTV, LTU, NLD, NOR, USA(4)

•

**Industry:**  
BlackBox Biometrics (USA);

•

**Military & Academia:**  
EOD COE (NATO);  
Military Engineers (CZE);  
Technical University of Liberec  
(CZE);





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# OPEN NATO CBRN WORKSHOP

**16 – 17 OCTOBER 2014, PVA EXPO PRAGUE, CZECH REPUBLIC**

**ORGANISED AS THE PART OF FUTURE FORCES EXHIBITION & CONFERENCE 2014**

- A two-day taking international professional event to deepen joint, interagency, intergovernmental, multinational industry and academia cooperation
- Security Policy Aspects in CBRND
- CBRND Capabilities and International Concepts
- CBRND National Concepts and Lessons Learned
- Future Challenges in CBRN-related R&D and Technology Highlights
- Trends and Challenges in CBRND Market

ENDORSED BY:



CBRNW

## Chairperson:



**Mr. Radomir Mikes, MSc.**

OPEN NATO CBRN Workshop Chairman, CZE

- 1. 10. 2004 – 31. 1. 2008 Director of NATO JCBRN Defence Centre of Excellence
- 1. 7. 2008 Retired from the Army of the Czech Republic (Colonel).
- 1. 9. 2008 – 1. 1. 2013 Research & Development Worker at the Field Live Chemical Training and Testing Facility in Vyškov /VOP-026 Šternberk, s.p./VTÚO Brno
- 1. 1. 2013 – up to now Live Agent Training Co-ordinator at the Field Live Chemical Training and Testing Facility in Vyškov/Military Research Institute in Brno



## Speakers:



**Mr. Goncalo Simoes**

Counter Terrorism – CBRN and Explosives, EUROPOL

Mr. Gonçalo Simões is a police officer. In 2003 he completed the specialization as bomb technician at Portuguese Police EOD/IED Unit (PSP - CIESSS), and until 2010 gained experience as instructor in several EOD/IED courses, as well as Portuguese representative at national and international working groups, seminars and conferences. He has held positions such as Head of the Police Station, Head of EOD/IED Unit, Head of Police Division, and Professor at Portuguese Police School and at Portuguese Police Academy. Since March 2013 he joined Europol as Coordinator of the CBRN and Explosives Team.



**BG Maria R. Gervais**

Commandant CBRND School, USA

Brigadier General Maria R. Gervais received her commission as a Chemical Officer through the ROTC program at Lander College in Greenwood, South Carolina in 1987. From May 2010-June 2011, she served as the Chief of Staff for the Iraq Train and Advise Mission (ITAM) Director where she was responsible for building force capability for the Ministry of Interior and Police Forces. Prior to her arrival to serve as the Deputy Commander for US Army Cadet Command, Maria served as the Division Chief for Full Dimension Protection, HQDA G-8, Pentagon from July 2011-May 2013. In this position, she was responsible for the modernization strategy for Engineer, CBRN, MP, Explosive Ordnance Disposal, Civil Affairs / Military Information Operations, base defense, and non-lethal requirements.






**Mr. Irakli Beridze**

Senior Strategy and Policy Adviser, CBRN Risk Mitigation and Security Governance Programme,  
 United Nations Interregional Crime and Justice Institute (UNICRI), UN



Mr. Irakli Beridze is a Senior Strategy and Policy Adviser at the United Nations Interregional Crime and Justice Research Institute (UNICRI), previously serving as a Programme Coordinator of the UNICRI's CBRN Risk Mitigation and Security Governance Programme.

He has been a member of various international task forces and working groups, such as United Nations Counter-terrorism Implementation Task Force, and frequently participates in international, regional and sub-regional conferences and meetings related to the issues of international security, CBRN, non-proliferation, disarmament and counter-terrorism.

In 2013 Mr. Beridze received a recognition on the occasion of the awarding of the Nobel Peace Prize to the Organisation for the Prohibition of Chemical Weapons.


**LTC Stephan Jacobsen**

WMD Non-Proliferation Centre, NATO HQ



Lieutenant Colonel Stephan "Steve" Jacobsen is Military Advisor at NATO's Weapons of Mass Destruction Non-Proliferation Centre, a political office at NATO's Headquarters in Brussels, Belgium. He began his military career in 1987 as a specialised CBRN Defence soldier, served as Platoon and Company Commander of a CBRN Defence Company, Instructor at the German CBRN Defence School as well as a CBRN Advisor of the Bundeswehr Joint Support Command. He successfully participated in the U.S. Captain Career Course in Fort McClellan, Alabama, and the Staff Officer Career Courses at the German Armed Forces Staff College. As Company Commander during the SFOR mission in the Balkans (2001), Base Commander during the EU Congo mission in Gabon, Africa (2006) and Chief Force Protection during ISAF in Afghanistan (2012) he gained the specific necessary experience for his current work. He joined NATO Headquarters' International Staff in April 2013.


**LTC David Cooper**

NATO JCBRN Centre of Excellence, NATO  
 Chief of NATO CBRN Reach Back



David enlisted into the British Army in 1979 as an officer in The Parachute Regiment. He joined the JCBRN Defence COE in 2010 after many years of service in different countries. His rather dubious MSc was obtained courtesy of the University of Madras.

David is due to retire in January to his farm in Poland at which point the British Army will breathe a huge sigh of relief.


**COL Rainer Schulte**

Deputy Director NATO JCBRN Defence Centre of Excellence, NATO



01.07.2011 – 20.10.2013 JCBRN Defence COE, Director Transformation Support department (TSD), Vyskov, Czech Republic

19.06.2012 Promotion to COLONEL

20.11.2013 – dato JCBRN Defence COE, Assignment as Deputy Director & EU-Rep. Vyskov, Czech Republic


**Mrs. Laura Cochrane, MSc.**

Director of Scientific Operations and Technical Support/ Emergent BioSolutions, USA Management, USA



Laura currently works for Emergent BioSolutions as the Director of Scientific Operations and Technical Support for the Healthcare Protective Products Group. Laura received her degree in Chemical and Materials engineering from the Royal Military College of Canada, and after service in the Air Force, spent several years working in Chemistry and Chemical Engineering Research programs. She later transferred her knowledge base on surface chemistry and applications to the CBRNE market place whereby she has now spent the last 15 years specifically in chemical, biological and radiological threat remediation in Engineering and Research projects with Military, First Responder and Governments around the globe.


**Assoc. Prof. Jozef Sabol, MSc., D.Sc.**

The Police Academy of the Czech Republic/Department of Crisis Management, CZE



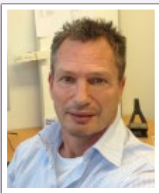
At present, Mr J Sabol is a staff member of the Department of Crisis Management at the Police Academy of the Czech Republic in Prague where he is mainly engaged in lecturing on introduction to natural sciences, dangerous substances and industrial accidents and protection against CBRN agents and weapons with special emphasis on radiological terrorism. He participates in research carried out at the Police Academy focusing on the population protection and is also involved in some projects under various EU programmes addressing CBRN related fields.


**Mr. Andrew Johnston**

International Outreach Manager and Senior Scientific Consultant, GBR



Senior Scientific Consultant, leads our independent explosives and chemical detector testing service in partnership with the UK Defense Academy/Cranfield University. Utilising scientific expertise and facilities from both Falcon and Cranfield our detector testing service delivers an unrivalled independent testing service. Andrew has certified and assisted in the development of a number of detectors since the testing service began. Andrew specialises in post-blast sampling techniques and has worked closely with CBRNE end users, looking specifically at how they use detection equipment. Andrew comes to us from Shrivenham where he completed his MSc in Forensic Explosives and Explosive Engineering. Prior to that, he was a clinical neurophysiologist and has an undergraduate degree in neuro-biochemistry.


**Dr. Ruud W. Busker**

TNO, CBRN Programme Manager, NLD



Dr. Ruud W. Busker became in 2008 rapporteur and in 2009 leader of the CBRN working group within in the European Security Research and Innovation Forum (ESRIF). In 2010 he was appointed as member of the EU Security Advisory Group. He has worked in a number of EU projects on CBRN protection such as IMPACT (leader on chemical detection). As of 2010 he is governmental expert of the NL delegation within the EDA CapTech ESM04 on CBRN. He is the NL representative in a number of international CBRN R & D collaborative groups such as the trilateral collaboration between UK/NO/NL and between CAN/SWE/NL. He is leader of one of the NL CBRN identification teams.


**MAJ Adam Modd**

Officer Commanding 1st New Zealand EOD Squadron/1st SAS Regiment, NZL



Over the course of Maj Adam John Modd's 25 year career in Counter Terrorism he has worked in the following areas: Special Forces Operations, Multi National EOD / IEDD / CBR high threat Operations, Threat and Risk Assessment, EOD / IEDD / C-IED CBRN Training, Counter Terrorist IEDD protective Security, Multi-National Agency Liaison, Technical Terrorist Evaluation, Forensic and Biometric Analysis, Weapons Intelligence, and IEDD / EOD / CBRN equipment Development and Procurement.

Trained originally in the UK Mod as an EOD / IEDD / CBRN / Ammunition specialist, he has operated as a Bomb Technician on multiple operational tours in UK, Northern Ireland, Hong Kong, Bosnia, Kosovo, Rwanda, Iraq, Afghanistan, and is now serving in the New Zealand Defence Force.

On additional operations in Afghanistan and Iraq from 2002 to 2007 Maj Modd held the role of deputy commander of the Combined Explosive Exploitation (CEXC) cells in Baghdad Iraq, and Bagram Afghanistan coordinating all technical exploitation activities and commanding post blast investigations. In addition he has been involved in Counter Terrorism development working with various International Governments and Military agencies to determine current and future terrorist threat patterns.

Maj Modd was awarded the George Medal (GM) from Queen Elizabeth II in 2002 for gallantry on IEDD operations and has also received two FBI commendations and the US Army ACOM medal.

Maj Modd's most recent operational tour was in Afghanistan in 2011 with Special Operations and he is currently the Officer Commanding of 1st New Zealand Explosive Ordnance Disposal Squadron which is responsible for New Zealand's complete Domestic, Deployed and Special Operations EOD, IEDD, and CBRNE capabilities.


**LTC Per-Inge Ohrstrand**

NOR CBRN Def School, NOR



Lt Col Ohrstrand has served in the Engineer Corps as CBRN-plt Cdr, Engr Plt Cdr, Company Cdr, instructor at the CBRN-school, Staff officer, Commandant of the Engr School and Acting Inspector of Engineers. He has done the Junior and Senior Staff Courses at the Norwegian Defence Command and Staff College, and has participated in various CBRN-specific courses abroad. Since 2007 he has served as the Commandant of the Norwegian CBRN- and Environmental Protection School and executes through this function the role as Co-ordinating authority for CBRN-Defence and Environmental Protection within the Norwegian Armed Forces.



**Mr. John Saunders, BA (Hons.)**

Argon Electronics (UK) Ltd, GBR



BID AND PRODUCT MANAGER, ARGON ELECTRONICS (UK) LTD

John graduated in 1987 with a degree in history, politics and religion, and a dissertation in terrorism and technology. He lived overseas until 1991, and has spent the last two decades in the specialised respiratory protection and CBRN defence markets, where he has experience of working in over 40 countries.

John joined Argon in October 2005 as the Sales and Marketing Manager, where he was responsible for the sales of detection instrument simulation training systems. He became the Bid and Product Manager at Argon in October 2012.



**Assoc. Prof. Petr Sladek, MSc., Ph.D.**

Technical Director of Pico Envirotec Inc. Canada + (ENVINET, a.s.), CAN



Petr Sladek graduated in specialization of NBC on Military University of Czech Rep. in 1985. He finished the Ph.D. theses focused to radiochemistry in 1992 and in 2006 he was habilitated on NBC Defence Institute of University of Defence, Czech Rep. in science of Nuclear and Radiation Protection.

In years of 1986-2003 he served in academic positions of Department of Special Chemistry and Dosimetry and from 2004 he held a position of director of Department of Radiation Protection on University of Defence.

He was a leader of many scientific and R & D projects oriented to radiochemistry, dosimetry and analyse of radiological agents in CZ and EU. He is author of more than hundred scientific and research papers. He was also a member of CZ Army special teams and NATO CBRN Group in area of nuclear and radiation protection as well as academic scientific comities.

Since 2011 he has been a general manager and then a technical director of Pico Envirotec Inc. Canada. He currently specializes in development of airborne and mobile gamma spectrometry technology and special detection for environmental and homeland security applications.



**BG Odd-Harald Hagen**

Chairman of the NATO Army Armaments Group (NAAG) (AC/225), NATO



Brigadier General  
Norwegian Ministry of Defense  
November 2013 – Present (1 year) Oslo

Deputy Director General (2IC), Department of Management and Financial Governance. Main areas off responsibility: 1) Prepare annual defense budgets, 2) Plan and develop the Armed Forces' activities, organisation and structure in accordance with the long term plan and 3) Management and financial governance of the Armed Forces and the Defence Estates Agency

Chairman of the NATO Army Armaments Group,  
NATO Headquarter, Brussels  
November 2013 – Present (1 year)

The NATO Army Armaments Group (NAAG) is responsible for Land and Joint Armaments Cooperation to support and contribute to NATO Capabilities, in particular the Materiel and Interoperability Lines of Capability Development, while supporting and being supported by the other Lines of Capability Development, i.e. Doctrine, Organization, Training, Leadership, Personnel and Facilities (DOTMLPFI).

The NAAG seeks to create synergy among the procurement, research and technology, and industrial communities.



**Dr. Bülent Tüdes**

ProgrammeManager, LB General and Cooperative Services Programme, NATO Support Agency, NATO



Dr. Bülent TÜDES served 27 years in Turkish Air Force, mostly as a Professeur in Air Force Academy and also research and development programs. After his retirement; since 1999, he has been working as the General and Cooperative Services Programme Manager at NSPA. He is specialized in operational and multinational logistics, environmental and energy security, and project management. His responsibility areas are the ammunition procurement/demilitarization, naval worldwide support, disposal activities, procurement of deployable camps, procurement of dismounted soldier systems, night vision systems and medical items, and also special projects.



**Mr. David Sparks**

Group Head – Planning & Reporting Services/NATO Communications and Information Agency, NATO



Mr David Sparks joined NATO in 1989, after 10 years in the UK defence industry. He has worked on many systems engineering studies in the area of NATO command and control (C2) and interoperability requirements, in particular related to air and missile defence. He is currently Group Head for C2 Planning & Reporting Services within NCIA.




**Mr. Konstantin Volchek, Ph.D.**

Head of Environmental Restoration, Environment Canada/Water Science and Technology/EOLARS, CAN



Dr. Konstantin Volchek is the Head of the Environmental Restoration Unit at the Canadian Department of the Environment. Based in Ottawa, Ontario he leads cleanup technology development, evaluation and demonstration. His work focus areas include emergency response to chemical and radiological incidents, treatment of recalcitrant toxic chemicals, and energy and the environment.


**Prof. Mats Strömqvist, Ph.D.**

Head of Division of CBRN Defence and Security/ FOI, SWE



Dr. Mats Strömqvist is since March 2012 Head of Division, CBRN Defense and Security at the Swedish Defense Research Agency. Before entering defense research, Dr Strömqvist had more than 20 years background from leading positions in the Biotech- and Pharma industry. In 2001 he was recruited to Arexis AB, as the Director of Protein Biochemistry. 2005 he joined Biovitrum as senior scientific advisor. In 2007, he started up as Managing Director of Biotera AB, a consultancy business for pharmaceutical development, and in November 2008 he accepted the position as Chief Executive Officer of Omnio Healer AB.


**Mr. Tobias Wallin**

SAAB, BA Security and Defence Solutions, SWE



- 14 years of business analysis and system design of distributed command and control systems
- Project and programme manager for midsize projects (~10 MEUR)
- Senior sales director responsible for Land combat system solutions, include Automatic Warning and Reporting solutions for CBRN events
- Project Management Professional, PMP®


**Dr. Josef Brinek, L.H.D., Ph.D.**

National Institute for NBC Protection, CZE



Dr. Josef Brinek – PhD in Inorganic Chemistry (1998). In 1997 he joined National Institute for NBC Protection (SUJCHBO), became head of laboratory (2002), and head of chemical department (2003) where he covers general analyses of toxic substances, testing and evaluation of individual and collective protective equipment against such agents, research and development in this sphere. In 2004 he became project manager of national CBRN programme within SUJCHBO and in 2013 deputy director for international cooperation. He is currently program manager of the SUJCHBO's principal running CZ Mol research program on civil protection against CBRN.


**Mr. Pavel Castulik, MSc., Ph.D.**

Research Centre for Toxic Compounds in the Environment, Masaryk University, Faculty of Science, CZE



Pavel Častulík is native of Brno in South Moravia, Czech Republic, is by formal education chemical technology engineer with specialization on protection and defense against WMD/NBC/CBRNE. Following graduation from the University of Defense in Brno, he was commissioned as the Commander of the NBC Defense Battalion following the post of division's NBC Service Officer. After completing postgraduate study program CSc (PhD) in chemistry (Thesis on Functionalized polymers for catalytic decomposition of CWA) he continued working for the MoD in the area of R & D for NBC defense and protection.


**Mr. Sebastian Meyer-Plath**

Managing Director, Bruker Daltonik, GmbH., DEU



Sebastian Meyer-Plath is the President of the Bruker Detection Division and as such responsible for sales, marketing, strategy, R & D and operations of the Division worldwide.

After graduating in Microbiology at the University of Bonn, Sebastian joined Bruker in Bremen and held various positions as a Product Manager and Head of Military Sales. After a term with the German Bio Start-Up Advalytix GmbH in Munich, Sebastian joined Smiths Detection in Watford as the VP Sales & Marketing.

Sebastian currently holds the rank of Lieutenant Colonel in the CBRN Defence Corps of the German Army as a reserve officer.



**COL Clovis Eduardo Godoy Ilha**

Project manager for Restructuring the Brazilian Army CBRN Defence System, BRA



ACADEMIC INFORMATION

a. Main Courses

- Brazilian Army Military Academy, 1983 to 1986
- Chemical Engineering, Brazilian Army Military Engineering Institute, 1989 to 1993
- Master Science on Chemical Engineering, University of Pernambuco, 1994 to 1996
- Doctorate on Chemistry, University of Brasília, 2001 to 2004
- Direction Course for Military Engineers, Brazilian Army General Staff School, 2004
- Course of Political and Strategic Studies, National Academy of Political and Strategic Studies, Santiago de Chile, 2011

b. Courses on CBRN Defence

- Chemical Support Training Course, Sweden, 2000
- Multinational Senior Officers Orientation Course on German NBC Defense Policy, Germany, 2013

PROFESSIONAL INFORMATION

a. Main Professional Experiences

- 1) Chemical Weapons Inspector of UN Special Commission for Iraq, UNSCON, 1998
- 2) Member of Brazilian National Technical Commission of Biossecurity, 2005 to 2007
- 3) Director of General Camara War Arsenal, 2007 to 2009
- 4) Chief of the Brazilian Army Center of Image and Geographical Information, 2009 to 2010

b. Present Functions

- 1) Chief of the Section for Mobilization and Catalogation of Brazilian Army's Staff Major
- 2) Supervisor of the Project for Restructuring the Brazilian Army CBRN Defence System.



**Mrs. Lanka De Silva**

Vice President, SIGZEEN TEXTILE INC, CAN



Lanka De Silva has been involved in the CBRN "Personal Safety of First Responders" project, from 2008. When the Government of Canada announced the overall framework to enhance the country's readiness for CBRN incidents, she recognized that it is critically important to distinctively identify first responders in the event of an incident. As a result, she introduced the specific colour-coded identification method for Police Services during the Vancouver Winter Olympics 2010, and it was well received. Thereafter, she was presenting, promoting, negotiating and attending various events to understand how critical it is that first responders are differentiated from the general public, when such incidents occur. In 2012, she started a national campaign about the project, and presently, various police, medical, fire and rescue and the Canada Border Services use this method, including police services in USA.

# OPEN NATO CBRN WORKSHOP PROGRAMME

**16 October 2014, Thursday**

**08:30 - 09:15 Registration**

**09:30 - 09:40 Chairman's Welcome and Opening Remarks**

*Mr. Radomir Mikes, MSc. – OPEN NATO CBRN Workshop Chairman, CZE*

**Session A:**

**Future Threats and Security Policy Aspects / CBRND Capabilities and International Projects**

Moderated by: Mr. Pavel Castulik, MSc. Ph.D. / Mr. Radomir Mikes, MSc., CZE

**09:40 - 09:55 EU Terrorism Situation and Trends**

*Mr. Gonçalo Simões – Counter Terrorism – CBRN and Explosives, EUROPOL*

**Abstract:**

...is one of the EUROPOL's most strategic analysis products. It offers law enforcement officials, policymakers and the general public facts and figures regarding terrorism in the EU while, at the same time, seeking to identify developing trends in this phenomenon. The TE-SAT is a public document produced annually and it's based on information provided and verified by the competent authorities of the EU Member States.

**09:55 - 10:10 US JCBRN School's view on the trends and future challenges in CBRND**

*BG Maria R. Gervais – Commandant CBRND School, USA*

**10:10 - 10:25 UNICRI's CBRN Risk Mitigation and Security Governance approach- meeting the challenges of international security**

*Mr. Irakli Beridze – Senior Strategy and Policy Adviser, CBRN Risk Mitigation and Security Governance Programme, United Nations Inter-regional Crime and Justice Institute (UNICRI), UN*

**Abstract:**

An effective strategy to mitigate CBRN risks of criminal, accidental or natural origin requires a very high level of co-operation and co-ordination both between different national agencies as well as among Countries and International and Regional Organisations. UNICRI developed an integrated CBRN approach that incorporates all international, regional and national CBRN components into a common strategy. This entails the application of a holistic approach through which all stakeholders, while operating autonomously, can establish common goals. This approach also helps to identify and manage resources to achieve these goals, clearly allocate responsibilities and tasks, elaborate functioning channels of communication, create a security culture based on common learning, and ensure that lessons learnt are incorporated and absorbed throughout the whole system. An excellent example of such a holistic approach is the European Union CBRN Centres of Excellence risk mitigation initiative (EU CBRN CoE), implemented and funded by the European Commission in cooperation with UNICRI.

The initiative is putting in place a framework providing for cooperation and coordination between all levels of government and international partners. The initiative aims to facilitate regional cooperation in order to enhance CBRN capabilities. The EU CBRN CoE network is currently present in more than 50 partner countries across the globe, grouped around eight Regions. The establishment of regional Centres of Excellence is a cornerstone of these activities: they offer a coherent and comprehensive approach covering legal, regulatory, enforcement and technical issues.

Now UNICRI seeks to transfer accumulated experience and best practices by launching several new CBRN risk mitigation initiatives, built upon the results, and an as follow-up to ongoing projects with the aim to engage security experts, policy makers, scientists and business managers to identify new challenges and set out frameworks for tackling them. We will also be applying our methodology to other international security cooperation related fields such as the those involving biosafety and biosecurity, advances in biotechnology, creation of common methodologies in intelligence sharing, Cybersecurity, security implications on analysing the Big Data, as well as issues related to lethal autonomous robotics.

**10:25 - 10:40 NATO's Political View on CBRN Defence**

*LTC Stephan Jacobsen – WMD Non-Proliferation Centre, NATO HQ*

**Abstract:**

Civil support to military operations and military support to consequence management operations have played a growing role within NATO during the recent past. While military forces focus primarily on capabilities and measures to protect deployed forces against the use of WMD rather than preventing proliferation, new policies demand a 'comprehensive three pillars approach' including outreach to, and cooperation with, partners on WMD arms control, disarmament and non-proliferation issues. To efficaciously bridge the CBRN Defence gap between today and tomorrow, we should overcome the logic of civil and/or military separate compartments. The current transformation process identified civil-military shortfalls and consequently searches for adaptive and/or creative interoperable solutions to countering the evolution of CBRN threats. Integrated operational-technical convergence will be the key and the transition phase has already started.

Military capabilities have been the main focus of past NATO efforts to counter CBRN threats. Today we face new dimensions of the threat as the possible use of WMD and CBRN materials by terrorists, as well as CBRN incidents generated by Toxic Industrial Hazards (TIHs) or by natural disasters, make civilian populations and infrastructures the "real target" of such attacks and today they indeed represent the most vulnerable element of the modern security environment. In this perspective, risk, hazard and vulnerability assessments can no longer be focused on the military perspective (Force Protection). The consideration of military aspects alone will not lead to success in the conduct of operations. Therefore today a consistent and coherent CBRN Defence posture able to defend territories and populations along with military forces has to be identified.

NATO will continue assisting Allies with the development of specialised CBRN defence capabilities through training, advice, experimentation and concept development, and by considering ways to resolve funding issues. CBRN Smart Defence initiatives such as 'regional grouping of CBRN capabilities' and NATO's new Framework Nation Concept shall ensure that the development of capabilities remains commensurate with the Alliance's strategic and political ambitions and the evolving security environment. NATO's role is evolving into a facilitator, or "clearing house," tailoring mechanisms for multinational projects, bringing industry into discussions from the earliest stages, and enhancing multilateral cooperation.



10:40 - 11:10 **Panel Discussion - part 1**

11:10 - 11:30 MORNING COFFEE BREAK

11:30 - 11:45 **CBRN Reach Back**

*LTC David Cooper, OBE, MSc. – NATO JCBRN Defence Centre of Excellence, NATO*

**Abstract:**

NATO CBRN Reach Back is defined as a process by which deployed forces may be provided with timely, coordinated, authoritative and detailed advice on CBRN and toxic industrial hazards and defensive countermeasures, drawing upon remote expert sources of information.

Within a wider CBRN Reach Back network the Reach Back capability based at the JCBRN Defence COE integrates and interfaces with experts from supported bodies and agencies, maintaining liaison with other military authorities as required. Experts from the COE and the wider network contribute information, assessments and advice according to the guidance and direction of the chief, Lt Col Cooper.

The briefing will provide an overview of the current structure, tasks and capabilities of NATO CBRN Reach Back and will also inform on how the programme is developing.

11:45 - 12:00 **Information Knowledge Management – CBRN Knowledge Base**

*COL Rainer Schulte – Deputy Director NATO JCBRN Defence Centre of Excellence, NATO*

**Abstract:**

The upcoming Final Operation Capability (FOC) of the NATO CBRN Reach Back within the JCBRN Defense COE, the growing NATO demands to support operations and the NATO Defense Planning Process (NDPP), the started work on the newly released NATO CBRN Capstone Document and several other upcoming new topics with crucial relevance to NATO, e.g. CBRN Department Head, has led the leadership of the JCBRN Defence COE to initiate the establishment of an internal IKM system.

This IKM-System will be applied by all JCBRN Defence COE organizational elements and individuals. Main effort is currently the support of reaching FOC of the NATO Reach Back.

Effective IKM allows the JCBRN Defence COE to exploit corporate and individual knowledge. IKM is a multi-disciplined approach required to achieve the JCBRN Defence COE missions and objectives by making the best use of information, knowledge, expertise, insights, lessons learned and best practices.

The backbone of this IKM-System is the so called CBRN Knowledge Base. In general terms that means the following:

A knowledge base (KB) is a computer system based tool-suite used to store complex structured and unstructured information and knowledge and allow new exploitation possibilities for the users on that stored knowledge. In addition a KB utilizes organization oriented business rules and other forms of logic to deduce new facts or highlight inconsistencies.

The JCBRN Defense COE KB is a semantic and ontology based expert system, ensuring a much better mission accomplishment!

More insights, including exchange of experiences through the IKM/KB –TEAM, will be made available to the participants of this presentation.

12:00 - 12:15 **Digital Imagery Method Comparative Research On Skin Decontaminants**

*Mrs. Laura Cochrane, MSc. – Director of Scientific Operations and Technical Support/ Emergent BioSolutions, USA Management, USA*



**Abstract:**

**Introduction:**

Emergent BioSolutions (EBSI) will present innovative approaches to using Advanced Digital Imagery and Laser Diffraction Analysis to study skin decontaminants and generate a greater understanding of the functional relevance of mode of action differences between accepted skin decontamination technologies. Digital imagery is used to show a step-by-step visual comparison of skin decontamination by two types of decontaminants (RSDL® decontaminant and Fuller's Earth powders), both currently in wide use for chemical warfare decontamination applications. Additional evaluation of particle size distribution performed on powder-based skin decontaminants using laser diffraction is also revealed.

**Method:**

Developments in digital imagery technology (combining upgraded photographic and data processing capabilities) allow visualization of the decontamination process on the skin surface; methodology heretofore unavailable for laboratory testing. A consecutive sequence of images was taken to monitor the progression of the decontamination process on a synthetic skin surface after exposure to contaminants (sulfuric acid and commercial malathion) containing a visual pH indicator. The contaminants chosen for testing demonstrated the effects of different physical property characteristics and behavior pattern on skin surface, and allowed for the addition of colour indicator to monitor efficacy behavior. Note that the RSDL decontaminant is currently not fully licensed for use with Sulfuric Acid.

**Results:**

The images presented will depict a visual comparison of skin decontamination using chemical neutralization versus physical adsorption and provide an ability to visualize the decontamination process on the skin surface, and reveal differences in RSDL decontamination characteristics of and powder decontamination.

**Discussion:**

The digital imagery method was created to generate greater understanding of the functional relevance of mode of action differences between accepted skin decontamination methods both in chemical interaction with toxins and procedural usage steps.

Developing protocols using this new test method would allow refinement of current safety or operational procedures (military field applications, emergency response and medical) to optimize effective use of decontamination technologies.

To conclude, an outreach request for further efforts and sharing of data in the area of CBRN research is presented.

12:15 - 12:45 **Panel Discussion – part 2**

12:45 - 13:45 LUNCH & NETWORKING

**Session A: (Cont'd)**
**Future Threats and Security Policy Aspects / CBRND Capabilities and International Projects**

Moderated by: Mr. Pavel Castulik, MSc. Ph.D. / Mr. Radomir Mikes, MSc., CZE

**13:45 - 14:00 Communicating the CBRN threats to members of the general public (in order to mitigate the impact of any emergencies associated with the CBRN attack or sabotage)**
*Assoc. Prof. Jozef Sabol, MSc., D.Sc. – The Police Academy of the Czech Republic/Department of Crisis Management, CZE*
**Abstract:**

Detection, Identification and Monitoring (DIM): The effectiveness of the protection against CBRN agents or weapons using one or more of these dangerous substances depends very much on the early observation or detection of the CBRN presence, identification and monitoring (DIM). This means to rapidly discover, characterize and measure the CBRN substances; the identification of associated hazards; and the tracking of changes over time.

Modern Instruments and Monitors: Modern instruments and monitors have the capability to register even small amounts (concentrations) of CBRN substances, and in most cases can also identify their types. Advances in key detectors (such as Point Detectors, Stand-off detectors and Remote detectors) has enabled DIM equipment and processes to detect and analyse a range of chemicals found in different forms or states that present a variety of different hazards. Nevertheless, these variations still present challenges that affect operational decisions of CBRN risks.

Warning Indicators – CBRN Presence: In situations where there are no such measuring devices accessible, one can rely on indicators via observations of the surrounding area to recognise a CBRN presence. This paper deals with some simple approaches based on close observation of people or animals in the immediate environment including signals that which may relieve the presence CBRN.

Some signs which serve as warning indicators of a CBRN attack may include:

**Epidemiological features**

a) An abrupt spike in the rate of people dying in an area, or from unknown and strange causes (with flu-like symptoms, fever, sore throats, skin rash, mental abnormalities, pneumonia, diarrhoea, dysentery, haemorrhaging, jaundice); b) Visibly large numbers of people in an area complaining of blisters/rashes, nausea, disorientation, difficulty in breathing, convulsions, localized sweating, conjunctivitis (reddening of the eyes), erythema (reddening of the skin), or any irregular symptoms (inconsistent with natural disease reported or confirmed by public health agencies); c) The presence of specific chemicals may result in such symptoms as runny nose, dizziness, loss of consciousness, seizures pinpoint pupils and reduced vision, redness or irritation of eyes and skin, coughing and/or choking, shortness of breath or tightening of the chest, nausea and vomiting (some of them could also be attributed to high radiation doses of exposed persons) etc.

**Animal indicators**

a) Unusual numbers of sick or dying birds or fish and other animals; b) Absence of insect life where it should normally be seen; c) Unusual swarms of insects.

**Devices**

a) Unusual appearance of any liquid droplets, particularly where we do not expect them; b) Abandoned aerosol sprayers and other suspicious equipment or devices in the area of sick people; c) Detonations seemingly causing very little damage or which release an unusual amount of smoke, or leave fragments covered with liquid or droplets falling on the ground or on exposed surfaces; d) Unidentified, low-flying aircraft--particularly crop dusters--over a populated area; e) Suspicious munitions, devices or packages (boxes with wiring, compressed air cylinders with tubing, containers with powders, liquids or aerosols, etc.); f) Oily film or unusual powdery or gel-like substances on exposed surfaces.

**Environmental**

a) Information from people reporting unusual odours, smell or tastes (e.g. smell of bitter almonds, peach kernels, mown hay, cut grass); b) Smoke of strange colour coming from the area of a detonation; c) Mists or hazes in urban area appearing unexpected; d) Sudden or unexplained appearance of low-lying clouds or fog not related to weather, clouds of dust or of suspended, possibly coloured, particles.

**14:15 - 14:30 IFREACT EU FP7 Project**
*Mr. Andrew Johnston - International Outreach Manager and Senior Scientific Consultant, GBR*
**14:30 - 15:00 Panel Discussion**
**15:00 - 15:30 AFTERNOON COFFEE BREAK**
**15:30 - 15:45 NLD Approach to CBRN Protection**
*Dr. Ruud W. Busker – TNO, CBRN Programme Manager, NLD*
**Abstract:**

The threat coming from application of CBRN weapons is characterized by a very low incidence and high potential impact, which together provides a significant risk. This threat is highly dynamic, ranges from large scale state-to-state to small scale insurgency and is extremely unpredictable. This implies that governments need a level of preparedness, both in civil as in military settings. However, exactly how high this level must be, depends on many factors. Factors that are closely related to military operations, such as where, how, against whom, which kind of missions take place with which equipment, are within the sphere of influence of the defence organizations governments themselves.

That is where they can decide to require specific resilience toward CBRN threats. NATO recently endorsed a new CBRN Defence concept (MC 0603/1) involving defending against CBRN threats (protection and recovery), but also preventing them. The consequences of this high level decision still need to become clear. Capability development will have to take place for new concepts specifically dealing with prevention of CBRN incidents.

It will require dedicated research to define, scope, design, develop and implement such capabilities as disablement, deterrence, counter proliferation and (forensic) investigation. The NLD approach in this aspect will be presented.

**15:45 - 16:00 New Zealand CBRND Capability**  
*MAJ Adam Modd – Officer Commanding 1<sup>st</sup> New Zealand EOD Squadron/1<sup>st</sup> SAS Regiment, NZL*

**16:00 - 16:15 CBRND Dilemmas of a Small Nation**  
*LTC Per-Inge Ohrstrand – NOR CBRN Def School, NOR*

**16:15 - 16:30 Best Practice in the Use of Simulation for CBRN Training in NATO**  
*Mr. John Saunders, BA (Hons.) - Argon Electronics (UK) Ltd, GBR*

**ARGON** | World leaders in CBRN/  
 HazMat training systems

**Abstract:**

Argon's chemical and radiological simulation training systems are the first choice of many CBRN professionals and centres of excellence worldwide. Within NATO and its partners the recent adoption of Argon's advanced training platform by a growing number of the leading authorities in CBRN response has demonstrated increasing recognition of the means to cost effectively augment national capabilities in this arena. This workshop presentation will provide delegates with insight into the use of Argon simulation systems as a complementary multiplier to LAT and significant enhancement of detector training in its own right. Rapidly deployable into service and carrying a minimal cost of ownership, learn more about integrated multi-instrument CBRN exercises spanning the spectrum of individual to collective mission training.

**16:30 - 16:45 New Approach to Global Monitoring of the Radiological Situation; Industrial, Environmental & Emergency**  
*Assoc. Prof. Petr Sladek, MSc., Ph.D., -Technical Director of Pico Envirotec Inc. Canada + (ENVINET, a.s.)*



**Abstract:**

Radioactive materials are widely used in energy, heavy machinery and medicine production, science and many other areas. This results in a higher risk of dislocation of used radioactive materials even though that sophisticated procedures are used to control the movement of such materials. For that reason there is a need for a fast affordable service to resolve situation when the mishandling of radioactive materials happens either by an accident or malicious intent. This includes storage and transportation control, emergency response for detection search and recovery of radioactive materials. This type of actions require a global approach, adequate instrumentation, logistics and sophisticated, internationally interconnected processing power. It requires airborne, vehicle-based, portable, stationary (in-situ) detection and monitoring systems, field contamination sampling and laboratory analysis and identification.

Pico Envirotec Inc. (Canada) and ENVINET a.s. (Czech Republic) are subsidiaries of NUVIA Group, and involved in design, development and manufacturing of a wide range of the systems for radiological monitoring and evaluation.

Pico Envirotec Inc. is a worldwide leader in development of radiation detection systems for airborne, mobile and portable platforms. The company has developed airborne gamma-ray spectrometry systems that are highly effective for emergency response, providing quick and easy incident site access, fast coverage of large areas, effective localization of uncontrolled sources and preliminary analysis and identification of radionuclides. Modern vehicle based systems or portable instrumentation allow search areas to be recognized and contoured with high resolution. This innovation has been achieved with instruments, based on Android devices.

ENVINET a.s. developed a wide range of solutions for stationary and network monitoring tasks in recent years. The research project results have been applied in the development of new systems for monitoring of radioactive materials in transportation or for safe storage. The state-of-the-art stationary and mobile surveillance systems provide a novel approach and opportunity in radiation monitoring specialization. There are new permanent or temporary (mobile) monitoring stations developed for radiation monitoring networks as well as monitoring vehicles, mobile and stationary laboratories, radiation detection gates, etc.

The authors have participated in experiments and elaboration of radiation detection solutions strategy and improvement of detection with real-time reporting methods. Those strategies make the new approach possible for complex solutions to provide a global control of the radiological situations in a nuclear safety area, industry and environmental protection. Special attention has been focused on accidents and emergency situations. The new results and applications of research and development as well as new approaches are shown in the presentation.

**16:45 - 17:15 Panel Discussion**

**17:15 Chairman's Closing Remarks**  
*Mr. Radomir Mikes, MSc. – OPEN NATO CBRN Workshop Chairman, CZE*

**Friday 10/17/2014**

**08:30 - 09:15 Registration**

**09:30 - 09:40 Chairman's Welcome and Opening Remarks**  
*Mr. Radomir Mikes, MSc. – OPEN NATO CBRN Workshop Chairman, CZE*

**Session C:**  
**Research & Development/Industry**  
 Moderated by: Dr. Josef Brinek, L.H.D., Ph.D. / Mr. Pavel Castulik, MSc., Ph.D., CZE



**09:40 - 09:55 NATO's View on General Requirements for the Future CBRN Equipment and Technologies**  
*BG Odd-Harald Hagen - NATO NAAG Chairman, NATO*

**09:55 - 10:10 Chemical, Biological, Radiological and Nuclear (CBRN) Projects**  
*Dr. Bülent Tüdes – Programme Manager, LB General and Cooperative Services Programme, NATO Support Agency, NATO*

Abstract:

- Presentation title: Chemical, Biological, Radiological and Nuclear (CBRN) Projects
- NATO Support Agency CBRN Experience in NATO Trust Fund and Science for Peace Projects, NATO Capability Packages, Demilitarization, Dismantling and Disposal, NATO Logistics Stock Exchange and Random Brokerage Services

**10:10 - 10:25 NATO CBRN Functional Services Procurement Opportunity for Industry**  
*Dr. David Sparks – Group Head – Planning & Reporting Services/ NATO Communications and Information Agency, NATO*

**10:25 - 10:40 Rapid area mitigation following a nuclear/radiological event**  
*Mr. Konstantin Volchek, Ph.D. - Head of Environmental Restoration, Environment Canada/Water Science and Technology/EOALRS, CAN*

Abstract:

Mitigation is used to quickly reduce levels of radioactivity in the affected area and to help first responders accomplish their tasks safer and more effectively. Mitigation doesn't necessarily result in a thorough cleanup but it must be done as early as possible and using readily available equipment and materials. Environment Canada, US EPA and their partners have been developing a mitigation technology that employs a formulation capable of capturing and removing a number of radionuclides from contaminated materials. The formulation is applied as a foam or an aqueous solution using fire hoses. The runoff water is collected and treated onsite using low-cost adsorbents.

The presentation covers work to date including in-house studies and technology demonstration trials. It discusses the next trial scheduled for the summer of 2015 that will involve several mitigation approaches. Technology benefits, limitations and future development are presented and analyzed from both research and end-user's view points.

**10:40 - 11:10 Panel Discussion – part 1**

11:00 - 11:30 MORNING COFFEE BREAK

**11:30 - 11:45 Swedish Defense Research Agency CBRN R & D Challenges**  
*Prof. Mats Strömqvist, Ph.D. – Head of Division of CBRN Defence and Security/ FOI, SWE*

**11:45 - 12:00 Saab's CBRN Solutions**  
*Mr. Tobias Wallin- SAAB AB, BA Security and Defence Solutions, SWE*

Early warnings to units and personnel in the field are a key factor in limiting the effects of CBRN threats. With Saab's coherent and integrated CBRN solutions CBRN specialists and decision-makers will have efficient tools to detect and identify a wide range of threats and receive the support needed for providing fast and accurate early warning.

Saab's CBRN solutions

- CBRN Automatic Warning and Reporting System (AWR)
- CBRN Sampling Equipment
- CBRN Transport Packaging
- CBRN Training
- CBRN AWR - Automatic Warning and Reporting System



The system integrates Detection, Identification, Monitoring, Warning and Reporting and provides a consolidated threat picture to the operational forces. It can use virtually any type of sensor – meteorological, chemical, biological, radiological, positioning or video – from any manufacturer. It is based on a modular and open architecture that allows users to change sensor configuration over time in response to changing threats. It can be installed in headquarters, camps and vehicles as well as on hand-held computers.

**CBRN Sampling Equipment**

The CBRN Sampling Equipment is a man-portable case with a selected range of sampling equipment. It provides first responders with all the tools they need to conduct efficient, proper and secure field collection of all types of chemical, biological and radiological agents.

**CBRN Transport Packaging**

The transport packaging solution provides safe transportation of hazardous CBRN samples and toxic industrial chemicals. Saab CBRN Transport Packaging is approved for transportation by SP Technical Research Institute of Sweden to ADR, RID, IMDG, ICAO, IATA and UN regulations.

**CBRN Training**

Together with the Swedish Defense Research Agency (FOI) Saab has developed a simulation based on realistic CBRN-dispersion data generated by the FOI Dispersion Engine. It allows for real-time organized collection of large amounts of information from different sources – technical systems as well as personnel – to support After Action Reviews, evaluations and analysis.

As part of Saab's total CBRN commitment our offer also includes solutions for AWR training, field analysis, individual protection, decontamination and solutions for maritime CBRN operations. Together with our partners and subcontractors Saab can act as system integrator and service provider for several CBRN solutions.

Saab perform traditional tasks such as maintenance engineering, production of documentation, follow-ups and technical support services in connection with procurements, operation and phase-out of CBRN equipment. Saab also offers tailor-made system solutions including system integration and handling systems.

**12:00 - 12:15 Trial Evaluation of Chemical Improvised Explosive Device**

*Dr. Josef Brinek, L.H.D., Ph.D. - National Institute for NBC Protection and Pavel Castulik, MSc., Ph.D.*

*- Research Centre for Toxic Compounds in the Environment, Masaryk University, Faculty of Science*

**Abstract:**
**Background**

Intentional deployment of the chemical dispersal device is qualified by the Chemical Weapons Convention as the chemical weapon in accordance with general criterion definition. Much of chemical, biological and radiological agents (CBR) should be dissipated by an explosion and the victims can be affected also away from the detonation epicentrum. In order to understand behavior of dispersion liquid chemicals as a part of chemical fill in a chemical improvised explosive device (Chem-IED), trial initial evaluation of a Chem-IED in the interior space (hall) and at the open area had been exercised.

**Methods**

Different design modifications of the Chem-IED were used, filled with liquid thickened chemical simulant. Dispersion of chemical aerosol was monitored with photography, video recording in visual and infrared spectrum, with the chemical monitors and large size of the detection paper sheets. Stands with clothing simulated the victims were positioned around Chem-IED at the define distances and the level of contamination via evaporation of the simulant from the clothing was recorded.

**Preliminary results**

Explosive charge and its position in the Chem-IED were optimized. The patterns of chemical dispersion, local contamination and transfer of cross-contamination by the victims were assessed. Also special blast resistant litter bin had been evaluated for the mitigation of a Chem-IED, when exploded.

**Preliminary conclusions**

The category of non-conventional IEDs with the CBR agents represents realistically serious threats of creating a primary patho-physiological effects (morbidity, carcinogenetic and mortality), or secondary psychological effects (causing fear and behavior modification) on a larger population. Such devices may be fabricated in a completely improvised manner or may be an improvised modification to an existing weapon. Therefore further comprehensive R & D activities on the CBR-IEDs are recommended in order to improve the defense and protection against for the benefit of the first responders and general population

**Potential impact to mission/warfighter**

Previous milestone of the Aum Shinrikyo's chemical improvised device design (plastic poach and sharpened tip of an umbrella) had been overcome with the Syria's binary component approach to be filled into Chem-IED as a mode of more effective and concealed dispersion. Chem-IEDs represent higher level of risks to the community of responders in identification and mitigation of Chem-IEDs increases the vulnerability of population especially in closed spaces, which will require more expeditious and effective emergency medical countermeasures on-site and off-site at hospital's emergency care departments.

**Key Words**

Chemical improvised explosive device, Chem-IED, chemical dispersal device, chemical weapons, CBR, cross-contamination, blast resistant litter bin.

**12:15 - 12:30 Future Challenges in Changing CBRND Market**

*Mr. Sebastian Meyer-Plath - Managing Director, Bruker Daltonik, GmbH., DEU*

**Abstract:**

His talk starts with remembering the "golden" past of the CBRN threat situation and is then discussing the changes in the overall CBRN(E) Context from evolving Chemical, Biological, Radiological and Nuclear threats, resulting in resetting the focus and redefining roles for CBRN(E) detection. This, of course, results in changes to the marketplace representing new challenges both for industry and users of any detection technology.


**12:30 - 12:45 Experience in dealing with CBRN protection during the last football World Cup 2014 – Brazil**

*COL Clovis Eduardo Godoy Ilha – Project manager for Restructuring the Brazilian Army CBRN Defence System, BRA*

**Abstract:**

Brazil is a country of vast territory and large population. Its economy is among those countries of highest GDP, its geographical location puts it away from the main sources of tension in the world and its institutions are consolidated. Nevertheless, the country still suffers from serious social problems, which have been reduced, but at a slower pace than desired.

Recently, Brazil hosted the FIFA World Cup and two years from now it will host the Olympic Games. These two major events exacerbate the perception of the threat of terrorist attacks, especially those employing chemical, biological or radiological agents.

In this way, the Brazilian Army established a project to restructure its System of Chemical, Biological, Radiological and Nuclear Defence (SisDQBRNEx). This System, among other objectives, seeks to obtain the means for protection from Chemical, Biological, Radiological and Nuclear (CBRN) threats during the major events and to enable the Army to act properly in CBRN Defence in the broad spectrum of modern conflicts.

This presentation will show the concept of the SisDQBRNEx, the preparedness measures in CBRN Defence for major events and the experiences gathered in this field during the World Cup.

**12.45 : 13:00 Personal Safety for Emergency Personnel and Visual Communication Method in the event of CBRN Incidents**

*Mrs. Lanka De Silva – Vice President, SIGZEEN TEXTILE INC, CAN*

**Protect who Protect Us:**

Today, the world is facing unparalleled situations due to threats of chemical, biological, radiological nuclear events that can be caused by accidents or by terrorists. In order to response to such disasters, most of the nations are preparing effective plans that would strengthen each nation's preparedness capabilities. Under these "Strategy Plans" all governments recognize that it is important to develop personal protective equipment for first responders to be safe and effectively respond to CBRN incidents. To contribute to achieve personal safety of first responders, we specifically identified two specific areas that are critically needed to protect first responders in the event of CBRN incidents. This specific system has been tested, and well received. The two main areas are (a) Provide a visual communication method in the event of first responders communication equipment malfunctioning, and the inability to communicate due to disruption of power grids and telecommunication facilities. (B) Establish a national and international single identification system that each emergency personnel group be distinctively identified as first responders, and establish a safe working environment for them to assist the public effectively.

**13:00 - 13:30 Panel Discussion**
**13:30 Chairman's Closing Remarks**

*Mr. Radomir Mikes, MSc. – OPEN NATO CBRN Workshop Chairman, CZE*



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# UNMANNED SYSTEMS WORKSHOP

**16 – 17 OCTOBER 2014, PVA EXPO PRAGUE, CZECH REPUBLIC**

**ORGANISED AS THE PART OF FUTURE FORCES EXHIBITION & CONFERENCE 2014**

- **Specialised two-day accompanying event** for unmanned systems experts, industry leaders and R&D centres
- **Updates of the on-going and future deployment, acquisition plans, new technologies, legal aspects etc.**

The Unmanned Systems Workshop will also be the first in its field to tackle the current controversy over the technology head-on.

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**USW**

## Chairperson:



**LTC Jan Mazal, Ph.D.**  
 Unmanned Systems Workshop Chairman, CZE



Since 2005 he is a doctor in the field of the theory of the defence management of the State and since 2013 he is a associated professor in the problematic of military management and C4ISR systems. He currently works at the University of Defence in Brno as a senior researcher of the Department of Military Management and Tactics. In his previous military practice, he held command and staff functions at the tactical level and also he took part in the foreign missions as EUFOR (2006) and ISAF (2010).

## Speakers:



**BG Ladislav Jung**  
 Land Forces Deputy Commander, CZE



He is joint Forces Deputy Commander – Land Forces Commander. Mr. Jung was studying on Military Academy Brno – Commander's course, Defence University Brno – General Staff Course and Royal College of Defense Studies in London. He was director and deputy director in Force development division, Joint Forces Deputy Commander in Land forces and currently he is Deputy commander in Land Forces. He received Czech Armed Forces Service Medal 1 st Class, XX ribbon bar in 2013.



**Prof. Ronald C. Arkin**  
 Regents' Professor & Director of the Mobile Robot Laboratory, Associate Dean for Research & Space Planning, College of Computing, Georgia Institute of Technology, USA



Ronald C. Arkin is Regents' Professor and Associate Dean for Research in the College of Computing at Georgia Tech. He served as STINT visiting Professor at KTH in Stockholm, Sabbatical Chair at the Sony IDL in Tokyo, and in the Robotics and AI Group at LAAS/CNRS in Toulouse. Dr. Arkin's research interests include behavior-based control and action-oriented perception for mobile robots and UAVs, deliberative/reactive architectures, robot survivability, multiagent robotics, biorobotics, human-robot interaction, robot ethics, and learning in autonomous systems. Prof. Arkin served on the Board of Governors of the IEEE Society on Social Implications of Technology, the IEEE Robotics and Automation Society (RAS) AdCom, and is a founding co-chair of IEEE RAS Technical Committee on Robot Ethics. He is a Distinguished Lecturer for the IEEE Society on Social Implications of Technology and a Fellow of the IEEE.


**Mr. Noel Sharkey BA Ph.D. DSc. FRIN FRSA FBCS CITP FBCS**

 Emeritus Professor of Artificial Intelligence and Robotics; Professor of Public Engagement, University of Sheffield;  
 Chairman of the International Committee for Robot Arms Control, GBR


He has held a number of research and teaching positions in the UK (Essex, Exeter, Sheffield) and the USA (Yale, Stanford). At present Noel is mainly engaged in advocacy about the ethical, legal and technical aspects of military robotics. He travels the world to talk to the military, NATO, the UN, policy makers, academics and other groupings such as the International Committee of the Red Cross. He was Leverhulme Research Fellow on the ethical and technical appraisal of robots on the Battlefield (2010-2012) and is a co-founder and chairman elect of the NGO: International Committee for Robot Arms Control (ICRAC) and a principle spokesperson for a large international coalition of NGOs under the title of the Campaign to Stop Killer Robots.


**Mr. Paul Scharre**

Fellow and Project Director for the 20YY Warfare Initiative, Center for a New American Security, USA



From 2008-2013, Mr. Scharre Works in the Office of the Secretary of Defense (OSD) where he played a leading role in establishing policies on unmanned and autonomous systems and emerging weapons technologies. Mr. Scharre was involved in the rafting of policy Guyance in the 2012 Defense Strategic Guidance, 2010 Quadrennial Defense Review, and Secretary-level planning guidance. His most recent position was Special Assistant to the Under Secretary of Defense for Policy.


**Dr. Paul B. Losiewicz**

Quanterion Solutions Inc., USA



Quanterion Solutions Incorporated

He is from september 2012 till now Senior Scientific Adviser for the Defense Threat Reduction Information Analysis Center (DTRIAC) for DTRA and the Cyber Security and Information Systems Information Analysis Center (CSIAC) for the Defense Technical Information Center (DTIC).


**Prof. Dr.-Ing. Stefan Levedag**

Head of the Institute of Flight Systems, DEU



1986 Diploma in Mechanical Engineering, Technical University of Darmstadt, Ludwig-Bölkow-Award of DGLR  
 1986-1990 Scientific Assistant at the Institute of Flight Mechanics and Control System Technology, Technical University of Darmstadt  
 1990 Doctor of Engineering Sciences, dissertation on Flight Mechanics and Flight Control of innovative hybrid air ship concept  
 1990-2001 Professional industry career at Messerschmitt-Bölkow- Blohm GmbH, later Deutsche Aerospace, DaimlerChrysler Aerospace, now EADS  
 1992 - 1995 Different management positions in Flight Systems and project responsibility of EF-2000 flight control laws  
 1995 Head of center of excellence "Simulation and test facilities"  
 1995 German industry representative at inquiry board of Ariane 5-01 accident investigation in Paris, France  
 1997 Head of center of excellence and vice president "Flight Systems", representing all activities in Flight Guidance and Control, Flight Physics (e.g. Aerodynamics, Flight Mechanics), Simulation, Utility Systems  
 1998 In addition to previous position: Managing Director (repres. EADS) and chairman of joint venture between BAe, Marconi Avionics and EADS for development of EF-2000 flight control system  
 September 2001 Director of the Institute of Flight Systems of the German Aerospace Center and ordinarius at Technical University of Braunschweig  
 2004 Elected Member of the German Academy of Natural Scientists, Leopoldina, in Halle/Saale  
 2009 Member of the board and co-chairman of the Campus Forschungsflughafen (research cooperation establishment with Technical University Braunschweig)


**Mr. Giorgio Scappaticci**

Programme Manager; Air and Land Combat Systems, NATO



The logistic activities on rockets, missiles, UAS, GPS and combat vehicles for NATO countries and Partnership Nations.

The above activities include Depot Level Maintenance (industrial) and Supply of Spare Parts. Responsible of 125 NATO Staff Members working in the workshop/laboratories, administrators specialized in contract release and administration and in a Technical Dept (45 engineers) specialized in finding new and innovative solutions for high tech systems, mechanical and electronic, manufactured by major US and European companies.




**Prof. Vaclav Hlavac, Ph.D.**

Czech Technical University in Prague, CZE



Head of the Center for Machine Perception

Czech Technical University in Prague Faculty of Electrical Engineering, Department of Cybernetics and Czech Institute of Informatics, Cybernetics, and Robotics

Current Position: Professor of technical cybernetics, head of the Center Machine Perception

Research Interests: Computer vision, reconstruction of 3D scenes from 2D images, analysis of videosequences, cognitive systems, pattern recognition with emphasis to relation between statistical and structural methods, robotics, industrial and other applications of the above.

Current projects: Look at the web pages of the CMP research group I am responsible for.


**Prof. Agostino G. Bruzzone**

Project Leader M &amp; S, NATO Science &amp; Technology Organization, Centre for Maritime Research and Experimentation (CMRE), NATO



Project Leader M &amp; S at NATO Centre for Maritime Research and Experimentation

Expert in Modelling &amp; Simulation for Complex Systems with Applications in Logistics, Supply Chain Management, Business Processes, Port Terminal, Maritime Sector, Aerospace Industries, Power &amp; Process Plants, Military Sector, Training Systems.

Project Manager with Expertise in R &amp; D, IT and Consulting Projects.


**Prof. Michal Pechoucek, Ph.D.**

Czech Technical University in Prague, CZE



He is the head of the Agent Technology Center and the Deputy Chair for Research at the Department of Computer Science at CTU. Michal Pěchouček has been a Principal Investigator (PI) on more than 30 research contracts and grants provided by US Air Force, US Army CERDEC and Office for Naval Research. He served as the chairman of the board of directors of European Association for Multiagent Systems (EUMAS) and is a member of the board of directors of International Foundation of Autonomous Agents and Multiagent Systems (IFAAMAS).


**Mr. Christoph Sulzbachner**

Austrian Institute of Technology, AUT



Christoph Sulzbachner received his MSc degrees in 2006 and 2008. The focus of his university education was on hardware and software development for real-time systems and information management in general. He joined AIT Austrian Institute of Technology in 2008. Since 2012 he is certified as PMP. Since 2013, he is vice-chair R & D in the national UAV working group. He has experience in middle to large-scale projects as he is working and managing national and European-funded projects.


**Mr. Libor Preucil, Ph.D.**

Czech Technical University in Prague, CZE



He obtained his MEE in Control Engineering - Robotics in 1985, Ph.D. in Computer Vision and Medical Image Processing in 1993 both from the Czech Technical University in Prague (CTU). Currently, he is Assistant Professor in Robotics and AI at the Department of Cybernetics, CTU Prague. Since 1993 he founded Intelligent Mobile Robotics Laboratory (IMR) and later become Managing Researcher at the Gerstner Laboratory, CTU Prague. Recently, Libor Preucil co-founded Center for Advanced Field Robotics (CAFR) comprising main robotics research labs and industry in the Czech Republic.


**Mr. Martin Hill**

Chairman NATO Industry Advisory Group, NATO



He is currently Defence advisor, chairman of NATO Industrial Advisory Group (NIAG) and NATO and EU specialist. He has responsibility for sales and marketing UK and export (Far East, USA, Europe and NATO/EU), international business partnerships and business development in complex international environment. He is also Key Account Manager for Thales corporate managing high level and working level relations with NATO and EU for defence affairs (Representation for Thales units in eleven countries towards NATO and EU, sales multiplied by 100 in 5 years - and that is NOT 100%)


**Mr. Ales Böhm**

Civil Aviation Authority, member of ICAO RPAS Panel and JARUS (Joint Authorities for Rulemaking on Unmanned Systems), CZE



The combination of language proficiency, previous experience from aircraft cockpit and air traffic control and negotiation skills enabled to be effective in the following domains:

- development and implementation of aviation regulations
- oversight, analysis, safety assessment and safety enforcement of unmanned aircraft operations
- Civil aviation authority Czech republic representative in JARUS (Joint Authorities for Rulemaking on Unmanned Systems) since 2009
- Czech republic representative in ICAO UASSG (group of experts on global standards development for unmanned aircraft systems) since 2011


**Dr. Bill Powers**

Research Fellow, Potomac Institute for Policy Studies Center for Emerging Threats and Opportunities Futures Assessment Division, Futures Directorate DC/CD &amp; I, USA



Dr. Bill Powers is a Research Fellow at the Potomac Institute for Policy Studies' Center for Emerging Threats and Opportunities supporting the Deputy Commandant for Combat Development and Integration's Futures Assessment Division in Quantico, Virginia. He served 33 years in the Marine Corps, retiring as a Colonel. He flew the A-4 Skyhawk and F/A-18 Hornet, served in Viet Nam and Desert Storm, and commanded a battalion, a squadron and a group. He has a dual Bachelor's degree in Economics and Political Science, a Master of Science in Business Administration, and a doctorate in Organizational Leadership.


**CAPT Mustafa Illeez**

Turkish Drone Pilot, TUR



Captain Mustafa ILLEEZ; born in 1980, graduate of Turkish Air Force Academy, Aviation Engineering Department in 2002. He worked as an intercept controller between 2005 and 2008. During 2008-2013 he was assigned as Flight Safety Officer, Standardization Officer/Check Pilot and Flight Commander in 2nd UAV Sq. During his duty he served as flight and sensor operator instructor. He has about 300 hours at C-160 aircraft as navigator and 1500 flight hours at MALE class UAS as UAS Pilot and sensor operator. Since he attended to Air War College in 2013, he has been continuing to his post-graduate education on Security Strategies, while he conducting studies and preparing reports in UAS field.


**Assoc. Prof. Luděk Zalud, Ph.D.**

Head of Department of Control and Instrumentation; Technical University in Brno, CZE



06/2011-present – Senior Researcher, CEITEC STI RG2-2, Research and Development of autonomous and teleoperated field robots,  
 08/2010-08/2011 – Senior Researcher, CVVOZE, Research and development  
 08/2011-present – Senior Researcher, FNUSA-ICRC, Research and development of rehabilitation medicine devices, optical body scanning,  
 08/2006 – Associate Professor, Brno University of Technology, Faculty of Electrical Engineering and Communication, Electrotechnics and Automation, habilitation thesis: Teleoperated Reconnaissance Robotic Systems


**Mr. Pavel Mikunda**

VOP CZ s.p., CZE



Pavel Mikunda is graduated from Brno University of Technology, Faculty of Mechanical Engineering. After completing the study started to work in R & D Department in TATRA, Inc., as a designer, developer and research worker with specialization for axle and chassis components. Sequentially work for VOP 025 Nový Jicin, s.p. as the Head of Development Department and Engineering Director with responsibility for special / military projects and new product development. After merging VOP 025 Nový Jicin and VOP-026 Sternberk, s.p. hold an appointment Executive Director with responsibility for R & D Department and Production Department. Currently he is Director of R & D Department, VOP CZ, s.p.


**LTC Jan Mazal, Ph.D.**

Unmanned Systems Workshop Chairman, CZE



Since 2005 he is a doctor in the field of the theory of the defence management of the State and since 2013 he is a associated professor in the problematic of military management and C4ISR systems. He currently works at the University of Defence in Brno as a senior researcher of the Department of Military Management and Tactics. In his previous military practice, he held command and staff functions at the tactical level and also he took part in the foreign missions as EUFOR (2006) and ISAF (2010).


**Mr. Jiri Karpeta, Partner**

Presentation/Flight Demonstration of Unmanned Aerial Vehicle Robodrone Kingfisher, CZE



Founder and Partner of Robodrone Industries s.r.o.

Previously employed by Microsoft as Platform Strategy Advisor (2006-2008) and Head of Developer, platform and evangelism unit (2008-2013) and in LCS International s.r.o. as Programmer - analyst (1994-1995), Manager of the NORIS development team (1996-2000) and Director of Development and Services (2001-2006).

# UNMANNED SYSTEMS WORKSHOP PROGRAMME

**16 October 2014, Thursday**

- 08:30 - 09:15**    **Registration**
- 09:30 - 09:40**    **Chairman's Welcome and Opening Remarks**  
*LTC Jan Mazal, Ph.D. – Unmanned Systems Workshop Chairman, CZE*
- 09:40 - 09:50**    **Role of the foot soldier in the next generation warfare**  
*BG Ladislav Jung – Land Forces Deputy Commander, CZE*

**Session A:**  
**Future Threats, Challenges and Opportunities of Unmanned Systems**  
 Moderated by: Mr. Paul Schare, USA

- 09:50 - 10:30**    **Lethal Autonomous Weapons and the Plight of the Noncombatant**  
*Prof. Ronald C. Arkin - Regents' Professor & Director of the Mobile Robot Laboratory, Associate Dean for Research & Space Planning, College of Computing, Georgia Institute of Technology, USA*

Abstract:

A recent meeting (May 2014) of the United Nations in Geneva regarding the Convention on Certain Conventional Weapons considered the many issues surrounding the use of lethal autonomous weapons systems from a variety of legal, ethical, operational, and technical perspectives. Over 80 nations were represented and engaged in the discussion. This talk reprises the issues the author broached regarding the role of lethal autonomous robotic systems and warfare, and how if they are developed appropriately they may have the ability to significantly reduce civilian casualties in the battlespace. This can lead to a moral imperative for their use, not unlike what Human Rights Watch has attributed regarding the use of precision-guided munitions in urban settings due to the enhanced likelihood of reduced noncombatant deaths. Nonetheless, if the usage of this technology is not properly addressed or is hastily deployed, it can lead to possible dystopian futures. This talk will encourage others to think of ways to approach the issues of restraining lethal autonomous systems from illegal or immoral actions in the context of both International Humanitarian and Human Rights Law, whether through technology or legislation.

- 10:30 - 11:00**    **Dangers of autonomous weapons**  
*Mr. Noel Sharkey BA Ph.D. DSc. FRIN FRSA FBCS CITP FBCS; Emeritus Professor of Artificial Intelligence and Robotics; Professor of Public Engagement, University of Sheffield; Chairman of the International Committee for Robot Arms Control, GBR*

Abstract:

When states say that there is someone in the control loop for a weapons system, what do they mean? This talk examines some of the issues of concern relating to autonomous weapons and suggests a way forward with human supervisory control. It is argued that with the right mix of human and computer could lead to a more humanitarian application of violent force.

**11:00 - 11:30**    **MORNING COFFEE BREAK**

- 11:30 - 11:45**    **The Coming Swarm: The Advantages of Robotics on the Battlefield**  
*Mr. Paul Scharre - Fellow and Project Director for the 20YY Warfare initiative, Center for a New American Security, USA*

Abstract:

Increasingly capable and autonomous unmanned systems will yield tremendous advantages to the militaries that harness them, particularly those that uncover the new concepts of operation they enable. Unmanned and autonomous systems will allow militaries to operate with greater range and persistence, conduct more daring concepts of operation, field greater mass on the battlefield, and operate with greater intelligence, coordination, and speed. Collectively, the power of swarming will lead to profound changes in warfare. The winner of the robotics revolution will not be who necessarily develops robotic technology first or even the best technology, but who comes up with the best ways of using it.

- 11:45 - 12:05**    **Unmanned Systems – US R & D prospective**  
*Dr. Paul B. Losiewicz - Quanterion Solutions Inc., USA*

- 12:05 - 12:25**    **Key Technologies for Future UAS**  
*Prof. Dr.-Ing. Stefan Levedag, Head of the Institute of Flight Systems, DEU*

- 12:25 - 12:55**    **Panel Discussion – part 1**

**12:55 - 14:00**    **LUNCH & NETWORKING**



**14:00 - 14:15** **Logistic Support for UAS in operations. Experiences and lessons learned from the Afghanistan theatre**  
*Mr. Giorgio Scappaticci - Programme Manager; Air and Land Combat Systems, NATO*

Abstract:

By leveraging on the experiences gained by NSPA from the support of UAS during the Afghan operations, the presentation aims to highlight the necessity of a non-conventional approach for the procurement and the support of the UAS. Taking into consideration the specific peculiarities of the unmanned systems, through the illustration of real cases, the presentation will provide to the audience some insides of the problematic related to the establishment of an efficient and effective logistic support for the UAS.

**14:15 - 14:30** **Contribution of the Czech Technical University in Prague to the NATO-SAS-097 (Robots underpinning future NATO Operations) project**  
*Prof. Václav Hlavac, Ph.D. - Czech Technical University in Prague, CZE*

**14:30 - 15:00** **Panel Discussion - part 2**

**15:00 - 15:20** **AFTERNOON COFFEE BREAK**

#### Session B:

**Modeling and simulation of UAS capabilities, UAS research and development**

Moderated by: Prof. Agostino G. Bruzzone, NATO

**15:20 - 15:35** **Modeling and Simulation Infrastructure for Autonomous Systems**  
*Prof. Agostino G. Bruzzone - Project Leader M & S, NATO Science & Technology Organization, Centre for Maritime Research and Experimentation (CMRE), NATO*

**15:35 - 15:50** **Towards high-scale, mixed-reality multiagent simulation of future UAS missions**  
*Prof. Michal Pechoucek, Ph.D. - Czech Technical University in Prague, CZE*

**15:50 - 16:05** **Austrian Institute of Technology - Research Projects and Industrial Applications**  
*Mr. Christoph Sulzbachner - Austrian Institute of Technology, AUT*

Abstract:

The presentation focuses on results from research projects which are used in industrial projects in the domains autonomous trains, trams, vehicles and aerial systems. In particular optical sensor systems, and methods for safety functionality and their integration in unmanned systems.

**16:05 - 16:20** **Unmanned and Autonomous Vehicles, their Presence and Realistic Future**  
*Mr. Libor Preucil, Ph.D. - Czech Technical University in Prague, CZE*

Abstract:

As unmanned vehicle/robotic systems increase their level of autonomy whilst decreasing the need for human assistance during operation, the today's systems still require certain presumptions and impose certain constraints on the operational space and tasks given to the robot to accomplish safe and reliable operation. In reality, due to high situational variety of in mission operations, the robots' autonomy may suffer from the situational complexity of the task and conditions in which it is expected to operate. To suppress the needed operator assistance and/or to extinguish these undesired cases, teaming up the robots into coordinated and cooperating groups may overcome these fragile situations, in which the goal accomplishment may not be achieved due to robot control failure. Use of simple, lightweight autonomy approaches, combined with nature-inspired sensing principles and applying these principles to multi-robot systems, robot swarms exhibits increased robustness, stand-in featuring and improved success rate in fulfilling the given mission tasks at low cost. These principles can be applied to various inspection, surveillance and search & rescue tasks as shown in the experimentation video trailers.

**16:20 - 16:50** **Panel Discussion**

**16:50** **Chairman's Closing Remarks**

## 17 October 2014, Friday

**08:30 - 09:15** **Registration**

**09:30 - 09:40** **Chairman's Welcome and Opening Remarks**  
*LTC Jan Mazal, Ph.D. - Unmanned Systems Workshop Chairman, CZE*

#### Session C:

**UAS military applications, concepts, standards and legislation**

Moderated by: LTC Jan Mazal, Ph.D. / Moderated by: Mr. Libor Preucil, Ph.D., CZE

**09:40 - 09:55** **Unmanned Systems Workshop - Autonomous Convoy, Tactical UGV logistic support, Squad Mission Support System**  
*Mr. Martin Hill - Chairman NATO Industry Advisory Group, NATO*

**09:55 – 10:10 Civil Aviation Legislation in the Czech Republic – Unmanned Aerial Systems (UAS)**  
*Mr. Ales Böhm – Civil Aviation Authority, member of ICAO RPAS Panel and JARUS (Joint Authorities for Rulemaking on Unmanned Systems), CZE*

**10:10 – 10:25 U.S. Marine Corps Unmanned Ground Systems (UGS) and Unmanned Air Systems (UAS) Future Requirements**  
*Dr. Bill Powers – Research Fellow, Potomac Institute for Policy Studies Center for Emerging Threats and Opportunities Futures Assessment Division, Futures Directorate DC/CD & I, USA*

**Abstract:**

As the Marine Corps transitions from combat operations to peacetime training, the employment of unmanned systems (UxS) will undergo a fundamental review. As this transition occurs, there will be myriad adjustments required by both manufacturers and users of UxS. This transition will provide opportunities for UxS to be used in ways that are currently only imagined...or demonstrated via YouTube videos. There will be untold challenges and solutions regarding the future use of these systems, but this session will attempt to address some of the most important issues for the United States Marine Corps.

**Principal issues**

- UGS Roadmap
- UAS Roadmap
- Future Utilization & Employment
- Threats & Opportunities

**Research methods**

Mixed methods research, to include literature searches/review, personal interaction, personal interviews.

**Conclusions**

The Marine Corps will continue to develop concepts of employment and concepts of operation for unmanned systems. UxS have enormous potential for future warfighting but we need redundant capabilities, especially for command and control (C2). UxS must enhance warfighting capability for the Marine Air-Ground Task Force (MAGTF) and/or increase the individual Marine's effectiveness; we cannot pursue technology for the sake of technology. For the future, the important qualifying question will be: What justifies a manned system? And regardless of what path is taken by the Marine Corps, training and education are the key elements for success.

**10:25 – 10:55 Panel Discussion – part 1**

10:55 – 11:15 MORNING COFFEE BREAK

**11:15 – 11:30 5<sup>th</sup> Generation Warfare: How to use UAS in future hybrid wars**  
*Mr. Mustafa Illeez, Turkish Drone Pilot, TUR*

**Abstract:**

During post Iraq War and especially with the Afghanistan Operation, UAS's became subject to many disciplines ranging from strategy to electronics and law. Fast changes and advancements at those systems which are candidate to be the most effective weapon systems of modern wars, hardens for states to put forward mid-term and long-term plans. Planning the future air force structure requires a solid strategic foresight. Hybrid warfare concept is one of the concepts to be taken into account for future operational environment prediction.

Hybrid warfare is not a new kind of war, but it bases on the idea that future wars will not be too simple to be divided into two as conventional and non-conventional or asymmetrical wars. With this context, it presents a panorama of an environment in which conventional and asymmetric, terrorist, cyber and organized crime threats can be used in harmony. UAS can be evaluated as one of the most effective weapon systems in such a complex and unstable operational environment. Aim of this presentation is to find out the capabilities that UAS should have within the scope of hybrid warfare concept.

**11:30 – 11:45 CASSANDRA – Reconnaissance Robotic System**  
*Assoc.Prof Ludek Zalud, Ph.D. - VUT Brno, CZE*

**Abstract:**

CASSANDRA is mobile robotic system developed at LTR s.r.o. company and Brno University of Technology, including STI CEITEC.

The system contains operator's station controlled with one operator and a couple of robots – small and big ground robots, flying robots (quadcopters), and mapping robot.

**cassandra**

The robots are primarily controlled by the operator with advanced user interface with visual telepresence and augmented reality. Nevertheless the robots include the possibility of semi-autonomous operation based on self-localisation. User interface consists of a computer, joystick, head-mounted display with inertial head-tracker, communication device, and Cassandra software developed by our team in Microsoft .NET.

**pn1295907**

The robots are made to be reliable and to be able to work in extreme conditions, they are tested by a series of MIL-STD military tests for environmental parameters, EMC, vibrations and shocks, contamination/decontamination, etc.

Orpheus-X3 is a general US&R robot with enhanced victim search capabilities, Orpheus-HOPE is made for water contamination measurements, Orpheus-AC2 is a ruggedized version for environmental parameter measurement. Two flying drones were developed completely by our team, as well as envMap mapping robot for real-time construction of spatial digital maps with texture mapping.

All the robots can be controlled with help of visual telepresence and augmented reality – that makes robot control much more intuitive, and lets the operator/rescuer to concentrate on the mission itself. The control station may be used as a self-containing wearable system.

Currently my team is developing fusion system with multispectral measurement containing tricolor cameras, thermal imagers and TOF camera.

**11:45 – 12:00 Project TAROS – as a result of CAFR cooperation in UGV development**  
*Mr. Pavel Mikunda, VOP CZ s.p., CZE*

**12:00 – 12:30 Panel Discussion – part 2**



12:30 - 12:45 **Military robotics in context of advanced command and control systems/Chairman's Closing Remarks**  
*Mr. Jan Mazal, Ph.D. – Unmanned Systems Workshop Chairman, CZE*

12:45 - 13:05 **Robodrone Industries, s.r.o.**  
*Mr. Jiří Karpeta, Partner - Presentation/Flight Demonstration of Unmanned Aerial Vehicle Robodrone Kingfisher, CZE*



**Robodrone**

**Abstract:**

Introduction of Robodrone Industries' UAV, model Kingfisher, payload 5 kg, endurance up to 60 minutes.

- Demonstrations of flight characteristics and maneuverability.
- Payload capability demonstration.
- Real-time video streaming from the UAV to the ground station.



# CAPABLE LOGISTICIAN WORKSHOP

16 – 17 OCTOBER 2014, PVA EXPO PRAGUE, CZECH REPUBLIC

ORGANISED AS THE PART OF FUTURE FORCES EXHIBITION & CONFERENCE 2014

- Specialised two-day accompanying event for logistics experts, industry leaders and R&D centres
- Updates of the on-going and future logistics projects, acquisition plans, challenges in the new materials, laboratory testing and technologies

ENDORSED BY:



MULTINATIONAL LOGISTICS COORDINATION CENTRE

CLW

## Chairperson:



### Mr. Petr Jedlink, Dipl. Eng.

CAPABLE LOGISTICIAN 2014 Workshop Vice Chairman, CZE



Current Position: CL13 & CL15 Project Director, Head of Exercise Department, Multinational Logistics Coordination Centre (MLCC)

Previous Assignments: Head of Support Department, National Movement Coordination Center, G1 SO Human Resources Policy – Deputy of Branch Head, LCC Heidelberg, Commander liaison logistics groups (CZE IRF), Logistics HQ, NSE Commander (CZE RRF), Logistics HQ, Section chief of Army Logistics specialists training, Logistics HQ, SO Army Logistics specialists training, Logistics HQ, SO Senior teacher, Logistics training Base

Education: Logistics, Technology and process management in transport, University Pardubice, Military Transportation, Transport University Zilina, Electricity and Railway vehicles in transportation, Railway Technical College Ceska Trebova

## Speakers:



### MG Josef Becvar

1st Deputy Chief of General Staff, Armed Forces of the Czech Republic, CZE



He was studying on Military Academy in Brno, Faculty of Law, Charles University in Prague and General Defence School in Paris, France. From 2008 he was working as Deputy Chief of the General Staff – Chief of Staff and he was appointed Major General. Currently he is First Deputy Chief of the General Staff. He received The Medal of the Armed Forces of the Czech Republic, Grades III, II, I; The Cross of Merit of the Czech Minister of Defence - Grades III, II, I; The Honorary Badge of the Armed Forces of the Czech Republic of the King Premysl Otakar II - the King of Iron and Gold and more awards and decorations.



### BG Jaromir Zuna

Director, Logistic Agency, Ministry of Defence, CZE



He is currently Director of the logistics agency. He was also Deputy director NATO Integration Department, AFCR General Staff, in COS NATO Joint Force Training Centre Bydgoszcz, Poland and DCOM NATO Joint Force Training Centre Bydgoszcz, Poland. He was studying on National Defence University, National War College, Washington D.C., USA and on the Joint and Combined Warfighting School (JCWS), Joint Forces Staff College, National Defence University Washington D.C., Norfolk, USA


**Mr. Nicolas Von Ruben**

Director of Global Service Centre, UN



Mr. von Ruben has recently been appointed as the Director, Global Service Centre, Brindisi. He has served in peacekeeping since 1994 when he started as a Regional Engineer in the former Yugoslavia (UNPROFOR). From there he moved to the Mission in Haiti (UNMIH), followed by two tours, totaling six years in Lebanon (UNIFIL), first as the Chief Engineer and later as the Chief of Integrated Support Services, in between which he had a fifteen month tour in Italy at the United Nations Logistics Base, Brindisi (UNLB), from where he deployed to help s up the mission in Sierra Leone (UNAMSIL). A qualified Civil Engineer, Mr. von Ruben spent twenty years, after his national military service, in the private sector in various increasingly responsible positions including Regional Manager of a consulting engineer firm in South Africa to a Contracts Manager responsible for contracts spanning across south west England.


**Dr. Bülent Tüdes**

ProgrammeManager, LB General and Cooperative Services Programme, NATO Support Agency, NATO



Dr. Bülent TÜDES served 27 years in Turkish Air Force, mostly as a Professeur in Air Force Academy and also research and development programs. After his retirement; since 1999, he has been working as the General and Cooperative Services Programme Manager at NSPA. He is specialized in operational and multinational logistics, environmental and energy security, and project management. His responsibility areas are the ammunition procurement/demilitarization, naval worldwide support, disposal activities, procurement of deployable camps, procurement of dismounted soldier systems, night vision systems and medical items, and also special projects.


**Dr. Susanne Michaelis**

Officer (SPS Advisor), Emerging Security Challenges Division (ESCD), NATO HQ



Dr. Susanne Michaelis, studied molecular biology and obtained her PhD in human genetics. Following completion of her research she joined the European Commission in 1995, as manager of one of the life science topics. In 1996, Susanne took up a position at NATO Headquarters in Brussels, where she has worked for NATO's Science for Peace and Security (SPS) Programme, Public Diplomacy and Emerging Security Challenges. During 2007 she developed a strategy to improve the communication on NATO's Science Programme.


**Mr. Fred Van Der Hoek**

Principal Planning Officer Crisis Response Operations, NSPA, NATO



Fred van der Hoek (retired Lieutenant Colonel Royal Netherlands Army Logistics Corps), since January 2010 active as Principal Planning Officer for Crisis Response Operations at the NATO Support Agency (NSPA) Logistics Operations, Plans and Policy. Previous experiences are Executive Officer & Military Assistant at the Royal Netherlands Military and Staff Officer Logistics Policy SHAPE J4 in Belgium


**Mrs. Renata Constable**

Marketing and Sales Director, POL



Renata Constable has been part of the company 'Buleczka-Bis' Bakery since December last year.

She is responsible for international sales and marketing of the military, 24-months shelf-life bread. She has more than 15 years experience in marketing and communications working for international

advertising agencies, both in Poland and New York. Currently her role is to help introduce the military, 24-months shelf-life bread to the international armed forces and agencies supplying humanitarian aid.


**Mr. Theodor-Nicolae Enache**

Project Officer Deployability, EDA



Captain Enache have assigned on board of various types of ships from his graduation of Naval Academy "Mircea cel Bătrân", in 1984 until 2002, as navigator, armaments and communications officer, on submarine hunters, minesweepers, corvettes and logistic ships. He have been assigned executive officer of a submarine support ship and couple of years later commanding officer of the Flag Ship of Romanian Fleet, the second largest ship of Romanian Navy.

From 2002 he worked for the Navy as Deputy Head PPBS for Naval HQ and senior instructor for navigation and naval weapons at Navy Petty Officer Technical School. Since 2004 he was assigned to Romanian General Staff as Deputy Head of Strategy and Policy Office for Strategic Planning Directorate.

Between 2006 and 2009 Captain Enache have been assigned to HQ Supreme Allied Command Transformation, Norfolk, Virginia, USA as staff officer Strategic Concepts Policy and Interoperability. After his NATO tour he return to Romanian General Staff as Head of Capabilities Coordination Office until 2014 when he have been assigned Project Officer Deployability to European Defence Agency.

Between September 2010 – September 2011 Captain Enache have been deployed for one year tour in Afghanistan where he was appointed Director for Capabilities at NATO Training Mission Afganistan – NTM-A.

Captain Enache is married to Mihaela who is a construction engineer and they have a son, Eduard who just finalized his master degree studies at Aalborg University.





**Mr. Cornelious (Ham) Doraton**

United States Army Standardization Program Representative to NATO, NATO HQ



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**Mr. Roman Kapinus**

Senior Analyst, AURA, s.r.o., CZE



He is Development team leader in the project "Information System for Logistics for the Armed Forces of Czech Republic and the Ministry of Defence" (Czech Republic, 1996 – 2014) and member of the international research team in the project "Modelling of Organizations and Decision Architectures" (NATO Research and Technology Agency, 2000 – 2004). He is also a Project manager in the defence development project "The Purpose Oriented Tactical Logistics Control System, the Part of General Subsystems of the Ground Forces Tactical Command and Control System of the AFCR" (Czech Republic, 2007 – 2009) and member of the Armed Forces Communications and Electronic Association (AFCEA).



**COL Olivier Görlich**

Chief of Operations Office, Central Directorate, Malakoff, FRA



Colonel GÖRLICH is a former FRA Air Force officer. It has been more than 10 years since he has moved to Joint Petroleum Service (SEA) to serve as a staff officer for Petroleum support to Armed forces. For 5 years, he carried out duties in the field of petroleum assets, fuel handling equipments, development and acquisition. Then, he undertook responsibilities in fuel support to missions planning and management, abroad or overseas. He served in different SEA directorates and locations, in France or abroad. He's got a Master's degree in Engines and Petroleum Products (FRA Petroleum Institute School).



**Mr. Radim Usel**

Division Director/Purchasing Director, Tart, Cortec Corporation, USA



February 1998 – Present  
 Purchasing director, strategic purchasing, Division director - sales  
 2010 – 2013 Jan Amos Komensky University, Prague  
 marketing communication, strategic marketing planning, advertisement, PR, etc.



**Mr. Roger G. Johnson**

International Logistics and Supply Chain Manager, SUPREME Group, USA



Mr. Johnson was studying at B.A. Southern California College and M.A. Boston University.  
 His Professional Backgrounds are International Logistics and Supply Chain Manager.  
 He held key positions as a Managing Director for ATCO Frontec Europe projects in Afghanistan and Balcan, Program Director for Supreme Group USA in Afghanistan and Director of Contracts for Supreme Site Services in Dubai. He is 22 years in U.S. Army as a Transportation Corps officer and Desert Storm veteran in Saudi Arabia, Iraq, and Kuwait.



**Dr. George Sinks**

Director of International Programs, Logistics Management Institute (LMI), USA



Mr. Sinks has extensive experience, at many levels of the Department of Defense (DoD), the Department of State, and other government departments, in policy analysis, strategic planning, training, organizational and process improvement, and procedures development. Currently he is support to NATO and Multinational Logistics Programs. He is also Program Manager and Director in International Programs. He received LMI President's Award, 1995 and 1997



**2LT Robert Batek**

Company Commander, Maintenance and Recovery Battalion, Klatovy, CZE



University: Metropolitan University Prague, 2007–2012, International Relations and European Studies. Since 2009 to 2012 he was Senior Staff Officer at NATO Operational Headquarters at Brunssum (NLD). During this time he was deployed as a liaison officer to mission ISAF (Afghanistan). From 2012 until now.




**COL Laszlo Csaba Tar, Dipl. Eng.**

Head of Logistics Operations Branch, MLCC



Head of Asset Procurement Division, Deputy Director (MoD Armament and Quartermaster Office, Acquisition Directorate 2011 – 2013)  
 Head of Asset Procurement Division (MoD Development and Logistics Agency, Acquisition Directorate 2010 – 2011)  
 Deputy Head of Procurement Division (MoD Development and Logistics Agency, Acquisition Directorate 2006 – 2010)  
 Deputy Head of Procurement Division (MoD Acquisition and Security Investment Bureau, Acquisition Directorate 2005 – 2006)  
 Procurement Officer (MoD Acquisition and Security Investment Bureau, Acquisition Directorate 2000 – 2005)  
 Company Commander (Maintenance Battalion 1996 – 1998)  
 Quality Control and Technology Officer (Maintenance Battalion 1992 – 1996)  
 Deputy Commander of Ammunition Depot (Supply Battalion 1991 – 1992)


**MG Pavel Macko**

2nd Deputy Chief of Staff, Slovak Armed Forces, SVK



He was studying on National Defense University, Industrial College of the Armed Forces, Washington D.C., USA - National Security and National Resource Strategy, Master of Science (MSc.) and on Senior Acquisition Course, National Defense University and Defense Acquisition University, USA. His Assignments are Deputy Commander of Land Forces, Land Forces Headquarters in Trenčín; Chief of Operational Staff of the General Staff in Bratislava; Commander, NATO Joint Forces Training Center, Bydgoszcz in Poland and currently he is 2nd Deputy Chief of the General Staff in Bratislava


**Mr. Mike Lyden**

General Manager, NSPA, NATO



Mike Lyden is the General Manager of the NATO Support Agency, a key element of NATO's focus on Smart Defense and Agency Reform. He retired as a Rear Admiral from the United States Navy in October 2011 after serving for over 32 years in the Navy Supply Corps, the U.S. Navy's cadre of business and logistics professionals. His Navy career culminated with his assignment as Commander, Naval Supply Systems Command and 45th Chief of the Navy Supply Corps from 2008 to July 2011.


**COL Atilla Boczak**

Deputy Chief of Logistics Directorate, General Staff, Hungarian Defense Forces, HUN



Education: 2001 MJLC, NATO Logisztikai Tanfolyam, 2002 English Stanag 3. 3. 3. Canada, 2009/2010 English Stanag 4. 4. 4. GBR, 2012 NATO Defence College (NDC Rome). From 2005 since 2008 he was working in NATO, HQ ARRC G-7 SO2, Rheindahlen, Germany, after that in JFC National Military Movement Center, commander of national movement coordination center. From 2010 he was MoD General Staff chief of logistic operation branch of J-4 and from 2011 MoD General Staff chief of logistic support branch (deputy chief of J-4) of J-4. Missions: 2006-2007 Afganisztan ISAF IX, LNO and 2009-2010 Kosovo, KFOR MNTF(W) DCOS SPT, MNBG(W) Chief S4-1


**Mr. Gregor Gerlitzki, LTC (ret.)**

Director Sales Europe, National Air Cargo (Deutschland) GmbH, DEU



15 years' duty German Armed Forces, Rank LtCol ret. 11 years' experience in Management Positions - Logistic Projects for Forces, NGO's and Coalition Partner. Actual: Director Sales Europe for National Air Cargo GmbH. Multi Modal Transport Logistic - Challenges, procedures, Hub Organization, efforts, handling


**Alain Clavreul**

ARGO Sales and Project Manager, FRA



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# CAPABLE LOGISTICIAN WORKSHOP PROGRAMME

**16 October 2014, Thursday**

**08.30 - 09.15 Registration**

**09.30 - 09.40 CL14 Workshop's Introductory Remarks (MLCC introduction)**

*Mr. Petr Jedlink, Dipl. Eng. - CAPABLE LOGISTICIAN 2014 Workshop Vice Chairman, CZE*

**09.40 - 09.50 CL14 Welcome address**

*MG Josef Becvar - 1st Deputy Chief of General Staff, Armed Forces of the Czech Republic, CZE*

**Session A (part 1):**

**National and international views on future development of logistics and related technologies**

**Moderated by: Mr. Petr Jedlink/MAJ Pavlina Cebakova, CZE**

**09.50 - 10.05 Czech national view on logistic support for military forces**

*BG Jaromír Zuna - Director, Logistic Agency, Ministry of Defence, CZE*

**Abstract:**

Application of the „Smart Logistic“ project by sharing reserve assets and services within operations - Implementation of Joint Logistics Support Group as a possible permanent contribution, implementation of the HNS in order to increase the ability of coalition forces in case of emerging conflict.

**10.05 - 10.20 Global field strategy**

*Mr. Nicolas Von Ruben - Director of Global Service Centre, UN*

**10.20 - 10.35 NSPA multinational logistics models and benefits**

*Mr. Bülent Tüdes - Programme manager, General and Cooperative Services Programme Office, NSPA, NATO*

**10.35 - 11.05 Panel Discussion - part 1**

**11.05 - 11.25 MORNING COFFEE BREAK**

**11.25 - 11.40 Advancing Smart Energy within NATO**

*Dr. Susanne Michaelis - Officer (SPS Advisor), Emerging Security Challenges Division (ESCD), NATO HQ*

**Abstract:**

This briefing will give an introduction to the emerging topic of energy efficiency in the military as a capability to strengthen NATO's missions. Different initiatives that the Alliance launched recently will be explained, including the Smart Energy Demonstration Camp that NATO is planning to implement at "Capable Logician 2015".

**11.40 - 11.55 Strategic Partnership between MLCC and NSPA/OLSP towards Multinational Capability Development**

*Mr. Fred Van Der Hoek - Principal Planning Officer Crisis Response Operations, NSPA, NATO*

**Abstract:**

How MLCC and NSPA/OLSP seamlessly reinforce each other's initiatives to promote Collective Logistics, MN Capability Development and MN Logistics Training and Education

**11.55 - 12.10 Bułeczka Bis, presentation of 2-year bread for military use and humanitarian aid**

*Mrs. Renata Constable, Marketing and Sales Director, POL*

**Abstract:**

During Bułeczka Bis bakery presentation we will try to tell the audience what is our bread and why it stays fresh for 24 months. We want to present how easy it is to store this bread, to transport it and to feed the soldiers or people in crisis situations. We will present the refreshing process and the audience will have a chance to sample the product. We will try to show the audience why our bread is a perfect answer to the needs of the modern military and to the needs of the agencies providing humanitarian aid.



**12.10 - 12.40 Panel Discussion - part 2**

**12.40 - 13.40 Lunch & Networking**

**13.40 - 13.55 EDA - Shaping Logistics for the Future European Forces**

*Theodor-Nicolae Enache - Project Officer Deployability, EDA*

**Abstract:**

The name of the presentation is "EDA - Shaping Logistics for the Future European Forces" and will contain a short presentation of the EDA (missions, organizational chart, way of work etc) and some of the projects and programmes developed by EDA in Logistics domain.

**13.55 - 14.10 Evaluation of interoperability and standardization in NATO**

*Mr. Cornelious (Ham) Doraton - United States Army Standardization Program Representative to NATO, NATO HQ*

**14.10 – 14.25 How Information Systems Support Standardization and Interoperability in Logistics**

*Mr. Roman Kapinus - Senior Analyst, AURA, s.r.o., CZE*

Abstract:

- Materiel codification (NCS) and the international data exchange (NMBS)
- Materiel codification for manufacturers and suppliers of military equipment
- Information System for Logistics - support for the Czech Armed Forces in operations
- National Infrastructure for Electronic Commission of Public Contracts
- e-Procurement – standardized description of procured goods and services
- Document/content management and standardisation



**14.25 – 14.55 Panel Discussion – part 3**

**14.55 – 15.15 AFTERNOON COFFEE BREAK**

**Session B:**

**FA\* Fuel – Multinational functional partnership for Fuel Handling**

**Moderated by: Mr. Petr Jedlink/MAJ Pavlina Cebakova, CZE**

**15.15 – 15.40 Multinational Fuel Handling**

*COL Olivier Görlich – Chief of Operations Office, Central Directorate, Malakoff, FRA*

Abstract:

Ready to deploy multinational petroleum capability for NATO operations: Modular Combined Petroleum Unit (MCPU) - Concept, Potential, Way ahead.

**15.40 – 15.55 VpCI Corrosion Protection Technology in Military Technology**

*Mr. Radim Usel – Division Director/Purchasing Director, Tart, Cortec Corporation, USA*



**15.55 – 16.15 Contractor Logistics Support for Deployed Military Forces**

*Mr. Roger G. Johnson – International Logistics and Supply Chain Manager, SUPREME Group, USA*

Abstract:

Based on more than 12 years of experience providing services to NATO and allied military forces in Afghanistan this discussion will focus on how contractors can effectively support deployed military forces as part of a combined logistics force consisting of regulars, reserve military and contractors. The presentation will include procurement and delivery of fuel products and provisions, as well as life support services necessary to maintain troops in the field.

**16.15 – 16.40 Panel Discussion**

**Session E:**

**Multinational Maintenance: A New Approach to Logistics Interoperability**

**Moderated by: Mr. Petr Jedlink/MAJ Pavlina Cebakova, CZE**

**16.40 – 16.55 Multinational Maintenance: A New Approach to Logistics Interoperability**

*Dr. George Sinks – Director of International Programs, Logistics Management Institute (LMI), USA*

Abstract:

The principle of multinationality has been firmly embedded in both NATO and U.S. logistics policy doctrine since the mid-1990s, but maintenance has remained one area of logistics that nations have historically preferred to obtain through national means alone. NATO's experience in Afghanistan, however, demonstrates that multinational maintenance arrangement yield real benefits for a modest investment of time and resources. Multinational maintenance support may not be required for every Allies or coalition operation, but its successes in Afghanistan, however limited, established it as a proven approach to logistics interoperability. The briefing will provide two key examples of this approach, and identify lessons learned in Afghanistan.

**17.55 – 17.10 Maintenance and Recovery Multinational Integrated Logistic Unit (MILU)**

*2LT Robert Batek – Company Commander, Maintenance and Recovery Battalion, Klatovy, CZE*

Abstract:

The main aim of the brief is inform broad military and also civilian audience about current feedback from the logistics battlefield. The content of the brief is focused on Maintenance and Recovery procedures on the battlefield just experienced during international logistic exercise Capable Logistician 2013. The brief also evaluates the exercise its self from the Maintenance and Recovery point of view and proposes possible ways of improvement in this field.

**17.10 – 17.30 Panel Discussion – Session**

**17.30 Chairman's Closing Remarks**

*Mr. Petr Jedlink, Dipl. Eng. – CAPABLE LOGISTICIAN 2014 Workshop Vice Chairman, CZE*



## 16 October 2014, Thursday

- 09.30 – 09.40** **CL14 Workshop's Introductory Remarks**  
*Mr. Petr Jedlink, Dipl. Eng. – CAPABLE LOGISTICIAN 2014 Workshop Vice Chairman, CZE*
- 09.40 – 09.50** **MLCC role in multinational logistics**  
*COL Laszlo Csaba Tar, Dipl. Eng. - Head of Logistics Operations Branch, MLCC*

**Session A (part 2):**  
**National and international views on future development of logistics and related technologies**  
**Moderated by: Mr. Petr Jedlink/MAJ Pavlina Cebakova**

- 09.45 – 10.05** **The involvement of Slovak Republic in the multinational military logistics projects**  
*MG Pavel Macko – 2nd Deputy Chief of Staff, Slovak Armed Forces, SVK (TBC)*
- 10.05 – 10.25** **NSPA projects enhancing the multinational logistics support for future**  
*Mr. Mike Lyden – General Manager, NSPA, NATO*
- 10.25 – 10.40** **Capable Logistician 2015 Host Nation Support**  
*COL Atilla Boczak – Deputy Chief of Logistics Directorate, General Staff, Hungarian Defense Forces, HUN*

**Abstract:**

- Main concern for HNS during CL 15
- RLS and the exercise scenario harmonization
- JLSG role in the HNS

- 10.40 – 10.55** **Multi Modal Transport Logistics**  
*Mr. Gregor Gerlitzki, LTC (ret.) – Director Sales Europe, National Air Cargo (Deutschland) GmbH, DEU*

**Abstract:**

Presentation is based on operations in and out ISAF Mission



- 10.55 – 11.25** **Panel Discussion**
- 11.25 – 11.45** **MORNING COFFEE BREAK**

**Session D:**  
**FA Ammunition – Multinational partnership for Deployable ammunition storage**  
**Moderated by: Mr. Petr Jedlink/MAJ Pavlina Cebakova**

- 11.45 – 12.15** **Dynamic presentation of ARGO company**  
*Alain Clavreul - ARGO Sales & Project Manager, FRA*

**Abstract:**

Already in service with the Armed Forces around the world, the ARGO take their missions ranging from troop transport to the recognition of command posts logistical support. Built to cross all extreme terrain with a full crew on board, the ARGO is deployable by air and through airmobile helicopter. This lightweight vehicle currently used in the conflict in Central Africa, has capabilities for rapid obstacle, absolutely unusual in extreme terrain. These vehicles are mainly used as logistical vehicles for rapid transportation of personnel deployment, equipment and heavy weapons systems in extreme landing zones and firing positions in operations and special Air Forces. Adapted to Africa to comply with the requirements of the Armed Forces of South Africa and the Senegalese River Brigades Gendarmeries. It provides protection for vehicle occupants against the detonation of 200g of TNT. (Similar to an explosion of anti -personnel mine) Equally at home in the desert sand, snow and ice of the Arctic, the top of Chile to the Amazon rainforest, whether in the dunes, mud, quicksand or water, ARGO is really ready to perform its missions anywhere worldwide.

- 12.15** **Closing Remarks**  
*COL Laszlo Csaba Tar, Dipl. Eng. - Head of Logistics Operations Branch, MLCC, CZE*

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## AURA, s. r. o.

AURA is focused on development and implementation of information systems for defence logistics, public administration and industry.

- ISL (Information System for Logistics) – a uniform tool for all branches of the armed forces providing military logistics with support in all important areas.
- MC CATALOGUE – IS designed for materiel codification in compliance with standards of the NATO Codification System (NCS).
- Comprehensive services in the area of materiel and services codification in compliance with standards of the NCS, ISO 8000, ISO 22745 and OTD (Open Technical Dictionary). The services comprise of SW products, assistance with implementation of codification systems, data cleansing, training, consultations, codification and services of a certified Codification Agency.
- AURA supports NCS College.
- Exclusive agents of Bruhn NewTech Group for the Czech Republic and Slovakia. References: AURA has developed and maintains the Information System for Logistics for the Czech Ministry of Defence and Armed Forces. MC CATALOGUE was chosen as a codification tool for National Codification Bureaus by twelve countries – both NATO and non-NATO.

Products:

- Comprehensive information systems for defence logistics
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BUŁECZKA-BIS BAKERY is the only company in the world making durable rye bread which after a simple refreshing process is consumed as fresh bread. The 24-month shelf life of the bread was carefully researched and confirmed by long-term tests in the Research and Implementation Centre at the Military Food Provision Services in Warsaw. At the present Bułeczka-Bis supplies the Polish Armed Forces, i.e. Land Forces Marine, Air Force, as well as Peace Missions in Macedonia, Iraq and Afghanistan. The long shelf life of the bread is achieved by the patented packaging method. The bread does not contain any preservatives. The durable rye bread is made on the basis of the NO-89-A200 Polish Military Standard. Bułeczka Bis is an award-winning company and has ISO 9001:2000 certification. Presently, the bakery is upgrading the certification to include AQAP 2110, the NATO military industry quality standard.

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## CORTEC CORPORATION

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## ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ v Praze / CZECH TECHNICAL UNIVERSITY IN PRAGUE

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## FOKKER TECHNOLOGIES

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## JCBRN Defence COE

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The mission of the JCBRN Defence COE is to:

- Provide advice in all CBRN defence related areas.
- Develop CBRN defence doctrines, standards, knowledge to support improvement of interoperability and capabilities.
- Provide opportunities to enhance education and training.
- Contribute to the relevant lessons learned processes.
- Within a PoW approved by the SC, assist NATO, SNs and other international institutions/organisations in their CBRN defence related efforts, including validation through experimentation.

Responsibilities

To HQ SACT

- Support development of concepts and doctrine through experimentation
- Promote interoperability and standardisation
- Provide assistance in analysis to determine future capability requirements
- Develop and distribute lessons learned from operations, exercises, and experiments
- Provide education and training
- Assist research
- Promote relationships among related CBRN bodies
- Development of databases

To ACO

- Support Force Planning, Armament Planning, and PfP Planning and Review Process
- Long term evaluation of national and international capabilities
- Training and education for experts and crisis management specialists
- Advise unit certification process prior to engagement

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## Multinational Logistics Coordination Centre

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### PICO ENVIROTEC Inc.

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### UNIVERZITA OBRANY

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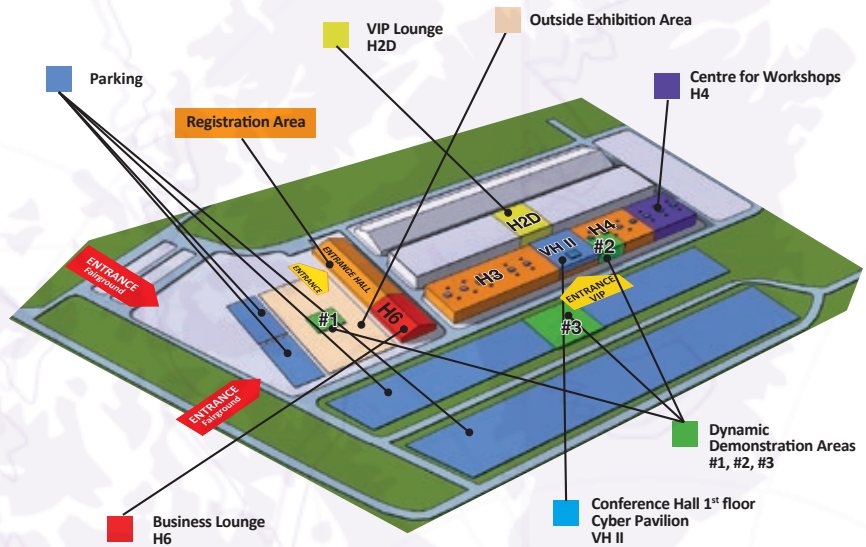
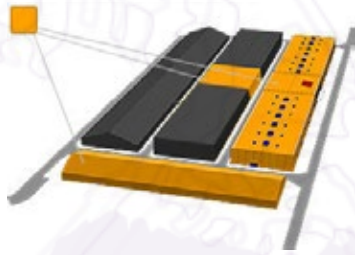
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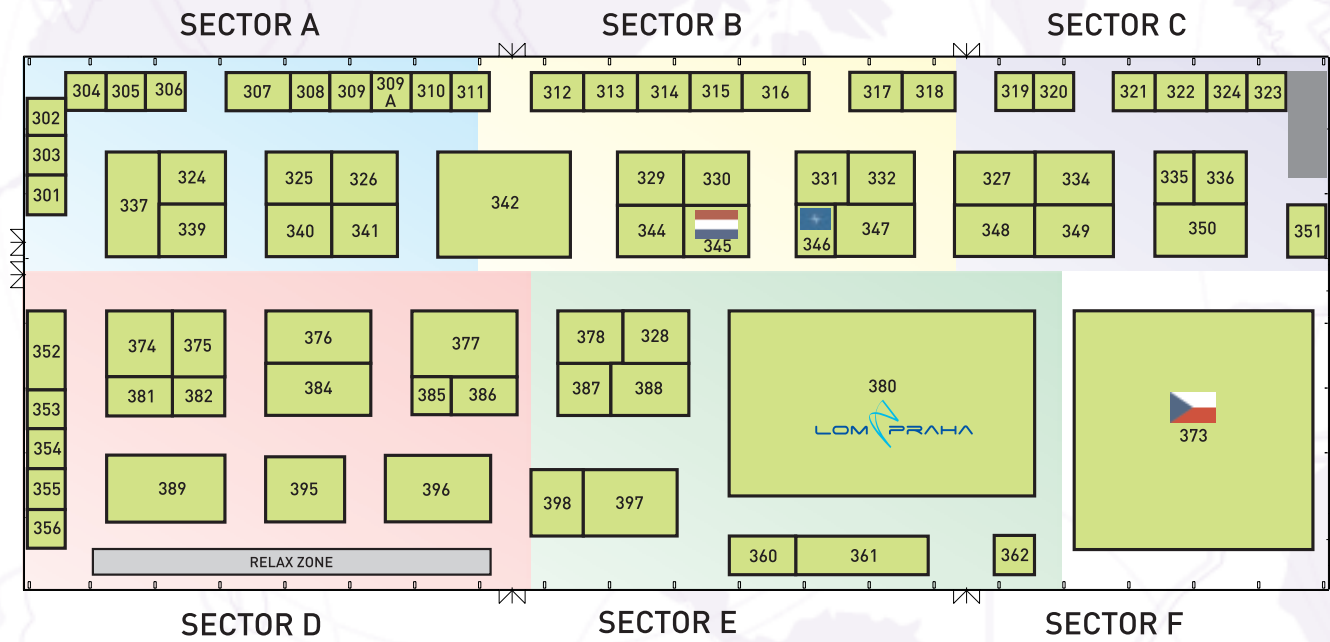
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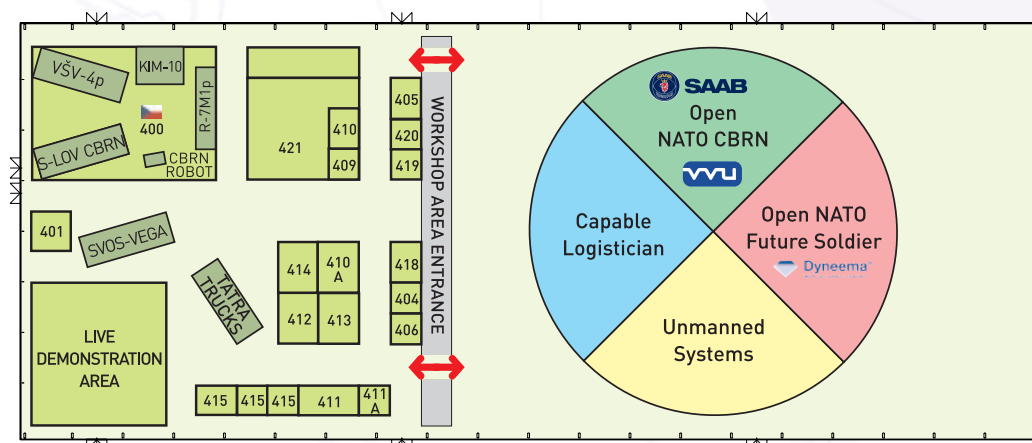
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