

# FUTURE LAND FORCES

*'Preparing our land forces for future conflict'*

At the Hilton Warsaw City, Poland  
5 – 7 November 2024

## CONFERENCE PRODUCER'S INTRODUCTION

*Defence Leaders look forward to welcoming you to the second **Future Land Forces** conference taking place in the vibrant city of Warsaw over 5 - 7 November 2024, following the success of our inaugural event last year.*

*Globally, adversaries have been observing our armaments, equipment and tactics to develop increasingly capable forces. Consequently, our land forces now face a multitude of complex threats, including uncrewed aerial systems, enhanced anti-armor rounds, loitering munitions, and cyber/EW effects, among others. Therefore, our land forces must undergo physical, conceptual and cultural transformations to maintain their advantage in an ever-evolving world shaped by rapidly advancing technologies, climate change and increasingly aggressive and unpredictable opponents.*

*Success in future land warfare hinges on learning from current and past conflicts and developing innovative solutions for the information-age battlefield. Future equipment is being designed to be more lethal, agile and integrated, centred on digital capabilities. Our land forces must increasingly operate with combined arms, jointly across all domains, and in collaboration with allies and partners to effectively contribute to large-scale combat operations.*

*The **Future Land Forces** conference offers an ideal platform for knowledge exchange, discussion of shared challenges, and networking within the global land forces community. It will be held alongside an industry exhibition showcasing the sector's most innovative solutions and will attract senior military personnel, program managers, capability and requirements teams, front-line commanders, researchers, and scientists.*

*Defence leaders are excited to welcome you to the second edition of the Future Land Forces conference, taking place in the vibrant city of Warsaw from 5 - 7 November 2024.*



**Seb Britton**, Defence Engagement Manager, **Defence Leaders**  
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## PRE-EVENT PASS COLLECTION | MONDAY 4 NOVEMBER | CONFERENCE FOYER

1800 - 2000: **Staff will be on hand assisting in the exhibition setup at the venue**

- Meet the Defence Leaders team and other conference delegates
- Collect your badges, conference guides and any other required information
- A relaxed and casual evening that will save you time at registration on Tuesday morning

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### SUPPORTING PARTNERS:



Military  
University  
of Technology

## EXCLUSIVE PRIVATE BRIEFINGS

### WEDNESDAY 6 NOVEMBER

<b>0730 - 0900</b>	<i>Sponsorship Available</i>	<i>Breakfast snacks provided</i>
<b>0900 - 1030</b>	<i>Sponsorship Available</i>	
<b>1045 - 1215</b>	<i>Sponsorship Available</i>	
<b>1230 - 1400</b>	<i>Sponsorship Available</i>	<i>Buffet lunch provided</i>
<b>1415 - 1545</b>	<i>Sponsorship Available</i>	
<b>1600 - 1730</b>	<i>Sponsorship Available</i>	

### THURSDAY 7 NOVEMBER

<b>0730 - 0900</b>	<i>Sponsorship Available</i>	<i>Breakfast snacks provided</i>
<b>0900 - 1030</b>	<i>Sponsorship Available</i>	
<b>1045 - 1215</b>	<i>Sponsorship Available</i>	<i>Buffet lunch provided</i>

## DAY ONE | TUESDAY 5 NOVEMBER | PLENARY THEATRE

### ENSURING ALIGNED FORCES FOR FUTURE CONFLICT

*Since Russia's invasion of Ukraine, escalating tensions between Israel and Palestine and the Red Sea funding priorities have shifted into armour, artillery and air. The donation of legacy assets to the cause has allowed Land Forces to reanalyse what is important and Commanders should be wary of swinging too far the wrong direction. There have been advances in ISR systems, C2, ASE and weapons that may yet prove crucial battle winning assets.*

*The first day of the Future Land Forces brings together military and industry experts making vital contributions to the success of global military operations. These professionals lead the way in research, development, testing and evaluation (RDT&E), platforms, system and weapons, research and development as well as acquisition and capability management, training and support solutions. We are delighted to have them at Future Land Forces and hope you find their insights valuable and enriching.*

0615 – 5km morning run from Hilton Warsaw City reception

**SPONSORSHIP AVAILABLE**

0800 – Badge collection and registration

**SPONSORSHIP AVAILABLE**

0850 – Chairman's introduction

**Brigadier General (Ret'd) Frédéric Pesme**, Former Deputy Director of Policy and Capabilities, **NATO HQ**



#### SESSION ONE | HOW CURRENT OPERATIONS ARE SHAPING FUTURE STRATEGY FOR LAND FORCES

*Land forces are facing a testing period, with domestic border control balanced with overseas demands around near peer actors. Whilst the overall picture for funding seems positive across the globe, discussions are evolving about how to spread investment between readiness (training, workforce and ammunition) and equipment (both modernisation and new acquisition). The event will begin by exploring the most effective ways to achieve this mix.*

0900 – **Host Nation opening address: Polish Army developments out to 2032**

- How land forces can best extract operational feedback/lessons from Ukraine and apply lessons to their forces
- The technical and structural developments of the Polish Army
- Deepening the relationship between operational forces and equipment generators

**Major General Piotr Trytek**, Inspector of Land Forces, **Polish Armed Forces General Command**



0925 – **STAR-PAN as a power and data management solution on the battlefield**

- The agnostic ecosystem approach
- STAR-PAN new generation
- STAR-PAN a soldier's solution between mounted and dismounted transition

**Olivier Gregoire**, Business Development for Tactical Interconnect Systems, **Glenair**



0950 – **Preparing for the next generation of warfighting: harmonising capability development across the alliance**

- NATO's vision and the capability processes; understanding land forces development in the 5-40 year timeframe
- The operational priorities that are driving future capability development priorities
- Effective deterrence through integrated fires, armour, infantry formations and a connected force

**Major General (retired) Karl Ford CB CBE**, Director of Defence Planning, **NATO**



1015 – Morning coffee and networking

Hosted by **Glenair**



## SESSION TWO | EVOLVING BATTLEFIELD SITUATIONAL AWARENESS

*As we move to increasingly joint, multinational and multi domain operations the need to understand how best to collate, interpret and disseminate situation awareness effectively is paramount. This has always been an issue but the prevalence of combined task forces has attached a real importance to making a shared operational picture possible. This session will address how best to achieve this.*

### 1100 – Enhancing shared SA in the NATO land domain through interoperability

- Establishing high-readiness units with interoperable systems from the outset
- Enhancing the shared information structures for allied forces along the eastern flank
- Collective operating picture exercises to ensure understanding across units

**Major General Ollie Kingsbury OBE (British Army)**, Deputy Commanding General, **US Army V Corps**



### 1125 – Transitioning from the analogue fight with interoperable C4ISR tools

- Simplifying the complex operational procedures for close air support
- Digitally aided fire support and naval surface fire support/naval gun fire
- Support for over the horizon targeting

**Simon Oliver**, Product Director & **Magne Killingstad**, VP Marketing and Sales, **Teleplan Globe AS**



### 1150 – Training developments and requirements for the British Army

- Where we are at now: laydown of the Land Warfare Centre (LWC) and sub-commands
- Developing the British Army's combined arms manoeuvre proficiency, building on best practice and learning from Ukraine
- Combined Arms Manoeuvre changes and requirements; demand signal for pan Defence Lines of Development improvement

**Brigadier Nick Cowley OBE**, Commander Combat Maneuver Centre, **British Army**



### 1215 – Lunch and networking

Hosted by **Anduril**



## SESSION THREE | BATTLEFIELD MOBILITY: THE NEXT GENERATION OF VEHICLES

*One of the key principles of war is the ability to manoeuvre effectively. The quickest, safest and most reliable method to achieve this is through the use of vehicles. The choice between lightly or heavily armoured vehicles, and whether they use wheels or tracks, depends on specific threat and terrain. Our research shows that 90% of the countries we surveyed are currently undergoing some form of modernisation or acquisition of such vehicles. This session will delve deeper into these trends and developments.*

### 1330 – Developing Brigade and Divisional operations for the Swedish Army

- Assessing the future operating environment to develop future concepts and requirements; the impacts of joining NATO
- Modernising C2; building a battlefield sensor network from the soldier up and linking the requisite digital backbone
- Integrating platforms (CAVS and CV90) with command and control systems with the Joint Force, Allies and Partners

**Major General Jonny Lindfors**, Commander, **Swedish Army**



### 1355 – Next generation vehicle plans to deliver battlefield success

- Increasing operational readiness rates via shared maintenance structures
- Ensuring open architecture across the systems for easier future upgrades
- Future priorities across the vehicle spectrum: range, firepower and protection

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### 1420 – OCCAR land programmes overview

- New land programmes@ future light armoured vehicle (VBAE) and ground alerter 10
- Scope for wide wet gap crossing and programme lessons for future land equipment procurement
- Future plans for OCCAR land systems

**Alexandra Alonzi**, Programme Manager **BOXER**, **OCCAR**



### 1445 – Afternoon coffee and networking

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## SESSION FOUR | CHANGING THE WAY WE FIGHT: THE FUTURE OF LAND WARFARE

*The transition from a counterinsurgency (COIN) period to traditional large-scale force-to-force engagements has led to the creation of new concepts, not all of which are either welcome or suitable. However, our research underscores the importance of preparation which is key and there is a general theme of anticipating an upcoming war. This session will analyse possible avenues of future warfare, and explore the best strategies for preparation.*

### 1530 – Future priorities and developments for land forces in the Baltic region

- Current force structure and operational areas
- Modernisation and acquisition priorities
- Future upgrade and procurement pipeline for our land equipment

**Brigadier General Artūras Radvilas**, Commander Land Forces, **Lithuanian Armed Forces**



### 1555 – Next-generation of drone systems for short-range reconnaissance; ensuring warfighters have the ISR needed to make critical decisions, quickly

- Modular drone design that allows for effortless swapping of propulsion, payload and other hardware based on the specific needs of warfighters and evolving threats
- Integrating advanced AI capabilities into drones. SRR-focused advanced payloads with EO/IR & onboard computing for autonomous missions & advanced planning
- Partnering with other leading companies to bring new capabilities to the Red Cat technology stack and provide our customers with a solid ecosystem of hardware and software

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Defining the Future of Aerial Intelligence

### 1620 – Transforming and adapting the US Army for a rapidly changing environment

- The unprecedented impacts of technical disruption on the character of war and lessons from Project Convergence
- Experimentation across the scales of transformation, outcomes from Project Convergence and working with allies
- Making the US Army more adaptable, flexible and lethal while giving the warfighter the capacity and capabilities to win now and in the future

**Colonel (Ret.) David Meyer**, SES Director of Futures Integration, **US Army Futures Command**



### 1645 – Chairman's summary of day 1

**Brigadier General (Ret'd) Frédéric Pesme**, Former Deputy Director of Policy and Capabilities, **NATO HQ**



### 1650 – Evening networking and drinks reception

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### 1900 – Close of drinks reception

**DAY TWO | WEDNESDAY 6 NOVEMBER | FOCUSED CONFERENCE STREAMS**

0615 – 5km morning run from Hilton Warsaw City reception **SPONSORSHIP AVAILABLE**

0800 – Badge collection and registration **SPONSORSHIP AVAILABLE**

0800 – Welcome coffee **SPONSORSHIP AVAILABLE**

**STREAM A  
LAND COMMAND AND CONTROL**

*As operations become more complex, joint and multinational the need for agile C2 becomes critical. It needs to encompass people, systems and technology to be truly effective and this stream will explore how best to make C2 fit the needs of the system.*

0850 – Chairman’s introduction  
**Brigadier General (Ret’d) Frédéric Pesme**,  
Former Deputy Director of Policy and Capabilities, **NATO HQ**



**MISSION COMMAND IN CONTESTED ENVIRONMENTS**

0900 – **Maximising battlefield connectivity in contested and non-permissive areas**

- Examining British Army future concepts and developments
- Enabling complete battle pictures including blue/red force trackers
- Proposed concepts for developing the next generation of sensors for future land operations

**Colonel Will Strickland OBE PhD**,  
Assistant Head Concepts, **British Army**



**STREAM B  
ARTILLERY AND INDIRECT FIRES**

*Critical to any large formation are its fires, adding capability to shape the battlespace, eliminate enemy Batteries, concentrations and suppress manoeuvre elements. This session will explore how fires can best integrate.*

0850 – Chairman’s introduction

**INTEGRATING FIRES INTO THE WIDER FORCE**

0900 – **Developing the artillery and rocket forces for Poland; 2032 and beyond**

- Formation of the 1st Rocket Brigade and the HIMARS academy
- Introducing the most modern artillery weapons into the army’s equipment
- Future projects for the Polish Armed Forces Rocket and Artillery Forces

**Brigadier General Grzegorz Potrzuski**,  
Head of the Board of Missile and Artillery Forces, **Polish Armed Forces General Command**



**STREAM C  
FUTURE ARMoured VEHICLES**

*How can nations and industry combine to look beyond firepower protection and mobility? There is a huge opportunity for vehicles to be a key node in the kill chain and this stream will delve into how to make this possible.*

0850 – Chairman’s introduction  
**Osman Tasman**, Land Armaments Coordinator, **NATO HQ Defence Investment Division**



**PROTECTED MOBILITY PROGRAMMES AND PROCUREMENT**

0900 – **Brazilian Army’s strategic programme for armoured forces**

- Transformation of the Armored and Mechanised Brigades of the Brazilian Army
- NFBR: 4X4, 6x6, 8x8, SPH plus new tracked armoured vehicles
- Integration with weapons systems, protection systems and command and control systems.

**Brigadier General Marcelo Rocha Lima**,  
Head of Strategic Project Office, **Brazilian Army**



**STREAM D  
DEVELOPING LAND FORCE TRAINING**

*Providing realistic and immersive training for land forces is a priority for nations and this area is developing rapidly to keep pace with wider capability progression. This session will explore the various options for nations to consider.*

0850 – Chairman’s introduction

**VIRTUAL TRAINING SOLUTIONS FOR DISMOUNTED COMBAT**

0900 – **Distributed synthetic training developments**

- Improving learning technologies
  - Modelling and simulation programmes
  - Advancements in decision making aids
- Colonel Steve Banks**, Branch Head Modelling and Simulation Learning Technologies, **NATO HQ SACT**



**0925 – Decision making on the Edge: What happens when Information Age fighting units lose communications**

- Understanding the implications of the information age on land warfighting
- The information age OODA loop
- Offline systems and redundancy in solutions

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**0950 – The use of modern technology in the military decision making process**

- Evolving land domain operations processes for MDO utilising AI/ML
- Employment of capabilities and effects at the right time in space, synchronised to achieve a higher purpose
- Ensuring a continuous live information flow on the battlefield

**Lieutenant Colonel Łukasz Machna**, Lecturer - Department of Mechanised Forces, **Polish Land Forces University**



**0925 – Ensuring integrated fires across the spectrum**

- Where are the issues in delivering integrated fires
- What are the opportunities for improving C2 and precision
- How to operate these systems dispersed and in denied environments

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**0950 – Ensuring fires and wider integration across LANDCOM units**

- What are the challenges and how these are being overcome
- What does the future look like
- How we plan to get there

**Brigadier Chris Gent**, DCOS Land Integration, **NATO Land Command**



**0925 – Evolving modern mobility forces**

- Equipping brigades to meet future threats, providing greater firepower and protection for troops
- Considerations for logistics and training requirements when introducing new platforms
- Interoperability at the tactical level through common platforms and calibres

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**0950 – The return of the heavy brigades: preparing for the effective use of armour**

- The reasons behind the resurgence back to armour
- Key modernisation programmes that are paving the way for increased utilisation
- Key technological areas that are receiving extra funding: survivability and lethality

**Colonel Gheorghe-Christian Boangăr**, Deputy Chief of Staff for Resources, **Romanian Land Forces**



**0925 – Innovative and practical solutions for preparing our next generation of war fighters**

- Enhanced requirements for training: computers, virtual solutions and simulated ammunition
- Unilateral and multilateral exercises: capitalising on each to increase readiness
- Realism being the focus of training

**0950 – Enhancing live training exercises with connected simulations**

- Collective JTAC training; combining LIVEX with simulators
- Scaling constructive simulation technologies for large scale exercises
- Training land forces for high-intensity multi-domain operations

**Major Sander Cruiming**, Staff Officer Modelling and Simulation - Knowledge, Innovation and Policy, **Royal Netherlands Army**



**1015 – Morning coffee and networking**

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**MESH NETWORKS ENABLING BATTLESPACE MANAGEMENT**

- 1100 – **How the Multinational Division Centre has become a future land force**
- Why the HQ MD-C was formed and how where we are operating
  - Ensuring multinational forces can operate together
  - Future plans for the MDC and opportunities for collaboration

**Major General Tibor Králik SVK**,  
Commander Multinational Division Centre,  
NATO



**MAJOR ARTILLERY PROGRAMMES AND PROCUREMENT.**

- 1100 – **Estonia fires development plans**
- Expanding the scope of our next iteration of platforms
  - Evolution vs revolution: enhancing our current concepts
  - Upcoming engagement opportunities to understand how to work with us

**Lieutenant Colonel Allan Raidma**,  
Commander of the Artillery Btn, **Estonian Defence Force**



**FUTURE VEHICLES REQUIREMENTS AND DELIVERY**

- 1100 – **Transforming the capabilities of the French Army with Scorpion and Titan Programmes**
- The ongoing modernisation of the French Army
  - Future requirements for the French Army and scope of the Titan Programme
  - Adapting the system of forces to current and future challenges

**Colonel Emilie Picot**, Head of Preparation of the Future, **French Army Headquarters Plans Office**



**INNOVATIVE TRAINING SOLUTIONS**

- 1100 - **Vehicle training solutions and requirements for the Australian Army**
- Multi platform trainers and ensuring interoperability between systems
  - How this is improving the way we fight
  - Potential future adaptations and opportunities to work with partners

**Lieutenant Colonel Ryan Pearce**, PM Boxer CRV - Recon Variant, **Australian Army**



1125 – **Sharing situational awareness with every echelon**

- Leveraging technology to meet the demands of the 21st century battlefield
- Supporting conventional and special operations with a fully integrated BMS
- Seize and sustain decision advantage; be first on target

Hosted by **Teleplan**



1125 – **Feedback from artillery trials and development**

- Integrating simulation and gaming as part of artillery capabilities
- Expanding the scope and use of ammunition natures
- Integrating off board sensors into programmes (UxV etc)

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1125 – **Providing assured position and navigation in the digital battlespace**

- The increasing need for extremely accurate dead reckoning navigation in GPS-denied environments
- Interfacing with existing and future battle management systems
- Reducing uncertainty and risk for land forces

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1125 – **Enhancing instrumented training through synthetic wrapping**

- Live-virtual JTAC training
- Constructive wrapping live exercises
- Development of an missile system simulators

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Day 2

1150 – Preventing chaotic environments from becoming chaotic operations

- Enabling commanders to make faster and more effective decisions that improve successes in all phases of conflict
- Conducting manoeuvre warfare across all domains: exploiting every opportunity to gain an advantage
- Training for MDO because “fighting hard” and “fighting smart” are not the same thing

**Lieutenant Colonel William Sumption,**  
Executive Officer - Tactics and Operations Group, **US Marine Corps**



1150 – Future fires plan for the Hungarian Defence Force

- Current force laydown
- Current and future capabilities
- Opportunities for collaboration

**Lieutenant Colonel Barnabás Bartók,**  
Artillery Branch Head, **Hungarian Army Land Forces Command**



1150 – Development of robotic and autonomous systems to support future land forces

- Exploring the roles where UGVs can be most effective; C-UAS, direct fire, engineering, CASEVAC and early ISR
- Recent UGV developments and technologies that can be utilised for today’s land forces
- Upcoming trials and exercises where UGVs will be front and centre of the tests

**Luke Gallentree,** Land Robotic and Autonomous Systems Technical Lead, **UK MoD Dstl**



1150 – Modernising our training to create authentic scenarios

- Testing and adapting technologies to ensure engagement in next generation soldiers
- Building realistic training environments
- How we look to balance simulation vs live training across the Estonian Defence Force

**Colonel Viktor Kalnitski,** Rector - Estonian Military Academy, **Estonian Defence Force**



1215 – Lunch and networking

Hosted by **Red Cat**



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### ENHANCING AND PROTECTING COMMUNICATION NETWORKS

#### 1330 – Multi-domain communication environments for FORCE 40

- Employing land forces in joint, combined, interagency operations
- The challenges of the future operating environment
- Requirements for converging: force structures and technologies

**Colonel André Tavares**, Strategic Studies Coordinator, **Brazilian Army**



#### 1355 – Maintaining communication flow in fast moving operations with tactical SATCOM

- Ensuring availability to exchange video, voice and data securely to deployed forces
- Shielded communications from jamming and inclement weather
- Tactical communications in contested environments; future challenges

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#### 1420 – Communicating data and information to the tactical edge

- Integrating sensors, positioning, navigation and timing for decision dominance
- Helping soldiers better comprehend their space and detect threats across the cyber and electromagnetic spectrum
- Testing prototypes and capabilities at Project Convergence

**Colonel Charles Seaberry**, Director of Forward Element – Atlantic, **US Army Futures Command**



### INDIRECT FIRES IN CONTESTED ENVIRONMENTS

#### 1330 – Enhancing capabilities for fires communications and interoperability

- Delivering precise, longer-range fires to strike targets in the deep
- Communications and targeting
- Developing new tactics, techniques, and procedures

**Lieutenant Colonel Arvis Zīle**, Chief of Combat Support Directorate, **Latvian Armed Forces Joint HQ**



#### 1355 – Artillery options for expanding the protective envelope

- Strategies for divesting responsibility for artillery units whilst ensuring mutual support for battlegroups
- 105mm vs 155mm: What role will area weapons have in future land forces
- Fostering the links between industry and military to aid timely, affordable and effective solutions

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#### 1420 – Ex ARCTIC STRIKE 24; executing indirect fires in an arctic environment

- Implementing a seamless digital kill-chain with manned and unmanned sensors
- Combined arms exercise and C2
- Experimentation to achieve high-precision in GNSS-denied environments

**Lieutenant Colonel Sven Bjerke**, Liaison Officer, **Norwegian Defence Research Establishment (FFI)**



### EMERGING VEHICLE TECHNOLOGIES AND MODULARITY

#### 1330 – BOXER programme update

- Current and prospective national partners
- Managing obsolescence throughout the life cycle
- Next steps for the BOXER programme and other OCCAR land programmes

**Alexandra Alonzi**, Programme Manager **BOXER, OCCAR**



#### 1355 – Duration and renewable sources

- Ultra high power Lithium-Ion cells for pulse power: development test results
- Renewable and innovative options for recharging including vehicle integration
- From smart phone technology to the soldier: conserving battery life for maximum usage

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#### 1420 – Australian Army BOXER programme update

- Modernisation of Australia's Combined Arms Fighting System: employment of Boxer as a combat reconnaissance vehicle
- Integration of C4I tools into a digital turret and opportunities for the future
- How Australia's BOXER acquisition compares to the EU model and moving production to Australia - lessons in technology transfer

**Lieutenant Colonel Ryan Pearce**, PM Boxer CRV - Recon Variant, **Australian Army**



### BLENDED TRAINING TO LEVERAGE SIMULATION IN LIVE ENVIRONMENTS

#### 1330 – Intelligent testing and evaluation: PESCO main battle tank simulation and testing programme

- Main Battle Tank (MBT) simulation centre
- An overview of plans with regards to training concepts, doctrine and standards
- Next steps: what is the timeline for the project and opportunities for collaboration

**Lieutenant Colonel Nektarios Papantoniou**, PESCO MBT-SIMTEC Programme Coordinator, **Hellenic Army**



#### 1355 – Industry solutions for enhancing joint training

- Evolving training for new vs SQEP soldiers to enhance preparedness
- Sustaining advanced technology and keeping training solutions abreast of developments
- Using realistic, accurate and precise training technology

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#### 1420 – The UK Army Special Operations Brigade: UK Land SOF, Allied Reaction Force 26 and beyond

- The functions provided by AOSB to UK Defence
- Current and upcoming capability requirements
- Opportunities for collaboration from both military and industry allies

**Colonel Timothy Turner**, Deputy Commander Special Operations Brigade, **British Army**



1445 – Afternoon coffee and networking  
**SPONSORSHIP AVAILABLE**

**ELECTROMAGNETIC SPECTRUM DEVELOPMENTS**

1530 – **Hyperspectral imaging for military and security applications**

- Hyperspectral target/anomaly detection for military purposes
- Development of a technique that combines hyperspectral imaging and machine learning models
- Future potential military use cases for further analysis

**Skralan Hosteaux**, Scientific researcher, **Belgian Royal Military Academy**



1555 – **Spectrum Overwatch: discover how innovative multi-platform EW solutions (COTS) give operators the edge in modern combat**

- How Low-SWaP COTS sensors allow operators to adapt to current threats
- Interconnected sensors on land, air and sea platforms
- Solving warfighter problems, real-world case studies

**Darren Nicholls**, EMEA Sales, **CRFS**

Hosted by **CRFS**



**MUNITIONS PRODUCTION AND DEVELOPMENT**

1530 – **US developments and challenges in conventional artillery ammunition**

- Building up production rates: new procedures, materials and expected production numbers
- Overcoming the challenges of interoperability across US allied ammunition usage
- Army 2030 modernisation programme timelines

**Colonel Leon Rogers**, Project Manager Combat Ammunition Systems -, **US Army JPEO A&A**



1555 – **Integrating future propulsion; concept to reality**

- Testing and development of advanced propulsion munitions
- Exceptional range and precision
- Reducing the need for more expensive rockets and missiles

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**ACCELERATING THE NEXT GENERATION OF ARMOUR**

1530 – **Current status and challenges for the Czech Republic's MBT projects**

- Role of the Armament Acquisition Division of CZ MOD
- The challenges of MBT procurement and future role for MBTs
- Current status of CZ tank fleet forces and future plans

**Major (ret.) Kamil Balwar**, Policy Officer and MBT Project Supervisor, **Czech Republic MOD Acquisition Division**



1555 – **Protective systems for vehicle operations in denied environments**

- Designing the vehicle to accept current and future armour
- Common AFV systems to simplify post build modifications
- Improving survivability whilst maintaining control over architecture design

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**PREPARING SOLDIERS FOR FUTURE OPERATIONS**

1530 – **Hungarian platform training developments**

- Making better use of current training facilities
- New platform developments and how this has impacted training
- Potential future requirements

**Lieutenant Colonel Zoltan Fekets**, Acting G7 Chief, **Hungarian Army Land Force Command**



1555 – **Industry solutions for enhancing joint training**

- Evolving training for new vs SQEP soldiers to enhance preparedness
- Sustaining advanced technology and keeping training solutions abreast of developments
- Using realistic, accurate and precise training technology

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1620 – **A view on modernisation from a small military perspective**

- Capabilities prioritisation; reality and dilemmas
- Areas with a high potential for automation
- Current modernisation direction

**Lieutenant Colonel Krešimir Kršinić**, Head of Planning Department, **Croatian Land Forces**



1620 – **Research in future artillery and rocket weapon systems**

- Testing and upgrading of artillery systems
- Designing, upgrading and testing of artillery ammunition
- Using of missiles and rockets in decreased range dimensions and testing of combat effectiveness for rockets and missiles

**Colonel Dr Paweł Sweeklej**, Director, **Military Institute of Armament Technology**



1620 – **Future main battle tanks and technological trends**

- Next generation hybrid protection systems for future MBTs
- Technologies for enhancing firepower
- Modular open system design and lightweight components making upgrade/repair easier

**Tuğrul Gazi APA**, Programme Manager (main battle tank systems), **Turkish SSB**



1620 – **The evolving role of light infantry units in large scale combat operations**

- Understanding how the nature of war has impacted dismounted units tactics and doctrine
- Development of soldier technology
- Doctrinal shifts and the effects on procurement, research and development

**Major Shaun Clarke**, SO2 Urban Warfare Development, **British Army**



1645 – *Chairman's summary*

**Brigadier General (Ret'd) Frédéric Pesme**, Former Deputy Director of Policy and Capabilities, **NATO HQ**



1645 – *Chairman's summary*

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**Osman Tasman**, Land Armaments Coordinator, **NATO HQ Defence Investment Division**



1645 – *Chairman's summary*

1700 – *Evening networking and drinks reception*

**SPONSORSHIP AVAILABLE**

1900 – *Close of drinks reception*

**DAY THREE | THURSDAY 7 NOVEMBER | FOCUSED CONFERENCE STREAMS**

0800 – *Badge collection and registration*  
**SPONSORSHIP AVAILABLE**

0800 – *Welcome coffee*  
**SPONSORSHIP AVAILABLE**

**STREAM A  
 LAND COMMAND AND CONTROL**

0850 – *Chairman’s introduction*  
**Brigadier General (Ret’d) Frédéric Pesme**,  
 Former Deputy Director of Policy and  
 Capabilities, **NATO HQ**



**ACCELERATING THE KILL CHAIN WITH  
 AUTONOMY**

0900 – **The British Army’s mission to exploit UxVs for operational advantage**

- Operational advantage: what is Rapid Agile Prototyping, Scaled for Operations (RAPSO)?
- The UKs Heavy Lift UAV Challenge
- Blending ‘best practice’ with new ways of thinking

**Andy McIntyre**, Future Capability Innovation Team Leader, **UK MoD DE&S**



**STREAM B  
 ARTILLERY AND INDIRECT FIRES**

0850 – *Chairman’s introduction*

**COMPREHENSIVE AIR AND MISSILE  
 DEFENCE**

0900 – **How Poland is preparing its air and missile defence**

- Current force laydown and integration with international units
- Current equipment and division layout
- Procurement plans for the next decade to enhance defensive posture

**Colonel Jaworski Przemysław**, Chief of Integrated Missile Defence, **Polish Armaments Agency**



**STREAM C  
 FUTURE ARMoured VEHICLES**

0850 – *Chairman’s introduction*  
**Osman Tasman**, Land Armaments  
 Coordinator, **NATO HQ Defence Investment Division**



**ARMoured VEHICLE PROTECTION AND  
 CONNECTIVITY**

0900 – **Future vehicle developments for Slovakia**

- Outlining Slovakian Armoured Vehicle capabilities
- The Slovakian Army transformation plans
- Future procurement focus for the Slovakian Army

**Major General Martin Stoklasa MSc**, Commander of the Ground Forces, **Slovakian Armed Forces**



**STREAM D  
 DISMOUNTED SOLDIER SYSTEMS**

0850 – *Chairman’s introduction*

**SITUATIONAL AWARENESS AND USING  
 SOLDIERS AS SENSORS**

0900 – **Increasing soldier lethality, mobility, and situational awareness with augmented vision**

- Achieving overmatch against our current and future adversaries
- Augmented visual equipment for both training and battlefield operations for dismounted troops
- Quick interpretation of feedback from autonomous systems for decision advantage

**Colonel Anthony Gibbs**, PM Soldier Warrior, **US Army PEO Soldier**



**0925 – Modernising the kill chain from the strategic level to the edge of battle**

- Paring down available data to only the information that is relevant
- Providing “deep sensing” far behind the line of battle to enable more effective use of long-range precision fires
- Sensor-focused intelligence and machine learning operations pipeline to standardise and speed up AI and ML

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**0950 – Improving land forces command and control with autonomy and autonomous systems**

- Lines of development for autonomous systems: mine sensors, UGVs, target acquisition and C2
- Procurement priorities for the CZ in UxV and autonomous programmes
- Upcoming projects and invitation to participate

**Colonel Jan Mazel**, Head of Military Robotics, **Czech Defence University**



1015 – *Morning coffee and networking*

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**0925 – Overcoming the challenges of multiple effect fire missions**

- Ensuring time on target synchronisation
- Battlespace deconfliction to avoid trajectory overlap
- System solutions to overcoming problems

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**0950 – Back to the future; opportunities and challenges of integrated air & missile Defence in the European theatre**

- The rapidly changing nature of the threat to NATO and Europe after the invasion of Ukraine
  - NATO and bi-lateral IAMD challenges
  - Sharing solutions and experiences
- Colonel Stuart Hay**, Commander 7th Air Defence Group, **British Army**



**0925 – Active protective system developments**

- Partner funding options for increasing ballistic and blast protection
- Bringing active protection systems out of pipeline and into production
- Ballistic testing and qualification facilities to increase speed of production

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**0950 – Enhancing its armoured vehicle capability**

- Developing Hungarian military industry and technical aspects of military digitalisation
- Multirole IFV development
- Innovative IFV armaments to enhance lethality - loitering munitions

**Colonel Zoltán Bárány**, Acting Commander, **Hungarian Armed Forces Modernisation and Transformation Command**



**0925 – Alternative soldier power solutions**

- Current research into alcohol fuelled batteries
- Other liquid options, and the scope for weight reduction and distribution
- Where next for the power generation industry

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**0950 – Shaping the future of urban warfare**

- British Army urban warfighting development
- Preparing the Army for future conflict in an increasingly urbanised world
- Effective use of concealment and protection in urban terrain

**Major Shaun Clarke**, SO2 Urban Warfare Development, **British Army**





**FUTURE LAND OPERATIONS**

**1100 – Enhanced soldier SA capabilities with RAS**

- Evolving how we fight Army 4.0; enabling increased tempo, decision-making and reducing risk
- Delivering a RAS enabled Army; Concept Development & Experimentation (CD&E)
- INNOARMY innovation model that will fuel future activities in the new technologies sector

**Major General Francesco Olla**, Chief of the General and Financial planning department, **Italian Army General Staff**



**1125 – Enhanced soldier capabilities with robotics and autonomous systems**

- Human-machine teaming – challenges and opportunities
- Tech/data/people enablers for battlefield situational awareness
- Integrating un-crewed systems with armour, PM and aviation

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**DEFEATING UNMANNED AIR THREATS**

**1100 – Counter UAS at the tactical edge**

- Responding to the threat - the critical need for C-UAS at the tactical level on the future battlefield
- Every manoeuvre platform as a C-UAS platform; enabling any medium calibre platform with proximity munitions
- Future concepts for smarter munitions for platforms and dismounted soldiers; single munition - multiple capabilities

**Major Andrew Durfee**, Assistant Project Manager PdM Medium Caliber, **US Army JPEO A&A**



**1125 – Portable C-UAS solutions**

- Tracking, detecting, and classifying drones and other small objects traditional radars can't see
- Using false GNSS signals to disrupt the drones genuine navigation
- Full airspace situational awareness

**SPONSORSHIP AVAILABLE**

**VEHICLE CAMOUFLAGE AND SURVIVABILITY**

**1100 – Integrated survivability: adapting the use of armour for future land forces**

- The reasons behind the resurgence back to armour
  - Key modernisation programmes that are paving the way for increased usage
  - Key technological areas that are receiving extra funding: survivability and lethality
- Tom Newbery**, UK technical authority on integrated survivability, **UK MoD Dstl**



**1125 – ‘Creating the cloke’: adaptive camouflage solutions for concealment**

- Where is the use of camouflage solutions most effective: urban vs rural
- Retrofit or built into design? Optimum options for your programme
- How concealment is now the key area for vehicle survivability

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**FIGHTING IN CHALLENGING TERRAINS AND CLIMATES**

**1100 – Mountain warfare 2040; the future of fighting in mountains**

- Unique challenges and opportunities
- Programme structure and main effort
- Developing our multi-domain operations concept for the mountainous environment

**Lieutenant Colonel Dennis Jahn**, Doctrine and Standardisation Branch Head, **NATO Mountain Warfare Centre of Excellence**



**1125 – Weight minimisation and distribution**

- New materials
- Power integrated uniforms – entire systems worn by the soldier
- Recharge or replace – the drive for renewable energy for the soldier away from resupply

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1150 – **Developing a (C-)UxS ecosystem for the Portuguese Army: the “Remote and Autonomous Systems” Program**

- Filling capability gaps vs. implementing disruptive technologies
- The need for an integrated “Remote and Autonomous Systems” (RAS) program and the approach we are taking
- The role of experimentation: the “Army Technological Experimentation (ARTEX) 24” exercise

**Captain Artur Jorge Abreu Varanda**, Experimentation and Technological Modernization Centre, **Portuguese Army**



1150 – **Impact of UxVs of future operations**

- Introduction to ACT and its work in Europe
- Overview of current UxV activity and experimentation on operations - evolving NATO concepts with UxVs
- Command and control in contested, degraded, and denied environments. How to maintain decision advantage at all times

**Major General Adrian Ciolponea**, Allied Command Transformation - European Representative, **NATO HQ**



1215 - Chairman’s closing remarks

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**Brigadier General (Ret’d) Frédéric Pesme**, Former Deputy Director of Policy and Capabilities, **NATO HQ**



1220 – *Lunch and networking*  
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1150 – **Enhancing interoperability: Finabel's vision for future land operations**

- Implementing a seamless digital kill-chain with manned and unmanned sensors
- Combined arms exercise and C2
- Experimentation to achieve high-precision in GNSS-denied environments

**Mario Blokken**, Director, **Finabel - European Land Force Commanders Organisation**



1215 - Chairman’s closing remarks  
**Osman Tasman**, Land Armaments Coordinator, **NATO HQ Defence Investment Division**



1150 – **Mission command in urban and subterranean operations**

- Addressing the challenges of urban and underground operations
- Technological solutions for enhancing operations
- Science and technology; areas for development

**Colonel Peter Hofer**, Head of Institute, **Austrian Army Theresian Military Academy**



1215 - Chairman’s closing remarks

## CLOSING PLENARY SESSION | PLENARY THEATRE A

### IMPROVING COLLABORATION BETWEEN NATIONS

1315 - *Chairman's introduction to closing session*

**Osman Tasman**, Land Armaments Coordinator, **NATO HQ Defence Investment Division**



1315 – **Preparing for the next generation of warfighting: balancing readiness vs equipment**

- Mid and long-range ambitions for the Swiss Land Forces; reorienting the force to meet new threats
- The operational priorities for improving our requirements; concentrating on urban warfare training
- Effective deterrence through integrated fires, armour, communications and infantry formations

**Major General René Wellinger**, Commander Land Forces, **Swiss Armed Forces**



1340 – **Driving joint force strategy through development of land forces**

- Synchronising battlespace data into one information space to generate a common operational picture
- Integration of sensors, fire control, and decision-making systems and effectors
- Structural, cultural, and technological transformation as we move to achieving a future land force

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1405 – **Raising readiness: Estonia's national defence development plan**

- Air and missile defence: integration of sensors for offensive and defensive missions
- Delivering multi layered defence using manoeuvre, fires and allies
- Capability considerations for the future and procurement aspirations

**Brigadier General Vahur Karus**, Chief of Staff, **Estonian Defence Force**



1430 – *Chairman's summary of close of conference*

**Osman Tasman**, Land Armaments Coordinator, **NATO HQ Defence Investment Division**



1435 - *Conference closes*