INTERNATIONAL MILITARY ENGINEERING

BRITISH ARMY ENDORSED

TRANSFORMING COMBAT SUPPORT CAPABILITY

CONFERENCE DATES
23rd - 24th February 2016

LOCATION
London, UK

ARMY

BRITISH ARMY ENDORSED EVENT COVERING ALL KEY AREAS FOR FUTURE ENGINEERING DEVELOPMENT

REFORMING COMBAT SUPPORT CAPABILITIES TO FACE THE COMPLEX 21ST CENTURY OPERATING ENVIRONMENT

BENEFITS INCLUDE:

- **Shape discussions and influence requirements** as global combat support staff work to develop capability to face future challenges
- Collaborate with customers and other stakeholders to **explore long-term trends** in military engineering and how to shape your business and target markets for future success
- Be the first to hear the latest **UK combat support priorities** and be on point to place your solutions at the heart of the discussion
- Receive end-user feedback from successful missions and use these to contextualise your product's role in the next operational success story

SPEAKER HIGHLIGHTS INCLUDE:

Brigadier General Oshri Lugasi
Commanding Officer, Corps of Engineers,
Israeli Defence Force

Major General K. D. McQuillan
Chief Military Engineer,
Canadian Armed Forces

Major General Mark W. Yenter,
Deputy Commanding General Combat Engineering and International Operations,
United States Army Corps of Engineers

Brigadier Simon Humphrey
Director, Capability Directorate Combat Support,
British Army

Lieutenant Colonel Jochen Gumprich
Head of Engineering Branch- Army Development Command,
Bundeswehr

Colonel Jason Hones
Assistant Director Plans, Capability Directorate Combat Support,
British Army

Colonel Jim Burke
Director of Engineers,
Irish Defence Forces

Lieutenant Colonel Richard Burnet
Staff Officer- Engineer Operations (J-ENG),
NATO SHAPE

*Subject to final confirmation

2015 CONFERENCE DELIVERED:

- **60+** Expert Delegates
- **16+** Briefings + Panels
- **91%** Would recommend to colleagues

2016 CONFERENCE WILL INCLUDE:

- **22+** Briefings + Panels
- **7** New topic areas
- **100+** International Engineering Experts
- **5+** Hours Networking Time

THE AGENDA WILL COVER TOPICS SUCH AS:

- Strategic planning and transformation in engineering
- Mobility: combat teams, bridging and ESVs
- Future FOB threats
- Unmanned ground systems beyond C-IED functions
- Military engineering for humanitarian assistance
- Extending capability through energy efficiency

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Dear Colleague,

Alongside our partners at *Capability Directorate Combat Support, British Army,* it is my pleasure to welcome you to the **International Military Engineering 2016** Conference.

Following the conclusion of over a decade of major operational commitments, military engineers across the alliance entered into a new planning cycle to reform their capability. Many are fully committed to this process and some are at the point of a plan being put into action.

To help prepare for an increasingly complex strategic context, it was put to us that a forum for active discussions on the challenges of the future was required, whilst also acknowledging the influence of past operations.

Building on last year's success we are working closely with the Army to produce a wide-ranging and critically engaging programme of briefings by leading influencers from NATO, its member states, and its partners.

With uncertainty around future operational commitments, the pressures of the current humanitarian security environment and the anticipated effects of global warming, the context for engineering operations has become vastly more complex. Military engineers must now be prepared to play a broader role than at any time in history.

Such is the magnitude of the challenge facing engineers, the ambition for the conference has been scaled to match!

So, please do join us to discuss the future role of the combat engineer and to offer your expertise to the discussions- discussions aiming to provide leading decision makers with solutions to the challenges of today and tomorrow.

I look forward to welcoming you in February.

Kind regards,

Will Rushworth
Conference Director
Military Engineering 2016

INTERNATIONAL MILITARY ENGINEERING
TRANSFORMING COMBAT SUPPORT CAPABILITY

WHO SHOULD ATTEND?

Programme Managers, Government/Ministry of Defence Representatives, Planners, Acquisition Staffers, Operators and Policy Makers for:

- Engineering Corps' and Battalions
- Combat Support Plans
- Civil-Military Cooperation
- Support Systems & Capability Development
- Geospatial Engineering
- Scientific Advisors
- Force Transformation
- Concepts and Doctrine Development
- Energy Security

Government/ Defence Services and Business Development Directors, Marketing Managers and Sales Managers representing solution providers for:

- OEMs and Engineering Vehicle Manufacturers
- Deployable Energy Solutions & Smart Grids
- Route Opening & Clearance
- Unmanned Ground Systems
- Bridging
- C-IED
- Land Systems
- C4ISR

2016 SPEAKERS

Major General Mark W. Yenter,
Deputy Commanding General Combat Engineering and International Operations, ***United States Army Corps of Engineers***

Major General K. D. McQuillan,
Chief Military Engineer, ***Canadian Armed Forces***

Brigadier General Oshri Lugasi,
Commanding Officer, Corps of Engineers, ***Israeli Defence Force***

Brigadier Simon Humphrey,
Director, Capability Directorate Combat Support, ***British Army***

Brigadier John Ridge*,
Commander 8th Engineer Brigade, ***British Army***

Colonel Chas Story,
Assistant Director Military Engineering Combat Support, ***British Army***

Colonel Jason Hones,
Assistant Director Plans, Capability Directorate Combat Support, ***British Army***

Colonel Jim Burke,
Director of Engineers, ***Irish Defence Forces***

Lieutenant Colonel Jos Hekking,
Branch Head Planning & Coordination, Civil-Military Cooperation Centre of Excellence, ***NATO***

Lieutenant Colonel Jochen Gumprich,
Head of Engineering Branch- Army Development Command, ***Bundeswehr***

Lieutenant Colonel Richard Burnet,
Staff Officer- Engineer Operations (J-ENG), ***NATO SHAPE***

Lieutenant Colonel Richard Walker,
CO 36 Engineer Regiment, ***Queen's Gurkha Engineers***

Major Wim De Brabander,
Bureau Chief Engineering & Support Systems, ***Belgian Armed Forces***

Major Toby Flinn*,
Operations Officer, 46th Engineer Battalion, ***US Army***

Joseph Reiterer,
Chief, Civil-Military Cooperation Section, ***UN OCHA***

Ian Ratcliffe,
CDCS Science Gateway Advisor, ***DSTL***

Mr. Mehmet Kinaci,
Senior Analyst, Allied Command Transformation, ***NATO***

Rasa Pazarauskiene,
Doctrine and Concept Development Division, Energy Security Centre of Excellence, ***NATO***

Brigadier (Retd) Ben Barry,
Senior Fellow for Land Warfare, ***IISS***

**subject to final confirmation*

From: Colonel J A Hones, late RE

Capability Directorate Combat Support
Zone 5, IDL 422
Ramillies Building
Army Headquarters
Marlborough Lines
Andover
Hampshire
SP11 8HJ

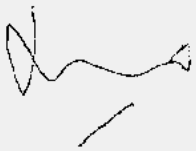
Assistant Director Plans

I encourage you to attend the IQPC Military Engineering 2016 conference to further engage with us on the critical issues that our teams are working to solve currently, and to support our research into the future capability development for the British Army.

Like many other Armies around the world we are looking into the emerging technologies that will shape the military engineering equipment and process in the future. Key themes are the development in: engineer support in a complex urban environment, composites, autonomy (swarming), modularity, sensors, and area denial systems. The agenda for this conference has been set with these important themes in mind and I hope you'll join us to contribute to this forum for thought development.

It was a pleasure to meet many of the industry representatives at the recent DSEI event in London and we look forward to engaging further with potential partners. In addition to welcoming industry colleagues, we look forward to welcoming a wide spectrum of international academia and militaries to explore the common challenges of delivering military engineering capability now and in the future.

Yours faithfully,



CONFERENCE DAY ONE | 23RD FEBRUARY 2016

0830 **REGISTRATION & COFFEE**

0900 **CHAIRMAN'S OPENING REMARKS**

REFORMING MILITARY ENGINEERING FOR 21ST CENTURY OPERATIONS & THE COMPLEX GLOBAL THREAT ENVIRONMENT

This session will explain the overall concept and ambitions for the conference, examine the implication of the SDSR for this area and determine how the conference will explore solutions to key challenges. Briefings will introduce the British context behind the following sessions, the international engineering environment, current operational priorities and transformation plans for the MoD.

0915 **THE STRATEGIC PERSPECTIVE FOR FUTURE COMBAT SUPPORT: POST SDSR ANALYSIS AND PRIORITIES FOR FUTURE ENGINEERING CAPABILITY**

- Future Challenges
- A2025
- Army Industry Engagement
- SDSR analysis

Brigadier Simon Humphrey, Head Capability Directorate Combat Support, **British Army**

0945 **EMPOWERING THE ENGINEERS OF THE FUTURE BRITISH ARMY TO FULFIL FULL SPECTRUM COMBAT AND CIVIL OPERATIONS: CAPABILITY REQUIREMENTS AND DOCTRINAL SHIFTS**

- Manoeuvre support to the medium weight 'Strike' Concept
- How the Whole Force Approach could impact the Royal Engineers
- Area denial
- Autonomy

Colonel Jason Hones, Assistant Head Plans, Capability Directorate Combat Support, **British Army**

1015 **HOST NATION PANEL DISCUSSION: THE GLOBAL OPERATIONAL CONTEXT AND CHANGING FACE OF MILITARY ENGINEERING**

- Introductory discussions on the UK's political and strategic posture and military engineering's current role in supporting this and the discussions which different UK stakeholders will seek to hold throughout the conference
- Cross-section of British panellists will offer political, strategic, operational and developmental perspectives on the future priorities for combat support and the British efforts to confront the complex global threat environment
- Panellists will explain some of the key drivers shaping decisions following the publication of SDSR and how the proposed allocations will achieve the operational objectives for the British Army and the broader objectives of the National Security Strategy
- Audience members will have a chance to engage in critical discussions on current and future procurement plans to develop their understanding of the requirements of the Ministry of Defence

Panel will include representatives from **British Army CD CS, DE&S, MoD, DSTL**

1100 **MORNING COFFEE AND NETWORKING**

DEVELOPING MILITARY ENGINEERING CAPABILITY TO SUPPORT A FULL RANGE OF HUMANITARIAN OPERATIONS

With the low likelihood of extended military operations in the near future, military engineers must look to diversify their offering and maximise the return on investment for governments. One way of achieving this is to renew the emphasis on the unique capability of military engineers to rapidly deploy in disaster relief missions. By developing military capability in conjunction with broader civilian applications, militaries can continue to offer complete combat engineering services and diversify their broader capability and reinforce their unique value in fulfilling wider international responsibilities.

1200 **THE FUTURE ROLE OF MILITARY ENGINEERS IN HUMANITARIAN CRISES AND NATURAL DISASTERS: UNDERSTANDING THE LIKELY REQUIREMENTS AND DEVELOPING ENGINEERING CAPABILITY FOR PEACETIME OPERATIONS**

- Understanding the dynamics of humanitarian action to facilitate better support from military engineering assets and interoperability with civilian agencies
- The critical importance of UN OCHA's preparedness strategy as climate change and emerging humanitarian trends increase the risk of disasters; and how military actors can positively contribute to international humanitarian assistance assets
- Explanation of the cluster approach to crisis management and the role of military engineers in enabling response to and recovery from humanitarian crises
- Understanding the challenges involved with military involvement on foreign territory and the crucial role of UN OCHA in coordinating in-country response with international military assets and facilitating communication to enable seamless humanitarian response

Joseph Reiterer, Chief of Civil-Military Coordination Section, **UN OCHA**

1130 **OPERATIONAL EXPERIENCE IN HUMANITARIAN RELIEF: PROPOSALS FOR DELIVERING FASTER AND MORE EFFECTIVE AID AND INFRASTRUCTURE**

- British military contribution to disaster relief following the Nepal earthquakes
- Lessons from combat experience that make military engineers a unique asset in providing rapid disaster relief
- Developing future capability to address the challenges of humanitarian relief missions and securing budgets by diversifying the outputs offered by military engineers

Lieutenant Colonel Richard Walker, CO 36 Engineer Regiment, **Queen's Gurkha Engineers**

1230 **THE UNIQUE OPPORTUNITIES FOR MILITARY ENGINEERS IN DEVELOPING CIVIL-MILITARY COOPERATION AND THE BENEFITS OF DEVELOPING DUAL-USE CAPABILITY REQUIREMENTS**

- Developments in Civil-Military cooperation and NATO CIMIC COE's work in developing this area
- Assisting military engineers engagement with civilian counterparts and how this produces a wider range of skills and a more experienced military engineering capability
- Addressing the interoperability challenges of Civil-Military engagement and how overcoming these offers a unique and powerful contribution to humanitarian operations and broader societal objectives
- Looking to future Civil-Military operations and developing military engineering capability with this as a key operational priority

Lieutenant Colonel Jos Hekking, Branch Chief Planning & Coordination, Civil-Military Cooperation Centre of Excellence, **NATO**

1300 **NETWORKING LUNCH**

CONFERENCE DAY ONE | 23RD FEBRUARY 2016 | CONTINUED

EXPEDITIONARY OPERATIONS AND MANOEUVRE: ENGINEERING ON A WHEEL-BASE

Rapidly deployable short-term operations are likely to be the primary military engagement for NATO in the near future. In order to maximise the mobility of deployed combat engineers, wheeled engineering vehicles will be a key capability feature of these operations. The French success in Mali- thanks in large part to the rapid deployment of engineering support to combat troops- demonstrates the decisive military effect of wheel-based engineering support and how it is critical to future expeditionary operations.

1400 **INTERNATIONAL KEYNOTE**

Major General Mark W. Yenter , Deputy Commanding General for Military and International Operations, **United States Army Corps of Engineers**

1430 **CONSIDERING MEDIUM WEIGHT CAPABILITY DEVELOPMENT IN THE CONTEXT OF A MODULAR SYSTEM OF ENGINEERING FUNCTIONS THAT CAN BE ATTACHED TO MEDIUM WHEELED AND MEDIUM TRACKED VEHICLES**

- From mine clearance to short-gap filling, COTS peripheral solutions for in-service ESVs
- Why investment in in-service upgrades can deliver exceptional capability at minimal cost
- Understanding the future role of combat engineers and providing solutions to enable a full range of engineering operations
- Challenges for assured mobility of MRAP vehicles: achieving the golden mean of maximum force protection, maximum manoeuvrability and maximum flexibility

Brian McCall, Military Technology Adviser, **Pearson Engineering**

1500 **MULTI-PURPOSE, MOBILE AND RAPIDLY DEPLOYABLE US STRYKER ESV AND HOW IT ENABLES A FLEXIBLE AND DYNAMIC FORCE**

- How the flexibility and reliability of the M1132 vehicle enables exceptional engineering support capability
- The vital role of the 8x8 combat engineer vehicle as part of the USACE armoury
- Current role for US Stryker Brigade in Europe and the US contribution to the rapidly deployable NATO force posture
- Future for US engineering vehicles: How the US Army will continue to develop capability through bolt-on solutions and what the next steps are for the US' wheel-based engineering solutions

TBC, US Stryker ESV Brigade, **US Army (Invited)**

1530 **ACHIEVING DECISIVE BATTLEFIELD EFFECT THROUGH RAPIDLY DEPLOYABLE WHEEL-BASED ENGINEERING CAPABILITY: OPERATION SERVAL AND LESSONS FOR FUTURE EXPEDITIONARY OPERATIONS**

- Overview of current French mobile engineering capability and their individual roles in Operation Serval
- How the Mali campaign demonstrated the decisive battlefield effects enabled by manoeuvrable engineers
- Lessons learned in the campaign and key themes for consideration in future rapidly-deployed operations
- Future French engineering acquisition plans: priorities for the next generation of French combat engineer capability

TBC, Commanding Engineer, Operation Serval, **French Army Corps of Engineers (Invited)**

1600 **AFTERNOON TEA AND NETWORKING**

BEYOND EOD FUNCTIONS: LOOKING TO UGS TO SOLVE A WIDER ARRAY OF THE COMBAT ENGINEER'S CHALLENGES

Whilst the traditional use for unmanned ground vehicles has been for C-IED and EOD applications, technological developments have increased UGS utility- the systems now have the ability to automate mobile engineering functions and further reduce risks to personnel. This session looks to some of the latest developments in the UGS sector and the functions these are likely to open up. If UGS can deliver a wider range of capability then militaries are sure to invest in multi-function solutions.

1630 **FUTURE UGS REQUIREMENTS: DELIVERING VALUE FOR MONEY BY OFFERING MULTI-PURPOSE, ADAPTABLE COTS SOLUTIONS AND LOOKING BEYOND THE NARROW CAPABILITIES IN USE TODAY**

- Current UGS capabilities gains thanks to technology developments in the last twenty years
- COTS UGS solutions alongside requirements led capability: how industry is ahead of the military
- Current research in the area and what are the most likely future developments for military unmanned systems
- Looking beyond C-EOD: the need to remove our preconceptions surrounding UGS and consider the full range of possibilities for applications in the future

Brigadier (Retd.) Ben Barry, Senior Fellow for Land Warfare, **International Institute for Strategic Studies**

1700 **THE PROS AND CONS OF DYNAMIC OBSTACLE AVOIDANCE: LIMITED UTILITY IN URBAN ENVIRONMENTS?**

- Sensor developments that will revolutionise the future applications of UGS and why militaries should be investing now
- Reducing casualties, improving mobility, clearing routes and protecting FOBs- unmanned concepts available for combat engineers
- Semi-autonomy and collaborative autonomy for ground vehicles: is there one way to go?
- Do automated breaking systems from commercial vehicles offer a better solution to limit obstacle impact damage?

1730 **CHAIRMAN'S CLOSING REMARKS AND END OF DAY ONE**

CONFERENCE DAY TWO | 24TH FEBRUARY 2016

0830 **CHAIRMAN'S OPENING REMARKS**

THE STATE OF MILITARY ENGINEERING IN 2016: CONFRONTING SHORT TERM CHALLENGES & PREPARING FOR THE LONG TERM

Despite the huge opportunities for future development in engineering and the winding down of combat operations in Afghanistan there are still major challenges confronting military engineers in 2016. This session will consider these and how to confront them within the overall development planning for the mid-long term.

0845 **URGENT OPERATIONAL CONSIDERATIONS: ASSESSING THE CURRENT ENGINEERING ENVIRONMENT AND CURRENT SOLUTION OFFERINGS**

- Current Challenges – What are my needs now?
- Equipment SWOT analysis: area denial, engineer intelligence, route proving and clearing, plant vehicles and manual handling equipment
- Training - SWOT analysis, including opportunities for synthetic environments.
- Infrastructure - Could a PPP work in the field army?

Brigadier John Ridge, Commander 8th Engineer Brigade, **British Army ***

0915 **INTERNATIONAL KEYNOTE ADDRESS**

Major General K. D. McQuillan, Chief Military Engineer, **Canadian Armed Forces**

0945 **CURRENT AND SHORT-TERM CHALLENGES FACING THE COMBAT ENGINEER OF 2016: PREPARING THE CONTINGENT FORCE**

- Manoeuvre Support Requirements: combat bridging & wide wet gap crossing
- Plant vehicles and manual handling equipment considerations
- Infrastructure Support Requirements for operations HQ, Field Hospitals and Expeditionary Tented Accommodation (EDA)
- Field Power and the Joint Operational Fuel System (JOFS)

Colonel Chas Story, Assistant Head Combat Support, Capability Directorate Combat Support, **British Army**

1015 **NATO SHAPE'S STRATEGIC PERSPECTIVE ON MILITARY ENGINEERING AND THE READINESS ACTION PLAN**

- The requirement for an agile and respionsive legal and regulatory framwework to enable proactive military engineering
- Process and practice for the assessment and management of critical infrastructure
- NATO's role in achieving ibnteroperability objectives between members, IOs and NGOs
- Enabling issues and the strategic narrative: SHAPE's leadership in developing information sharing between NATO member nations and non-member hosts

Lieutenant Colonel Richard Burnet , Staff Officer- Engineer Operations (J-ENG, **NATO SHAPE**

1045 **MORNING COFFEE AND NETWORKING**

THE FUTURE FOB: INFRASTRUCTURE IN THE COMPLEX FUTURE THREAT ENVIRONMENT

The FOB is the cornerstone of the expeditionary force and delivering effective force protection is a fundamental requirement of the combat engineer. This session will take a closer look at defensive strategies for responding to the wide range of future threats to FOBs: from clandestine offensive operations to tunnelling, short range ballistic missiles and UAVs.

1115 **INTERNATIONAL KEYNOTE**

ANCIENT TECHNIQUES WITH MODERN WEAPONRY: TUNNEL WARFARE IN THE 21ST CENTURY AND HOW TO PROTECT BASES AGAINST IT

- Counter-tunnelling capability and the engineer's responsibility in protecting forces and civilians from subterranean threats
- Future FOB threats in asymmetric warfare: Understanding the risks beneath the ground and developing strategies to counter them
- Operational success in counter-tunnelling and tunnelling operations and how the IDF has benefitted from Yahalom's expertise
- Sharing best-practice with allies in an under-represented but critical aspect of military engineering

Brigadier General Oshri Lugasi, Commander Corps of Engineers, **Israeli Defence Force**

1145 **APPROACHES TO THE PROTECTION OF THE FUTURE FOB AND HOW THE BRITISH ARMY LOOKS TO PROTECT FORCES IN THE COMPLEX FUTURE OPERATING ENVIRONMENT**

- Emerging technology - Self Sustaining Bases & Force Protection Engineering
- Threats from the air- anti UAV strategies
- Threats from the ground- building anti tunnelling capability
- Force Fields: the future of FOB defence?

Ian Ratcliffe, CDCS Science Gateway Advisor, **DSTL**

1215 **INDUSTRY PANEL ON AREA-DENIAL & ANTI-ACCESS SOLUTIONS FOR BASE PROTECTION POST-OTTAWA**

The industry panel will provide leading solution providers the opportunity to discuss the future threat to the FOB and how new technologies will enable the deployed force to defend their positions effectively.

- What non-lethal solutions are available and are they are practical alternative in the combat environment?
- How does the removal of landmines from theatre affect CONOPS for base defence?
- What other defensive support can engineering capability provide to the FOB? What is changing?
- Evaluation of the strengths and shortfalls of directed energy vs. smartguns and consideration of other lethal mine-replacement solutions

1300 **NETWORKING LUNCH**

DOING MORE, BETTER AND FASTER: THE DEVELOPMENTS REVOLUTIONISING MOBILE COMBAT ENGINEERING CAPABILITY

From force protection components to peripheral 'bolt-ons' to extend the capability of existing equipment, briefings will look to highlight the specific requirements for future solutions and demonstrate development in these areas. This session will focus on the opportunities for solutions to extend capability and service life, whilst improving resilience and reducing risks to the engineers that are facing the challenge of delivering results in a more dynamic and flexible manner.

1400 **WHAT ARE THE FUTURE ENGINEERING REQUIREMENTS FOR FULFILLING THE COMPLEX CHALLENGES FACED IN INTERNATIONAL MONITORING & PEACEKEEPING MISSIONS?**

- Lessons from experience in monitoring in Syria and peacekeeping in Lebanon: Ireland's experience in UNDOF and UNIFIL

- The increased intensity of the Syrian situation and need for greater force protection- what are solutions to ensure safety of engineering forces on operations?
- Assessing the industry's offering of autonomous systems and their importance in future operations
- Should militaries look for peripheral solutions over single platform ROCC vehicles? Do cost-saving measures pose a greater risk of loss of life or are they an unnecessary expense?

Colonel Jim Burke, Director of Engineering, **Irish Defence Forces**

1430 **WATER CROSSING CAPABILITIES IN THE CONTEXT OF NATO READINESS ACTION PLAN**

- Requirements in the tactical context of combat engineer support
- Today's capacities and systems of the German Army
- Ideas for a future floating bridge
- VJTF - kick off for a multinational approach within Europe

Lieutenant Colonel Jochen Gumprich, Head of Army Engineering, Army Command, **Bundeswehr**

1500 **THE IMPORTANCE OF QUICKLY ASSESSING EXISTING CIVILIAN BRIDGES FOR TACTICAL USE IN EXPEDITIONARY OPERATIONS WHILST SUSTAINING BRIDGING CAPABILITY FOR MOBILITY WITHOUT CIVILIAN INFRASTRUCTURE: UTILISING THE BEST, PREPARING FOR THE WORST**

- Belgium's approach for military bridges and the future plans for maintaining and extending bridging capability
- Military bridges versus civilian bridges : use, costs, logistic footprint : a reality-check
- Belgium 's experience in military bridge assessment from KOSOVO to CONGO (République Démocratique Congo)
- Overview of the military bridge assessment work being carried out by the NATO MCLSB Working Group including the STANAG 2021 ED8
- Evaluating deployable bridge COTS attachments for current wheeled vehicles against tailor made solutions, cost-saving vs. flexibility or the perfect solution?
- Future developments in bridging- what new technology will change the face of obstacle crossing for the future engineer?

Major Wim De Brabander, Bureau Chief Engineering & Support Systems, **Belgian Armed Forces**

1530 **END-USER PERSPECTIVE: FINDING ENGINEER PROFESSIONALS ON THE BATTLE FIELD & HOW THE FEST-A CONCEPT BRIDGES THE GAP FOR EXPEDITIONARY ENGINEERS**

- How the FEST-A concept combines military know how with civilian engineering proficiencies in an austere and hostile environment
- Differences and advantages of the FEST-A to other similar deployable technical engineer teams
- Demonstrations of how the FEST-A concept allows military leaders/agencies to focus on operational tasks instead of resource draining technical engineering problems
- Lessons learned from Afghan/ Iraq experience and current trends that are shaping US military engineering for faster and more effective engineering capability on expeditionary operations
- Making the case for embedding civilian engineers into military units

Major Toby Flinn, Operations Officer, 46th Engineer Battalion, **US Army ***

1600 **AFTERNOON TEA AND NETWORKING**

REORIENTATION TOWARDS ENERGY EFFICIENT OPERATIONS: REDUCING LOGISTIC RELIANCE AND EXTENDING CAPABILITY

More and more, military engineers are seeing the benefits of embracing energy efficiency on operations. However, as long as end-users and capability developers consider energy efficiency as a hindrance to operational capability this change will not be fully embraced. This session will highlight the vital work of NATO and the EDA in sharing best practice in this relatively new sector for engineers. Briefings will seek to demonstrate the operational advantages of adopting a more efficient use of resources and encourage military engineers to build energy efficiency considerations into their future strategic planning.

1630 **CHANGING ATTITUDES TO 'GREEN DEFENCE': PLACING ENERGY EFFICIENCY AT THE CENTRE OF FUTURE PLANNING FOR OPERATIONS AND INFRASTRUCTURE AND NATO'S ROLE IN FACILITATING THAT CHANGE**

- Allied Command Transformation's focus on bringing energy efficiency to the centre of future planning considerations
- Energy efficiency as a force-multiplier: extending capability and saving money
- Reflections on the energy usage of recent operations and lessons learned for the future
- The global energy security context and building military energy efficiency into the broader picture

Mr. Mehmet Kinaci, Senior Analyst, Allied Command Transformation, **NATO**

1700 **USE OF EMERGING TECHNOLOGIES TO REVOLUTIONISE OPERATIONAL ENERGY USAGE, MINIMISE RELIANCE ON LOGISTICS AND EXTEND MILITARY CAPABILITY**

- Environmental management in NATO and how it addresses discrepancies between nations
- Operational energy developments and case studies of successful implementation of new technologies
- NATO ENSEC COE's role in bringing energy security to the centre of military planning
- The future for energy security in military engineering: preparations necessary for successful future operations

Rasa Pazarauskiene, Subject Matter Expert Doctrine and Concept Development Division, **NATO Energy Security Centre of Excellence**

1730 **CHAIRMAN'S CLOSING REMARKS AND END OF MAIN CONFERENCE**

"Excellent - extremely pertinent and resulted in cross NATO-UK engagement. Very useful, with a good amount of networking time"

– RACHEL BESZANT, CD CS, SO2 PLANS MIL ENG

HOW CAN YOU MEET YOUR MARKETING AND BUSINESS DEVELOPMENT OBJECTIVES AT MILITARY ENGINEERING

NETWORKING

Ensure that you have the opportunity to engage with the key decision makers within your industry. We can create a platform for you to effectively interact with your top customers and prospects in the environment of your choice. This can range from formalised private meetings / workshops right through to less structured networking events such as sponsored drinks receptions, coffee breaks or lunches. Ultimately whatever you decide is the right forum; we will support you in your quest to advance relationships with the key people who can influence the future of your business.

BRANDING

Your company can be elevated to a position where they are seen as a market leader. In a fiercely competitive market you need to ensure that your brand is differentiated from the competition. Failure to create a clear identity will see your organisation fade into the background. We ensure that we do everything we can to effectively lift your brand before, during and after the event. Not only do we create a fully integrated marketing campaign, which your company can be part of, but we also offer high impact premium branding opportunities for example on bags, water bottles, pens, lanyards etc.

THOUGHT LEADERSHIP

If you think that you should be viewed as a true industry leader then you need to demonstrate your market knowledge and expertise through a thought leadership opportunity, such as speaking or chairing. This is a highly unique opportunity for your company to educate the market, and as long as you are credible enough to fit into a high level event programme, we can position your organisation alongside top customers and prospects in our speaker faculty. As part of this speaker faculty your company will be set apart from other industry attendees giving you the competitive edge required to make further strides in the market.

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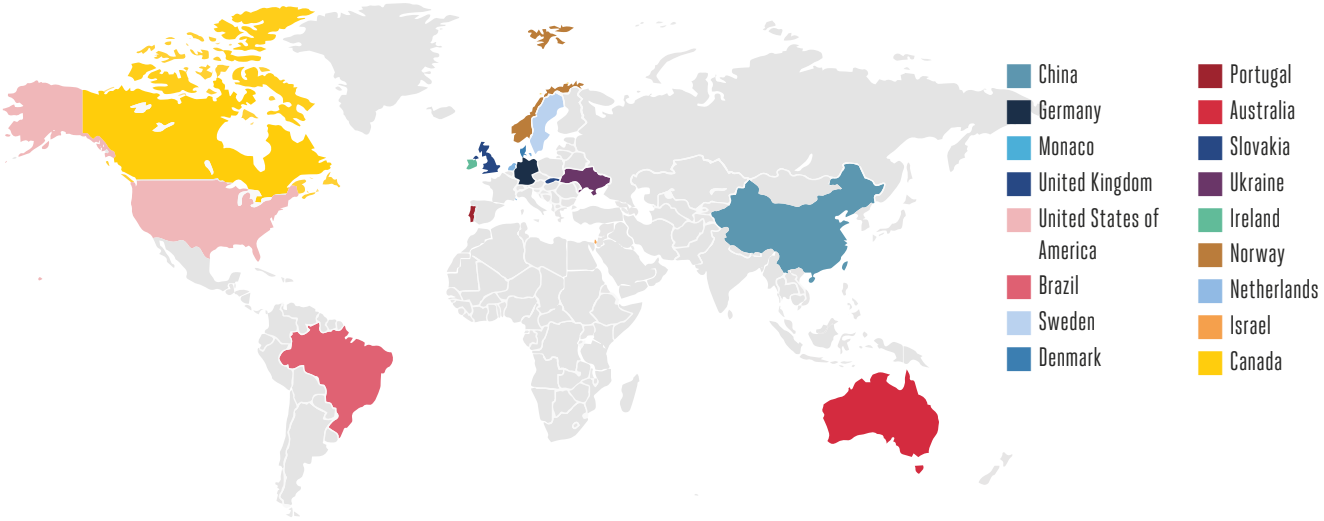

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Products include Counter-IED rollers, Mine Ploughs, Surface Mine Ploughs, Dozer Blades, Excavator Arms, Assault Bridge Launch Mechanisms and Obstacle Marker Systems,
This approach has also been applied to the civil defence sector. Our range of Assured Security products provide Counter-IED protection, protective barriers, obstacle clearance and elevated access capability to our homeland security agencies.
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