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# FUTURE VERTICAL LIFT ONLINE EVENT

26<sup>TH</sup> October 2020

Start Time: 1145 UK/0745 US East Coast

\*This session is <u>not</u> open to the media\*

With thanks to our industry partners:









NB – THIS EVENT TAKES PLACE JUST <u>AFTER</u> EUROPEAN DAYLIGHT SAVINGS ENDS BUT <u>BEFORE</u> THE USA TRANSITIONS TO WINTER TIME. TIME DIFFERENCE UK TO US EAST COAST IS THEREFORE <u>4 HOURS</u>

# **SPEAKER PANEL**

- Brigadier General Michael McCurry, Director, Army Aviation, Office of the Deputy Chief of Staff, G3/5/7, US Army
- Brigadier General Walter Rugen, Director, Future Vertical Lift CFT, US Army Futures Command
- Brigadier General Rob Barrie, Program Executive Officer, Aviation, US Army
- Colonel Philip J Ryan, Commanding Officer, US Army Special Operations Aviation Command
- Major General Andreas Hannemann, Commander, Rapid Forces Division, Bundeswehr
- Brigadier Steve Hussey, Head of Capability Air Manoeuvre, Army Headquarters
- Brigadier General Andreas Pfeifer, Deputy Commander, Rapid Forces Division, Bundeswehr
- Air Commodore Robert Adang, Commander, Dutch Defence Helicopter Command
- Colonel Scott Anderson, UAS Project Manager, PEO Aviation, US Army
- Colonel David Phillips, Program Manager, Future Long-Range Assault Aircraft, PEO Aviation, US Army
- Colonel Chris McKenna, Commander, 1 Wing, 1 Canadian Air Division, Royal Canadian Air Force
- Michael Schaefer, Programme Manager, A400M and NHgo/TIGER Programme Office, NSPA
- Pat Collins, Senior Fellow, Helicopters Operating Centre, DE&S, UK MoD
- Keith Flail, Executive Vice President Advanced Vertical Lift Systems, Bell
- Mike Moody, Senior Manager, Integrated Product Support Future Vertical Lift, Bell
- Jay Macklin, Director, Future Vertical Lift Business Development, Sikorsky
- Tom Dubois, Technical Fellow and FVL Chief Systems Architect, L3Harris

#### **DEFENCE IQ:**

- Pete Andersen, Divisional Director Defence, Defence IQ
- Alexander Stephenson, Editor, Defence IQ
- Oliver Marks, Portfolio Director, Defence IQ
- Benjamin McClatchie, Executive Producer, Defence IQ



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## SESSION MODERATOR:



Lieutenant General (Ret.) Kenneth E. Tovo, Former Commander, US Army Special Operations Command

Lieutenant General Ken Tovo culminated his 35-year military career in 2018, serving as the commander of the US Army Special Operations Command (USASOC). He was responsible for manning, training, equipping, and providing strategic direction to all the Army's Special Operations forces (Green Berets, Rangers, Special Ops Aviation, Civil Affairs, and Psychological Operations), a combined organization of over 34,000 people.

He began his service in the Infantry upon graduation from the US Military Academy in 1983. After serving his initial tour with the 82nd Airborne Division, Tovo completed the Special Forces Qualification Course and transferred to the Special Forces branch. He served as a Special Forces detachment, company, battalion, and group commander in the 10th Special Forces Group (Airborne).

Tovo's additional assignments included serving as a plans and operations officer with 1st Special Forces Operational Detachment-Delta and Joint Headquarters Center (NATO); aide de-camp to the commander, Stabilization Force, Bosnia; Chief of Staff, USASOC; Deputy Commanding General, Special Operations Command Europe; Director, Special Operations Division-Iraq; Deputy Commanding General, 1st Armored Division/U.S. Division Center, Iraq; Commanding General, Special Operations Command Central; Commanding General, Combined Security Transition Command-Afghanistan and NATO Training Mission-Afghanistan; and Deputy Commander, US Southern Command in Miami, Fla. LTG Tovo's operational assignments include the first Gulf War, refugee relief operations in Northern Iraq, noncombatant evacuation operations in Sierra Leone, peacekeeping operations in Bosnia on two occasions, five tours in Iraq, and one tour in Afghanistan.

He earned a BS in Aerospace Engineering from the US Military Academy at West Point, an MS in Advanced Military Studies from the US Army Command & General Staff College, and a MS in Strategic Studies from the US Army War College. He is the President & CEO of DOL Enterprises, Inc., a consulting firm focused on providing advice on strategic planning, risk management, and organizational effectiveness and serves on the board of several companies.

Ken and his wife, Suzanne, have been married for 34 years. They raised two sons who both serve the Nation – one as a Special Forces officer and the other as a high school English teacher.



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| SESSION SCHEDULE                           |  |  |
|--|--|--|
| <b>1145 UK</b><br>0745 US<br>EAST<br>COAST | WELCOME, INTRODUCTIONS & AGENDA RECAP Lieutenant General (Ret.) Kenneth E. Tovo, Former Commander, US Army Special Operations Command Ben McClatchie, Executive Producer, Defence IQ Oliver Marks, Portfolio Director, Defence IQ  |  |
| <b>1200</b><br>0800                        | THE FUTURE ARMY AVIATION ENTERPRISE Brigadier General Michael McCurry, Director, Army Aviation, Office of the Deputy Chief of Staff, G3/5/7, US Army   |  |
| <b>1220</b><br>0820                        | Q&A SESSION  |  |
| <b>1230</b><br>0830                        | FVL PERSPECTIVE FROM BELL Keith Flail, Executive Vice President - Advanced Vertical Lift Systems, Bell   |  |
| <b>1250</b><br>0850                        | Q&A SESSION  |  |
| <b>1300</b><br>0900                        | 15 MINUTE NETWORKING BREAK   |  |
| <b>1315</b> 0915                           | ROUNDTABLE 1: ALIGNING CAPABILITY WITH THREAT  Though there is broad agreement on the characteristics of the future multi-domain operating environment, forces continue to have varied expectations of their platforms and the roles that they must be able to perform. As requirements setters and capability developers work towards a blueprint for next-generation vertical lift, it is important to ensure that capabilities are well-aligned with operational requirements. This opening discussion will take a specific look at the critical enabling technologies that will support the future fleet (apart from unmanned systems which will be considered in a later session), and will identify opportunities for enhancing and accelerating their integration from the R&D phase.  The Threat  • Where will the helicopter sit within the joint force of tomorrow? How is the role of this vital enabler likely to change for the future?  • What does the capability mix look like for the future? What should the balance be between agility and survivability, and what are our expectations of a "multi-role" platform? Do we need single role aircraft for the contested battlespace?  • How will the distributed force structure that is informing land platform development be echoed by army aviators?  The Capability  • What are the opportunities for fielding improved air-launched effects on the future helicopter, and how will they be used to increase range and reach?  • How will we deliver the networked situational awareness that is so critical to multi-domain theatres of operation? How is the operational commander adjusting their thinking about force integration, and how should those designing platforms respond?  • What does a requirement for long-range assault mean for the operational sustainment of the platform, and how will those in assault roles be made more survivable?  Lieutenant General (Ret.) Kenneth E. Tovo, Former Commander, US Army Special Operations Command (Moderator)  Major General Andreas Hannemann, Commander, Rapid Forces Division, Bundesweh |  |

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| <b>1355</b><br>0955 | FVL PROGRAM UPDATE Brigadier General Walter Rugen, Director, Future Vertical Lift Cross-Functional Team, US Army Futures Command   |
|---------------------|--|
| <b>1415</b> 1015    | Q&A SESSION  |
| <b>1425</b><br>1025 | SIKORSKY/LOCKHEED MARTIN FVL UPDATE  Jay Macklin, Director, Future Vertical Lift Business Development, Sikorsky  |
| <b>1445</b><br>1045 | Q&A SESSION  |
| <b>1455</b><br>1055 | NATO PROJECT NGRC Pat Collins, Senior Fellow, Helicopters Operating Centre, DE&S, UK MoD   |
| <b>1515</b><br>1115 | Q&A SESSION  |
| <b>1525</b><br>1125 | 15 MINUTE NETWORKING BREAK   |
| <b>1540</b><br>1140 | ROUNDTABLE 2: MANNED-UNMANNED TEAMING FOR THE FUTURE HELICOPTER FORCE Recent US Army experience of launching a UAS at low altitude speaks to the potential for these platforms to act as decisive integrated air-launched effects. This on top of the already-recognised role of unmanned systems in expanding reach and enhancing situational awareness as loyal wingmen to their manned counterparts. With unmanned systems one of the major Lines of Effort (LoE) for the US FVL Program, this discussion provides an excellent opportunity to drive forward an ongoing debate on the opportunities (and limitations) of autonomy for elevated-tempo operations in the contested battlespace.  • What are the technical challenges to integrating UAS as an integrated air-launched effect for manned vertical lift, and what do recent experiments demonstrate?  • How will UAS be used to enable effective target acquisition in a highly contested theatre of operations?  • Is there a role for UAS as a loitering munition, and how would the parent platform exercise precision control over a platform deployed in such a role?  • Connectivity is a critical component for manned-unmanned teaming. How will parent platforms sustain robust communications when the network is degraded or denied? Would LOS-only applications be an inevitable result?  Lieutenant General (Ret.) Kenneth E. Tovo, Former Commander, US Army Special Operations Command (Moderator)  Brigadier General Walter Rugen, Director, Future Vertical Lift Cross-Functional Team, US Army Futures Command  Brigadier General Andreas Pfeifer, Deputy Commander, Rapid Forces Division, Bundeswehr Colonel Scott Anderson, UAS Project Manager, PEO Aviation, US Army |
| <b>1620</b><br>1220 | PEO AVIATION KEYNOTE Brigadier General Rob Barrie, Program Executive Officer, Aviation, US Army  |
| <b>1640</b><br>1240 | Q&A SESSION  |

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| <b>1650</b><br>1250 | ROUNDTABLE 3: BRIDGING THE CAPABILITY GAP – ACCELERATING ACQUISITION WHILST RETAINING EXISTING CAPABILITY  Perhaps the greatest challenge facing army aviation is that of transitioning to next-generation platforms without suffering an interim shortfall in capability; as legacy fleets age and move towards obsolescence. There are two   |
|---------------------|--|
|                     | means of preventing this. One is to accelerate the integration of new platforms, streamlining R&D, T&E and acquisition and opting for open architectures to avoid complexities with IP and technical-level integration. The other is to sustain availability for fleets already in-service and to look at force multiplying them with a set of bridging capabilities; that can deliver next-generation effects in the near-term. |
|                     | As we look to the next generation of platforms, how can those responsible for new capability help to manage the capability gap, sustaining readiness rates for the force of today?   |
|                     | Given the ambition acquisition timelines for FVL, what transformation (in both mentality and process) is required to deliver the platforms on time?  |
|                     | <ul> <li>What kind of R&amp;D and T&amp;E infrastructure is required in order to replicate the DevOps concept, and to what extend can such an iterative and agile approach to building capability be a feature of major acquisitions?</li> <li>What are the capabilities – whether in terms of unmanned systems, air-launched effects of</li> </ul>  |
|                     | <ul> <li>armour/protection – that can be rapidly fielded at reasonable cost to act as bridging capabilities?</li> <li>What do the platform manufacturers need to do in order to keep legacy fleets online – what are the priorities, is availability and through-life support enough or do the aircraft need to be updated to remain relevant in the interim?</li> </ul>   |
|                     | How can we optimize approaches to engineering the existing fleet? Is predictive maintenance a practical option?  |
|                     | Lieutenant General (Ret.) Kenneth E. Tovo, Former Commander, US Army Special Operations Command (Moderator)  |
|                     | Colonel Philip J Ryan, Commanding Officer, US Army Special Operations Aviation Command Colonel Chris McKenna, Commander, 1 Wing, 1 Canadian Air Division, Royal Canadian Air Force   |
|                     | Colonel David Phillips, Program Manager, Future Long-Range Assault Aircraft, PEO Aviation, US Army Michael Schaefer, Programme Manager, A400M and NH90/TIGER Programme Office, NSPA Mike Moody, Senior Manager, Integrated Product Support - Future Vertical Lift, Bell  |
|                     | Jay Macklin, Director, Future Vertical Lift Business Development, Sikorsky Tom Dubois, Technical Fellow and FVL Chief Systems Architect, L3Harris  |
| <b>1750</b><br>1350 | FUTURE VERTICAL LIFT ONLINE EVENT - CLOSING SUMMARY Lieutenant General (Ret.) Kenneth E. Tovo, Former Commander, US Army Special Operations Command Pete Andersen, Divisional Director - Defence, Defence IQ   |
|                     | Alexander Stephenson, Editor, Defence IQ   |
| <b>1800</b><br>1400 | SESSION CLOSE  |

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