

Workshop on New European Military Helicopter Programs

The day before ERF, a workshop was held by the Air and Space Academy (AAE), led by Blanche Demaret, former head of rotorcraft research at ONERA — The French Aerospace Lab, and past Chair of ERF and the VFS Forum. The workshop brought a summary of discussions to ERF from an AAE forum entitled, “Towards New European Military Helicopter Programs,” held in Paris in June 2022 and the follow on activities during 2023.

Attendees at the 2022 forum agreed that it was time to prepare the next generation of rotorcraft for Europe. In addition to the US Future Vertical Lift (FVL) programs, NATO has initiated the Next Generation Rotorcraft (NGRC) program (see “NGRC Enters Concept Stage,” *Vertiflite*, Sept/Oct 2023), with seven nations signing on as participants or observers to replace approximately 900 medium transport helicopters, beginning in 2035.

The European Next Generation Rotorcraft Technologies (ENGRT) initiative, supported by the European Defence Fund (EDF) and managed by several European Union (EU) nations, aims to mature the key technologies of the European companies for next-generation rotorcraft such as NGRC. Airbus Helicopters, Leonardo Helicopters and Safran Helicopter Engines (with MTU Aero Engines) are involved together in running the projects. ENGRT will likely lead to either the development of a new high-speed or conventional rotorcraft and/or an NH90 Block 2 upgrade.

The Next Generation Medium Helicopter (NGMH) — funded by the EU’s Permanent Structured Cooperation (PESCO), intended to deepen defense cooperation between EU member states — aims to “provide coherent solutions for future EU rotorcraft capabilities among the development of new platforms and and/or the upgrade of existing ones (e.g., NH90).” The €40M Phase 1.0 initiative kicked off in December 2022 and is focused on the concept of operations, including future systems, future airframes and future propulsion. ENGRT

1.0 is a 50:50 partnership between Leonardo and Airbus, but includes a total of 25 industrial partners (including ones in the UK) and five research centers in 10 countries. ENGRT 2.0 (not yet contracted) will be funded at €100M plus contributions by each nation’s ministries of defense, and focus on technology maturation, open systems architecture, survivability and connectivity for collaborative content.

The key points of the 2022 forum were to define a common set of capability requirements at the European level, based on true political will from the member states. The fact that companies are willing to cooperate together was seen as a very positive point. The work continued between the companies and the members of AAE and led to the establishment of recommendations addressed to all the actors of a military rotorcraft program to be developed in cooperation. The published opinion paper is available online at the AAE website at <https://academieairespace.com/documents-medias> (beginning in November). The previous, 2021 document is available via <https://bit.ly/AAE-2021> (case sensitive). All AAE documents are in English and French.

During the workshop at ERF, representatives of AAE and of several companies presented their work, including recommendations and best practices to achieve a coherent program to reach a high-performance and flexible rotorcraft that meets the needs of armed forces.

Members of the audience highlighted some of the challenges and opportunities of new rotorcraft. In particular, the trials and tribulations of the original NH90 program were brought to light, as well as design challenges (particularly power and volume) if the medium rotorcraft must be capable of high-speed flight and also fit within the existing hangars of European naval vessels.

VFS has created a resource page at www.vtol.org/ngrc.

