



Dedicated to innovation in aerospace

AEROSPACE VEHICLES DIVISION

HELICOPTERS & AEROACOUSTICS

# Helicopter-ship qualification innovative training



PRODUCTS & SERVICES



Innovative training for helicopter-ship qualification based on more than 50 years of experience between NLR and AeroMath amongst various navies and other operators world-wide. This novel training covers a test methodology which can be used for optimizing cost and time efficiency of helicopter-ship qualification testing without reducing safety. Originally this method was applied to manned helicopter-ship qualification, yet is also applicable for qualification of Remotely Piloted Aircraft (RPAS).



## HELICOPTER-SHIP QUALIFICATION - THE COURSE

The objective for THE COURSE is to increase the theoretical knowledge and practical understanding of helicopter-ship qualification.

THE COURSE on helicopter-ship qualification is aimed at both junior and experienced rotorcraft engineers, researchers, academia, flight test engineers and pilots. Additionally it gives invaluable insight for managers and operatives, who are required to plan, conduct and report on flight trials of helicopter-ship combinations as part of a complex flight test program.

Attending THE COURSE provides a good theoretical knowledge and practical understanding of the helicopter ship-qualification process. This results in appreciation of the factors leading to an operational flight envelope for shipboard operations:

- The helicopter flight characteristics and limitations
- The atmospheric conditions
- The ship environment
- The pilot and pilot-helicopter interface

### Concise programme of THE COURSE

Day 1	<ul style="list-style-type: none"> <li>• An introductory tour to embarked flight operations and helicopter-ship qualification testing</li> <li>• Overview of current and past test methodologies</li> </ul>
Day 2	<ul style="list-style-type: none"> <li>• Determination and validation of wind climate around the ship and its corresponding anemometer corrections</li> <li>• Test instrumentation requirements and data reduction for the ship and helicopter</li> <li>• Flight test philosophy and test techniques</li> </ul>
Day 3	<ul style="list-style-type: none"> <li>• Determination of helicopter flight characteristics by shore-based hover trials</li> <li>• Prediction of the candidate flight envelope; combining wind climate data of the ship with helicopter flight characteristics</li> <li>• Introduction of simulation into helicopter-ship qualification testing (includes actual flight in NLR research simulator facility)</li> </ul>
Day 4	<ul style="list-style-type: none"> <li>• Qualification tests at sea; deck-handling of the helicopter</li> <li>• Qualification tests at sea; ship helicopter operational limitations</li> <li>• Essential design features for ships to allow safe flight operations</li> </ul>
Day 5	<ul style="list-style-type: none"> <li>• Helicopter marinization and certification aspects</li> <li>• Possibilities for shipboard helicopter operations between friendly nations</li> </ul>

THE COURSE on March 9-13<sup>th</sup> 2020 @ NLR Amsterdam  
Price = € 5.200,- p.p. (excl. VAT)

## HELICOPTER-SHIP QUALIFICATION - SIMULATOR TRAINING

As a practical follow-on to the theoretical course, work-up training in the simulator and/or actual aircraft is provided to maximize efficiency of any subsequent sea trials.

The objective of the simulator training is to increase the practical skills required for helicopter-ship qualification testing.

The simulator training will cover amongst others the following subjects:

- NATO standard ship board operational procedures
- Effect of helicopter performance and controllability
- Ship board / helicopter emergencies
- Test techniques
- Operational Test and Evaluation (OT&E)

All goals can be met by executing training on flight simulators in the Netherlands: the Helicopter Pilot Station at NLR Amsterdam and the NH90 Level D Full Flight Simulator in Den Helder.

### Principle training schedule:

2 days	<ul style="list-style-type: none"> <li>• Location: NLR Amsterdam, The Netherlands</li> <li>• Minimum 4 hours (dependant on number of participants) simulator training in Helicopter Pilot Station</li> </ul>
3 days	<ul style="list-style-type: none"> <li>• Location: Marseille, France or Sesto Calende Italy</li> <li>• Minimum 4 hours (dependant on number of participants) simulator training in NH90 Level D Full Flight simulator</li> </ul>

The simulator training requires theoretical knowledge on helicopter-ship qualification as given in the theoretical helicopter-ship qualification innovative training. An integrated programme combining both training programmes is offered with simulator training tentatively on the second half of March 2020

The training programmes can be customized to the requirements of the customer for duration, topics covered etc. On request, the training programmes can also be given at other dates than listed above and Helicopter-ship qualification – THE COURSE can also be organised in-company.

Registration through: [helicopter@nlr.nl](mailto:helicopter@nlr.nl)

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