



HELICOPTERS

H175 – The new reference for Crew Change in Norway

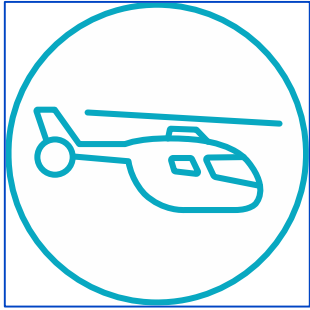
Sept 20th 2022 – Solakonferensen

Thierry Mauvais - Marketing

AIRBUS

H175

H175 Family Fleet Data



49

Helicopters built



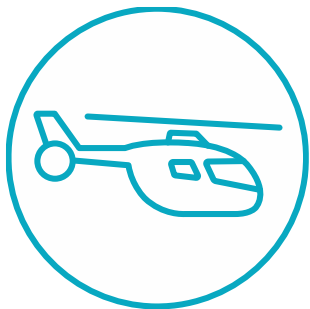
14

Operators



7,200

Flight hours (fleet leader)



49

Helicopters in service



12

Operating countries



155,000

Flight hours

15,000

Flight hours for the Public Service Fleet

H175

Global H175 family fleet distribution

	30 H/C	NHV, Babcock, CHC Offshore, private
	7 H/C	GFS Hong-Kong Public Services
	2 H/C	Royal Thai Police Gov VIP
	3 H/C	Pegaso Offshore
	2 H/C	Babcock International Offshore
	5 H/C	OMNI Offshore



H175

H175 on « the other side » of the North Sea

- End 2021, 23 H175 are in-service in offshore role in the North Sea, flying more than 20,000 FH a year
 - 6 x H175 in Esbjerg (DK)
 - 15 x H175 in Aberdeen (UK)
 - 1 x H175 in Norwich (UK)
 - 1 x H175 in Den Helder (NL)
- The average flight hours a year is about 1,000 FH with a good level of availability
- More than 200 pilots and 300 engineers are qualified and are working on H175 in the North Sea.

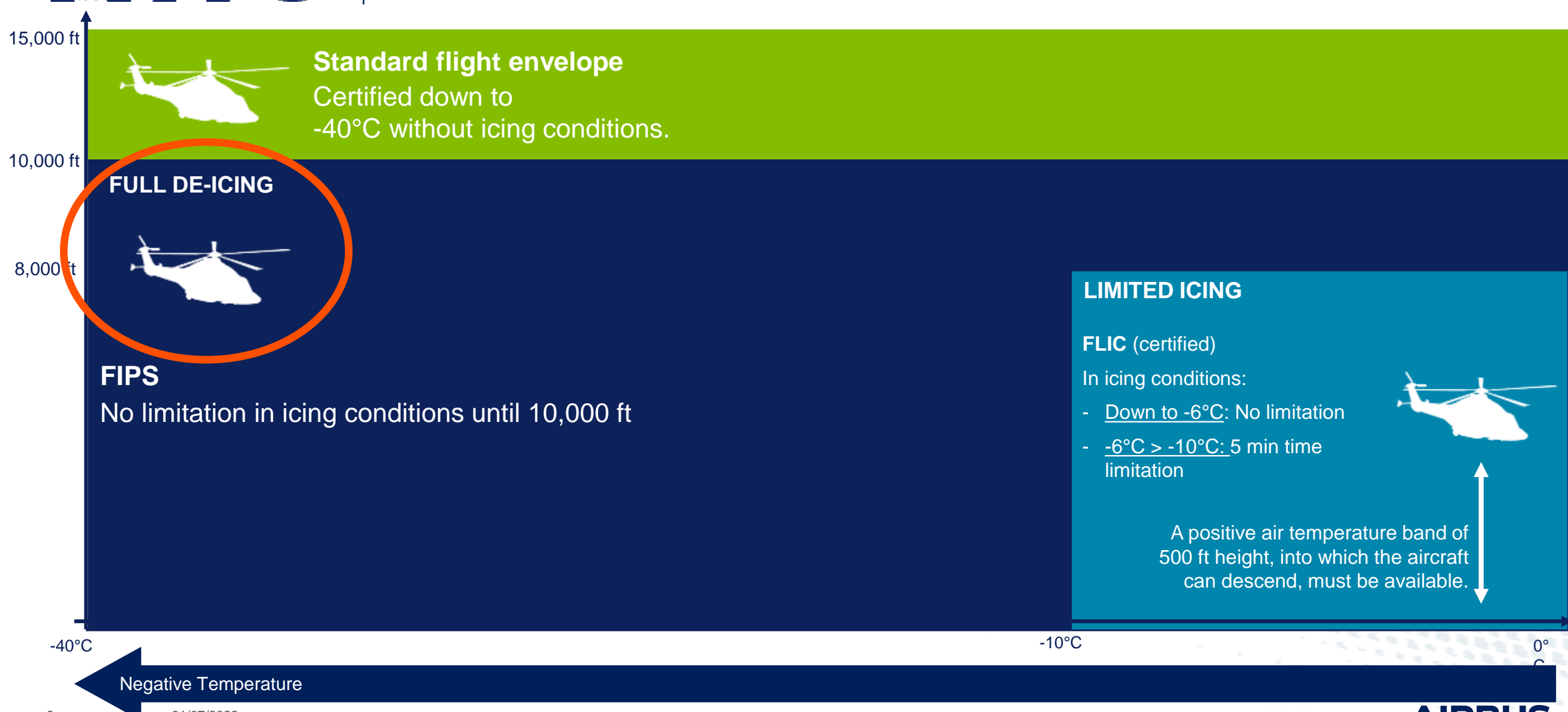




H175

BREAKING THE ICE

Flight envelope extended in icing conditions



A320XLR

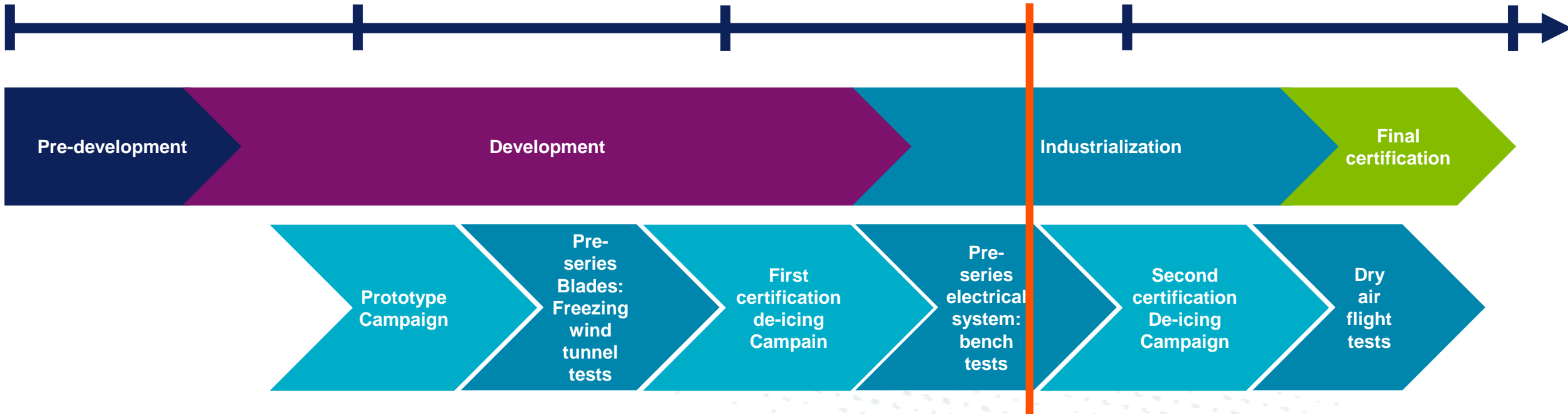
Development roadmap

2020

2021

2022

2023



→ First deliveries planned in 2024

H175

2021 2022 de-icing campaign - Norway



H175 |



THE SOUND OF SILENCE

THE QUIETEST RANGE OF HELICOPTERS

New technologies

Advanced blade shapes



New Fenestron generation



Reduced rotor speed



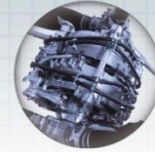
Optimized stator & drive shaft fairing



Low tip speed smart RPM laws



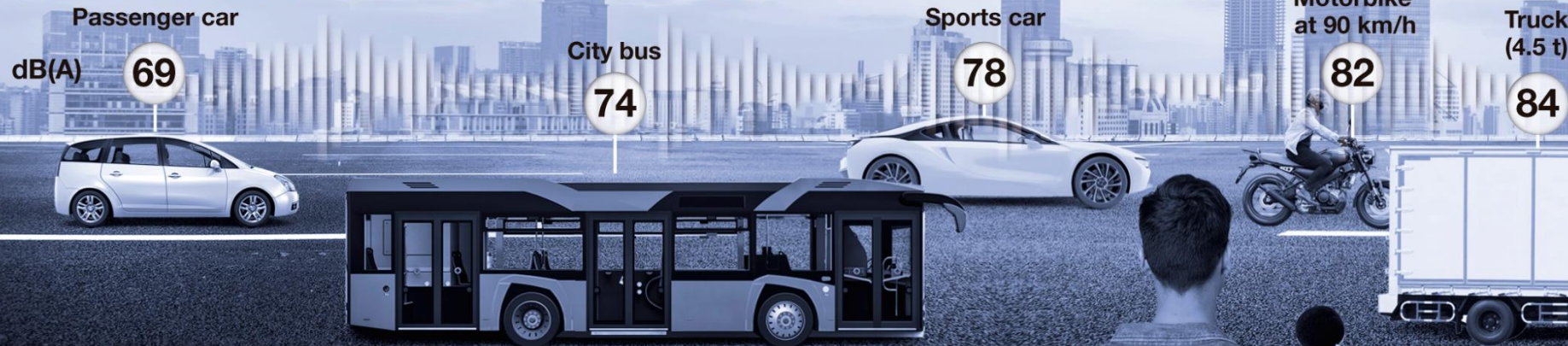
Integrating hybridization (being studied)



Helicopters in flyover 150 m from the observer



Sound source located 15.2 m from the observer



Flying "quietly"

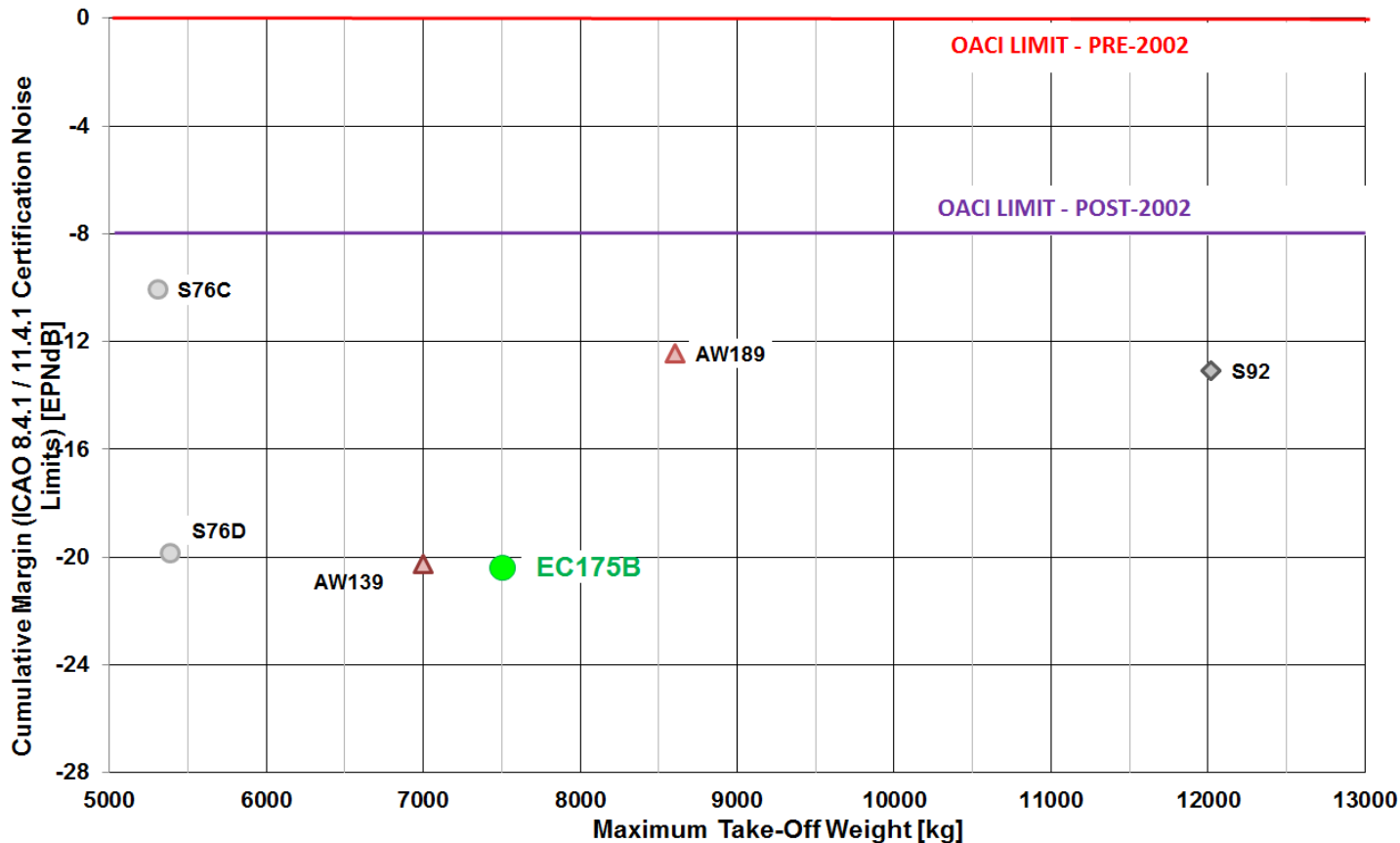


Infographic: Beatriz Santacruz and Airbus

H175

The quietest Super Medium helicopter

Takeoff flight phase external sound level



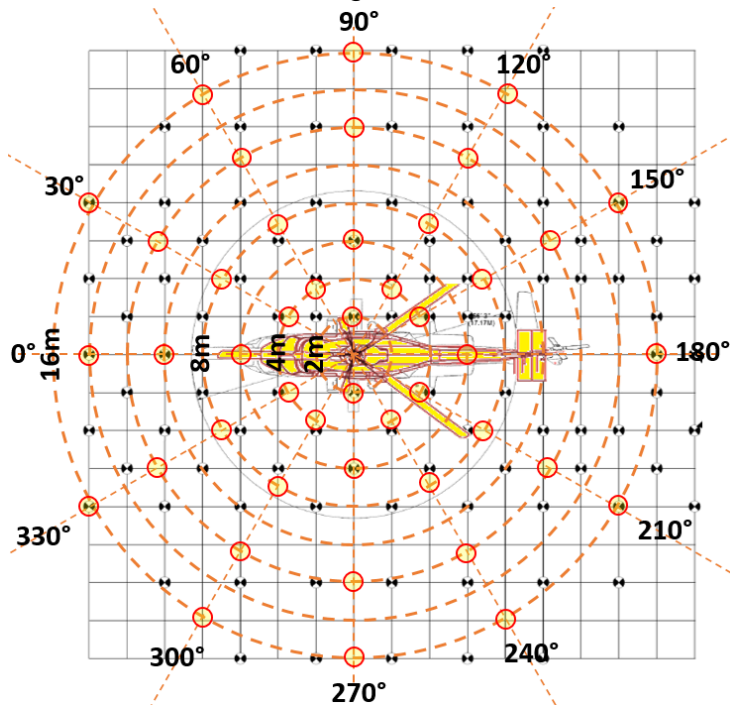
H175 is setting the standards for external acoustic footprint

Note: The noise levels in this document are the most accurate information to date and are subject to EASA and FAA certification (in 2019).

Ground near-field noise measurement

45 positions (●)

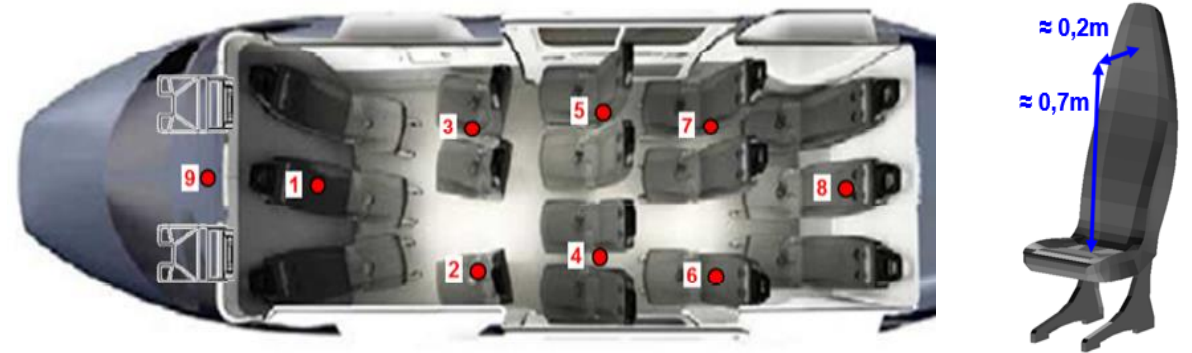
Ground surface: bitumen
 Height / ground: 150cm ±10cm
 Various RPM configurations



Internal noise measurement positions

9 positions (at headrest height)

Standard measurement position (ISO5129)
 Various RPM configurations
 With & without open door



Outcome: Computation of Noise exposure level (e.g $L_{EX, A, 12h}$) for various scenarii

- passengers, pilots (for a typical flight profile)
- HLO, passengers outside the helicopter

AIRBUS HELICOPTERS F020 308 B

ISSUING ORGANIZATION SECURITY CLASSIFICATION
MILITARY SECRET INDUSTRIAL SECRET
Airbus Amber

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DEPARTMENT OR DIRECTORATE DEVELOPMENT DOCUMENT
Flight Test Specification H175:
EXTERNAL AND INTERNAL NOISE MEASUREMENTS FOR THE NOROG PROJECT
DEV0510

PROJECT MANAGER
Dpt: ETOM Name: L. BARALLA
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AIRWORTHINESS AUTHORITIES

PROJECT ISSUE DOCUMENT No PAGES
KEY WORDS A FTS M182A0610E99 8

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1. Aim of flight test specification

Tests are requested in the frame of the NOROG Project aiming at promoting the H175 within the European O&G market. The objective of these tests is to characterize both external and internal noise levels of the H175 in conditions that are similar to those of previous measurements performed for the S-92 and the H225 by SINUS in 2013 [1]. Outcomes of this study are reminded below:

External noise levels in ground run (=110 measurement positions):

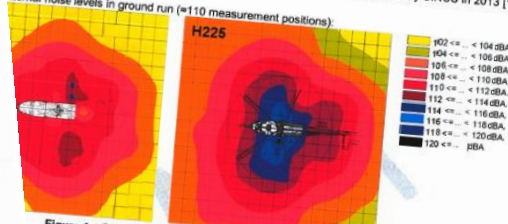


Figure 1 - S-92 vs H225 (SINUS, 2013): near-field noise mapping

Noise levels in ground run with one cabin door closed vs open (=20 measurement positions):

Lp A,eq [dB]	Lp C,eq [dB]	Comment	Lp A,eq [dB]	Lp C,eq [dB]	Comment
102 - 106		Noise level, cabin - typical *	91 - 98	107 - 109	
100		Noise level, cabin - lowest	91	106	
109		Noise level, cabin - highest	104	112	Right in front of the doorway
109		Cockpit	94	112	

* Mean value +/- a standard deviation



Internal noise levels measured in the S-92 (SINUS, 2013)

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oleum industry – Petter A. Haver –

Measurements in ground run (no measurement in phase of measurement):
Intakes without & with masks (Figure 3)
Pilement (measurements to be done in men (or concrete)
External noise measurements shall not be performed on aircrafts → to be discussed (doing the measurements may be decided)
Underflooring, linings, seats



(without & with masks)

Measurements are defined by the Figure 4

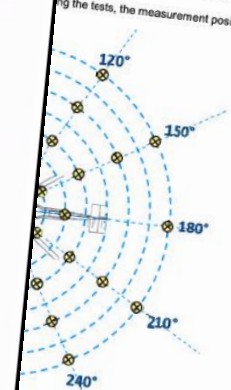
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Measurements (45 positions in total) account for the positions above the ground and equipped with a windscreen, Fig (90°). The bandwidth requested at each position during the tests, the measurement positions will have to



external noise (near-field) TBC

180°	210°	240°	270°	300°	330°
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X

measurement positions TBC

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Measurements positions are similar to the serial measurement positions as defined by the Figure 5: 17.5cm 12.5cm 70cm 25cm



Figure 5 - Measurement positions of the internal noise

Measurements are defined in the Table 3:

Engine switch	Cabin door configuration	Measurements to be done
Engine 1 (left engine)	LH door	External noise (acc. to Figure 4)
Engine 2 (right engine)	RH door	Internal noise (acc. to Figure 5)
FLIGHT	Closed	Yes
FLIGHT	Open	Yes
IDLE	Closed	No
IDLE	Open	Yes
FLIGHT declutched	Closed	Yes
FLIGHT declutched	Open	Yes
IDLE declutched	Closed	No
IDLE declutched	Open	Yes
IDLE	Closed	Yes
IDLE	Open	Yes

Table 3 - Test program (to be discussed with ETX)

Measurements: 25 ±5s per position
Measurements: 25s ±5s per phase/position (simultaneous and continuous)
Measurements: 25s ±5s per phase/position (simultaneous and continuous)
Measurements: 25s ±5s per phase/position (simultaneous and continuous)

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