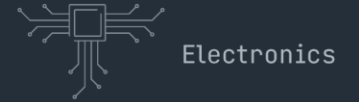




AW09

Product and program overview



Electronics



Helicopters



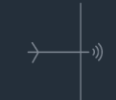
Aircraft



Cyber & Security



Space



Unmanned Systems



Aerostructures

Introducing the AW09



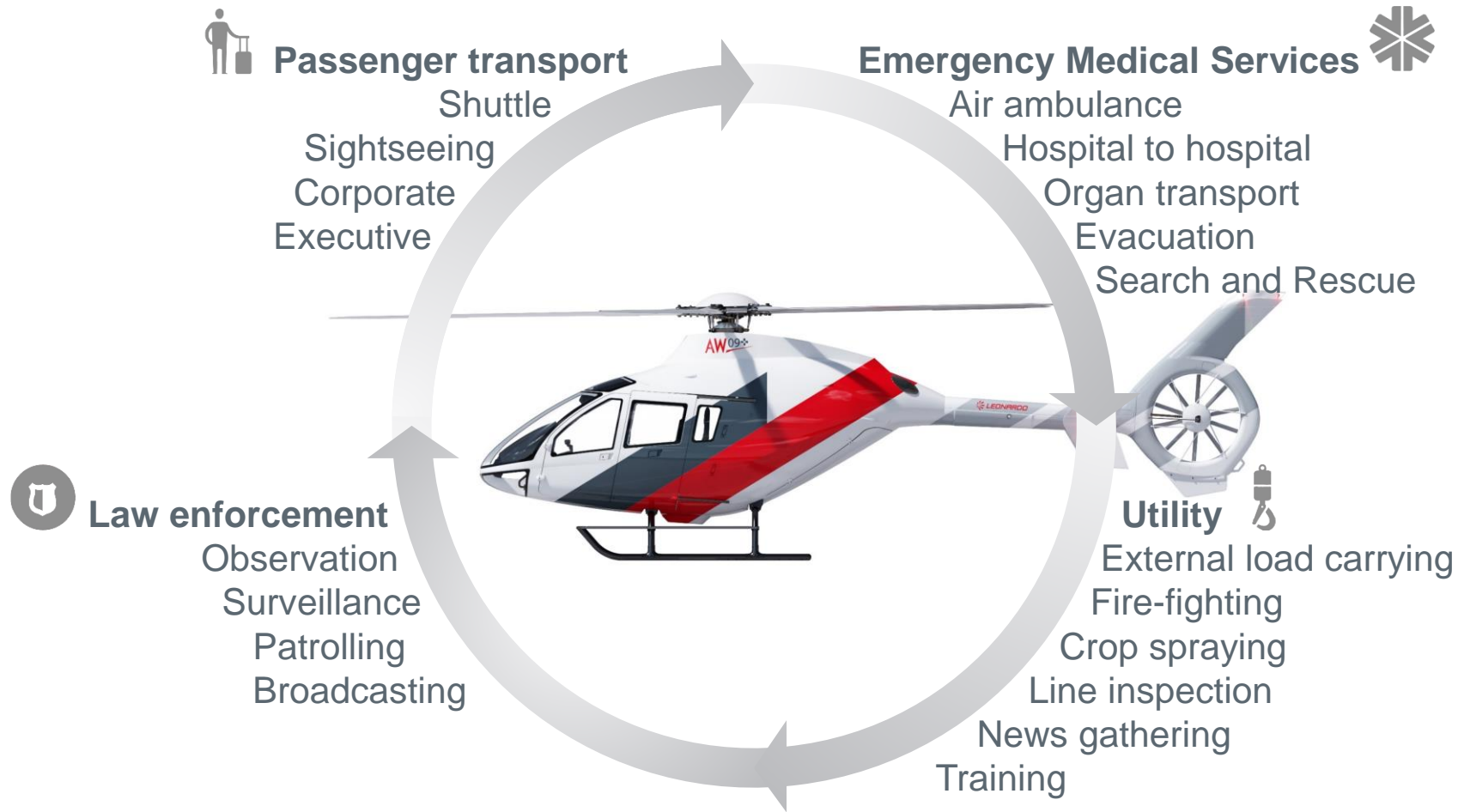
Single [R]evolution

The AW09 expands the Leonardo product range with an all-new, high performance single-engine multirole helicopter.



Key missions

Versatile multirole platform

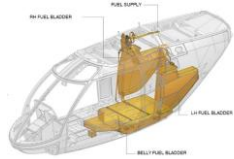


All images for reference only



General design features

State of the art design



SAFETY
Crashworthy carbon/kevlar airframe and collapsible fuel bladders



SAFETY
Dual hydraulic and electrical systems



FLEXIBILITY
Modular cabin with equivalent volume of a twin-engine helicopter



TECHNOLOGY & ENVIRONMENT
5-blades full composites rotor system for low vibration and low noise



SAFETY
Modern and reliable dual FADEC turboshaft engine



TECHNOLOGY
Latest generation Garmin G3000H IFR-compatible and NVG friendly glass cockpit with touchscreen control



SAFETY & ENVIRONMENT
Shrouded low noise and guarded tail rotor

FLEXIBILITY & SAFETY
Up to 1+8 pax on crashworthy seats

FLEXIBILITY
Unique rear access hold









































ACCESSIBILITY
High tail-boom clearance

All images for reference only



Design Standards - Crashworthiness

Long light single

	 AW09	 H125	 H130	 AW119Kx	 407GX
Original Type Certificate	Under dev.	1974	1974	1975	1964
Seats and structure crashworthiness (27.561)	Lat. Amdt. 32 1996 	Initial 1965 ¹ 	Lat. Amdt. 30 1994 	Lat. Amdt. 32 1996 (OPT) 	Initial 1965 ⁷ 
Safety belts and litter crashworthiness (27.785)	Lat. Amdt. 35 1998 	Initial 1965 ² 	Amdt. 25 1989 	Lat. Amdt. 35 1998 (OPT) 	Amdt. 21 1984 
Fuel system drop test (27.952)	Lat. Amdt. 30 1994 	Lat. Amdt. 30 1994 (STC) ³ 	Lat. Amdt. 30 1994 	Lat. Amdt. 30 1994 (OPT) ⁶ 	Lat. Amdt. 30 1994 
Emergency landing (27.562)	Lat. Amdt. 25 1989 	Initial 1965 ² 	Lat. Amdt. 25 1989 	Lat. Amdt. 25 1996 (OPT) 	Lat. Amdt. 25 1989 
Engine protection and restart (27.903)	Lat. Amdt. 44 2008 	Initial 1965 	Amdt. 23 1988 	Amdt. 23 1988 	Lat. Amdt. 44 2008 
Transmission dry run (27.927)	Lat. Amdt. 23 1988 	Amdt. 2 1968 ⁴ 	Lat. Amdt. 23 1988 	Lat. Amdt. 23 1988 	Lat. Amdt. 23 1988 
Lightning and electrical protection (27.610)	Lat. Amdt. 46 2022 	N/A 	Amdt. 21 1984 ⁵ 	Amdt. 37 1999 	Amdt. 37 1999 
Composite Airframe	✓	✗	✗	✗	✗
Dual hydraulic system	✓	(OPT)	✓	✓	✗
Dual electric system	✓	✗	✗	✓	(OPT)
Bird strike (NEW 27.631)	✓	✗	✗	✗	✗

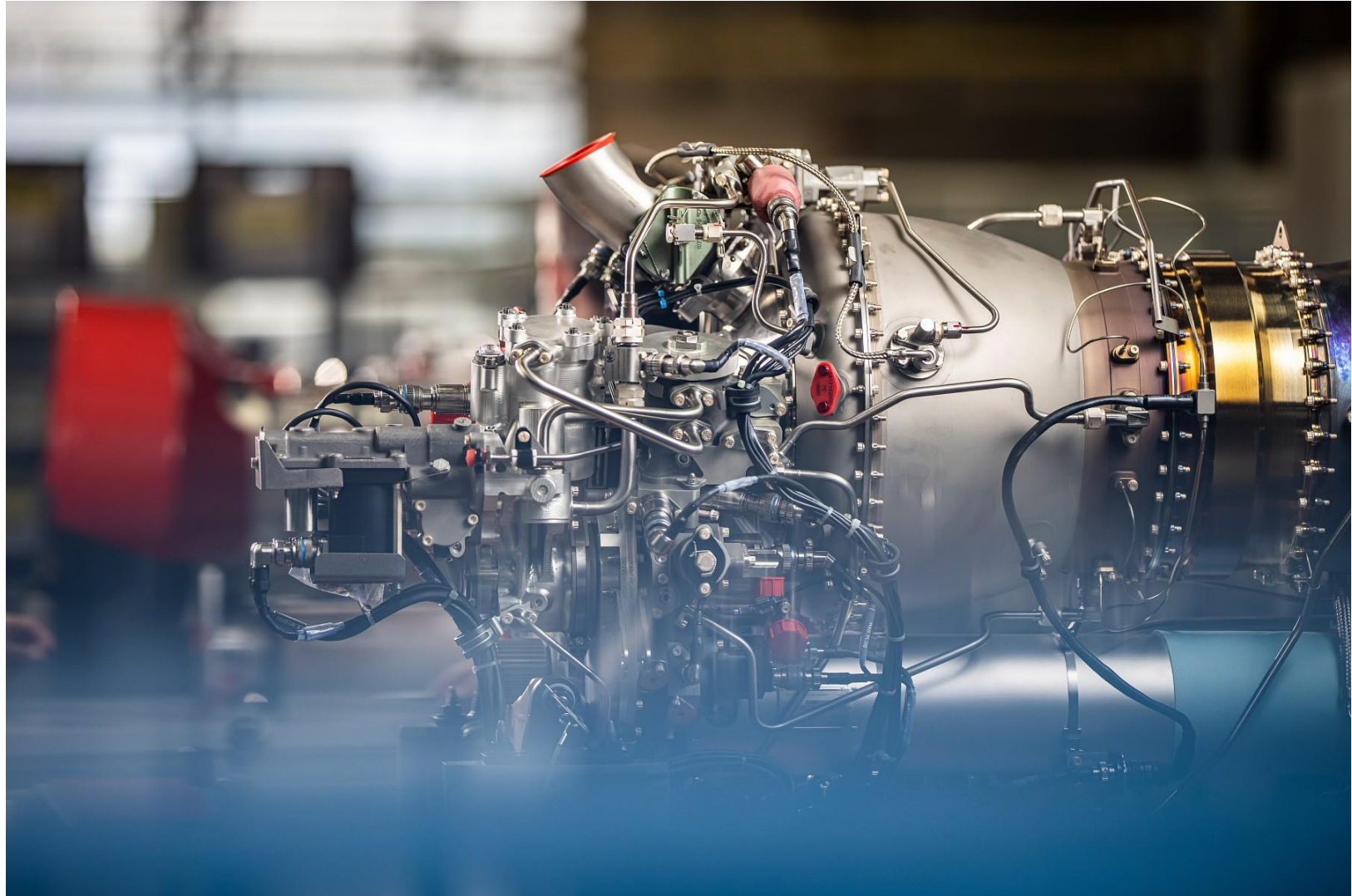
NOTES:

- 1) Lat. Amdt. 32 1996 for items other than structure around fuel tanks and passengers
- 2) Cockpit seat are energy absorbing
- 3) STC currently installed at delivery
- 4) Only 927 (c) (15 min test) at Lat. Amdt. 23
- 5) Amdt. 37 1999 for rear engine compartment, tailboom and fenestron with new tail boom
- 6) FAA STC, under EASA certification
- 7) Lat. Amdt. 32 1996 for items and structure around fuel tanks, other than passengers



Safran Arriel 2K engine

- The latest and more powerful variant of the Arriel family, providing >1000 shp power (TOP, thermodynamics, uninstalled)
- High commonality (>75% parts) with Arriel 2D latest standard
 - HMU EVO
 - Mag seal
 - Engine mount
 - Reinforced free wheel
- Dual channel control system using a FADEC DE plus Auxiliary Control System (EACB) as backup
- Engine inspections at 300, 600 and 900 FH (no 15 FH/7d and no 25 FH)



Unique volume and cabin accessibility

The cabin of a light twin at the cost of a single



Outstanding **cabin volume** (6.5 m³), the largest in its class and comparable to a light twin

Easy reconfigurable **flat floor** and **high cabin ceiling**

Layout **modularity** up to 8 passengers with large leg room

Passenger sliding doors and pilot hinged doors with gas struts on both sides

Unobstructed side accessibility, without structural elements between cockpit and cabin area



Single volume cabin, easily sharable between passengers and cargo

Comfortable **rear access** through clamshell doors with gas struts and high tail boom

Equipment, **stretcher** or cargo easy loading

All images for reference only



Unparalleled visibility

Pilots and passengers enhanced view

Cockpit

The composite airframe design provides transparent surfaces not only with the front **bird-strike resistant windshield** and **enlarged chin windows**, but also with upper windows and the optional fully transparent pilots doors



Cabin

Cabin brightness and external visibility is ensured by doors' and rear windows. High visibility option adds lower windows on sliding doors and on the side fuselage

All images for reference only



Cabin flexibility

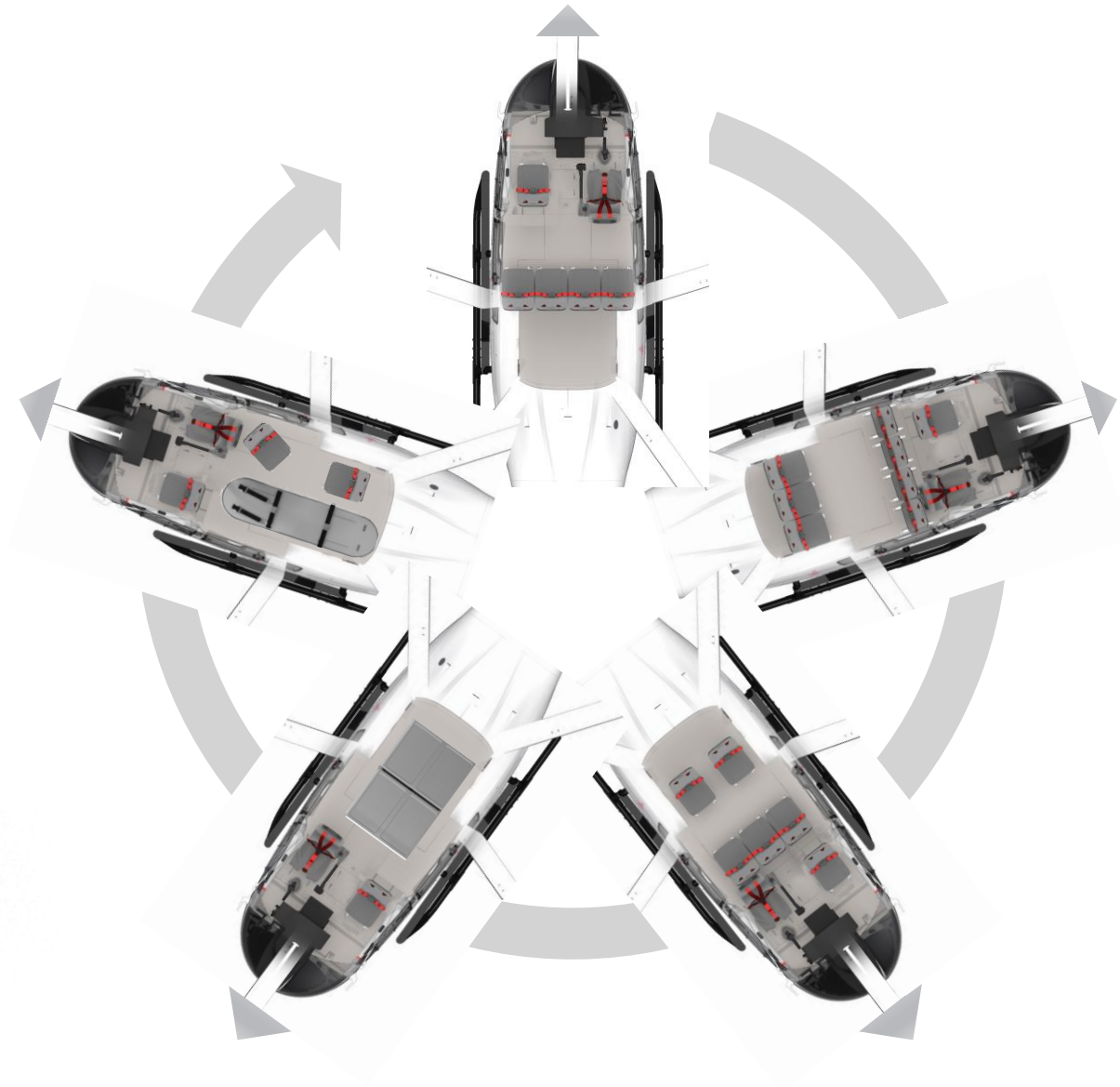
Overview

Full cabin modularity

Removable flat floor design with easy access

Individual crashworthy seats

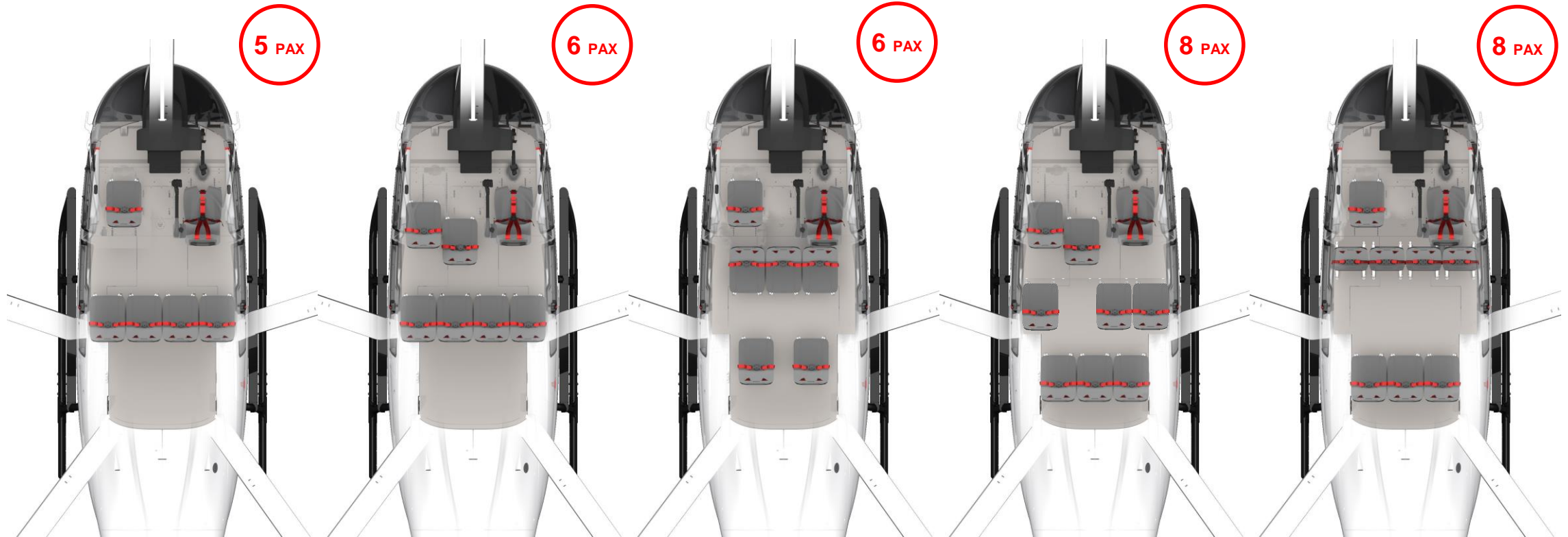
Quick reconfiguration and scalability with no compromise on passenger protection



All images for reference only



Cabin layouts



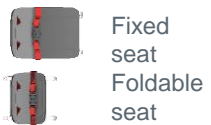
Baseline
5 seats + 1 pilot
Dual controls applicable

Baseline Plus
6 seats + 1 pilot

All Round
6 seats + 1 pilot
Dual controls applicable

All Space
8 seats + 1 pilot

Air Van
8 seats + 1 pilot
Dual controls applicable



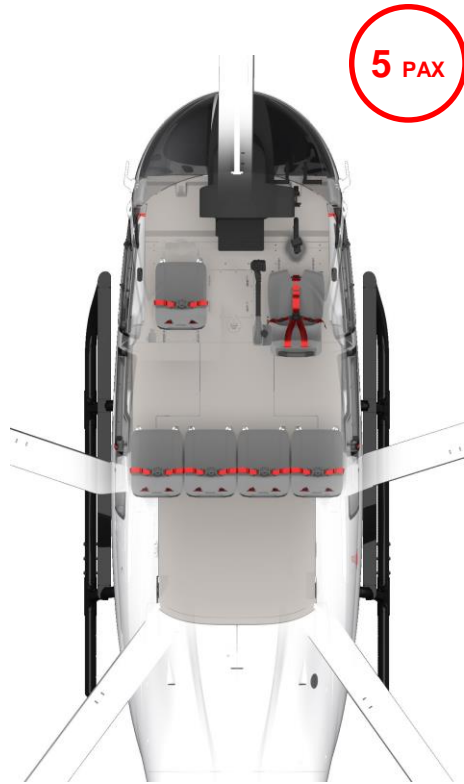
Note: layouts available with optional Multirail floor. Baseline layout also available with baseline floor.

All Round, All Space and Air Van shall feature a variant for the rear seat row with two spaced seats (as in All Round) aligned to the most aft position (as All Space and Air Van)

All images for reference only



Baseline layout



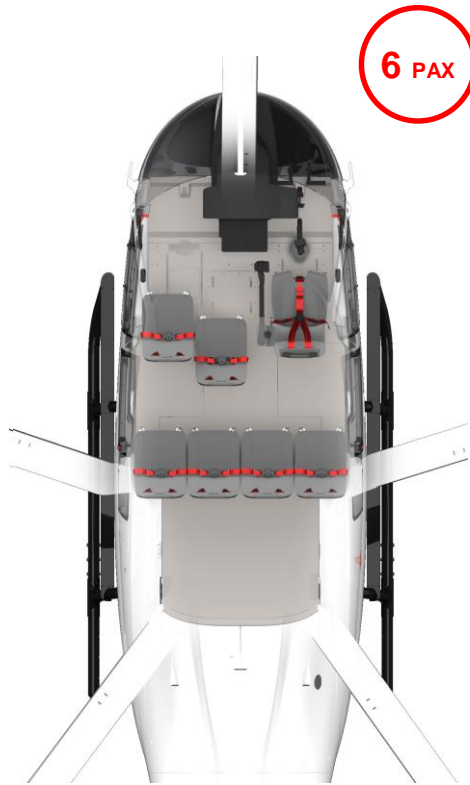
Baseline
5 seats + 1 pilot
Dual controls applicable



All images for reference only



Baseline Plus layout



Baseline Plus
6 seats + 1 pilot

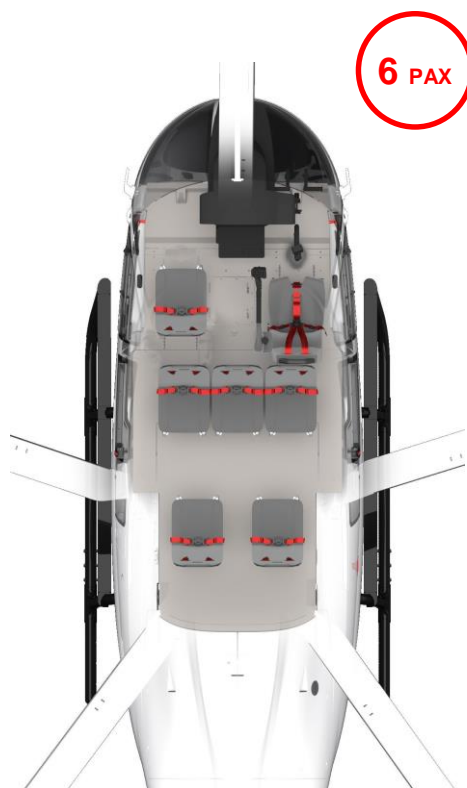


Note: layouts available with optional Multirail floor.

All images for reference only



All Round layout



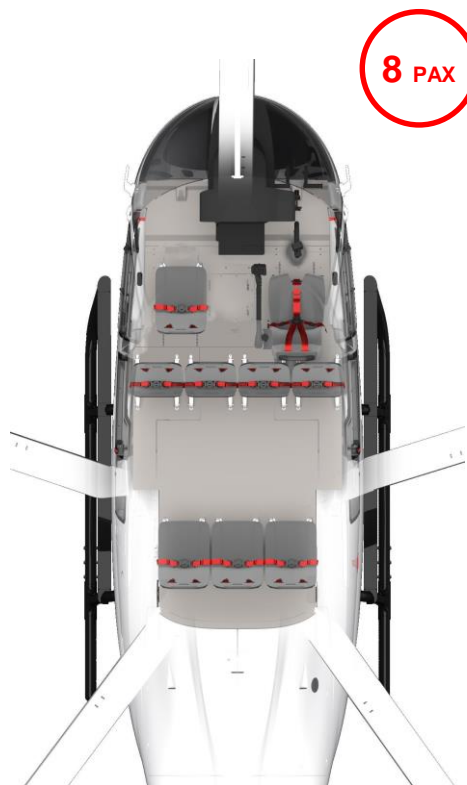
All Round
6 seats + 1 pilot
Dual controls applicable



Note: layouts available with optional Multirail floor.



Air Van layout



Air Van
8 seats + 1 pilot
Dual controls applicable



Note: layouts available with optional Multirail floor.



Cockpit – Garmin G3000



Instruments and avionics – Garmin G3000

Full Glass Cockpit

Certified for day/night **Visual Flight Rules (VFR)** with a **pilot-in-command on the right hand side** and with the capability to install the **quick removable co-pilot controls**

Ready for single pilot **IFR** with **4-axis auto-pilot**

Full **night vision goggle (NVG)** compatible cockpit and cabin.

High-resolution 12 inches glass displays with split-screen capability, HSI mapping and voice-controlled radio selection bring new levels of efficiency to helicopter flight deck management.

HTAWS and **synthetic vision** helps pilots see clearly in nighttime VFR conditions or degraded visibility environments (DVE).



④ Touchscreen Controller

- ④ **CNS Bar** Displays/controls COM, NAV, XPDR, and ICS functions
- ④ **Screen Title** Displays the title of the current screen
- ④ **Screen** Displays set of context sensitive controls and data
- ④ **Button Bar** Displays system level buttons
- ④ **Label Bar** Displays labels to show status and current functions of joystick and knobs
- ④ **Joystick** Map panning, map range and more as indicated on screen
- ④ **Middle Knob** COM volume/squelch and more as indicated on screen
- ④ **Large Right Knob** Knob provides functions as labeled on the screen
- ④ **Small Right Knob** COM freq./switching/hold, data entry and more as indicated on screen

⑤ Backup Controller for flight planning functions and COM/NAV tuning capabilities



- ① Primary Flight Display (PFD)
- ② Multi Functional Display (MFD)
- ③ Electronic Stand-by Instrument (ESIS)
- Touch screen control

All images for reference only



Instruments and avionics

Full range of baseline equipment

INTEGRATED IN GARMIN G3000H

- One **Engine Indication System** in full and split screen mode (EIS) with Power Index
- Two VHF COM radios with two antennas
- Two VHF NAV radios with ILS VOR/LOC/GS receivers and one combined VOR/LOC/GS antenna
- Two GPS SBAS receivers with two WAAS antennas
- **One Mode A/C/S Transponder with ADS-B Out capability and antenna with optional ADS-B IN/Out capability (GTX345)**
- Flight Management System (FMS) to manage flight plan and digital map
- Integrated clock and hour-meter
- External video interface capability to avionic displays (two sources)
- Two SD card slots for database updates, software uploads and saves, flight data collection and electronic document storage
- One Internal Communication System (ICS) with two cockpit plugs and hooks, cyclic PTT and four passengers plugs
- One aural warning generator for Crew Alerting System (CAS)

ADDITIONAL SAFETY AND OPERATIONAL FEATURES

- **Synthetic Vision Technology (SVT) and Helicopter Terrain Awareness and Warning System (HTAWS)***
- Automatic Power Assurance Check
- Weight & balance calculation

ADDITIONAL BASELINE AVIONIC EQUIPMENT

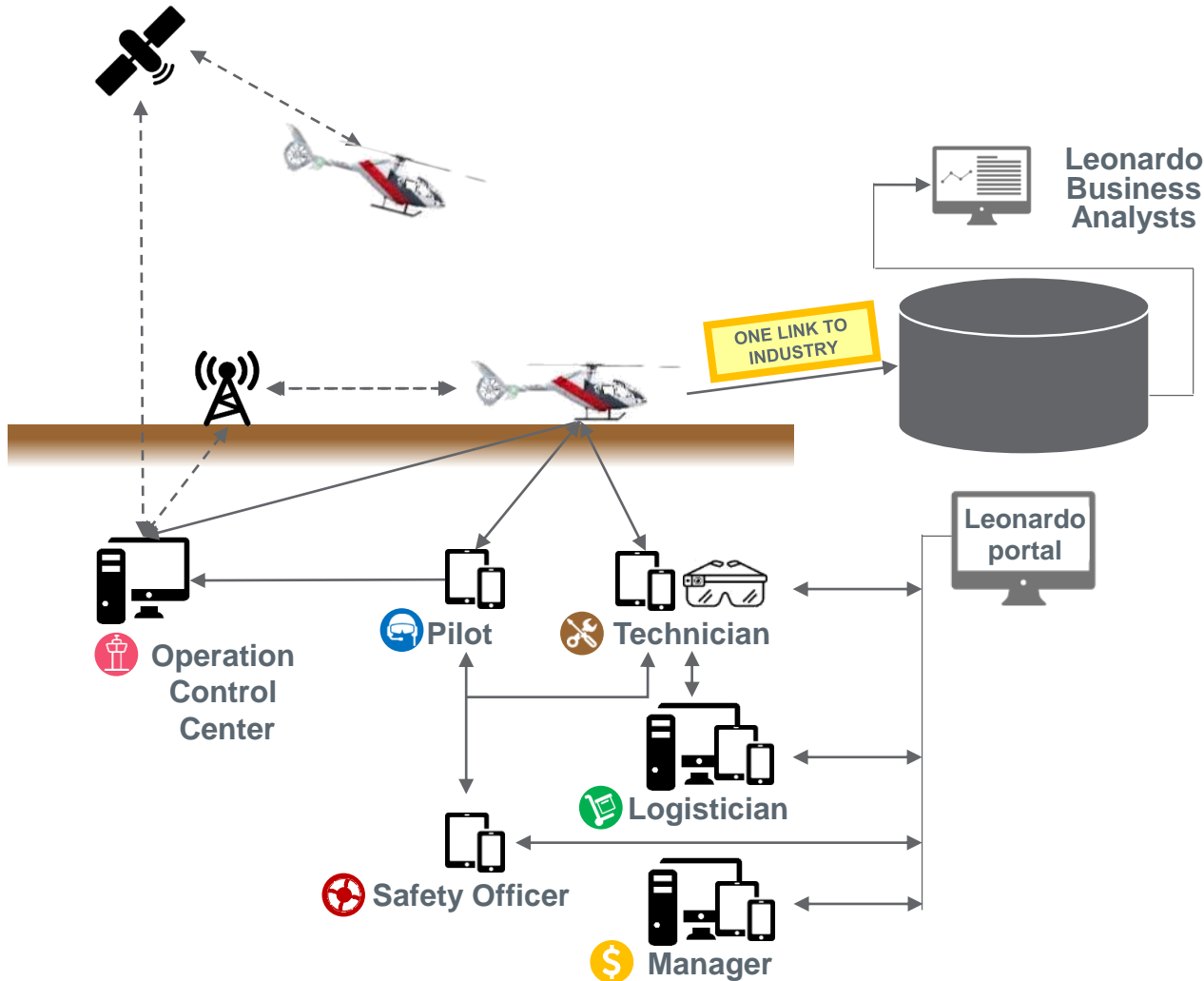
- One Electronic Standby Instrument System, ESIS, containing altimeter, vertical speed, airspeed, altitude and magnetic heading indicator
- **One detachable Emergency Locator Transmitter, ELT (121.5 MHz & 406 MHz) with automatic activation**
- **One lightweight Cockpit Voice and Flight Data Recording (CVFDR) system according EUROCAE ED 155**



* Optional equipment

Instruments and avionics - Connected aircraft

Exploiting new-design helicopter digital technology for a modular approach to services and operational capabilities



CAPABILITIES

- Flight following (satellite)
- Third party SATCOM connector
- In-cabin device connectivity for data download
- Real-time advanced connectivity (e.g. telemedicine, PTT, phone, video,...) via a broadband SATCOM*

FEATURES

- Flight Data Monitoring (FDM)
- Usage Monitoring System (UMS)
- Fault codes and exceedances monitoring
- Vibration Data Monitoring (VDM) system and sensors starting from Rotor Track and Balance (RTB) up to a full Health Monitoring System (HMS)*

SERVICES

- Predictive logistics
- Enhanced Tech support
- Reliability monitoring
- Process automation
- Data analysis

* Optional "Advanced Package"



Conclusion



TECHNOLOGY

Latest generation technology, featuring a state of the art **avionics** with native **connected** concept and **IFR capability**



SAFETY

Highest level of safety, **complying to and exceeding** the most stringent requirements in terms of **crashworthiness, redundancy and bird strike**.



CABIN

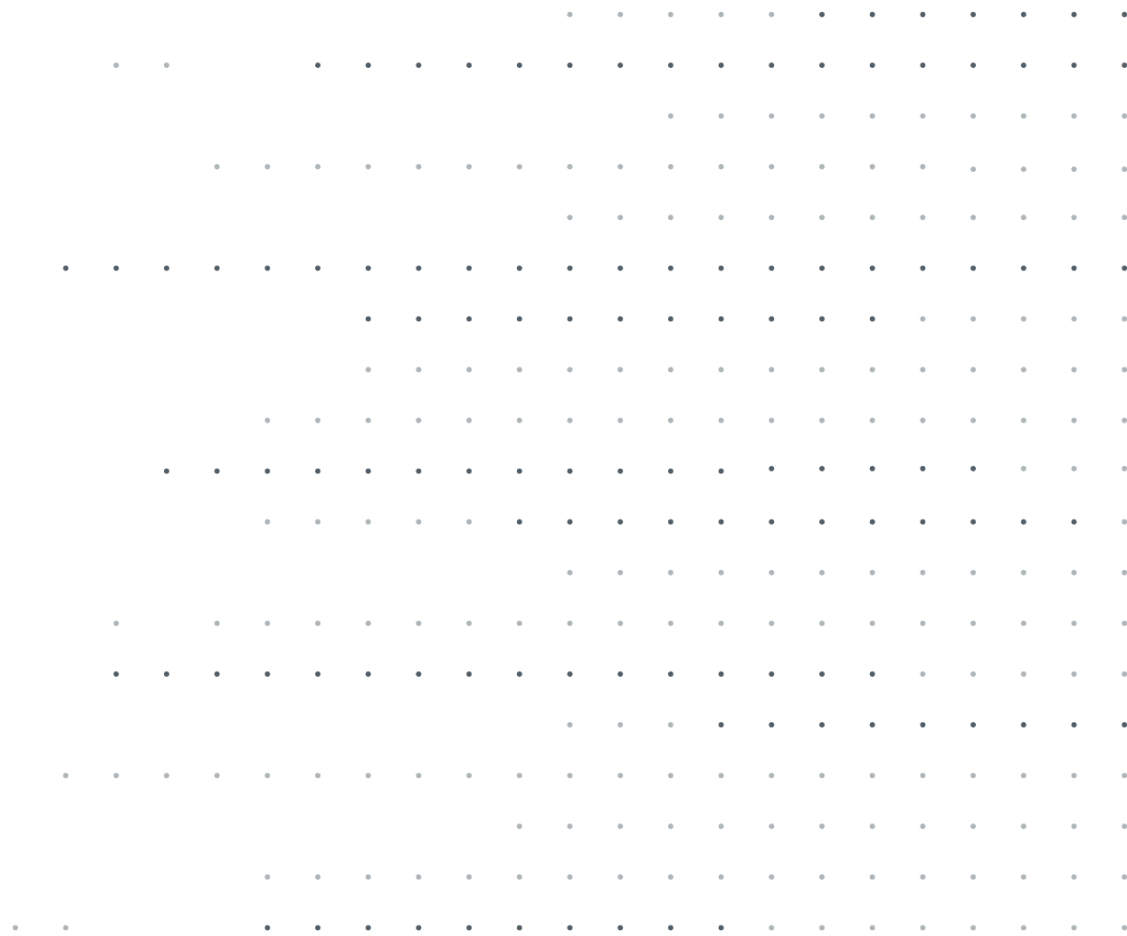
Cabin size **comparable to a twin-engine** with the **cost of a single-engine**, offering a **unique rear access** through the clamshell door





THANK YOU
FOR YOUR ATTENTION

leonardo.com



Key program development milestones

