

Type : B787
Model : B787-9
Family : *Wide-body*

Airframe Manufacturer : *Boeing*
Model Launch : *2004*

No of Engines : 2
Engine Type – Model : *GenX-1B /
RR Trent1000*

Seat Capacity :
290 Full Economy Configuration

Weight and Payload :
254,000 Lbs Max Take Off Weight (MTOW)

Range Capacity : *7565 nm / 14,010 km*

Other important features :
*Raked Wingtips, Blended Winglet, Advanced
use of composites, Improved passenger
cabin.*

Appraiser's Opinion

B787-9



Ameya Gore
Sr. ISTAT Appraiser

Appraiser's Opinion

Although the B787-9 program had a 2-year lead in launching compared with its rival, the A350-900 from Airbus, entry into service for both aircraft occurred almost simultaneously. The first B787-9 entered into service with Air New Zealand in June 2014 and has subsequently garnered ~ 60 customers worldwide. The B787 family has become a mainstay aircraft on long-haul routes for most airlines aiming to capitalise on point-to-point, non-stop routes, ranging between 15-17 hours of flight time. Despite its initial battery issues, which led to the grounding of the global fleet for a brief period, the global demand for the B787-9 has remained robust. This can be primarily attributed to the desire for airlines to either replace the 4-engine A380 on long-haul routes, or for airlines to compete with B777, A380 or A350 deployed on long-haul routes. In that aspect, it has proven to be an ideal replacement aircraft for such airlines.

On the maintenance front, there have been changes made to the B787-9 to improve the costs as well as the grounding time during maintenance. The table *on the next slide* shows a comparative picture of the various costs and maintenance event intervals of the B787-9 versus other twin-engine wide-body aircraft. The extension / increase in the maintenance intervals on the airframe and landing gears is more significant compared with the on-wing life of the engines and the APUs. But one must remember that the engines on the B787-9, as well as the A350-900, are relatively new technology and have yet to fully mature. On the other hand, the GE 90-115 and Trent 700 / GE CF6-80 / PW4170 on the B777-300ER and A330-300 CEO respectively have matured over their life cycle.

Therefore, it can be expected that the on-wing life expectation of the GenX -1B or Trent 1000 on B787-9, as well as the RR Trent XWB on the A350-900, would be significantly enhanced as maintenance practices and technologies evolve.

The desirability of the assets and, in turn the future demand, is influenced by the operating economics of the aircraft. The maintenance intervals and on-wing life, as well as associated costs, affect the operating economics of the aircraft. In this case, as compared with the other variants, the operating economics of the B787-9 appear to be better and hence improve the desirability of the asset in the current market state.

As more aircraft are delivered to cover the backlog of aircraft, it will be interesting to see the B787-9's adaptability to market needs. Although the future does show potential for B777X and A350-1000 as ominous variants to the programs being phased out, the B787-9 would, in the appraiser's opinion, continue to have growing demand amongst its customer base as evidenced by recent airline orders.

Disclaimer

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Comparison of the Various Costs and Maintenance Event Intervals

	Airframe 4C / Structure Check		Landing Gear Overhaul		APU Overhaul		Engine PRSV		Engine LLP	
	Interval	Cost	Interval	Cost	Interval	Cost	Interval	Cost	Interval	Cost
B777-300ER	8 Years / 15800 FC	\$ 3.20 Million	10 Years / 15800 FC	\$ 1.40 Million	7000 APU Hrs	\$ 680.00K	3800 FC	\$ 13.80 Million	15000 FC	\$ 11.46 Million
B787-9	12 Years / 23700 FC	\$ 1.60 Million	12 Years / 23700 FC	\$ 1.23 Million	8500 APU Hrs	\$ 700.00K	3500 FC to 4200 FC	\$ 9.10 to \$ 10.5 million	15000 FC	\$ 9.00 to \$ 11.3 Million
A350-900	12 Y	\$ 2.00 Million	12 Years / 16700 FC	\$ 1.26 Million	5000 APU Hrs	\$ 372.00K	3300 FC	\$ 8.70 million	15000 FC	\$ 10.67 Million
A330-300 CEO (Enhanced)	12 Y (including 6Y)	\$ 2.30 Million	10 Years / 20000 FC	\$ 1.50 Million	5800 APU Hrs	\$ 375.00K	6000 FC**	\$ 10.80 Million	15000 FC	\$ 8.20 Million

Note: Values are based on credible OEM sources and other published material. Engine PRSV values includes labour, material, fees and outside shop repair costs. These are not exact values but have been rounded off to the closest integer.

Value Projections

Source: fin-S Online Valuation on SPARTA



BV and CMV (DEFAULT) FBV

Serial Number: _____ Aircraft Type*: **B787-9**

Date of Manufacture*: **30-11-2015** Engine Type*: **GEnx-1B70/75/P2**

Max Take Off Weight*: **559968.4** Lbs Max Take Off Weight*: **254000.0000** Kgs

Modifications/Enhancements: **ADS-B** **CDSS** **IFE** **ETOPs**

Maintenance Condition*
 Half Life Full Life Both
Please select Aircraft and Engine to enable full life

Inflation Rate*: **2** % Projection To*: **31-12-2035**

Value as of*: **20-03-2023**

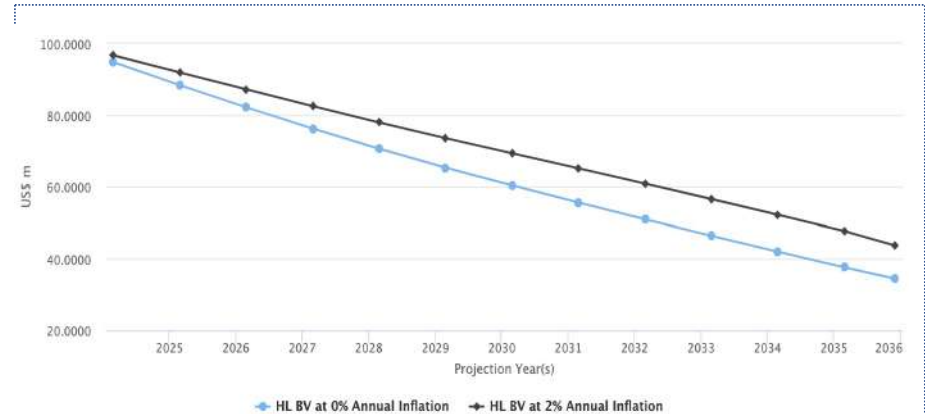


Half Life
Current Base Value

Value as of: Mar 20, 2023



Half Life
Current Market Value



Date	Half Life @ 0%	Half Life @ 2%
Mar 2024	US\$94.767 m	US\$96.662 m
Mar 2025	US\$88.327 m	US\$91.895 m
Mar 2026	US\$82.145 m	US\$87.172 m
Mar 2027	US\$76.212 m	US\$82.494 m
Mar 2028	US\$70.576 m	US\$77.921 m
Mar 2029	US\$65.272 m	US\$73.506 m
Mar 2030	US\$60.352 m	US\$69.325 m
Mar 2031	US\$55.567 m	US\$65.105 m
Mar 2032	US\$50.899 m	US\$60.829 m
Mar 2033	US\$46.366 m	US\$56.519 m
Mar 2034	US\$41.929 m	US\$52.133 m
Mar 2035	US\$37.602 m	US\$47.688 m
Dec 2035	US\$34.478 m	US\$43.726 m

Lease Rates Projections

Source: fin-S Online Valuation on SPARTA



BLR and MLR (DEFAULT) FBLR

Serial Number: _____ Aircraft Type*: B787-9

Date of Manufacture*: 31-12-2015 Engine Type*: GEnx-1B70/75/P2

Max Take Off Weight*: 559968.4 Lbs Max Take Off Weight*: 254000.0000 Kgs

Modifications/Enhancements: ADS-B, CDSS, IFE, ETOPs

Inflation Rate*: 2% Projection To*: 31-12-2035

Value as Of*: 20-03-2023

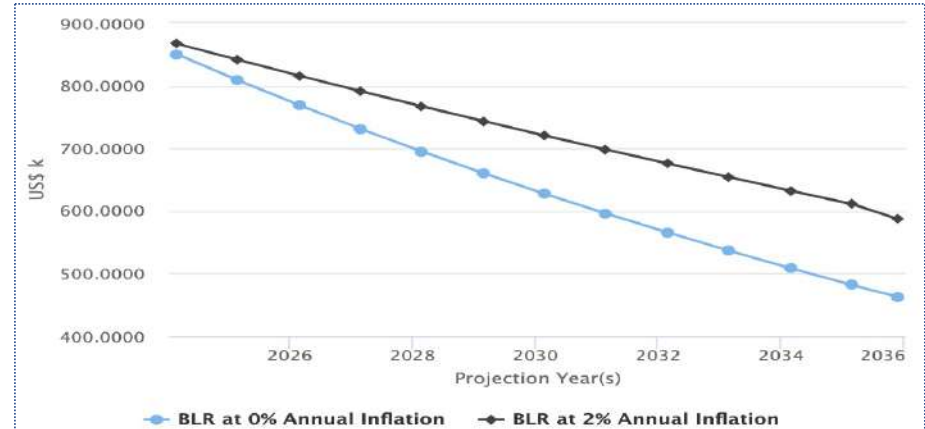


Base Lease Rate



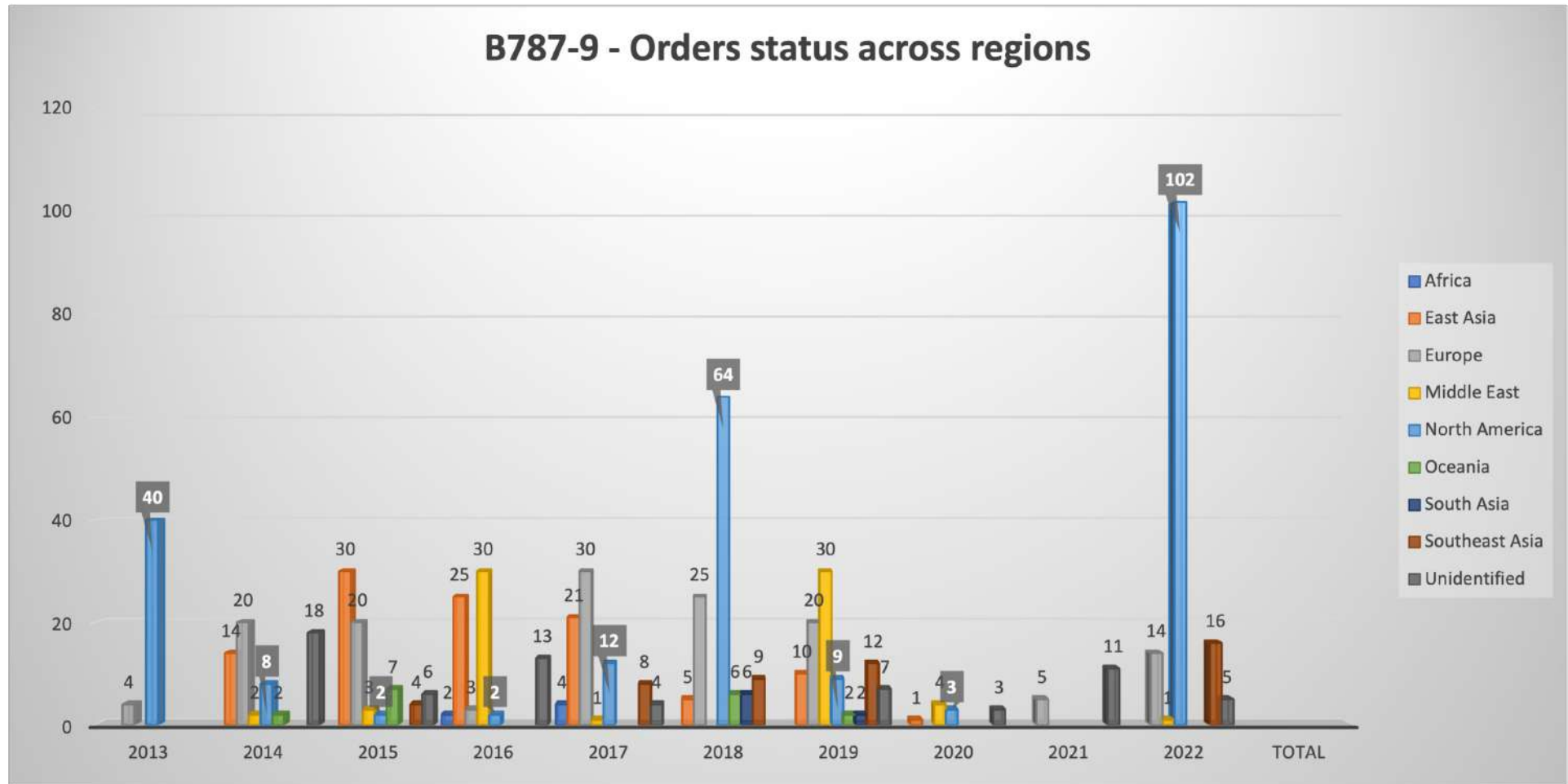
Market Lease Rate

Value as of: Mar 20, 2023



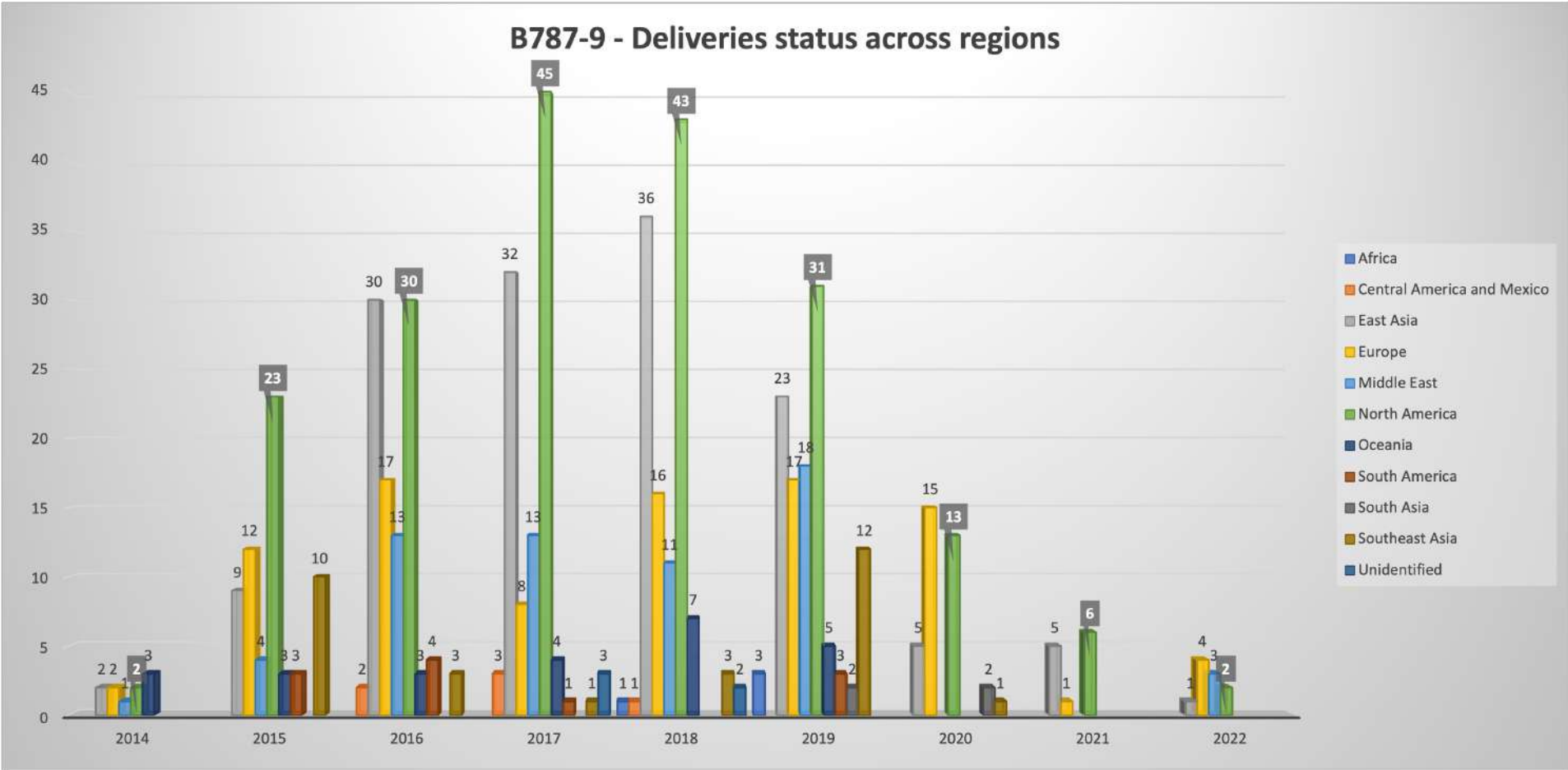
Date	@ 0% Inflation	@ 2% Inflation
Mar 2024	US\$850.124 k	US\$867.126 k
Mar 2025	US\$808.565 k	US\$841.231 k
Mar 2026	US\$768.775 k	US\$815.830 k
Mar 2027	US\$730.865 k	US\$791.111 k
Mar 2028	US\$694.632 k	US\$766.929 k
Mar 2029	US\$660.057 k	US\$743.331 k
Mar 2030	US\$627.092 k	US\$720.331 k
Mar 2031	US\$595.620 k	US\$697.863 k
Mar 2032	US\$565.437 k	US\$675.749 k
Mar 2033	US\$536.382 k	US\$653.846 k
Mar 2034	US\$508.557 k	US\$632.326 k
Mar 2035	US\$481.803 k	US\$611.042 k
Dec 2035	US\$462.612 k	US\$586.703 k

Orders Status :



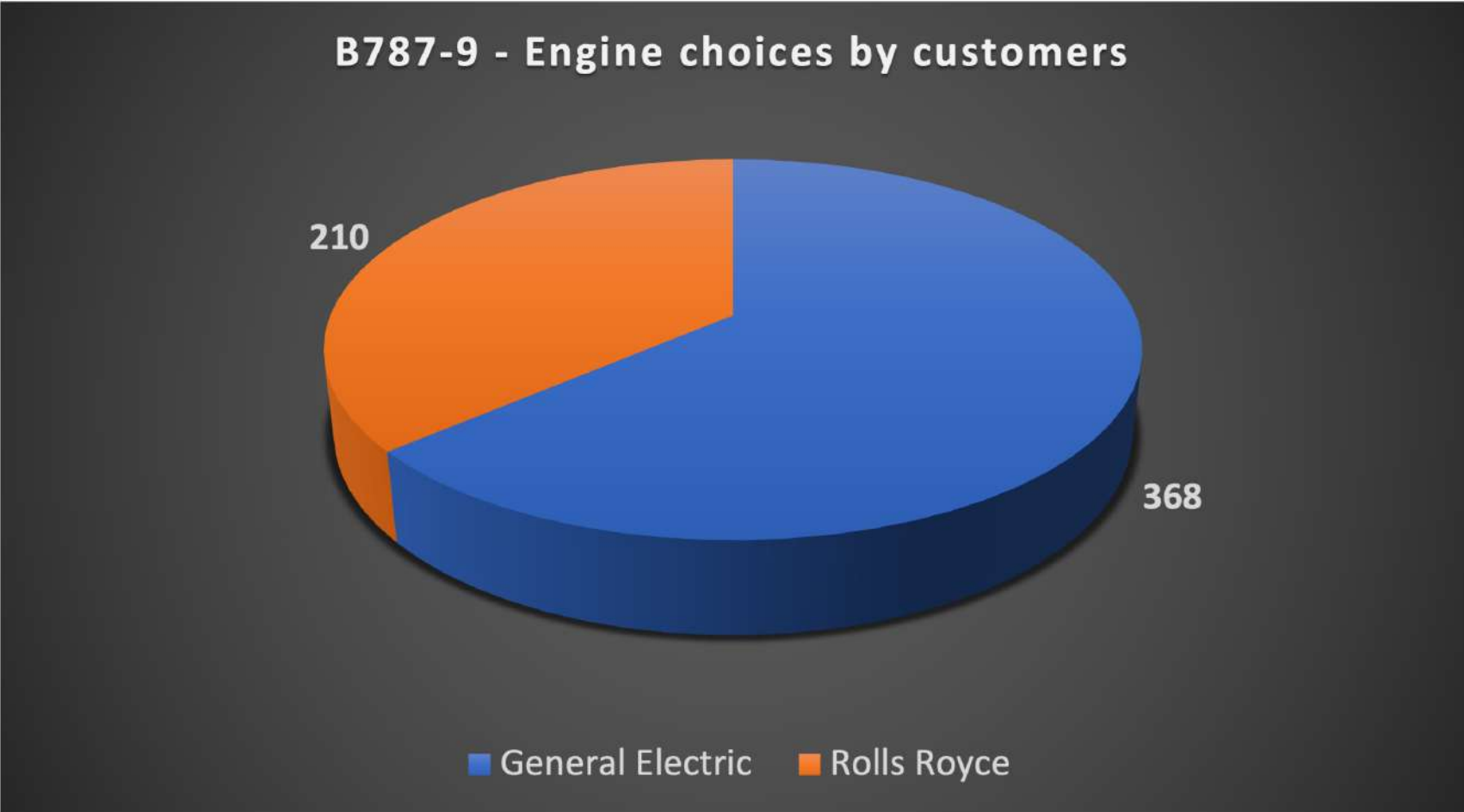
As of 31 Dec 2022. Source: Boeing website

Delivery Status :



As of 31 Dec 2022. Source: Boeing website

Customer Engine Choices :



As of 31 Dec 2022. Source: Boeing website



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