

# Airbus A350-900

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## Background

The A350-900 is a member of the A350 XWB family, which was developed to succeed the A340 and compete with the 787 and 777. As of July 2018, the A350-900 had 722 firm orders from 46 airline operators with 184 deliveries, leaving a backlog of 538. The aircraft hasn't experienced the same level of entry into service issues that some new entrants have faced in recent years. As of July 2018, Airbus claims dispatch reliability of 99.9 percent, with ZERO in-flight shut-downs, while early 787-8s had initial dispatch reliability of 96 percent before improving to 99.3 percent by the end of 2017.

The A350-900 and A350-1000 are now the only two models of the A350 XWB family with the last remaining A350-800 order converted to the A350-900 in March 2018. Airbus has been ramping up production and aims to manufacture 10 A350s a month by the end of 2018. Although the A350 XWB family has Rolls-Royce as its sole source engine supplier, there are two distinct engines — the Trent XWB-84 for the A350-900 and the Trent XWB-97 for the A350-1000. The A350 XWB family fuselage is built with carbon-fibre reinforced plastic, which results in lower fuel burn, easier maintenance and increased resistance to corrosion. The wings are also more efficient and quieter due to their advanced design, which allows them to tailor the wings for maximum aerodynamic efficiency during flight.

Passenger capacity for the A350-900 is in the range of 280 to 366 seats in typical three-class configuration. The A350-900 initially had an MTOW of 275 tons and a range of 7,500 nautical miles/13,890 km

in standard three-class configuration with 325 passengers. These were increased to 280 tons MTOW and 8,100 nm/15,000 km. Driven by an aerodynamic performance improvement package (larger winglets, wing twist, enhanced flap supporting fairings and modified over-wing fairings), these enhancements were introduced with MSN 219 in June 2018 and are standard. The A350-900ULR was launched in 2015, with first delivery in September 2018 to Singapore Airlines. The A350-900ULR offers increased fuel capacity, enabling service on nonstop flights of up to 20 hours (9,700 nm/18,000 km), the longest of any commercial aircraft currently flying. The extended range capability does not require installation of additional fuel tanks, and the A350-900ULR can be reconfigured to standard specifications if required.

The A350 XWB family has penetrated nicely into the twin-aisle market with a strong worldwide customer base. As of July 2018, the biggest four operators are Singapore Airlines (67), United Airlines (45), Etihad Airways (40) and Qatar Airways (39). The A350 is well positioned against the 777 and 787, and it commands the highest overall backlog in the twin-engine widebody aircraft segment. The below graph demonstrates the competitive environment for the four twin-engine widebody aircraft types — 777, 787, A330 and A350.

## Market Outlook

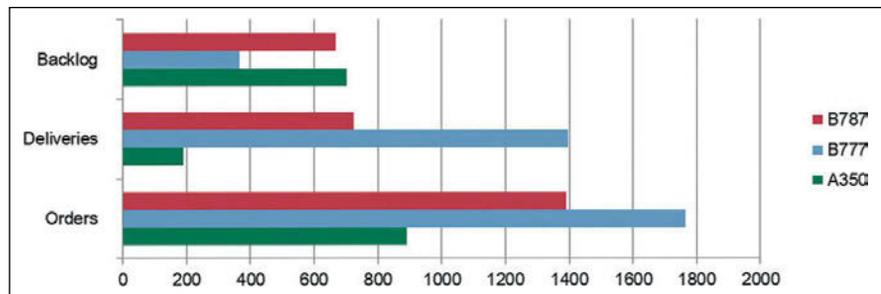
With steady growth in passenger traffic in the past decade and growth projections around 5 percent annually for the next decade, the future for twin-engine widebody



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aircraft remains positive. Worldwide year-over-year economic growth, a growing middle class and lowered fares due to competition are expected to drive the projected growth. Last year, IATA estimated global airline profits at \$38 billion, but they are projected to decline to a still-robust \$33.8 billion in 2018 per its June 2018 forecast. Global passenger load factor is above 81 percent, limiting increased loads as a source of additional capacity, benefitting future aircraft demand, which should only be partially offset by cabin densification. Airlines are upgauging long haul flights at increasingly congested airports to meet increased passenger demand and are adding new long haul routes, both of which benefit demand for widebody aircraft. Twin-engine widebody aircraft are benefitting more than their four-engine counterparts given lower operating costs and their being easier to fill.

With the A380 and 747 falling out of favor, the impending replacement cycle of 777-200s and older 777-300s, combined with non-availability of the 777X at present, the A350 is expected to see good demand for the foreseeable future. Demand will also benefit from the A350s use of the latest technology, lowering maintenance costs and fuel consumption. ▲



SOURCE: AIRBUS, BOEING

Type: A350-900																			
Year	Current Market Value	2018 Base Values	Future Base Values at 1.5% Inflation (All values in millions of U.S. Dollars)																
			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2013	101.4	102.4	96.1	90.3	84.5	78.4	72.6	67.1	62.1	57.4	53.5	49.7	46.0	42.5	39.0	35.7	32.3	29.2	26.1
2014	109.5	110.5	103.9	97.6	91.6	85.8	79.6	73.6	68.1	63.0	58.2	54.3	50.4	46.8	43.1	39.6	36.2	32.8	29.5
2015	118.0	119.1	112.2	105.4	99.0	93.1	87.0	80.8	74.8	69.2	63.9	59.1	55.1	51.2	47.4	43.7	40.2	36.7	33.3
2016	127.0	128.2	120.8	113.8	107.0	100.4	94.4	88.3	81.9	75.9	70.2	64.9	60.1	55.9	52.0	48.2	44.4	40.8	37.3
2017	136.7	138.0	130.1	122.6	115.5	108.5	101.9	95.8	89.7	83.1	77.0	71.2	65.8	60.9	56.7	52.8	48.9	45.1	41.4
2018	150.2	151.6	142.5	134.3	126.7	119.4	112.3	105.5	99.1	93.0	86.3	80.0	74.0	68.4	63.2	58.8	54.7	50.7	46.9

SOURCE: ACUMEN AVIATION