Ready to takeoff

Development strategy for Fly High AG

4WIN Team

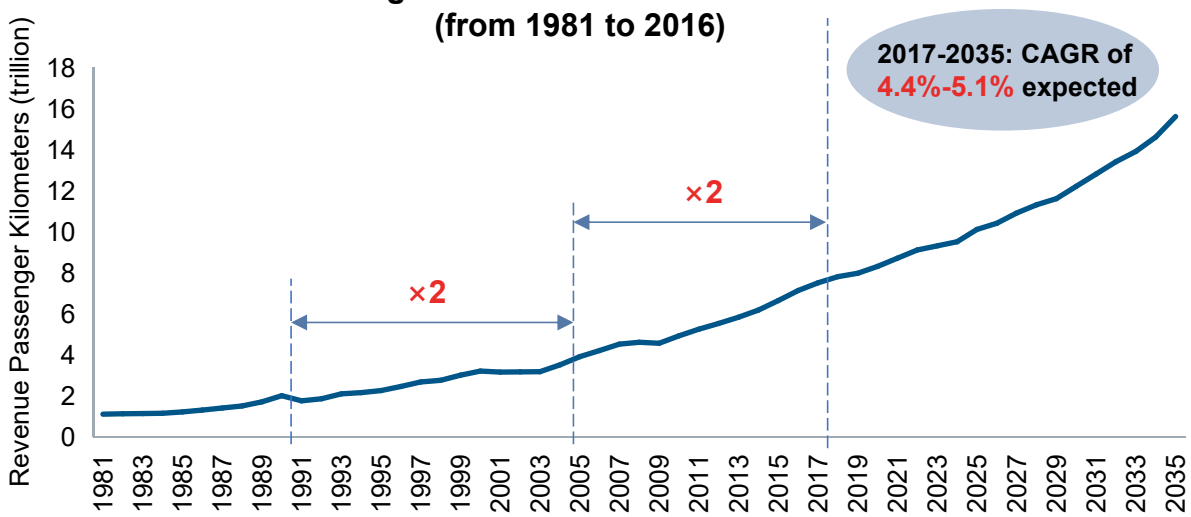
Industry Background

4WIN Team

Aircraft Manufacturing is a Promising Industry with Growing Air Traffic Market and Increasing Demand for new Aircraft Production.

1 Potential in Global Air Traffic Market

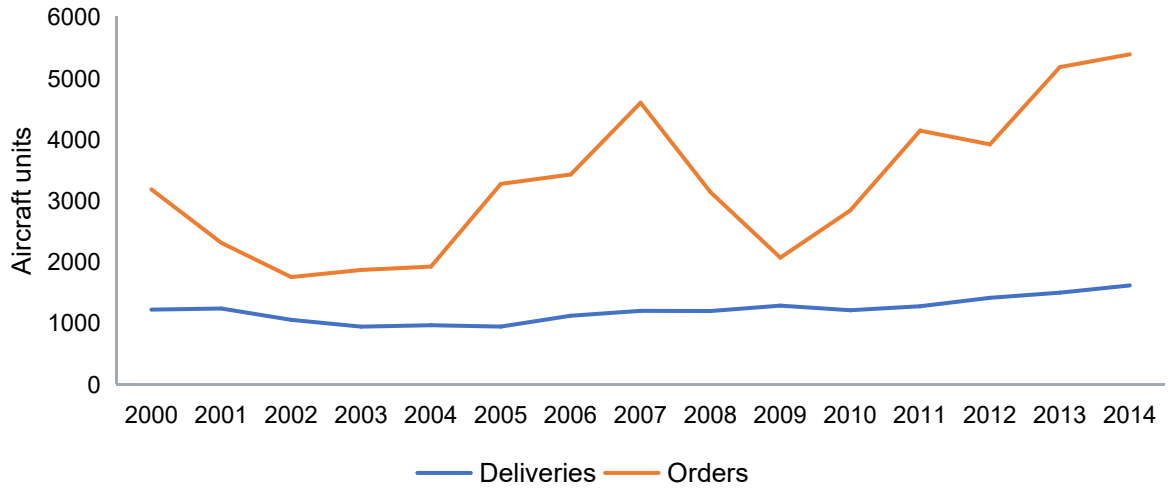
Figure 1: Global airline traffic (from 1981 to 2016)



- Even with economic stagnation and natural disaster, it still can be viewed a **continuous growth** in global airline traffic market.
- The RPK doubled every 15 years since 1965 with a CAGR of approximately **5%**.
- The CAGR of **4.4%-5.1%** can be expected for 2017-2035.

2 Demand for new Aircraft Production

Figure 2: Orders and delivers of commercial aircraft market (from 2000 to 2014)



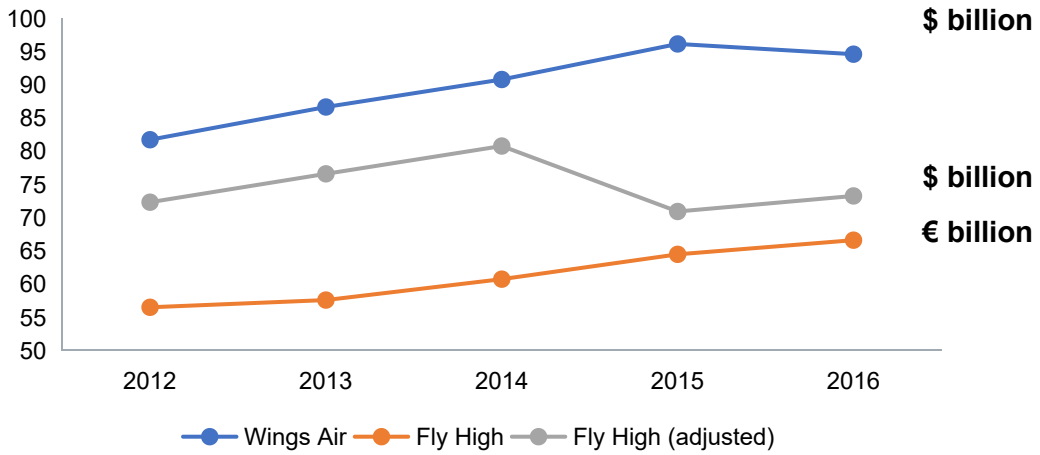
Even though the total units of commercial aircraft orders could be decreased due to economic crisis, oil price and other factors, it is always larger than the total units of deliveries each year. This shortage in aircraft manufacturing market demonstrates the urgent demand for new aircraft production.

Source: ICAO 2016 Annual Report; IATA 2016 Fact Sheet; Speed News, "Commercial Jet Aircraft Program Status Report", 2000-2014; Roland Berger

Fly High and Wings Air Performed Differently in Commercial Aircraft Market Segment.

1 Continuous Growth of Yearly Revenue

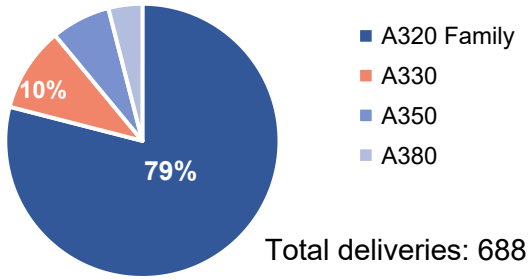
Figure 1: Yearly revenue of Fly High and Wing Air from 2012 to 2016



- ✓ The yearly revenue of both Fly High and Wings Air **increased continuously**, but the one of Wings Air was greater than the one of Fly High from 2012 to 2016 in USD.
- ✓ From Figure 4, it can be said that **price** plays a key role in aircraft manufacturing industry. Even a small dropdown of the total cost of aircraft production will generate a huge profit margin.

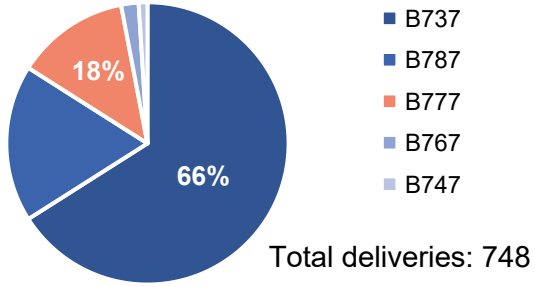
2 Deliveries and Prices in 2016

Figure 2: Fly High's deliveries by program in 2016 (units)



Total deliveries: 688

Figure 3: Wings Air's deliveries by program in 2016 (units)



Total deliveries: 748

The major program delivered by Fly High was **A320 family** while the major program delivered by Wings Air was **B737**.

Figure 4: Average listed price for major programs in 2016 (USD Million)

Fly High		Wings Air	
Type	**Price**	**Type**	**Price**
A380	432.6	B747	378.5
A350	272.4~355.7	B787	224.6~306.1
A330	231.5~287.7	B777	277.3~400
A320	98~107.3	B737	80.6~116.6

Source: ICAO 2016 Annual Report; Airbus 2016 Annual Report; Boeing 2016 Annual Report; Morning Star, Average Exchange Rate of Euro to USD, 2012-2016

Company Analysis

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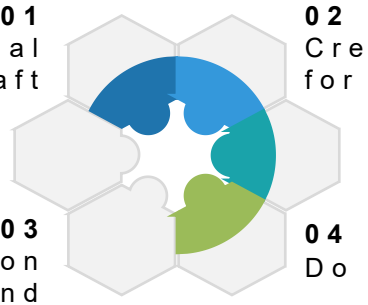
Fly High has Separated Business Portions and Different Kinds of Aircrafts and A350 XWB.

1 Separated Business Portions of Fly High



2 Features of Different Models of Fly High

Model	Passenger capacity	Range (km)	Length (meters)	Wingspan (meters)
A320	150	6,100	37.6	35.8
A330-200	247	13,450	59	60.3
A330-300	277	11,750	64	60.3
A350-900	325	14350	66.8	64.7
A350-1000	366	14800	73.7	64.7
A380	544	15200	73	79.8

3 Performance of The New Program A350 XWB

New Model	• A350-1000 variant has completed its maiden flight and the flight test program is ongoing.
Development Progress	• A350 is maintaining the development schedule in line with learning curve assumptions.
Versatility	• The A350 XWB demonstrates its versatility by offering the capability to perform flights of up to 19 hours.

Typical Customer Comments

"High-security aircraft guarantees our safety."

"Less noisy environment and more comfortable cabin ensure a pleasant journey."

Source: Airbus 2016 Annual Report; Roland Berger

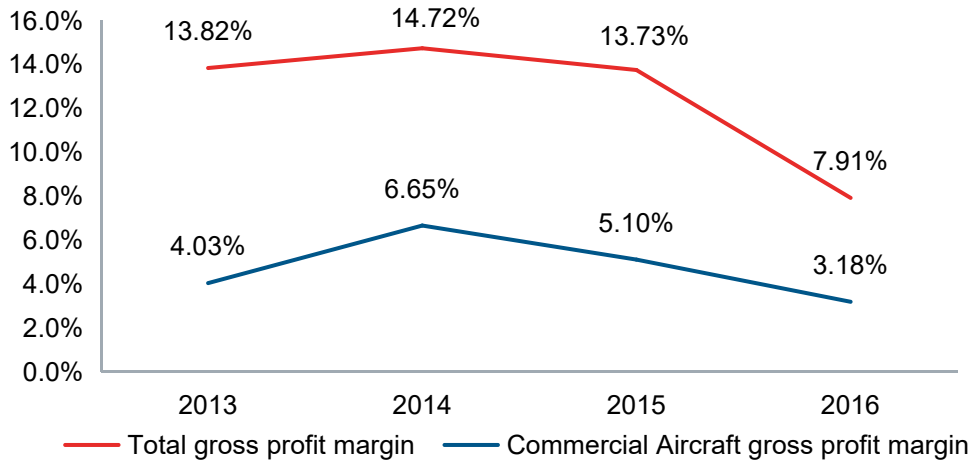
Current Challenges

4WIN Team

Fly High is Facing Shrinking Profit Margins due to the Deterioration of the EUR/USD Exchange Rate and Increasing Production Costs.

1 Profitability: Shrinking Profit Margins

Figure 1: The profit margins of Fly High from 2013 to 2016



- ✓ Fly High's total gross profit margins and the gross profit margin of its commercial aircraft business have been halved since 2014.
- ✓ The main reason of the decrease is the deterioration of the EUR/USD exchange rate. Since **75%** of the company's revenue is denominated in US dollars, the EUR/USD exchange rate has a significant impact on profitability.
- ✓ The increase of production costs is largely impacted by the dependence on the goods and services the key suppliers provide.

Figure 2: Revenues of Fly High in different geographical areas in 2016

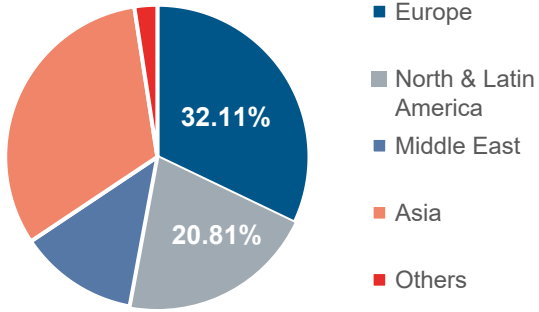
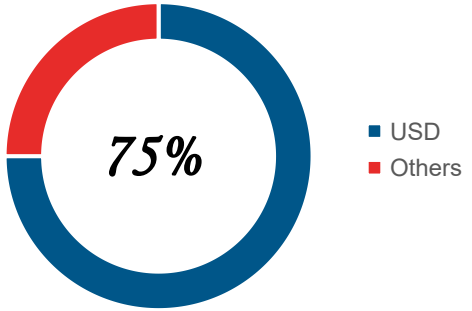
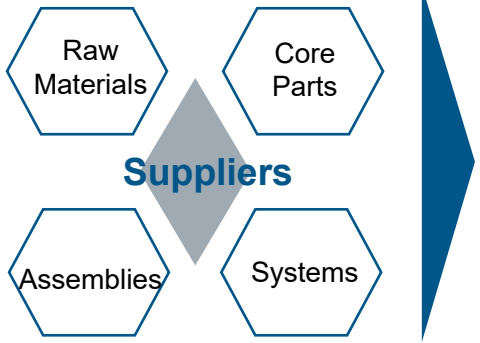


Figure 3: Percentage of revenues denominated in different currencies of Fly High in 2016



More than a half of the revenues come from Europe, North America and Latin America, where the currencies are **either EUR and USD**.



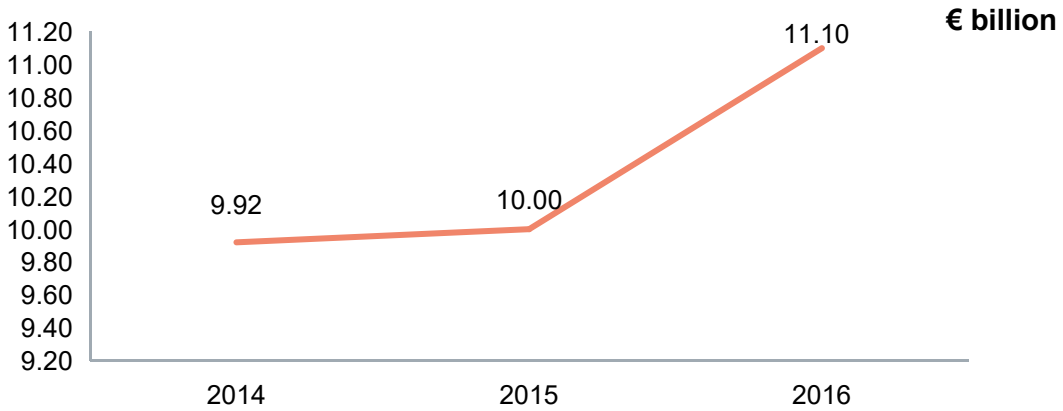
- ✓ Fly High is dependent on numerous key **suppliers** to get the raw materials, parts, assemblies and systems..
- ✓ Due to the delays of the development schedules, suppliers may **initiate claims** under their respective contracts, and further affect Fly High's production costs.

Source: Airbus 2016 Annual Report; Airbus 2016 Financial Statement

Fly High is Facing the Challenges of Low Liquidity and Lacking New Technologies.

2 Liquidity: Low Net Cash Position

Figure 1: The Net Cash Position of Fly High from 2014 to 2016



Net Cash Position = Cash/Cash Equivalents + Securities - Financing Liabilities

- ✓ **Net cash position** is an indicator that allows the company to measure its ability to generate sufficient liquidity.
- ✓ Although Fly High's net cash position is rising slightly, its absolute value is still **low** compared to the liquid cash it requires.
- ✓ Analyzing its cash inflows of 2016, some of them were obtained through the disposal of fixed assets, not permanent cash flows, so the liquidity situation is still **not optimistic**.

3 Lacking New Technologies

Fly High's technology advance fails to satisfy the needs of its clients.

There are technological and technical barriers between Fly High and its suppliers.

Contracts face the risk to be cancelled.

The production costs cannot be fully controlled.

- ✓ Fly High offers its customers technologically advanced products and services, including the design, manufacturing, components and materials.
- ✓ Certain Airbus ' contracts require it to forfeit part of its expected profit, to **provide cancellation rights** for the same customer if its products fail to satisfy the customers' needs.
- ✓ Fly High may also incur increase of costs or **loss of revenues**, if remedial action is needed to correct any performance issues detected from its goods and services.

Source: Airbus 2016 Annual Report; Airbus 2016 Financial Statement

Fly High is Facing the Challenges of Ramping Up Both the New Aircraft Program and the Legacy Aircraft Programs.

4 A350 XWB: Competition, Product, Financing

Competition

	A350	B787
Aircraft deliveries in 2016	**49**	**137**
Advantages	• More advanced engines and raw materials • Lower operating cost • Lower emission	• Integrated body • More advanced wings • More comfortable cabin environment

Product

- Ensuring satisfaction of operators and high-quality support during operations
- Maintaining good performance of supply chain and production ramp-up
- Keeping an average work level of the final assembly line
- Maintaining the steady development of A350-1000 and engines

Financing

- It cannot be assured that government financing will still be available for this program in the future
- ECAs' (Export Credit Agencies) financing continues to be suspended.
- The availability of other outside sources of financing, such as WTO, will depend on a variety of factors such as market conditions and the Company's credit ratings

5 Legacy Programs

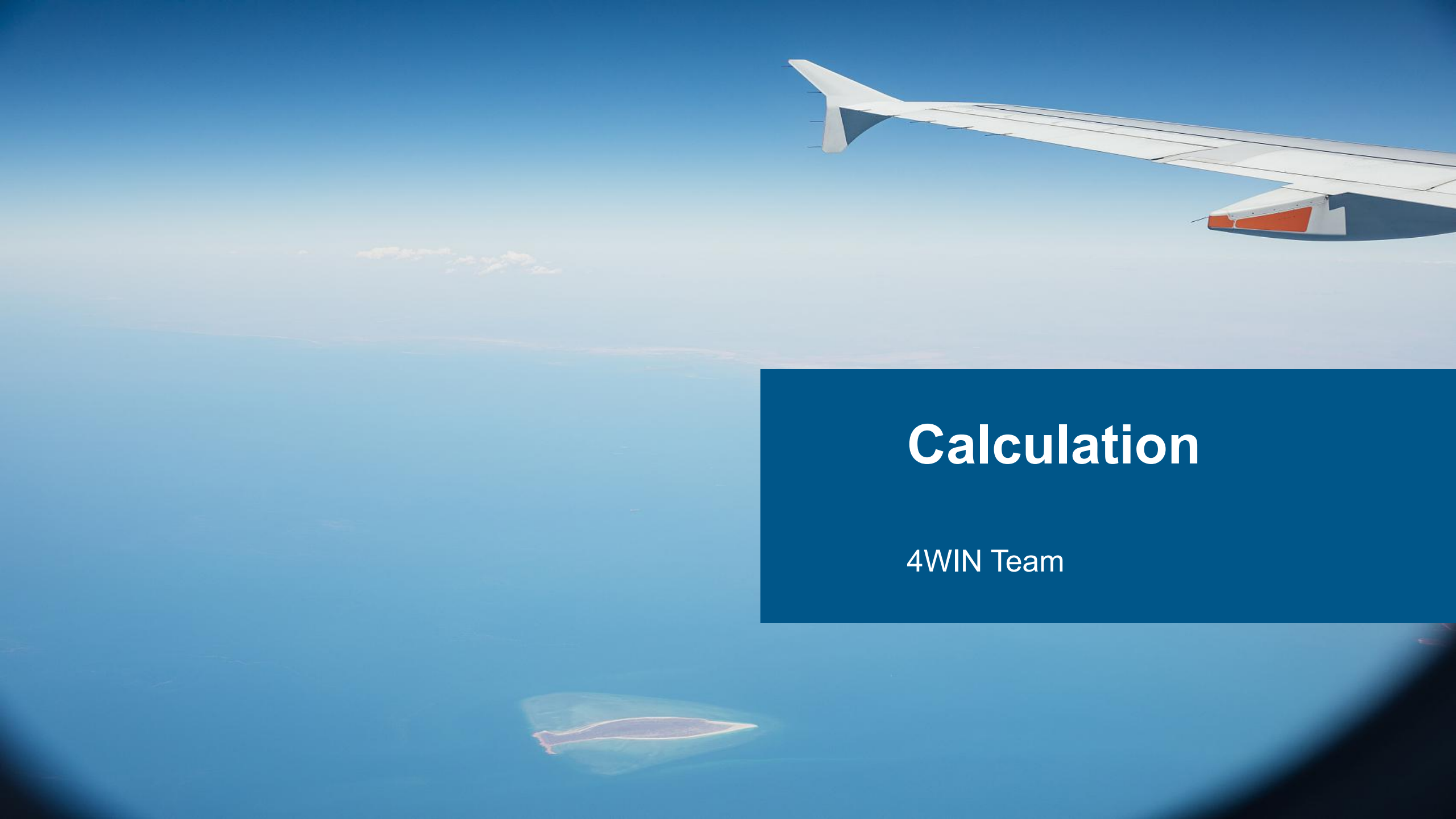
Production Capacity

- Focus: further ramp-up for Fly High and engine partners to meet the delivery commitments
- Ramp down the yearly production rate of A330 families and reduce fixed costs of A350 program in order to reach breakeven point as soon as possible

Cost Pressure

- Meeting the schedule and cost objectives with the complexity of the local infrastructures and the integration of products
- Continuously reducing costs of production when customizing each aircraft to satisfy customers' needs

Source: Airbus 2016 Annual Report; Airbus 2016 Financial Statement



Calculation

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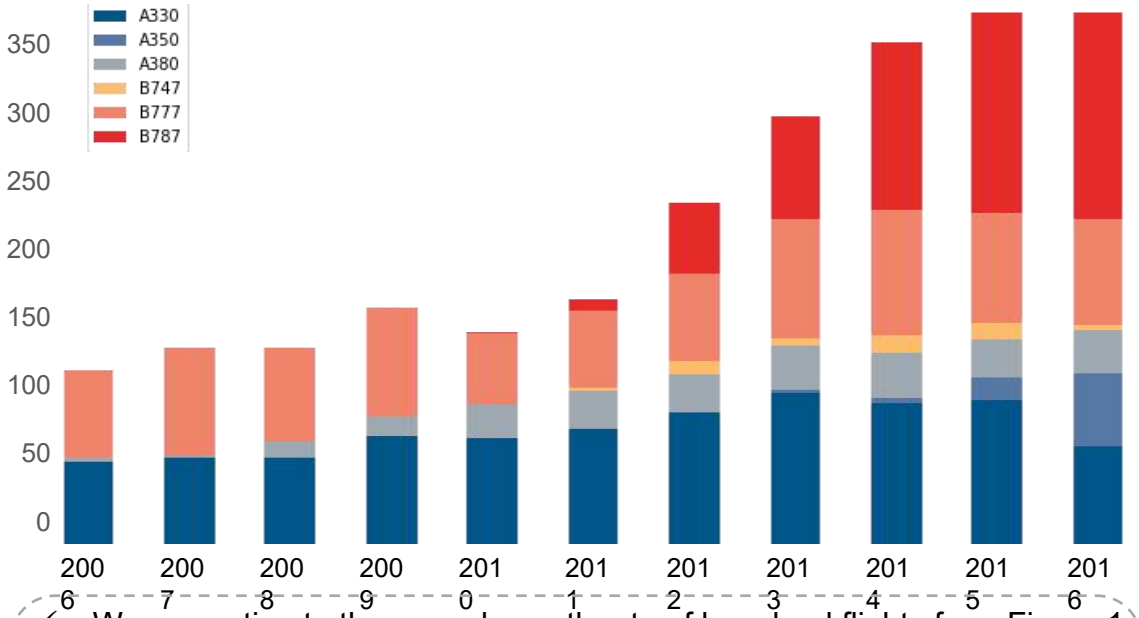
Calculation 1: Estimate the Yearly Revenue Which Will Be Made with the A350 XWB.

1 Demand Side: Total Market Capacity

Figure 1: The numbers of different long-haul flights of Fly High and Wings Air Ltd.



- ✓ We can estimate the annual growth rate of long-haul flights from Figure 1, which is **4.5-5%**, and a decreasing trend of the growth rate can be seen.
- ✓ From Figure 2, we can assume that the demand of A350 accounts for about **30%** of the long-haul aircraft market.
- ✓ Figure 3 shows the numbers of replacing long-haul aircrafts, applied by 30%, the yearly replacement of A350 can be estimated.

Figure 2: The proportion of A350 transactions in the long-haul aircraft market

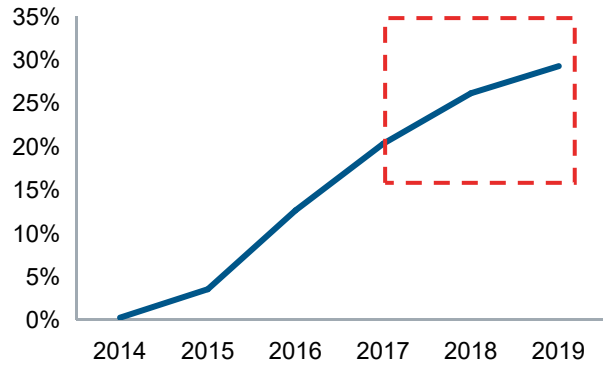


Figure 3: The number of long-haul aircrafts that need to be replaced from 2020 to 2030

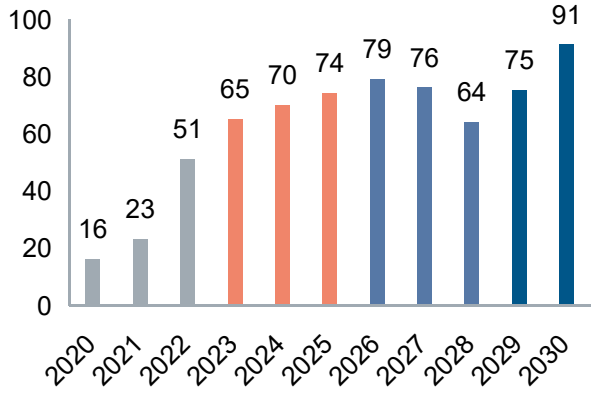
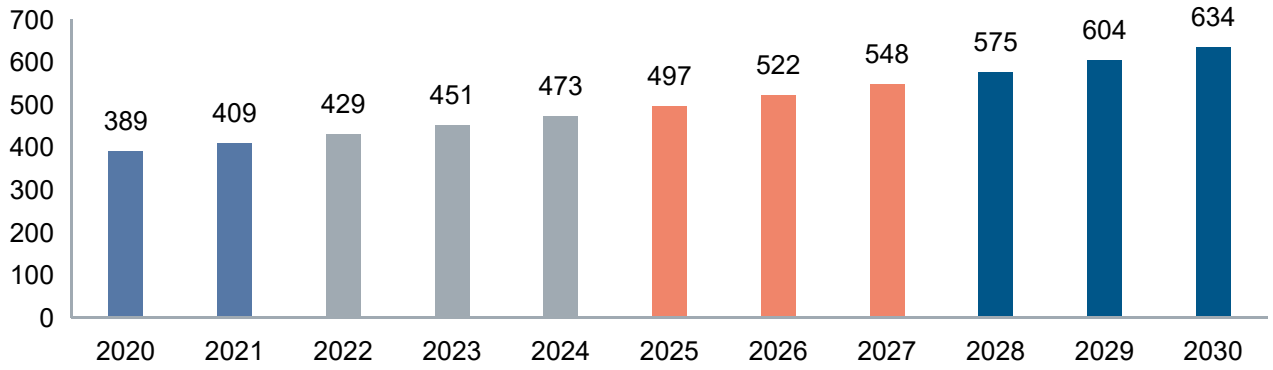


Figure 4: The total demand of A350 XWB aircrafts from 2020 to 2030

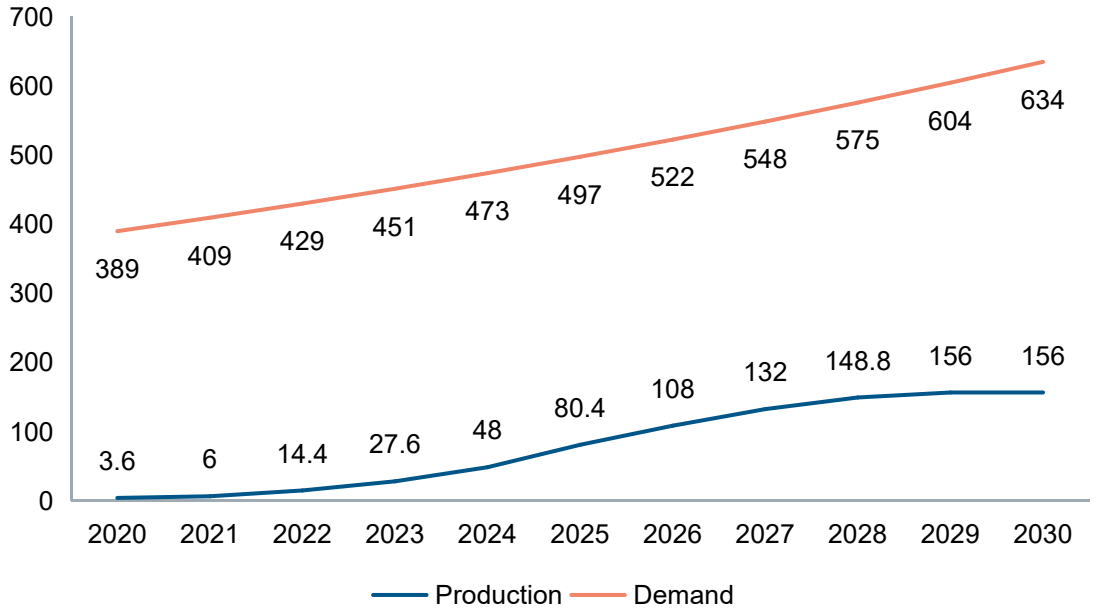


Source: 4WIN Team Analysis of the data from AIRFLEETS.NET

Calculation 1: Estimate the Yearly Revenue Which Will Be Made with the A350 XWB.

2 Supply Side: Total Production Capacity

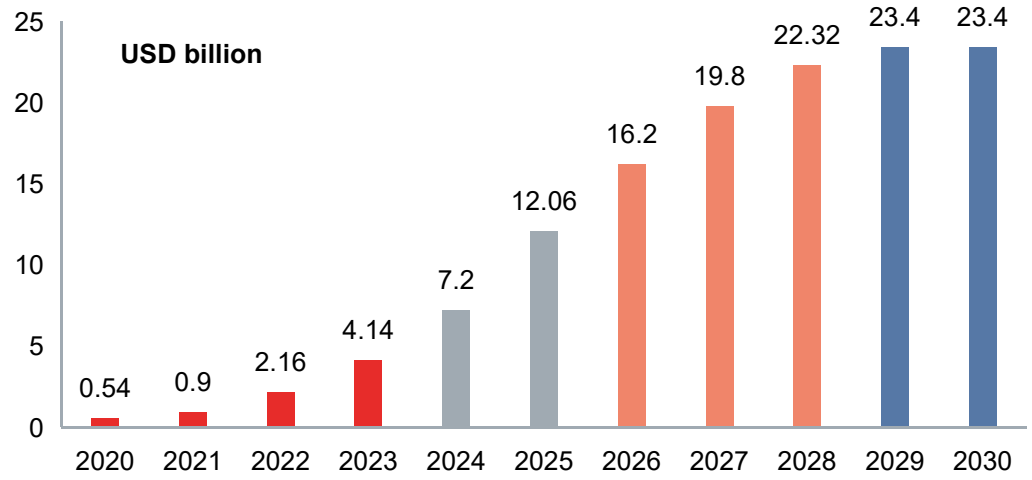
Figure 1: Yearly production and demand of A350 XWB from 2020 to 2030



- ✓ We can find that the production line is always above the demand line, which means that we should use the yearly production units to calculate the yearly revenue.

3 Estimation of Yearly Revenue

Figure 2: Yearly revenue of A350 XWB from 2020 to 2030



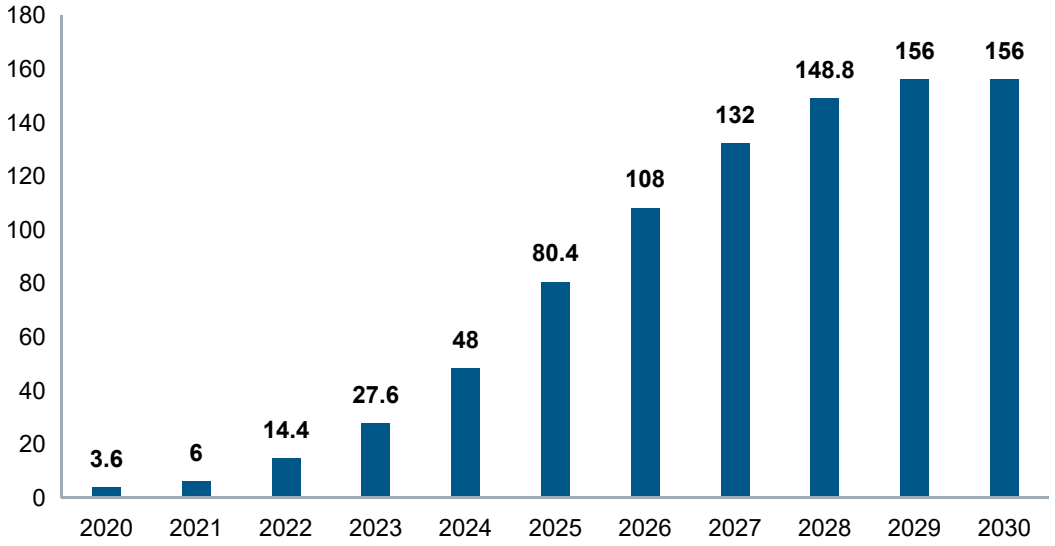
- ✓ We know the price of per A350 XWB is USD 150 m. Through all our information, we can get the yearly revenue estimation shown in Figure 2.
- ✓ The graph states that the revenue of A350 XWB program will show a growth trend in 10 years, and the growth rate will reach its highest point in 2025.

Source: 4WIN Team Analysis of the data from AIRFLEETS.NET and Roland Berger

Calculation 2: Find the Year in which the Break-even Point for the A350 XWB Program Will Be Reached

2 Yearly production of A350 XWB

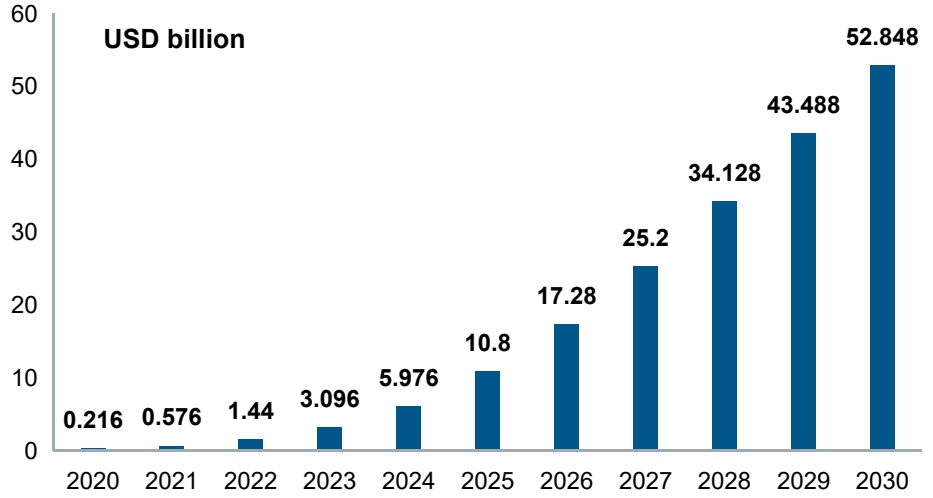
Figure 1: Yearly production of A350 XWB from 2020 to 2030



- ✓ From the production rate per month of A350 XWB provided by the case, we can easily get the yearly production of A350 XWB as above.
- ✓ Since the average selling price of this aircraft is expected to be at USD 150 million in the case, we can multiply it by the yearly production to get the yearly revenue of A350 from 2020 to 2030.

3 Yearly Accumulated Amortized cost of A350

Figure 2: Accumulated amortized cost of A350 XWB from 2020 to 2030



- ✓ We already know that 40% of the sales revenue will be used to amortize the non-recurring cost, which have been estimated to be at around USD 12 billion. This could be regarded as the condition of reaching at break-even point.
- ✓ Figure 2 shows the accumulated amortized cost each year. In the **April of 2026**, the cost will reach 12 billion, thus the breakeven point will be achieved.

Source: 4WIN Team Analysis of the data from Roland Berger

Thanks for watching!

4WIN Team