

Boeing turns a page in modern aviation with delivery of last 747

I Letter from the Director of Air France-KLM



At the forefront of more responsible European aviation, we are bringing people together to build the world of tomorrow.

(The raison d'être of the Air France-KLM group)

François Robardet

Representative of the employees and former employees shareholders PS and PNC

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Editorial

Dear readers,

With all due respect

This week's front page is dedicated to the "Queen of the skies", the Boeing 747.

The last one has just left the Boeing production line.

Enjoy your reading François

Monday's Press Review

> Boeing turns a page in modern aviation with the delivery of the last 747

(source Les Echos) January 31, 2023 - A page of modern American history is turning. From its Everett plant near Seattle, Washington, Boeing delivered the last of its 747s on Tuesday, after nearly 55 years of production for more than 100 customers. The 1,574th and final aircraft is a 747-8 Cargo, assembled for the American cargo company Atlas Air Worldwide, which was ordered in early 2022 along with three other aircraft.

With its bulging front to accommodate an upper deck, the Boeing 747 was for several decades the "Queen of the skies": the symbol of modernity, of the consumer and leisure society, but also of the innovative capabilities of American engineering.

"This plane was a childhood dream for a young pilot," an Air France pilot who flew for several years on the "classic" version of the Boeing 747, the 747-200 and 300, told "Les Echos". It was the symbol of travel, the plane you saw in American TV series. And it flattered the pilots' egos a lot because it's very high up, we used to go upstairs to the cockpit."

Launched in 1966 by the CEO of Boeing and the CEO of Pan Am, which committed to buying the first examples, **it was developed in record time in a custom-built factory**. The first 747-100 took to the skies on February 9, 1969, heading for Paris and the Paris Air Show.

"The plane was still being tested, so it was a bit risky to go from Seattle to Paris," says Mike Lombardi, an aircraft manufacturer historian. "There was fog at Le Bourget, it lifted and the 747 appeared at the end of the runway, just before landing. The communications department couldn't have asked for a better introduction to the world!"

The 747 is the first aircraft to have two aisles in its fuselage, capable of carrying 440 passengers over a range of more than 10,000 kilometers. The 747-400ER will even extend its range to over 14,000 kilometers. "It was a huge liner, but it was actually very easy to fly and very reliable, with direct control cables, like a Cessna," says the Air France pilot.

The first model and its variations have built the memory and the modern American imagery, between the version modified by NASA to transport the space shuttles, and the one transformed into Air Force One in 1990, at the request of George Bush. Two used 747-8s, purchased by the Pentagon in 2017 to be modified into presidential aircraft, have yet to be delivered by Boeing.

Cargo versions of the 747 also symbolize the great era of globalization and trade, from an order from the carrier UPS in 2005 to this latest delivery to an air cargo company, and which could be used until the 2050s. The 747-8 Cargo started its career in 2010, while the first 747-8 Intercontinental, for passengers, was delivered two years later, but this time with mixed success.

The weak point of the aircraft, which will sign its end of career, is its frantic fuel consumption and high maintenance costs. The advent of low-cost airlines also contributed to the decline, with a preference for smaller aircraft for shorter flights.

Over the years, most of the major airlines - from Air France to British Airways, Lufthansa and Qantas - have sold their 747s or scrapped them, trading in their bodies for the price of metal.

"We all want lower emissions, and that's what the 777 has, we built something better and that's why the 747 production ended," says Boeing historian Mike Lombardi.

The era of "jumbo jets", these large capacity aircraft, is still struggling to rebound. The Airbus A380 program lasted only a few years and deliveries of the 777-X, the upgraded version of Boeing's Triple 7, have been delayed again.

By inviting on Tuesday for the last delivery the engineers and all those who made the history of the 747 program, Boeing offers itself a breath of nostalgia, while the company is still experiencing severe turbulence since the 737-Max crisis. A part of the Everett hangar dedicated to the assembly of 747s will also house an additional assembly line for the 737-Max, the "Seattle Times" revealed. This will open up a new horizon for Boeing.

My comment: The reasons for the B747 (and A380) production shutdown are to be found on the engine side.

The first reason is the principle of redundancy.

In the 1950s, jet engine technology was very recent, and despite better reliability than piston engines, it was not uncommon for an engine to fail in mid-flight. Thus by having 4 engines, one was sure to face this problem without threatening the safety of the flights.

The second reason is that the technology was not yet mature. Without going into details, the jet engines of the time were nearly 5 times less powerful and efficient than today's engines. To move an equivalent weight, more engines were needed at that time than today.

The third reason is air law.

Regulations required that an aircraft over the ocean must always be within 90 minutes flight time of a diversion airport. However, this rule could be waived if the aircraft was equipped with more than two engines. Having 4 engines allowed to get rid of this rule and to establish more direct and faster routes between the two sides

of the Atlantic.

In the early 1980s, more powerful and above all reliable engines appeared. The concept of Extended-range Twin-engine Operational Performance Standards or ETOPS was born.

ETOPS, after evaluation by aviation regulators, allowed some twin-engine aircraft to fly over the ocean more than 120 minutes from a diversion airport. The first ETOPS flight took place on February 1st 1985. But these aircraft had a low passenger capacity.

Little by little, the engines were improved. Their power has increased, their consumption has been reduced, their reliability has improved. On the same route, four-engine aircraft have become more difficult to make profitable than twin-engine aircraft.

The era of the long-haul quad-jet is now over, and it's time for the twin-jet, with the Airbus and Boeing flagships: the A350 and the B777.

Note: the above information comes mainly from the informaero website.

> Flybe: Air France-KLM and Lufthansa ready to buy the British airline?

(source La Tribune) January 30, 2023 - Could this be the epilogue of a crisis that started before Covid-19? A modest company with 2,000 employees and 8 million passengers carried each year, Flybe connects many British regional cities and some 50 European cities - France is its second largest market.

After being bailed out for the first time by the Connect Airways consortium owned by Virgin Atlantic and the Stobart and Cyrus funds, the British Prime Minister at the time, Boris Johnson, is trying to save it for a second time, as of January 2020, by lowering the tax on air passengers.

A first bankruptcy on March 5, 2020

So much so that the consortium of shareholders is committed to continue to operate it with new shareholders and "alongside government initiatives," said Lucien Farrell, chairman of Connect Airways, in a statement from the British Treasury.

Flybe is still very important for many British regions, especially Northern Ireland, which would have been cut off if it had disappeared. Except that barely two months later, on March 5, 2020, the carrier announced that it was ceasing operations "with immediate effect."

(...)

A second bankruptcy on January 28, 2023

Again on January 28: the British airline Flybe announced that it had cancelled all its flights, leaving passengers stranded.

"We are sad to announce that Flybe has been placed in administration (court)," the company tweeted. "All Flybe flights to and from the UK are cancelled and will not be rescheduled," it continued.

 (\dots)

Less than a week later, The Telegraph reported that Air France-KLM and Lufthansa were interested in buying Flybe, particularly because of its seven take-off and landing slots at London's Heathrow airport, or its five slots at **Amsterdam-Schiphol in the Netherlands.**

(...) The Franco-Dutch and German companies have refused to comment. (...)

My comment: Slot ownership at congested airports is crucial for airlines.

Three of the articles in this letter address this issue.

> Schiphol warns of impending disruptions during May and summer vacations due to persistent staff shortages

(source Dutch Press, translated with Deepl) February 4, 2023 - Schiphol Airport may have to reinstate a cap on the number of passengers who can depart daily from the airport during the May vacations and summer period, due to a shortage of staff at handling companies, Dutch media widely report. An airport spokesman (...) describes the situation as a "status quo". "The salary of security quards is about 17 euros per hour, while on the platform it is 12 euros per hour. Therefore, people are leaving. The handling companies should do something in terms of compensation. But for the time being, they don't want to move. The Dutch financial daily Het Financieele Dagblad quotes Schiphol Group CEO Ruud Sondag on the news, saying, "We are raising the red flag. We will intervene because things are not going well. We have talked to everyone to solve this staffing shortage and nothing is happening." According to Sondag, the employment conditions of the handlers are "simply not good enough." In a second article, De Telegraaf talks to **several airlines**, who say they are surprised by "the intervention" of Schiphol Airport. Among others, a spokesperson for Transavia is quoted on the subject. "We do not recognize the image that Schiphol is now painting, that there is no constructive consultation between us and the handling companies. Our handling company Viggo has no reason to think that the May vacations will not go well. We are still considering moving flights to relieve peak hours." (...)

According to De Telegraaf, MP Daniel Koerhuis (VVD) will question infrastructure

minister Mark Harbers about the issue in parliament on Tuesday.

My comment: As soon as he took over Schiphol Airport in October 2022, Ruud Sondag made staffing his top priority.

At the time, I pointed out that the crisis had a very specific cause: Schiphol Airport had subcontracted (via long-term contracts) a number of ground services, not least security and baggage handling, to multiple companies. But these companies, mostly SMEs, were largely laid off during the pandemic. They were left destitute and unable to provide the qualified and often very poorly paid staff they had lost.

Four months later, the situation has changed little. The CEO of the Schiphol Group has made a statement of failure.

> Volotea has exceeded its pre-crisis French traffic level by 33% in 2022

(source Air & Cosmos) January 31, 2023 - The Spanish low-cost airline carried a total of 4.4 million passengers in France in 2022, a growth of 70% compared to 2021 and 33% compared to 2019.

Volotea specifies that France is its first market. It has achieved 50% of its activity in 2022 with a total of 30,000 flights. Volotea is also the second airline for domestic flights in France with 60 routes operated. With operations in 19 European cities, including eight in France, Volotea served more than 390 routes in 2022, nearly half of which are exclusive.

For the year 2023, Volotea announces a total of 6.5 million seats in terms of capacity. Volotea will base up to 26 aircraft from the French cities where it operates: Nantes, Bordeaux, Strasbourg, Toulouse, Marseille, Lyon, Lille and Lourdes (. ..)

Overall, Volotea will operate more than 400 routes (half of which are exclusive) and **will offer more than 11.5 million seats** (+41% compared to 2019). It operates a fleet of 41 Airbus A319 and A320 aircraft.

My comment: Volotea is a competitor of Transavia France.

To compare the two airlines, it is necessary to wait for the publication of the 2022 annual results of the Air France-KLM group, on February 17.

> Airbus and Qatar Airways reach an out-of-court settlement on the A350

(source Les Echos) February 1, 2023 - Qatar Airways' lawsuit against Airbus will not take place after all. After two years of legal and media battles, the Doha-based

company and the aircraft manufacturer have finally reached an out-of-court settlement concerning the deterioration of the paintwork on some 30 A350s.

The joint statement announcing this reconciliation does not go into detail. "Qatar Airways and Airbus are pleased to have reached an amicable and mutually acceptable settlement of their legal dispute regarding the deterioration of the surface coatings of the A350 aircraft and their downtime," announced the statement released on Wednesday. The details of the settlement are confidential and the parties will now proceed to release their legal claims" and this agreement "is not an admission of liability for either party," it said only.

"I am delighted with the agreement reached between Airbus and Qatar Airways. It is the result of significant joint efforts. **This is excellent news for the French aeronautics industry," said Bruno Le Maire, the French Minister of the Economy**. Bercy recalls that the subject was discussed with the Emir of Qatar during the Minister's trip to the Gulf this week.

Qatar Airways

, the launch company for the A350, Airbus' long-haul flagship, **brought the controversy to the public arena in May 2021**, threatening to refuse future A350 deliveries if Airbus did not quickly remedy a problem of abnormal deterioration in the paintwork of some of its A350s. The affair then escalated after Qatar's civil aviation authority decided to ban A350s with deteriorating paintwork from flying in the name of safety.

And so far, all attempts at an amicable settlement have failed, with Airbus arguing, with the support of the European Aviation Safety Agency, that the decision to ground the A350s was not justified. Nor was Qatar Airways' refusal to honor its commitments and pay the balance of the last two A350s delivered. Until finally, everything was settled, a few months before a trial before the High Court of Justice in London, with a very uncertain outcome.

Both parties had an interest in this. Thanks to this agreement, Qatar Airways will be able to put the 29 A350s that have been progressively grounded since the beginning of the dispute back into service in November 2020, after being refurbished. "A repair project is now underway and both parties are looking forward to getting these aircraft safely back in the air," the statement said. This will allow the Doha-based airline to solve its aircraft shortage problem, while the resumption of traffic is in full swing.

But this agreement is also a relief for Airbus, which was risking a lot in this case. It puts an end to the proceedings initiated in December 2021 by Qatar Airways against Airbus, before the High Court of Justice in London, which was to lead to a trial this summer. The airline, which grounded 29 of its 53 A350s because of the paint problem, was claiming \$200,000 in compensation per grounded aircraft per day from Airbus, or some \$2.5 billion at the end of January.

The agreement could also allow Airbus to resume normal commercial relations with Qatar Airways, which was one of its best customers. In 2021, the aircraft manufacturer had to draw a line under an order for 50 medium-haul A321s placed by

Qatar Airways in parallel with orders for A350s. Airbus even had to go to court to obtain the right to cancel this order, worth more than four billion dollars.

My comment: The strong recovery of traffic explains in part the change of attitude of Qatar Airways.

It is to be hoped that the resolution of this conflict will not be accompanied by a quid pro quo in the case of suspected corruption of European parliamentarians by Qatar.

I recall that following the accusations that the Gulf emirate had bought influence in the European Parliament, the air transport agreement signed a little over a year ago (October 2021) between the European Union and Qatar had to be suspended.

With this agreement, Qatar Airways had greater access to European airports, with increased capacity for EU-Qatar flights (people and cargo) at various airports

> Airlines must "use it or lose it" slots at UK airports to return to pre-COVID rules

(Reuters source, translated with Deepl) Jan. 31, 2023 - Airlines operating at British airports will have to use 80 percent of their takeoff and landing slots for conservation, the government said on Tuesday, returning the sector to prepandemic rules.

The 80/20 "use it or lose it" rule, which was scrapped when the COVID-19 outbreak led to a drop in passenger numbers, will be reintroduced from March 26 because of the surge in demand for international travel, the British Department for Transport said in a statement.

(...)

Airport slots are limited and valuable. They allow airlines to use airport facilities such as runways and terminals at a specific date and time.

A safety net for airlines, introduced during the pandemic, will remain in place, allowing carriers such as British Airways, EasyJet (EZJ.L) and Ryanair (RYA.I) to surrender 5% of their slots before the start of the season to avoid last-minute cancellations.

The government said its decision followed consultation with the industry on how best to support its recovery from the pandemic. By October 2022, passenger numbers at U.K. airports will have reached 85% of 2019 equivalent levels, it added.

My comment: In Great Britain, as in all European countries, the 2019 airport rules were relaxed during the coronavirus pandemic, when air traffic was largely paralyzed by health restrictions.

Governments then wanted to avoid the problem of "ghost" flights, carried out empty and therefore unnecessarily polluting the atmosphere, because companies wanted to keep their hard-won airport slots.

For observers, the 5% "safety net" mentioned in the article appears to be sufficient to ensure that airlines operating in Britain are not tempted to fly empty.

> At Orly, the low-cost airlines' protest

(source Le Monde) February 5, 2023 - A wind of protest is blowing through the airlines, who are preemptively denouncing a drop in traffic forecasts at Orly airport. Pascal de Izaguirre, president of the National Federation of Aviation and its Trades, the largest air transport association in France, has put his foot down. Speaking on Tuesday, January 31, he said he was "extremely surprised to learn with great delay that there is a shortage of air traffic controllers" which could have a negative impact on the number of flights departing from Orly airport. In practice, airlines should limit the number of flights departing from the hub mainly during the first hour of the morning, between 6 and 7 am, from the beginning of the summer season, which starts in March. In fact, the airport should only allow 20 departures in this time slot instead of 25, a 20% reduction in departures (...)

For the Directorate General of Civil Aviation (DGAC), the problem is not the number of air traffic controllers but the strong increase in activity of companies since the end of the pandemic. "The resumption of traffic is important at Paris airports after the health crisis. Thus, at Orly, the companies that have aircraft based at the airport have already increased the number of departures scheduled during the first hour of the morning and plan to increase it again during the summer 2023 season," says the DGAC.

The targeted operators are the low-cost airlines, and in particular the most important ones, Transavia, easyJet and Vueling, which have experienced strong growth in recent years. Their business model requires them to take off as early as possible, as early as 6 a.m., in order to make as many round trips as possible during the day.

It is important to know that, in addition to the limitation to 250,000 flight slots per year, the Orly platform is also closed between 11:30 p.m. and 6 a.m., to protect the sleep of local residents. Based at Orly, Transavia, an Air France subsidiary that is expanding at high speed, stresses that "morning and evening slots are important for companies based at Orly". To offset the increase in the number of flights, the solution could be to transfer excess flights to Roissy Charles-de-Gaulle. ADP Group, the manager of the two Paris airports, has already transferred companies from Orly to Roissy, as it has planned work this summer in several

areas of Orly.

My comment: How are slots allocated at Orly throughout the day?

The management of slots is governed by two texts:

- . Council Regulation (EEC) No. 95/93 of 18 January 1993 on common rules for the allocation of slots at Community airports
- . Obligations relating to the submission of flight plans to and from coordinated French airports

The first text includes the 80/20 rule mentioned in the article above on slots at British airports.

The second text lists the coordinated airports: "The airports of Paris-Orly (LFPO), Paris-Charles-de-Gaulle (LFPG), Lyon-Saint Exupéry (LFLL) and Nice-Côte d'Azur (LFMN) are coordinated within the meaning of Regulation (EEC) No. 95/93.

The management of slots at Orly is governed by a text:

. the Order of October 6, 1994 on slots at Orly airport

This text limits the number of slots that can be allocated in a year to 250,000 and authorizes Orly to be open between 6am and 11:30pm. The 250,000 annual slots allow 42 slots to be allocated per hour.

The same text specifies that "In the period between 6 a.m. and 7 a.m. local time and between 10 p.m. and 11.30 p.m. local time, the number of slots that can be allocated by the Orly airport coordinator may not exceed half of the available capacity within the meaning of Article 6 of Regulation (EEC) No 95/93".

It therefore appears justified that 21 slots per hour (half of the 42 slots allocated in the other time slots) are allocated at the beginning and end of the day.

Note: the three texts mentioned are freely available on the Internet.

End of the press review

> My comment on the evolution of the Air France-KLM share price in 2022



The event that had the greatest impact on the share price in 2022 was the capital increase in June of 2.256 billion euros. This was used to accelerate the repayment of state aid and to reduce debt.

The French and Dutch governments participated to the extent of their rights, their participation remaining unchanged. CMA CGM became a new strategic reference shareholder with a 9.0% stake in the group.

The employees and former employees shareholders via the FCPEs had participated in the capital increase to a lesser extent, via a blank transaction.

As a result, the share price, which was around 2 euros before the operation, has since been around 1.30 euros. It is now close to 1.60 euros.

> My comment on the evolution of the Air France-KLM share price this week

Air France-KLM shares closed at 1.60 euros on Monday 6 February. It is up this week by +2.50%. Since the beginning of the year, it has risen by nearly 30%.

The average (consensus) analysts' rating for AF-KLM shares is 1.55 euros. The highest price target is 2.00 euros, the lowest 0.85 euros. I only take into account analysts' opinions after the May 2022 capital increase.

You can find the details of the analysts' consensus on my blog.

> My comment on the evolution of fuel prices in 2022

Since the beginning of the war in Ukraine, there is no longer any correlation between the price of a barrel of Brent oil and a barrel of Jet Fuel. The difference between the two products is between \$30 and \$50, whereas in previous years it was only \$10.

> My commentary on the evolution of fuel prices this week

The barrel of Jet Fuel in Europe is down sharply this week from -\$21 to \$114. After peaking at \$182 in June 2022, it was down to \$132 in early August. It was at \$79 a little over a year ago.

Brent crude oil (North Sea) is down this week by -\$5 to \$81. This is close to the average level seen over the past five years, excluding exceptional events. From mid-February to the end of July, it was yo-yoing between \$100 and \$120. Since then, it has oscillated between \$85 and \$99.

At the beginning of March, Brent reached \$132, close to its record of \$150 (in 2008).

While oil has been back to its usual level for several weeks, jet fuel is now approaching its usual level. The spread between jet fuel in Europe and Brent crude oil is now only \$33 per barrel. Since the beginning of the Ukrainian conflict, this spread was close to \$50.

Good to know

> Advice for employees and former employees who are shareholders

You will find on my <u>navigaction</u> site <u>the modalities of access to the sites of the</u> managers.

To avoid forgetting to change your contact information each time you change your postal address, **I advise you to enter a personal e-mail address**. It will be used for all correspondence with the management organizations.

Keep all the documents related to your Air France-KLM shares in one place: all the letters you receive from the different managers, Natixis, Société Générale, your personal financial institution if you bought your shares through it.

> Management of employee investment funds

When you invest money in one of the Air France FCPE funds, you get shares in

these funds. You do not hold shares directly.

It is the supervisory boards, which you elected in July 2021 for a five-year term, that manage the funds and make the decisions.

The Aeroactions, Majoractions and Concorde funds only hold Air France shares.

The Horizon Épargne Actions (HEA), Horizon Épargne Mixte (HEM) and Horizon Épargne Taux (HET) funds manage portfolios of various stocks.

My comment: If you would like more information on the management of the various Air France FCPEs, please consult <u>my website navigaction, section Air France-KLM</u> employee shareholding.

Details

This information is not intended to be a solicitation to buy or sell Air France-KLM shares.

You can react to this press review or send me any information or thoughts that will help me better carry out my duties as a director of the Air France-KLM group.

You can ask me, by return, any question relating to the Air France-KLM group or to employee share ownership...

See you soon.

To find the last press reviews of Monday, it is here

If you like this press review, please pass it on.

New readers will be able to receive it by giving me the email address of their choice.

| François Robardet

Director of Air France-KLM representing the employees and former employees shareholders of PNC and PS.
You can find me on my twitter account @FrRobardet

Alternate Nicolas Foretz, PNC



When I was elected, I received the support of the CFDT and the UNPNC.

This press review deals with subjects related to the Air France-KLM shareholding.

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