

# Airlines Data Analytics For Aviation Industry



**Airline Data Analytics And  
Information**

# AIRLINE DATA ANALYTICS

A consolidated data powered solution for carriers to analyze cost and revenue data across markets , routes, aircraft types and passenger segments, providing deeper understanding into profitability and utilization. Flight Operation Analytics.

IGT Analytics Center of Excellence (CoE) utilizes advanced tools and technologies along with two decades of domain experience to provide insights and intelligence to airlines for better decision making and improved business outcomes.

Aviation players face immense pressure arising from aviation maintain related to maintaining dispatch reliability, lowering maintenance costs, and enhancing the safety of the craft. MRO alone accounted for 9% of total operational costs for airline operators globally in 2018.



# Airline Analytics

## How Analytics Can Transform the Aviation Industry :

Technology is changing how businesses are conducted across several sectors and industries. This also affects how businesses connect with their customers and make business decisions. Data analytics is a business culture that's here to stay. And in this case, a culture that has a significant presence in the aviation industry.

It is known that data collection and analysis is a strategy that is used to increase the overall business efficiency. A survey conducted by Statistas in 2018 revealed that about 57% of respondents mainly use data and analytics in their company to drive strategy and change. Data analytics has played an immense role in the digital transformation of the airline industry and will continue to do so.

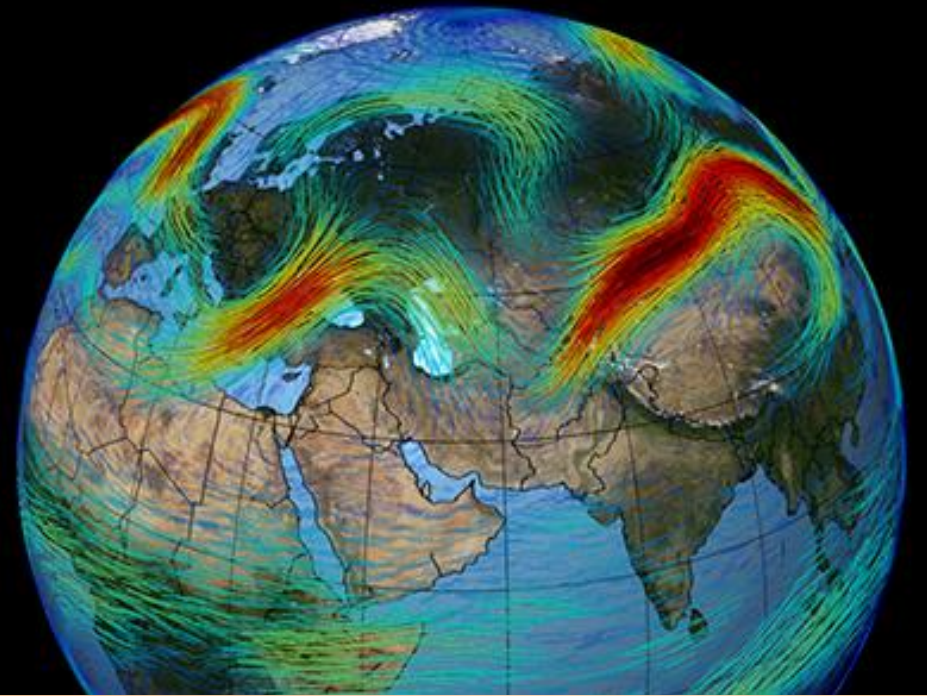
Just Analytics has built an aviation analytical reporting system that can transform the way your business is conducted in the world of aviation. From pre-flight to post-flight operations, this involves almost every aspect of customers' interaction with an airline, starting from ticket purchase, to reservations and boarding. Hence, data is captured at every point of the customer's journey.



# 5 ways climate change can make air travel worse

## Extreme heat can keep planes grounded

- At hotter temperatures, planes need to go faster to take off. In extreme heat, planes might not have enough runway to get the speed they need to go airborne.
- That heat can ground aircraft: A 119-degree day in 2017 led American Airlines to cancel more than 40 flights out of Phoenix.
- **Shifting jet streams can bring more turbulence**
- Scientists are studying climate change's effects on jet streams – bands of air currents – and are noting stronger variations in wind speed, which can cause more severe turbulence.
- Paul Williams, a noted atmospheric scientist at the University of Reading in Britain, calculated in a 2017 study that climate change could boost incidents of severe turbulence by 149 percent within decades.





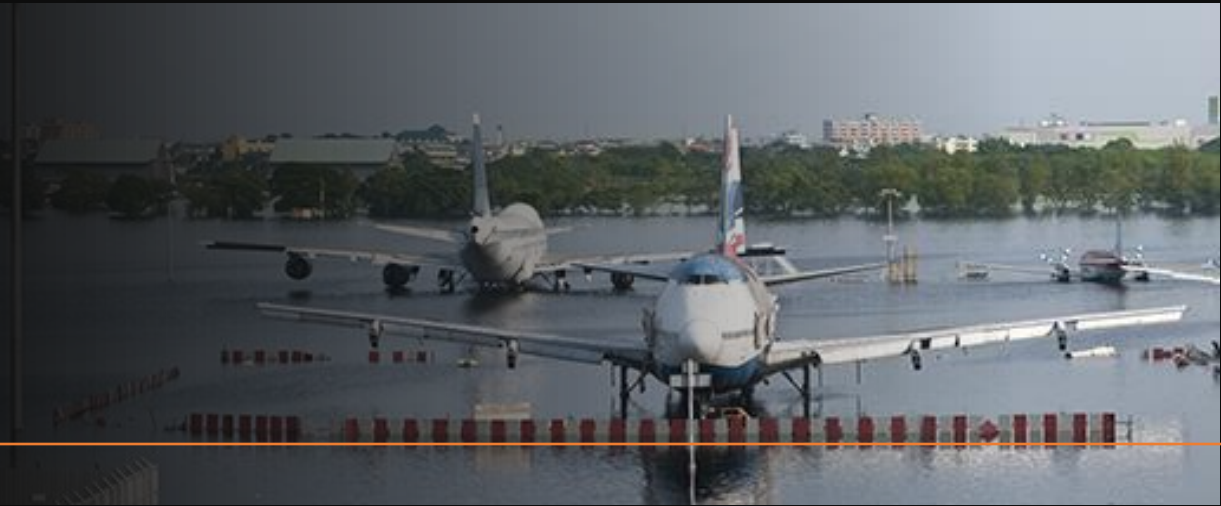
# 5 ways climate change can make air travel worse

## Airport workers can endure health hazards

- High temperatures on the tarmac can lead to heat stress and other illnesses associated with extreme working conditions.
- During hot weather, concrete and asphalt turn into “heat islands” – spots that are hotter than the surrounding areas – making airport employees especially vulnerable.

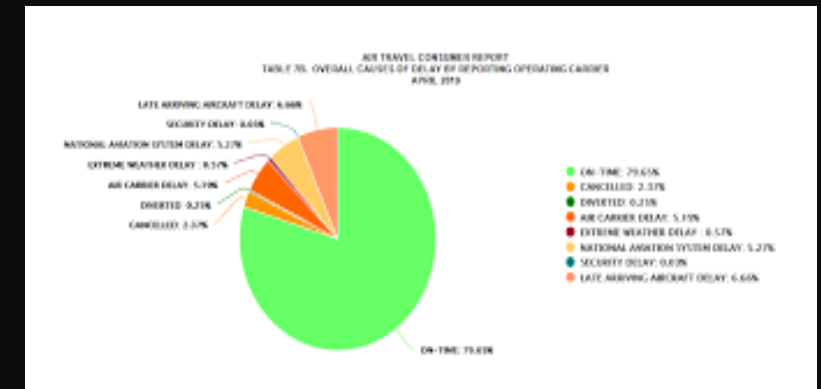
## Airports can suffer damage

- Heat or flooding can make airports inoperable. When temperatures soar toward 100 degrees Fahrenheit, tarmacs can get soft and cause the wheels of planes to get stuck.
- In addition to extreme heat, climate change – triggered by humans – is contributing to rising sea levels, which are leading to higher storm surges and more floods. In fact, from October 2015 to August 2016, the U.S. experienced five 1,000-year floods.



# Weather can spike flight delays and cancellations

- Weather causes about a third of flight delays, according to federal statistics. Delays overall cost industry and passengers billions a year.
- One reason passengers take such a financial hit: Airlines consider weather an “act of God” out of their control. It’s up to them whether to offer refunds or compensation.
- Scientists say climate change will likely bring more and increasingly intense storms, which could lead to more delays and cancellations in the coming years.
- Sometimes a scheduled flight may end up reaching late to its next destination from another airport, in such cases the flight inevitably has to be delayed or cancelled. It may be because of **technical error**, **weather issues** or even **overbooking** by the airline.



# What can you claim if the flight is canceled?

- If the flight is cancelled and you are informed about the same within a fortnight before 24 hours of the scheduled departure, then you are eligible to get an alternative flight or a full refund of your ticket.
- If the block time of your flight is between 1-2 hours then compensation of Rs. 7500, and for flights with over 2 hours of block time, it is Rs. 10,000.
- If the airline terminal has been changed for which you had booked then you are entitled to get the amount of transferring to the original one. But, in case you have informed prior 6 hours for change in terminal then you will have to make your own arrangements.
- Additionally, if you have been provided with alternative flight and you are waiting for that alternative then you will be given meals and refreshments during that waiting period by the airline.





## What should be your next step if you were denied boarding a flight because it was overbooked?

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- If the airline has arranged an **alternative flight** for you **within one hour** of the flight that you booked, then you cannot claim for compensation of the missed flight.
- If the airline **fails to arrange the alternate flight** for the passengers then you will receive compensation equal to **200% of booked one-way plus fuel charge of airline**, subject to a maximum of Rs. 10,000 in case airline set out another flight scheduled to depart within 24 hours of the booked arranged departure.

### Refund

- If you have bought a flight ticket by paying cash payment then it's your luck as you can immediately get a refund at the airport. ~~If the payment mode was a credit card then it may take a few days, and if the payment was made through a travel agency then it depends on the agent.~~





# THE MAJOR REASON OF CANCELLATION IN AIRLINES

- The largest cause of air traffic delay in the National Airspace System is the weather. The pie chart shows that weather caused 75.48 percent of system-impacting delays of greater than 15 minutes over the six years from June 2017 to May 2022, as recorded in the OPSNET standard "delay by cause" reports. While the weather is the largest cause of delay because of too much demand for the impacted resources, volume alone, caused by too much demand even with unconstrained resource capacity, also accounts for 14.54 percent of delays. Equipment failure creates 0.38 percent, runway unavailability 5.84 percent, and "other" factors the remaining 3.76 percent of delay. These delay statistics include air carriers, air taxis, general aviation, and military classes of aircraft.
- Conclusion:
- To illustrate, airlines bear high costs due to delays and cancellations ~~that include expenses on maintenance and compensations to travellers stuck in airports.~~ With nearly 30 % of the total delay time caused by unplanned maintenance, **predictive analytics applied to fleet technical support is a reasonable solution.**

