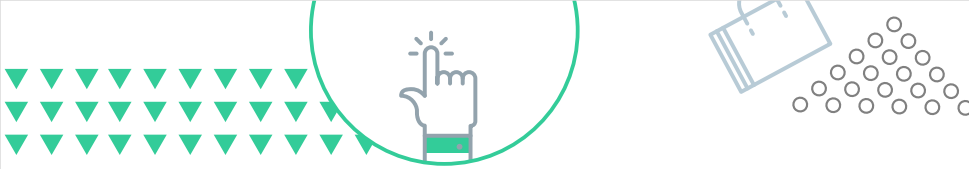# PLATFORM OF INTELLIGENCE
FOR AIRLINES INDUSTRY

The new normal has brought newer priorities for airlines. The sector suffered an estimated revenue loss of over USD 252 billion in 2020 alone. Simultaneously, in the experience economy, customer experience needs are at an all-time high. Airlines can no longer afford wastage. This is where an algorithmic strategy for Airlines becomes critical. Platform-driven Algorithmic Solution Strategy ensures resource optimization across different business functions - Network Planning, Revenue Management, Marketing, Ancillary Services, Flight and Ground Ops, etc. The current solution suite includes an overbooking recommendation engine, no-show and last-minute cancellation propensity, Passenger Demand Forecast, Real-time Dynamic Pricing, F&B Wastage minimization, Fuel Tankering Optimization, Delay Prediction, Destination hold fuel estimation, etc.
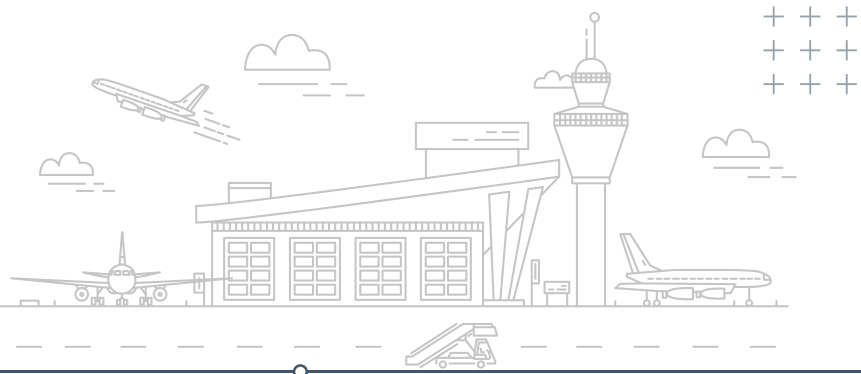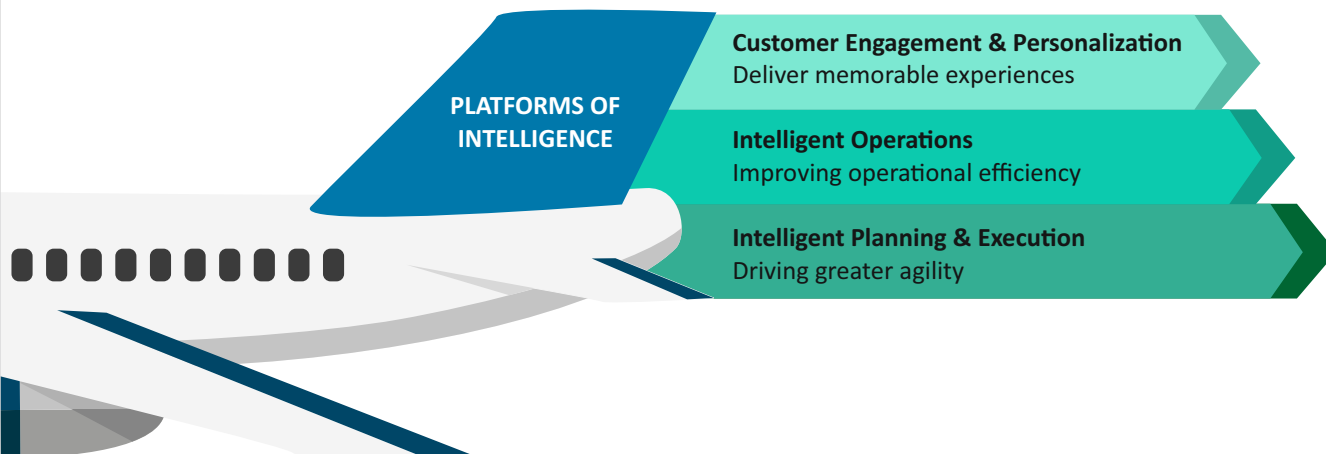
Enter ITC Infotech's Platform of Intelligence for Airlines, leveraging Microsoft Azure

- ITC Infotech is leveraging Microsoft Azure and bringing to you the Platform of Intelligence for the Airlines Industry. This solution sets the foundation for integrating the application landscape and revealing a single view of the new digitally transformed enterprise. The platform would further help marketing leaders develop meaningful customer engagements and create personalized digital experiences for customers. The Platform of Intelligence would also assist in better commercial decision-making and optimizing operations.

- The Platform of Intelligence for Airlines is designed to be a cornerstone as the Airlines sector embarks on its journey of Intelligent Automation. ITC Infotech has served 30+ airline customers in its 15+ years of Travel IT services and has created this modular solution that can be customized and used by different customers. The component-based architecture of the platform makes it very flexible for customers to adopt one or many of its components depending on business priority.

- The pandemic has only accelerated the need for a proven and established platform-led solution. The base set of pre-built components with ready interfaces and adopters ensure that the time to market is highly optimized and realization of value benefits is far more rapid.
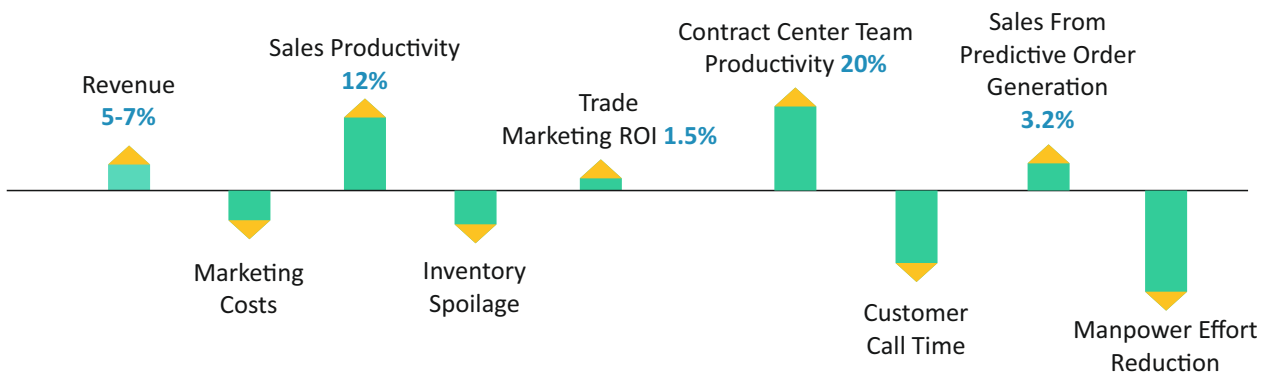
The Powerful Combination of ITC Infotech & Microsoft Azure

The Airline Platform of Intelligence uses the following Microsoft Azure components:

Real-time Connectedness | Project to Platform Shift
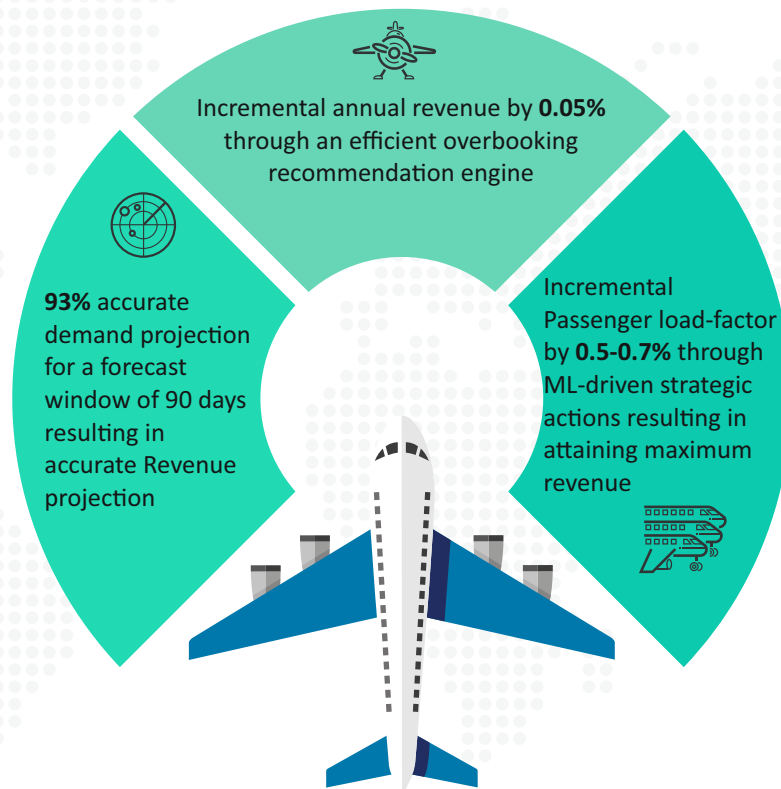**Joint Ownership of Outcomes**

PLATFORMS OF INTELLIGENCE

Customer Engagement & Personalization
Deliver memorable experiences

Intelligent Operations
Improving operational efficiency

Intelligent Planning & Execution
Driving greater agility

Outcomes we have influenced...

Revenue 5-7%

Sales Productivity 12%

Marketing Costs

Inventory Spoilage

Trade Marketing ROI 1.5%

Contract Center Team Productivity 20%

Customer Call Time

Sales From Predictive Order Generation 3.2%

Manpower Effort Reduction

Together, ITC Infotech and Microsoft Azure deliver:

- Unmatched time to insight with limitless analytics service
- Sets foundation for Next generation of applications using Azure's artificial intelligence capabilities
- Pre-built proven & re-usable components to accelerate implementation and reduce risk
- Ability to gather, store, process, analyse and visualise data of any variety, volume or velocity of data
- The scale of Azure as a cloud partner of choice for most airline businesses in the world
- Maximized business value of data with integrated insights and Analytics engine
- Ability to build, train and deploy machine learning with ease
- Protection from advanced threats across hybrid cloud workloads
- Custom developed self-adaptive scalable algorithms with functional aspects from business domain
- Complex seasonal models and competitive intelligence for superior & intelligent decision making
- Game-theory approach to accommodate real-time competitive intelligence
- Recurrent deep learning architecture to include business course correction for robust predictive solution design

Business impact of Platform of Intelligence for Airlines

Incremental annual revenue by **0.05%** through an efficient overbooking recommendation engine

93% accurate demand projection for a forecast window of 90 days resulting in accurate Revenue projection

Incremental Passenger load-factor by **0.5-0.7%** through ML-driven strategic actions resulting in attaining maximum revenue

Our Proven Track Record

Forecasting future passenger bookings conversion 89 days before departure for better inventory management

- Using historical data, cancellation forecast, booking curve similarity, mapping & scoring and total booking forecast, we generated a passenger booking conversion forecast 89 days before departure with an accuracy of 93%

- This helped the revenue management team strategize their RBD level pricing based on booking velocity. For flights, where booking velocity is significantly lower than the historical benchmark, course corrective action can be taken by the RM team

- The PLF was increased by approx. 1.5% which directly elevated the revenues

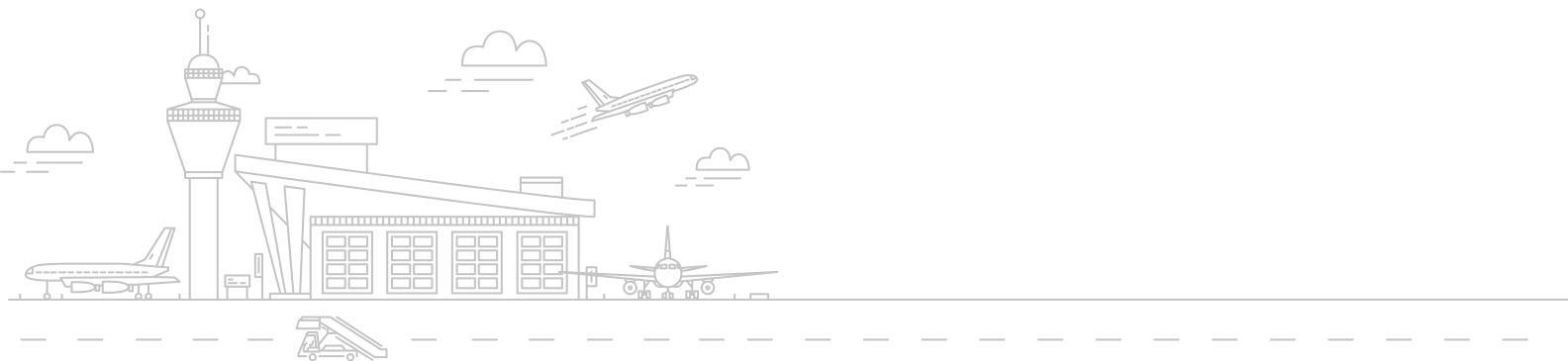**Predictive Analytics for Delay using an Ensemble Approach**

- Analysis was carried out on 6 months historical delay data clubbed with weather and congestion on those times. Delay was measured in terms of block hours. The model was validated on next rolling 1-month window and has been able to correctly classify the delayed flights with an accuracy of 71+%.

A Non-linear Optimization Framework for Fuel Tankering Problem

- A global full-service carrier wanted to minimize fuel and operational cost by tankering optimal amount of fuel from stations across the network

- Since additional fuel will exponentially increase the burn rates along with a significant increase in weight, we designed a non-linear optimization process to handle the problem

- The solution allows the user the flexibility to choose the tankering stations along with other weights (passenger, cargo, cost, TAT and other weights, etc.) basis which simulator optimally computes tankering amount resulting in approximately 4% cost reduction

ML-driven segmentation strategy for Freight Forwarders

- A leading European Airline, that operates non-freighter/ belly-cargo services, was looking to enhance B2B Customer (Agent-Freight Forwarders) Value by adopting a differentiated strategy basis the quality of business

- They decided to use Advanced Analytics to determine value delivered by channel partners, Agents/Freight Forwarders

- Segmentation exercise created an agent journey roadmap for the airline by uncovering agent perception, potential pain areas and thereby increasing retention of high-value Agents and improving loyalty