iGT
SOLUTIONS

Harnessing the power of data services for Airlines

INTRODUCTION

Airlines really require the ability to move fast in order to stay relevant in highly competitive market and comply with ever changing and fast-moving regulations. They are required to innovate, to launch new services leveraging data that will enable them to increase both the passengers and revenue-per-passenger. An efficient data management is a must which either opens up new opportunities for them or helps them to avoid being lost in their current data.

Moreover, 2020's pandemic crisis re-established the **need of effective data management for the Airlines** at an enterprise level. The crisis exposed many gaps for most of the airlines in terms of how they manage and utilize data. They have understood that data has to managed in a manner that it becomes highly insightful, regulatory compliant, accessible and valuable – what it means is that they need to invest in modern data architecture. A modern data architecture which becomes a backbone for the airlines for near-term cost savings and meaningful analytics, that provides dependable forecasting and hyper personalization. As a result, organizations have re-prioritized digital transformation as a must-do.

At IGT, we're delivering on data's promise and helping airlines by not only building a modern data ecosystem but also helping them start their journey regardless of their starting point- be it ideation or iteration or pilot or data integration, data governance and data migration, big bang implementation or modernizing their existing systems one by one. We help them achieve this faster and save approximately 30% time than they doing themselves.

How does IGT help airlines through Data Modernization?

IGT helps its airline clients in leveraging data as an asset. Through data modernization, airlines have been able to increase revenues, better forecast, remove silos across the data ecosystem, increase customer experience by improving service levels and implement a data eco system while at the same time decreasing costs for managing a data eco system
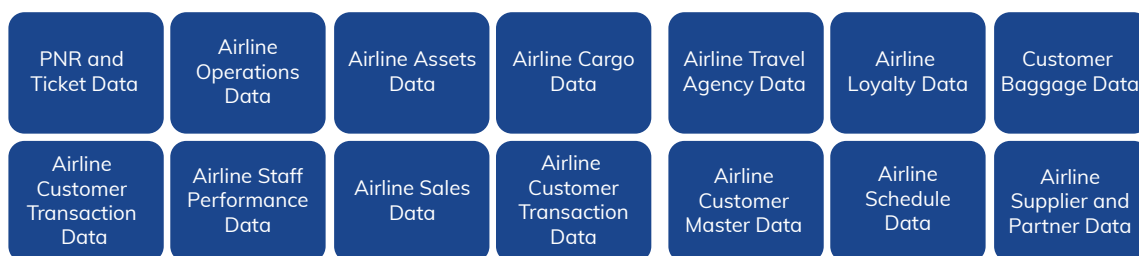
IGT data modernization service delivers the value by leveraging its proprietary airline analytical data model, airline reference data architecture and methodology. As a result, an airport store chain implemented a self-service forecasting solution and inventory management capability for suppliers which saved millions of dollars.

What is IGT's Data Services?

For airlines, data is the single most valuable asset that if harnessed and understood the right way can maximize the potential of revenue, delight customer and keep them ahead of the competition. Airline business is driven by customer demand, the only difference between 2 or more similar airlines is the way they choose to use the data to make decisions and create a unique proposition for the same set of customers and approach uniquely to this demand. This decision making could be a complex outcome which maybe addressing market positioning, services realignment, customer personalization or operational efficiency. All of these matter to enable a profitable sustainable business environment for the airlines. IGT's Data Services are centered to solve these data problems by using innovative approaches and techniques which enables decision making.
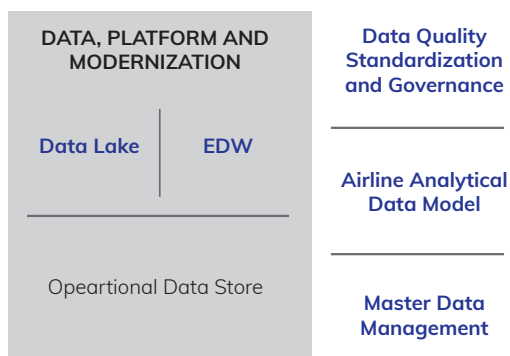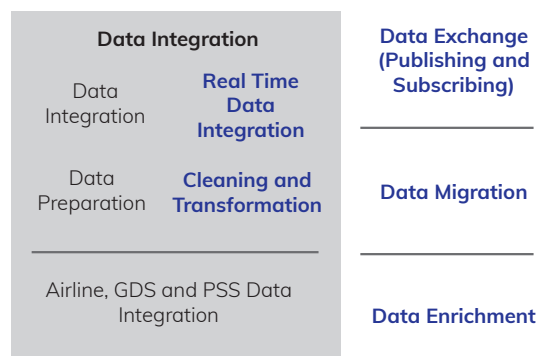
AIRLINE DATA SETS

PNR and Ticket Data	Airline Operations Data	Airline Assets Data	Airline Cargo Data	Airline Travel Agency Data	Airline Loyalty Data	Customer Baggage Data
Airline Customer Transaction Data	Airline Staff Performance Data	Airline Sales Data	Airline Customer Transaction Data	Airline Customer Master Data	Airline Schedule Data	Airline Supplier and Partner Data

IGT AIRLINE DATA SERVICES

ENTERPRISE DATA MANAGEMENT

DATA, PLATFORM AND MODERNIZATION	
Data Lake	EDW
Opeartional Data Store	

Data Quality Standardization and Governance

Airline Analytical Data Model

Master Data Management

DATA ENGINEERING

Data Integration	
Data Integration	**Real Time Data Integration**
Data Preparation	**Cleaning and Transformation**
Airline, GDS and PSS Data Integration	

Data Exchange (Publishing and Subscribing)

Data Migration

Data Enrichment

IGT Data Services offers foundation services to enable airlines to create a rich data eco system which enables them to have the relevant data captured, organized, consolidated and keep it up-to-date for any decision making to happen. The core of the foundation Data Services constitutes of below services:

1 Enterprise Data Management Services

Enterprise Data Management is the foundation service which enables airlines uncover the hidden true value of the data. This foundation service includes creation of analytical data stores, EDW, Data Lake or enable master data management for customer data. With this foundation block in place, airlines can start benefitting from the data that they have and take their analytical maturity to the next level. This service enables airlines to have the data foundation right and enables them to do descriptive and prescriptive analytics using the modern BI and AI based eco systems.

1.1 Master Data Management Services

Customer and their understanding is at the forefront of airlines- their likes, their spending patterns, their priorities, their interaction and experiences across all the customer touch points (online or offline). Since all these interactions are captured in disparate systems, getting a unified 360 understanding of the customer is always a challenge.

IGT's Master Data Management services is a custom suite of services to deal with airline customer's profile data. It assembles all the disparate customer data points captured at various airline systems and provides a unique customer ID for each distinct customer. With this unique identification in place, airlines have the ability to associate all single customer interactions to their associated unique record. This enables airline to understand customer behavior at all touch points and further with this improved

understanding of the customer, airlines are able to offer better services, extract higher customer revenue, generate cross sell and upsell new opportunities and adjust customer specific strategies for greater degree of customer personalization. With master data management services, we provide ability to assemble customer data points, pick customer specific attributes from winning sources, merge the data together and finally provide a unique customer record. This record serves as single identity of the customer across the enterprise. It enables various airline system to query and facilitate customer information for transaction and knowledge discovery.

1.2 Data Quality, Standardization and Governance

For realizing true benefit of the data, the quality of the data must be ensured. Airlines deal with various external systems and data providers, these generators or providers of the data often follow their own standards and format and may not confirm to each other which leads to inaccurate data and many times results into incomplete knowledge or loss of information for decisions. Data Quality Services addresses these challenges. As part of these services any data point received is validated against the expected specification and also is treated for missing, incomplete data points which are expectable within the business. Every data point received is standardized before it is made available for decision systems. This way, all the data points follow common standardized data pattern (for e.g. address, phone or zip code), which conform to other data sets and enable accurate decision making.

For airlines, it is very important that every data point generated and consumed, complies, is secured, approved and conforms to the data guideline of the airline. With IGT's airlines Data Governance framework in place, a collection of practices and processes are enabled which helps ensure the formal management of all the data assets in the airline. It manages all the data assets within the airlines and ensures the decision of rights and accountabilities for information related processes are executed in accordance to the agreed models of ownership and accountability.

1.3 Airline Analytical Data Model

IGT has created a state of the art industry tailored airline Analytical Data Model. This is the most exhaustive data model catering to all the analytical data needs of the airlines. It integrates all airline key systems including departures, reservations, loyalty, flight operations, finance and accounting, cargo, loyalty and many more. It offers 1000+ key airline attributes, with 50+ airline KPIs, 15+ subject areas. The data model is easily customizable to the varying needs of different airlines, is flexible and extensible to incorporate additional data subjects and offers to analyze the data holistically.

1.4 Data, Platform and Modernization

As part of the Modernization services, IGT enables airlines to take their data initiative further and align with the most cutting edge technologies in the data space. A large number of airlines do have existing data warehouses or information silos used by various departments. These legacy stores or data initiatives block the airlines' ability to discover and deliver information at scale and speed. IGT modernization service helps build a new leaner, agile, cloud enabled data eco system enabling airlines with real-time data insights at scale.

2. Data Engineering

Data Engineering is central to the success of data eco systems. The Data Engineering is the most time consuming and resource intensive activity in the data modernization journey. IGT's Data Engineering service has 20+ airline specific solution accelerators which fastens this implementation and reduces the possibility of errors. As part of data engineering services, we have developed end to end data pipelines to bring data in real time from the data providers (internal and external), transform the data and finally load the data in airlines information stores (data lake, EDW, data marts etc.).

2.1 Data Integration

Airlines deal with large internal and external systems, these systems come from different providers and often integrating these is quite challenging simply because all the providers have their own proprietary legacy way to share data and do not follow a uniform data format. Many of the systems (like reservations, ticketing etc.) provide data in legacy formats like teletype messages, EDIFACT messages etc., many providers provide data through APIs or through direct database connections while some providers provide data in more conventional manner in text, csv or xml files. IGT's comprehensive Data Integration service offers vast variety of support to airline/GDS/PSS proprietary formats. It has a large integration asset factory which comprises of lots of airline/ticket data parsers, data cleansing frameworks, business transformation frameworks and ETL orchestration frameworks specifically tailored to airline's complex needs of data integration.

2.3 Data Migration

Airlines constantly go through change of systems, these changes are usually upgrades, old systems being replaced by new systems or platform shifts (on premise to cloud) as part of airlines larger digitization or modernization initiatives. These are costly activities, as data residing in old systems need to be brought in the new systems in the format and specifications that the new system can understand. IGT's Data Migration service follows a defined approach and a structured methodology to execute these complex activities, also with its own data comparator tools, SQL migration utilities, and real time data sync frameworks the entire process is much more efficient and brings advantages of lower costs and quicker turnaround. Also we bring in additional airline data set parsers and converters which are very specific and tailored to understand airline data resulting in higher ROI.
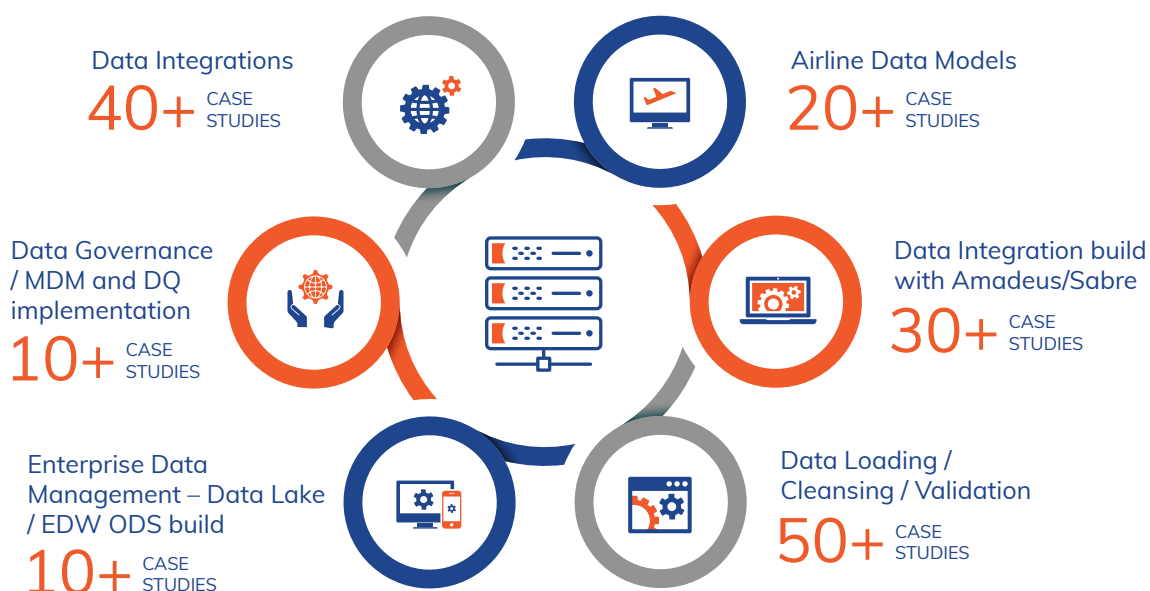
2.4 Data Enrichment

Airline data sets generated from airline systems are usually legacy in nature. IGT's Data Enrichment service combines these data sets, brings additional external data points (e.g., weather data, social media data, other 3rd party data like DDS, MIDT, BIDT etc.) and generates more derived attributes which best describes the data and contributes to meaningful understanding of the insights. Data Enrichment brings new updates and information to the existing data sets and enhances and refines the data, improves data accuracy and reliability resulting in better decision making.

Why is IGT a Trusted Strategic Airline Data Services Partner?

IGT is committed to provide **efficiency, productivity and digital transformation** through automation and operational analytical insights. With its proprietary airline analytics framework and extensive experience in Airline Data Services, it can help in establishing appropriate mechanisms to provide analytical insights from the wealth of airline operations data to help improve the airline process.

Data Integrations
40+ CASE STUDIES

Airline Data Models
20+ CASE STUDIES

Data Governance / MDM and DQ implementation
10+ CASE STUDIES

Data Integration build with Amadeus/Sabre
30+ CASE STUDIES

Enterprise Data Management – Data Lake / EDW ODS build
10+ CASE STUDIES

Data Loading / Cleansing / Validation
50+ CASE STUDIES

It also leverages analytical tools, technology, automation tools and enablers to identify gaps, areas and opportunities for automation and hence helps in improving the efficiency and productivity. Overall, IGT has delivered tangible benefits of ~ **33% cumulative productivity gains for strategic and long term engagements.**

Why IGT Solutions?

Committed to simplify complex customer interactions while delivering a seamless experience, IGT provides integrated BPM, Technology and Digital Services & Solutions for clients across industries for over 20 years.

Managing highly differentiated customer experience for 75+ marquee brands globally.

Employs more than 13,500 customer experience and technology specialists in 5 continents, has 19 state-of-the-art delivery centers, and worldwide operational presence.

mktg@igtsolutions.com

www.igtsolutions.com