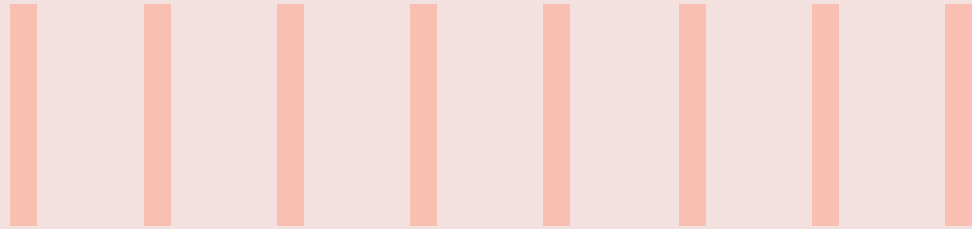




INFOSYS GENOME SOLUTION PROVIDES NAVIGATION FOR THE AEROSPACE INDUSTRY



Air carriers are expected to maintain standards of on-time service. However, between January and December 2017, about 20% of flights in the United States were delayed or cancelled. Aircraft and airlines-related issues, such as mechanical breakdowns, aircraft cleaning, baggage loading, and crew operations, are the primary reasons for flight delays. Interestingly, these issues are within the control of airlines; specifically, in the data collected from aircraft.

A humongous volume of data is streamed by the engines, instruments, sensors, avionics systems, and Industrial Internet of Things (IIoT) devices during each flight. Predictive data analysis can help the aerospace industry turn enterprise, aircraft, and flight-specific data into information for superior service and sustainable growth.

The Infosys Genome Solution provides the analytical framework required by stakeholders of the aviation sector – Original Equipment Manufacturers (OEMs), airline operators, and maintenance service providers – for capitalizing on data to deliver a world class flying experience.



Aircraft manufacturers

Sustainability lies in the ability to accurately predict the time when a critical part needs to be replaced/repared, lifespan of spare parts and components, equipment/asset maintenance costs, frequency of component/part replacement and repair, production bottlenecks, issues in the supply & distribution network, and demand for aircraft, among others.

The Infosys Genome Solution empowers OEMs and engine manufacturers with a decision support system via asset, demand, customer, supply chain, and warranty analytics. It enables insights through

advanced analytics leveraging unified data across diverse sources and types of data, including workshop logs, part replacement history, component servicing time, part/component cost, design templates, inventory records, maintenance and inspection reports, flight data, and airline operator information systems. The Infosys framework facilitates root cause analysis and what-if analysis leveraging data residing in interdependent systems, which uncovers cost-effective solutions to resolve repeated parts failure/unexpected breakdowns.

Aircraft OEMs can leverage predictive analytics from the Infosys Genome Solution with real-time visibility into an IIoT-enabled manufacturing environment for a range of benefits such as improved parts procurement, optimized resource utilization, cost rationalization, better preparedness for unplanned events and minimal order backlog. The unified data can be leveraged for dynamic production planning and assembly line balancing which in turn help improve process efficiency, boost performance as well as reliability at the component, aircraft, and enterprise level.

Airline operators

The ultimate goal of an airline operator is to maximize fleet uptime as well as capacity utilization. It requires each aircraft to be maintained in flying condition while minimizing grounding for Maintenance, Repair and Overhaul (MRO) service.

The Infosys Genome Solution boosts revenue per passenger mile by identifying potential issues and prioritizing routine as well as non-routine maintenance, repairs, and replacements. The framework supports asset health monitoring & asset/fleet operations management. It can help predict trends in air passenger traffic and demand across routes, airplane type, and travel class.

Accurate forecasts can be integrated with real-time data to improve airplane serviceability, operational efficiency, and customer service. The Infosys Genome Solution framework provides tools to drill-down into asset reliability issues. Further, it facilitates resource allocation, including pilots, cabin crew, and maintenance teams.

Leveraging real-time visibility and predictive analytics, airline operators can make informed decisions – be it flight

planning, fuel procurement, maintenance contracts, or capital purchase from OEMs. Moreover, predictive insights enable air carriers to achieve high on-time flight record while rationalizing the cost of regulatory compliance for airworthiness.

Service providers

The quality of service makes or mars the business of MRO contractors and third-party maintenance service providers.

The Infosys Genome Solution maximizes equipment lifespan with aircraft-specific maintenance optimization. It enhances the value of MRO services provided to OEMs as well as airline operators. The solution improves performance, reduces unplanned downtime, and ensures compliance with aviation safety regulations by predicting failure (engine, component, or spare part) and recommending preventive action(s). It consumes operations data, flight records, inspection reports, and safety manuals for continuous condition analysis and generation of failure reports across asset classes.

Integrated spare parts forecasting helps aircraft OEMs better address requirements of aftermarket service and dealer networks.

The Infosys solution helps maintenance contractors combine demand forecasts for spare parts with historical asset repair data for maintenance planning. This helps automate event alerts for critical aircraft parts and components. The predictive system enables air carriers to rationalize maintenance costs, optimize inventory, and prioritize replacement of ageing aircraft.

The Infosys Genome Solution framework helps MRO companies optimize maintenance schedule for predictive maintenance and periodic visual inspection, while rationalizing working capital. In addition, predictive insights enhance supply chain management and optimized allocation of resources as well as tools.

The Infosys Genome Solution through its unique data model and framework benefits all participants in the aviation ecosystem through multiple and rapid insights generated by advanced analytics. As per industry experience there can be an increase in productivity by 10%-25%, decrease in maintenance costs by 10%-40%, and reduced asset downtime by up to 20%.



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