

EMBRAER LAUNCHES PREDICTIVE MAINTENANCE SYSTEM IKON

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Welcome the launch of IKON, a cloud system for capturing, storing and analyzing high volume data for the predictive maintenance of the E-Jets family!

The new system is totally based on the Amazon Web Services (AWS) platform and was developed by Embraer, with the support of the suppliers AWS ProServe and Claranet, using Big Data and Analytics technologies to deliver 96% productivity gains in the aircraft analysis and data processing, setting new standards in aeronautical services and support.

Offering a high degree of scalability, elasticity, durability and analysis, the system delivers efficient management of processing and storage capacity, making possible for Embraer to optimize the data ingestion time of the E-Jets E2. Using AWS's set of analytics services, this new technology identifies data patterns, and is even able to pinpoint and solve potential aircraft issues before they occur. This ability to perform predictive maintenance will help deliver new feature enhancements to the E2 and accelerate the delivery of improvements to previous models.

"Embraer constantly invests in new technologies. We see IKON as a totally agnostic tool that opens new horizons to deal with data and an evolution that recognizes possibilities for improvements, making us able to function as an aircraft health monitoring provider. Predictive maintenance translates into increased efficiency with reduced costs, higher aircraft competitiveness and availability," says Johann Bordais, President and CEO of Embraer Services &

Support.

In addition to this, the system is a step forward in the process of aeronautical industry digitalization. Today, Embraer's second-generation of commercial aircraft produces about 100GB of directly accessible information per year. Thanks to an expedited routing and analysis system, this high volume of data is able to be transmitted for prompt action. With IKON, the automatic data collection went from 12 days to an immediate process, guaranteeing data is ready to be analyzed 5 minutes after its generation in the aircraft.

The high volume of data and the demand for faster and more accurate decisions require technologies to capture, store and connect information across a network. At the time the plane lands, this data is automatically transferred to IKON via a module installed on the aircraft, called Wireless Server Unit (WSU).

To ensure that the information is received with assertiveness and agility, Embraer Ground Server (EGS) uses AWS to automatically connect to the aircraft and handle flight data downloads. After landing, the transmission to the platform is completed in about five minutes. Next, it is transferred to the IKON data lake, allowing engineers to analyze this information efficiently.

“IKON and EGS put into practice Big Data and Analytics concepts, which gives Embraer a huge advantage in offering unique services towards customers' needs”, explains Andre Doro, Chief Information Officer at Embraer.

AWS is the provider of the entire cloud infrastructure, which offers security, agility, high processing power, analytical tools and cost management – a pay-per-use service, meaning that users only pay for what they use. The AWS ProServe team, the company's professional services division, joined forces with Claranet on the design and implementation of the IKON project and worked to ensure the quality and best practices of data analysis, providing state-of-the-art architecture in terms of efficiency, data quality and scalability.

“IKON is a really innovative project, combining the power of the cloud with advanced big data and analytics services, which makes complex data simple and easy to analyze in a short time,” says Cleber Morais, country manager of AWS Brazil. “This project matches one of the most modern pillars of corporate applications: making processes based on data insights a crucial part of business planning, execution and evolution.”

IKON is now available in the customized support packages for each customer offered by Embraer Services & Support. These programs are part of a range of products developed to serve Embraer jets fleet around the world through TechCare, the portfolio of products and solutions to deliver the best service and support experience.

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