ETIHAD AIRWAYS AND THE MASDAR INSTITUTE SIGN AGREEMENT TO DEVELOP FOG PREDICTION SYSTEM

News / Airlines

Etihad Airways and the **Masdar Institute** of Science and Technology, an independent, research-driven graduate-level university focused on advanced energy and sustainable technologieshave signed a research agreement to develop a **fog prediction** and monitoring system to enhance guest experience and serve the needs of the aviation sector.

The system will provide Etihad Airways' Operations with accurate fog formation and dispersion forecasts around Abu Dhabi International Airport, in addition to satellite-based tools for fog detection and tracking, contributing to the airline's objective of enhancing its air traffic management system.

The agreement was signed by Chris Youlten, Etihad Airways' senior vice president, network operations, and Dr Behjat Al Yousuf, interim provost, Masdar Institute.

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Youlten said: “This is a very exciting partnership for a number of reasons. As Etihad Airways grows, so does the need for it to develop more sophisticated operational control practices to maintain its world-class reputation. The research and development work being done at the Masdar Institute offers Etihad Airways the unique opportunity to work closely with the scientific community in developing an innovative solution tailored to meet our operational needs.

“Following on from the very challenging fog season of winter 2014/15, we made a firm commitment to take our contingency planning to another level that supported the growth of our airline and the airport. We pride ourselves of being one step ahead of the game, but we needed assistance in developing a more scientific approach to our readiness for fog. Meteorological forecasting allows for a proactive approach, but even when we are working to a time frame of fog, we can’t see it coming until it is in our midst.

“For this reason we engaged with the Masdar Institute scientists to collaborate with our Operations team to help us with fog detection and monitoring. Everyone will benefit from this innovative project including our guests, our principle partner, Abu Dhabi Airports, and the whole airport community,” he added.

Dr. Steve Griffiths, vice-president for research, Masdar Institute, said: “The Masdar Institute agreement with Etihad Airways demonstrates our region-relevant scientific research capabilities that can benefit various stakeholder organizations. This project aims to detect fog formation well in advance and help the aviation sector mitigate the adverse impacts of bad weather conditions. We believe the outcome of this research project will benefit not only the industry but the community as a whole.”

Titled: “Towards achieving a fog-ready air traffic management system for Etihad Airways: Numerical forecast and satellite detection,” the research project will be led by Dr. Marouane Temimi, associate professor of Water and Environmental Engineering and head of the coastal and environmental remote sensing and modeling Lab. Master’s and PhD students may contribute to the project at a later stage.

The project outcome will have far-reaching benefits for the aviation sector. At present, un-forecasted outbreaks of dense fog creates challenges such as flight delays, flight diversions, personnel disruptions, and traveller disturbance.

These result in wasted resources and additional costs to the airlines and passengers, and puts strain on the airport infrastructure. Moreover, the contingency strategy of loading extra fuel on-board aircraft so they can stay airborne longer or divert to another airport, reduces cargo capacity, generates additional financial pressures for airlines and contributes to unnecessary carbon emissions.

Abu Dhabi experiences frequent outbreaks of dense fog, especially between October/November and March/April during which visibility drops significantly. During such outbreaks, operations at Abu Dhabi Airport may be significantly disrupted or even stopped completely. Such conditions make it critical for airlines to have an accurate fog management support system that provides operators with the efficient tools to plan properly and mitigate any adverse impact.

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