



Contribution ID: 94

Type: **not specified**

Invited Talk - ANA's Predictive Maintenance (Uniting the world in wonder)

Monday, 11 September 2023 16:30 (1 hour)

ANA promotes Predictive Maintenance to enhance the prediction as a part of aircraft maintenance. In 1968, with the goal of creating a more efficient maintenance program according to the Logical Decision Processes, the Maintenance Steering Group (MSG) developed a handbook, MSG-1, "Maintenance Evaluation and Program Development" for the B747. Further, the frequent revisions have been made for the MSG up to now.

The objectives of the maintenance program are to (1) ensure the design safety and reliability level, (2) restore the design safety and reliability level when degradation occurs, (3) collect information necessary to make design improvements when design reliability is insufficient, and (4) achieve these objectives at the lowest total cost (sum of maintenance cost and lost cost when failure occurs). The total cost of maintenance and the total cost of loss in the event of a failure should be minimized.

Of course, ANA will continue to implement the maintenance requirements based on the current handbook, MSG-3, but has begun predictive maintenance using aircraft sensor data and failure management data. ANA is using artificial intelligence to analyze aircraft sensor data, maintenance data, manufacturer data, and other big data. ANA analyzes such the big data to find signs of malfunctions and respond to them before they occur. The goal is to find the signs that lead to defects and respond to them before they occur. ANA's management new vision is "Uniting the world in wonder". ANA will expand the possibilities of air safety through predictive maintenance.

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