

Opinion: Restoring Airline Trust In AI For MRO

Cameron Byrd December 15, 2025



Credit: suriya silsaksom/Alamy Stock Photo

‘Tis the season of hope, joy and miracles—a time for us to set skepticism aside to embrace positive thoughts and believe in the impossible. The landscape for businesses today is rapidly shifting but the need to maintain a competitive edge remains the same. Artificial intelligence has been this year’s biggest force of change. However, many airlines have been cautious to adopt it.

Aircraft maintenance culture relies on repetitive and proven processes built on data, redundancy and verification. Nothing is adopted on faith alone. Like Scrooge hoarding coal, aviation has learned to miser over its tried-and-true methods. And yet, every holiday season reminds us that belief has power. It shapes behavior, inspires hope and opens people to the possibilities.

Artificial intelligence (AI) now stands at a crossroads in aviation maintenance history, caught between the memory of past disappointments and the promise of something truly transformative. Many airline leaders want to believe in AI, but belief in the gift of AI, once shaken, is hard to unwrap.

Airline executives have every reason to be wary of technology vendors bearing promises. Over the past decade, the industry has weathered countless pitches for transformative solutions that overpromised, underdelivered and left information technology departments cleaning up expensive messes. As former airline CEO Subodh Karnik put it, "Even products that I can touch and feel and understand can turn out to be snake oil. So, AI-based products with black-boxed solutions are scary."

Mistrust has real consequences. While aviation hesitated, other industries such as manufacturing, logistics, energy, finance and retail moved forward. These sectors systematically embedded AI into core operations and now reap compounding advantages in efficiency, forecasting accuracy and cost control.



Cameron Byrd, CEO of AIXI

MRO, however, continues to suffer from chronic defects, rogue parts and unscheduled line maintenance. The industry’s caution had an unintended consequence: aviation now lags behind in applied AI maturity despite having some of the richest operational data on the planet.

Skepticism toward AI, based on experience, is valid. But today’s AI is not simply an incremental improvement over what existed five or 10 years ago. The emergence of large language models, multimodal AI and massively scaled cloud computing has fundamentally altered what is possible.

Barry Lott, director of aircraft records, maintenance and reliability at Southwest Airlines, attests to AI’s readiness. Lott engaged AIXI in 2019 to build an automated ATA coder after his internal team was unable to reach the desired accuracy level. “Artificial intelligence has long promised to transform aircraft maintenance, yet the technology often fell short and trust was slow to follow,” he says. “Today, we are finally seeing capabilities that once seemed out of reach, and the industry is beginning to realize the future we only imagined.”

Technology alone does not ensure success. Organizational behavior matters just as much.

For some airlines, the path forward requires a necessary realization: airlines are not AI companies. Their competitive advantage lies in operational excellence, an unwavering commitment to safety and top-notch fleet management—not in maintaining bleeding-edge machine learning research teams.

Leaving AI development to specialized, focused technology companies is not a loss of control; it is a strategic allocation of capital and risk. The winners will be those who partner intelligently, integrate rigorously and hold vendors accountable to measurable performance.

Commercial AI solutions today can be deployed faster, validated transparently and scaled with less organizational disruption than most traditional software deployment leaders may have encountered. Entry barriers have fallen, opening opportunities for those willing to try and believe what is possible.

Aviation, as a disciplined, analytical and skeptical industry, has reached a moment where progress requires belief. Only then will it reap the benefits of the AI transformation promised so many years ago.

Cameron Byrd is CEO and founder of AIXI Inc., where he blends expertise in artificial intelligence, computer science, engineering and mathematics with his passion for aviation.

The views expressed are not necessarily those of Aviation Week.

ARTIFICIAL INTELLIGENCE
