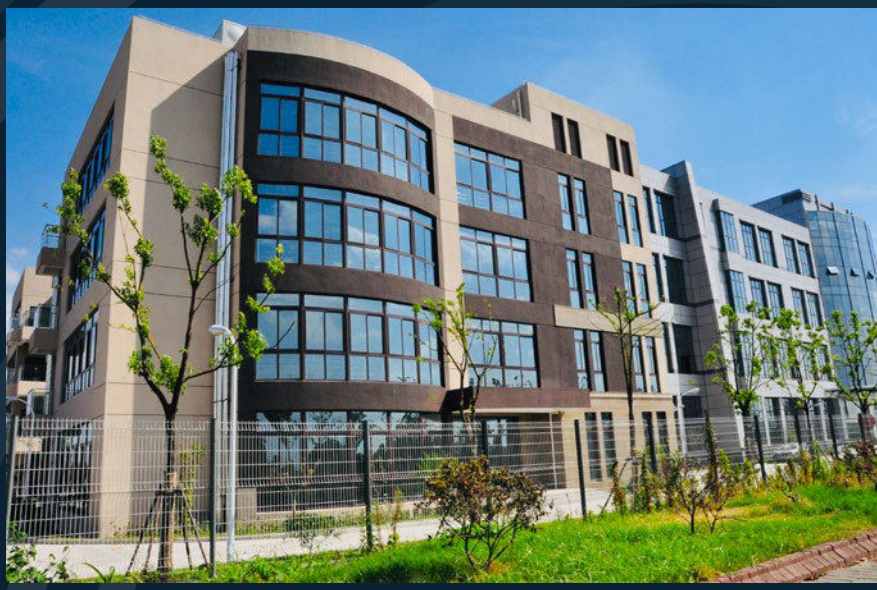
acphotonics



Case Study:
AEROSPACE

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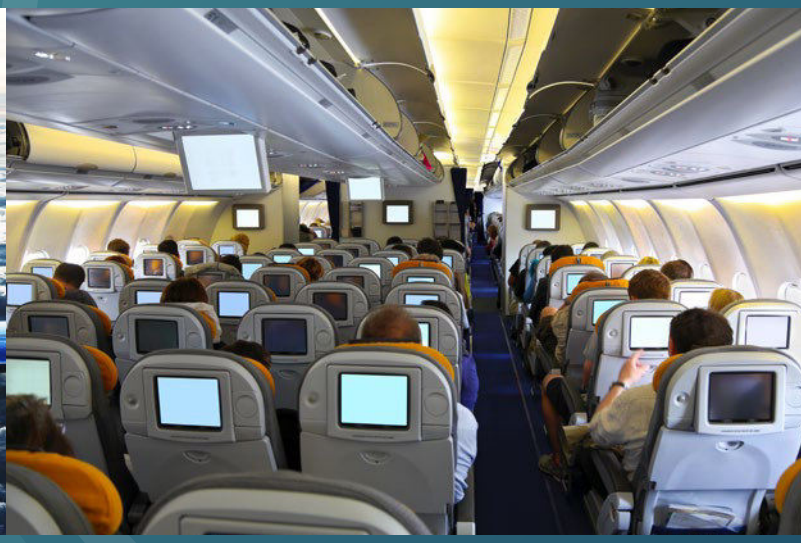
Introduction

Commercial aviation has historically used copper wiring to transmit data signals; a commercial plane has historically averaged over 6 miles of copper wiring which adds significant tonnage to its overall weight. Copper is a relatively dense metal, and at 8.96 grams per CC (Cubic Centimeter) its actually heavier than steel (8.05 grams/CC) and more than three times heavier than aluminum (2.7 Grams/CC). Modern aviation designs are focused on weight minimization utilizing lighter materials due to the proliferation of the need for more sensors due to the increasing adoption of personalized seat based entertainment systems. American Airlines calculated that removing one single olive used as a garnish on first class passenger meals saved over $40,000 a year in fuel costs. Recently, an estimate from an Airbus executive, indicated that a weight reduction of only 1 lb. can save an airline over $5,000 in fuel over the typical service life of a plane. With such prominent data points, its beyond dispute that reducing weight in aeronautical applications has significant cost and efficiency benefits.



ACP in action

ACP entered the aerospace industry because our internal design capabilities and new product introduction timeframes were the best in the photonics industry. Through vertical supplier integration, global design and manufacturing capabilities, we were able to deploy a lightweight bandwidth solution for a major client 6 months faster our industry peers were able to.

We created custom packaged Wave Division Multiplexers (WDM) as a direct footprint replacement for a legacy sensor system for a major aircraft company. Our WDM solution combined with multiple optical 100Gb/s fibers of less than 250 microns in diameter we were deployed within the fuselage replacing the old copper system which ultimately offered significant functional benefits as our optical system was custom designed for extreme high and low temperatures coupled with an emphasis on minimal susceptibility to electromagnetic interference. Our engineering, design, and manufacturing teams created all custom components, built all of the package tooling, and entered production within the extreme timeframes asked for by a highly demanding client. Upon client deployment, JIT programs were set up internationally to ensure fluctuating client demands were met. In the end we had single point accountability from start to finish.

The outcome

We successfully went from design idea to full scale manufacturing of a novel product within 6 months when our competitors were quoting more than one year. The end solution resulted in eliminating 65% of the original weight, a 45% cost reduction, all within a solution that performs significantly better than the previous version. With reduced costs and faster turnaround times, this product is still critical to our clients success 15 years after our original design.

Contact our team to have your challenge solved today:

Every acp solution is backed by 25 years of unparalleled success in providing photonic solutions for global OEMs coupled with our uncompromising pursuit of excellence.

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