Astronics AES shapes cabin power strategies with scalable solutions

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Astronics' EmPower® in-seat power systems are designed to ensure uninterrupted PED usage in all cabin configurations

The rapid expansion of airline fleets across the Middle East has resulted in a significant demand for advanced passenger amenities, with in-seat power systems becoming a top priority for airlines in the region. As inflight entertainment and connectivity (IFEC) increasingly define the competitive advantage among airlines, Middle Eastern carriers are leading the charge for innovation in in-seat power technology.

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Dennis Markert, Director Business Development, Astronics AES

“As these carriers strive to position themselves as global leaders in aviation, passenger experience has become central to their strategy. Consequently, in-seat power has transitioned from a luxury feature to an essential offering, driven by the ever-growing reliance on personal electronic devices (PEDs) carried and used by passengers throughout their journeys,” Dennis Markert, Director of Business Development, Astronics AES, tells *PAX Tech*.

Comfort and convenience for all cabins

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Astronics EmPower Type-C, Universal and Type-A in-seat power outlets

With fleets that prioritize long- and ultra-long-haul operations, airlines in the Middle East are uniquely focused on scalable solutions that meet the needs of passengers across multiple cabin classes.

Markert points to Astronics' EmPower® in-seat power systems as being precisely designed for this challenge, ensuring uninterrupted PED usage in all cabin configurations—from premium suites to high-density Economy cabins.

"Unlike some global carriers, where in-seat power may be restricted to select cabin tiers, many Middle Eastern carriers distinguish themselves by deploying universally accessible, high-power USB ports and 110VAC outlets across all seating classes. This widespread availability elevates the passenger experience and aligns with the region's reputation for prioritizing comfort, convenience and connectivity," he explains.

The demand for in-seat power is amplified by the growing prevalence of PEDs on long-haul flights, where passengers rely on these devices for entertainment, productivity and connectivity for extended periods. As IFE and connectivity are increasingly part of a complete IFEC ecosystem, Astronics' in-seat power solutions are enabling airlines to support higher data throughput, streaming services and future connectivity requirements.

"To support sustained device usage for streaming, browsing, gaming and productivity, Astronics integrates high-power USB-C outlets (up to 60 watts) and 110VAC outlets, ensuring reliable charging throughout the flight," Markert explains.

He says Middle Eastern airlines also stand out for their investments in next-generation, fuel-efficient aircraft, where lightweight, energy-efficient systems are essential.

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Markert reveals that Astronics' UltraLite Generation 2 (ULG2) system, which offers up to a full 60 watts of USB Type-C power to every passenger, has become the system of choice for these advanced fleets.

"The ULG2 system's efficiency and versatility ensure airlines can deliver exceptional service while meeting sustainability and fuel savings goals."

Markert notes that while full-service carriers dominate the regional landscape, low-cost airlines in the Middle East are also adopting in-seat power.

"This trend challenges global norms, where budget carriers often forgo such amenities, signaling that passenger expectations in the region are evolving across all airline business models," he says.

Astronics supports these efforts through its range of scalable solutions, which align with the region's vision for connected air travel.

"In this dynamic and fast-evolving market, the growing demand for PED power onboard represents an exciting opportunity for Astronics to continue helping airlines shape the future of passenger travel," Markert says.

Scalable, sustainable, powerful

Astronics EmPower UltraLite G2 in-seat power system with 18 Type-C outlets

Astronics collaborates with leading aircraft OEMs, IFE providers, seat suppliers and airlines to ensure its power systems align with onboard connectivity infrastructure for easy integration via line-fit or retrofit.

Markert acknowledges that retrofitting in-seat power systems into aircraft cabins can be complex, requiring solutions that address space limitations, compatibility with existing seating and stringent regulatory standards.

"Airlines also prioritize rapid installation to minimize downtime and return aircraft to revenue-generating service as quickly as possible," he says. "Our engineering team collaborates closely with

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airlines to tailor layouts, ensure adherence to aviation standards and preserve cabin aesthetics. We deliver fast installation solutions, comprehensive training and ongoing technical support to reduce operational disruptions."

Designed for scalability and efficiency, Astronics' systems reduce aircraft weight and power demands, contributing to sustainable operations. Improved power supply efficiency translates to reduced emissions and lower operational costs while maintaining optimal passenger experience.

In terms of future-proofing aircraft cabins and designing for longevity, Markert points to Astronics' ease of maintenance, with in-seat power outlets designed for rapid replacement, allowing maintenance crews to swap out units in less than five minutes, to minimize aircraft downtime. He also highlights Astronics' Wireless Charging Module (WCM), designed for long-term durability and eliminating moving parts or physical connectors, which are common failure points in traditional wired systems.

"In-seat power is now a cornerstone of the connected passenger experience, and Astronics remains committed to advancing its innovative and reliable solutions to meet the future demands of evolving IFEC ecosystems," Markert concludes.

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