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The Human Capital Impact of Aviation IoT

IIC Partners explores the impact that the Internet of Things (IoT) and rise in connectivity will have on talent in the aviation industry.

The Internet of Things (IoT) revolution has set its sights on the aviation industry. The advent of the "eEnabled airline" signals a departure from the traditional procurement practices exhibited by airlines where 'boxes' were simply bought and installed on aircraft. Every airline is unique, every supplier different, and IoT offerings are not products - they are solutions. To successfully navigate this frontier and reap the rewards of successful projects, both airlines and suppliers must rethink the composition of talent within the organization.
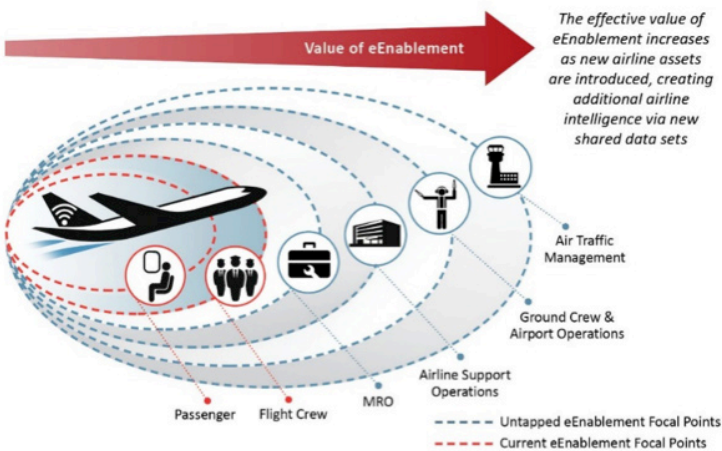
The Market Potential

The concept of aviation connectivity or "eEnablement" has matured over recent years to extend beyond the airframe. Passenger-focused solutions, such as inflight WiFi, have long dominated the airwaves, but as modern networked aircraft (e.g., A350, 787) start to reflect larger portions of the global fleet, airlines and suppliers must treat aircraft as nodes in the ecosystem of connectivity.
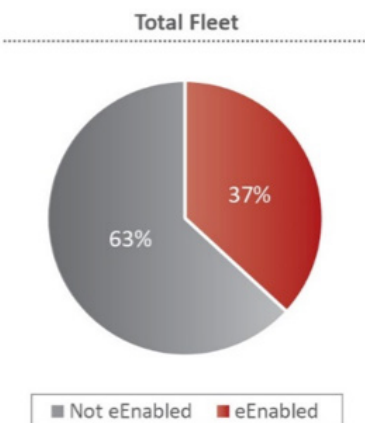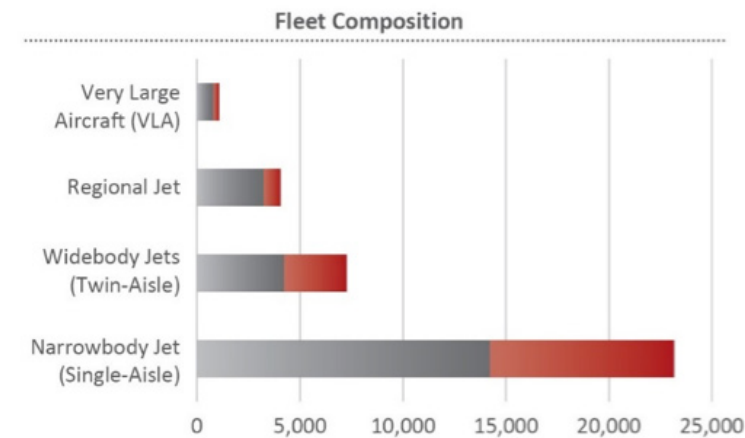
This ecosystem impacts the airline, not just individual aircraft. The rise of connected nodes, decreasing costs of bandwidth, and record profit levels impacting the global aviation sector are giving way to innovative approaches to IoT. Jay Carmel, a Senior Associate at the aviation consultancy Avascent, says "Ongoing improvements in how we generate, transfer, and analyze aviation data — due in large part to better sensors, more affordable networks, and more sophisticated software — are creating new airline revenue streams and opportunities for cost-savings that will shape the future of airline competition." Connectivity is no longer a pure consumer-facing 'cost of doing business' — it represents the potential for improved passenger experience, operational efficiencies, and meaningful cost-savings.

eEnablement has primarily just focused on connecting passengers and flight crews

2025 Forecasted In-Service Air Transport Fleet eEnabled vs. not eEnabled

Fleet Composition

Total Fleet

Graphs and data courtesy of Avascent

Human Capital Challenge

Cultivating teams that can design, sell, and integrate next-generation connectivity solutions in a legacy-laden industry will require a step-up in talent acquisition and retention. The inherent missions of airlines and suppliers are changing and require targeted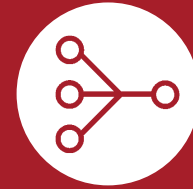 talent acquisition practices that focus on attracting candidates to the IoT mandate / complex challenges versus the hefty compensation packages and associated perks that can be provided by leading tech firms. Both airlines and suppliers must begin to rethink certain positions and the roles they play within the organization.

Airlines

Within the airlines, the Chief Information Officer and Chief Digital Officer will shepherd organizations through this digital frontier. Dedicated departments and project teams that can execute IoT and connectivity projects will be critical to success (e.g., Delta IT).

It is critical that all stakeholders across the organization ranging from product managers, to MRO, to flight operations have a voice as RFPs are drafted and connectivity projects integrated.

Suppliers

Strong CIOs and Chief Digital Officers will be instrumental in defining and projecting a clear IoT vision for the organization. These positions must be supported by key stakeholders that possess a firm understanding of telecommunications and data analytics.

Additionally, an emphasis must be placed on senior product managers that can diagnose customer needs and software engineers / solutions architects that can translate requirements into solutions.

> " Every airline is unique, every supplier different, and IoT offerings are not products - they are solutions… "

Ultimately, the culture, compensation, and typical location differences between leading technology firms and traditional airlines / suppliers make recruiting key talent a challenge.

Leading executives have acknowledged the complexities and need to rethink the approach to traditional talent amidst this connectivity revolution. President of Air Travel Solutions for SITA, Ilya Gutlin, stated that "The prevalence of sensors and IoT has focused the industry on data and data sources, driving the companies towards ensuring that they have the relevant skills that are able to deal with information and knowledge in the new environment. It has also shifted the discussion on cybersecurity and how we get the right skills to deal with threats in a distributed mode". Analyzing and identifying talent from near-adjacent markets and companies will be key to an effective hiring strategy. Additionally, airlines and suppliers must focus on branding themselves as technology and experience companies to attract the right mix of human capital.

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Talent Acquisition Checklist

As companies embark on building IoT teams, several items need to be kept in mind.

✓ Execute a non-traditional talent sourcing strategy focusing on personnel that are steeped in technology and agile commercial markets (e.g., Google, Microsoft, Cisco Systems, etc.)

✓ Attract new skillsets by incorporating professional development programs and creating talent pipelines that can funnel product managers, solutions architects, and data analysts into the firm

✓ Determine the personality traits and drivers that will be key to success within the confines of a traditional industry
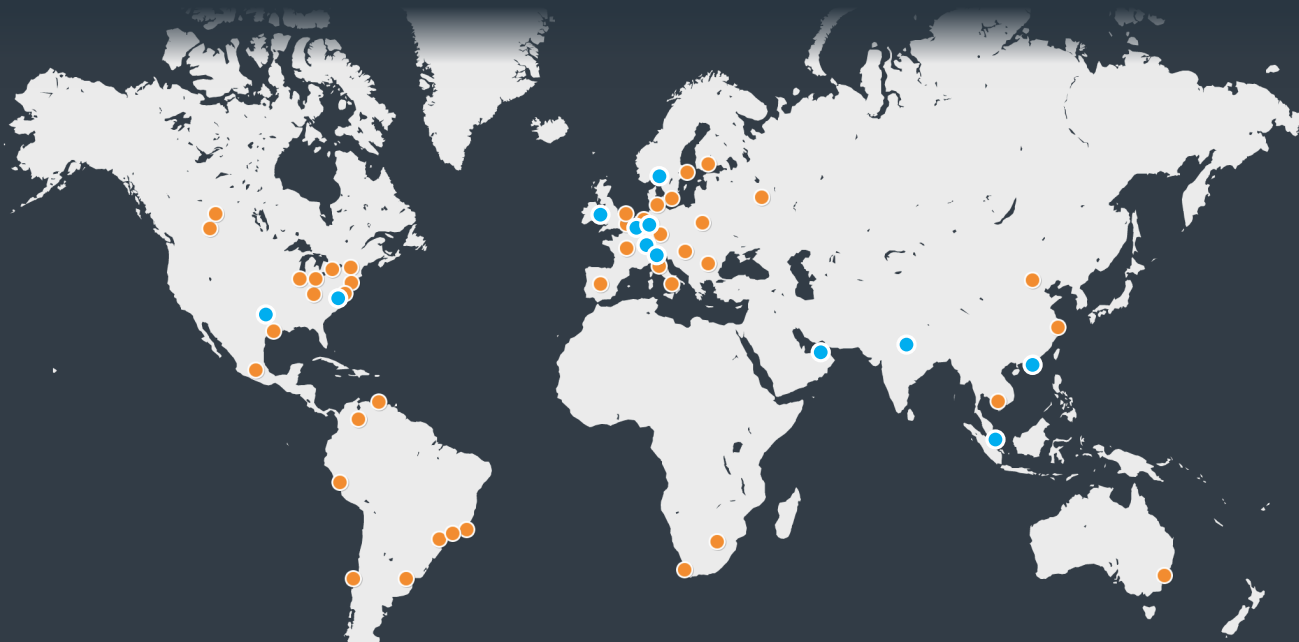
✓ Revisit executive compensation packages and incentive structures that will yield top talent from markets beyond pure aviation

✓ Ensure the appropriate departments and operations are empowered to support the connected era of aviation, which has placed a greater emphasis on joint IT / connectivity solutions and continuous customer service / engagement

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This White Paper features expert insights from IIC Partners' Aviation Aerospace & Defense Practice Group.

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