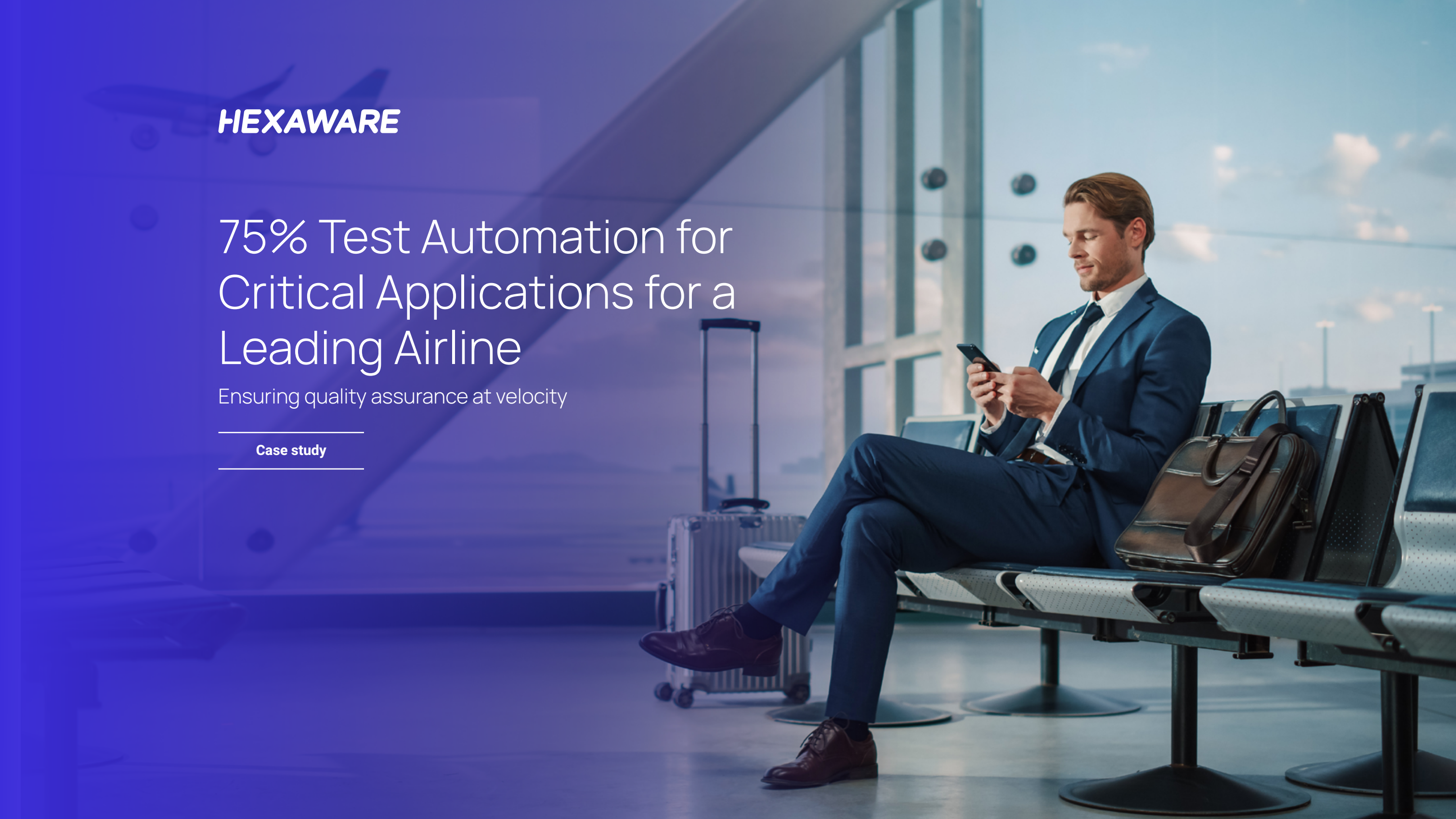




HEXAWARE

75% Test Automation for Critical Applications for a Leading Airline

Ensuring quality assurance at velocity

Case study

Client

| Client

- Challenge
- Solution
- Benefits
- Summary

The client is one of the leading airlines in North America.



Challenge

Client

Challenge

Solution

Benefits

Summary

The client was looking for a trusted technology partner who could help them frame and implement an automated test strategy for their critical, customer-facing applications, ensuring zero-defect releases.

They needed assistance with the following challenges:

- Robust application testing for their applications and integrations across Passenger Reservations, Inventory and Ticketing, Departure Control System (DCS), Loyalty, Cargo, Maintenance, Repair and Overhaul (MRO), and Crew Scheduling
- Significant effort spent on maintaining and executing the test suite due to multiple tools and limited test automation.
- Defect aging and multi-vendor coordination for defect fixes
- Applications infused with AI components need to be tested for the confidence of prediction outcomes



Solution

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Hexaware adopted a systematic methodology to transform the testing landscape and ensure safe, secure, and predictable testing operations for the client’s mission-critical applications. The key tenets of Hexaware’s solution included:

Adoption of a phased approach for knowledge acquisition from client SMEs followed by setting up an independent testing CoE covering functional, integration, compatibility, usability, accessibility, and data migration testing across the web and mobile.

Successful implementation of a comprehensive test strategy for:

- The Passenger Service System (PSS) suite of applications, including the Global Distribution System (GDS) and Interline/Codeshare involving the validation of the journey with partner airlines
- Loyalty and digital programs comprising COTs, middleware, and 3rd party services in a multi-vendor development environment
- Mobile application validation on cloud-based infrastructure

- Cargo operations on an e-commerce platform involving domestic market shipments through its partners and franchises

An automation-led approach leveraging

- A unified multi-channel test automation framework for web, mobile, and TPF)
- SeeTest tool to automate the client’s mobile applications wrapped with the FAME framework
- Combination of multiple toolsets to automate accessibility testing for business-critical applications within Loyalty, Digital, and PSS programs to ensure compliance with WCAG standards 2.0 (Level A, AA)

Integrated Continuous Testing in DevOps CI/CD pipeline for Loyalty, Digital, and PSS programs using Behavior-Driven Development (BDD) and seamless integration with Azure DevOps and JIRA for test planning, Bitbucket as code repository, and BrowserStack for multi-channel (Web, Mobile, and API) script execution

End-to-end testing of embedded AI components covering dataset quality, model outcome, model consistency, and prediction outcomes relevant to business requirements for the “Cargo Application.”

Enhancing testing effectiveness and efficiency by

- Setting up an enterprise-wide Test Data Management self-service portal with service virtualization for PSS migration testing
- In-sprint automation and automation of regression test suite for steady-state applications

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Testing transformation and automation-led approach ensured Quality @ Speed with ~30% cost reduction and ~35% faster time-to-market.

Customer value-adds through innovation resulted in savings of over USD 3.24M

Achieved over 75% automation for critical applications besides building a reusable test repository for future test cycles during upgrades and maintenance releases

Automated test suite for loyalty, digital, and cargo programs comprising ~50k scripts integrated with CI/CD to enable faster releases

Reduced multi-channel (web and mobile) test execution time by 75% while increasing test coverage by over 50%, resulting in zero-defect customer experience across all channels

Jumpstart kit comprising of the prebuilt functional test suite for Passenger Reservations, Inventory and Ticketing, Departure Control System (DCS), Loyalty (frequent flyers, redemptions, and partnerships), Cargo and Airport Operations

Real-life test simulation with:

- A fully functional lab for all airport functions (Barcode Reader, Bag Tag Printer, Boarding Pass Printer, Boarding Gate Reader), rendering end-to-end testing.
- Baggage integration testing for over 112 airports. Conducted business rehearsals at all these airports by testing over 2,000 check-in scenarios and 122 flight departures

A roadmap to transform Automation to Autonomous testing to support multichannel validation, i.e., web, API, mobile

Testing of AI-infused Cargo applications unearthed critical defects related to prediction outcomes, thereby improving overall model accuracy and application quality



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The client benefited from over 75% test automation to achieve zero defects for mission-critical applications. The failsafe test transformation roadmap involved end-to-end testing, covering functional, integration, compatibility, usability, accessibility, and data migration testing across the web and mobile. The increased test coverage by over 50% resulted in zero-defect customer experience across all channels and increased time-to-market by 35%.



About Hexaware

Hexaware is a global technology and business process services company. Our 27,000 Hexawarians wake up every day with a singular purpose; to create smiles through great people and technology. With this purpose gaining momentum, we are well on our way to realizing our vision of being the most loved digital transformation partner in the world. We also seek to protect the planet and build a better tomorrow for our customers, employees, partners, investors, and the communities in which we operate.

With 40+ offices in 19 countries, we empower enterprises worldwide to realize digital transformation at scale and speed by partnering with them to build, transform, run, and optimize their technology and business processes.

Learn more about Hexaware at www.hexaware.com.

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