

Chapter 05

Technology



Technology with purpose: Amadeus' commitment to better travel

The travel industry is navigating a period of profound transformation. Rising customer expectations, the growing use of AI, accelerated digitalization, and the need for resilience are reshaping how travel is delivered and experienced.

In this fast-changing environment, technology isn't just an enabler—it's the foundation for sustainable growth and innovation.

At Amadeus, technology is a driver of meaningful progress for the travel ecosystem.

Our technology mission is anchored on three strategic priorities that guide our actions and investments:

1. Delivering reliability and excellence to our customers worldwide: We ensure robust, secure and scalable systems that keep the travel ecosystem running seamlessly, even in times of disruption.

2. Unlocking new business opportunities through innovation and market responsiveness: By leveraging data, cloud-native capabilities and advanced technologies, we empower our customers and partners to innovate and thrive in a dynamic marketplace.

3. Strengthening our technological leadership by aligning investments with long-term goals: We continuously invest in cutting-edge solutions and collaborative ecosystems to set benchmarks for resilience, performance and sustainability.

These priorities have guided our actions and investments throughout the year, marking significant milestones—from bringing our ambitious cloud migration into its final stages, to introducing AI-driven solutions, to enhancing operational excellence.

By simplifying complexity, we enable a travel ecosystem that's connected, efficient and sustainable.

Our purpose-driven approach ensures that technology isn't just a tool but a catalyst for better travel for all. For more than three decades, Amadeus has supported the industry's growth and transformation through innovation, partnerships and leadership, and we remain committed to making travel better for everyone, everywhere.

This purpose inspires us to design and deliver technology that creates value and helps the industry evolve and adapt to changing needs.

Delivering reliability and excellence to our customers

To offer an unforgettable experience to millions of travelers every day, we empower our customers with cloud-enabled solutions, available anytime and anywhere, to help them carry out their missions.

In 2025 we reached a historic milestone by completing the migration of 100% of our applications from our Erding and Frankfurt Data Centers to the cloud. This achievement strengthens our ability to deliver with speed, quality and resilience while accelerating our multicloud strategy.

Our approach brings three major key benefits:

1. AI-ready platforms: Leveraging unified data and advanced Large Language Models (LLMs) to accelerate innovation.

2. Agnostic Platform-as-a-Service (PaaS): Enabling seamless multicloud integration and a modular architecture.

3. Cutting-edge technologies: Such as agentic AI frameworks and Advanced RISC Machine (ARM)—based search capabilities, optimized for energy-efficient and high-performance processors to deliver faster, smarter services.



Medium-low impact



These accomplishments set the stage for Amadeus to operate on four strategic axes:

1. Multicloud
2. Rock-solid operations and stability
3. User experience
4. Security and compliance

A multicloud platform: powering global travel with resilience, scale and innovation

As we enter the last mile of our cloud migration—completing the remaining links and platform middleware components and the disaster recovery centers' migrations—Amadeus is reimagining the backbone of travel through an ambitious multicloud strategy.

Partnering with major cloud providers like Microsoft Azure, Google Cloud and others, we're creating a global ecosystem that delivers resilience, flexibility and innovation at scale, while accelerating AI integration across our solutions.

At the core of this architecture lies Red Hat OpenShift, orchestrating a hybrid and multicloud environment across multiple regions and availability zones.

A key objective of our cloud architecture is to enable interoperability, creating standardized communication and integration capabilities that power Amadeus solutions across diverse platforms and partners.

This platform hosts hundreds of applications and billions of transactions daily, ensuring consistency, security and compliance while enabling modern practices such as Kubernetes orchestration and a global service mesh, event mesh and data mesh.

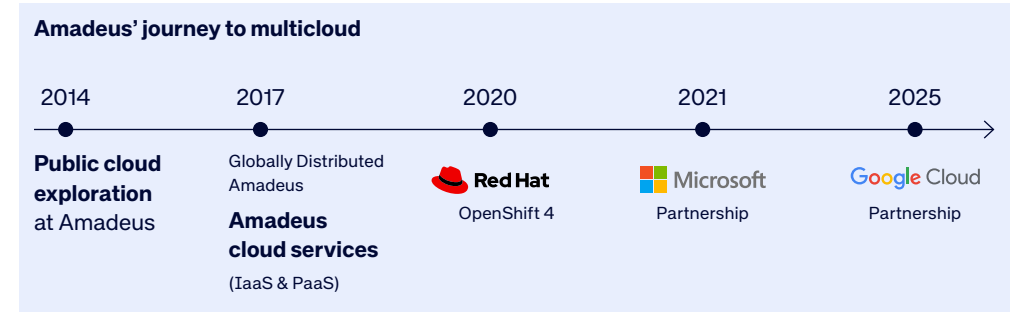
Some tangible results from this architecture in the year include:

- **3 billion flight searches every day**
- **150,000 transactions per second at peak times**
- **99.95% availability across most services**

Behind these numbers is one of the largest service-oriented environments in the industry, with more than 600 applications and 10,000 microservices maintaining performance and security at the highest level. Our active engagement with open-source communities, leveraging innovations in Kubernetes, Istio and other frameworks,

further strengthens this architecture.

Together, these partnerships create a robust, interconnected ecosystem—resilient, scalable and future-ready. This is how we deliver on our promise to empower millions of travelers every day.



Rock-solid operations and stability: driving efficiency and performance

We deliver reliable, high-quality solutions through a disciplined approach that combines best practices, advanced tools and deep expertise to optimize resources while ensuring agility and, above all, stability across our operations.

Modern methodologies are embedded throughout our technology stack. Observability and proactive monitoring provide real-time visibility into system health, enabling rapid corrective actions and preventing issues before they escalate. Strict change controls, automated releases and continuous monitoring further minimize risk and maintain smooth operations.

Automation reinforces stability by reducing manual tasks. With Infrastructure-as-Code, we standardize and automate resource provisioning, cutting errors and accelerating deployment. Financial efficiency complements this approach: through FinOps, we monitor cloud costs and optimize usage for maximum value.

Our cloud-native architecture and continuous integration/continuous delivery (CI/CD) pipelines enable faster, more reliable deployments. And because stability means resilience, we implement robust disaster recovery protocols and automated failover mechanisms to guarantee business continuity. Combined with our multicloud strategy, these measures ensure seamless continuity under any circumstance.

User experience: designing simplicity and consistency

To ensure customer satisfaction, user experience (UX) is at the heart of how we design solutions, making them intuitive, accessible and easy to learn.

We achieve this by relying on user research, which allows us to stay truly user centric. By understanding real needs and behaviors, we shape solutions based on evidence rather than assumptions, ensuring every feature solves real problems and delivers meaningful value.

Our design system, the Amadeus Design Factory, was adopted across all new major 2025 Amadeus programs, together with advanced user interface guidelines shaped by the latest trends and technologies.

Accessibility is another cornerstone of our approach. We conduct rigorous accessibility testing to ensure compliance with global standards, making our solutions usable by everyone.

We also leverage Figma, one of the most recognized design platforms, to enable seamless co-creation among all stakeholders, including customers. In 2025, 125 projects were created in Figma, where ideas were shared visually, prototypes built and concepts validated before development began, ensuring alignment and clarity.

Beyond tools, Amadeus fosters a vibrant UX community where designers, researchers and writers share best practices, strengthening a culture of user-centric innovation.

By embedding UX principles into every stage of the product life cycle, and by complying with accessibility standards, we create solutions that are not only functional but delightful to use, helping our customers serve travelers better, every day.

Security and compliance: protecting data, building trust

Security is embedded in everything we do. Our Global Security Operations Center (GSOC) continuously monitors threats, assesses vulnerabilities and coordinates defenses, proactively and reactively safeguarding systems and data.

Within the Group Chief Information Security Officer (CISO) organization, our Governance, Security and Compliance (GSC) team drives the Security Awareness Program across the company, ensuring every employee understands their role in maintaining security. This team is also responsible for risk management, compliance and transversal security initiatives.

To strengthen risk mitigation, we've adopted a zero-trust architecture, where no user or device is trusted by default, a strategic approach built on three principles:

- 1. Verify explicitly:** Authenticate and authorize based on all available data points.
- 2. Use least-privilege access:** Limit user permissions with just-in-time and just-enough-access policies.
- 3. Assume breach:** Minimize impact through segmentation, encryption and advanced analytics for threat detection.

Customer trust is paramount. Through Customer Identity and Access Management (CIAM), we deliver secure, seamless access via single sign-on, while security by design integrates protection from the earliest stages.

Compliance is a mandate to manage security inside our ecosystem. We comply with

regulations and directives with global reach, such as the EU's Network and Information Systems Directive 2 (NIS2), Digital Operational Resilience Act (DORA) and IA Act (AI Act), and more recently Cyber Resilience Act (CRA).

As we hold credit card data in our ecosystem, we also perform yearly audits of the Payment Card Industry Data Security Standard (PCI DSS).

All those directives and standards are based on the ISO 27001 base. As we see a multiplication of national directives, we're working on a baseline control model to define a common ground for all these certifications.

See p. 130, "2nd Line: internal governance functions." [↗](#)



Unlocking new business opportunities



We've built a cloud-based Amadeus Open Platform that redefines collaboration across the travel ecosystem, connecting developers, customers and partners so they can share expertise and co-create solutions. Designed for openness and flexibility, this platform accelerates growth and unlocks new opportunities by integrating real-time data and ready-to-use AI models.

A connected platform for travel

To transform these opportunities into tangible value, we've evolved beyond isolated solutions toward a unified, connected platform. This approach brings together data, intelligence and interoperability across the travel ecosystem, enabling seamless collaboration and innovation at scale.

It's also open, giving customers and partners the advantage of extending and customizing with autonomy. Through self-service APIs and developer portals, they can discover, integrate and extend Amadeus solutions independently. We're piloting tools such as our API Extension Studio, alongside business automation capabilities, enabling airlines to customize APIs and replace legacy frameworks with modern, scalable tools. This openness accelerates innovation and reduces time to market.

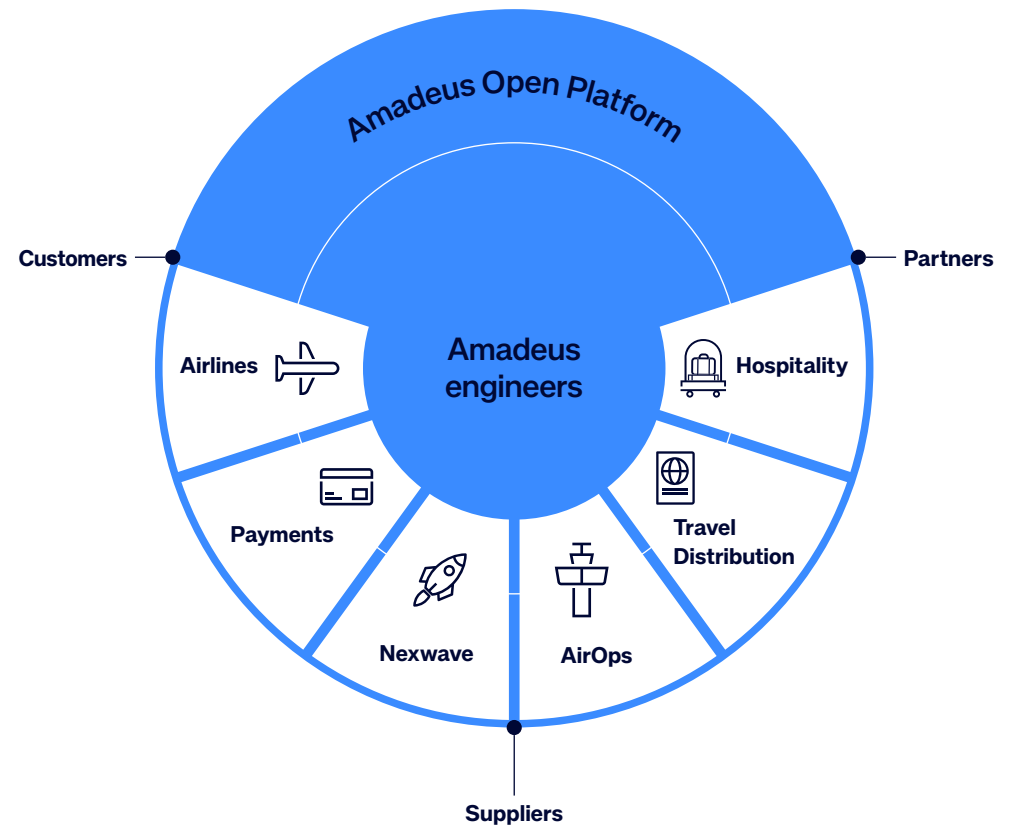
The platform supports ecosystem growth, simplifying partner onboarding to power network effects and scale at marginal cost. For example, the self-service connectivity of Outpayce, Amadeus' payments business, allows partners to build and certify connectors themselves, minimizing integration costs. The first pilot connector is already live, with broader onboarding planned for 2026.

Overall, one of the objectives is to enable the delivery of tailored experiences through a unified view of the traveler.

Across all layers, we foster reusability and standardization of technical and functional assets, supported by interoperability standards. This foundation ensures consistency, scalability and faster innovation across businesses and services, so every customer benefits from the full platform potential.

Solutions such as Amadeus Nevio, Navitaire Stratos and Amadeus' Delivery Management (DMX) system¹ are already leveraging these capabilities to deliver domain-specific business logic and drive transformation.

At its core, the Amadeus Open Platform is built around a unified data content process that makes it simple to leverage analytics and intelligence. By preparing and exposing high-quality content and data, the platform empowers customers to unlock insights and share them seamlessly across the travel ecosystem. Embracing the power of data and AI, it drives smarter decisions and personalized services. Solutions like revenue management dashboards and dynamic pricing algorithms help optimize offers in real time, while our Data 360 strategy² and advanced analytics transform raw information into actionable insights—boosting efficiency, differentiation and connectivity.



1. Amadeus Nevio is our next-generation airline retailing solution designed to support modern Offer and Order management; Navitaire Stratos is our cloud-native airline platform focused on low-cost and hybrid carriers; and Delivery Management (DMX) refers to our delivery management system supporting post-order fulfillment, servicing and delivery processes.

2. Data 360 refers to our overarching philosophy of integrating and leveraging data in a continuous cycle. Through offerings like Amadeus Agency360® and Amadeus Demand360®, we stitch together multiple streams of real-time, historical and predictive data to give travel industry users a full 360-degree view of the market and performance. This continuous data loop supports more agile, informed decision making across distribution, pricing and revenue management.

Data transformation: empowering customer ecosystems

At Amadeus, data is more than an asset—it’s the engine powering innovation, efficiency and value across the travel ecosystem.

Our approach is built on three pillars:

1. **A federated data mesh**
2. **Open data standards**
3. **Our Data 360 strategy**

By leveraging these, we enable seamless cross-domain data sharing, advanced analytics and real-time insights that help customers deliver personalized experiences and make smarter decisions.

Data mesh

The data mesh, supported by a medallion architecture, organizes information into bronze (raw), silver (refined) and gold (business-ready) layers. This structure ensures data quality, security and accessibility at every stage, while domain teams manage their data as products—discoverable, trustworthy and reusable.

Open data standards

Open data standards, including a common data dictionary and shared models, guarantee interoperability and consistency across our many solutions, breaking down silos and supporting secure, domain-oriented access.

Data 360 strategy

Our cloud-based platforms, like Data 360, empower business streams to run data solutions at scale. Fast data platforms enable real-time processing and event-driven actions, while big data platforms support massive analytics, reporting and visualization. With low- and no-code capabilities, teams can quickly build dashboards and deploy machine learning models, turning big data into actionable intelligence.

Amadeus’ expertise in data management is recognized in industry references like the book *Building Medallion Architectures by Piethen Strengholt (2025)*, where our strategy is highlighted as a benchmark for scalability, reliability and efficiency.

We capture and analyze vast amounts of travel data, always respecting privacy and regulations like the EU’s General Data Protection Regulation (GDPR) and Digital Services Act (DSA), to enhance the traveler experience, optimize operations and unlock new revenue streams.

By treating data as a strategic enabler and fostering a culture of openness, Amadeus ensures that every business solution can both use and contribute to a global data ecosystem, fueling continuous improvement and preparing our customers for the future of travel.

Redefining technology through a cloud-native platform: speed, trust, seamless partnership

Service mesh

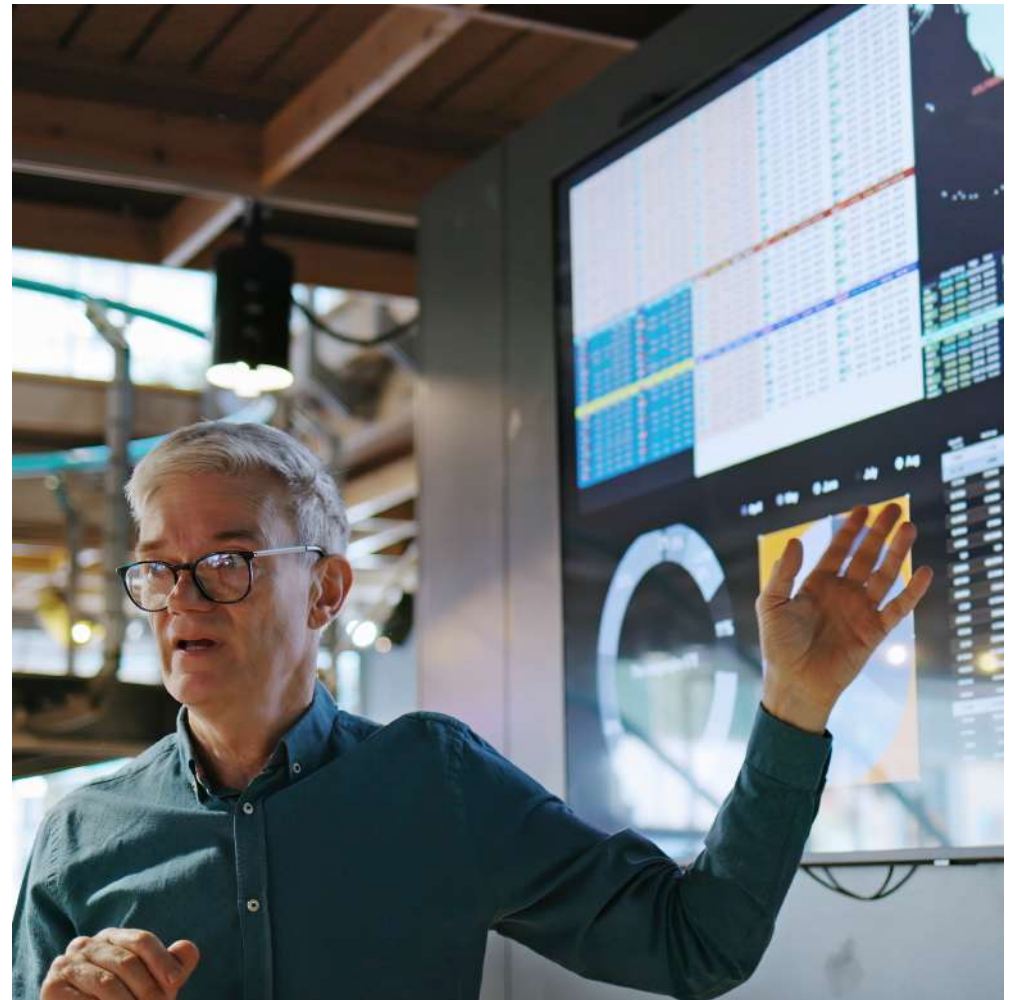
Openness to partners

Global event mesh

Real-time decision making

Data mesh

Enhanced data quality, insights and sharing



AI-powered solutions: delivering real value for our customers

Amadeus has long leveraged advanced AI to enhance the traveler experience, personalize airline services and streamline operations for airports and travel sellers.

Today, agentic AI takes this further, enabling systems that reason, plan and act with some level of autonomy. Scaling this vision requires overcoming industry fragmentation and ensuring trusted access to dynamic content.

Our approach focuses on orchestrating a connected ecosystem where AI can operate seamlessly across diverse standards and providers, delivering frictionless, personalized experiences supported by strong compliance, robust cybersecurity, and responsible AI principles.

Amadeus is uniquely positioned to do this as the embedded and neutral execution layer for travel—built on our role as a trusted system of record since 1987, our integrated and deeply connected business logic, and our ability to operate at global scale across markets and travel verticals worldwide.

No single player can achieve this alone; success depends on collaboration across suppliers, sellers and AI platforms.

As AI continues to shape the entire traveler journey, Amadeus is embedding intelligence into every layer of the travel experience:

Search and shopping: By applying AI filtering and machine learning at the application layer, alongside system, environment and hardware improvements, our servers are now three times faster and use three times less computation power than before. Our optimizations³ not only improve the customer experience but also promote a more sustainable travel industry through reduced energy consumption and greater efficiency.

Business travel: In partnership with Microsoft and Accenture,⁴ we've developed an AI-powered interactive travel assistant enabling corporate travelers to complete bookings using natural language. We introduced this frictionless, human-like conversational search experience within Cytric Easy, our cloud-based corporate travel and expense management solution.

Hospitality: We've explored ways to help hotels rapidly generate website content, drive search engine optimization and draft effective ad copy. Chatbots like the Amadeus Advisor agent support hotel staff with instant responses and data visualizations to answer questions about Amadeus Business Intelligence products.

Airlines: We're helping airlines to quickly launch search engine-optimized (SEO) destination pages in multiple languages, reducing costs and accelerating time to market. With dynamic offers,⁵ airlines can craft personalized bundles, including ancillary services and multimodal content such as trains, ferries and shuttles, driving retail transformation.

Airports: More recently, we've implemented agentic AI to automate reasoning and decision making. Solutions like an AI agent launched in 2025 that assists airport teams in optimizing passenger flow using natural language insights. And tools such as our PNR⁶ guide, inbox-monitoring assistant, and cross/upsell specialist streamline booking, email and upselling processes, delivering transformative efficiency and new operating models across aviation, hospitality and customer support.

Amadeus' focus is on how AI innovations translate into new business possibilities and tangible advantages for customers, setting new standards in travel technology.

By embedding AI within a trusted, scalable framework, we're enabling new business models and tangible advantages for

customers, while ensuring AI reinforces and augments the Amadeus platform for a future where travel is more personalized, efficient, and sustainable.

See p. 29, "Travel sellers," [↗](#) and p. 36, "Supporting airline transformation with agentic AI." [↗](#)

3. Jerome Daniel (April 4, 2025; updated April 9, 2025). "The 3 billion flight search puzzle: how Amadeus is tackling booming search volumes and sustainability at the same time," *Amadeus Blog*.

4. Accenture (September 25, 2023). "Amadeus to work with Microsoft and Accenture to develop new generative AI-powered integrations to support corporate travel management," *Accenture Newsroom*.

5. Laetitia Torre (September 25, 2023; updated September 27, 2023). "Paving the road to dynamic offers with AI," *Amadeus Blog*.

6. PNR (Passenger Name Record): the electronic record created by an airline or travel agency containing a traveler's itinerary and related booking information.



Strengthening our technological leadership



Medium-low impact



We reinforce our technological leadership by leveraging the latest tools and exploring emerging technologies, empowering our teams to reach their full potential while delivering cutting-edge solutions to customers. Amadeus combines external innovation with deep internal expertise, embedding AI in all its forms across development processes to accelerate progress and enhance quality.

As a trusted IT partner, we help customers stay ahead of the curve—innovating faster, operating smarter and serving travelers better.

Engineering enablement: smarter, faster, more sustainable

At Amadeus, empowering our engineering community is at the heart of our innovation strategy. Through dedicated engineering centers of excellence, we foster a culture of continuous learning, best practice sharing and technical mastery. These centers of excellence

serve as hubs for expertise, supporting teams in adopting the latest tools, methodologies and emerging technologies.

With 97% of our engineering community now working in SAFe®, agility is no longer a separate initiative—it's how we operate every day, across all teams and projects. This collective embrace of agile principles accelerates delivery, enhances collaboration and ensures we can rapidly respond to evolving industry needs. We invest in intelligent automation, modern engineering platforms and AI-driven development practices to enable our people to focus on high-value, creative work. With Copilot for Microsoft 365 deployed to 10,000 employees, GitHub Copilot rolled out to nearly 7,550 developers, and GitHub Copilot “agent mode” available on a large scale, we're transforming how our teams work, freeing employees from repetitive tasks, improving code quality and documentation, and accelerating innovation.

Our commitment to engineering enablement extends to sustainability and open innovation. Through our sustainable software engineering practices and our membership to the Green Software Foundation, we embed environmental responsibility into every stage of the product life cycle. Our Open-Source Manifesto encourages collaboration and transparency, connecting Amadeus engineers with the global tech community.

Amadeus empowers its people to deliver customer value and drive progress by uniting centers of excellence, agile ways of working and advanced engineering tools.

Staying ahead: preparing Amadeus for what's next

At Amadeus, we recognize that travel and technology are evolving faster than ever. To stay ahead, we actively monitor, evaluate and experiment with emerging technologies, ensuring we're ready to capture new opportunities for our customers and partners.

We share our expertise at major industry events, demonstrating our leadership and commitment to advancing travel technology.

Our Tech Watch program systematically scans for emerging trends and technologies. By combining business insight with technological foresight, Tech Watch guides our strategic decisions and ensures Amadeus is prepared for what's next.

As part of this commitment, our teams share knowledge globally by publishing research at leading international conferences that shape the future of AI, machine learning, and data-driven innovation. We also publish in prestigious journals such as the *Journal of Behavioral Decision Making*, addressing influential and emerging areas of technology.

In a world of constant change, Amadeus remains committed to responsible innovation, empowering our people, collaborating with industry leaders, and ensuring we're always ready to deliver value through the next wave of technology.

See p. 74, “Research.” [↗](#)

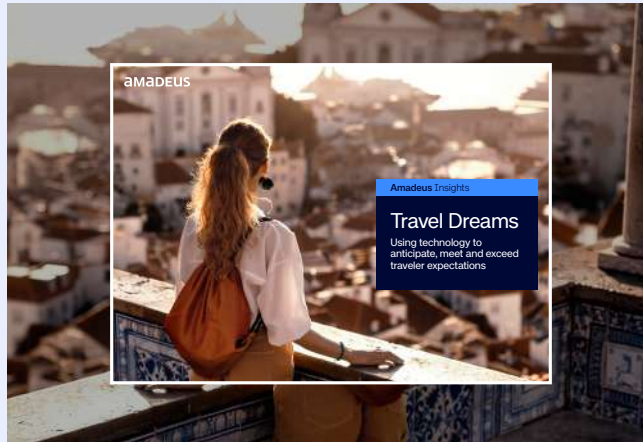


Research reports released by Amadeus in 2025

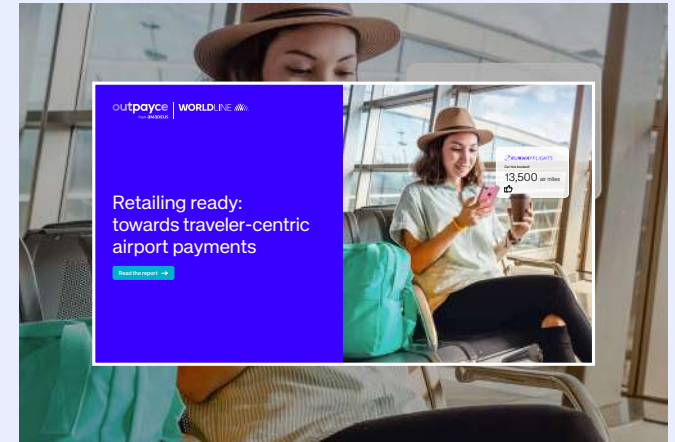
A Mind-Shift: From Modern Airline Retailing to Modern Travel Retailing



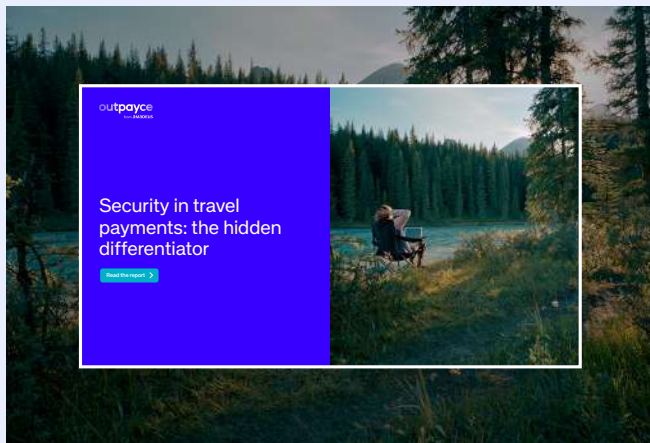
Travel Dreams



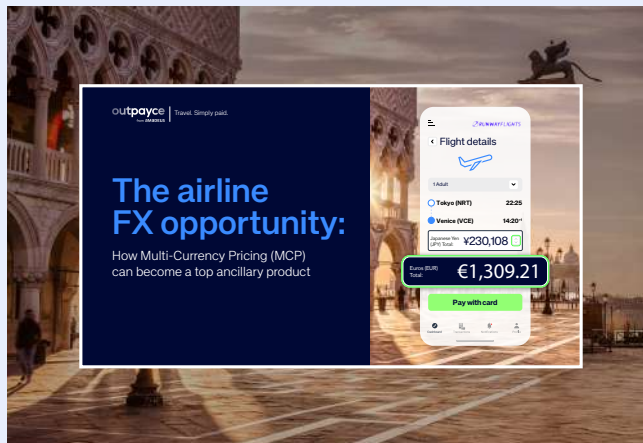
Retailing Ready: Towards Traveler-Centric Airport Payments



Security in Travel Payments: the Hidden Differentiator



The Airline FX Opportunity



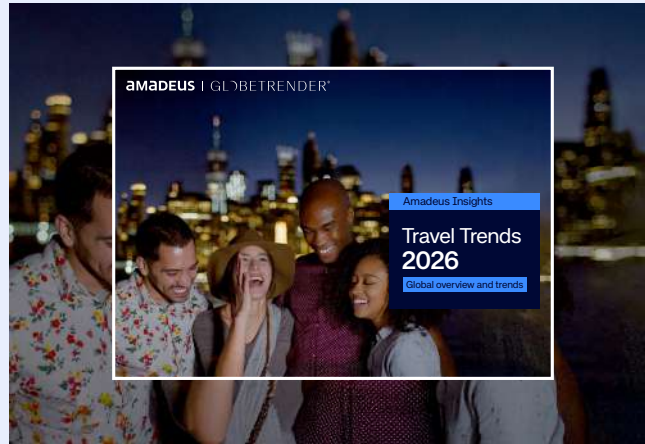
Connected Journeys: How will technology transform travel in the next decade?



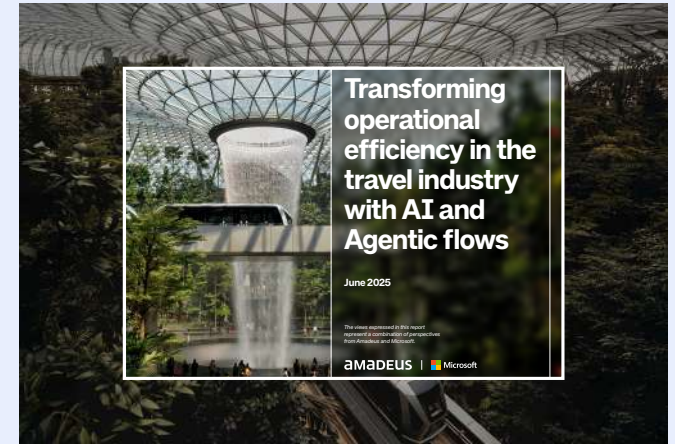
Business Travel Trends 2025



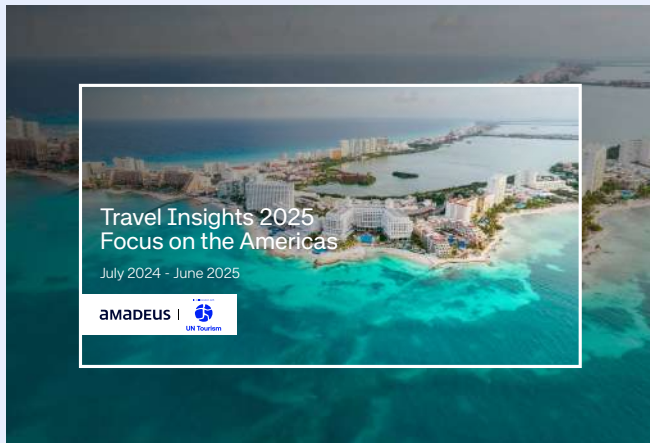
Amadeus Travel Trends 2026



Transforming Operational Efficiency in the Travel Industry with AI and Agentic Flows



Travel Insights 2025: Focus on the Americas



Travel Insights 2025: Focus on Europe



From DCS to Delivery

