



# TECHNOLOGY TRENDS THAT ARE RESHAPING THE WORLD OF TRAVEL

## Abstract

The travel industry is undergoing a fundamental transformation driven by three interconnected technology trends: AI and Generative AI adoption, digital identity solutions for secure and seamless verification, and integrated journey management ecosystems. AI is enabling personalized customer experiences, dynamic pricing optimization, and efficient service automation, while digital identity frameworks are streamlining passenger processing through smartphone-based credentials and biometric verification across borders. These technologies are converging to create frictionless travel experiences that balance innovation with security. The time is ripe for travel businesses to move beyond pilots to enterprise-wide deployments that prioritize clear ROI and build traveller trust through transparent data practices.

Travel, indeed, maketh a person. World over, people are travelling like never before. While most people of the earlier generations did not go beyond 50 miles of their birth place, it is not uncommon these days for most classes of people to travel within their state, country or all over the world.

It goes without saying that the travel industry is therefore booming. As of 2025,

the industry itself stands at an inflection point, where technological innovation intersects with heightened expectations for seamless, secure experiences. Airlines, hotels, and travel service providers face mounting pressure to deliver personalized journeys while ensuring passenger safety and data protection.

Three interconnected technology trends are fundamentally altering the world of

travel: the rapid adoption of Artificial Intelligence (AI) technologies including Generative AI (Gen AI) for enhanced customer interactions and efficiencies; the emergence of digital identity solutions to strengthen security frameworks and ease travel experiences; and the integration of intelligent systems that create frictionless travel ecosystems.

The world is a book, and those who do not travel read only one page.

- Saint Augustine (354–430 AD), Christian theologian and philosopher



## Vital intelligence layer for travel ops

AI is undoubtedly evolving into a vital tool that is reshaping how travellers plan, book, and experience their journeys. Transportation organizations recognize this shift, with the 2025 Gartner CIO and Technology Executive Survey revealing that 71% of survey respondents plan to implement GenAI by 2025, with adoption climbing to 95% by 2027. These numbers reflect the growing confidence within the industry that AI can deliver tangible value across the travel value chain.

Airlines and hospitality providers have been deploying GenAI-powered chatbots to handle complex customer service scenarios. These chatbots process customer queries using Natural Language Processing (NLP), and answer questions in multiple languages, as well as automate repetitive tasks such as rebooking during disruptions or managing itinerary changes. The Maharaja chatbot deployed by airliner Air India shows how this can work at scale, successfully addressing over 1 million passenger inquiries and resolving 80% of daily questions across multiple languages.

AI also enables dynamic personalization that adapts to individual traveller preferences in real-time. These systems analyze booking patterns, search behaviour, and historical data to generate customized recommendations that feel intuitive rather than intrusive. Hotels use AI insights to adjust room settings, anticipate guest needs, and deliver personalized services, thereby creating memorable experiences that drive loyalty.

By using predictive analytics and demand forecasting, airlines and hotels use AI to process vast datasets with data on market conditions, seasonal patterns, and competitive positioning, and use the insights derived to refine pricing strategies. This allows travel enterprises to optimize inventory allocation, identify emerging opportunities, and respond swiftly to market shifts.

## Digital identity solutions for trust and safety

As travel increasingly relies on digital technologies for security, the industry must streamline passenger processing along with strengthening security protocols. Digital identity technologies address both with verifiable, privacy-preserving credentials that travellers

can control through smartphone-based wallets. As per Gartner, by 2026, at least 500 million smartphone users will regularly use digital identity wallets. This is indeed a fundamental shift in identity verification. Digital identity frameworks allow

passengers to store credentials such as passports, visas, health certifications, and other important documents in encrypted digital wallets. They can then share them selectively with airlines, immigration authorities, and hotels through biometric verification.

The shift is worldwide:

Efforts such as the One ID initiative from the International Air Transport Association (IATA) promotes globally interoperable standards in digital ID. One ID allows travellers to verify documents before departure and move through airports using facial recognition, rather than repeatedly presenting physical documents.

A digital wallet and biometric identification pilot for travellers between Hong Kong and Tokyo successfully showcased how such technologies can revolutionize every touchpoint from booking through immigration clearance.

European governments mandate digital identity wallet availability for all citizens by 2026 under eIDAS Regulation.

The security benefits of digital credentials and related technologies such as biometric are substantial:

**Digital credentials** that are easily verifiable and those that use decentralized identifiers provide stronger document integrity than the typical, traditional paper-based systems.

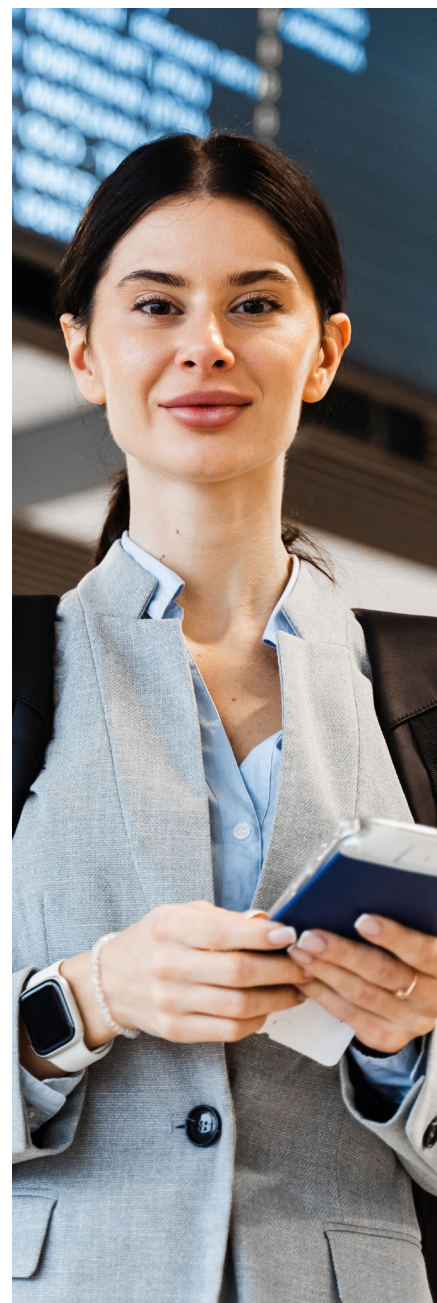
**Digital ID technologies** enable cross-border identity verification. They build global trust while simultaneously reducing the risk of frauds. Fraudulent credentials could compromise both traveller safety as well as operational integrity for travel providers. Security leaders recognize that digital identity can redirect resources toward genuine threat identification rather than routine document checks. This is an efficiency gain with direct implications for both airlines' security posture and passenger experience.



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### Airports deploy facial recognition systems

that enable touchless check-in, security screening, and boarding while maintaining privacy through consent-based data sharing. Hotels implement similar systems for contactless check-in and room access, reducing friction while enhancing safety protocols.





## Tech-enabled journey management

The most transformative trend that is quietly gaining pace is the integration of multiple technologies into comprehensive ecosystems that manage the entire travel experience.

**Mobility-as-a-service platforms** consolidate air travel, ground transportation, accommodation, and ancillary services into unified apps that handle planning, booking, and payment in a single interface. These platforms use AI to provide real-time travel notifications, baggage tracking, and personalized recommendations for local experiences. The systems analyze traffic patterns, weather conditions, and event schedules to suggest optimal routes or to make alternative arrangements when disruptions occur. Such predictive guidance has the potential to transform travel, anticipating traveller needs before they become urgent. This type of care is particularly welcome for senior citizens, those with disabilities or those traveling with young children.

**Digital twins and AI-driven analytics** have transformed infrastructure management. Virtual replicas of physical assets such as airports, rail networks, harbors help host cities and organizations with detailed modelling and simulation of scenarios, user behaviour, and maintenance requirements. They forecast stress points, identify optimization opportunities, and support decision-making as operating environments evolve. Local governments can deploy these systems for a range of use cases, from managing traffic patterns to scheduling infrastructure maintenance and enhancing system efficiency — all the while reducing environmental impact through emissions optimization.

**High-speed rail network expansion** is another enabler that brings in entirely new service paradigms in travel, offering rail as the more sustainable alternative to short-haul flights. By combining speed with advanced signaling, modernized stations, and enhanced passenger amenities, countries such as India and the United Arab Emirates are leveraging AI for route optimization, predictive maintenance, and energy efficiency.

## Looking ahead: traveller, ahoy!



Travel businesses that capitalize on emerging technology trends would be well served to balance their plans for innovation with operational ground realities in the markets they serve. Success requires moving beyond pilot projects to enterprise-wide deployments that deliver measurable outcomes in enhancing the

travel experience. Leaders should prioritize use cases with clear ROI, such as customer service automation, identity verification, and journey orchestration.

[Building trust represents a critical success factor in this endeavour.](#) Travellers must understand how organizations collect, store, and share personal data while

maintaining confidence that security measures protect their information. Transparent communication about technology use, explicit consent mechanisms, and demonstrated commitment to privacy standards establish the credibility necessary for sustained adoption.

## How Infosys BPM can help

The right combination of robust, secure and scalable technologies can usher in a new paradigm in travel security and comfort for travellers worldwide. With a range of technology solutions and services for enterprises in the [travel and hospitality](#) sector, and a mature practice in [trust and safety solutions](#), Infosys BPM is the ideal partner for travel businesses that aspire to go through the digital transformation journey.

For more information, contact [infosysbpm@infosys.com](mailto:infosysbpm@infosys.com)



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