



# Exploring the Future: How Artificial Intelligence Will Transform Tourism and Destinations

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Generative AI could raise global GDP by 7%

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The global Generative AI market is currently worth over \$13 billion.  
By 2025, it is expected to surpass \$22 billion.

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**Market.U.S**

**Every day, we come into contact with innumerable new technological advancements. And yet, only a handful of these inventions have the potential to truly revolutionise the way we live, think, work, and travel.**

**Artificial intelligence (AI) is certainly one of them.**

Applied to the travel industry, AI can provide travellers with an improved experience prior to, during, and following their vacations, including simplified trip planning. For destinations, leveraging AI can furnish them with tools to improve their operations and decision-making processes in a more efficient and accelerated manner.

Similarly, this technology is set to play a pivotal role in addressing challenges associated with climate change and environmental sustainability within the industry, fostering more sustainable and responsible approaches.

However, as with any groundbreaking innovation, AI has sparked both wonder and concern.

In this eBook, we'll delve into the origins and recent strides of AI in the tourism sector, examining its present-day business applications and forecasting future potentials.

**Ultimately, developing a well-founded opinion on any topic requires a complete understanding, precisely what we aim to provide in this resource.**

**Here's how AI will change tourism »**

# 01. Generative AI: What is it, and how is it different from traditional AI?

Over the past year, the terms "Artificial Intelligence" and "Generative Artificial Intelligence" made headlines all over print and digital media.

However, what do these terms mean, and how do they differ from one another?

## What is AI and how does it work?

**Artificial Intelligence (AI)** is a part of computer science that works on **creating systems capable of mimicking certain human abilities**. These systems use intricate mathematical algorithms to learn from data and execute complex tasks — including image recognition, natural language understanding, text translation across multiple languages, autonomous vehicle navigation, and logical reasoning

Classic AI, therefore, relies on artificial neural networks and machine learning algorithms.



## What is Generative AI and how does it work?

**Generative AI (also known as GenAI) is the evolved form of AI.**

Unlike previous forms, GenAI can generate original content, including text, images, and music.

This innovative approach became accessible due to the emergence of models known as GPT (Generative Pre-trained Transformers), which have reshaped our understanding and application of AI. Large Language Models (LLMs) like GPT-3 and GPT-4 stand out as some of the most well-known examples of these powerful Generative AI models.

**In summary, classical AI is designed to solve well-defined problems, whereas Generative AI can generate creative content and is not limited to specific tasks.**



**Generative AI depends on intricate neural networks, often composed of millions of parameters.**

These networks **assimilate information from extensive text or image datasets**, leveraging this knowledge to creatively generate new content with distinct styles (such as comedic or journalistic) and varying tones (formal, friendly, ironic, etc.).

This capability stems from an **initial training phase** during which the model analyses vast quantities of human text to grasp nuances in tone and writing styles.

**Conventional AI requires human guidance for learning, whereas in Generative AI, learning is derived directly from data without any human supervision.**

Potentially in the future, you might have a personal assistant utilising GenAI, mimicking your way of speaking and thinking. This capability would enable it to produce texts or designs that closely resemble your own style.



# What are the common categories of Generative AI models and solutions?

There are various kinds of GenAI models, representing solutions capable of generating diverse content types, forming the foundation of commonly-used applications and software.

**Let's look at a few of the most recognised and widely-used ones:**

## **Generative Adversarial Networks (GANs)**

This model consists of two parts: a generator, responsible for creating synthetic content, and a discriminator, which distinguishes between the generator's synthetic and authentic data. As the generator improves and its creations become more realistic, the discriminator struggles in telling them apart. **As a result, this process results in the generation of progressively realistic content.**

Dall-E and Midjourney are examples of GANs, translating text into images.

## **Transformer-based models**

Many LLMs (Large Language Models), including GPT-3 and GPT-4, are based on the transformer architecture. **Other examples include Google's Meena and BERT.**

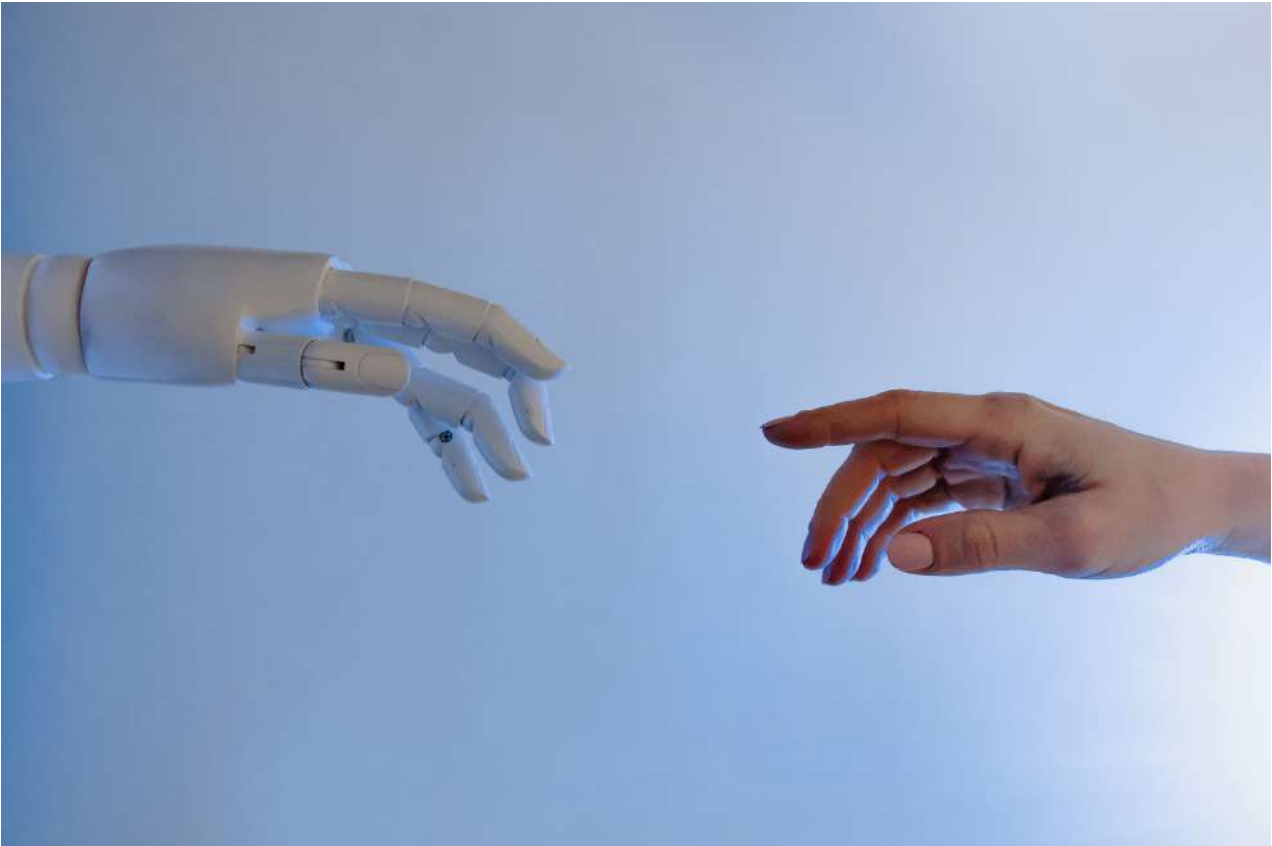
## **Recurrent Neural Network (RNN)**

This data category is part of artificial neural networks designed for processing sequential data such as text, time series, and audio. **Its applications include Natural Language Processing (NLP)**, time series analysis for financial or meteorological predictions, transforming handwritten notes into digital text, and various other fields.



Companies are increasingly introducing products and solutions, and OpenAI, the parent company of ChatGPT, is no longer holding an exclusive position in this rapidly evolving market.

**In fact, Meta AI, Google AI, and Microsoft Copilot have established themselves as leaders in developing cutting-edge generative AI solutions.**



## What are the most-common uses of GenAI?

AI's growing capacities mean it to tackle almost any task, and when employed effectively, it holds the potential to greatly improve numerous work and communication functions.

1

**Translating, summarising, and creating text** in all languages.

2

**Images:** Crafting realistic images, often applied in graphic design and generative art.

3

**Audio generation:** Encompassing music, sound effects, and synthetic voices for applications in entertainment or education.

4

**Content generation for marketing purposes.**

5

**Multimedia content:** Including videos, animations, and diverse multimedia materials.

6

**Design and creativity:** In fields such as design, architecture, and fashion, generative AI helps generate fresh ideas and concepts.

7

**Predictive analysis:** Using historical and current data to forecast future trends.

8

**Detecting fraud, anomalies, and errors:** Particularly beneficial in sectors such as finance and security.

9

**Chatbots and virtual assistants** to elevate customer support.

10

**Computer vision:** Analysing single or sequential images to detect crucial information.

# 02. Benefits of Generative AI in tourism for travellers, operators, and destinations

Needless to say, **there are endless applications of GenAI in the tourism sector**, encompassing not only enhancing travellers' experiences but also optimising operations within hotels and tourist destinations.

## TRAVELLERS

**In the planning phase, AI currently provides a plethora of solutions for travellers.** Chatbots, virtual assistants, and platforms embedded with advanced intelligent functions can be used to:

- Choose a destination and discover personalised inspiration and ideas to meet individual needs
- Determine the best time to travel considering weather conditions, price fluctuations, and scheduled events
- Draft itineraries — outlining places to visit, and arranging activities
- Select hotels and restaurants based on specific characteristics

**A chatbot like ChatGPT can significantly streamline the decision-making process**, potentially replacing Google or OTAs in certain scenarios. It enables users to discover their requirements on a unified online platform, progressively customising results through interactions with the system.

*A recent Oliver Wyman study revealed that one in three leisure travellers is already using AI-enhanced tools for their trips. Among them, 84% said they were satisfied with the responses received, and over half followed the recommendations it provided.*

## **TOURISM OPERATORS AND DESTINATIONS**

**Tourism companies and destinations can leverage AI to enhance both traveller experience as well as their internal operations.**

Plus, there's the **predictive potential of GenAI**: Generative AI can analyse large volumes of data, such as user preferences, past travel patterns, and online prices, to assist in creating a more comprehensive offer that perfectly aligns with travellers' preferences.

# 03. Real-life examples: Integration of Generative AI in tourism platforms

The benefits provided by GenAI are indeed too vast to miss out on. Following Google and Meta's quick adoption of AI to stay updated, major tourism players such as **Tripadvisor**, **Booking**, and **Expedia** did the same by integrating AI into their products.

## Airbnb: Continuously enhancing and personalising customer service

**Sam Altman, CEO and founder of OpenAI, was among the earliest investors in Airbnb.** He also served as a mentor to Brian Chesky, Airbnb's CEO and co-founder. As a result, when OpenAI introduced its initial offering, Brian extended support to Altman, replicating the support Altman had once provided to him.

At present, within a year of ChatGPT's launch, Brian Chesky has revealed Airbnb's imminent full integration of GPT-4. **AI will take centre stage in shaping the overall product and user experience, benefiting both travellers and hosts.**

*“AI can do that so much better and help massively in customer service. You might not notice as a customer. Hopefully it’s going to make you just think, ‘Oh my God, their customer service is amazing.’”*

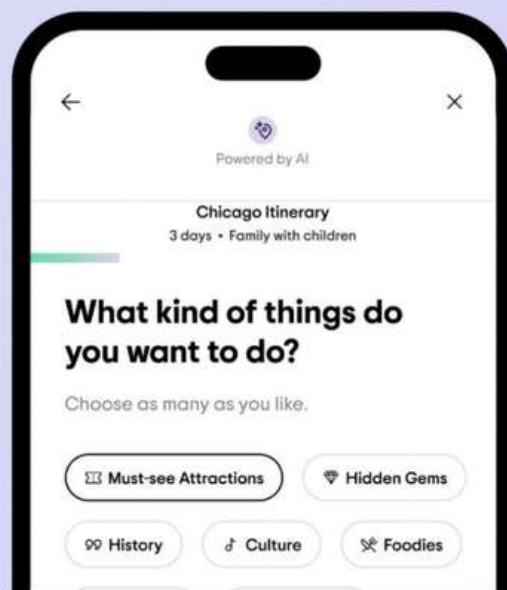
*We’re working on the tactical things: reviews summaries. If the listings had too much reviews, it’s a good way to summarise.  
If you want to list your home on Airbnb, photo to text, I can take a photo, and then all the amenities get to be filled out.”*

**Brian Chesky - Airbnb Co-founder**

# Tripadvisor: Simplifying the travel planning experience

*“Now there’s two ways to plan your trip—use AI or search on your own. Either way, you’ve got more than 8 million spots to discover, with over one billion traveler reviews and opinions to guide you.”*

This is how TripAdvisor, the world's most renowned review platform, introduced Trips—a tool aimed at aiding users in trip planning.



## Start a trip in seconds with AI

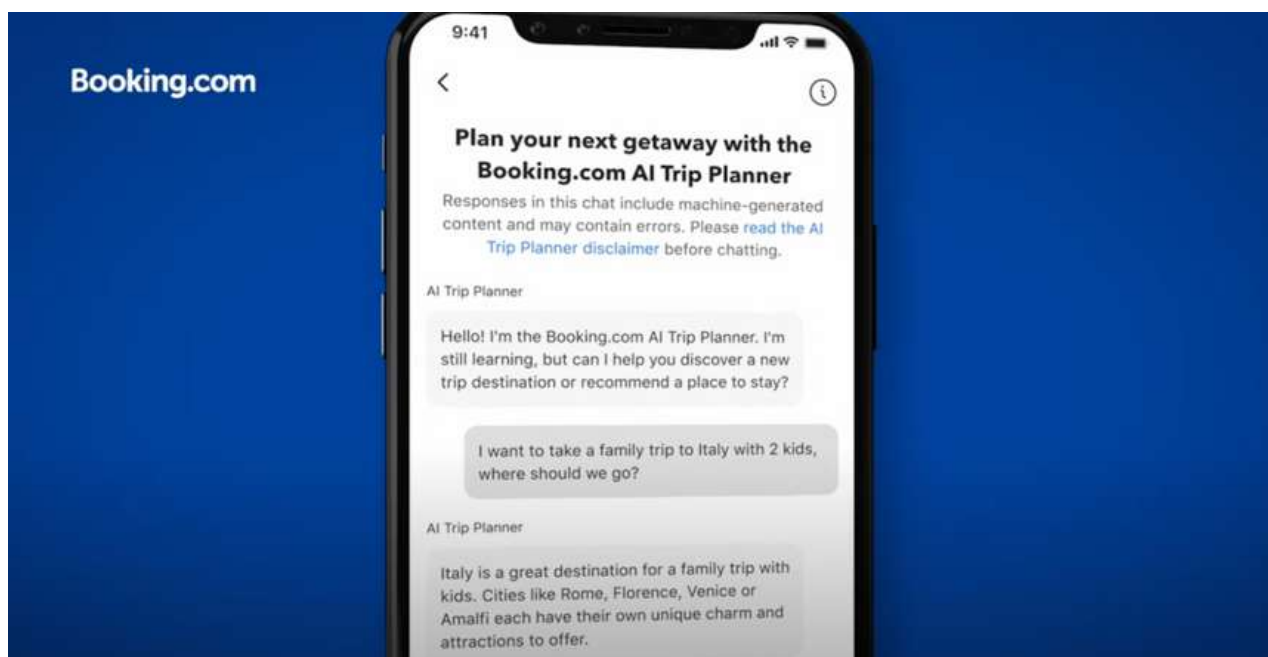
Answer four short questions and AI will create a custom day-by-day itinerary backed by traveler reviews.



## Booking.com, Expedia, and Priceline: Intelligent travel planning

Similar to TripAdvisor, the online booking platform Booking.com has introduced an AI-powered feature to aid travellers in planning their trip.

The platform's chatbot delivers real-time suggestions on destinations to explore, hotels to reserve, and attractions to visit.



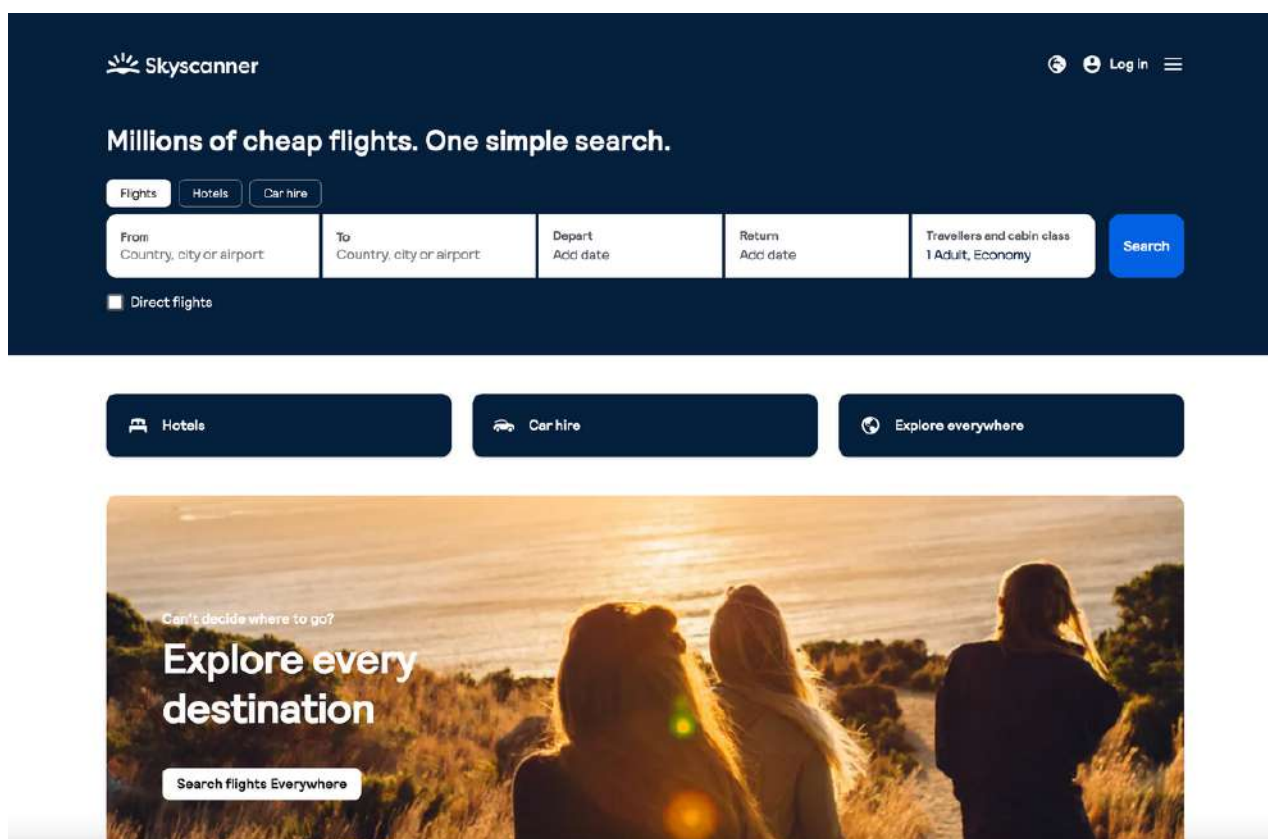
Expedia's user solution mirrors Booking's approach, integrating a ChatGPT chat within the app. This feature offers recommendations and enables users to save destinations, hotels, and travel ideas.

Meanwhile, Priceline has also introduced its chatbot called **Penny**, utilising technology from OpenAI and Google.

# Skyscanner: Helping travellers choose their destination

According to Piero Sierra, CPO of Skyscanner, in an interview with [Phocuswire](#), **56% of travellers seek inspiration from flight metasearch engines when choosing a destination for their upcoming trips.**

This is why Skyscanner introduced **Dream and Discover**, a ChatGPT-based service offering personalised travel ideas and recommendations.





# 04. A new generation of AI-powered hotels

Leveraging artificial intelligence offers significant potential to enhance the hospitality industry.

The applications of AI in the tourism sector extend beyond the examples covered in the previous chapter. **Particularly for accommodations, AI can assist in:**

## **Tailoring stays:**

Hotels can provide smart tools enabling guests to personalise their hotel experience.

## **Revenue management:**

AI algorithms help hotels predict demand and industry trends, optimising pricing and revenue while reducing unsold inventory.

**Increase direct bookings:** AI-driven improvements in booking systems and websites engage users effectively, encouraging direct bookings.

**Anticipate problems and complaints** to proactively to enhance customer satisfaction.

**In-depth data analysis:** Extracting valuable insights to boost sales and reputation through comprehensive data analysis.

**Customised marketing and special offers:** Developing tailored marketing materials and special deals based on industry trends and guest preferences.

International brands are already embracing the use of Generative AI and are currently experimenting with its application.

For instance, Marriott uses AI to gather, analyse, and interpret data to foresee travellers' preferences and demands. Moreover, the hotel chain uses intelligent chatbots to engage with customers throughout different phases of their customer journey.

Similarly, **Choice Hotels, Hyatt, and other hospitality brands** use chatbots to enhance the management of bookings and cancellations.

**Currently, AI appears to be predominantly used by major international groups. However, in the near future, numerous software systems may integrate GenAI, extending its availability to independent establishments as well.**

## **AI REVIEW RESPONDER**

**AI Review Responder: Using artificial intelligence for faster and more effective hotel review responses.**

Handling online reputation and crafting appropriate responses to reviews poses a significant challenge for many businesses within the tourism industry.

To support hospitality professionals in review management, the Travel Appeal brand reputation management platform has introduced its AI Review Responder.

This integrated AI-powered auto-responder, available within the platform, swiftly generates appropriate responses for any review, in any language, within seconds.

Operators can also tailor the response tone to their liking, manually edit the reply, and then directly post it from a single platform.

This capability empowers hotel personnel to respond promptly and accurately, allowing them to focus on providing personalised customer care.

**[Interested in learning more?](#)**



# 05. The role of artificial intelligence in creating sustainable tourism destinations

**Tourist destinations, regardless of their size, can benefit from the implementation of AI.**

One of the most useful applications is attracting and satisfying new visitors — one of, if not the most primary objective for destinations.

**However, the scope of AI applications in destinations extends beyond marketing.**

It can help destinations move forward in two important areas that are crucial for helping DMOs grow:

-  **Data analysis:** GenAI's ability to swiftly learn from extensive data allows it to offer valuable insights that support destinations in decision-making. Presently, not all tourism spots have the resources to adopt a data-centric approach, making the use of AI crucial in facilitating this transition.
-  **Sustainable tourism:** New technologies can help make tourism more sustainable by providing real-time tools and updated information. For example, they can quickly and effectively address challenges like environmental issues and overtourism faced by many destinations.

**AI's strong predictive abilities can assist destinations in analysing tourism flow data and forecasting peak arrivals more precisely.** This allows destinations to plan resources more effectively and prevent overcrowding — lessening environmental impact and minimising inconvenience for residents as a result.

Similarly, new forms of AI will prove invaluable for waste management and pollution monitoring.

**Destinations such as Amsterdam, Barcelona, Costa Rica, Singapore, and Dubai have already spearheaded these solutions, establishing themselves as significant hubs for AI innovation.**

## Data-driven destinations: How Visit Piemonte uses data to anticipate trends and build a more competitive destination

Visit Piemonte is the DMO for Italy's Piedmont Region and stands out as one of the most proactive destinations leveraging big data to foster growth.

**This destination has created an innovative dashboard that comprehensively analyses and utilises data to enhance its competitive edge.**

One of the available tools within this dashboard is **D / AI Destinations**, the destination management platform provided by **The Data Appeal Company**. This platform relies on artificial intelligence to gather and process thousands of online contents in real-time.

Recently, Piedmont showcased three practical examples where data analysis was employed to enhance the performance of the destination.



## CASE STUDY #1

### Optimising visitor profiling

Official statistics for the Limone and Vernante areas indicated 'other European countries' as the third most common origin of visitors, without specifying the individual countries.

However, by cross-referencing this data with the information on reviews and visitor origins available **through D / AI Destinations, Piemonte successfully identified the top visitor country**, revealing that in this instance, its visitors were primarily from Monaco.

## CASE STUDY #2

### Enhancing the cycling tourists' journey along the Alta Via del Sale

The Alta Via del Sale, an impressive former military route, links the Piedmontese and French Alps to the Ligurian Sea, stretching between 1800 and 2100 metres above sea level. Initially utilised for salt transportation, this route is accessible only during summer, specifically from June 15 to October 15, as the winter rainfall makes it impassable during the rest of the year.



The destination learned through data analysis that this route sees extensive use not only by motorbikes and cars but also by a substantial number of cycling tourists.

Analysing bikers' access patterns alongside their online reviews, which primarily highlighted safety concerns, led the DMO and local authorities to implement periodic closures to motorised vehicles. **This decision aimed to prioritise the unhindered movement of bicycles along the route.**

The days when bicycle traffic was at its peak coincided with the closure of the street to motorised vehicles, proving to be a successful decision in optimising the tourist experience.

### CASE STUDY #3

#### Analysing participant behaviour and setting benchmarks during the 92nd International Alba White Truffle Fair

The International White Truffle Fair in Alba stands as one of Italy's foremost truffle-centred events. **In 2022, it attracted nearly 100,000 attendees.**

To gauge the event's influence on the region in terms of tourism and economics, Piedmont established a continuous **Tourism Observatory.**

By harnessing data analytics, **Visit Piemonte successfully acquired crucial information about travellers, their origins, and their spending habits.**

Moreover, through **the AI-driven D / AI Destinations platform**, the destination conducted an extensive comparative analysis with both domestic and international competitors. This analysis aimed to improve its understanding of its market position and strengths.

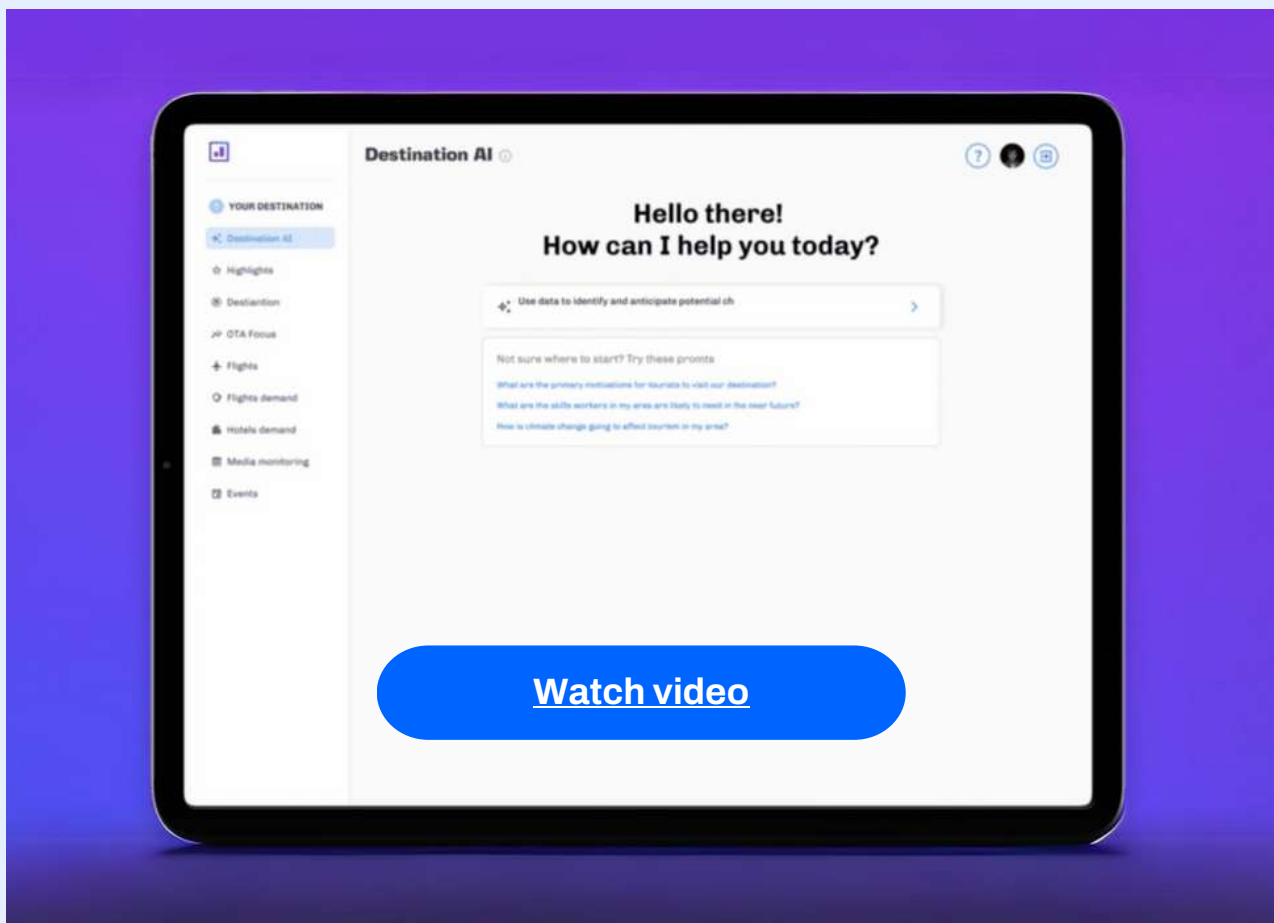
## DESTINATION AI

# Destination AI: Improving tourist destination performance through smart assistance

D / AI Destinations is a comprehensive platform tailored for tourist destinations. It consolidates and analyses real-time destination data, providing valuable support for destination marketing and management strategies.

**In 2023, The Data Appeal Company upgraded the tool to include a GenAI-powered chat. This chat helps DMOs in:**

- Analysing diverse information and data sources
- Understanding and predicting trends
- Delivering timely advice and guidance





In practical terms, the tourism and destination-specific data provided by Data Appeal undergoes real-time transformation by artificial intelligence into personalised recommendations and guidance for the tourist destination.

The virtual assistant operates similarly to ChatGPT: asking a question results in a swift response. **However, unlike OpenAI's renowned tool, the artificial intelligence employed here is trained and formulates its responses based on a distinct combination of exclusive and proprietary data sourced from Data Appeal and other specialised tourism outlets.**

Put simply, Destination AI has the capacity to furnish the destination with a unique and exclusive response tailored to its individual circumstances, distinct from any other AI tool's capabilities.

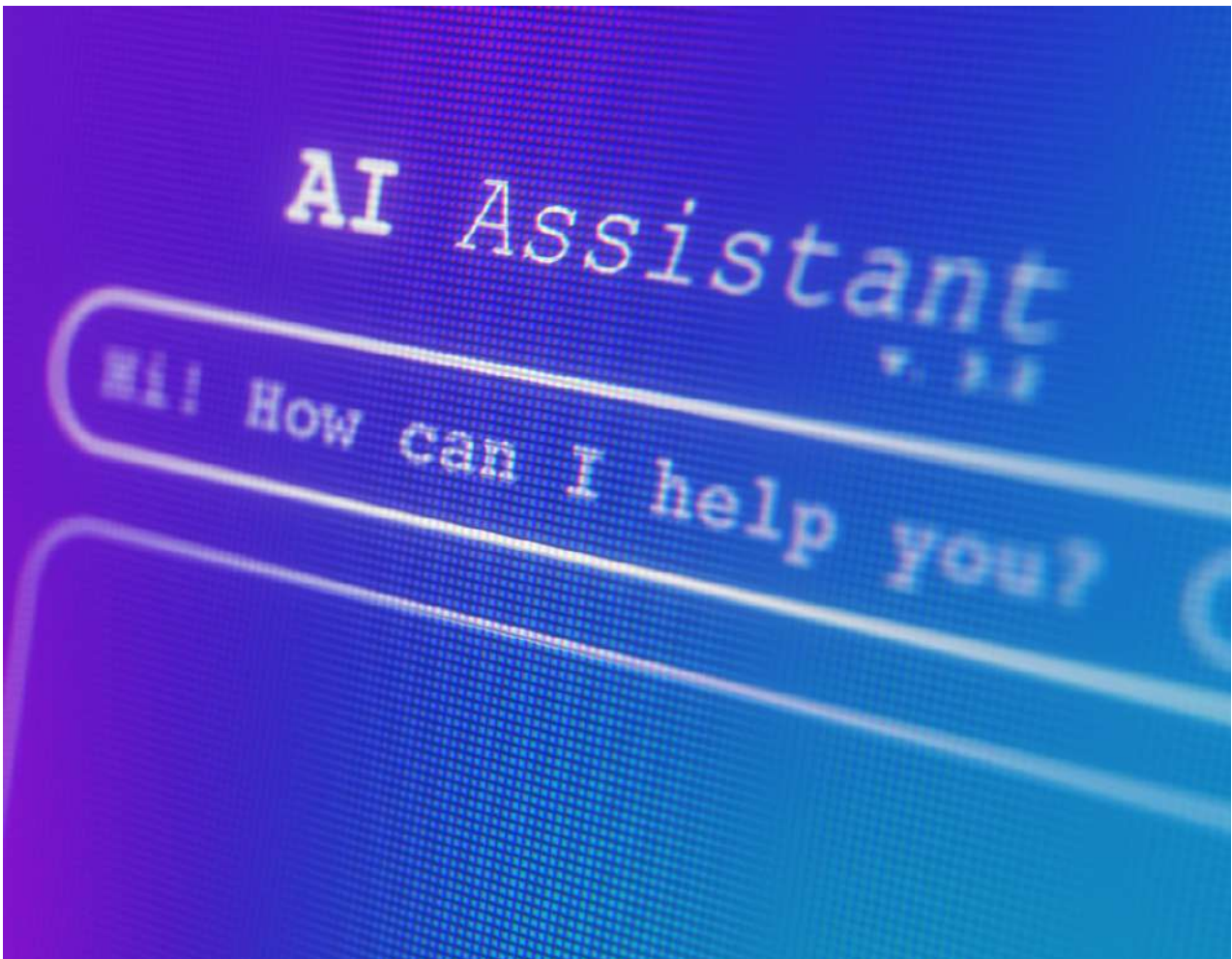
[Discover D / AI Destinations](#)

# 06. AI's role in tourism: Navigating uncertainties and aspirations

Artificial intelligence was once considered abstract and remote, primarily associated with computer engineers and data scientists.

**Today, artificial intelligence has quickly become user-friendly and accessible for everyone —making it a tool that people of all ages and backgrounds, from seniors to young children, can readily use.**

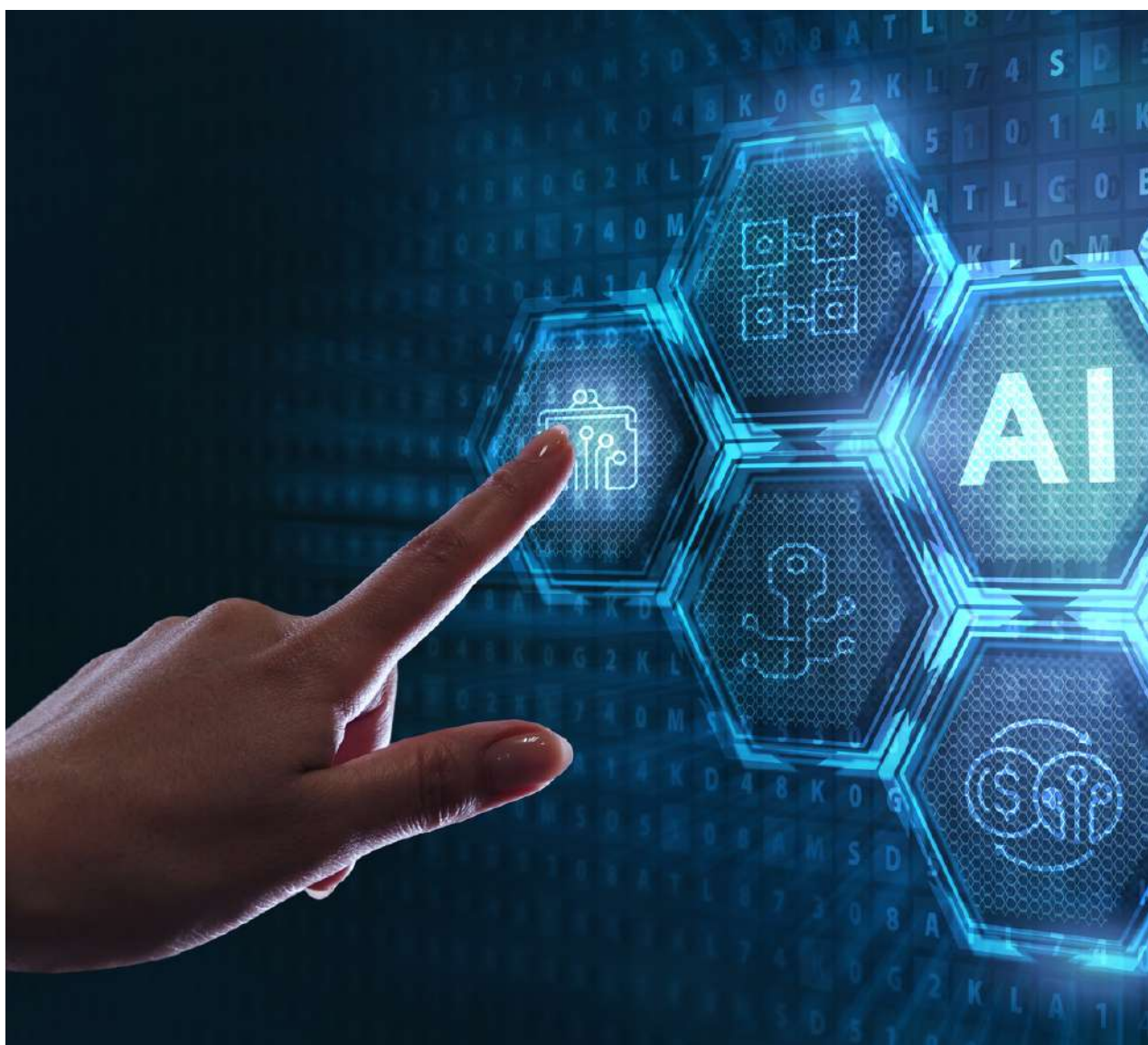
However, this development unveils captivating yet uncertain horizons for the travel industry.



During the Travel Weekly's Future of Travel Conference, many IT experts expressed both excitement and perplexity about GenAI.

Deloitte Director Ellena Ronca-Thompson said:

*"You have the computer power which has made it possible, the data underlying it and the large language models [LLMs] consuming the data. Issues come up where the data underlying the model is inadequate or the model generates content that doesn't exist. What is not well understood is that these models are probabilistic. We're still having to train the models to get more deterministic answers. You want to make sure you're not getting model creep [or] data creep and you're not introducing bias."*



Numerous experts have conducted experiments with ChatGPT that were not completely successful.

At times, responses included errors or the system couldn't remember earlier parts of the conversation, affecting its ability to improve performance. Furthermore, there were instances in which the system provided outdated data and limited accuracy and vocabulary in languages other than English.

However, it's crucial to remember that this is just the initial stage.

**We currently find ourselves in an early stage of GenAI's development, and probably by the time you're reading this, generative artificial intelligence has already achieved remarkable new milestones.**

**The best is yet to come.**

# The Data Appeal Company

The Data Appeal Company SpA (formerly Travel Appeal) was founded in 2014 and acquired in 2022 by Almaxwave SpA, a company listed on the Euronext Growth Milan market of the Italian Stock Exchange and part of the Almaxviva group.

Utilising a proprietary algorithm based on artificial intelligence, machine learning, and semantic analysis, Data Appeal collects, measures, and analyses all publicly posted feedback online.

It merges this feedback with geographical and contextual data, providing companies across various industries with the opportunity to leverage this information to guide business decisions, gain in-depth market insights, and achieve a competitive edge.

The company's goal is to democratise and simplify the use and comprehension of data, assisting businesses and institutions in making effective and informed decisions.

This, in turn, aims to accelerate progress towards a more sustainable and inclusive world.

[Explore our solutions  
for tourist destinations](#)



