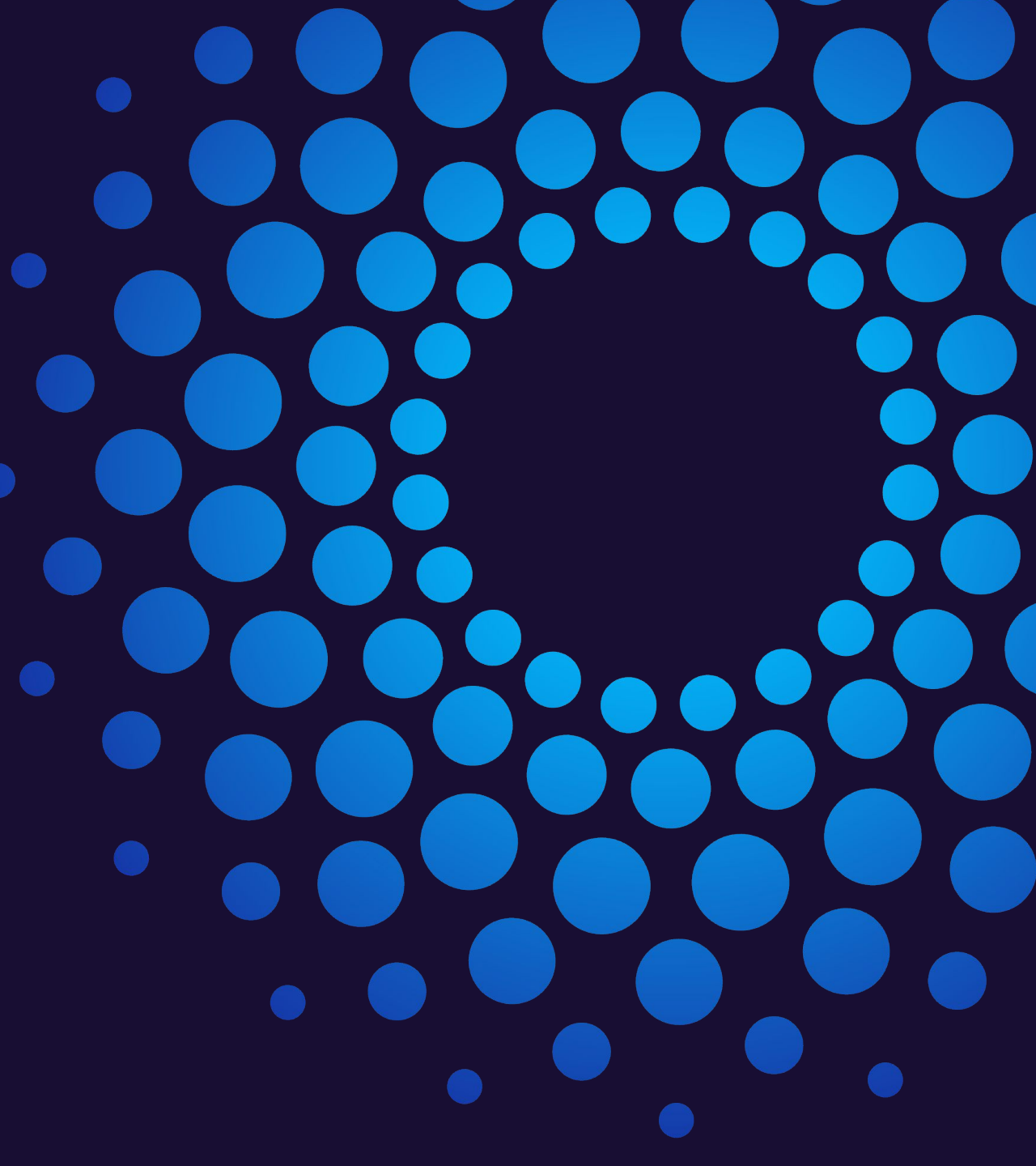


SMARTSEER

# AI - One Year On

TTI Summer Members Event  
Andy Owen Jones



# Overview

- Where we left it
- What has happened since then?
- Why I have a high degree of scepticism about most travel investments in AI
- What has Smartseer done in the last year?



# Where we left it (summer 2023 TTI)



# Mainstream Tourism now working on Generative AI

- TUI
  - Began working on generative AI in April 2023
- Focus
  - Customer service through query handling
  - Operational efficiency
  - Personalisation
  - Data analytics
- Challenge
  - Speed

Pieter Jordaan, chief technology officer of TUI Group, is the latest to offer his thoughts on generative AI and its uses for the travel industry.

**We began working with generative AI in** ... April 2023 by officially launching the TUI AI Lab. Several initiatives started before April – pilots and trials on several use cases run by teams in different parts of the organization.

**Our current work with generative AI is focused on** ... four areas. We are using it to enhance customer service by developing AI-driven systems capable of handling complex queries. Secondly, we want to leverage its capabilities to optimize operational efficiency, from knowledge-base interrogation to content creation and editing. Thirdly, we want to explore its potential in personalizing travel recommendations based on an individual's preferences.

Lastly, we are also looking at the exciting prospect of conducting data analytics through conversational interfaces. This novel approach could transform the way we interact with data, making complex analysis more accessible and intuitive for all team members.

**The biggest challenge for us related to generative AI is** ... its sheer speed of evolution. The landscape of AI is changing at a breakneck pace, with new advancements and capabilities emerging constantly. At TUI, we want to stay abreast of these developments and discern their potential implications – including challenges around data security. At the same time, we work to effectively integrate them into our operations, which can be quite demanding.

While the inherent complexity of these advanced systems poses its own challenges, it's the rapid technological progression that truly tests our adaptability and commitment to continuous learning. The TUI AI Lab is our internal platform for bringing tech and business teams together to find solutions.



# Focus on one area is possibly dangerous

Generative AI

Self-Supervised Learning

Human Centred AI

Digital Human

Edge AI

Knowledge Graphs

.....

# There will be a whole load of ChatGPT plug in's

**New businesses (which will struggle)**

**Additions to existing businesses**

**Customer services**

**Content generation**


**recommendations?**

**Advertising?**

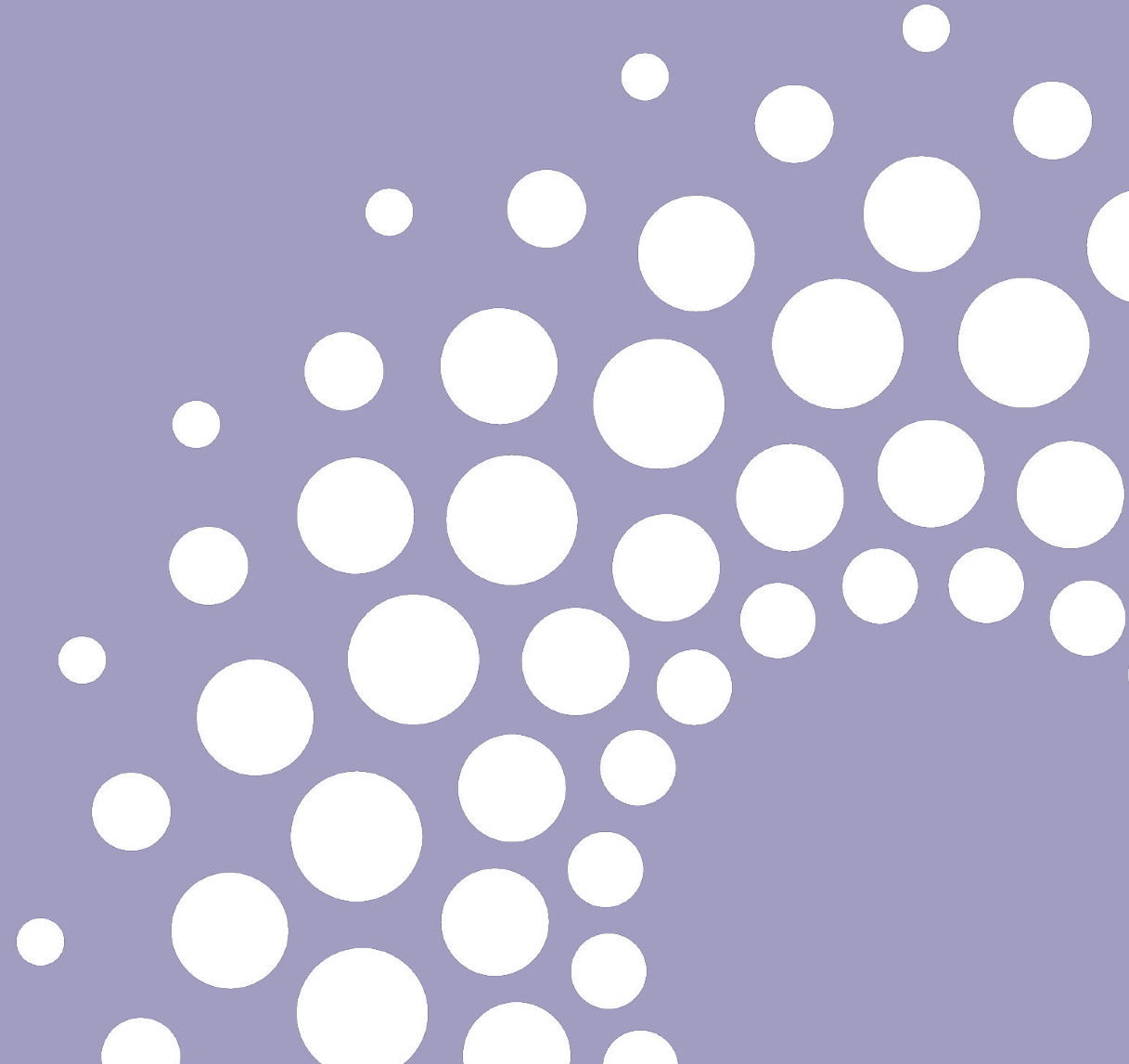
**But likely to take 12 - 18 months for big cut through in results**



# Conclusions

- 
- All areas of the value chain can be optimised by AI
    - First focus is to really understand your value and position
  - The focus on generative AI is one element - the gatekeepers are likely to dominate this
    - Google, Apple, MS, Meta
    - But there will be a lot of noise
  - Real value will take 12 - 18 months for travel companies with some disillusionment along the way...
  - The organisational challenge is as big as the tech challenge
    - What you measure and value will drive you

What has  
happened since  
then?



# Wow - that's a hockeystick



- From gaming chips to being ahead of the AI adoption curve
- Large orders from all kinds of business
- Presages a more mainstream adoption of AI

# It's starting to be used

Generative AI is already being used by 73% of marketing departments (Botco)



Generative AI is widely used in about **three-quarters** of marketing departments across various businesses.

- High “adoption” figures cited

# It's starting to be used

Generative AI is already being used by 73% of marketing departments (Botco)



Generative AI is widely used in about **three-quarters** of marketing departments across various businesses.

At **69%**, image generation is the most common reason marketers use generative AI.

- But how useful is this for travel companies?

# It's starting to be used

Generative AI is already being used by **73%** of marketing departments (**Botco**)



Generative AI is widely used in about **three-quarters** of marketing departments across various businesses.

At **69%**, image generation is the most common reason marketers use generative AI.

Other common uses include text creation at **58%**, audio at **50%**, chatbots at **37%**, and coding at **36%**.

- Currently marginal
- Good for chatbots
- Good for style writing
- Good for automating low end tasks



# We have not yet seen any big winners in travel

Expedia's travel assistant Romie?

"The insights provided in these reports demonstrate that AI is not just a technological advancement; it is a strategic tool that can personalise customer experiences, drive sustainable improvements, and shape the future of Travel & Tourism.

"AI is already being used across our sector with incredible results. Several major hotel groups including Iberostar are using AI to monitor and reduce food waste, which recently resulted not only in a 27% cost saving but prevented thousands of kilos of unwanted food going to landfill."

# AI use cases in travel

Chatbots

Facial recognition

Flight Forecasting

Dynamic pricing

sentiment analysis

Baggage Handling

Flight booking

Analytics

AI forecasting

Customer Service support

Translation

Personalisation

Fraud detection

Itineraries

Disruption management

Ai assistants

Facial Recognition

# AI use cases in travel

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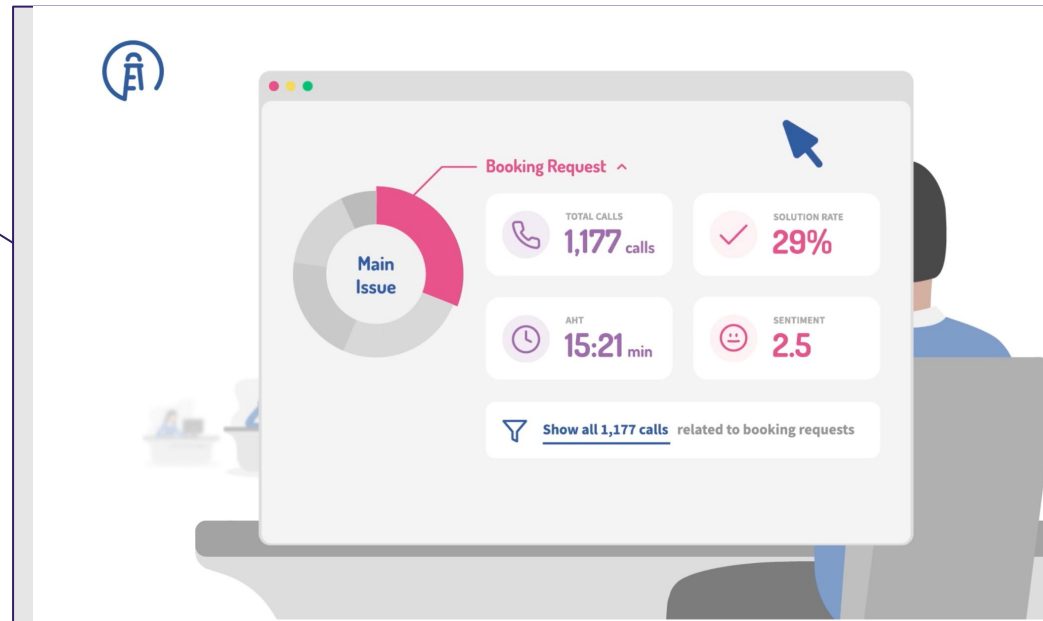
Fraud detection

Itineraries

Disruption management

Ai assistants

Facial Recognition



# Challenges with Gen AI

1. As a probability based system it has to learn - and it will learn from you!
  - a. It copies people's work in order to create knowledge
2. As a model based system it will prioritise the largest
3. It makes mistakes
4. It is (very) suitable for some tasks but not for all

# Mashable

1. “Thanks to the explosion in popularity of generative AI a whole range of products have sprung up dedicated to solving problems you didn’t know you had”
2. One of those is the “problem” of planning a vacation
3. AI travel concierge services are a fresh industry that exists in the same vein as AI apartment hunting and fitness planning tools. Normal tasks that we could perform ourselves but are now given to “AI” cause that’s the hot new thing

# It's all the talk....



- Sells well
- Big news
- But what is the impact to date?

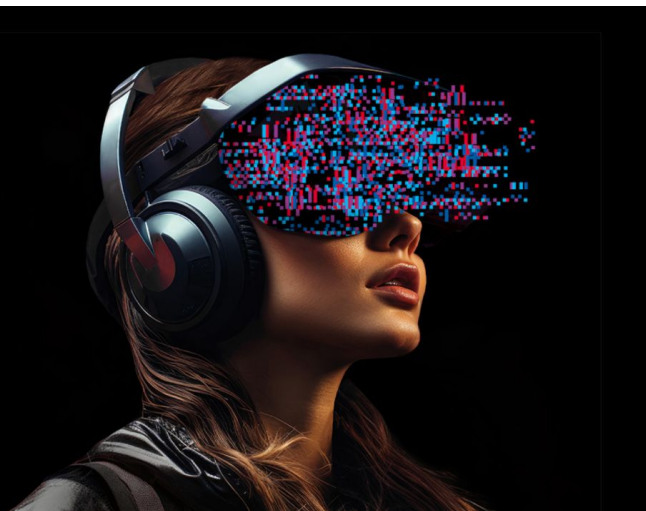
Posted by [Kate Harden-England](#) on Apr 18th, 2024 at 15:03

## AI SET TO SHAPE THE FUTURE OF TRAVEL & TOURISM, SAYS WTTC

### About the theme

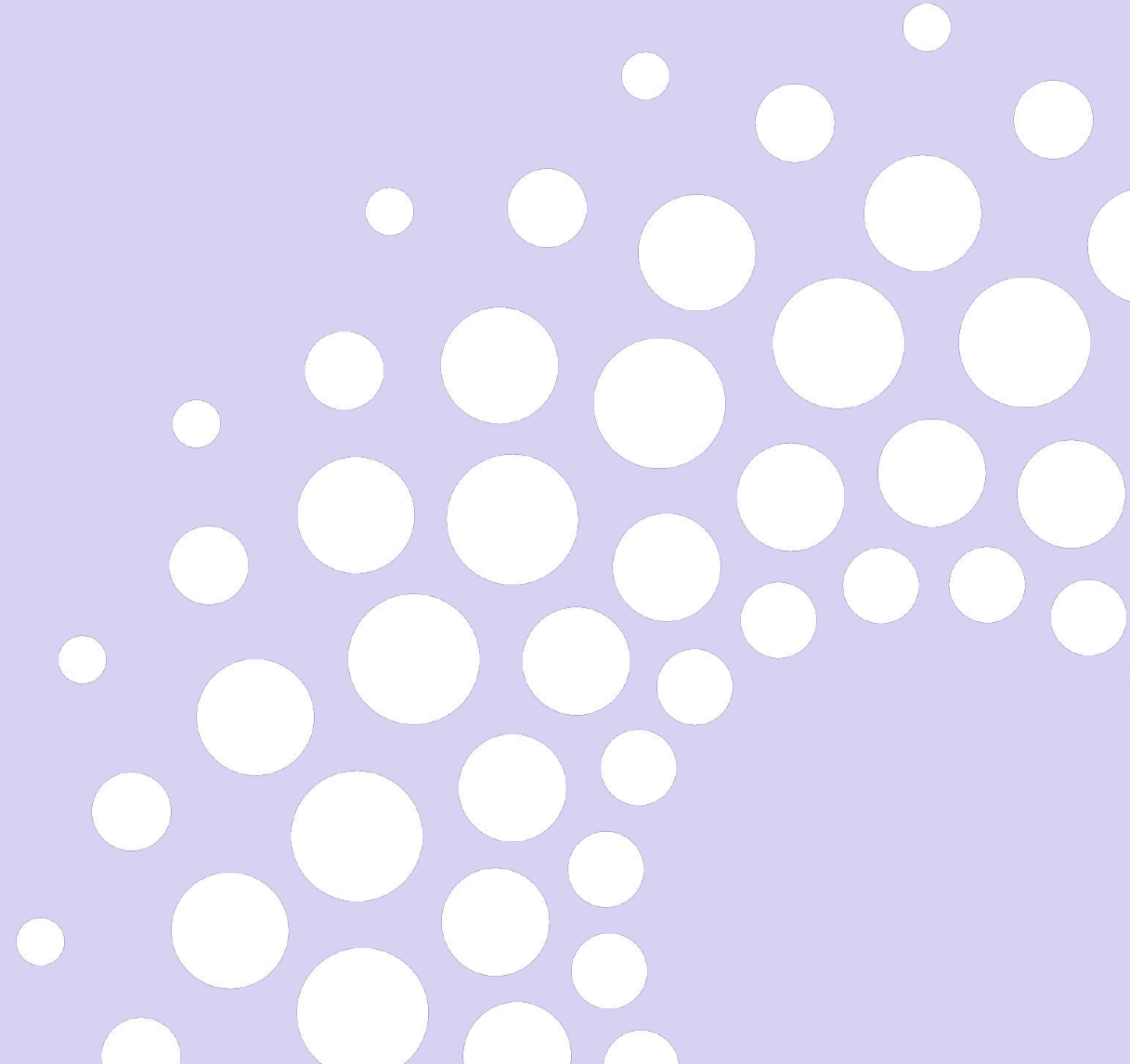
Fast and powerful advances in technology and AI have massive applications for every aspect of travel – from how businesses operate internally to how European consumers from a diverse range of rich cultures, developed and emerging markets and interwoven economies experience the world. The Machine's alarming pace of change is demanding a rethink of our products, services and regulatory framework.

[LEARN MORE](#)



SMARTSEER

# A quick look at what we have done in the last year



# Sceptical?

FORBES > INNOVATION > AI

## 3 Ways Predictive AI Delivers More Value Than Generative AI

Eric Siegel Contributor 

Founder of GenAI Applications Summit and author of "The AI Playbook."

Follow

Rather than selecting an attractive technology and then searching for a problem—aka **solutionism**—industry leaders advise **beginning with a value proposition** by first identifying an important problem and then figuring out how best to solve it. As University of Toronto management professor Mihnea Moldoveanu **put it**, "AI strategies fail because AI is a means, not an end. 'Do you have an AI strategy?' makes as much sense as asking, 'Do we have an Excel strategy?'"

Many enterprises would benefit by redirecting generative AI's disproportionate attention back toward predictive AI.



# Smartseer - results oriented AI

FORBES > INNOVATION > AI

## 3 Ways Predictive AI Delivers More Value Than Generative AI

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Many enterprises would benefit by redirecting generative AI's disproportionate attention back toward predictive AI.

Smartseer uses Gen AI for productivity improvements but primarily delivers value through a rigorous application of Predictive AI

Smartseer uses AI to drive thousands of goal oriented micro-decisions for its clients every day

Smartseer enables Enterprises to action leading edge AI with proven results

# It's all the talk....

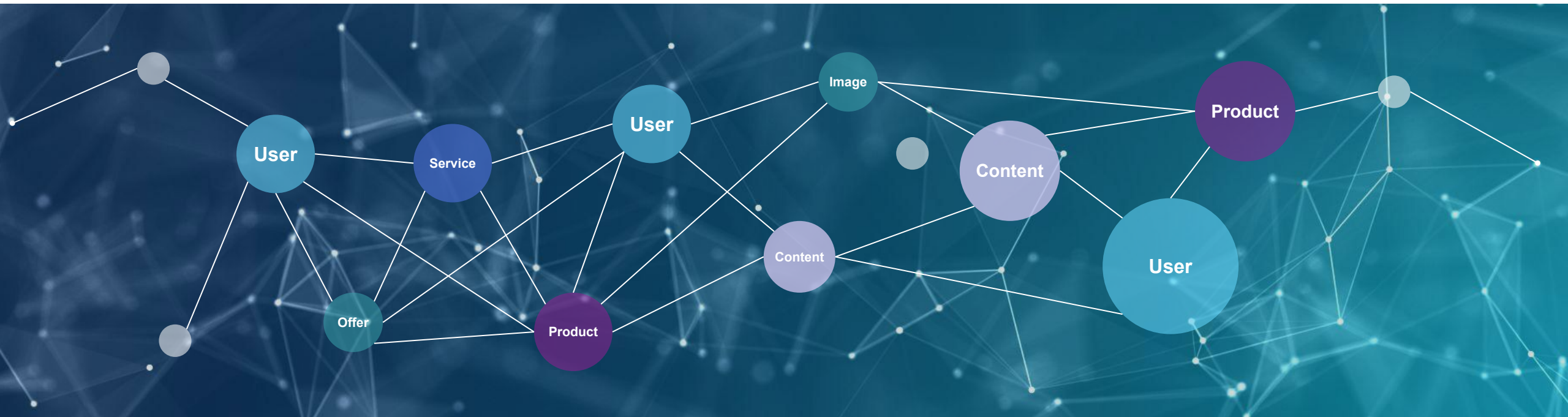
- ◎ Truly real-time and at scale
  - ◎ In May 2024 Smartseer ingested more than **4,300 events per second every second**
  - ◎ These were turned into
    - ◎ More than 7.75M profiles of users
      - ◎ 300 - 400 scores per user
      - ◎ Real-time dna updates
      - ◎ Real-time views
    - ◎ More than 40M suggestions, views, incentives and tailored interactions
  - ◎ This was done with **99.5% uptime**
  - ◎ And an average turnaround of **50 milliseconds for recommendations and sort of up to 1000 hotels in each list**
- ◎ Clients were able to see that there was an uplift, an increase of engagement or a delivery of benefit across their estate

# Where it can REALLY valuable

1. Coding
  - a. Big efficiencies
  
2. Process automation
  - a. invoices and travel receipt summary
  
3. Sentiment analysis

# Smartseer has deployed a massive array of AI models tuned in and for the travel industry

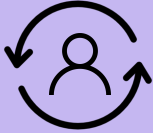
Our proprietary **massive relational knowledge network (mRKN)** models all the relations between **individual** users, their context, products, bundles, services, experiences and channels **at scale**. It reflects domain specific patterns to enable **real time** predictions and decisioning. Modelled with some 2Bn purchase journeys. Even simple out of the box products are trained on more than 8M data points and this increases significantly with complexity of implementation.



# What are the models tuned for?



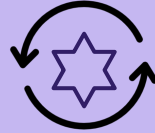
User Engagement



User Conversion



User Revenue



Custom User Conversion



User Lifetime Value (predicted)

1:1 Realtime Personalisation



Product Impressions



Product Engagement



Product Conversion



Margin



Net Revenue (after Cost)

Product / Operational Excellence



Bonus Points Redeemed



Bonus Points Collected

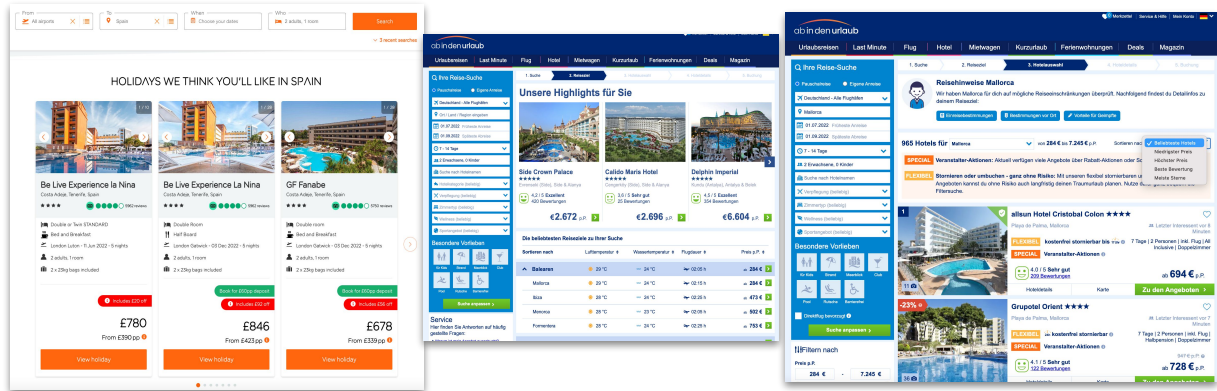
Others

# Our AI finds the right person for every product



- **Realtime** - adapt and respond to every digital interaction at lightning speed.
- **1:1** - for each and every individual, no matter if known or unknown.
- **Precise** - even with limited data.
- **Specific** - for your sector and automatically adapting to your business.
- **Efficient** - create business rules and audiences only when needed.
- **Flexible** - easy to integrate via REST APIs.

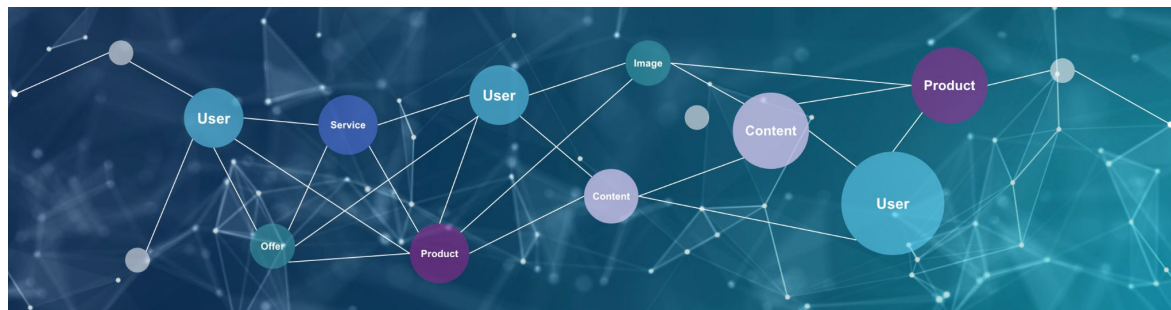
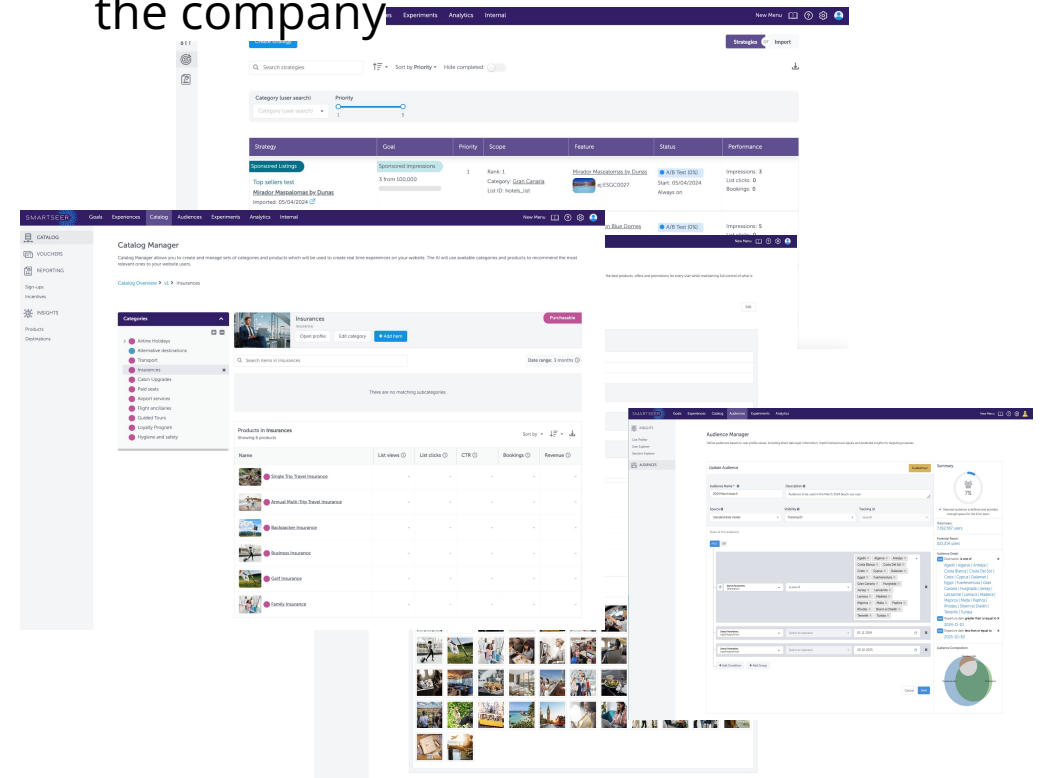
# What already existed?



# What's new?

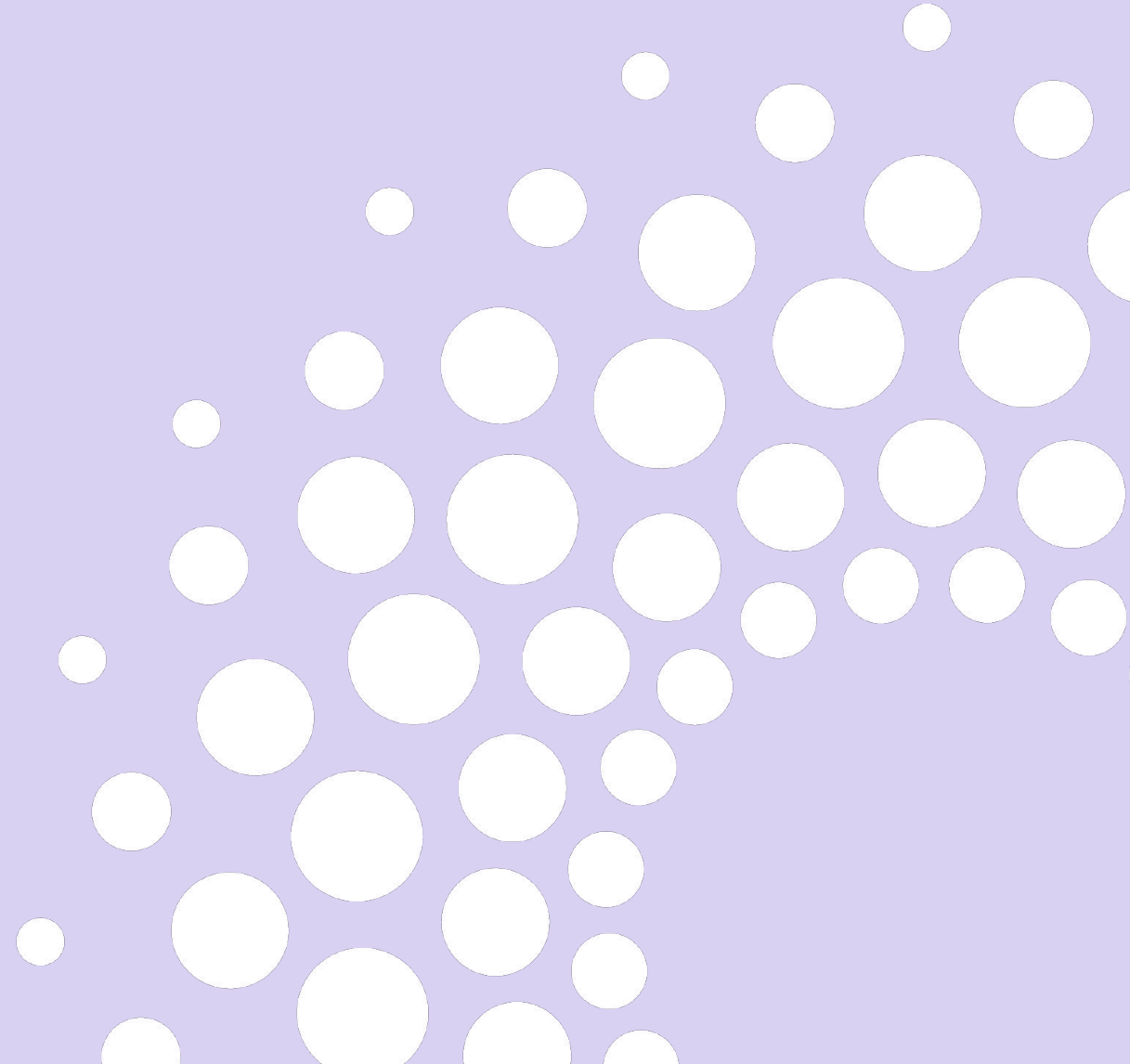
- An automated product and content catalogue
- AI driven Experience Manager
- Goals and Strategy Manager to balance what is best for clients with what is best for the company

- AI models
- Client profiling
- AI driven recommendations, sorting & incentives



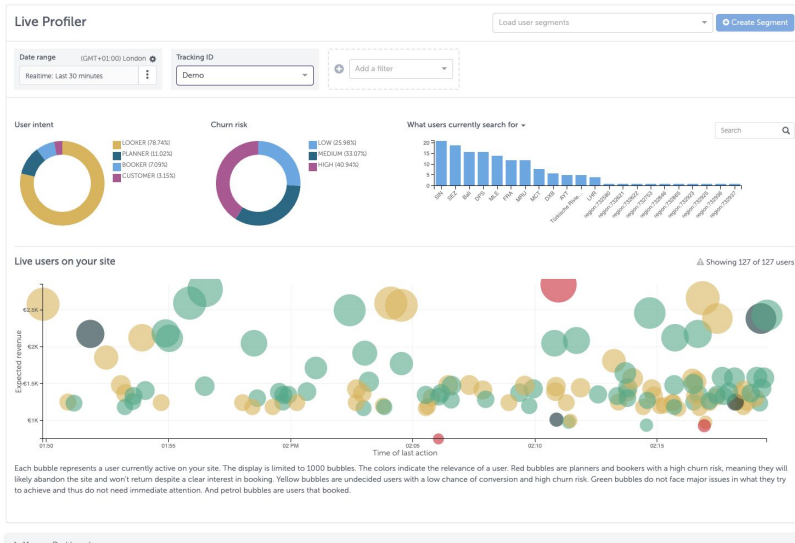


# Examples of Smartseer AI

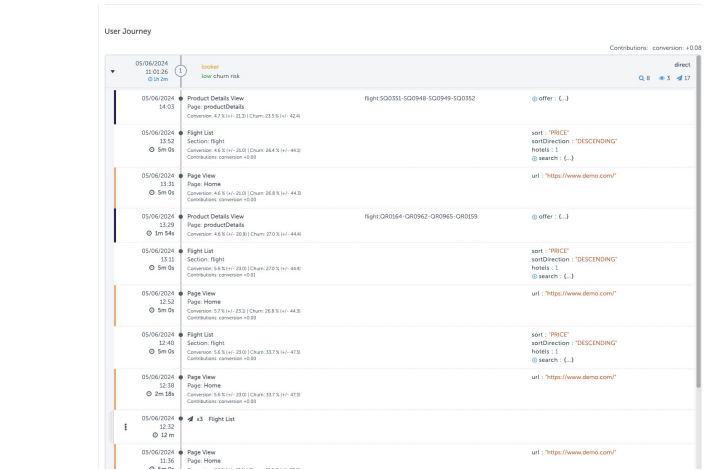
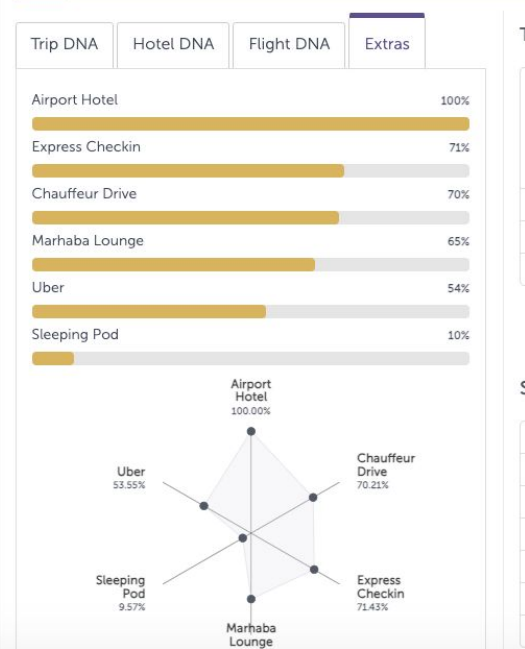
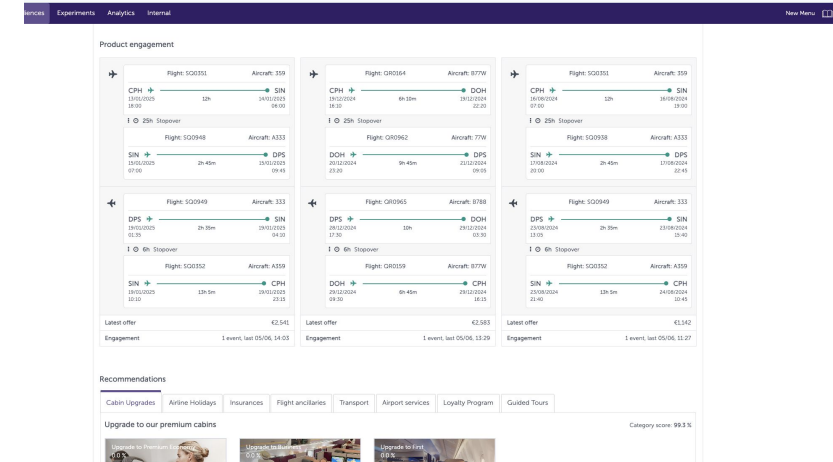
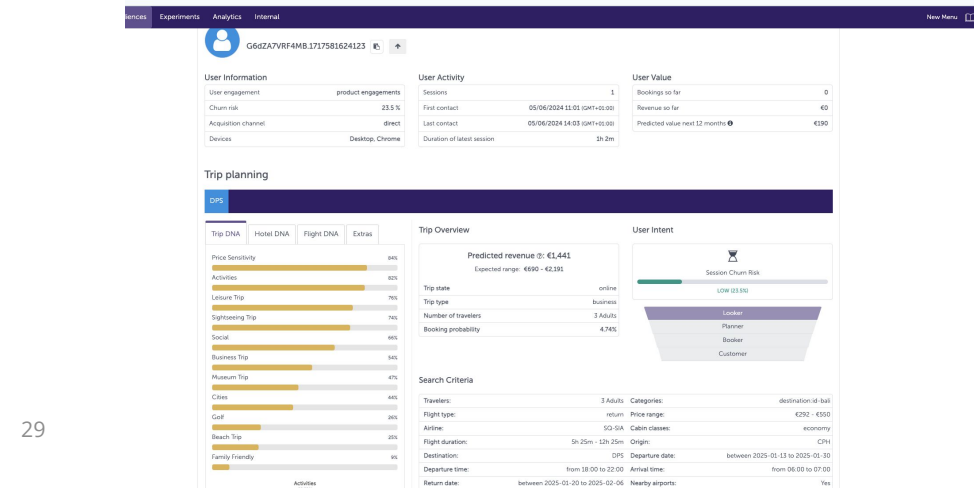




# Extraordinary real-time profiles of clients



3 - 5 profiles built to this quality per second in real-time every second of every day



# recommendations at all levels

**Angebote filtern**

Flug + Hotel Hotel

Basel, Bern, Zürich

08.02.24 – 04.12.24 / 1-8 Nächte

1 Zimmer, 2 Erwachsene

Max. Preis (pro Person)


Alle Zimmertypen

Beliebige Verpflegung

Flugoptionen

Datum von / bis	Abflughafen Übernachtungen	Zimmertyp Verpflegung	Flugzeit Alternative Flüge	Gesamtpreis 2 Erwachsene
Sa. 27.04.2024 Di. 30.04.2024	von Zürich 2 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Speedboot) Frühstück	Anzeigen	CHF 2434.-
Do. 26.09.2024 So. 29.09.2024	von Zürich 2 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Speedboot) Frühstück	Anzeigen	CHF 2640.-
Do. 19.09.2024 So. 22.09.2024	von Zürich 2 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Speedboot) Frühstück	Anzeigen	CHF 2640.-
Di. 02.07.2024 i. 09.07.2024	von Zürich 5 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Speedboot) Frühstück	Anzeigen	CHF 2747.-
o. 27.06.2024 o. 04.07.2024	von Zürich 5 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Speedboot) Frühstück	Anzeigen	CHF 2747.-
i. 26.06.2024 i. 03.07.2024	von Zürich 5 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Speedboot) Frühstück	Anzeigen	CHF 2747.-
i. 25.06.2024 i. 02.07.2024	von Zürich 5 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Speedboot) Frühstück	Anzeigen	CHF 2747.-
a. 11.05.2024 i. 14.05.2024	von Zürich 2 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Swirpool Speedboat) Frühstück	Anzeigen	CHF 2770.-
i. 25.09.2024 o. 29.09.2024	von Zürich 3 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Speedboot) Frühstück	Anzeigen	CHF 2858.-
r. 28.06.2024 r. 05.07.2024	von Zürich 5 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Speedboot) Frühstück	Anzeigen	CHF 2875.-
o. 16.05.2024 o. 19.05.2024	von Zürich 2 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Speedboot) Frühstück	Anzeigen	CHF 2891.-
o. 09.05.2024 o. 12.05.2024	von Zürich 2 Nächte Inklusive Transfer	Strand Villa (Lagunenblick, Swirpool Speedboat)	Anzeigen	CHF 2915.-


**Weitere Empfehlungen**



★★★★☆  
**Villa Nautica, Paradise Island**  
Malediven | Nord Male Atoll  
(9512) Tripadvisor Bewertungen

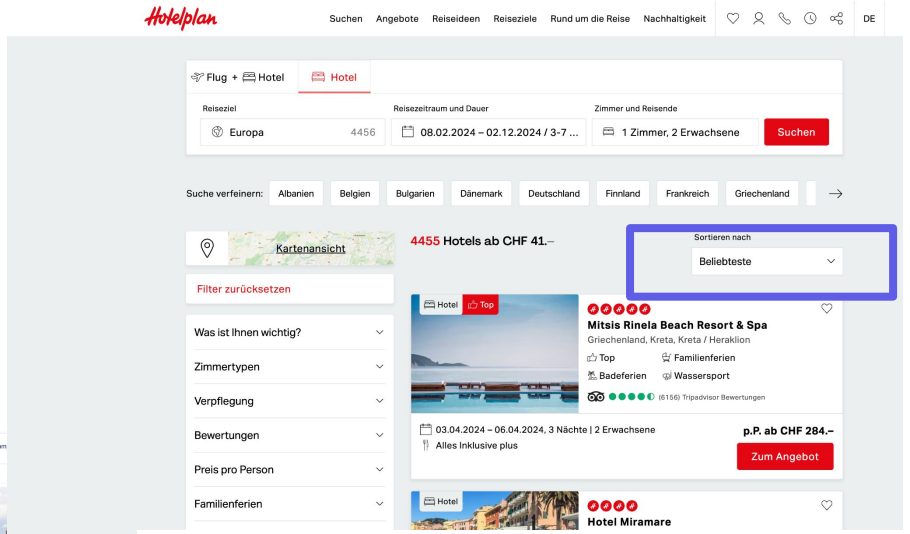
Flug + Hotel, 2 Nächte, Vollpension  
Inklusive Transfer

PRO PERSON  
ab CHF 1355.- [DETAILS >](#)

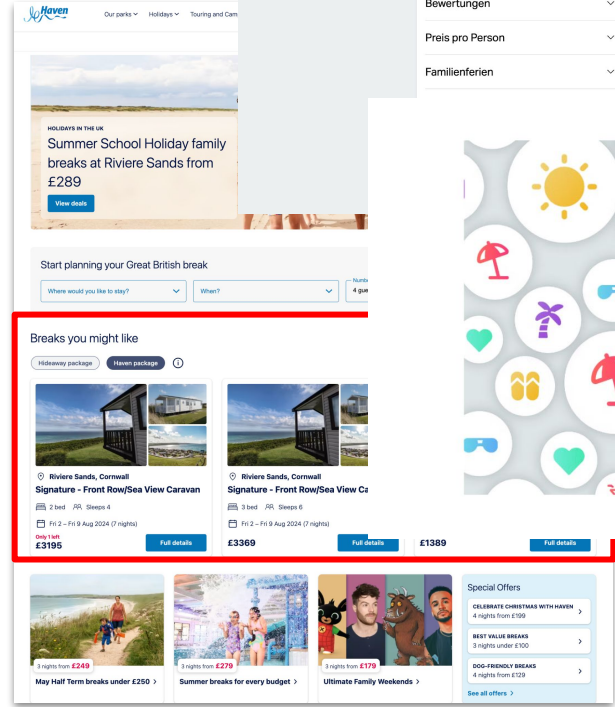


★★★★☆  
**Filitheyo Island Resort**  
Malediven | Nord Nilandhe Atoll  
(1906) Tripadvisor Bewertungen

15+ individually selected recommendations or interventions per second every second



Hotelplan search interface showing filters for location (Europa), dates (08.02.2024 - 02.12.2024), and room type (1 Zimmer, 2 Erwachsene). A dropdown menu for sorting is highlighted, showing 'Beliebteste' selected.



Haven website showing holiday break recommendations. A red box highlights a section titled 'Breaks you might like' with options like 'Riviere Sands, Cornwall Signature - Front Row/Sea View Caravan'.



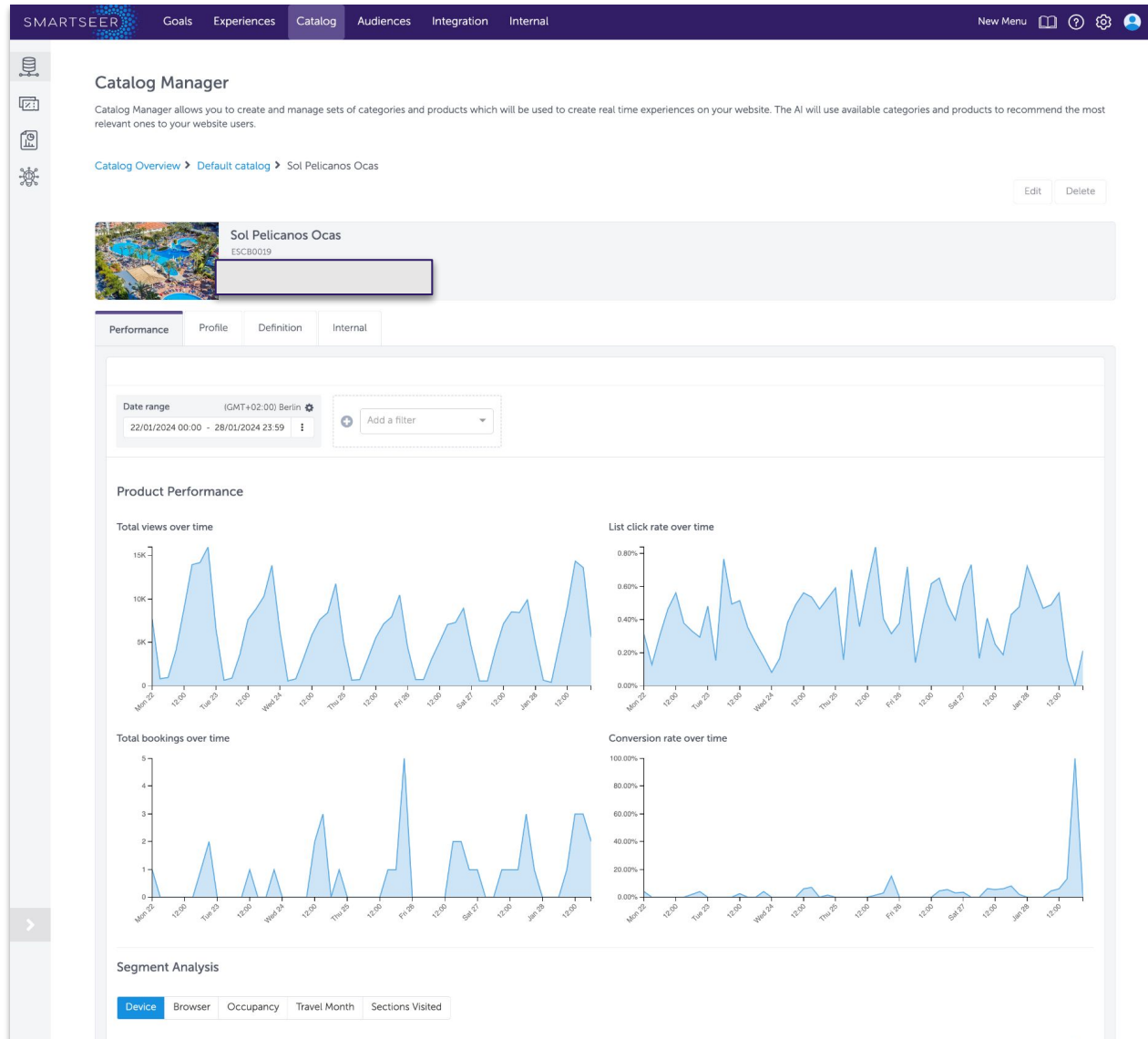
Hotelplan Holiday Finder graphic featuring various vacation-related icons such as sun, beach, camera, and drinks.

Noch unentschieden was gehen soll?  
Finden Sie spielend leicht Ihren perfekten Ferienmatch. Lassen Sie sich inspirieren.

[Jetzt ausprobieren](#)

# AI driven profiles of products

Over 600,000 hotel profiles constantly updated and refreshed by client and by type of interaction



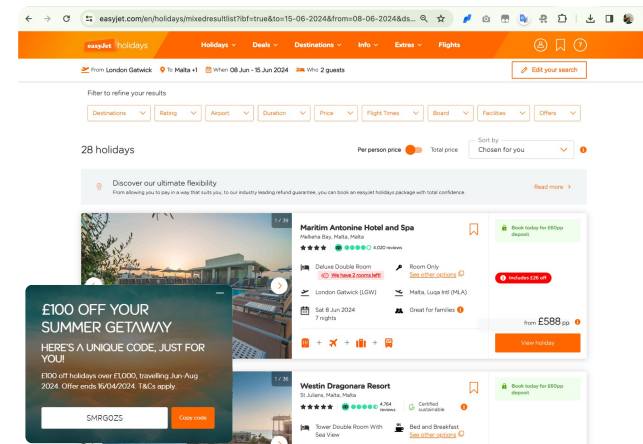
Costa Del Sol Region
Fuerteventura Region
Gran Canaria Region
Barcelona Region
Ibiza Region
Menorca Region

Products in Spain ⌵  
Showing 2,784 products

Name	List views <span>⌵</span>	List clicks <span>⌵</span>	CTR <span>⌵</span>	Bookings <span>⌵</span>	Revenue <span>⌵</span>
Magic Robin Hood ESCB, ES <span>★★★★★</span>					
Holiday World Riwo ESCD, ES <span>★★★★★</span>					
Sol Pelicanos Ocas ESCB, ES <span>★★★★★</span>					
Sunset Beach Club ESCD, ES <span>★★★★★</span>					
Magic Tropical Splash ESCB, ES <span>★★★★★</span>					
Benalima Costa Del Sol ESCD, ES <span>★★★★★</span>					
Bahia Principe Sunlight Costa Adeje ESTF, ES <span>★★★★★</span>					

# Intelligent exit layers and incentives

Thousands of incentives NOT shown every day to people who would have booked without an incentive



# Intelligent Sponsored Listings

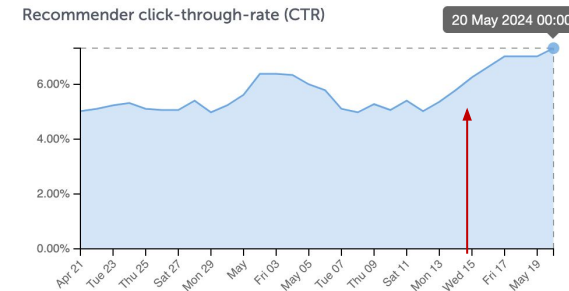
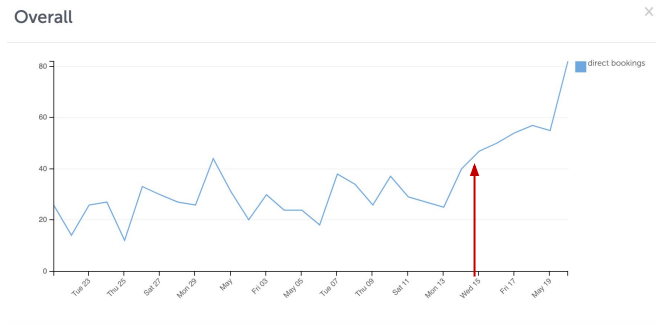
no need to distinguish between intelligent recommendations and dumb sponsorship

Thousands of impressions calculated and costed v bookings and engagement

The screenshot displays the SMARTSEER Strategy Manager interface. The top navigation bar includes 'Goals', 'Experiences', 'Catalog', 'Audiences', 'Integration', and 'Internal'. The left sidebar contains 'GOALS', 'STRATEGIES', 'EXPERIMENTS', 'REPORTING', and 'Commercial Attribution'. The main content area is titled 'Strategy Manager' and includes a 'Create strategy' button, a search bar, and a 'Sort by Priority' dropdown. Below these are filters for 'Category (user search)' and a 'Priority' slider set to 1. The main table lists five strategies, each with columns for Strategy, Goal, Priority, Scope, Feature, Status, and Performance.

Strategy	Goal	Priority	Scope	Feature	Status	Performance
<b>Sponsored Listings</b> Top sellers test Mirador Maspalomas by Dunas Imported: 05/04/2024	Sponsored impressions 3 from 100,000	1	Rank: 1 Category: Gran Canaria List ID: hotels_list	Mirador Maspalomas by D... ej:ESGC0027	A/B Test (0%) Start: 05/04/2024 Always on	Impressions: 3 List clicks: 0 Bookings: 0
<b>Sponsored Listings</b> Top sellers test Mitsis Selection Blue Domes Imported: 05/04/2024	Sponsored impressions 5 from 50,000	2	Rank: 1 Category: Kos List ID: hotels_list	Mitsis Selection Blue Dom... ej:GRKG0007	A/B Test (0%) Start: 05/04/2024 Always on	Impressions: 5 List clicks: 0 Bookings: 0
<b>Sponsored Listings</b> Top sellers test Wyspianski Imported: 05/04/2024	Sponsored impressions 0 from 200,000	3	Rank: 1 Category: Krakow List ID: hotels_list	Wyspianski ej:X9018760	A/B Test (0%) Start: 05/04/2024 Always on	Impressions: 0 List clicks: 0 Bookings: 0
<b>Sponsored Listings</b> Top sellers test db San Antonio Hotel and Spa Imported: 05/04/2024	Sponsored impressions 1 from 100,000	4	Rank: 1 Category: Malta List ID: hotels_list	db San Antonio Hotel and... ej:MTMT0005	A/B Test (0%) Start: 05/04/2024 Always on	Impressions: 1 List clicks: 0 Bookings: 0
<b>Sponsored Listings</b> Top sellers test Explorers Hotel Marne La Vallee Imported: 05/04/2024	Sponsored impressions 3 from 25,000	5	Rank: 1 Category: resort:FRPADP List ID: hotels_list	Explorers Hotel Marne La... ej:X9211989	A/B Test (0%) Start: 05/04/2024 Always on	Impressions: 3 List clicks: 0 Bookings: 0

# Models that highlight how things are working



in this case our booking precision predictions were not at the level we expected. On investigation we discovered that there was an integration problem and the recommendations sent by the Smartseer system were not being displayed in the manner we proposed.

This was fixed (at the red arrow above). The click through rates responded immediately and dramatically once the fix was applied.

Our models and analytics help our clients and our teams diagnose when implementation is not ideal



# in their own words...

"SMARTSEER delivers outstanding value. They combine innovative products with reliable service, providing a remarkable solution tailored to our needs."

Lukas Karrer, Director Direct Business Hotelplan Switzerland

"Working with the Smartseer team is always a pleasure. They've have proven themselves time and time again to be innovative, reliable and open minded. As a business, we value the way our teams bounce ideas off each other till we come to a solution which is great for KPI's and customers.

Working collaboratively, we've established clear milestones which will allow us to get to our AI decisioning framework "big vision" - implementing it in digestible stages that suit our development teams.

We've had great workshops together, jointly reviewing road maps and inputting to their priorities. It's a great relationship when you feel like your own business goals have considerable influence on how your partner evolve their own product."

Alex Black, Head of Digital easyJet Holidays

Smartseer had a very clear vision yet continuously adapted to accommodate our needs."

Christian Speer, Head of Engineering Lastminute.com Germany



Thank you!