AI as a strategic partner for sustainability in tourism

From text generation to solution partner: The evolution of AI in tourism

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Foto: Ines Thomsen

PERCEPTION OF AI

Support
Future Assistance
Inspiration Work
Work facilitation
Transparency
Inclusion 4

TOP GOALS FOR AI ADOPTION

- Efficiency gains (56)
- Competitiveness (33)
- Value creation (29)
- Resource conservation (23)
- Guest satisfaction (16)
- Inclusion (4)

WORKSHOP PROCESS

- Ecological – Protect the environment
- Social – Fairness, decent work
- Economic – Responsible assurance
- Political – Democratic participation
- Cultural – Preserve cultural diversity, encourage creativity

PRIORITIZED SUCCESS FACTORS FOR AI IMPLEMENTATION

- Data availability & quality
- Skill development
- Rapid implenıentation
- Fostering innovation
- Strategy & vision
- User acceptance & ease of use
- Sustainable use of technology
- Data protection & sthical standdards

WORKSHOP PROCESS

- Call for AI use cases in tourism
- Present results

The evolution of technology & tourism

Steam engines / trains

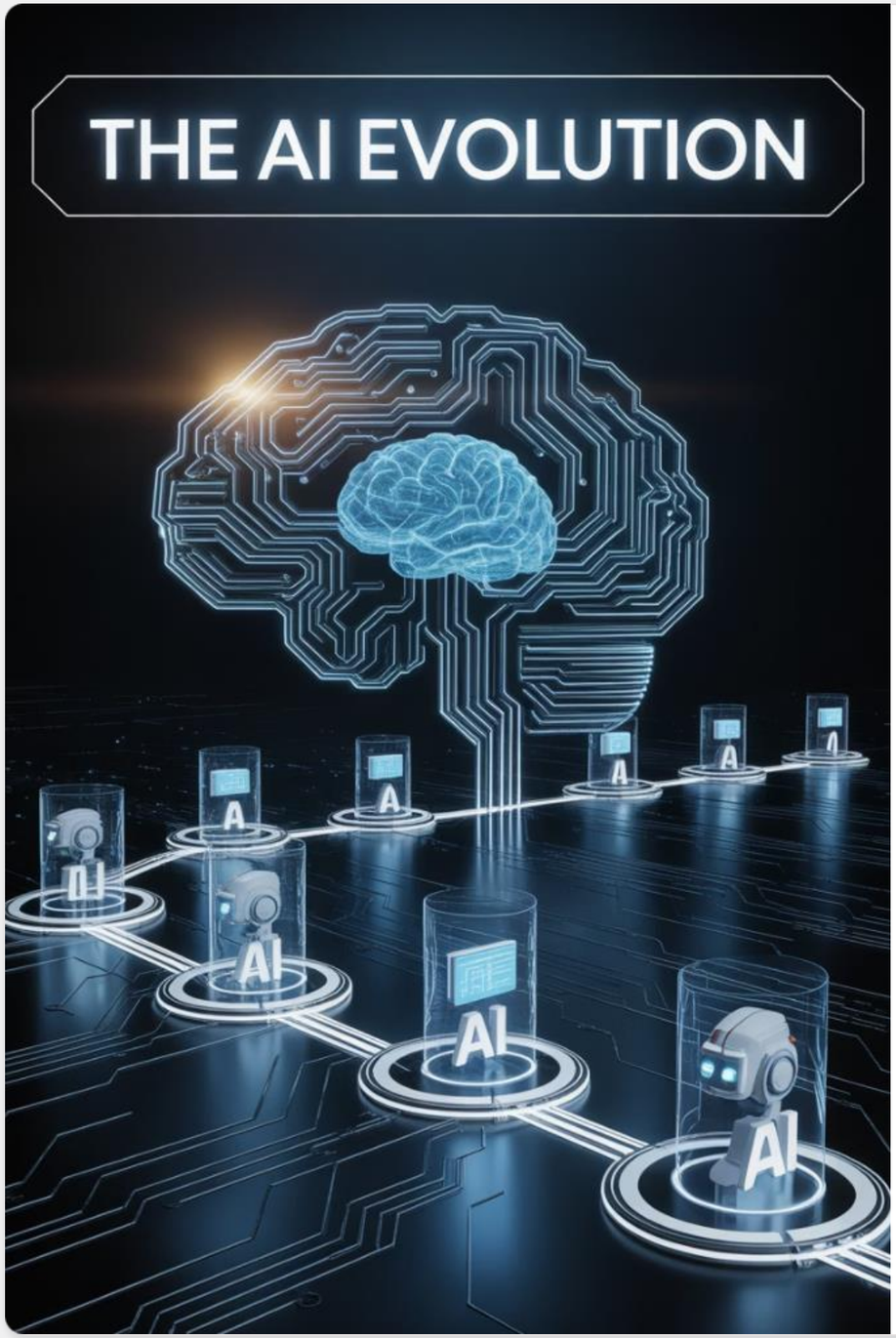
inspired people to explore the world

Digitalization

brought the world into our homes.

Artificial Intelligence

personalizing and enhancing how we experience that world



From a pure automation tool to a strategic partner

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Automation

1st Step: Simple processes are automated to increase efficiency and handle routine tasks – E-mail responses at main topics.

Analytics

2nd Step: Data analysis enables deeper insights into visitor behavior and market trends – Mobile Datas / combined with other data (events, weather, holidays, marketing activities,.)

Innovation

3rd Step: AI supports the development of new offers and experiences through creative impulses. – Cross domain prompting.

Partnership

4th Step: AI becomes a strategic partner that proactively provides recommendations and co-shapes decisions.

AI as a strategic partner

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Data-driven decision-making

AI systems analyze complex data sets and provide sound decision-making foundations for strategic directions.

Strategic development

Forecasting models help identify trends early and integrate them into destination strategies.

Network effects

Connecting diverse data points generates new insights into guest behavior and destination dynamics.

Turning experience into knowledge

AI supports continuous **learning processes** by systematically analyzing successes and failures.

👉 *"Data is NOT optional it's fundamental."*

We need a culture of learning from failure

Just Try

Developing the courage to explore new approaches and experiment with technology.

Improve

From insight to impact - transforming knowledge into better solutions.

Failure

Accepting mistakes as an inevitable part of the innovation process.

Learning

Turning mistakes into structured knowledge.

A culture of learning from failure - my experiences

Just Did

Red Bull donated 1,000 bicycles to local accommodations to make it easier for guests to reach the Red Bull Racing Track.

Improve

Installation of new bike paths and a cycling node system (including less traffic routes) we adopted from the Netherlands.

Failure

Most of the time, they were only used during Formula 1 events. Otherwise, the distances were too long, there were too few bike paths.

Learning

Too few cycling paths, distances too long, no unified coordination (9 tourism boards involved).

AI Learnings in Tourism

Try
Chatbots on own homepages!

Failure
Too much “Hallucination” – too few users

Improve
Continuous Query Monitoring, Data Adaption, Timeouts, Topic Restrictions
Push position, combined with picture of an Avatar.
Changing the kind of the chatbot.

Learning
More testing with “real” people!
People have already bad experiences with chatbots (not AI).

AI Learnings in Tourism

Try
AI-Telephone Voice

Failure
People hang up – don’t speak with AI.

Improve
“Don’t hang up!” Hook
Conversion optimization.
Callback strategy.
Reacting immediately to persons who speek with it.

Learning
They believe it’s a voicemail.
They don’t know how to speak with the AI.
They are upset, because they want to speak with a human.

AI Learnings in Tourism

Try
Weather-based activity recommendation via AI

Improve
Integrated booking systems, real data, the direct link to the booking preview.

Failure
Recommending fully booked thermal spa during rainy days.
Recommending closed places.
Guests are upset.

Learning
AI need access to real-time availability!
Data responsibilities

Why a positive ERROR CULTURE is so difficult in tourism

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No Room for Experimentation!

Operational routines and daily business pressure often crowd out the freedom to test new approaches.

Stakeholder Expectations

Stakeholders, partners & politics expect immediate success instead of long-term learning processes.

Pressure to Perform

Quantitative KPIs overshadow qualitative development and experimental learning.

Missing Mindset

Traditional business cultures – “We always did it this way!” – Innovation is just for the big ones.

Fear of Reputational Damage

Especially in AI projects, failure is often seen as a sign of incompetence > fear of open discussion.

Resource Constraints

Time and budget limitations hinder systematic error analysis. Reliant on a technician.

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Why a positive error culture is especially important for AI

Experimental

AI technologies are constantly **evolving**. Their use requires an **experimental** approach where not every attempt delivers perfect results right away.

Learning Systems

AI-Systems improve through feedback and adaptation - systems are changing permanently.

Complex Areas of Application

In destinations many variables interact. The complexity makes mistakes unavoidable.

Speed

The speed of development, as well as changing framework conditions, leads to mistakes.

👉 *"This complexity makes mistakes a natural part of the process – and valuable for understanding the system."*

Trial & Error: Collective Learning Through Experimentation

Small experiments, big impact

Start with **limited pilot projects** that can be quickly implemented. This approach **minimizes risk** and enables **fast learning**.

*Example: An AI-supported tool **recommends eco-friendly transport options** (e.g. public transit, bike rentals) – first tested only with local staff and partners.*

Systematic evaluation

Define clear **success criteria** in advance and evaluate experiments in a structured way. Document both successes and failures.

Use both quantitative and qualitative methods to get a comprehensive picture: usage data, feedback sessions, observations.

Example: How often used, how many results would be really useful, did real booking happens, real results?

Shared Knowledge

Establish formats for knowledge sharing within your organization and with partners.
This helps multiply insights and avoid repeated mistakes.
Regular learning circles, digital knowledge bases or informal exchange formats can be used for this purpose.

👉 **CTA - Change Tourism Austria**

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Does

AI & Sustainability

fit together?

Why sustainability is often the final step

Storage in the cellar

Difference between poverty and being independent

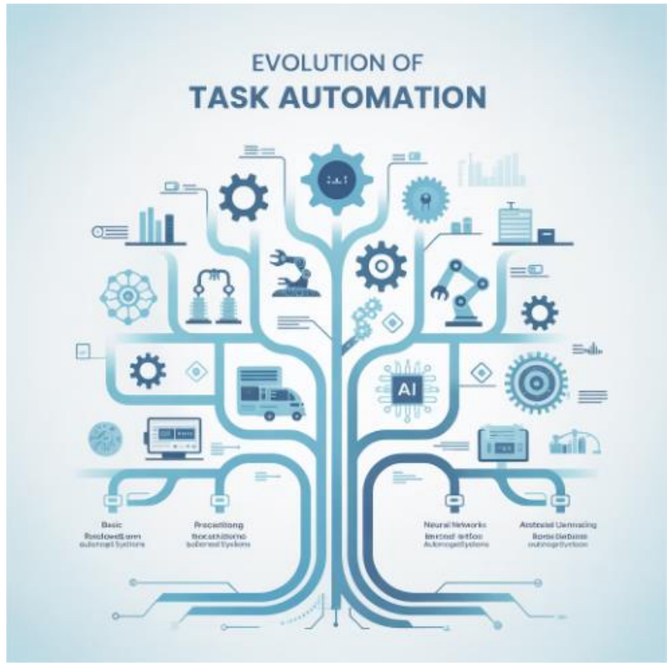
First refrigerator

Convenience

Energy-efficient fridge

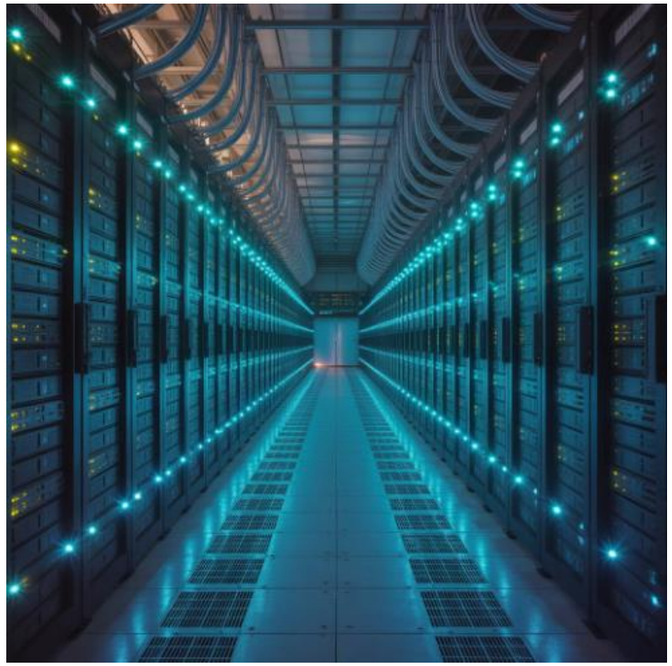
Cost efficiency & convenience

AI & Sustainability



Now possibilities of AI

Difference between efficient and unproductive



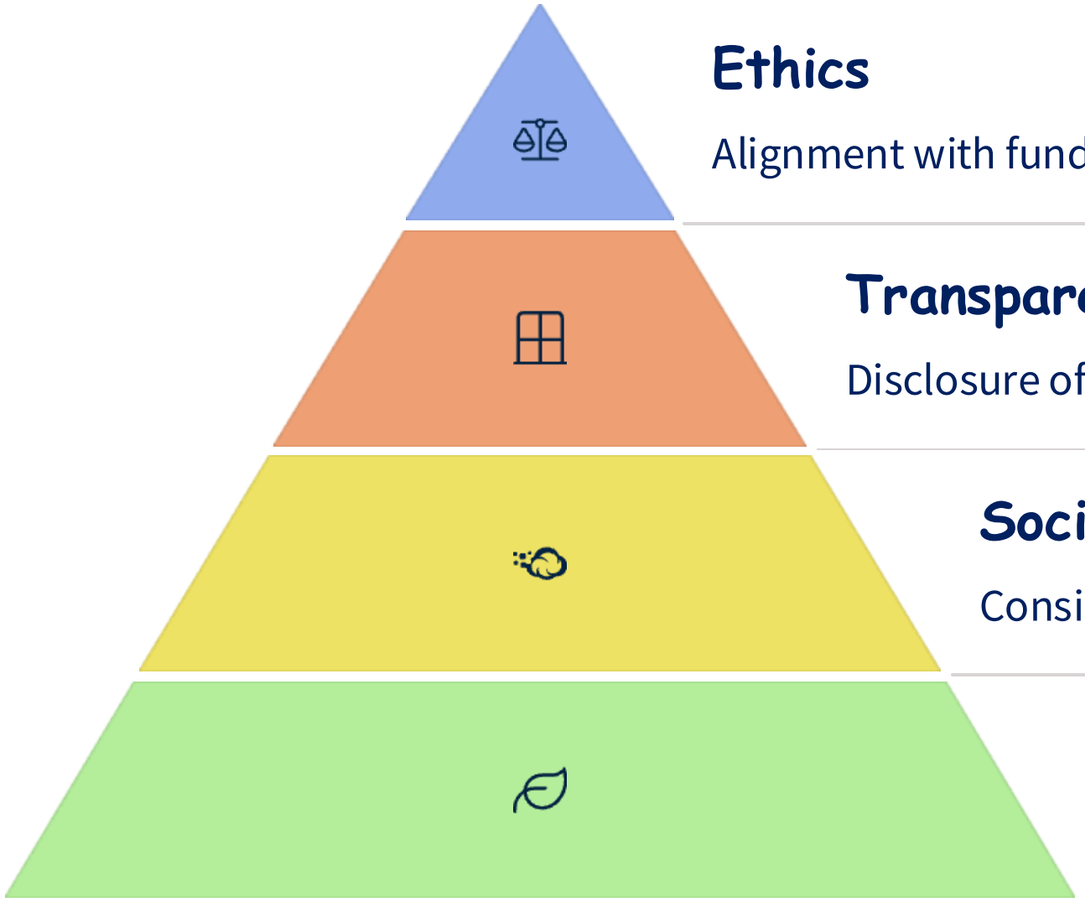
Widespread use

Convenience – Usage changed from only business to private

Green-AI

Cost efficiency & convenience

Responsible Use of AI: Ethical Guidelines



Ethics

Alignment with fundamental moral values

Transparency

Disclosure of processes and decision-making criteria

Social Inclusion

Consideration of all groups

Resource Conservation

Conscious use of natural and digital resources
Responsible AI usage with a sustainable mindset.

From Values to Action: The Implementation Process

Defining Values

Sustainability / Cooperation /
Human centered / Community

Setting Objectives / Goals

Selecting Technologies

👉 Technology follows strategy – not the other way around.

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Just DO it!

The world won't wait

Be the captain, not the passenger!

Artificial Intelligence + Human Intelligence

=

Intelligence²

But without human intelligence, artificial intelligence is worth nothing!

(Manuela Machner)