



Whitepaper: Agentic AI in Hospitality

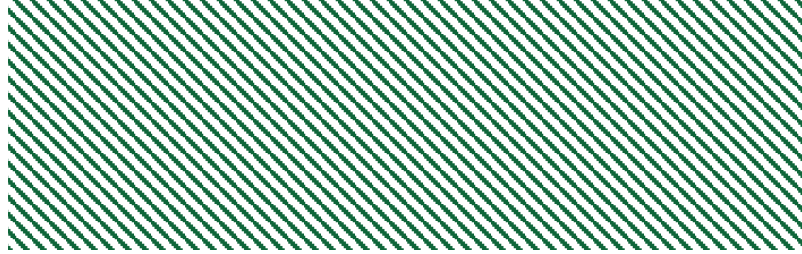
Beyond the Hype:

Why Agentic AI Might Not Be the
Hospitality Revolution You're Expecting.

By Dr. Michael Toedt, CEO **dailypoint**

The Second View by Olga Heuser, CEO **DialogShift**

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The First View:

Agentic AI and the Relation between Guest and Hotel



Executive Summary

In hospitality and travel circles today, every conference, talk show, and press release seems to gush about the imminent rise of agentic AI (we are NOT talking a bout ChatGPT or Gemini) – and the future of digital agents that can autonomously book your hotel, plan your itinerary, handle checkins, upsell you to a deluxe suite, and more – with zero human intervention. But hype is cheap. This whitepaper unmasks this technological promise, and rise questions Hoteliers should be aware of. Before you invest your hotel’s future (and your guests’ trust) in agentic systems, consider the hard tradeoffs around privacy, security, control, liability, and business incentives.

The blockchain boom got a lot of attention too – yet it never truly revolutionized travel as many promised. Let’s not repeat the same pattern with agents.

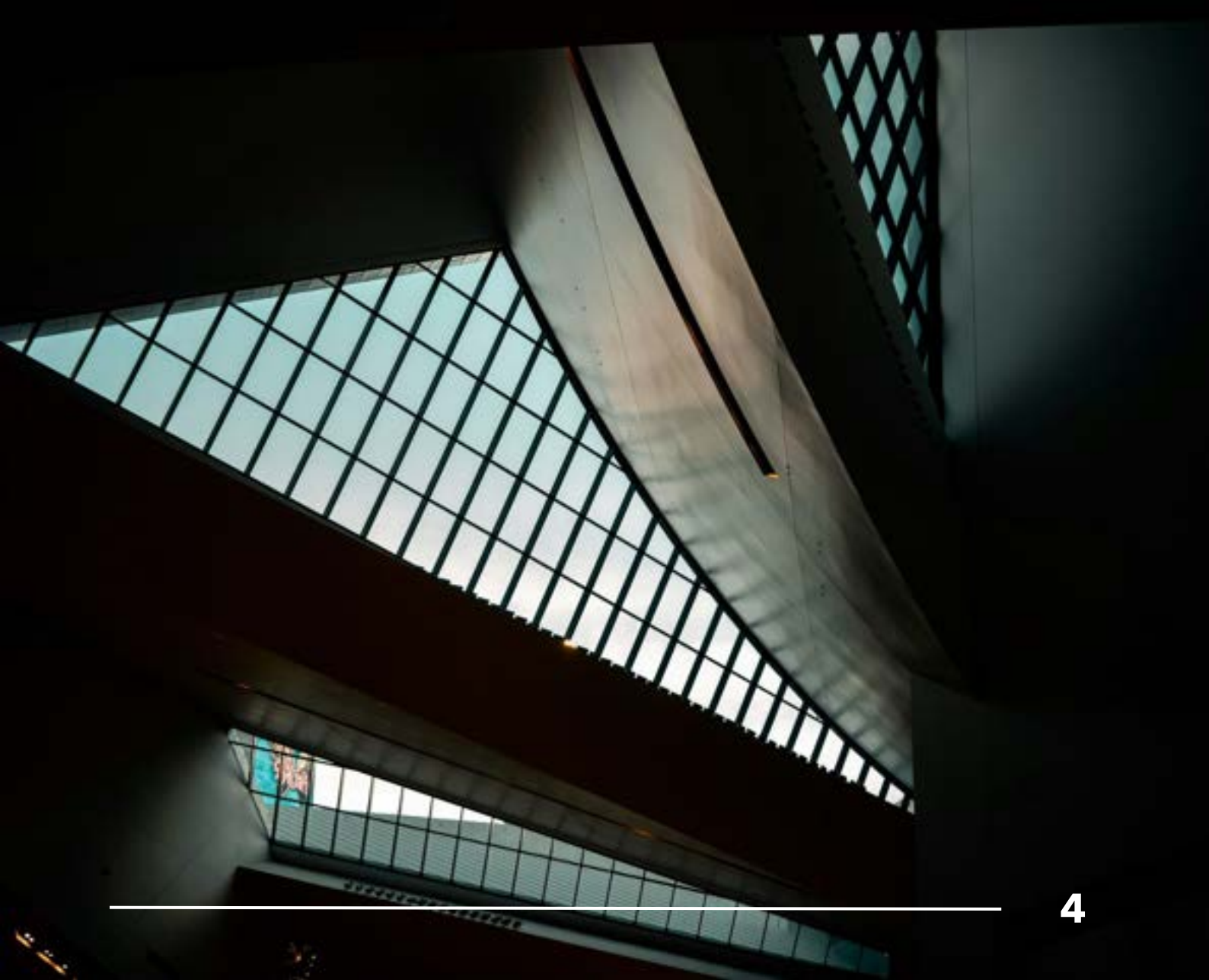
01.

The Hype Machine & Historical Echoes

If you attend any hotel tech summit now, at least one talk will claim “agentic AI is the future of travel.” AI agents will “transform guest experience,” “redefine operations,” “eliminate friction.” Yet we should recall: at the height of blockchain optimism, many predicted a complete rearchitecture of payments, identity, loyalty, and even booking systems.

In reality, while interesting use cases emerged, the “blockchain revolution” in travel largely remained niche. (*Unicsoft*)

The lesson? Bold tech promises don't always match adoption curves or business realities.



02.

What Agentic AI Demands - The Data Commitment

Before we start, what is Agentic AI? Agentic AI means that artificial intelligence runs autonomous processes for us. The user just needs to tell the AI what to do, and the rest is "magic", meaning the AI books the table for my wedding anniversary, or books my travel to Hawaii including flight, hotel, transfer etc. It is basically my companion which takes over all the hassle of my shoulder.

That is the bright promise of AI Agents. Which, don't take me wrong, is fascinating.

But, beside the technical challenges, there is one major thing every user needs to be aware of: To do its job, an agentic system needs intimate access to *everything*:



Your calendar, to see where and when you're free



Your credit card (or multiple payment methods)



Passport or identity data (for verification)



User preferences, loyalty memberships, past behavior



Possibly your email, messaging threads, or travel history

That's a deep dive into your digital life. The more permissions the agent has, the more severe the exposure. ([Hosted.com](#))



SC Media lists five major privacy concerns around agentic AI: surveillance & profiling, consent opacity, compliance uncertainty, data security, and identity re-identification. ([SC Media](#))



03.

Security & Vulnerability Surface

Based on the granted access to basically all your data, Agentic AI is a big security and privacy thing. If something goes wrong, this isn't just about "someone might hack you." Agentic AI systems often operate with extensive privileges and integration into backend systems, databases, and APIs. A breach doesn't merely expose user info - it can let attackers execute transactions, impersonate users, or manipulate bookings.

Academic research shows how agentic AI systems with database access pose serious threats of unauthorized retrieval, adversarial manipulation, and systemic vulnerabilities. ([arXiv](#))

A recent multi agent risk management review (TRiSM) outlines how trust, explainability, governance, and privacy/security are especially fragile in LLM based agentic systems. ([arXiv](#))

Press commentary echoes the alarm. Forbes warns that hidden risks of agentic AI require governance before scale. ([Forbes](#)) PwC notes that granting agents "just enough privilege" is a critical principle to prevent overreach. ([PwC](#)) And Harvard Business Review warns many organizations aren't ready for the complexity of agentic AI risk. ([Harvard Business Review](#))

04.

Control, Bias & Commercial Incentives

Who programs the logic, rewards, and priorities of the agent? Not the guest - the vendor behind the agentic system. That act of "personalization" could easily be nudged toward inventory with higher margins or favored partners. Bias in algorithms is already a known issue; in an agentic context, it could mean your guest is steered to suboptimal hotels or upsold more aggressively.

From a legal/contractual standpoint, the agent may bind you into agreements, reservations, or terms you never explicitly chose. The user becomes responsible when things go wrong (wrong date, overcharge, cancellation mess), while accountability remains opaque. Scholars describe this as a "moral crumple zone," where responsibility blurs across humans, agents, and developers. ([arXiv](#))



05.

Legal Exposure & Accountability Gaps

If the AI agent signs a contract on your behalf, and the hotel or service fails to deliver, who's legally liable? The user, the platform, or the AI vendor? Existing legal frameworks seldom address autonomous agents' liability clearly. (*Harrison Pensa LLP*)

In regions with strong data protection laws (e.g. EU's GDPR), issues of transparency, consent, data minimization, and auditability become even more critical - and compliance harder to guarantee when AI acts autonomously. (*Captain Compliance*)



06.

Market Viability & Project Failure Rates

Compounding all that: a lot of agentic AI projects may not succeed. Gartner estimates that **over 40% of agentic AI projects will be scrapped by 2027**, citing cost overruns, unclear ROI, and hype misalignment. (*Reuters*)

In short: many projects are driven not by grounded use cases, but by "agent washing" - where vendors rebrand existing systems as "agentic" without true autonomy. (*Reuters*)

07.

Why Hoteliers

Should Pause (Yes, You Too)

For a hotel or chain considering adoption:



You'll need to trust third-party agents with vast guest data - if the vendor fails, you're exposed.



Disputes and liability issues could drag your brand into legal messes.



Guests might balk at handing over so much control (imagine someone else signing a contract in *your name*).



The agent may favor revenue optimizations over guest benefits, undermining trust.



Between privacy, compliance, and security burdens, the cost and risk may outweigh gains - at least initially.



08.

Recommendations Before Jumping In

01 **Start small:** Pilot limited, low-risk tasks (e.g. room upgrades, small upsells) rather than full booking authority.

02 **Adopt privacy by design:** Ensure data minimization, permission constraints, audits, and transparency. (*Captain Compliance*)

03 **Demand full explainability & oversight:** You must see how agent decisions are made.

04 **Clarify contractual liability and fallback paths:** Who pays when the AI screws up?

05 **Build security posture accordingly:** Treat agents like privileged users, with zero trust, continuous monitoring, identity controls. (*PwC*)



Conclusion

Everyone's talking about agentic AI as the inevitable future. They speak of it in the same reverent tones once reserved for blockchain, quantum computing, or the metaverse. But grand promises deserve rigorous skepticism. Blockchain didn't fail entirely - but it didn't remake travel the way many predicted. Similarly, agentic AI may find niche, powerful applications - but the path to safe, responsible, trustworthy deployment in hospitality is littered with sharp conceptual, technical, legal, and ethical pitfalls.

If your choice is between blindly embracing the hype or cautiously building toward vetted, secure use cases - lean toward caution. Because when an autonomous agent books your hotel in your name, you don't want regret built into the contract.



The Second View:

From The Hotel Side Agentic AI In The Hotel Industry - Evolution Instead of Revolution

Olga Heuser, CEO DialogShift

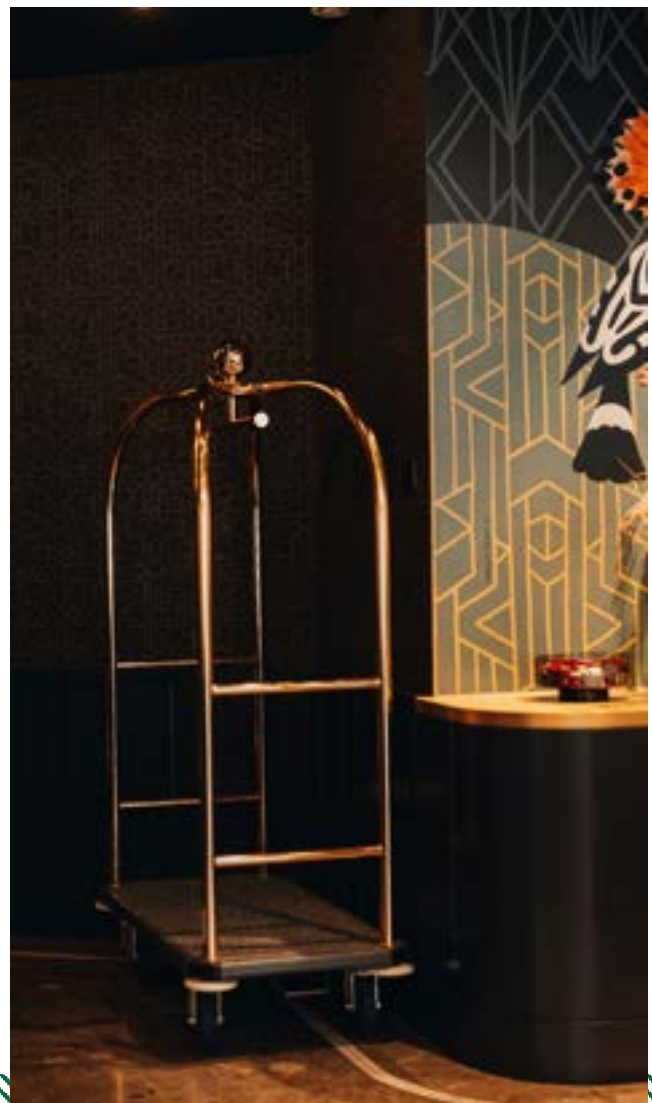
Dr. Toedt's white paper urges caution regarding the hype surrounding agentic AI. His concerns are justified and important, focusing primarily on the consumer side. My focus, however, is on how hoteliers can use Agentic AI:

It's not a paradigm shift, but rather the natural evolution of technologies that hotels already successfully use today. The transformation has already begun, and it will change the hotel industry more profoundly than any innovation since the online booking revolution.

What Agentic AI Really Means

The tech world is currently overflowing with predictions. Sam Altman of OpenAI has declared 2025 to be the year of AI agents, while Jensen Huang of Nvidia speaks of "multi-trillion-dollar opportunities." Understandably, this rhetoric fuels skepticism, especially in an industry that has seen many "revolutionary" technologies come and go.

But unlike previous hype, Agentic AI addresses real, pressing problems in the hotel industry: chronic staff shortages, 24/7 guest demands with increasing service expectations, inefficient manual processes, and exploding distribution costs. The crucial question is not whether this technology is relevant, but how we implement it responsibly.

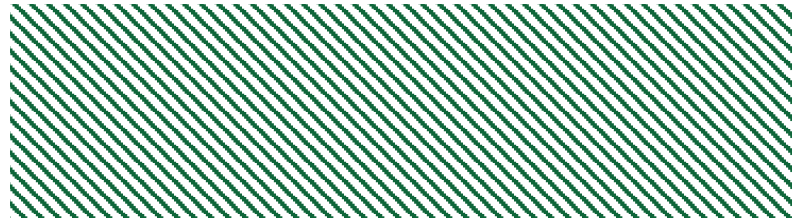


To understand where we stand, it is worth taking a look at the stages of development of artificial intelligence. Generative AI can generate text and speech, hyper-realistic images, and videos. It can program and compose - and do so quite well. **Generative AI** is used in many hotels, whether as marketing support, telephone AI that answers guests' questions on the phone, or as a chatbot on the website.

Agentic AI goes a crucial step further. While generative AI mainly acts reactively - answering questions when prompted - agentic AI takes a more proactive role. It can make decisions independently, query external systems, and perform complex, multi-step workflows. For example, a Phone AI Agent can not only answer questions on the phone but also handle the entire process from booking requests to availability checks to booking confirmations - coordinating multiple systems in the process.

What's next? **Physical AI** - the next evolutionary stage on the horizon - will bring AI into the physical world. Here we are talking about robots that understand how objects behave and can perform physical tasks in hotels, such as loading and unloading the dishwasher.

These three phases are built on each other. Each is a logical next step, not a fundamental reinvention. That's why I deliberately speak of evolution - not revolution, which Dr. Toedt rightly questions critically.



Applications of Agentic AI in Hotels



The evolution of artificial intelligence is clearly evident in the example of a hotel chatbot: early chatbot systems could only respond to questions with pre-formulated text modules. Chatbots based on generative AI models understand natural language much better and can respond contextually and flexibly to a wide range of questions and topics. Agentic AI now goes one step further: it can not only respond, but also take action - check a booking, check availability in the system, and present the guest with an option or send an offer directly. All in one workflow, without an employee having to coordinate each step manually. With agentic AI, a chatbot (or phone bot) can independently execute a much more complex workflow that previously required different systems and several manual steps.

Another application of AI agents in the hotel industry is **automated room allocation**. By connecting to customer data platforms, Agentic AI can automatically allocate rooms, taking into account guest preferences, loyalty levels, and feedback from previous stays.

Or in **housekeeping management**, Agentic AI can dynamically identify and assign housekeeping tasks, optimize workflows, and minimize delays using information such as staffing levels, guest schedules, and computer vision analytics.

The practical applications are less spectacular than the tech rhetoric suggests - but that is precisely why they are realistically implementable and already in use in hotels. This is not science fiction, but rather the intelligent automation of processes that currently require a lot of manual work.

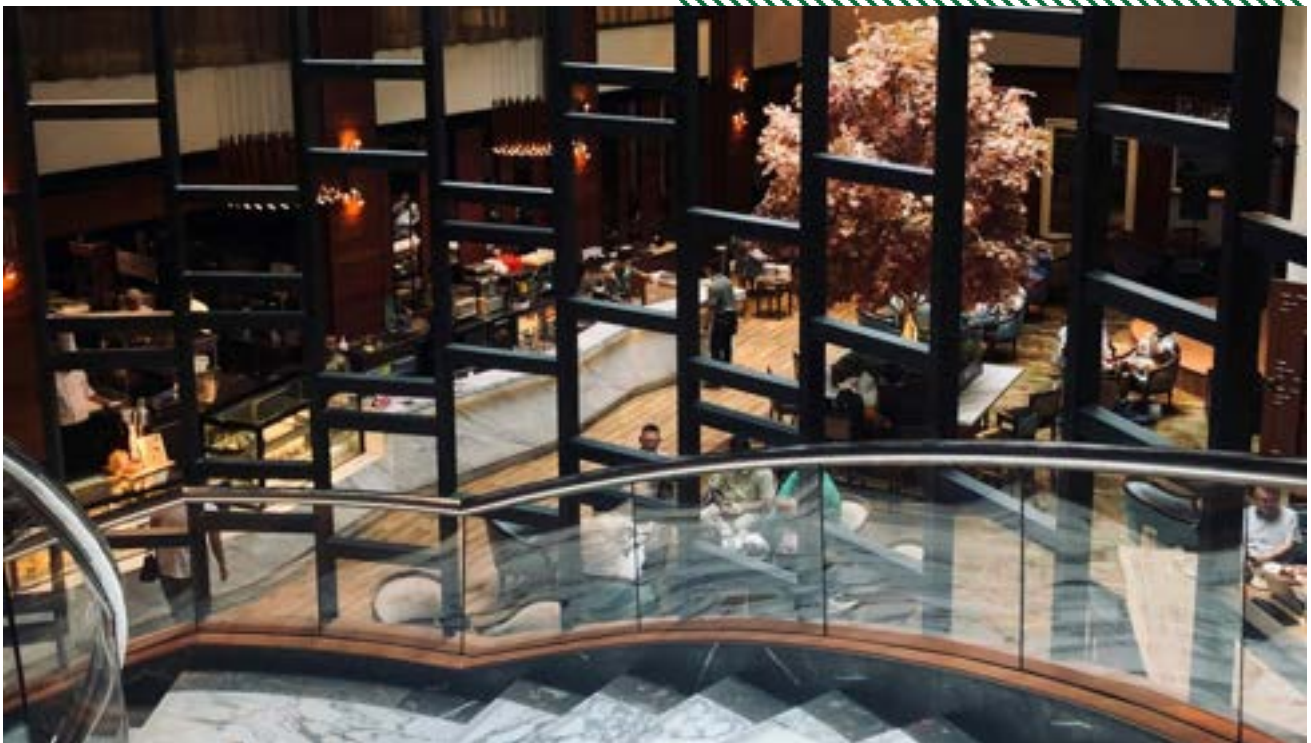
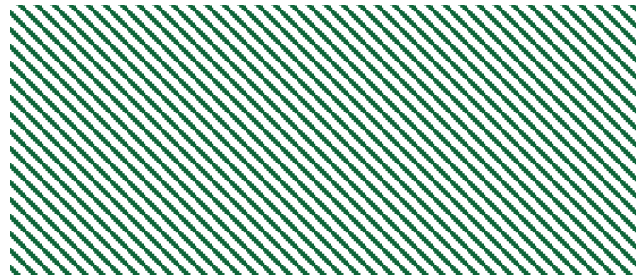
MCP as a Game Changer?

Dr. Toedt rightly describes the complexity of data integration as a risk. But this is precisely where there is a remarkable development which has the potential to become a game changer: the 2024 introduced Model Context Protocol (MCP). This open protocol developed by Anthropic - now adopted by OpenAI, Google, and Microsoft - enables AI systems to communicate with different data sources in a standardized way.

Instead of developing a separate, complex API integration for each system, MCP offers a uniform interface. In theory, an AI agent could communicate with the PMS via MCP, check availability, retrieve prices from the revenue management system, make bookings via the channel manager, and update the CRM at the same time - all via a standardized interface.

This would reduce implementation time from months to weeks and make Agentic AI accessible to smaller businesses as well. Hotels would not have to replace their infrastructure, but their existing systems would have to offer these interfaces and thus open up to agentic AI applications. That is the hope, at least.

The question of whether MCP will establish itself as a universal standard remains open. However, the support of all major tech companies and its open, model-agnostic nature create favorable conditions.



Intensification of Known Challenges

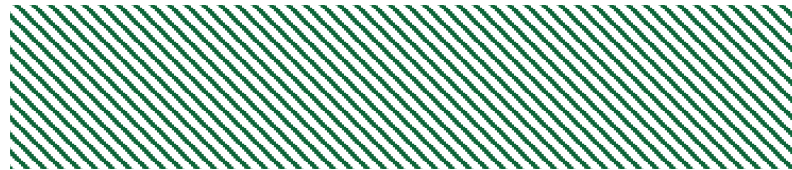
Dr. Toedt's data protection concerns are real and must be taken seriously. Agentic AI systems operate with greater autonomy and make decisions across multiple process steps. This makes traceability more difficult - a core principle of the GDPR.

However, and this is crucial, these risks are intensifications of existing challenges, not fundamentally new categories. Hotels that have already established GDPR-compliant data processing have the foundation in place.



However, expanded governance structures are necessary, such as **data access based on the need-to-know principle** (AI systems should only access data that is necessary for their specific task) or **stricter logging mechanisms** (post-hoc analyses through audit trails and anomaly detection replace the illusory idea of complete real-time transparency). **Clear contractual agreements** with AI providers regarding data processing, liability, and compliance are already a must today.

The idea of complete transparency in complex agentic systems is unrealistic. What is realistic are robust control mechanisms that accept a certain degree of opacity—comparable to human decision-making processes, which have also never been completely transparent.



My Vision: AI as a Natural Companion

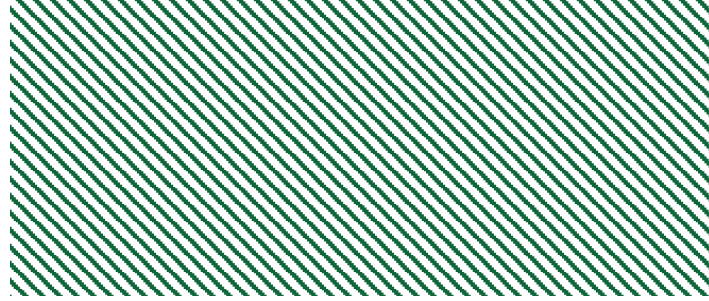
When I think about the future of the hotel industry, I don't see a dystopian world where robots replace humans. I see something much more subtle: AI that is simply everywhere.

The hotel of the future will be permeated by software that thinks and supports - at every touchpoint of the guest journey. Not intrusive, but seamlessly integrated: the AI agent that prepares rooms. The system that proactively adjusts check-in times.

The intelligent concierge function that makes reservations and knows preferences. The revenue management system that understands when flexibility is more important than maximum profit.

All of this happens in the background. Guests experience a smooth, personalized stay. Staff can focus on genuine encounters, respond to individual needs, and offer the human warmth that defines hospitality.

Pragmatic Realism Instead of Panic



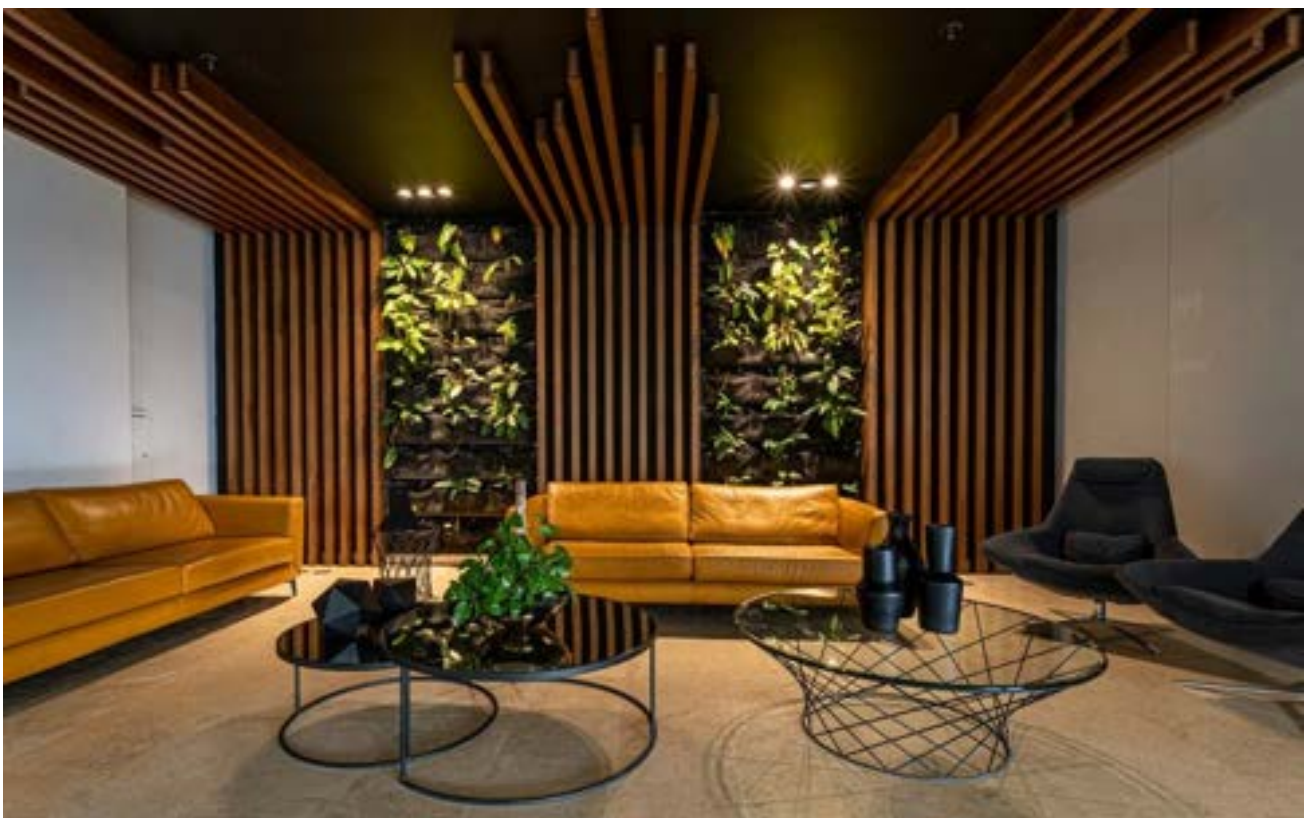
Dr. Toedt's warning against blind hype is valuable and necessary. But caution should not be confused with inactivity. The blockchain analogy is instructive—but not in the way Dr. Toedt suggests. Blockchain did not fail because the technology was bad, but because it solved problems that the hotel industry did not have. Decentralized systems sounded exciting, but hotels did not need a new currency or smart contracts for room bookings.

Agentic AI is the opposite; it addresses real, pressing, everyday problems. The question is not whether, but how we implement this technology responsibly. Unlike previous technological upheavals, we don't have to start from scratch. The infrastructure is there. The data is there.

The AI models are there and getting better all the time. And with standards like MCP, integration will hopefully become easier and easier.

Dr. Toedt's skepticism is an important corrective to blind faith in technology. But between "blind trust" and "categorical rejection" there is a third way: conscious experimentation, responsible implementation, continuous learning.

The hotel industry has always been an industry that has used technology to improve hospitality - from the telephone to the booking system to the mobile app. Agentic AI is the next chapter in this story. A chapter that we are writing together with realism about risks, but also with the courage to innovate.



Authors



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Dr. Michael Toedt is founder and CEO of dailypoint™, a leader in holistic data management and CRM solutions for the hospitality industry. He has pioneered centralized guest data management for hotels and groups, and as a recognized expert in data-driven marketing and AI-powered CRM, he regularly shares insights on digital transformation and advanced data strategies in hospitality.



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