

HY824

Technology Edition
Entering The
Everything-Data Decade



The Hotel Yearbook
Foresight and innovation in the global hotel industry



Harnessing Data Lakes to Transform Guest Experiences and Drive Business Growth



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Data – in many ways – rules the world that we live in today. With countless digital touchpoints woven into our daily existence, data has become its own language and currency, flowing from person to person and platform to platform. Of course, consumers are intimately aware that it’s their data that informs the more personalized and convenient experience they crave, but they do not hand that information over without expectation. As the saying goes – with great power comes great responsibility. Data may be a primary currency in today’s market, but it must be spent in a manner that protects its value.

The hospitality industry is no stranger to this conversation; hotels are a people-first business and, therefore, a data-centric business. The most successful hospitality brands are those that curate meaningful connections with guests and go the extra mile to offer a comfortable bed and a clean room – but a multi-faceted experience that can’t easily be replicated. So, it should come as no surprise that the most successful hospitality brands are those that effectively capture and leverage guest data to curate more meaningful connections and

experiences for their guests. In fact, a HotelTechReport survey revealed that 81% of hoteliers believe it’s very likely that technology will be critical for the success of a hotel business in the next five years.

With the inevitable rise of artificial intelligence (AI) and machine learning (ML), there is a significant opportunity to use data to tailor experiences to individual preferences and behaviors – and yet, many properties are still struggling to effectively implement the technology needed to gather, analyze, and act on customer data in real-time. Moreover, while some leading chains and properties have begun to leverage advanced analytics, ML, and AI to unlock dynamic pricing, personalized marketing, and operational optimization, the wider industry still shows a reluctance and slow adoption rate, likely due to cost, complexity, and lack of expertise.

Your backbone, fully accessible via APIs

The hospitality sector sits atop vast amounts of data generated from each guest interaction – but without the appropriate tools to capture, sort, and action that data, it lacks meaning. It’s like cooking a new dish with the right ingredients but no recipe, putting together IKEA furniture without the instructions, or trying to read a book in a different language. Raw data, on its own, isn’t valuable – but data that is effectively aggregated and interpreted is a gold mine of insights that can transform operational processes and personalization strategies. Hotels require a tool that provides context and does the heavy lifting, and without this framework, hotels may find themselves at the mercy of a variety of challenges.

First and foremost, it’s important to acknowledge that not all platforms are created equal. With AI cementing itself as the buzzword of the season, there is no shortage of hospitality platforms labeled as “cutting-edge” and “AI-driven,” and hotels may feel compelled to build out their technology stack with new, exciting applications. However, the accumulation of platforms can reach a point of diminishing returns; that is, a “platform paradox” effect takes shape when a hotel’s operational ecosystem becomes overwrought with disparate systems and, consequently, data silos. According to a study by Experian⁰¹, a staggering 40% of business-critical data is trapped in data silos. Moreover, 84% of executives⁰² report suffering from the negative effects of data silos. Why? Because many of the systems businesses adopt in the interest of optimization are not designed to communicate with one another and, as a result, data can become trapped. Inconsistent data formats, duplicate data, and lack of clear data governance policies can also stand in the way of effective data application and exacerbate the issue of silos. Ultimately, a data-driven platform is only as valuable as its ability to

integrate into your hotel’s ecosystem and communicate effectively with other platforms to provide actionable insights. To this effect, 65% of hoteliers⁰³ say the integration of new technologies into existing systems is their biggest challenge.

At the same time, hotels must remain cognizant of cybersecurity and data privacy risks. Across this data-centric landscape, consumers have become increasingly wary of brands that don’t go the extra mile to protect their information. As hotels become more digital and adopt more platforms, they also become more vulnerable to cyber threats. With this in mind, it’s imperative that properties invest in solutions that offer robust security measures and ensure compliance with data privacy laws.

The role of a data lake

Fortunately, a data lake – a centralized repository that ingests, stores, and allows for the processing of large volumes of data in its original form – serves as a remedy to this problem, effectively breaking down data silos to maximize data insights. Unlike other data storage solutions, a data lake can handle vast amounts of unstructured and structured data without requiring it to be categorized upon entry. This flexibility is especially impactful within the hospitality realm, as data is pulled from a variety of sources and formats.

By storing data in its raw form, data lakes enable hotels to preserve all potential insights, which can be extracted when needed using advanced analytics and ML techniques. This tool also prevents the creation of a “data swamp” via intelligent metadata management. In other words, a data lake acts as

a master interpreter of raw data, ensuring hoteliers understand the data they’ve captured. A truly interoperable solution, a data lake integrates seamlessly with other platforms to continuously aggregate data from different systems (such as a hotel’s PMS, CRM, or POS) without the risk of creating new silos.

Ultimately, a data lake empowers hoteliers to capture data from across their enterprise – regardless of its source – and deliver schema-on-read intelligence along with a fast, flexible data consumption framework to enable new ways of making key decisions. Using this tool, hoteliers can unlock meaningful insights, such as identifying which amenities are most loved by guests or predicting future booking trends. Furthermore, ML models can be applied to this data to enhance a hotel’s personalization efforts, from suggesting tailored offers and services to dynamically adjusting room rates based on demand forecasts.

The best part? A data lake is infinitely scalable; as your hotel grows (along with the volume of data you capture), the subsequent infrastructure of a data lake can expand accordingly without significant re-engineering. From a cybersecurity perspective, the centralized, secure, and scalable nature of data lakes also makes them an ideal choice for hotels aiming to protect sensitive data, comply with regulations, and respond swiftly to emerging cyber threats.

As technology continues to evolve, the hospitality industry must embrace digital innovations to stay competitive. In today’s market, the ability to capture, analyze, and act upon vast amounts of data (in real-time) can significantly enhance a hotel’s success and competitiveness. hotel. By offering a centralized, infinitely

scalable, and flexible repository for all types of data⁰⁵, data lakes enable hotels to break down silos, integrate disparate systems, and uncover deep insights that drive strategic decision-making. More importantly, the implementation of data lakes can transform the guest experience through personalized services, operational efficiencies, and proactive service enhancements. Investing in a robust data infrastructure, such as a data lake, is not just a technological upgrade. It’s a strategic imperative that can place your property at the forefront of the industry – today and in the years to follow.

- 01 <https://www.datadynamicsinc.com/blog-disentangle-from-the-shackles-of-data-silos-the-key-to-unlocking-the-transformative-power-of-your-data-assets/#:~:text=Data%20silos%20occur%20when%20different,to%20a%20study%20by%20Experian.>
- 02 <https://www.datadynamicsinc.com/blog-disentangle-from-the-shackles-of-data-silos-the-key-to-unlocking-the-transformative-power-of-your-data-assets/#:~:text=Data%20silos%20occur%20when%20different,to%20a%20study%20by%20Experian.>
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- 04 <https://www.infor.com/en-ca/products/data-lake>
- 05 <https://www.infor.com/en-ca/products/data-lake>



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Hospitality Tech
Industry Calendar
2024-2025

HITEC® 2024 Charlotte
Jun 24 – 27, 2024
Charlotte Convention Center

**HSMAI Americas - Commercial
Strategy Conference**
Nov 25 – 26, 2024
Charlotte Convention Center

**HITEC Technology Investment
Conference**
Jun 27 – 28, 2024
Charlotte Convention Center

2024 Hotel Data Conference
Aug 7 – 9, 2024
Grand Hyatt Nashville

Skift Global Forum 2024
Sep 17 – 19, 2024
The Glasshouse, New York

HEDNA Asia Distribution Conference
Sep 23 – 24, 2024
Siam Kempinski Hotel Bangkok

FHS World 2024
Sep 30 – Oct 2, 2024
Madinat Jumeirah Conference &
Events Centre

**HSMAI Asia - Digital Marketing
Conference**
Oct 10, 2024
Phuket

Hospitality Tech Expo
Oct 15 - Oct 16, 2024
Excel London

ITB Asia
Oct 23 – 25, 2024
Marina Bay Sands Singapore

The Hospitality Show 2024
Oct 28 – 30, 2024
San Antonio, TX, United States

Cvent CONNECT 2024 - Europe
Nov 5 – 7, 2024
Hilton London Metropole

**International Hotel Technology Forum
Asia 2024 (AHTF)**
Nov 12 – 13, 2024
Pan Pacific Singapore

Hotel Technology Forum (HTF) 2024
Nov 18 – 20, 2024
Rancho Palos Verdes

The Phocuswright Conference
Nov 19 – 21, 2024
JW Marriott Phoenix Desert Ridge
Resort & Spa

**HSMAI Middle East - Commercial
Strategy Conference**
Nov 26 – 27, 2024
Conrad Dubai

**HSMAI Europe Revenue Optimization
Conference**
16 Jan, 2025
London

**HEDNA Global Distribution
Conference: North America**
Jan 27 – 29, 2025
Catamaran Resort Hotel and Spa

ITB Berlin 2025
Mar 4 – 6, 2025
Messe Berlin

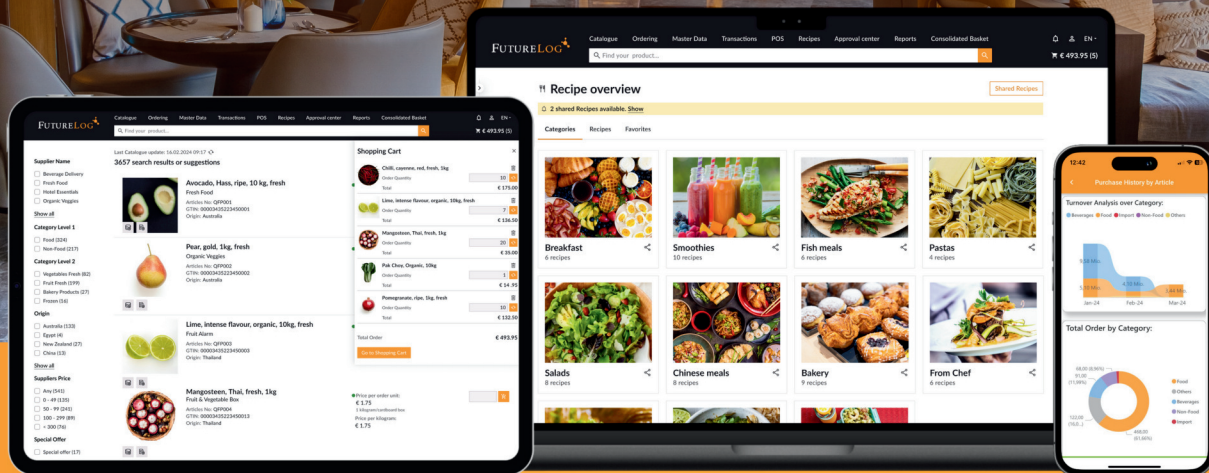
**International Hotel Technology Forum
2025 (IHTF)**
Mar 18 – 20, 2025
Lisbon

HITEC DUBAI
May 27 - May 29, 2025
Dubai World Trade Center

HITEC® 2025 Indiana
Jun 16 – 19, 2025
Indiana Convention Center

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- Denis Karalić, ACHAT Hotels

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BUSINESS INTELLIGENCE

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INVOICING

Centralised, AI-powered invoice processing with transparent approvals.



CAPEX MANAGEMENT

Intuitive, efficient financial planning, with clear status overviews and activity logs.

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