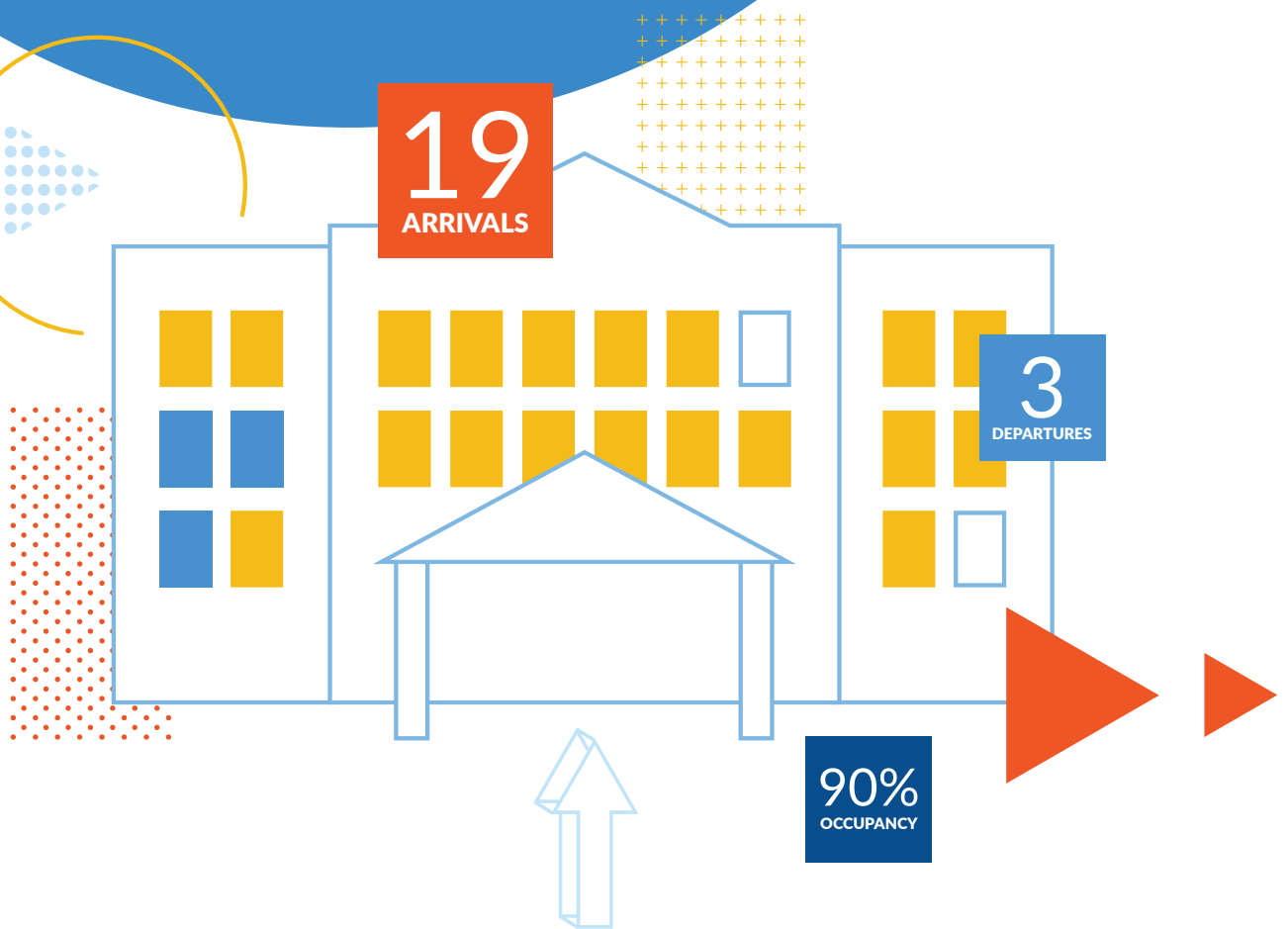


SPECIAL REPORT

Redefining the Role of the PMS in Hospitality Through Innovation and Collaboration



PRESENTED BY



**VISUAL
MATRIX**

Hospitality Operating System

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The Property Management System (PMS) has always rested at the center of hotel operations. Yet with all the potential for helping hoteliers streamline their businesses and create better guest experiences, true innovation has been elusive.

A recent *Skift* report on [the state of the PMS](#) concluded that, when it comes to property management systems, “the track record of hotel technology is one of slow progress rather than radical innovation.” At the same time, writing in 2020, the report concluded that “maybe we do actually find ourselves at a truly seminal moment in the history of the hotel PMS as we know it. Disruptions to the incumbent players have steadily increased over the past years, so much so that we are starting to see this coming to a boil now, resulting in some considerable changes in the PMS landscape.”

In the two years since the publication of that report, the industry has had to confront a new era marked by pandemic economics, rising costs and the unrelenting pressure of an acute labor shortage. These factors have amplified the call for dramatic increases in automation, and intensified the need for hotel players to move quickly and see benefits.

Simplification, integration, and automation are the themes of the day.

Hotels are grappling with the rising cost of labor, an unpredictable pricing environment, and a growing reliance on technology to fulfill daily operations. As a result, cloud computing, open APIs, marketplaces, and growing layers of middleware have taken center stage for hoteliers operating across every segment, marking a new age of digital innovation. Technology providers across the industry are working to provide the tools hotels need to succeed in a volatile market, and the need for real innovation has never been more acute.

This report concludes that the industry can solve many of the most intractable problems related to the PMS through collaboration, bringing together best in breed approaches to property management. By encouraging cross-pollination among tech leaders, owners and brands, the industry can substantially rewrite the PMS landscape – and with it, the entire tech stack – in coming years.



Chapter 1

Automation's Place in Today's Hotel Industry



Hospitality was one of the industries most significantly impacted by the COVID-19 pandemic, and the road to recovery for hotels has been long and uneven. Even with a [summer leisure travel surge in 2021](#) and promising performance metrics [as of March 2022](#), hotels are still in the midst of an extended recovery period.

[Corporate budgets across hospitality remain strained](#) despite the ongoing rush of new occupancy resulting from pent-up demand brought on after two years of revenue contraction. For these reasons and many others, the industry has shifted its attention to automation, with 54.8-percent of survey respondents identifying automation as [one of the most important trends taking place in hotels today](#).

For reasons particular to the complex ownership, management and revenue structures of the industry, Hospitality has traditionally been resistant to innovation through automation. This sentiment [began to shift toward greater acceptance](#) during the COVID-19

pandemic, particularly as a means to provide relief to under-staffed hotels. A recent survey conducted by Du-etto showed 77.6 percent of respondents expected to increase their hotel tech investment [over the next three years](#), and 54.8 percent of respondents listed automation as the most important trend in hotel technology.

Here is the central challenge: Deploying automation in hospitality requires many back-end integrations, many of which are often separated into their own operational silos within the hospitality technology stack. Legacy PMS technology is often unable to fully integrate the systems necessary to facilitate automated processes.

For example, many hotels are using mobile SMS in order to send direct text messages or push notifications to guests' devices. While this opens hotels up to new ways to communicate with travelers, it also requires a PMS capable of accessing guest booking data, guest contact information, scheduling software, and more. To date, the unavailability of technology to cut across

the silos and unify the technology has made integration difficult, time consuming and costly.

Without automation, text-based communications can also create additional labor challenges without providing effective ways to reduce operations bandwidth. An automated system allows hotels to screen text messages for keywords, and either reply with an answer or more prompts to help provide assistance. Common questions such as “what time is breakfast?” or “where is the fitness center located?” can be answered using automated responses. Meanwhile, more complicated questions can be routed directly to a hotel associate for live support.

Of course, texting and guest communications are just one example.

Because of the challenges inherent to the implementation process, hoteliers and brands have found it difficult to implement a truly integrated PMS at the heart of the tech stack overall. At the same time, current challenges in the labor market are restricting hotel operations, making clear what tremendous benefits a truly automated system can provide.

According to Klaus Kohlmayr, Chief Evangelist & Chief Development Officer at IDeaS, hoteliers who

are attempting to operate today the same way they have been prior to the pandemic are missing the urgent changes taking place in the market around them, and will be at a competitive disadvantage going forward if they fail to embrace innovation.

“Choosing to disrupt your hotel’s core systems at a time when you are already struggling with labor and staff challenges can be a difficult, big decision to make, but it is one hotels are going to have to consider,” Kohlmayr said.

“This is a decision that involves every department within the hotel, because everything is gradually integrating into the PMS to allow for automation. Hotels are now looking at an opportunity to future proof their PMS by investing in technology that can improve over time as technology becomes more sophisticated.”

Klaus Kohlmayr

Chief Evangelist &
Chief Development Officer, IDeaS

IMPORTANT FUNCTIONS THAT CAN BENEFIT FROM ON-PROPERTY AUTOMATION

Task Management

Automatically populating employee schedules with assignments and responsibilities helps free time in management’s schedule to focus on other pressing matters, while ensuring hotel workers are always aware of what needs to be done on property. This technology is also helpful for onboarding new employees and refreshing lessons over time.

Guest Interaction

By filtering for keywords, hotels are able to automate responses to common guest questions and requests. This system is useful for providing answers to questions guests may be unwilling to ask in person, and is also helpful for diverting low-level inquiries away from the front desk, creating room for more high-level interactions.

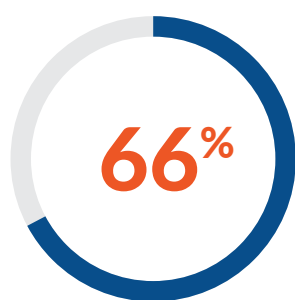
Safety

Automated safety systems are able to quickly alert staff members and anyone else operators deem necessary through a curated, preset list of contacts. This way hoteliers can focus on prioritizing the safety of hotel guests and employees in the event of an emergency, safe in the knowledge that an automated alert has already been sent to all necessary parties.

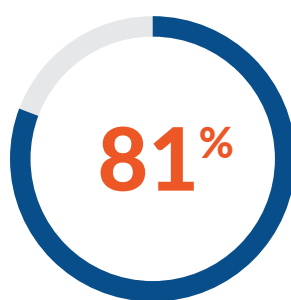
Chapter 2

Returning Travelers Have Higher Expectations: The Case for Mobile Check In

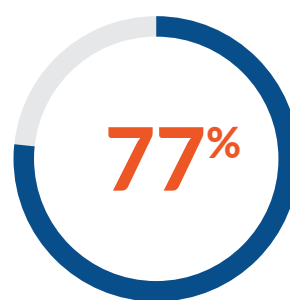
Lodging Technology Study: Redefining the Guest Experience



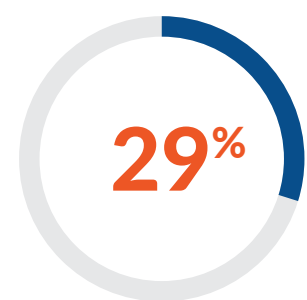
of hotels plan to increase IT budget in 2022 in order to account for the rising need for technology to support operations.



of hoteliers believe contactless payment tools are among the most important emerging technologies in the hotel space today.



of hoteliers ranked the need to use technology to drive guest loyalty growth as the most important initiative they are facing in 2022.



of hotels are expected to change revenue management systems in 2022 in response to a growing need for revenue optimization in hospitality.

Lodging Technology Study: Redefining the Guest Experience

As the hotel's centralized system for delivering service, the PMS has the capability to oversee every aspect of the guest journey. It is the PMS that really enables check in and check out, not the front desk, and hotels who realize the potential of this technology are able to better serve guests in ways they desire most.

Mobile check in was gaining popularity among guests [prior to the pandemic](#), but since 2020 it has become a necessary component of hotel operations. At first, this shift was a reaction to social distancing trends that arose during COVID, with a recent survey from New York University showing 64.1 percent of branded and independent hotels are on target [to offer self-service check-in options by the end of 2022](#).

A contactless, self-service hotel experience consists of many elements, one of which is mobile check in. Other aspects include guest communications, contactless payments, automated assistance, and more. Sometimes hotels employ a digital app for guests, employees, or both groups in order to assist with the implementation of contactless hospitality. This process requires information to be sent between guests' smart devices and multiple hotel technology centers, including the central reservation system.

The PMS is centrally located within the hotel and positioned to unify all of these disparate systems under one umbrella - but only if the PMS is functionally capable of handling the integrations challenges.

And contactless mobile check in comes with its own challenges too.

While guests enjoy skipping the front desk on check in, hotels are less enthusiastic about losing the primary touchpoint for interacting with guests once they are on property. Instead, the quality of these experiences hinge on the creating and deploying automated and curated email or text SMS messaging. The goal is to allow guests to engage with hotels on their own terms while providing them with frequent updates on the status of their trip, as well as opportunities and prompts for engagement. That goal is difficult to accomplish manually, but by automating the messages, operators are able to provide up-to-date information to these guests while focusing on in-person interactions at the property level.

Modern PMS technology is capable of providing guests with a digital key, while maintaining contact with them to ensure their check-in goes smoothly. Managing this process using multiple apps may have been common prior to the pandemic. With digital communications rising to prominence, and more travelers taking advantage of mobile key, operators benefit from a centralized system to manage guest communications, room assignments, and more. By directing operators' attention to one tool to manage each of these elements, operators can cut down on confusion and fully apply themselves to delivering a high-quality guest experience.





Mobile Technology and Collaboration Improves Hotel Efficiency and Agility

Routing communications through the hotel PMS can also improve hotel worker efficiency. Especially in a time of unprecedented cost pressures, hoteliers are looking for any viable method for reducing the turnover time on unoccupied guestrooms. Many of the challenges associated with longer room turnover times come from difficulty sharing information about bottlenecks blocking a room from coming back online. If a hotel's central reservation system is able to trade data with the PMS to track room availability and status in real time, hotels will be able to maximize their reservations and capitalize on new bookings in a more efficient manner than ever before.

As in other areas, where *integration and collaboration* are key: The CRS and PMS must speak to each other and even more – they must support each other in producing a tighter and more effective point of information exchange and delivery.

Guests dislike being forced to wait past check in for rooms to become available, with more than two-thirds of consumers choosing self-service options specifically when this option is perceived to be faster than one-on-one service. Yet finding an open room is sometimes an organizational challenge that can be solved by the kind of improved record keeping that automation can deliver.

For example, if housekeeping discovers a maintenance issue partway through servicing a room, it traditionally could take several phone calls or emails in order to ensure maintenance is made aware of the issue, properly addresses it, and informs the front desk of the room's availability. This cuts down on unnecessary calls between housekeeping, hotel managers, and maintenance, allowing each department to focus on tasks as they arise.

A hotel equipped with cutting-edge PMS technology gives hotel staff the ability to flag individual rooms for maintenance, instantly alerting them to the task. Once concluded, maintenance can use mobile technology to confirm the task's completion and the room is seamlessly added back into the hotel's inventory for bookings.

While most hotel technology focuses on improving life on one side of the front desk at a time, the PMS takes ownership of both. This moves beyond its function as solely an operations-focused tool, says Flo Lugli, Founder and Principal at the Navesink Advisory Group.


“An ideal property management system should be working to eliminate friction between the hotel and guests just as often as it works to eliminate friction between hotel employees.”

Flo Lugli

Founder and Principal, Navesink Advisory Group

“Hotels should research potential technology before investing to be sure it is mature enough to support the requirements of your business. Once you have the flexibility to match these demands, it will reflect positively on the guest experience.”

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ARRIVALS



	ROOM	HOUSEKEEPER	STATUS
■	116	Jane Smith	✓
	117	Jane Smith	✗
	118	Erica Jones	✓



HOW PMS INTEGRATIONS BENEFIT GUESTS

“Our goal is to connect vendors and hoteliers in a way that enables anyone on or off the property to be capable of helping a guest at any moment. This is why two-way integrations are so important in hospitality, because they provide as much data as they take from the consumer, so we can learn more about each other and create a better guest experience overall.”

Georgine Muntz
CEO, Visual Matrix

Contactless Experiences

A contactless hotel experience goes beyond offering a mobile key and skipping the front desk. Guests need the capability to send maintenance requests and order amenities, all through digital means. In order to do so, hotels require a PMS capable of integrating with multiple third-party applications.

Keeping Guests in the Loop

Contactless or not, the best way to reach your guests is often through their mobile devices, either via email, SMS, or direct push notifications. When information can be freely shared, it becomes expected. However, hotels should always remember to request guests opt in to these communications in advance in order to preserve their expectations.

Predictive Analytics

Once you have a profile of your guests, it is possible to shape their stay based on past analytics. With the industry still in flux, identifying the trends driving our current business cycle as they emerge is going to be vital. This starts with setting new standards for data collection and analysis, and requires a central location for housing and accessing all of this data.

Chapter 3

View from the Cloud

Beyond ease-of-use, cloud-based systems remain the most requested [of any capability in hospitality today](#). Predictive analytics and digital communications tools are revolutionizing the way hotels cater to guests and run daily operations, but they can introduce more problems than solutions if not implemented in a way that is easy for hotel workers to use.

Portability is the key. Absent strong staffing levels, hotel associates are forced to remain constantly on the move. As a result, cloud-based technology has stepped up to help operators fulfill the requirements of their position regardless of whether or not they are behind a desk.

Cloud-based operating systems have also become increasingly popular with hoteliers over the past business cycle because they can be deployed across a variety of browsers and mobile apps. Operators with access to cloud-enabled technology are more mobile than hotels equipped legacy systems, most of which are tethered to a computer. Without this restriction, hotel operators are able to change rates, adjust room assignments, assign housekeeping duties, and more all while on the go.

Cloud-based technology also supports and drives training at hotels, as it allows for expanded opportunities for hoteliers to onboard new workers and refresh information over time. As hotel staff increasingly are expected to learn to use new technology, and operating hotels increases in technical complexity, cloud-based platforms will make it easier to deliver training tools and monitor employees' engagement with them. This is going to be necessary for growing the competence and confidence of the hotel workforce as it continues to evolve.

This evolution is already taking place across the industry. The "mobile generation" has fully permeated the workforce, and these employees are adept at using and adapting to new technology. In fact, they demand it. For their bottom lines as well as employee satisfaction and career development, hotels must embrace a cloud-based, mobile operating system.

At the same time, according to Scott Curran, COO at Reneson Hotels, not all cloud-based PMS are created equal. In his view, an ideal PMS will be able to manage

all of a hotel's capabilities under one platform rather than multiple disparate tools..

"Currently, many hoteliers have multiple tabs open on their browser with each dedicated to managing maintenance, housekeeping, the central reservation system, and more, but few of these systems are speaking to each other and sharing information," Curran said. "With that much to look at, it can be overwhelming to some operators. There are opportunities to improve the usability and function of these tools across the industry."

The era of agility and flexibility, empowered by intuitive technology, is upon us.

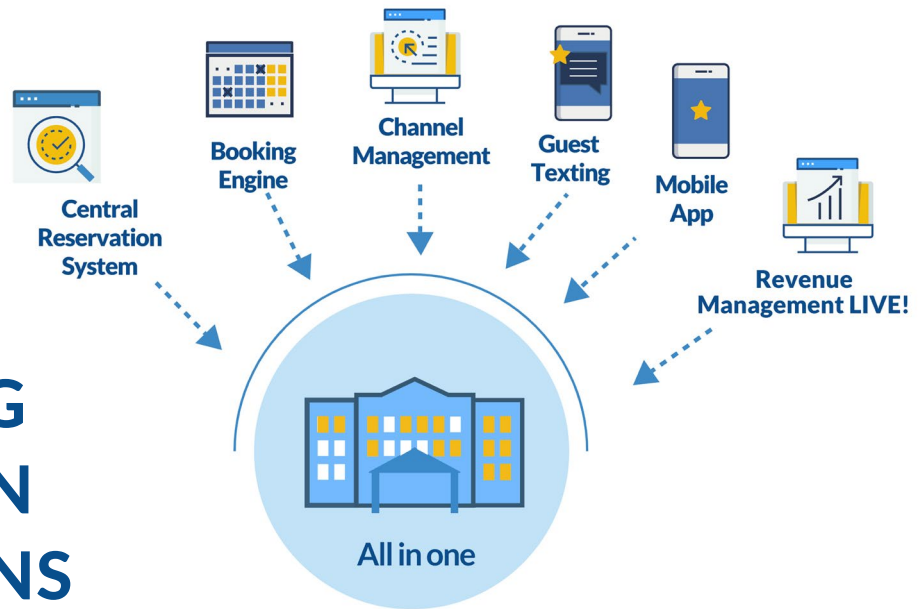
"Currently, many hoteliers have multiple tabs open on their browser with each dedicated to managing maintenance, housekeeping, the central reservation system, and more, but few of these systems are speaking to each other and sharing information."

Scott Curran, COO

Reneson Hotels



CONNECTING THE DOTS ON INTEGRATIONS



“As a small business owner and hotel operator, I found that disconnects between ownership, management, front desk, housekeeping and maintenance were time consuming – and expensive – for us all. We need cloud-based technology to make those connections seamlessly and in real time.”

Peggy Berg, Founder and President / Castell Project

While many integral hotel systems are fundamentally linked, such as revenue management and reservations systems, the PMS requires multiple integrations in order to share information across multiple data sources. Hoteliers who are able to unite these systems through the hotel PMS benefit from improved operations thanks to the inherent links between different departments.

Here is how some of the elements break down:

Operations: These integrations allow hotels to instantly manage guest bookings to ensure travelers get the best possible price for their stay, while hotels have complete control over any adjustments that must be made to the reservation. They must link with:

- Revenue Management
- Business Intelligence
- Central Reservations System
- OTA interactions
- Channel Management

Guest engagement: With cloud-based PMS applications now available, hotels can quickly respond to inquiries or

complaints without using multiple channels. Fully automated, cloud-based systems can also help optimize or replace aging systems such as voicemail and PBX. Those systems are often difficult to integrate. But with a new cloud-based PMS directing traffic, the work becomes much easier.

- Customer Relationship Management
- Voicemail
- PBX Phone Systems

Payment and Entertainment: Data security is also an issue, perhaps nowhere more than in payments. The new automation enables hotels to unite applications that take care of guest entertainment, payments, and security under and within the PMS – allowing hotels to better manage and monitor guest transactions on an individual basis, without having to bounce back and forth between programs.

- Point-of-Sale
- Payment Processing
- Electronic Room Keys
- Guestroom Entertainment



Chapter 4

The Benefits of a Platform



The more applications that can connect to the PMS, the more agency hotels have over what can be delivered as part of the guest experience. The key to making this possible is an **open architecture**, backed by hotel leadership who is looking for potential future integrations. By ensuring all areas of the hotel tech stack are capable of interfacing with the PMS, hotels are able to drop their reliance on multiple disparate systems in favor of a unified, open platform. Once everyone on property is looking in the same place for operational tools, hotels will be more efficient even with limited workers on property.

WHAT IS AN API?

Application Programming Interfaces serve as a template or ruleset for developing and integrating software for use in specific applications. APIs allow third-party developers and applications to add their innovations to existing platforms, a tactic that is growing in popularity among large, sophisticated technologies such as revenue management and PMS.

The most impactful hotel PMS' are accommodating to APIs, allowing operators to see improvements to their tools' breadth and scope of features over time. Modular ability for open platforms to continue to grow and improve over time make them invaluable for hotels looking for ways to future-proof their technology and invest in their future. Some of the capabilities open APIs have provided to hotels include employee safety device integration, guest interaction through texting, and task management tools for hotel workers.

Education is key. While many hotel operators decry the fragmented nature of the hospitality tech stack, few are aware of the ways an open API can collect

capabilities under one interface. This [consolidation of hotel operations tools](#) can improve efficiency, training, and even potentially retention by reducing confusion and friction that comes with operating using a multitude of disconnected systems.

Maintaining relationships such as these require new forms of communication in order to avoid shifting blame as challenges arise, and instead focus on problem resolution. Once again, collaboration is key. And collaboration means not just seamless integration among solutions – but in addition, collaboration among the technology providers that provide them.

Many solutions providers have taken steps to develop open APIs with plug and play capabilities, and more middleware companies are entering the space to help facilitate smoother integrations. These efforts are important signposts on the way toward the kind of all-inclusive, open architecture that hoteliers badly need.

For ownership and management groups with multiple properties across chain scales, the need is even more acute. Business intelligence applications and other ways of monitoring revenue, performance and staffing allocations across properties is absolutely essential.

It's no surprise then that a tech stake that still relies on disconnected and disjointed systems is no longer an option. Disrupting the prevailing order will require hotels to clearly identify their goals for hotel technology, and what they would like to route through the PMS.

Patty Jefferson, Chief Development Officer at PMS provider Visual Matrix, says the key to solving this issue is to look at how other industries are handling integrations and follow their lead. By doing this, hospitality has an opportunity to regain full control of their operations at the property level while building a stronger, more collaborative vendor network going forward.

“Hotels are running a complicated business, and they need less hassle,” Jefferson said. “Through integrations, collaboration, and improved information sharing, hotels can uncomplicate their operations, improve revenue, and better serve their guests. Hoteliers need technology to provide solutions, not point fingers, and integrations help operators solve problems and get back to hospitality.”

THE GRASS ISN'T ALWAYS GREENER: PERSPECTIVES FROM OUTSIDE HOSPITALITY

Technology innovators encounter similar barriers to innovating business regardless of the industry they are operating in. The automotive finance industry is similarly complex, thanks to its immense list of regulations, third-party businesses, and myriad technical providers. Personal relationships remain the only constant in a shifting environment such as this.

“Prior to developing hospitality technology, I co-founded a business that served auto lenders. Over the years I was surprised to see both industries had similar challenges,” said Georgine Muntz, CEO of Visual Matrix. “A large number of regulations, a growing market of integrations, and an ever-growing list of vendors to interact with in order to remain competitive. Working in this framework taught us a number of lessons about relationship management, collaboration, and how to help clients achieve real savings to the bottom line with seamless integrations. Hospitality is in a better position than many other industries due to the nature of the business and operators’ desire to serve guests, but the number of choices and complexity that comes with choosing technology products in this space is immense. A collaborative relationship with and among the vendors behind these tools can be as important as a product’s features and integrations.”

THE SPIRIT OF COLLABORATION

Hotel operations technology must be consolidated in order for it to remain agile and impactful, particularly as travel continues to recover and hospitality becomes more competitive. This process will require collaboration between technology vendors and hotels in new ways, such as Accor's investment in multiple PMS providers, allowing them to build out a stronger in-house operations platform.

Relationship management will be important when forming these collaborative partnerships. Partners will have to lay the groundwork for problem resolution in order to avoid shifting blame as challenges arise, as well as parity with industry standards and specifications.

The Era of Open Architecture

Open Architecture is a type of software architecture designed to be modular, allowing developers the flexibility to add, remove, adjust, or improve individual components according to a user's needs. Hotel PMS technology historically has been the opposite design philosophy, closed architecture, primarily to prevent hotels from easily swapping to a competitor's system. However, this rigidity has made integrations challenging across the industry, particularly for hotels using legacy systems.

In recent years more hotel tech vendors have committed to developing open PMS systems, alongside calls for greater collaboration across the industry. Muntz, CEO of Visual Matrix, said her organization is aligning all future integrations for its PMS product with [HTNG specifications](#). This way, new integrations will benefit from an open API going forward.

Conclusion

In summary, a new era of hotel operations is upon us – one where hotels need to respond to increasing customer demands for frictionless, contactless solutions and seamless experiences akin to what consumers can get by turning on Netflix or ordering a product from Amazon.

The hotel industry is a long way from being able to provide that kind of experience, but advances in cloud-based and mobile technology are paving the way to help make it happen.

A fully integrated tech stack begins with technology, but it

is impossible without a new level of collaboration, among systems and applications and most fundamentally, among the people and providers that produce them.

Henry Ford once said, "If everyone is moving forward together, success takes care of itself."

Words to live by, for hoteliers and technologists, as the hospitality industry moves the PMS and the tech stack into a new era of productively, profitability and enhanced guest service.

15
ARRIVALS

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SCHEDULE A DEMO