

The smart hotel of the future: How to leverage IoT to create the guest experience

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Regardless of the size or type of property, every hotel operator that wants to remain competitive and relevant will have to embrace IoT devices and related wireless innovations over the next year to enable next-generation guest experiences.



Image Source: [WelcomeAI/Savioke](#)

Technology and millennials

The problem with technology as a term in the hospitality industry is that it's so ubiquitous that it becomes difficult to single out what developments are the most important for the next five years.

Hoteliers have been cautious of technology taking away the human effect of guest service and experience. Rapid advances and disruptive technology is a constant challenge where artificial intelligence (AI), wearable technology and virtual reality (VR) will become the norm when it comes to how potential guests search for and experience a trip.

The smart 'hotel of the future' will have access to these technologies, which have the ability to accelerate service, personalise the guest experience, build resource allocations to support guest requests, enable preventative maintenance and improve employee productivity. Mobile and keyless check-in options, mobile key access, digital in-room controls, virtual reality for booking, and advanced energy conservation systems will become the norm.

We all know reliable Wi-Fi and IPTV are now as vital to guests as hot water and clean sheets, and these are key drivers for guests of all ages. But if we look at millennials, with every passing year, their spending power increases, which means more travel and hotel stays. The whole experience, from booking to checkout, is expected to be seamless and flawless with as little direct human interaction or contact as possible. Hotel operators will have to take this into consideration in the design stages of their hotels. A fully automated mobile payment system, via an online payment gateway using smartphones along with robust cyber security and tokenized payment methods ensuring complete security of guest credit card data, is becoming essential for an excellent guest experience at the booking stage.

With incorporation of the latest mobility solutions for the workforce, hotels can get real-time intelligence for quick decision-making that increases agility, collaboration and productivity of the hotel staff, which in turn enhances overall guest satisfaction.

Artificial intelligence and hotels

From booking engines to chatbots and voice command software for room allocations – this may seem like a scene right out of a sci-fi movie but is, in fact, a reality today. Customer-facing AI robotic concierges and luggage handlers (already operational in some Aloft hotels) are getting a lot of media attention. In Japan, cyborgs programmed to make eye contact and respond with multilingual ability check you into hotels.

The question here is: should technology totally replace personal interactions or should the two co-exist? Digital assistants like Alexa and Siri lack human warmth, charm and personal connection, and yet perhaps this is what millennials want today. Incorporating technologies like this is also a cost-saving proposition for hotels. More research needs to be done. But watch this space closely as it continues to evolve.

“ Data analytics will be the secret sauce here... ”

Location awareness and Bluetooth low energy (BLE) beacons: Creating a ‘home away from home’ experience

Location-based services such as Bluetooth-enabled IoT beacon sensors along with the latest location-aware mobility and analytics innovations throughout the property, guests can be automatically recognised and registered as soon as they step onto the hotel premise, eliminating the stop at the registration desk and creating the same experience of walking in through the door at home. As they proceed through the lobby, they can receive an automated update, via the hotel’s mobile app, on the status of their room. If the room is being cleaned or is unavailable for some other reason, the same technology can offer them a discount on a snack or free cocktail in the lounge.

When the guests head for their room, they don’t have to carry with them a key card (which, let’s face it, we’ve all had trouble with at some point). Keyless entry via smartphone is the future - much more convenient than using a magnetic swipe card. A “key” with an encrypted code is sent via a push notification by the hotel to the guest’s phone, along with the room number. The hotel room door unlocks when the smartphone with the code is held near it.

Advanced in-room controls are another technology of the future. The moment the guest enters the room, without any switches being touched, sensors turn the lights and the air conditioning on and open the curtains. This undoubtedly is a delightful experience for guests. In the future, custom-built apps for in-room controls will allow guests to access everything from their own smartphones and other mobile devices. They could, for example, set the climate controls to a certain

temperature before they even arrive in their room.

Once in the room, the hotel's IoT-enabled and location-aware infrastructure will work in other ways. For example, it can permit guests to stream personal content onto their in-room television while using the hotel's mobile app to schedule a massage in the spa and order a beverage to arrive poolside the same time as they do. As wireless solutions advance, expect even more options, such as using a mobile device to project a preferred fitness routine onto a full-length mirror.

Hotels can boost revenue by sending push notifications via BLE beacons to guest devices that are connected to the hotel's Wi-Fi – without invading privacy by promoting offers that are relevant to the guest's interests, needs and preference as they wander around the property. Geofencing using the wireless network allows property owners to know where the guest is in the property and, when they pass a particular beacon, they can receive a personalised message, coupon, loyalty points, etc. Data analytics will be the secret sauce here.

Property owners can deploy navigation features within the hotel's mobile app to guide guests to food and beverage and all amenities in the property as an option, again using BLE beacons.

Asset tags for efficient resource utilisation

Luggage cart delay is often the cause of guest frustration. Cost-effective asset-tracking technologies via asset tags added to a location-based solution can enable hotel staff, or even guests, to locate carts for quick retrieval on the hotel's mobile app. Another use case could be that the asset tag is used to track how long an asset remains stationary, for example in a guest room, and then alert staff so that they can take action, like calling the guest to find out whether he/she has finished.

Latest IoT security innovations

IoT-enabled systems must also be secure. Advanced IoT security options include the ability to group connected IoT devices into "zones" for segregating them on the network and then applying different sets of security policies. Solutions that infuse real-time intelligence, advanced analytics and AI-based machine learning can spot changes – at millisecond speeds – in user or device behaviour that may indicate a security breach. Affected devices can then be automatically quarantined and an alert sent to a designated human to investigate.

In conclusion, one thing is for sure: the hospitality industry has an exciting future, given the continuous evolution of technology as discussed above.

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