RFID Door Locking Systems
Cool Technology But Is It Worth the Price?

With competition among luxury hotels and resorts heating up many new hotels are looking for innovative ways to differentiate themselves. From a design perspective this means that the owners and designers are looking at all aspects of the guestroom décor including technology to highlight guestroom offerings. While a great deal of attention has been given to flat panel televisions, VoIP, built-in surround sound systems and connectivity panels, focus on the electronic door locking systems hasn’t been strong.

The new electronic locking systems are one of the fastest changing elements of hotel designs. The use of newer technology such as RFID and smartcards coupled with the streamlined aesthetic style of the new locksets is clearly starting to peak the interest of many designers. These newer design features present a softer and more engaging look that is being adopted at upscale hotels and resorts. The door lock is one of the first items that the guest sees and hoteliers are interested in setting the correct tone and expectation.

While there have been a number of design advancements to the traditional magnetic card swipe locks, the most dramatic change appears to be provided by the newer RFID locking systems. While RFID technology has been around for quite some time, these types of door locking systems have never gained wide acceptance in the hotel industry, primarily because of installation and ongoing operational costs associated with the proximity cards needed to operate them.

RFID locking systems have been installed in European hotels and resorts and other parts of the world for a number of years, however, the only installations that were really highlighted in the United States involved resorts that utilized the technology for their theme parks. A few years ago Great Wolf Resorts invested in the technology primarily for its multipurpose functionality. Today there are a number of resorts and hotels that are considering the technology to enhance the overall guest offering and improve efficiencies in operations.

The newer technology provides tracking of both guests and hotel staff around the property and provides some insight as to facilities accessed and the times that they are being accessed. The issue of tracking a guest’s movement is somewhat controversial and while it is true that the information can be utilized to target guests’ preferences and where they spend their time and money, there are also operational benefits to the application that should be highlighted. These systems have the ability to determine staffing requirements, the best time to service a room or perform turn-down or the performance of housekeepers.

The following are examples of electronic locking systems that are currently being offered.

1 Low Battery Notification
Some locking systems have the ability to notify the engineering staff that the batteries in the door locks are running low and need to be replaced. When the battery reaches a charge of only 20 percent it will send a signal to engineering and notify of the need for replacement. Alternatively it may emit a flashing code to warn hotel staff of the need to replace the battery.

2 Maintenance
With less moving parts and no magnetic swipe reader, the locks are less prone to malfunctions and as such as easier to manage from a maintenance standpoint. The locks therefore have a longer than usual operational life.

3 Key fobs and other devices (marketing potential)
The use of non-traditional means to store the RFID tags allows for creativity from a marketing standpoint. The “keys” can be facilitated via a number of different mediums including: cards, key fobs, golf green repair tools and cell phones.

4 Wristbands for Waterparks
The RFID tags can be placed in waterproof wristbands to allow for use in resort and theme park environments. This is particularly advantageous for children and guests who do not want to carry a card around or fear that it will get lost. The wristband is attached for the duration of their stay and can facilitate access and purchases around the resort.

5 Electronic Wallet/Cashless Purchases
As mentioned the RFID tags can be used in place of traditional cash or credit cards. It allows guests and patrons to make purchases without having to carry the traditional methods of payment with them.

6 Unmanned Hotels
Slated for 2008 there is a project in Japan that aims to allow guests who book hotel stays online to utilize the RFID-enabled credit card to obtain a “key” for their room. This will enable guests to bypass the front desk altogether and go straight to their rooms.
storing of guest information which limit the overall capability of these types of systems. Most of the current installations utilize the technology for operational and administrative purposes associated with tracking staff members.

Electronic keys are ones with an encoded security chip. While operators like these because they offer the guest the same look and feel as a traditional key, these keys tend to be very costly and have in some cases proven to be somewhat problematic as they are usually tied into other systems such as lighting and energy management.

A review of the most of the prominent hospitality focused electronic lock manufacturers reveals that several of them are starting to offer RFID solutions that incorporate the secured MiFare technology, and which offer a cleaner and more aesthetically pleasing look and feel.

VingCard Elsafe has introduced its new Signature series of designer RFID locks that among other features promises to offer the ability for guests to use cell phones to access the guestrooms. By taking advantage of the new Near Field Communication (NFC) secure transaction platform which will soon be deployed in cell phones worldwide VingCard Elsafe hopes to provide guests with a security code when booking reservations that will allow them to access their room with a cell phone.

SAFLOK’s Quantum RFID solution offers all of the same functionality as its magnetic swipe solution but also offers the non-contact and reporting features of RFID. SAFLOK’s Glenn Peacock said that the company expects that RFID product offerings would account for about 20 percent of product sales in the future. The higher cost of the technology would limit the initial appeal of the product range to higher-end properties and those looking for a unique competitive advantage.

MIWA locks provides both RFID and biometric locking solutions for the hospitality industry and while most of its installations have taken place on the international front, MIWA is starting to target the U.S. market with the famed Hotel 1000 in Seattle having installed its system. The key differentiator with MIWA is the security component of the RFID system which incorporates Sony’s FELIECA standard. This standard is in use in Japan where the use of RFID with cell phones and credit cards is more widely accepted. MIWA’s Bruce Humphrey said that the biggest barrier to entry in the hotel industry is getting owners and operators to buy into the higher cost of the proximity cards.

There are also entries into the U.S. market by at least two European companies Häfele and Salto Systems who are also focusing on RFID solutions. Salto Systems has focused its efforts on aesthetically pleasing locks that take advantage of the RFID technology including extensive reporting capabilities. By providing hotel staff with high-capacity proximity cards that are able to store information on the actual cards, they can track where personnel have been throughout the day and monitor productivity. Staff cards are downloaded at the end of each shift via strategically placed hotspots and the reporting is available to management for analysis and potential action items.

From a guest’s perspective the main advantage of RFID systems is ease of use. In environments such as theme parks or resorts guests are provided with either a RFID key farb, card or wristband which not only serves to grant secured access to a room but also to gain entrance to theme parks and other restricted areas of the resort. In addition, the devices can serve as an electronic wallet providing guests with the ability to purchase food and other items throughout the property.

While most hotels and resorts are looking for information on the performance of this newer technology Rajiv Castellino with Great Wolf Resorts is one of the few people who actually has experience with these systems. Castellino said, “The locks actually work and have proven to be very reliable.”

Castellino found that there was an initial challenge with guests’ use of the proximity card or tag and that staff had to provide guidance as to how to use them correctly. Guests tried to swipe the card past the transponder rather than holding it near the lock for a few seconds. Flashing these cards up and down past the transponder too fast would not allow the system to take a reading.

This technology is starting to be embraced by the industry and it looks as though RFID locking systems are here to stay. Many hotels are already starting to utilize RFID technology from inventory tracking to baggage handling systems. With the demand for these types of systems ever increasing there is a strong amount of pressure being applied to manufacturers to bring the cost of the systems down. Once this starts to take effect you can be sure that these types of systems will become more common.

Jeremy Rock is the president of the RockIT Group, a hospitality technology consulting firm. He can be reached at jrock@rockitgroup.com.