

Orchestrating a brighter world

NEC

# WINNING, ENGAGING CUSTOMERS WITH CONTACTLESS INTERACTIONS



**NEC I:DELIGHT'S ENABLING TECHNOLOGIES DELIVER  
NEW WAYS TO BUY, TRAVEL IN STYLE**





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# EXECUTIVE SUMMARY

Disruption is something the retail and hospitality sectors have come to expect for many years but nothing quite prepared them for the pandemic that struck the world in 2020. The change that had been foretold arrived in months instead of the years that retailers, hotels and others had planned for.

Almost overnight, retailers had to cope with unpredictable demand, shuttered stores and inconsistent supply. Hotels, starved of visitors, had to develop ways to make it safer for them to return when recovery begins with a vaccine, starting from early 2021.

In other words, many of the digital transformation plans that had been in place earlier are being executed at a much faster pace.

Of challenges facing the retail and hospitality sector today, one of the most urgent is delivering safe and exceptional service to customers in a post-pandemic "next normal", as countries begin to recover from Covid-19.

How may interactions be carried out digitally yet remain engaging and delightful for customers? Can touchpoints where face-to-face interactions were the norm now be converted to a seamless "touchless" or "contactless" version, reducing the risk of infection?

While the emphasis in the past has often been to deliver a more efficient service that saved time and effort for customers and companies alike, the transformation effort today also focuses on hygiene and safety.

**What is needed is an adaptable, extensible platform that can connect experiences across different verticals and touchpoints. While hotels, shops, restaurants and other facilities bring different experiences to a customer, they can all benefit from similar capabilities.**

Foundational technologies such as face recognition and artificial intelligence (AI) will open up many possibilities with a new "touchless" and "frictionless" approach that deliver a personalized and hygienic experience to delight customers.

In the resort town of Nanki Sharahama, Japan, for example, face recognition plays a vital part in enabling safer and more intuitive interactions through a number of scenarios<sup>1</sup>.

A person's face is like a membership card, enabling him to receive a welcoming message and priority park entry. Hands-free payment is accepted at stores, where a user's face acts as his ID to approve a payment.

The same applies for keyless doors at hotel rooms. By simply standing in front of a camera, a guest can unlock the door to his room without using a key card.

Face recognition is just one part of the equation, of course. The systems behind the scenes that make sense of the data also have to be transformed. Processes and operations have to be in step as well with today's new environment.

Equally important is the need to protect the data of customers. Just as with any digital transaction, retailers and hospitality establishments will be creating new data with their new innovations. They have to ensure that these transactions are secure while always allowing customers to be in control of their data.

Central to everything is building trust in customers, which is needed for these digital interactions to take place. Only with that can a critical mass in adoption be expected in the long term.

While the unprecedented events of 2020 have shaken up the retail and hospitality sectors, many establishments will look forward to a recovery possible with the distribution of vaccines worldwide and better treatments for those affected.

Even in an uncertain climate, one thing is clear - retailers and hospitality establishments have to prepare for a resumption of services ahead of time.

Now is as good a time as any to find new ways to meet not just today's demand but the levels that are returning in the months ahead. Improving customer experience and safety through innovation will be key to riding this wave of disruption.

<sup>1</sup> NEC, 2020: <https://www.nec.com/en/global/insights/article/2020033101/index.html>







# CHANGE ARRIVES IN A HURRY

As the retail and hospitality sectors ready themselves for a post-pandemic world, they cannot be simply preparing for business as usual.

As with many changes observed during the transitional period, many of the changes to customer behaviors and preferences in these sectors will be permanent.

According to a PwC study in 2020, 86 per cent of consumers surveyed said they were likely to continue to shop online or by phone when social distancing measures are removed<sup>2</sup>.

For many consumers, the preference today is for a seamless, hygienic and safe interaction when buying something or staying during one’s travels. Frictionless and contactless transactions are critical in the future.

The value of transactions processed by smart checkout technologies, where the fixed checkout process is replaced by a frictionless model, will reach US\$387 billion in 2025, up from just US\$2 billion in 2020, according to a study by Juniper Research in 2020<sup>3</sup>.

In hospitality, contactless transactions are going to be crucial as well. A study by Oracle and Skift in 2020 found that more than 70 per cent of executives were considering or were already using contactless payment and digital messaging services, and close to 60 per cent were considering/already using room keys activated by smartphone.

In the study, over 70 per cent of executives agreed or strongly agreed that self-service technology will be important to assisting guests while minimizing unnecessary contact<sup>4</sup>. Two thirds (67 per cent) said they were considering or were already using self-service check-in procedures.

Asked what changes hotels should take to make a stay more comfortable, consumers in the survey listed contactless payment just behind increased cleaning procedures and social distancing. Among the other important changes listed were room keys activated by a smartphone and self-service check-in kiosks.

**In other words, being ready for the post-pandemic “next normal” means accelerating the transformation that has been in place since coping with the first days of the once-a-generation event.**

Leaders in the industry understand the need for swift, smart interactions. In August 2020, a study by Incisiv and NEC found that 94 per cent of retailers expected their contactless payment volumes to go up in the next 18 months<sup>5</sup>.

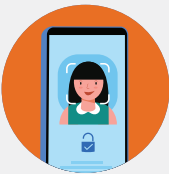
## Here are three things retailers and hospitality establishments need to be doing now:



**Create new value:** This is a time to explore new business possibilities. Companies have to think how they can expand beyond their traditional service offerings and deliver products and services that were not possible before rapid digitalization.

Retailers will have to become more than traditional shopfronts that offer on-the-spot transactions. Could they become collection points, with stock levels constantly updated on a central system that connects to an e-commerce website? For example, Target in the United States used stores to fulfill more than 90 per cent of its second-quarter sales in 2020<sup>7</sup>.

For hospitality establishments, is it time to consider hosting hybrid events which take place both online and in person? This could mean having a live stream for online audiences while allowing a potentially smaller gathering at the event location itself, for a two-in-one service offering.



**Make user experience exceptional:** What separates one establishment from another even more starkly in future will be the user or customer experience that is delivered. With digitalization, customers can have their preferences and habits remembered by the system so when they return, a more personalized level of service awaits them. This builds loyalty in the long term.

In a burger restaurant, for example, a customer can simply use his face as an ID to log in at a self-service kiosk and have his favorite items come on screen automatically. This helps him easily pick his purchases quickly, while minimizing contact with staff to reduce the risk of infection.



**Invest in capabilities:** New business opportunities will require that retailers and hospitality establishments invest in new digital capabilities. This means building up the technology adoption in areas such as face recognition and AI, which will both enable more “touchless” interactions as well as improved customer service.

Remember that these innovations take time to take root, as processes and operations have to change with their introduction. At a hotel, contactless payment using a person’s face ID can help reduce in-person interactions and thus the risk of infection.

Similarly, touchless access management enables staff to use their face as an ID to unlock doors at various parts of a hotel’s “back of house”. Again, this reduces physical contact to ward off the spread of an infection. It also improves efficiency for those passing through these checkpoints each day at work.

Change takes time. That is why it has to happen sooner rather than later, by finding where one’s weak spots are, for example, in customer service and matching an appropriate solution to address the issues at hand.

Certainly, not all transformational efforts can take place at one go. Facing budget, manpower or other constraints, many businesses in the retail and hospitality sector will want to prioritize certain solutions in a roadmap to change.

That said, touchless interactions should feature prominently in any roadmap today. With them, a range of benefits such as improved customer service and greater safety and hygiene will reap immediate returns to investment, ready for a recovery of demand in the months and years ahead.

<sup>2</sup> PwC, 2020: <https://www.pwc.com/gx/en/consumer-markets/consumer-insights-survey/2020/pwc-consumer-insights-survey-2020.pdf>  
<sup>3</sup> Juniper Research, 2020: [https://www.juniperresearch.com/press/press-releases/smart-checkout-technologies-to-process-\\$387-bn](https://www.juniperresearch.com/press/press-releases/smart-checkout-technologies-to-process-$387-bn)  
<sup>4</sup> PR Newswire: <https://www.prnewswire.com/news-releases/survey-consumers-eager-to-travel-with-certain-conditions-for-hotels-301088818.html>  
<sup>5</sup> Incisiv, 2020: <https://www.incisiv.com/ebook-leveraging-technology-based-safety-initiatives-to-thrive-in-the-next-normal>  
<sup>7</sup> Melissa Repko and Lauren Thomas, September 29, 2020: <https://www.cnn.com/2020/09/29/how-coronavirus-pandemic-forever-altered-retail.html>



# TRANSFORMING RETAIL FOR THE FUTURE

Even before the coronavirus pandemic of 2020, many retailers have understood that it is not enough to simply continue with business as usual in the years ahead. Critical to success in future will be the benefits one can derive from the greater volume of digital transactions that customers will carry out.

Whether you are a fast-food restaurant, convenience store, pharmacy or apparel store, one thing is a must - knowing your customer better and delivering a more customized, engaging experience.

This has been the holy grail for many retailers for years but today with customers more willing to engage in digital transactions, there is an even more urgent need to make use of that data to gain an edge over rivals.

## 01 Seamless Payment

By registering their faces as their ID, customers can easily make payments for items at a store or restaurant without having to look for their wallet or phone. They can do so by simply looking into a camera that has been set up for the purpose.

With the matching carried out in the background, the user can then authorize the payment through a credit card or bank account that has been linked earlier. This way, stores can offer self-service kiosks to improve customer flow while reducing the need for more in an era of safe distancing.

A fully staff-less store may also be possible with such seamless payments. This means customers walk in, are identified by their faces, then proceed to collect the items for purchase and make payment at a kiosk that automatically calculates the amount owed.

This is where face recognition comes in to deliver a seamless experience. As a biometric ID that is used to identify and authorize digital transactions, it is intuitively easy to use while being safer and more hygienic because it reduces physical contact. Empowered with AI, a face ID can offer customization that previously would be hard to deliver.

Today's retailers also face increasingly tight margins with competition from online-only vendors and as well as a rental squeeze from landlords. Thus, using face recognition to better serve customers while optimizing manpower and managing costs will be crucial to staying in the game for the long haul.

## 02 Customized Experience

Walk into a store and be instantly recognized as a VIP customer. That is possible now with face recognition that is both fast and accurate in analyzing images of a customer's face and matching it with a database of known VIP members.

For stores, this means a customer can easily be given options for services based on his previous interactions. A premium banking outlet or a jewelry store may offer a coffee - specifically a long black or cappuccino - based on what the customer likes.

At an apparel store, a customer can be presented with the right sizes of clothes based on previous purchases, instead of having him search for them on his own. A store assistant may also be given these insights on a portable tablet, for example, so he can assist the customer more effectively.

## 03 Personalized Offers

Just as a returning customer at an online store is recommended a list of items to buy, a physical store can offer the same personalized service.

At a fast-food restaurant, for example, a self-service kiosk may show on screen the items that a customer has previously ordered or added as favorites. When he approaches the kiosk, his face is recognized and a customized menu automatically appears to present him with items he is familiar with.

Alternatively, when a customer is recognized in an apparel store, he can be sent personalized offers on his mobile phone. If he has been to the store recently, he can be rewarded with a special one-time offer. If he has not visited for a while, the store can remind him what he bought the last time and recommend, say, updated offers since he last turned up.

## 04 Safer, more Hygienic Interactions

Just as important in the Covid-19 era are efforts to keep every customer and staff safe. To reduce the risks of infection, a retailer using such "touchless" methods to interact will be able to cut down the physical contact that would otherwise have been necessary, say, to make payment.

Using face recognition also ensures that there need not be a large staff in place to man a store. With restrictions on crowds expected for some time, it is prudent to enable a smaller team to keep operations running. Ultimately, this helps to make stores safer.



### CASE STUDY: MITSUI FUDOSAN HOTEL

"sequence" (MIYASHITA PARK, KYOTO GOJO and SUIDOBASHI) operated by Mitsui Fudosan Hotel Management are taking advantage of NEC's face recognition technology to deliver new "heartfelt connections" with customers.

In 2020, the hospitality company deployed NEC solutions to provide smart, contactless hospitality through self-check-in and self-check-out. This is done by identifying a guest and having him authenticate the transaction.

During his stay, he can also use a facility, such as a cloakroom, by simply scanning his face on a wall-mounted scanner. This means he no longer needs to carry around a key card to gain access to the hotel's facilities.

With face recognition, hotel operations have also become more efficient, while close contact has been reduced during check-in and check-out.



### CASE STUDY: LEMON TREE HOTELS

When VIP guests arrive at Lemon Tree Premier, a New Delhi hotel run by the Lemon Tree hotel chain in India, they are recognized in real time. What they can expect is a level of service customized to the taste of each individual guest.

For the hotel, the face recognition solution by NEC not only allows it to "know" each guest by face, but it also empowers and assists staff members to be more confident in delivering their service.

Even a staff member with little work experience at the hotel and may not know the guests personally can be alerted to the arrival of regular patrons as well as those on a VIP list of known guests.

Armed with that knowledge, the staff member can concentrate more on delivering the service instead of spending time trying to find out the issue that a guest may be facing. The biometric solution is especially important in retaining staff in India, where the job change rate in the service industry is high.





# MAKING HOSPITALITY AN INTUITIVE EXPERIENCE

One of the hardest hit during the pandemic has been the hospitality sector. With crowds kept away from theme parks and tourism restricted, many hotels and entertainment attractions have had to find new ways to adapt to the new situation.

What many establishments in the sector have done, however, is to improve the customer experience in preparation for a return of visitors in the months and years ahead. Though the outlook for recovery is uncertain for some, what is clear is that the demand for hospitality services and products will grow as the situation evolves.

Change cannot be implemented overnight so now is as good a time as any to develop the capabilities to deliver a safe, seamless and intuitive experience for guests. This will be crucial in retaining customer loyalty in a competitive environment.

In many scenarios, face recognition plays a big part in delivering new experiences. By offering seamless check-ins, for example, a hotel does not need to have as many staff on station. Just as in retail, a hotel can rely on a face ID to recognize regular guests and offer them a personalized welcome.

## 01 Seamless Check-in and Stay

Simply walking into a hotel, a guest can expect to be greeted by name either at a kiosk or by a staff holding a portable tablet with insights on the guests around him. The “magic” here is the face recognition system located at strategic places, such as a check-in counter or a lobby entrance, which identifies a guest’s face like it recognizes a membership card.

Once identified, a regular guest or member of a hotel club can be given access to his room quickly. This is especially if he has a credit card on file, which makes it easy to settle any outstanding bills at the end of a stay.

Simply by being recognized, the guest can get recommendations during his hotel stay, such as restaurants he has visited before or massage services he has shown an interest in previously.

## 03 Unlock Room, Facilities with a Face

Instead of key cards that often get misplaced or lost, a hotel guest can use his face as an ID to unlock a door. Once he has his face ID saved on checking in, the guest can simply walk up to a scanner at the room entrance and have it matched to unlock the door.

The same technology can be applied throughout the property. For example, a guest may wish to use the gym or swimming pool and has booked a time slot for it.

The face scanner at each facility can help determine if the guest is allowed to enter. If he is, then he can step in without breaking stride. This means a staff member does not have to be deployed on location to look through a lengthy list of names.

For staff, too, face recognition can make a difference. For their various back-of-house functions, staff can be granted access to various areas based on their roles. Instead of an ID patch that taps them in, a team member only needs to scan his face to gain access, say, to lifts that take them to certain levels of a property at the back of house.

## 02 Hands-free Payment

As with a retail store, a hospitality establishment can improve safety and hygiene by turning to face recognition to deliver hands-free payment at its cashiers. At a theme park, for example, an entrance turnstile can automatically let in a registered member and have the charges billed later to his credit card on file.

At a hot dog stand inside the theme park, he can once again use his face as his ID to authorize a payment for a couple of hot dogs and drinks. All he has to do is scan his face at a kiosk.

## 04 Reduce Contact, Improve Efficiency

Ultimately, face recognition technology will bring reduced physical contact for transactions that can be digitally carried out. This means improved safety for both guests and staff at a hotel, theme park or other establishment.

At the same time, the time previously wasted on checking against a list of guests – a simple but repetitive task – can be saved with face recognition seamlessly and intuitively doing the same job. Not only does this deliver a better customer experience, it saves on costs and manpower, at a time when the sector is looking to optimize spending and increase value to customers.



### CASE STUDY: TOYOMA CITY

In October 2020, Toyama City started using NEC’s face recognition system to improve the city’s payment experience and boost its economic development. The smarty city initiative also aimed to make the place more attractive, accessible and convenient to travelers.

The city’s Light Rail System now allows pre-registered passengers to simply show up with their smartphones ready to make contactless payments to board a train. Each user will be greeted by a custom and individualized message at electronic billboards at the Hokuriku Shinkansen Toyama Station.

Not limited to trains, contactless payment using face recognition is available on ferries as well. This means it is easy for travelers to hop on for a ride while making payment seamlessly.

The city has 30 establishments piloting face recognition payments, with more seeking to join the trial. One of them, KOBQ Brewery, only requires a customer’s face to get a payment through for a pint of beer.

This is done accurately and smoothly, allowing for a smart customer experience that is also convenient for the staff, who can now concentrate on serving customers instead of dealing with payments.



# GOING “TOUCHLESS” IN RETAIL AND HOSPITALITY

“Touchless” or contactless interactions help deliver safer and personalized experiences

**70%** of hotels already are or are planning to adopt contactless technology for check-in, food ordering, concierge services and more<sup>12</sup>

**94%** of retailers expected their contactless payment volumes to go up in the next 18 months<sup>13</sup>

Smart checkout technologies to process US\$387 billion in transactions by 2025, up from **US\$2 billion in 2020**<sup>14</sup>

As the time to check out arrives, the guest simply heads on to the hotel's self-service kiosk or approaches the front desk once again. Unless there are any outstanding bills to confirm, he simply has to inform the hotel that he is leaving.

**Benefits:** Lower manpower costs to attend to check-outs, seamless convenience for customers.

Visiting a nearby restaurant afterwards, the visitor uses his face to authenticate a payment for a burger and a pint of beer. Instead of taking out his wallet or phone to make payment, he just scans his face on a portable device held by the staff and authorizes it.

**Benefits:** Savings on manpower needed while enabling hassle-free payments.

As the guest approaches a train station, the face recognition scanner at the gantry recognizes him and shows a greeting message on a screen. Arriving at a train station, he uses his face as a membership card of sorts - a turnstile opens, with the charges for the visit sent to his credit card on file.

**Benefits:** Personalized service and convenient access for customers.

Entering a hotel, a pre-registered guest is automatically recognized. At a kiosk, he can quickly scan his face to check in and be assigned a room. At a front desk, a staff's workstation is automatically updated with an approaching customer's details.

**Benefits:** Fewer staff needed to attend to check-ins, seamless convenience for customers.

To enter his room, a customer scans his face at a camera next to the door. Browsing through the channels on the TV, he is offered a customized set of recommendations for his stay. A lunch menu at the restaurant is recommended. At the gym, he walks up to a scanner to gain entry. No more worrying about lost key cards.

**Benefits:** Less manpower to control access to facilities, personalized experience and access.

At a restaurant, a repeat customer is “recognized” and greeted by name and shown his table quickly. A waiter recommends dishes he is known to enjoy from previous visits. At a retail store's self-checkout kiosks, the guest can make contactless payments through face authorization. He is thanked personally.

**Benefits:** More engaged, personalized service that improves engagement and loyalty.

## CITATION

<sup>12</sup> PR Newswire, July 7, 2020  
<https://www.prnewswire.com/news-releases/survey-consumers-eager-to-travel-with-certain-conditions-for-hotels-301088818.html>

<sup>13</sup> Incisiv, 2020  
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# TECHNOLOGIES THAT BRING DELIGHT

With face recognition common on smartphones today, it is easy to assume that it is a technology that can be set up relatively quickly. The opposite is true, especially if you are a retailer or hospitality establishment looking to face recognition to transform your business.

More than simply scanning a face, the technology has to be built on a solid foundation. Certainly, not all face recognition technologies on the market are made the same – few deliver speed as well as accuracy at the same time. This is what you need if you were to identify, say, a VIP customer who has just stepped in.

At the same time, you also need a complete platform with the right tools to quickly roll out a solution that fits your business. Instead of putting all the pieces together yourself, a platform that is geared towards the sector will have a better chance of delivering measurable benefits.

For businesses looking to digitally transform their businesses, the NEC I:Delight platform offers the following digital application services:



**Identity management:** A single application interface delivers identity validation exchange, so that you can control how a customer is identified.



**Access management:** Multi-factor identity authentication services can be used for data that is accessed or collected at sensitive locations.



**Payment services:** A set of tools link contactless payments to a face that is identified by NEC's face recognition algorithms.



**Common services:** A robust compliment of services including browser-based interface, real-time monitoring, audit and log reports and administrative controls.



**Flexible infrastructure services:** Adaptive deployment options ranging from traditional on-premises solutions to cloud-based options, including NEC, public and hybrid service models.

# WHY NEC?

Through many years of work with governments and enterprise partners, NEC has developed technologies that can eliminate the need for physical interaction when identifying individuals.

Although the work on touchless technology began long before the current crisis, the Covid-19 pandemic has emphasized the importance of these solutions to customers as well as essential workers who are on the frontlines.

NEC's award-winning biometrics solutions, including face and iris recognition, coupled with our cutting-edge technologies in behavior detection, body recognition, video analytics, and artificial intelligence, provide the tools to ensure successful implementation of touchless technologies.

NEC's biometric solutions have led the industry over the years. They have been ranked tops eight times for fingerprint and five times for face recognition by The National Institute of Standards and Technology (NIST).

Through NEC I:Delight, NEC has been recognized as a leading provider of scalable digital identity platforms that integrate seamlessly with a number of industry verticals, from financial services to retail and hospitality.

NEC I:Delight effortlessly brings touchless experiences to countless situations. Our highly secure and scalable platform makes shared experiences safer, everyday interactions more enjoyable and common transactions hassle-free.

<b>Single, Extensible:</b>	<b>Optimizable:</b>	<b>Analytics-rich:</b>	<b>Seamlessly Deliverable:</b>	<b>Built-in Privacy:</b>
Available for immediate deployment in response to Covid-19 and sustainable for long-term use.	Responds to specific needs and easily expand the scope of touchless applications with customizable offerings.	Delivers transformational insight and responsive touchless services using predictive technology and reliable intelligence.	Identifies, defines and responds to opportunities while delivering a strategic and prioritized roadmap for ongoing development and deployment.	Operates purely as an opt-in service, giving users a fully transparent view of what they sign up for, and a seamless process to opt-out.

To understand how NEC I:Delight can help transform your retail or hospitality business for a post-pandemic world, speak to your local NEC representative.







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For further information please contact:  
**Corporate Headquarters (Japan)**  
 NEC Corporation  
[nec.com](http://nec.com)

**North America (USA)**  
 NEC Corporation of America  
[necam.com](http://necam.com)

**Latin America**  
 NEC Latin America S.A.  
[br.nec.com](http://br.nec.com)

**Asia Pacific**  
 NEC Asia Pacific Pte. Ltd  
[sg.nec.com](http://sg.nec.com)

**Europe (EMEA)**  
 NEC Europe Ltd.  
[uk.nec.com](http://uk.nec.com)

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