



## Contactless payments are in your future.

For the last several years the United States has been lagging behind most of the rest of the world when it comes to contactless payments technology, but all of that is starting to change. The United States is poised to make a great leap in contactless payments and as it does it will improve the experience for everyone in the payments chain – especially for consumers making small purchases, such as a coffee or a fill-up at the gas station.

### What are contactless payments?

Contactless payments are a quick and easy way to pay for things, typically for transactions under \$50, without the cardholder having to enter their personal identification (PIN) number. \*(Each card issuer sets a limit for tap-and-go transactions. Mastercard®'s limit is \$100). Contactless cards come with a hidden embedded computer chip and radio frequency antennae. After the cardholder taps the contactless card at checkout, payment details are sent wirelessly to the network. If paying with a mobile phone customers will receive payment confirmation via text or email.

Mastercard likens contactless payments to having “exact change wherever you go.”<sup>1</sup> A simple tap of your card, key fob or smart phone is all it takes to pay at checkout. Contactless transactions eliminate the waiting for the chip card payment to process as well as all the dipping, swiping and adding a signature

at payment terminals. Consumers also enjoy contactless transactions because unlike EMV® transactions, contactless cards never leave the cardholder's hand at checkout.



When shopping or trying to make a payment cardholders just need to look for this symbol when wanting to make a contactless payment.

### U.S. Contactless payments by the numbers

- 46% of transactions occur at contactless enabled merchants
- 70% of locations are capable of contactless
- 80% of U.S. Visa® transactions occur face-to-face
- 98% of face-to-face transactions in mature contactless markets originate on cards

### The smooth evolution from EMV to NFC and contactless payments.

EMV stands for “Europay, Mastercard and Visa”. EMV cards are embedded with a chip rather than the old-fashioned magnetic stripe and they communicate with an EMV enabled payment terminal or ATM. Over the past couple of years EMV has become the technological standard for credit card and debit card processing in the United States. (EMV is already considered the card payment standard throughout most of the world). The majority of the U.S. EMV migration is now complete, though gas stations



will migrate over the next couple of years with a deadline of October 2020. In other countries the EMV migration was quickly followed by the introduction of contactless payments and the U.S. is following the same model. That is why so many EMV migrations include the installation of contactless NFC terminals, increasing the addressable market for contactless card and mobile payments.

**NFC** stands for “near-field communication.” NFC is the communications technology that allows contactless EMV. NFC enables contactless payments, which are transactions that require no physical contact between the payments device and the payments reader. NFC contactless payments are emerging as a useful option for many types of consumer transactions, streamlining the payment process, reducing time and costs and benefiting both merchants and consumers.

## The growth of dual-interface cards.

In the past credit and debit cards required a user to swipe the card through or insert the card into an electronic terminal. This procedure allowed the payments terminal to read the magnetic strip on the back of the card, which contains identifying information about the account. More recently (since cards started migrating to EMV chip technology) many terminals have begun to allow contactless transactions in which the card is waved over the terminal rather than swiped.

Dual interface chip cards are embedded with a contactless chip. The card number and user’s identifying information still appear on the face

of the card, and an EMV chip is also included to provide added security for “swipe” and “dip” credit and debit card transactions. Having both a contactless chip and a magnetic strip (or chip-and-PIN) allows the cardholder to conduct transactions on a wider variety of machines.

Contactless terminals require the use of an embedded integrated circuit card (ICC) that allows identifying information to be read by a sensor. Newer terminals may also accept payment from mobile devices, such as mobile phones or “wearables.”

### General U.S. EMV migration update

- 96% of Visa payment volume at the POS is on chip cards
- Approximately 59% of U.S. POS locations accepted chip payments. (That’s 578% growth since liability shift and an average growth in activated locations over 4% during 2017)
- 70% decline in counterfeit fraud for EMV enabled merchants, 41% for all merchants (Visa’s analysis, comparing Sept. 2015 to Sept. 2017)

## Why contactless payments are safe for cardholders.

With standard deployments EMV card security is based on the combination of encryption keys and a PIN code entered by a cardholder. In the case of contactless transactions a PIN code is not requested, so the means of protection are limited to encryption keys generated by the card and the terminal. But consumers should consider contactless payments as very safe. For example, Mastercard ensures that contactless cards provide secure encryption technology and Zero



Liability protection.<sup>6</sup> Contactless transactions are protected by the same EMV standard which protects ordinary plastic cards equipped by an EMV chip. While an older magnetic strip can be easily cloned, a chip would not allow this to happen.

## How contactless encryption works.

To authenticate contactless card transactions, major brands such as Visa and Mastercard have built dynamic Card Verification Value (CVV) codes into their contactless cards. The CVV security measure attaches a unique algorithm to a card, which results in a new security code after every contactless transaction.

Additionally, with contactless there are no accidental payments because a contactless-enabled card or device must be always close to the reader at checkout to work. And with contactless you never have to worry about being billed twice — even if you tap more than once at checkout, you'll only get billed once for your purchase.

## Learning from the contactless success in Australia, Canada and the United Kingdom.

When it comes to contactless payments we can learn a great deal from our friends overseas who started several years before us.

In Australia, in September of 2017, over 92% of face-to-face Visa transactions were performed as contactless tap-and-go.<sup>2</sup> Banks in Australia issue “dual-interface” cards, equipped with

both a little Near Field Communications (NFC) antenna, in addition to an EMV chip, which enable the contactless tap of the card at payments terminals. Consumers in Australia have embraced contactless payments because these ‘tap-and-go’ transactions complete in under 5/10ths of a second.<sup>3</sup> Just think about how convenient that kind of speed is when customers are trying to pay for something at a fast food restaurant, gas station, convenience store or stadium. Retailers are realizing increased throughput as more consumers use contactless payments and spend less time in line. And more often than not, this leads to higher spend.

In 2016, more than 95% of Canadian credit cards were contactless and over 75% of retailers accept contactless payments.<sup>4</sup>

The introduction of contactless cards in the United Kingdom represented the first tentative steps away from traditional payment methods, towards the cutting-edge digital alternatives of the future.

In the fourth quarter of 2016 the United Kingdom reported more than 100 million contactless cards had been distributed. That's more than 63% of all cards. A report from the UK Cards Association found contactless has been the impetus behind a 146% rise in card payments over the last ten years. The popularity of contactless for lower value payments has also driven the average value of a UK card transaction to £43.47 — its lowest level in the last 15 years. In supermarkets, in particular, ‘touch and go’ payments grew 136% in the 12 months to March 2017, while service stations and department stores have also witnessed significant increases with 218% and 147% increases respectively.<sup>5</sup>



Most prominently, the contactless functionality first introduced within cards has paved the way for smartphone apps like Apple Pay<sup>®</sup> and Google Pay<sup>™</sup> to introduce their popular ‘tap-and-go’ functions.

## Public transit was the tipping point for contactless payments.

Contactless payments really started to take off when they were used in a public transit environment.

Contactless ticketing has proved a huge hit with the London Transport System which account for more than 1 million transit rides a day, made using tap and pay cards or mobile devices.

Chicago is now deploying the contactless Ventra<sup>™</sup> Card for transit and the city of Philadelphia is now offering the contactless SEPTA Key Card for transit. According to a recent article in the New York Times, starting in late 2018, New Yorkers will pay their subway fares the way Londoners do now, by waving cellphones or contactless credit or debit cards at the turnstiles in the subway or the fareboxes on buses.

Visa is looking to accelerate the adoption of contactless payments on the world’s subway, rail and bus networks through the launch of a dedicated transit program. Visa claims a switch to contactless could result in major benefits for operators. The firm’s recent Cashless Cities report found that transit agencies spend an average of 14.5 cents of every physical dollar collected, compared to only 4.2 cents for every digital dollar.<sup>7</sup>

## Mobile devices and contactless payments.

Another aspect of contactless payments include mobile devices, such as a smartphone. More often than not, these devices accept NFC payments through mobile wallets.

## The introduction of mobile wallets.

The rise of mobile payments technology kicked off in 2014 when Apple Pay hit the market. For a while it was the only major mobile wallet out there. But over the past few years new mobile wallets have entered the market with offerings such as Samsung Pay, Chase Pay<sup>®</sup>, Google Pay, Microsoft Pay, Walmart Pay, and KOHL’s Pay. Each of these mobile wallets offers unique benefits to the user and encourages customers to make them a preferred method for payment.

## How mobile wallets work.

Rather than reach for your traditional wallet, you take out your smart phone and hold it a few inches away from the point-of-sale (POS) terminal. This device then automatically reads the payment information stored on the smart chip embedded in your card and then processes the transaction.

Each chip connects to an antenna, and POS terminals emit a high frequency radio wave that facilitates communication between the reader and the phone. When the mobile device is in range, a wireless communication protocol links the terminal and the phone, which exchange information and conduct a secure transaction. And all of this happens instantly.



## “Wearables” will boost contactless payments.

One of the more interesting aspects of contactless are the new “wearable” payments devices. Wearables include technology embedded in wristbands, watches, jewelry and other accessories — allowing consumers to pay just by waving or tapping the device on a point-of-sale (POS) terminal. Patricia Hewitt from PG Research & Advisory Services says that while wearables have only recently started to become available, anything you wear that you can put a chip in can be part of a wearable payment system and at some point consumers might not be using plastic cards at all.

## Some of the most popular wearable devices include...

### Smart watches

Many consumers around the world are praising the practical value of using a smart watch for contactless payments. It removes the need to carry either a bulky wallet or smart phone to make purchase.

Smart watches enabled for contactless payments include the Apple Watch®, using Apple Pay, and the Samsung Gear S2®, through Samsung Pay. These smart watches aren’t designed only for payment, it’s just one of many functions. While the Gear S2 is available, a Samsung Pay-enabled version is currently being tested. Users with a Gear S2 Bluetooth model can download the software on a Galaxy® phone, add credit or debit card information, and it will automatically sync up with the watch. You also can pay without having your phone with you, although, after

five transactions, you’ll need to sync up your watch with your phone again. Samsung recently announced a new model, the Samsung Gear S3®, which will include proprietary technology that mimics the magnetic strip on a regular plastic credit or debit card, allowing you to use it on just about any terminal, even those that aren’t NFC-enabled. As for Apple®, users initially need to have an iPhone® that’s paired with an Apple Watch to add payment card details to Apple Pay. After that, there’s no need to have a phone with you.

### Wearables

The growing success of contactless cards has created a demand for wearable payments. In February of 2018 Mastercard reported that 24% of Europeans expect to start using “tap and go” contactless payments with a smartwatch, bracelet, keyring or other form of wearable payments. Europe is leading the way in contactless payments and its success has created a demand for even greater convenience. ABN AMRO Bank in the Netherlands is leading the way. The bank wants to make things convenient for consumers by offering everyone a payment method that suits their preferences.

Smart Watches and wearables are part of Mastercard’s goal of making contactless payments a global standard in the next five years.

## Contactless cards versus cash.

Interchange regulation for card transactions is currently being introduced across the world that will fundamentally alter the relationship between cards and cash. Government legislation



in the US has already reduced the costs of cards by \$10 billion per year. Interchange regulation is also encouraging the rise of contactless payments, which specifically aim to replace cash for low value transactions.

Countries with high contactless penetration have seen a drop in cash usage for payments. In Canada and the United Kingdom contactless cards have seen rapid growth and are progressing towards maturity. This means that merchants that are able to accept contactless payment technology will continue to benefit from increased interchange revenue.

## Why contactless technology can help your card become “top of wallet”.

In the United States consumers are accustomed to being given their choice of payment method. Financial institutions will certainly benefit from offering a branded dual-interface card as one of the contactless payment options.

Visa is reporting that issuers have seen an 18% increase in transactions after they introduced contactless cards. Contactless cards help keep the institution top of mind and top of wallet with customers, while offering all the same convenience benefits as mobile payments.

## Why Elan Financial Services for contactless payments?

Evaluating solutions like contactless/NFC payment acceptance may seem daunting for some financial institutions, but Elan Financial Services can help you.

As your cardholders learn more they will be seeking the convenience of contactless cards. Elan can help your institution...

- Calculate your risk exposure
- Create a bullet-proof business case for contactless
- Develop a budget plan
- Guide you through the implementation process and contactless certification
- Develop a cardholder communication and education plan

(1) *Mastercard Contactless Tap & Go*  
<http://origin-www.mastercard.ca/support/contactless.html>

(2) *Visa - The Rise of Contactless Payments Around the Globe*  
<https://usa.visa.com/visa-everywhere/innovation/contactless-payments-around-the-globe.html>

(3) *Plug And Play – Why Is The U.S. So Behind On Contactless Payments?* <https://www.plugandplaytechcenter.com/resources/contactless-payments-united-states>

(4) *Verifone – To Tap or Not to Tap?*  
<https://www.verifone.com/en/us/thoughtLeadership/tap-or-not-tap>

(5) *Paysafe - Tap-and-go: contactless cards reach 10*  
<https://stories.paysafe.com/news/tap-and-go-contactless-cards-reach-10>

(6) *Mastercard Frequently Asked Questions - Contactless*  
<https://www.mastercard.us/en-us/frequently-asked-questions.html>

(7) *Visa to Transform the Mass Transit Experience Worldwide – No More Fumbling for Cash or Paper Tickets*  
<https://usa.visa.com/about-visa/newsroom/press-releases.relaseld.11046.html>