



# PSD2 SCA

and the future of digital  
payment security



August 2023

**VISA**

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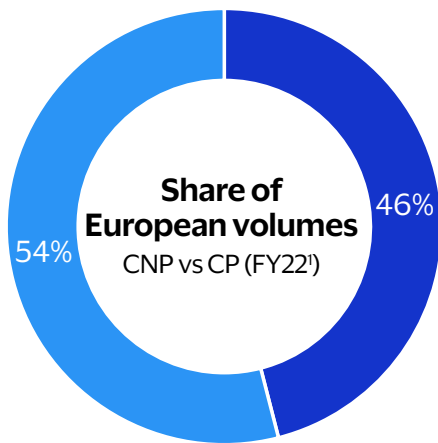
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# Digital has changed consumer payment behaviour



The shift to digital is happening at unprecedented rates. Over the last decade we've seen continued double digit growth, and in 2021, eCommerce transaction volumes exceeded face-to-face (F2F) for the first time.<sup>1</sup>



- card-not-present (CNP)
- card present (CP)

For every **\$1** spent in person

Cardholders are spending **\$1** in virtual environments<sup>1</sup>

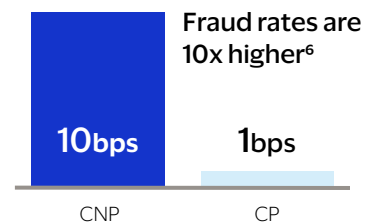
There's no doubt the pandemic played a huge role in this. Restrictions in face-to-face channels forced customers to either shop online or pay using contactless and mobile devices when in-store.

In 2020, 65% of global eCommerce was conducted via mobile phones<sup>2</sup>, and in 2021, the number of active eCommerce consumers in Europe exceeded 300 million.<sup>3</sup> In addition, over 20 European countries saw their eCommerce volumes increasing by more than 40% during the pandemic.<sup>4</sup>

Also, COVID-19's long duration meant these new behaviours became a norm. Indeed, for many it became a habit as they preferred the speed, flexibility, and convenience offered by digital.

But it was not just consumers who were loving digital commerce. Its rapid growth and expansion also attracted the attention of fraudsters, who actively looked to identify and exploit vulnerabilities.

Global eCommerce fraud totalled \$41 billion in 2022<sup>5</sup>, and in Europe, when compared with F2F transactions, digital fraud is 10x higher.<sup>6</sup>



# PSD2 SCA enables digital payment security

To address this, in 2018, the European Union (EU) introduced its second Payment Services Directive, PSD2.

Their intention was twofold: to address the challenges of eCommerce security by protecting consumers and at the same time, inspire trust when making payments online.

PSD2 mandated the implementation of Strong Customer Authentication (SCA), which required consumers to confirm their identity for each digital transaction by using two-factor authentication (2FA).

Under SCA consumers needed to share two forms of ID, which could be any combination of:



**Knowledge:**

something only they know, such as a PIN or password



**Possession:**

something only they have, such as a mobile phone or payment card



**Inherence:**

something that's unique to them, such as their fingerprint

Whilst PSD2 was a significant step forward, SCA and 2FA created specific challenges for issuers and merchants. Compliance meant they needed to build these new authentication measures into their checkout processes, creating increased friction and a greater risk of abandonment.

## Out of scope and exempt transactions

The EU recognised that increased friction would threaten the revenues of many businesses. So, as part of PSD2, they defined those transactions that are out-of-scope or exempt from SCA.

### SCA exempt transactions\*

- ✓ Low value payments less than €30
- ✓ Transactions identified as low risk
- ✓ Secure corporate payments
- ✓ Trusted merchants

### Out of scope transactions\*

- ✓ Merchant-initiated Transactions (MITs)\*
- ✓ Mail order / telephone payments
- ✓ Where the issuer or acquirer is located outside the EEA
- ✓ Anonymous cards, e.g., prepaid gift cards

\*2FA may be asked when setting up payment for a new subscription or membership

In these scenarios, merchants could continue to offer their customers a more seamless checkout experience, with authentication step-ups not required.

## SCA compliance and deadline dates

Initially, PSD2 mandated that all changes had to be introduced before 14th of September 2019. In the rapidly evolving digital environment, there was clear pressure for the industry to implement SCA effectively and meet the deadlines set.

However, concerns over complex requirements and the impact on consumers led to an extension of the deadline to 1st January 2021, with market ramp ups set through early 2021.

Although outside of the jurisdiction of the EU, the UK also agreed to meet the PSD2 compliance timelines and standards – achieving compliance with their EEA counterparts on 14th March 2022.



# Visa – supporting PSD2 implementation

Complying with these new PSD2 SCA requirements presented enormous challenges for the individual players across the industry. Whether that was with technical implementation, clarifying specific interpretations, or understanding the impact on their business – the industry had a mountain to climb.

**Visa played a leading role in supporting the entire ecosystem through SCA implementation, encouraging collaborative working and an aligned implementation approach.**

We engaged with thousands of businesses through webinars and conferences, and issued a series of implementation guides (such as 'PSD2 SCA for Remote Electronic

Transactions') that advised merchants, service providers and acquirers on SCA implementation.

Visa then worked with EMVCo to create an industry standard for authentication, which reduced complexity and created UX consistency for consumers, merchants and financial institutions – irrespective of scheme, device or channel used.

The result was EMV® 3DS, allowing merchants to share more transaction data with issuers, helping them with their risk-based decisioning.

For merchants this was a welcome initiative. They could now help reduce the number of authentication challenges, and when SCA was required, minimise the risk of abandonment by providing a consistent, best practice experience.



EMV® is a registered trademark in the U.S. and other countries and an unregistered trademark elsewhere. The EMV trademark is owned by EMVCo, LLC\*

# Minimising checkout friction



SCA directly impacted merchants because of the additional friction in the checkout journey. To mitigate this risk, merchants were encouraged to work closely with their acquirer and payment service providers to:

- ✔ Correctly identify out-of-scope and exempt transactions
- ✔ Maximise use of EMV® 3DS
- ✔ Make the most of new authentication solutions and technologies

## Identifying out-of-scope and exempt transactions

The two most popular transaction types in these categories are the acquirer Transaction Risk Analysis (TRA) exemption and Merchant-Initiated-Transactions (MITs), which together account for over half of all eCommerce volume.

Upon agreement with their acquirer, merchants can request a TRA exemption. Acquirers must have a low overall fraud rate and have completed real-time risk checks to ensure there were no abnormalities in the transaction.

<b>The use of the Acquirer TRA exemption has been successful.</b>	Reduced fraud to <b>~7bps<sup>6</sup></b> ▼	The MIT framework enables merchants to initiate future payments on the customer's behalf where prior permission has been obtained. Similar to the acquirer TRA exemption, approval success rates have performed well.
	Up to <b>98%</b> ▲ approval rates when passed through EMV® 3DS <sup>7</sup>	

## Maximise the use of EMV® 3DS

Alongside the use of exemptions, merchants were encouraged to always use the latest EMV® 3DS authentication solution.

In August 2018, EMV® 3DS 2.1 went live. It enabled merchants to pass 10x more transaction data to issuers so they could better identify those transactions where SCA was not needed.

**The extra data enabled issuers to carry out comprehensive risk analysis through their Risk Based Authentication solutions - helping to more accurately pinpoint when issuer exemptions could be applied.**

Where SCA was required, EMV® 3DS 2.1 provided authentication support across multiple device types as well as providing the functionality for biometric authentication. Importantly, merchants also gained liability protection for those transactions successfully authenticated.

Following the release of EMV® 3DS 2.1, merchants were soon encouraged to move onto EMV® 3DS 2.2, which offered several additional benefits.

Live in June 2019, it provided smoother handover to SCA challenge processes and better exemption management by allowing merchants to include specific SCA exemption flags within the authentication request. It also meant merchants, with the consent of their acquirer, could also leverage exemptions such as Transaction Risk Analysis (TRA), Secure Corporate Exemption and Trusted Beneficiary.

In scenarios such as split shipments and multi-party commerce, where the customer is not always available for authentication, EMV® 3DS 2.2 also supported capability for decoupled authentication. Using the 3RI 3DS Requestor Initiated (3RI) solution, merchants could retain liability

protection even if the customer was not present to authenticate.

**EMV® 3DS 2.2 is now the strong preference of merchants, with 70% of digital volumes processed this way<sup>7</sup>.**

This is a figure that continues to grow every month - with the results also continuing to improve. Authorisation rates for fully authenticated 3DS transactions now average 97%<sup>7</sup> - a full 4 percentage points higher than other non-secure eCommerce transactions.

**70%** of authentication volume processed via EMV® 3DS 2.2<sup>7\*</sup>

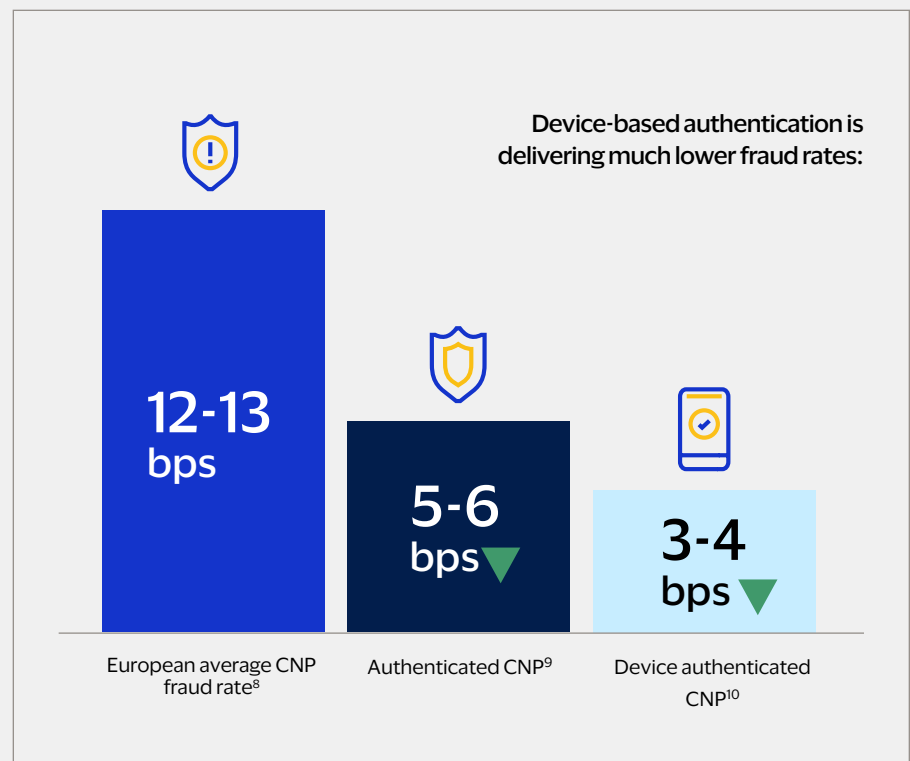
**97%** authorization rates for fully authenticated 3DS transactions<sup>7</sup>

## Utilising biometric authentication methods

Under SCA, cardholder authentication requirements can be satisfied in several ways, including the use of passwords, one-time-passcodes and more. However, as mentioned previously, these processes created additional friction which led to increased abandonment and dropout.

To help address this, EMV® 3DS supports using biometric authentication methods in the payment experience, providing a more seamless and accurate way to complete authentication.

This is a significant benefit, especially when considering that many cardholders are now confident in using biometrics to open their devices and apps - and we have seen the results.



(\*) 30% is processed via EMV® 3DS 2.1

# What's next? Achieving the performance of F2F in digital

SCA is now well-embedded, and we're seeing improved approval rates and reduced fraud. Our focus now shifts to delivering a digital payment experience that is as secure, seamless and consistent as F2F.

Currently, when passing transactions through EMV® 3DS, many EEA regions still see SCA challenge rates as high as 70%<sup>7</sup>. Despite improvements to the UX, an average of 11% of eCommerce transactions in the EEA are still abandoned due to friction and a poor experience<sup>7</sup>. Additionally, whilst fraud has fallen, it is still up to 10x lower in the F2F environment.<sup>6</sup>

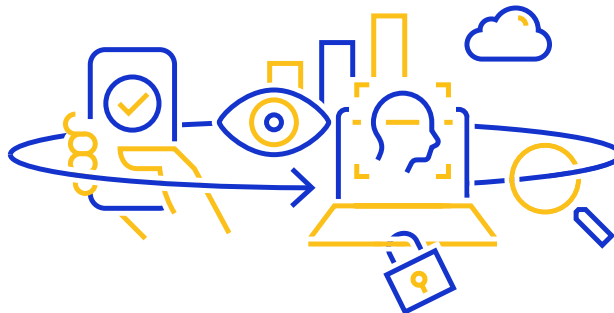
The great news is that technological advancements have been made.

**Our Win in Digital (WiD) strategy aims to establish a seamless, ubiquitous, and secure payment UX - however, wherever, and whenever you pay.**

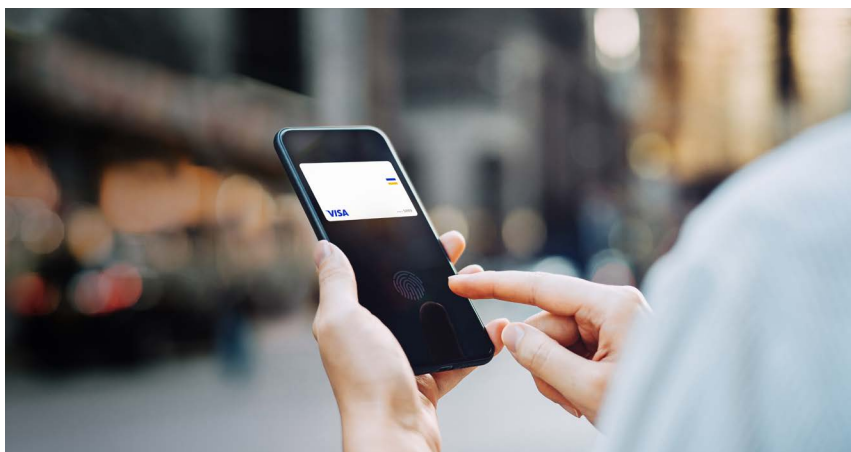
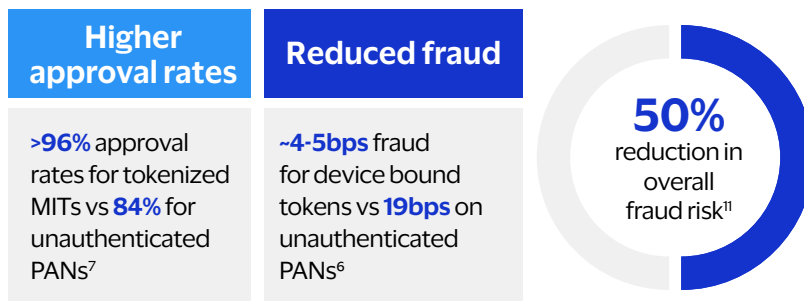
WiD is built around three foundational technologies: Tokens, Digital authentication (i.e., biometrics) and Click to Pay. These work together to ensure a consistent, best-in-class digital payment UX that rivals the F2F experience.

## Tokenization underpins our digital vision

Network tokens are designed for the future of digital payments. They improve payment security by protecting sensitive cardholder details and they also work with credential updater technology to automatically update new card credentials. This ensures more seamless, uninterrupted digital payment experiences.



**Merchants across Europe who have implemented our network tokens are already seeing great benefits:**



## Learn more

To discover how our range of WiD solutions can help enhance your checkout UX, get in touch:

[EUSolutions@visa.com](mailto:EUSolutions@visa.com)

(1) Visa Finance, 2022 and includes all acq reported vols and share calculated at constant \$ (2) eMarketer - Global Ecommerce Forecast Report May 2021: Ecommerce Continues Strong Gains Amid Global Economic Uncertainty (3) Statista, <https://www.statista.com/topics/3881/online-shopping-in-europe/#dossierKeyfigures>, July 2021 (4) One Billion Additional Touch-Free Visa Payments Made As Consumers Embrace Contactless Commerce, VisaNet data, July 2021 (5) Statista: Value of e-commerce losses to online payment fraud worldwide, 2020 - 2023 (6) Visa 2022 fraud data (7) VisaNet Data, Europe region, 2022-2023 (8) VisaNet Data, Europe region, Feb 21 - Oct 21, card not present fraud to sales rate, excluding ECI 05 (9) VisaNet Data, Europe region, Feb 21 - Oct 21, card not present fraud to sales rate, ECI 05 only (10) VisaNet Data, Europe region, Feb 21 - Oct 21, card not present fraud to sales rate, token transactions, token type device-bound 4, VisaNet Data, Europe region, Feb 21 - Oct 21, card present fraud to sales rate (11) Fraud Rate Reduction: Source: CNP Average is for set of Token participating Merchants (by Merchant DBA) (PAN & Token) with digital wallet TRs Feb-Apr 2022 Issuer region: Europe: Visa Token transactions compared to PAN-based transactions online