# Introduction

The trend towards online shopping continues to have a huge impact on banks, merchants and consumers. According to DIBS, ecommerce in the Nordics grew to be worth 42 billion euros in 2017, and research by PostNord found that 60% of 18-79 year olds buy goods online each month.

As card-not-present (CNP) e-commerce purchases increase, so do the associated security risks. The important questions for banks and merchants are:

1) How can they continue to offer customers secure and transparent payments without impacting their overall online shopping experience?

2) How can this be done while fulfilling the Strong Customer Authentication (SCA) requirements mandated by the Payment Services Directive (PSD2), and making use of the exemptions to offer frictionless authentication?

This eBook takes banks and merchants through the benefits of 3-D Secure and explains how the addition of risk-based authentication (RBA) could further protect their customers online and improve their payment experience.

60%
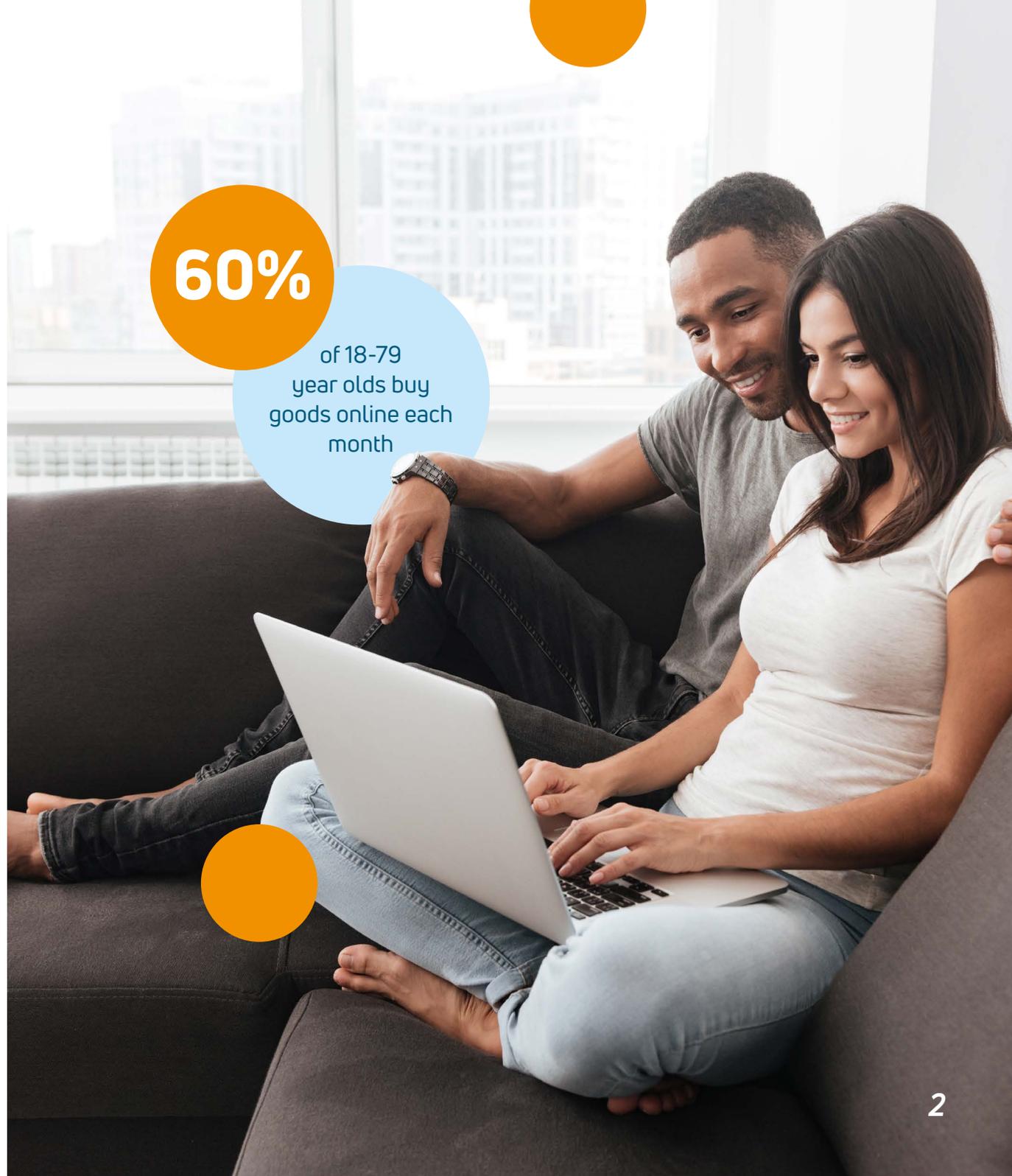
of 18-79 year olds buy goods online each month

Main motivators for online shopping in 2017:

- I can shop when it suits me
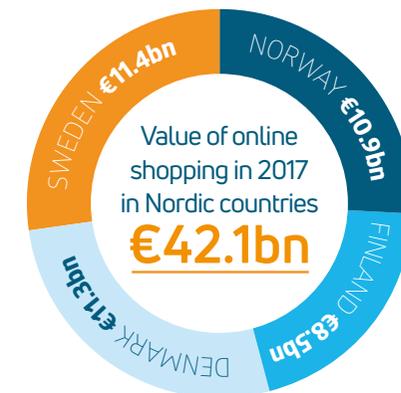- Lower prices
- Time-saving
- Bigger and better selection of goods
- Convenient

Convenience: understanding e-commerce motivations

The payment process is a key component in the consumer's e-commerce journey: today's online shoppers expect their checkout experience to be fast, simple and convenient.

Consumers' primary motivation for buying online is convenience. Today, we can shop whenever we like, from almost any store, saving ourselves time that we would otherwise spend travelling, browsing and queueing in-store.

Value of online shopping in 2017 in Nordic countries
€42.1bn

SWEDEN €11.4bn
NORWAY €10.9bn
FINLAND €8.5bn
DENMARK €11.3bn

e-Commerce fraud:
a challenge for banks

Fraud is increasing with the rise in CNP purchases, mainly because it is harder for the merchant to verify that the cardholder is indeed authorising the transaction.

This is because CNP purchases only require the purchaser to have the payment card details to hand – they do not need the physical card, or even the PIN.

As banks and merchants work on continuously improving the consumer's experience of making a payment online, they must also continue to ensure security isn't compromised.

3-D Secure reduces fraud in e-commerce

Boosting security
with 3-D Secure

Three-Domain Secure, or 3-D Secure, is an XML-based protocol that adds an extra layer of security to CNP online transactions and enables consumers to authenticate themselves. It ties the payment authorisation to an online authentication process, enhancing the security wrapped around the transaction.

The 3-D Secure environment consists of three domains which are the merchant domain, the issuer domain, and the interoperability domain.
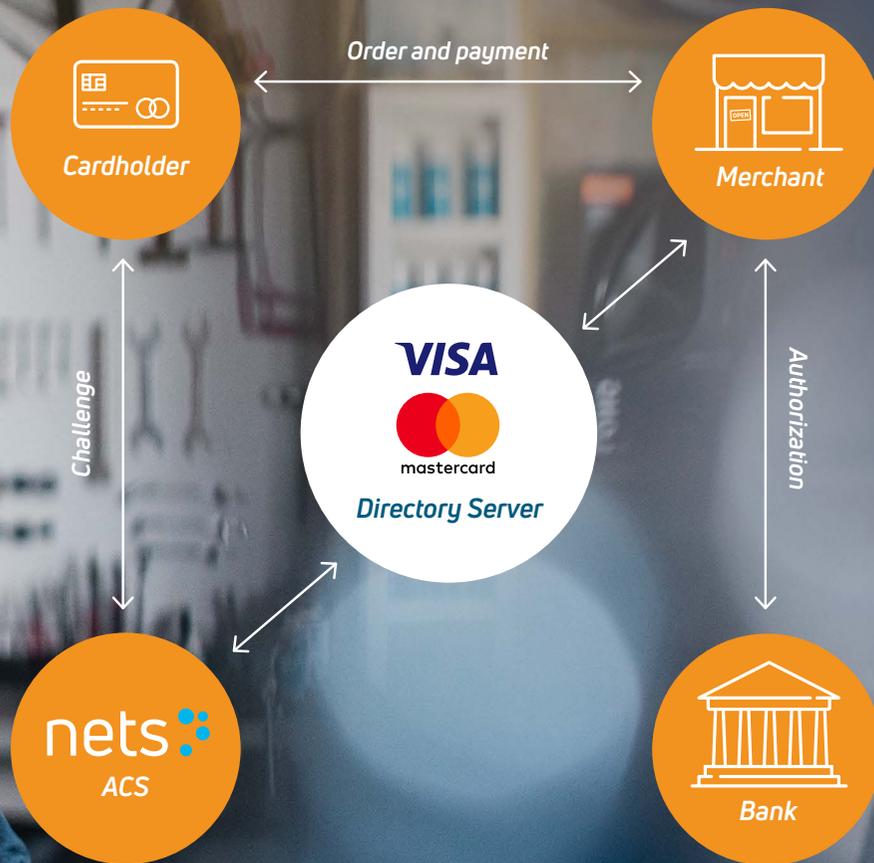
The additional security layer helps prevent transactions unauthorised by the card holder and protects merchants from issues such as exposure to CNP fraud.

Currently, the solution is marketed by international payment schemes as Verified by Visa, Mastercard SecureCode, or Mastercard Identity Check.

Verified by
VISA

Mastercard
SecureCode

mastercard.
ID Check.

Cardholder

Order and payment

Merchant

Challenge

VISA

mastercard

Directory Server

Authorization

nets
ACS

Bank

How does
3-D Secure work?

A transaction initiates a redirection to the Access Control Server (ACS) of the card issuing bank to authenticate the cardholder.

The merchant's payment engine contacts the card scheme's Directory Server (DS) to locate the issuing bank's ACS. The ACS then challenges the cardholder for authentication.

There are several methods for cardholder authentication available. The cardholder completes the authentication and a response is sent back to the merchant.

Finally, the payment is sent for authorisation.

Enhancing
3-D Secure with
Risk-Based Authentication

Risk-Based Authentication (RBA) is a dynamic, parameter-driven system that measures the risk level of a transaction, and then uses the risk profile to determine how strong the security challenge for that transaction should be. A higher risk transaction requires stronger challenges.

Issuers can establish their own risk profile and use this to permit transactions that fall within these risk parameters to be authenticated frictionless.

However, if the transaction falls outside the predefined safe parameters, the card-holder will be automatically prompted for authentication through 3-D Secure.

Frictionless e-commerce

Appropriate **authentication**

Overlaying 3-D Secure with RBA means that the issuer can add the following example parameters for safe transactions:

- *Transaction amount*
- *Number of transactions within certain time-frame*
- *Cumulated amount within certain time-frame*
- *Specific merchant*
- *Cardholder's browser fingerprint*
- *Specific country*

For example, if a consumer initiated a low-value transaction from a device they had frequently authorised payments with in the past, in the country where that card is registered, this could be classified as a low risk transaction.

This would mean the consumer is not challenged to authenticate themselves in the traditional 3-D Secure manner, making the payment experience faster and more convenient.

However, if the same payment card was used to initiate a high-value transaction from an unknown device in a foreign country, this is likely to be classified as high-risk.
The card-holder would then be prompted for authentication before the transaction is authorised.
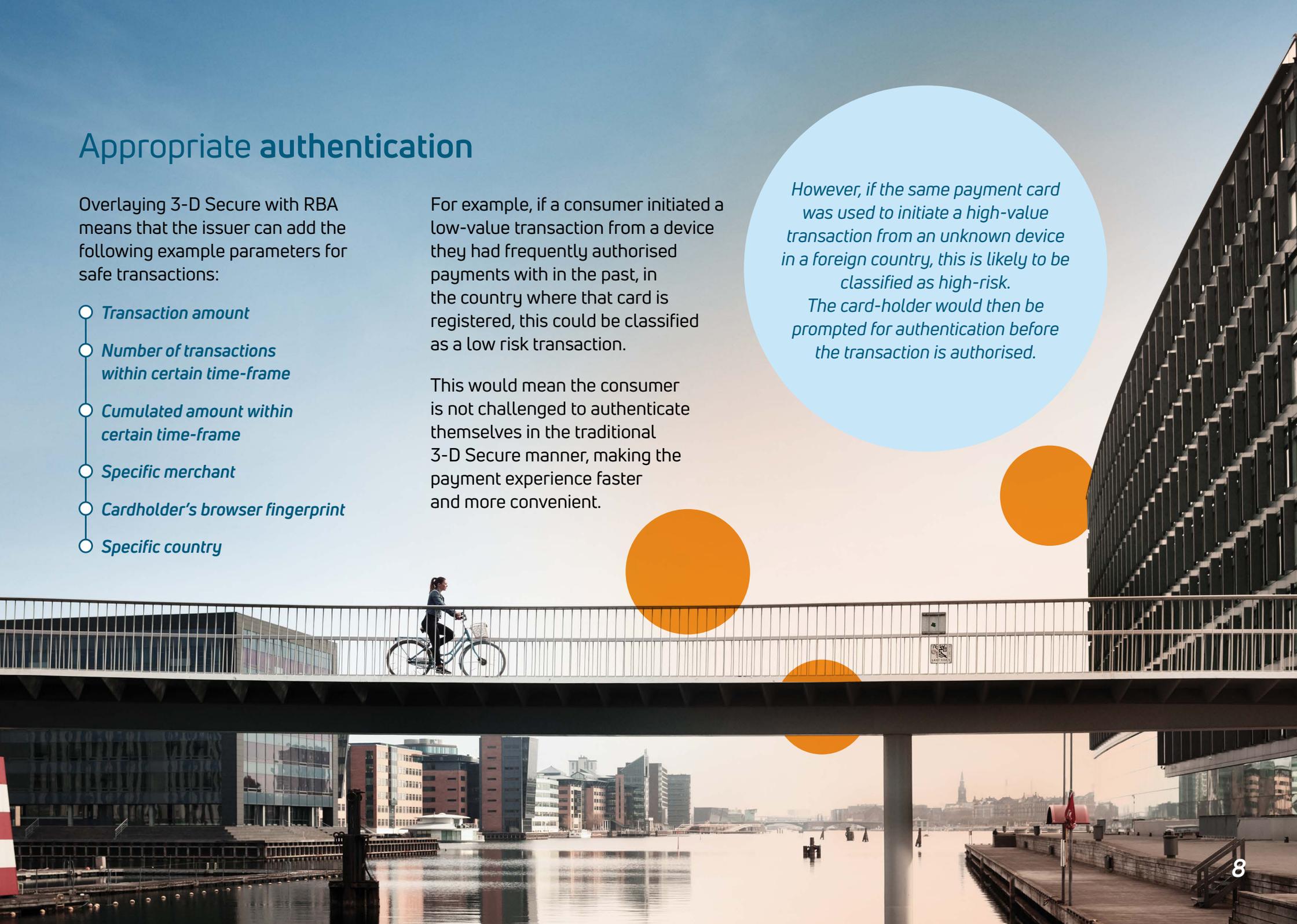
Easy. Fast. **Secure.**

Introducing 3-D Secure and RBA can significantly improve the consumer experience and also raise security; the risk of fraudsters successfully utilising a customer's payment card details to make unlawful transactions is greatly reduced.

With RBA, the consumer only needs to perform strong authentication for high-risk transactions instead of every time they initiate a payment online. This makes the payment process both faster and more convenient for the consumer, without compromising security.
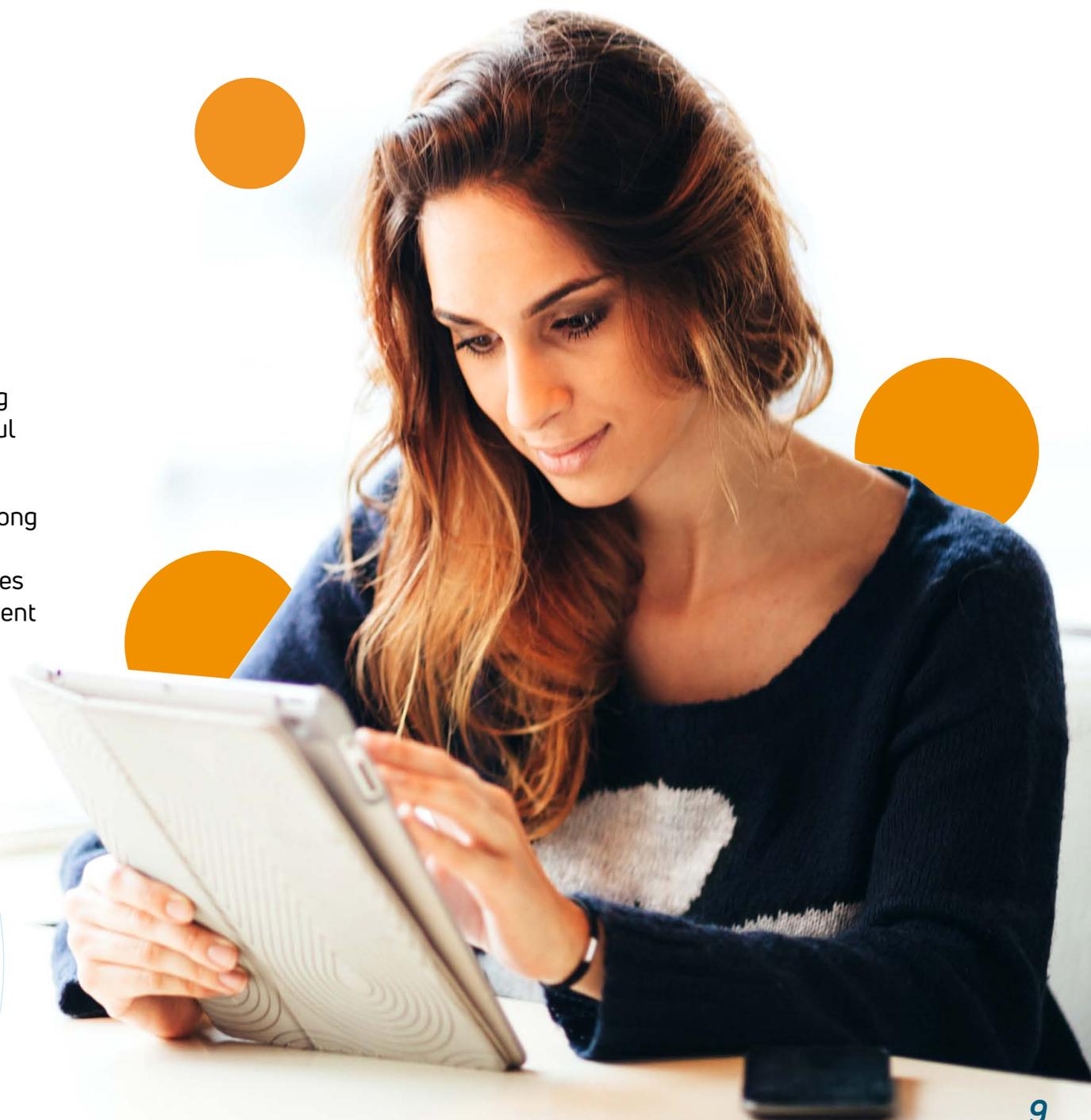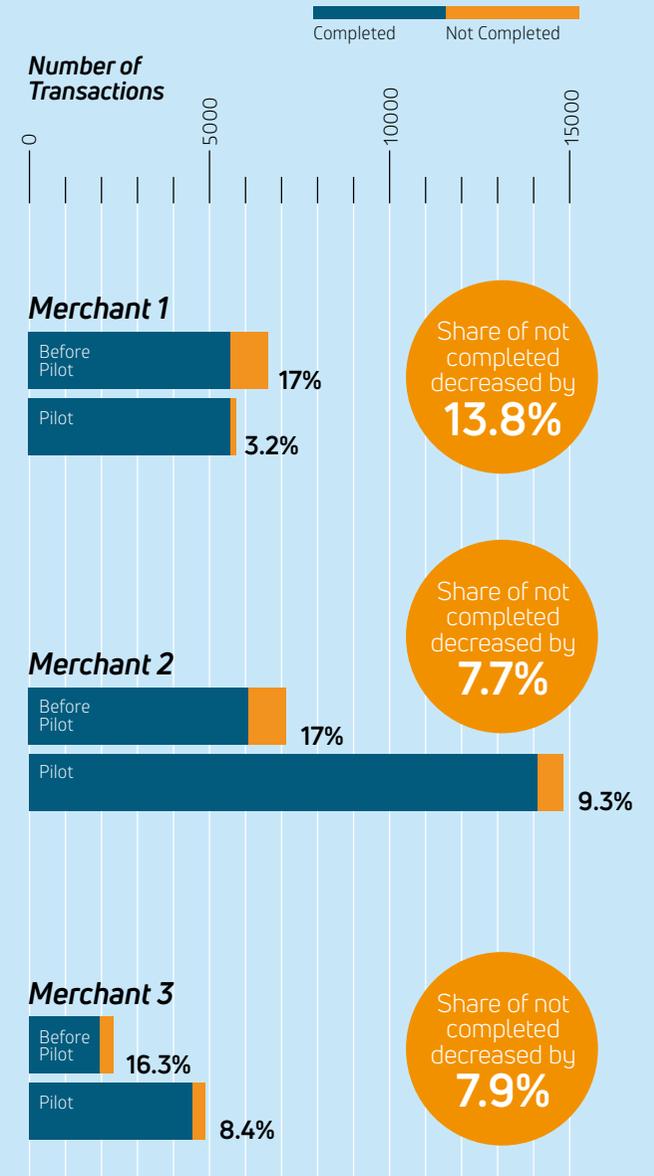
Merchant benefits

Using 3-D Secure and RBA to prevent fraudulent use of payment cards online benefits merchants, too.

Not only does it raise customer satisfaction thanks to the streamlined payments process, it also reduces the merchant's liability for unauthorised CNP transactions. The combination of both technologies also enables more transactions to be successfully completed because the bank can now automatically approve some transactions which, previously, would have triggered a 3-D Secure challenge.

In a pilot run with a major Nordic bank, the share of the not-completed transactions decreased significantly when risk-based authentication was used. *For one merchant, non-completed transactions decreased by 13.8%.*

Fewer uncompleted transactions means more successful sales, more revenue for the merchant and a likely increase in return business thanks to the smooth purchasing experience.

Completed | Not Completed

Number of Transactions

0   5000   10000   15000

Merchant 1

Before Pilot — 17%

Pilot — 3.2%

Share of not completed decreased by **13.8%**

Merchant 2

Before Pilot — 17%

Pilot — 9.3%

Share of not completed decreased by **7.7%**

Merchant 3

Before Pilot — 16.3%

Pilot — 8.4%

Share of not completed decreased by **7.9%**

Bank benefits

Successfully decreasing CNP transaction fraud could save banks significant sums, which is one reason why the first generation of 3-D Secure has already become so popular. The ability to define a risk profile, however, and automatically approve transactions which fall within it, means that banks can now be confident in their ability to simplify the e-commerce transaction process, without putting their revenues in danger.

RBA: Less drop-outs → more transactions

Case study:

DNB creates frictionless payments and an easy online checkout experience with 3-D Secure Risk-Based Authentication from Nets.

DNB is Norway's largest financial services group and internet bank. The Group sought a solution that would improve the speed, simplicity and convenience of its customers' online shopping experience without compromising their frictionless online payment experience.

DNB worked with Nets to implement a 3-D Secure solution with RBA. Not long after the RBA solution had been deployed, the bank saw an immediate decrease in the volume of 'not completed' e-commerce checkout transactions.

"Because paying is so much easier now than before, we've seen a substantial reduction in the number of customers abandoning their electronic cart at the point of payment. This improves the online shopping experience and helps stores to make more sales."

Mona Neskvern,
Card Fraud Analyst, DNB

"Introducing 3-D Secure with RBA has enabled us to streamline the service while maintaining all important payment security. With this in mind, it's easy to see why the solution is quickly establishing itself as the industry's benchmark enabler."

Hans-Petter Bredesen,
Business Manager, Nets

Read the full case study on Nets' work with DNB.

→

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3-D Secure RBA services?

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Nets Financial & Network Services provides tailored outsourced
payment solutions for banks across the Nordics and Baltics.

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