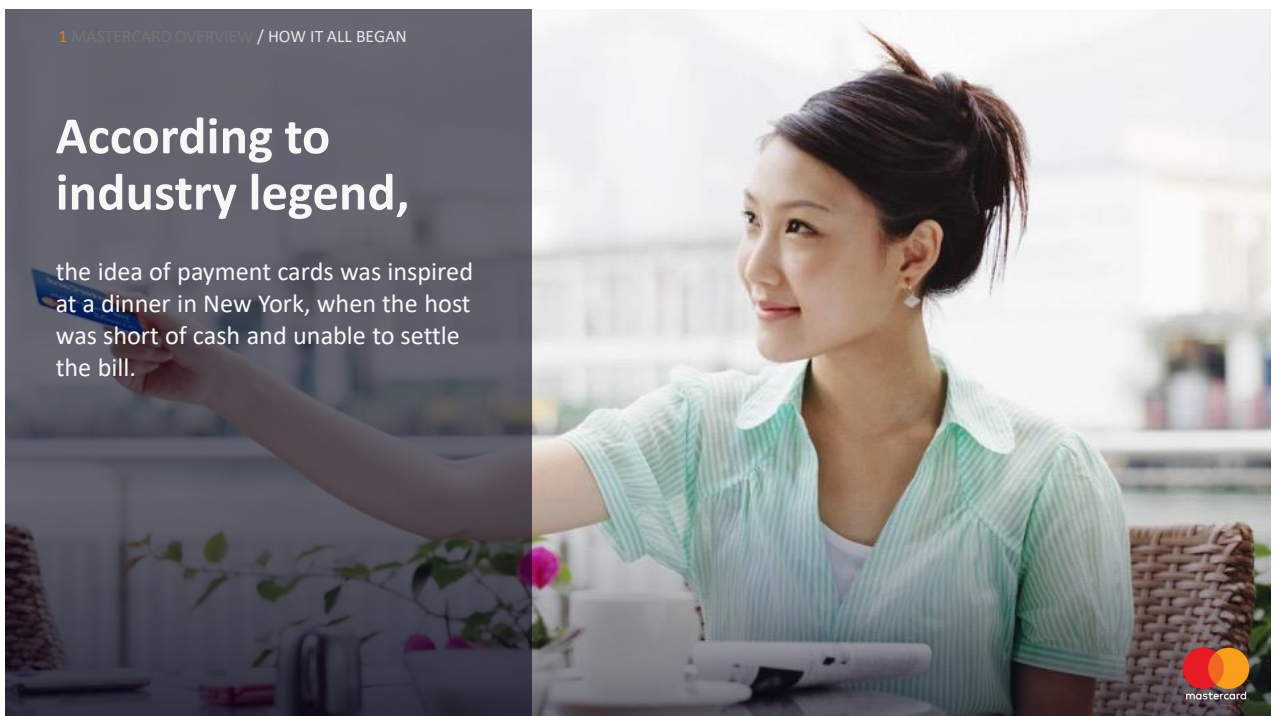
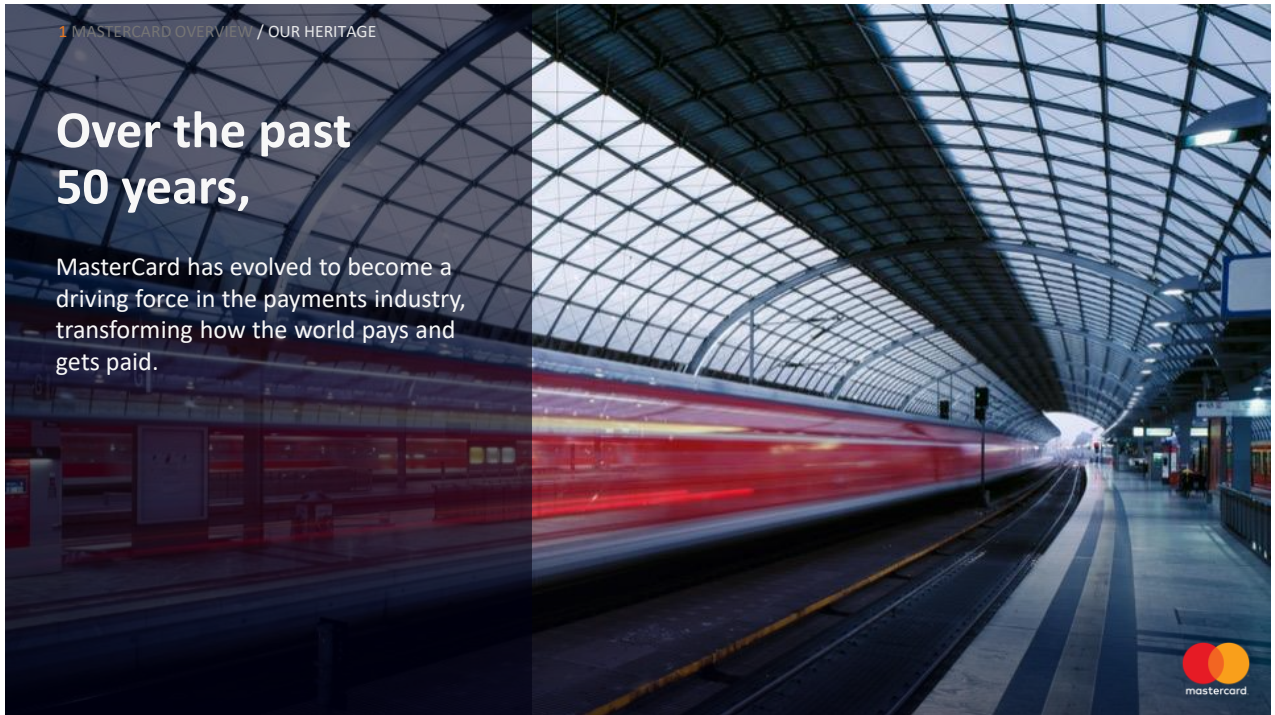




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2



1 MASTERCARD OVERVIEW / OUR HERITAGE

Over the past 50 years,

MasterCard has evolved to become a driving force in the payments industry, transforming how the world pays and gets paid.

3

1 MASTERCARD OVERVIEW / OUR HERITAGE

Mastercard Milestones

1960s	1970s	1980s	1990s	2000s	2010s
<p>1966 A group of banks creates the Interbank Card Association (ICA) for the reciprocal acceptance of credit cards.</p> <p>1968 Financial institutions from Mexico, Japan, and Europe join ICA.</p> <p>1969 ICA acquires the Master Charge name and interlocking circles trademark.</p>	<p>1979 Master Charge becomes MasterCard.</p>	<p>MasterCard is the first payment card issued in the People's Republic of China, and the first to introduce a laser hologram on cards.</p> <p>The first MasterCard business card is launched.</p>	<p>In partnership with Europay International, MasterCard launches Maestro, the world's first global online debit program.</p> <p>1997 MasterCard launches Priceless® campaign.</p>	<p>2001 MasterCard Advisors is launched.</p> <p>2002 MasterCard integrates with Europay International and becomes a private share corporation.</p> <p>2006 MasterCard transitions to a new corporate governance and ownership structure and begins trading on the NYSE under ticker symbol MA.</p>	<p>2008-2012 Keenly focused on driving innovation, MasterCard acquires Orbiscom, DataCash, the prepaid program and management business of Travelex (Access Prepaid), Trevica and Truaxis.</p> <p>2010 MasterCard Labs is established, which serves as an incubator for new ideas.</p> <p>2013-14 MasterCard introduces MasterPass. Acquires Provus, ECS, C-SAM, Pinpoint, TNS and Sone. MasterCard works with Apple to launch Apple Pay.</p> <p>2015 MasterCard acquires Applied Predictive Technologies and assists with the launch of Samsung Pay.</p>

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1 MASTERCARD OVERVIEW / MASTERCARD TODAY

Our Vision

A WORLD BEYOND CASH™

From major cities to emerging markets, we are stimulating economies and changing the way the world does business.



5

1 MASTERCARD OVERVIEW / MASTERCARD TODAY

Our Mission

Every day, everywhere, we use our technology and expertise to make payments safe, simple and smart.





6

THE ADVANTAGE WE DELIVER

The Advantage We Deliver

- **Unified** global organization
- **Fastest** global processing platform
- **Powerful** brands and Priceless offers
- **Innovative** payment solutions
- **Security** expertise
- **Strong** relationships
- **Unique** advisory capabilities
- **Talented** employees



7

Our Business

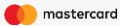


8

OUR BUSINESS / BUSINESS TRANSFORMATION

Payments Innovation

Our **innovations** support opportunities for new payment services and safer, seamless and more convenient payment experiences.

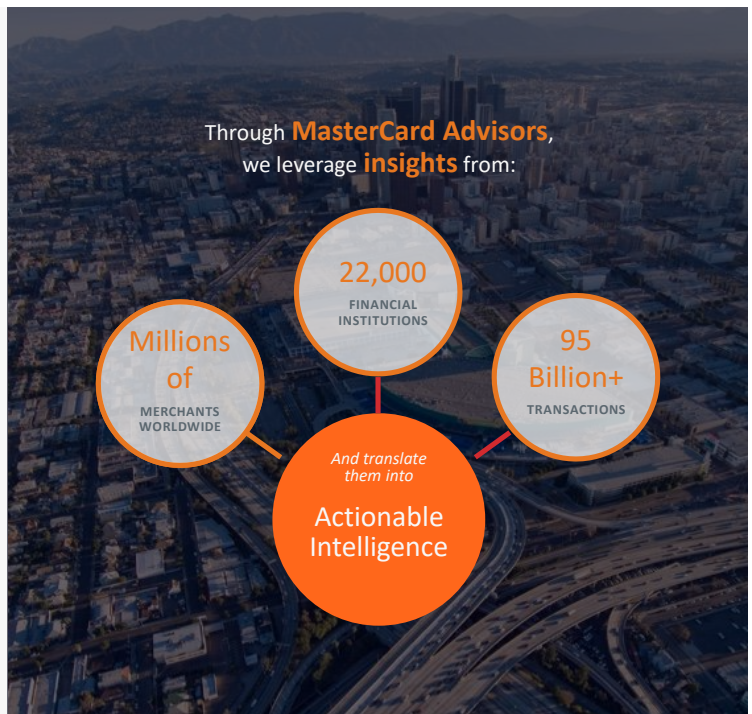


OUR BUSINESS / STRATEGIC CONSULTING

Consumer Data and Insights

By combining reliable transaction data with analytics, we offer unparalleled global consulting advice that can drive revenue growth, marketing efficiencies and business optimization.

Advisors does not sell the transaction data, but instead maximizes aggregated, anonymous data to deliver actionable insights.



OUR BUSINESS / AWARDS

Global Recognition

Fortune

- #6 of Top 25 Blue Ribbon Companies
- #11 of Top 50 Change the World Companies
- World's Most Admired Companies
- #5 of World's Top 50 Business Leaders (Ajay Banga)

Innovation Project®

PYMNTS Innovator Award for Best New Technology

Millward Brown

#20 of BrandZ Top 100 Most Valuable Global Brands

Forbes

#36 World's Most Innovative Companies

Barron's

#8 of Top 100 World's Most Respected Companies

Harvard Business Review

Best-Performing CEOs of the World

Ethisphere

World's Most Ethical Companies (2016)

All recognition awarded in 2015 unless stated otherwise.



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OUR BUSINESS / AWARDS

Workplace and Diversity Recognition

Human Rights Campaign

Best Places to Work

DiversityInc.

#7 of Top 50 Companies for Diversity (2016)

ComputerWorld

#1 of 10 Best Finance Companies to work for in the U.S.

LinkedIn

The World's 100 Most In Demand Employers (2014)

National Association for Female Executives

Top Companies for Women

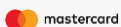
Working Mother

100 Best Companies

Hispanic Network Magazine

Best Places to Work

All recognition awarded in 2015 unless stated otherwise.



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OUR MARKETING POWER / PRICELESS PLATFORM

Priceless

MasterCard's highly regarded Priceless campaign crosses borders and cultures and connects people to priceless possibilities.

112
countries

53
languages

- PRICELESS ADVERTISING
- PRICELESS CITIES®
- PRICELESS SURPRISES®
- PRICELESS CAUSES®

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OUR STRATEGY / STRATEGIC OUTLOOK

Growth Drivers

Mastercard's growth is influenced by four primary factors:

- Personal consumption expenditure growth
- Shift to electronic forms of payment from cash and check transactions
- Mastercard share of electronic payments
- Value-added products and services



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OUR STRATEGY / STRATEGIC OPPORTUNITIES

Key Trends

- **Financial inclusion**
- Continued **urbanization**
- Growing importance of **youth**
- Growing **affluent** and **middle class**
- Ubiquity and reliance on **smartphones**
- Growth of **e-commerce** and **omni-channel shopping**
- Growth of **digital payments**
- Consumer concerns about **fraud**



OUR STRATEGY / OVERVIEW

Our Strategy

Our strategy is to grow our share of commerce through innovation and execution. We drive our strategy by growing our core businesses, diversifying geographies and customers, and building new businesses.



Grow

CORE BUSINESSES
FASTER THAN MARKET



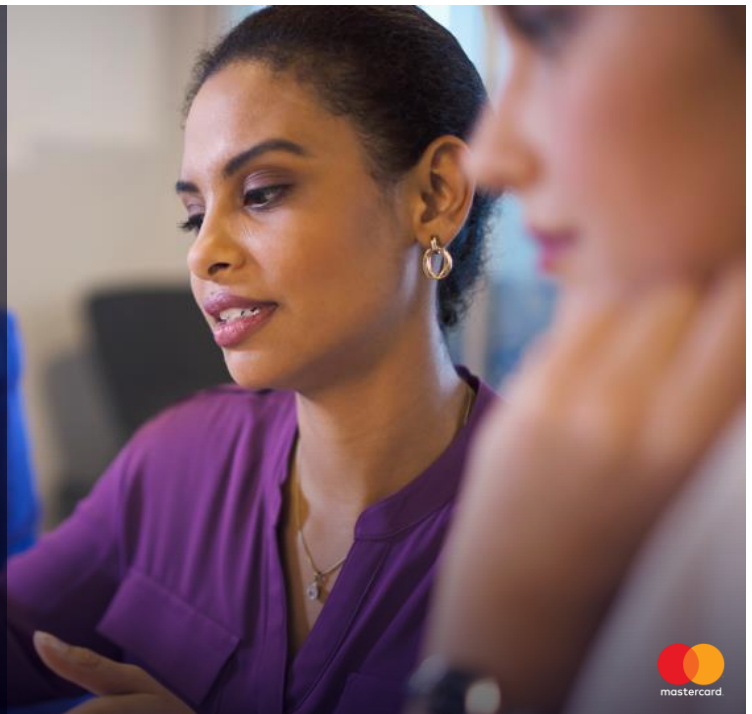
Diversify

CUSTOMERS AND
GEOGRAPHIES



Build

NEW, HIGH-GROWTH
SCALABLE BUSINESSES



OUR STRATEGY / LEADING WITH SERVICES

Mastercard Advisors

Our global consultancy provides clients with insights and solutions that **drive business impact** and **ROI**.

With analyses based on more than 80 billion anonymous transactions, Advisors leverages aggregated information and a consultative approach to help financial institutions, merchants, media companies, governments and other organizations grow their businesses.



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OUR STRATEGY / LEADING WITH SERVICES

Other Value-Added Services

Prepaid Management Services – end-to-end global prepaid card programs for large or small companies that are backed by our safety, security and global acceptance

Payment Transaction Services – acting as a fully integrated technology partner to issuers and acquirers, we provide the back-end technology, service and support needed to make payments happen

Payment Gateway Services – delivering new and different ways to pay online and provide merchants with truly global connectivity



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OUR STRATEGY / FOCUS ON INNOVATION

Mastercard Labs

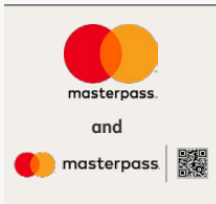
Supporting **breakthrough innovation** efforts is at the heart of differentiating MasterCard from our competitors and key to sustaining our competitive advantage in the marketplace.



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Our strategy – enable our customers and partners to be at the forefront of digital payments

Delivering the **best digital experience** everywhere



Securing every transaction

Mastercard Digital Enablement Service, Biometrics and Machine Learning

Digitizing all forms of personal and business payments

Mastercard Send and **VOCALINK**

Simplifying access to, and integration of, our digital assets



Identifying and **experimenting with future technologies**, start-ups & trends



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Scale services

Driving core product differentiation and incremental revenues

Advisors



Over 50% of customers use our project-based consulting services

Data & Analytics



Over 60% of customers use our data & analytics solutions

Fraud Solutions



Almost half of transactions benefit from our optional fraud scoring solutions (a 50% increase over last year)

Loyalty



65+ million accounts managed on our loyalty platform

Processing



Enabling digital payment and IoT strategies for merchants

Labs as a Service



30+ customer Launchpad events since January 2016



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Meeting Expectations in a Digital-First World

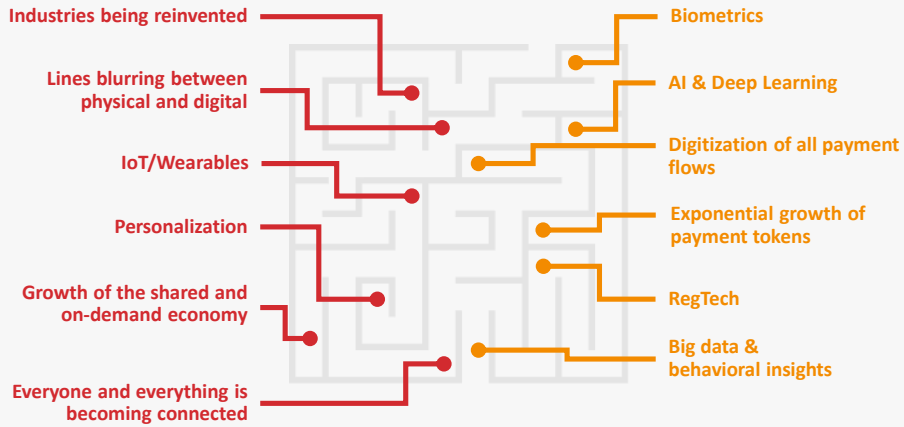


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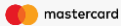
DIGITAL – WHAT IS HAPPENING?

New technology and changing trends are complicating how businesses operate to meet consumer expectations

customer experience



safety and security



MEETING EXPECTATIONS IN A DIGITAL-FIRST WORLD

25

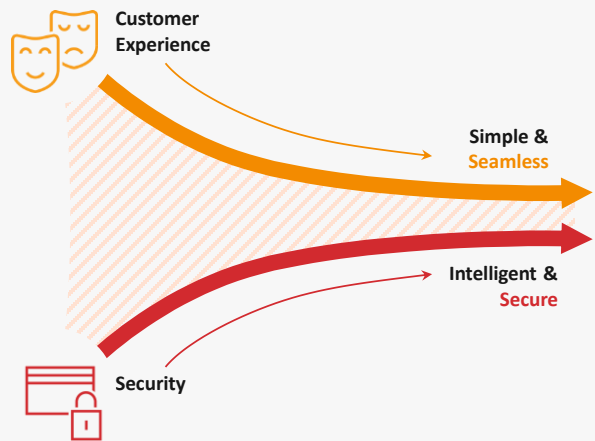
25

CHALLENGE AND CONTEXT

Technology is also pushing security and experience to be one and the same

You can no longer choose between a great customer experience and great security

Mastercard believes that experience should be designed to be secure, and security designed to be seamless



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POSITIONING

Build stronger relationships with all of your customers by making a completely connected experience that is secure and seamless

SECURE

Every fraud decision invisible, data driven, and intelligent

SEAMLESS

Every transaction simple for all of your customers and flows



Giving customers the choice to pay securely anytime and from any device



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SECURE SOLUTIONS

Using data and artificial intelligence to approve more legitimate transactions and eliminate friction from the cardholder experience



NuDetect

Aggregated behavioral intelligence using machine learning and billions of data points to provide pinpoint accuracy in distinguishing genuine from fraudulent user behavior



Mastercard ID Check

A set of rules and standards that are designed to ensure a consistent consumer experience for 3D-Secure authorization via mobile devices and in app payments.



Assurance IQ

Consolidated and normalized consumer account and device data to provide a level of assurance that the consumer's attributes are genuine without increasing risk

Authentication

Authorization

Secure every transaction with a data driven, layered strategy



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SEAMLESS SOLUTIONS

Making every transaction simple for consumers no matter how or where they choose to pay



Automatic Billing Updater (ABU)

Updates and delivers PAN level details on stored accounts to help reduce preventable declines and provides uninterrupted service



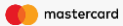
MDES for Merchants (M4M)

Updates and delivers tokens to substitute for PANs over time and help reduce fraud while providing uninterrupted service



Masterpass by Mastercard

Expand your digital acceptance footprint with a simple, secure and more trusted way to process payments across channels



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REASON TO ACT

Mastercard digital solutions give you the tools you need to stay ahead in the age of digital commerce



Automatic Billing Updater (ABU)



MDES for Merchants



NuDetect



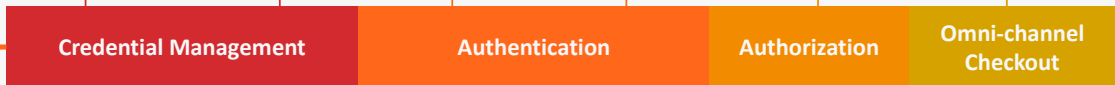
Mastercard ID Check



Assurance IQ



Masterpass



Intelligent security converged with a seamless customer experience from start to finish

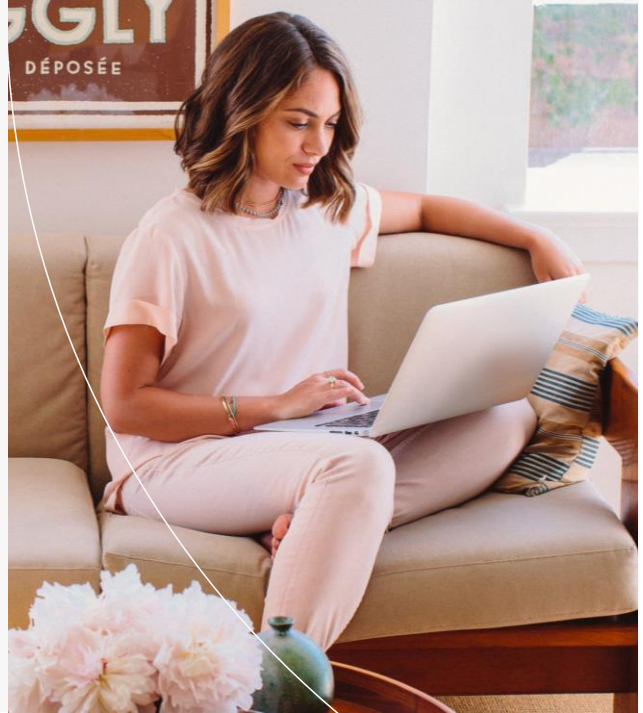


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MDES for Merchants

Building a more seamless and secure lifecycle management solution with Mastercard Digital Enablement Service and Automatic Billing Updater.

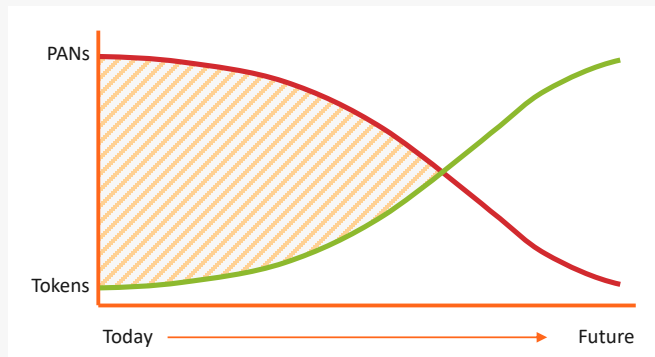
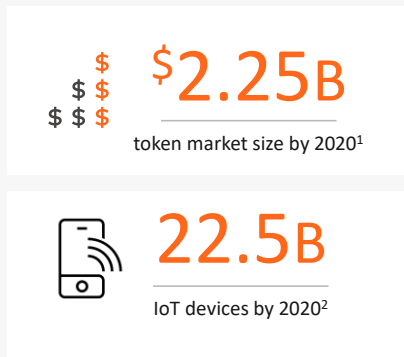


Merchant Introduction

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LANDSCAPE

Tokenized payments will continue to grow at a rapid rate, but card-on-file payment types will be mixed for some time.



1. Source: Research and Markets: Tokenization Market by Solution, Service, Application Area, Deployment Mode, Organization Size, Vertical, and Region - Global Forecast to 2022
 2. Source: BI Intelligence Report: Internet of Things (2017)



MDES FOR MERCHANTS

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CONSUMER PAIN POINTS

And while consumers like the convenience of card-on-file, the fear of security breaches still looms large.

55%

use card-on-file¹, and 43% believe that the retailer is the primary party responsible for protecting the information²

81%

say they are at least somewhat concerned about security of their saved cards²

1 in 3

have been a victim of data breaches, identity theft or credit card fraud²

1. Mastercard Global E-Commerce Research, 2016
2. Glenbrook research for Consumer Control

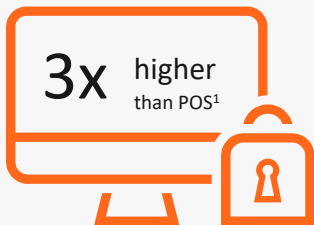


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MERCHANT PAIN POINTS

High security without a seamless experience can negatively impact revenue.

Digital fraud rate is higher than POS



Leading to unnecessary false declines

13x

the amount of actual fraud²

Which cost the bottom line

66%

Reduced or stopped shopping with that retailer after a false decline²

1. Source: Mastercard Data Warehouse, Q1-Q3 2016, Global.
2. Javelin. Overcoming False Positives. September, 2015.



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REASON TO ACT

False declines are diverting resources and undermining the merchant's ability to effectively combat fraud.

US ecommerce merchants:

Lose
\$8.6B

in falsely declined transactions³

Spend
7.6%

of retailer revenue fighting fraud on average²

Spend
\$172

per account following a breach¹

1. Source: EMS Fraud Scoring savings model: Data based on Mastercard transactions only, overall market results may vary by Institute June 2016
 2. Source: Javelin report: The Financial Impact of Fraud, October 2016
 3. Source: <http://www.businessinsider.com/the-false-declines-report-the-86-billion-problem-undermining-e-commerce-merchants-fraud-prevention-strategies-2016-7>



POSITIONING

M4M and ABU together provide seamless and secure lifecycle management of PANs and Tokens.

Reduces preventable PAN declines on stored accounts caused by changed account numbers, expiration dates, and more.

Automatic Billing Updater

Automatic updates to PANs for a seamless experience

MDES for Merchants

Automatic updates with a layer of enhanced security

Provides network tokenization of card-on-file credentials and seamless updates to the funding PANs.

Source: Pheonix, 2015 U.S. "How Smartphone Purchasers Pay Online"



COF MANAGEMENT FROM MASTERCARD

Future ready, today: seamless account updates for PANs, tokens or a mix of both.

Simplicity

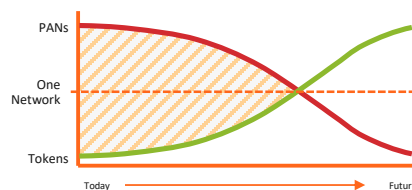
Lifecycle management across the entire Mastercard network – PANs and tokens

Reliability

Regardless of commerce platform, COF management is secure and reliable

Scale

Token and PAN updates at tiered volumes with one network



MDES FOR MERCHANTS

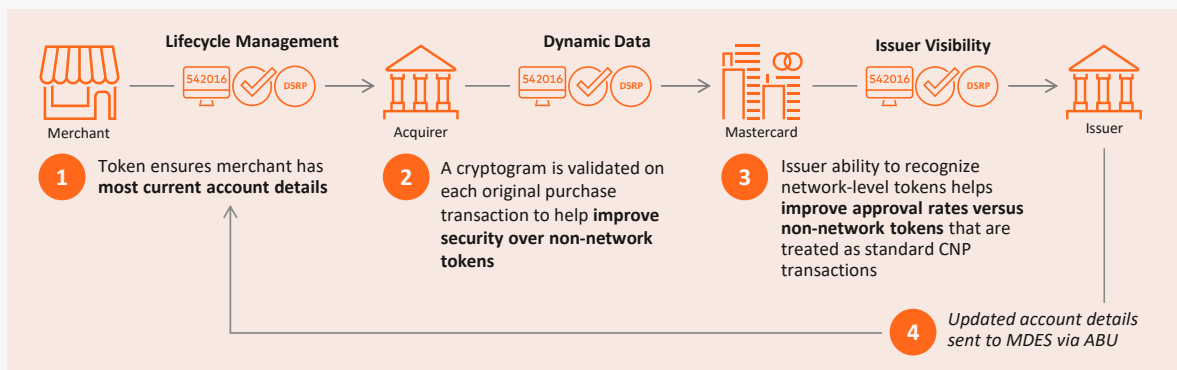
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HOW IT WORKS: M4M

Network tokenization offers a new level of security, transparency and potential benefit

M4M Tokenization (*direct integration with merchant*)



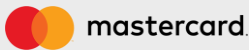
MDES FOR MERCHANTS

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My Digital Life Introduction

Establishing the Digital Foundation for New Services
April 2019



Digital Identity is Foundational To Native Digital-First Services



2019→2023

Digital Identity is Foundational to digital payments & digital interactions

Trends Accelerating Digital Identity Need

Best Practice Bar Raised for Security and ID&V

User Expectations: Simple, Secure, Private

Connected Devices & Complexity

GDPR+ Regulations Globally

User for Open Banking, Open Data

AI Drivers to New User Services

Urbanization and Smarter Cities

7.5B User Relevance: Inclusion Markets

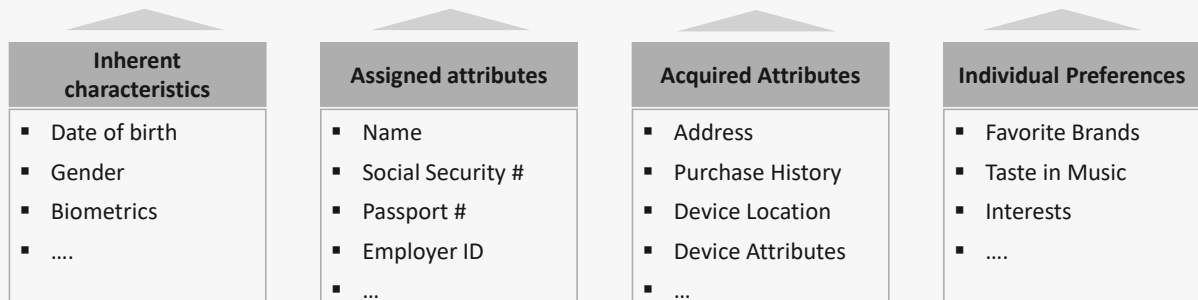
Embedded Digital Commerce Growth

Drivers to User Centric, Distributed Systems



What is Digital Identity?

- **Digital Identity = The collage of data verified by trusted parties** and that is a digital means of establishing ‘we are who we say we are’ with a **high degree of assurance** (i.e. proves “John is John with X% accuracy”)
- **Reusable Digital Identity** allows individuals to identify themselves to gain access to multiple services with speed, convenience, and security – based upon verification of both **static and dynamic** identity data



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Compelling Value Proposition with a Reusable Digital Identity

For Users:



- **Easy user experience** with 1 time enrollment
- **Secure, No Password** use of tokens for authentication
- **Ubiquitous acceptance**, high value, high frequency use-cases
- **Consumer control over data**: ID, consents, digital footprint, data
- **End point device flexibility** across all life-stages and situations

For Customers:

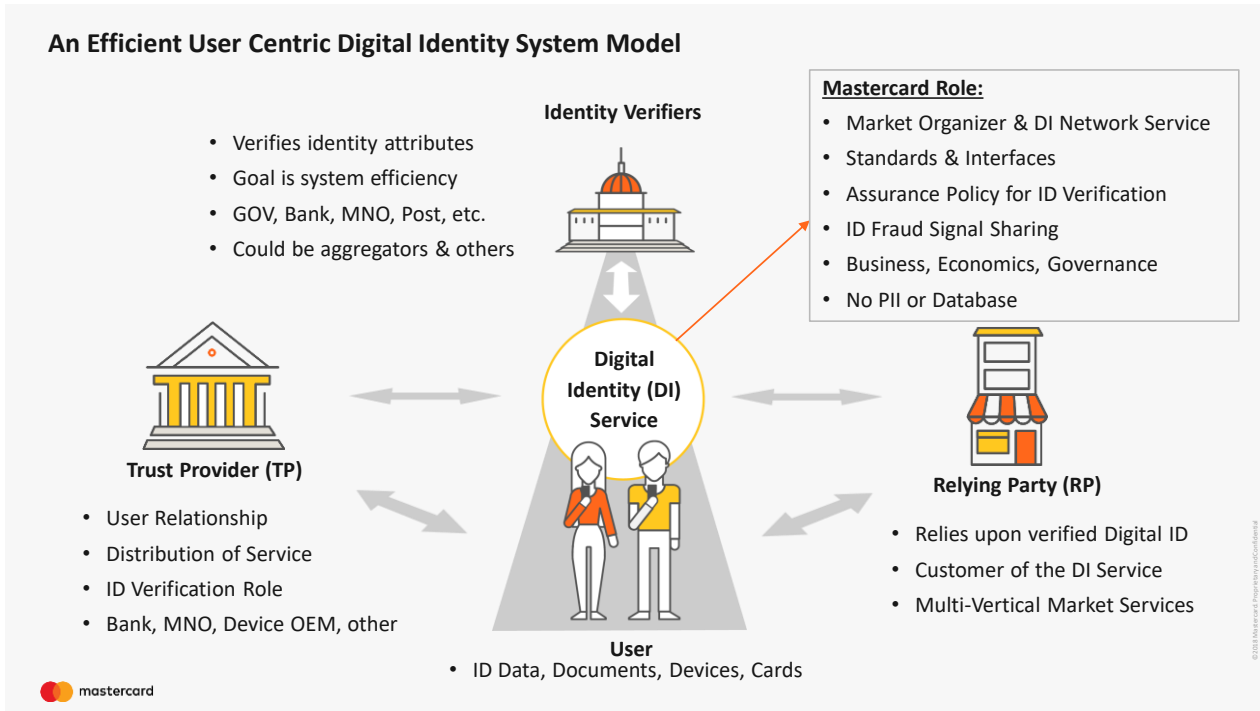


- **Broadly adopted, high assurance user digital identity**
- Fast, resilient, on-demand; **supporting data minimization**
- Efficient, Transparent, **Globally Interoperable**
- Flexible levels of identity verification (**dynamic, biometric**)
- **Extensible and adaptable** service to plug-in



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Mastercard Perspective

See digital identity vision paper: mastercard.com/digitalidentity

Vision

“As a **user champion**, provide simple & secure **digital identity services** for users interacting with application services **across multiple verticals** (payment, non-payment) **and countries** that enable them to be known with assurance, in a manner sensitive to their **privacy and data rights**.”

Broad Market Collaboration Essential

- Primary ID Verification: Bank, GOV, MNO, Post, ...
- Government Alignment
- Bank Partnerships: Trust Provider, ID Verification
- Focus upon core natural industry roles

Our Role

- Orchestrating digital interactions as a user champion
- Establish the service platform, network
- Define the operating rules & governance
- Deliver and operate the service with partners
- Attract and service customers

Our Relevance

- Global footprint across over 200 country markets
- 23,000 bank partners; 50 million merchant relationships
- Experience in governance and operating networks
- Commitment to invest in a global infrastructure
- Evolution of digital payment interactions

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Compelling Use Cases – Supporting My Digital Life ...Simple, Transparent, Safe, Fast



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