

Corporate Level Profile

Mastercard

V1, April 2019

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It is intended to provide an overview of the topic and does not address any specific Worldline position. Any views and recommendations are purely those of the author.

This document is for internal use only and is intended to be informative in nature and trigger further investigation as appropriate.

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Scope and Objective: This is a high level corporate profile on Mastercard. It does not address any specific key intelligence questions but is intended to provide a high level insights into Mastercard's global strategic positioning.

Executive Summary (1of2) - Watch out there's a Mastercard about!

Mastercard now describes itself as a "technology company in the global payments business" which requires a shift in strategy. This shift is manifested in the recent decision to remove the Mastercard name from the brand logo, thus removing the immediate association with card.

As part of this realignment of the company, Mastercard is increasingly entering the competitive environment of Worldline both directly and indirectly.

- **Card versus non-card rails**

- acquisition of Vocalink for ACH, instant payments and its mobile payment scheme is core to the future payment strategy.
- Mastercard can cover both and thus also start building on value added services that draw from a huge payment data-lake
- In Europe, it has added to this by positioning itself as the connectivity hub in the context of open banking, platformisation and APIs. Indeed, here again we can see the potential of adding value added services in a kind of plug-and-play mode. (dispute management, fraud, data-driven services)
- It is clear it has built a platform/API strategy which will permeate throughout the business, both in terms of developing and delivery of services.

- **Payment processing/ gateways**

- as a third party processor (Poland and Turkey) and gateway service provider (inc. mobile gateway), Mastercard is not

dependent on its scheme and is directly competing with Worldline.

- **Innovation**

- Core to its strategic realignment it is investing directly and indirectly in biometrics, AI, behaviour analysis.
- Mastercard Labs used as differentiator. E.g. it offers a five day app prototyping workshop for FIs, retailers and government to test.
- Mastercard Advisors leverages the huge data sets to provide data-driven offers such as loyalty etc. as well as advisory services.

- **Controlling the ecosystem**

- We believe that there is a potential danger that MasterCard will increasingly attempt to occupy key positions of influence in terms of regulation and mandate of card and non-card-based schemes to the advantage of its own value added services.



Executive Summary (1of2)

Mastercard is playing a very intelligent long term game. It has identified the pillars required to dominate the payment landscape and brick by brick it is putting an organisation in place that will dominate. This will be enabled by open platforms and a hub/ecosystem approach.

Data driven VAS / scale effect for innovation etc.

Open Platform strategy

Identity

(Mastercard and Microsoft in self-sovereign Identity project)

Authentication

(biometrics, 3DC, identity check....)

Networks & Connectivity

(Mastercard, Vocalink, bank connectivity hub, B2B hub, processing, gateways, IoT)

Security

Clearing & Settlement

(Vocalink and card rails)

Common pillars of a payment ecosystem



PART ONE – Corporate View

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- ☐ Global Strategy
- ☐ Fintech Strategy
- ☐ Mastercard Engage
- ☐ Mastercard Management Committee



Corporate View

ID Card



Company description

- Headquarter in New York
- Mastercard started in 1966 when a group of banks creates the Interbank Card Association (ICA)
- It serves to individuals, financial institutions, digital partners, businesses, merchants, governments, and other organizations
- Mastercard is one of the main payment scheme globally. In the last years, its strategy shifted to be a **"technology company in the global payments industry"**.
 - 1,8 billion cards**
 - 13,400 employees** (7,900 out of US)
 - 87 billion payment transactions yearly**
 - More than 210 countries**
 - \$5,249bn value of trans.**

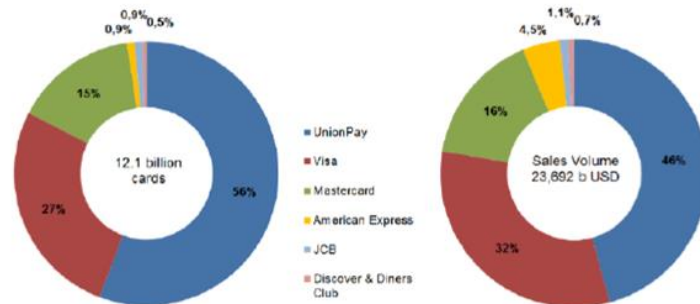
Financial Statement

	Year ended December 31,	
	2018	2017
Net revenue	\$ 14,950	\$ 12,497
Operating expenses	\$ 7,668	\$ 5,875
Operating income	\$ 7,282	\$ 6,622
Operating margin	48.7%	53.0%
Income tax expense	\$ 1,345	\$ 2,607
Effective income tax rate	18.7%	40.0%
Net income	\$ 5,859	\$ 3,915
Diluted earnings per share	\$ 5.60	\$ 3.65
Diluted weighted-average shares outstanding	1,047	1,072

Revenue Sources

- Primarily from assessing customers based on **GDV on the products that carry their brands**
- From the **fees they charge to their customers** for providing transaction processing
- From **other payment-related products and services**.

International Card Schemes – Market Shares (2017)



Sources: Annual Reports, Nilson Report, PBOC

Core Products

- Scheme cards:** such as credit, debit, prepaid, and commercial
- Digital payments**
- Realtime account-based payments**
- Payment system security**
- Transaction services** such as cross-border and domestic transactions, and authorization, clearing, and settlement

Value-Added Products & Services

- Safety and security** products
- Loyalty and reward** programs
- Advisory services** such as consulting, information services, and implementation services
- Issuer and acquirer processing**

Brands



Vision and Mission and market assumptions form a clear basis for Mastercard's strategy to develop beyond a card scheme



*Mastercard is looking beyond cards, in non-cards, payment processing, fraud, AI, digital experience... all these added value services and full end-to-end payment solutions, make it one of our competitors.
A key part of its holistic approach to its strategic development is to consider the whole value chain from consumer to back-office – ref. new role of Chief Experience Officer.*

Company raison d'être

Vision: "A world beyond cash"

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

Tagline "Transforming the way we live"

Market Drivers

Emerging trends

Real-time payments and Fast ACH

Automated services, ACH services

Artificial Intelligence, IoT-based payments

Protecting data across all devices and channels

Emerging market and social media players

New domestic schemes, increasing regulatory actions

Strategic Approach

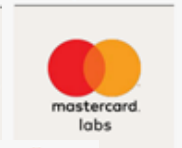
Delivering the best digital experience everywhere



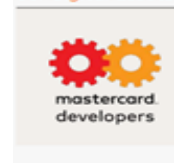
Securing every transaction

Mastercard Digital Enablement Service, Biometrics and Machine Learning

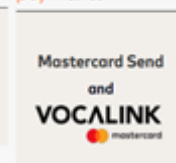
Identifying and experimenting with future technologies, start-ups & trends



Simplifying access to, and integration of, our digital assets



Digitizing all forms of personal and business payments



Segmentation, targeting, positioning in the marketing strategy of Mastercard



Market Segmentation and value-based marketing collateral

Mastercard uses geographical, psychographics and [demographic](#) factors such as age, social class, education level, income level, marital status, occupation for [segmentation](#).

It uses differentiated [targeting strategy](#) to serve the different customer segments accordingly.

Mastercard has positioned itself as a [brand](#) with a [holistic](#) approach in delivering convenience to its stakeholders, and offerings which are simplified & modernized for its customers and merchants. It uses value-based [positioning](#) strategies.

Competitive advantage in the marketing strategy of Mastercard

Mastercard is amongst the top 30 innovative companies of the [Forbes](#) list. It positions itself as innovative with programmes of Fintech support and collaboration.

Clear focus on the experience of end consumers which is supported by a strong product portfolio and strategic acquisitions and partnerships.

Global presence and the scheme branded helps it have a top of the mind awareness.

It benefits from the virtual circle effect of consumer, merchant and bank awareness. This brand awareness can be leverage to expand across the value chain.

Global strategy



MasterCard's primary objective is grow, **diversify and build business** through a combination of organic, in-organic and strategic investments, including acquisitions. Key is the lack of the word scheme, even though that is still a core growth driver.

Grow	Diversify
<ul style="list-style-type: none"> Growing core businesses globally: consumer credit, debit, prepaid and commercial products and solution. Take advantage of the opportunities presented by the evolving ways people interact and transact in the growing digital economy. 	<ul style="list-style-type: none"> Adding new players in new and existing markets by working with partners such as governments, merchants, technology companies. Expanding capabilities based on their core network into new areas to provide opportunities for electronic payments and to capture more payment flows, such as B2C, B2B, P2P transfers, including in the areas of transit and government disbursements driving acceptance at merchants of all sizes Broadening financial inclusion for the unbanked and underbanked
Build	Strategic Partners
<ul style="list-style-type: none"> Creating and acquiring differentiated products to provide unique, innovative solutions, such as real-time account-based payment, Mastercard B2B Hub™ and Mastercard Send™ platforms Providing value-added services across safety and security, consulting, data analytics, processing and loyalty. 	<ul style="list-style-type: none"> Partnering with technology companies such as digital players and mobile providers to deliver digital payment solutions. <p>Some of the big possible partners can become competitors, such as Google wallet browser, Apple Card, Amazon Pay</p>

Mastercard has direct connection with big players, but still need agregators when they work with small/medium banks.
WL can help them to agregate and scale business with small/medium banks.

- Mastercard aims at improving its core business, **diversifying its customers and geography**, and building new businesses.
- As a multi-rail network, Mastercard now offer customers one partner to turn to for their payment needs **for both domestic and cross-border transactions.**
- MasterCard is aware of the ever-changing technological landscape and the need to stay at the forefront of any developments. It has therefore developed and launched various solutions based on **wearables, IoT**, and **facial recognition technology**, and filed over **30 patents related to blockchain and cryptocurrency.**
- Since 2014, MasterCard **has partnered** with various companies to benefit from their **technologies** and launch **contactless and wearable payment solutions** while **acquisitions** are mainly focused on **biometric, behavioral analytics, artificial intelligence**, and **processing companies.**
- Mastercard strategy is central to:

Fintech Strategy and In-house applications

Partnerships

Acquisitions

2017 the total spend on acquisitions was **\$1.5billion** (cash and contingent)

Fintech Strategy



Fintech continues to cause significant disruption in the payments industry and recognizing this fact, MasterCard has recognized its importance and chosen to embrace it.

- The company knows that it cannot afford to get left behind the Fintech disruption and is looking to improve its offering in terms of **efficiency**, **security** and **uniqueness**.
- Instead of looking to 'go it alone', the company has chosen **to enlist the help and services of other**, more **specialized players**, acquiring them and their intellectual assets.

Fintech Trends

- Banks are having their **AI** moment
- **Open Banking** opens the market up to global FinTech.
- **Small and medium-sized** businesses are the next battleground for FinTech.



Mastercard Fintech investments

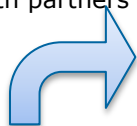
- Most of its investment has so far focused on **US companies** but the company is increasingly switching its attention to the burgeoning **Indian Fintech scene**. In October 2017, MasterCard announced its plans to **invest \$750m** in Indian Fintech companies by 2020.
- To maintain a significant role in the payments ecosystem, MasterCard is actively investing in companies offering **digital payments solutions for purchases of goods and services**.
- Mastercard's recent investments have focused on **artificial intelligence** and **automation technologies** as the sophistication and relevance of these technologies has become more clear.

Fintech and Innovation Strategy



Mastercard is transforming itself from a focus on plastic to digitally enabled payment processes and tools. It is actively supporting development in fintech through in-house labs and various incubator and accelerator programs.

Mastercard Blockchain APIs are experimental and available for selected testing with partners




MasterCard Developers and MasterCard Smart Path are aimed at tapping into developer and startup talent




Launched in 2016, the **Mastercard Developers** platform offers Mastercard's application program interface (API) to the global developer community, to facilitate the creation of next-generation commerce apps and jointly developed solutions.

Mastercard offers APIs related to digital payments, data, and security. It also offers 'New and Experimental' APIs which include APIs for bot commerce developed by Mastercard, allowing partners to test their new applications.

➡ This platform currently has 33 APIs, and seven New and Experimental APIs.


Launched in 2014, **Mastercard Start Path** is a six-month virtual program with two immersion weeks in different cities. Mastercard seeks to support start-ups that have already raised seed or Series A investments.

It helps Mastercard connect with start-ups and leverage their technology, while giving them access to Mastercard's global network. To date, Mastercard has evaluated 5,000 start-ups and selected 150 to participate for this program.

➡ In May 2018, Mastercard launched **Accelerate**, an initiative to offer tailored operational and investment support and help start-ups reach scale faster. It will operate alongside the Start Path program.




Digital Payments Group

Launched in 2016, Digital Payments Group is a specialist team responsible for the development and commercialization of Mastercard's digital payment solutions and leveraging strategic partnerships. This team fosters Mastercard's internal innovation.

➡ Announced in March 2018, it will merge with Mastercard's physical payments group. Michael Miebach, chief product officer of Mastercard, will lead this combined group.



Digital Payments Group focused on digital but is to merge with Physical Payments Group


Launched in 2010, **Mastercard Labs** is the R&D arm of Mastercard, tasked with developing secured digital payment solutions in collaboration with financial institutions and merchant partners. It also works with start-ups in the Mastercard Start Path program.

It helps Mastercard ideate and experiment on future technologies and add innovative solutions to its business. 'Simplify Commerce' and 'Qkr!' are two of the payment platforms developed by Mastercard Labs.

➡ There are nine Mastercard Labs globally.



Nine MasterCard Labs spearhead the company's R&D efforts

Mastercard continues to undertake strategic partnerships to increase the scheme's penetration



Examples



Technology: Augmented reality

Objective: Mastercard partnered with ODG, a wearables company, and Qualcomm, a telecommunications equipment manufacturer, to jointly develop augmented reality glasses which enable users to view the pricing details of items on a shopping rack. Payments will be made using the Masterpass wallet after authentication using Qualcomm's iris scan technology.

October 2017

Qualcomm is the **leading US company for future usage of 5G**. That will also impact in future developments of Mastercard



Geography: UK

Objective: Mastercard partnered with Verifone, a global commerce and payments solution, to integrate a Mastercard instalments feature into Verifone's cloud-based commerce platform. This enables Mastercard customers to take out an instalment payment plan at the point of sale.

December 2016



Geography: Finland

Objective: Mastercard partnered with Basware, a vendor of e-invoicing, e-procurement, and financing solutions, to launch Basware Pay.

It will enable Mastercard's partner banks to provide supply chain financing to new customers.

September 2013

Mastercard Engage

For more information: Mastercard Engage
Worldline Representative is Cezara Ceobanu



Mastercard Engage programme has been running two years. Worldline has never had a coordinated global strategy for this. This year it is being reengineered and it is crucial that Worldline optimizes its certification to maximise RFP opportunities.

2019 four domains and seven product areas within which Worldline will be assessed. each Product area will have multiple capabilities, each of which earns a key.

Revisiting the Engage Partner Levels

Defining the eligible readiness levels for being granted Keys

Domain	Directory product area	Capabilities*	Eligible readiness level
Digital	Digital Wallets to be renamed into « Mobile Wallets »	MDES-to-wallet connection	Ready
		MDES-to-issuer connection	Ready
		Contactless-capable application	Certified
	IoT	Merchant-presented QR	Ready
		MDES connection for IoT	Ready
Authentication	e-Commerce	MDES connection for M4M	Ready
		Domestic disbursement	Ready
	Push Payment	EMV 3DS	Certified
Commercial	In Control	EMV 3DS (2.0) ACS	Certified
		EMV 3DS (2.0) Server	Certified
Others	MPOS	Any connectivity model	Ready
		Payment Facilitator	Certified
		Platform Provider	Certified
		Acquirer/ISO	Certified
			Certified

This column shows the readiness level required to get the Key for that specific capability

Targeting 'Ready' instead of 'Live' as the eligible level introduces recognition for approval/validation of the solutions

[May 2018 Directory for digital wallets](#) – eWL currently gold partner

Revisiting the Engage Partner Levels

How would the revised Directory for Mobile Wallets look like?

Partner Name	Keys Key	Readiness level for Capabilities				Other info					
		MDES to wallet connection	MDES to issuer connection	Contactless-capable application	Merchant-presented QR	Number of countries where available with local support					Number of employees
						EU	LAC	NAM	MEA	AP	
Partner #1	3	Live	Live	Certified	n/a	11	3	2	2	8	>500
Partner #2	3	Live	Live	Certified	Planned	7					<75
Partner #3	2	Live	Live	Planned	Planned	2					<75
Partner #4	2	Live	Planned	Certified	Planned	17	4	2	4	13	>500
Partner #5	2	Ready	Planned	Certified	Ongoing	4	8	1		3	75-500
Partner #6	2	Live	Planned	Certified	Planned	6			1	1	75-500
Partner #7	2	Live	Planned	Certified	Planned	5				1	75-500
Partner #8	2	Live	Ongoing	n/a	Live				6		<75
Partner #9	2	Planned	Live	Planned	Live				2	1	75-500
Partner #10	1	Live	Planned	Ongoing	Planned	5					75-500
Partner #11	1	Live	Planned	Planned	Planned	1		1	2		75-500
Partner #12	1	Live	Planned	Planned	Planned	2					<75
Partner #13	1	Live	Planned	Planned	Planned	1			14	1	75-500
Partner #14	1	Live	-	Planned	n/a	1					<75
Partner #15	1	Live	Planned	Ongoing	Planned	11	1	2	1	3	75-500
Partner #16	1	Ready	Planned	Planned	n/a	2	4	2	4	11	75-500
Partner #17	1	Planned	Live	Ongoing	Planned	13	1			9	>500
Partner #18	1	Ongoing	Ongoing	Certified	Planned	3	6		1		<75
Partner #19	1	Ongoing	Planned	Certified	Planned	13	5	1	2	7	<75
Partner #20	1	Planned	Planned	Certified	Planned	2		1		1	<75
Partner #21	1	Planned	Planned	Certified	Planned	2		2		4	75-500

NB: We give 6 months to Aspirant partners to accommodate the update of the Partner Levels by still listing them until end of Q3, 2019

Mastercard Management Committee



Ajay Banga

President and Chief Executive Officer



Ajay Bhalla

President, Cyber and Intelligence Solutions



Ann Cairns

Vice Chairman



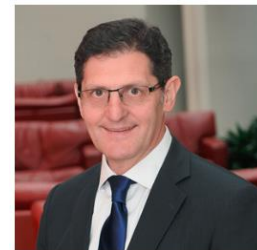
Gilberto Caldart

President, International



Carlo Enrico

President, Latin America and Caribbean



Michael Fraccaro

Chief Human Resources Officer



Michael Froman

Vice Chairman and President, Strategic Growth



Martina Hund-Mejean

Chief Financial Officer



Linda Kirkpatrick

Executive Vice President,
U.S. Market Development



Jorn Lambert

Executive Vice President, Digital Solutions



Hai Ling

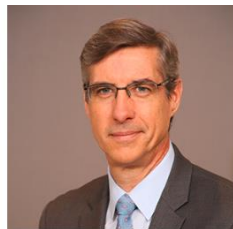
Co-President, Asia Pacific



Raghu Malhotra

President, Middle East and Africa

Mastercard Management Committee



Ed McLaughlin

President, Operations and Technology



Sachin Mehra

Financial Operations Officer



Carlos Menendez

President, Enterprise Partnerships



Michael Miebach

Chief Product Officer



Tim Murphy

General Counsel



Javier Perez

President, Europe



Paul Stoddart

President, New Payment Platforms



Jennifer Rademaker

Executive Vice President, Customer Delivery



Ari Sarker

Co-President, Asia Pacific



Raja Rajamannar

Chief Marketing & Communications Officer and
President, Healthcare



Raj Seshadri

President, U.S. Issuers



Andrea Scerch

President, Consumer Products and Processing



Kevin Stanton

Chief Services Officer



Craig Vosburg

President, North America

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Focus on the portfolio

PART TWO – Focus on the portfolio

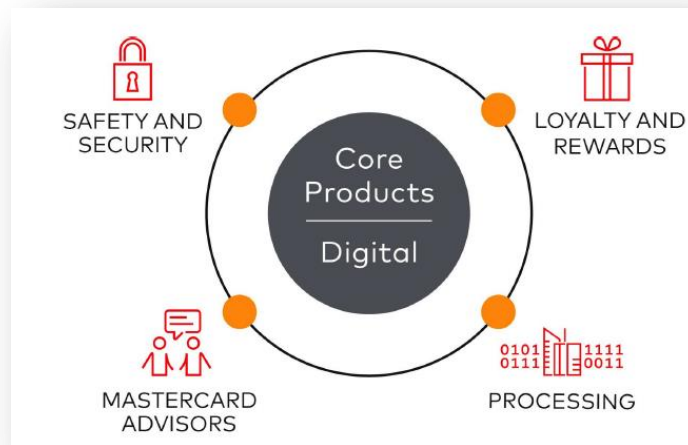
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Mastercard divides its core products into four segments



WL competitor

They offer integrated products and services to **prevent, detect** and **respond to fraud** and **cyber-attacks** and to ensure the safety of transactions made using Mastercard products. Often such solutions are both used in conjunction with Worldline products and alone. Recent **self-sovereign identity** project with Microsoft.



Mastercard Advisors is a global professional services group that provides proprietary analysis, datadriven consulting and marketing services solutions to **help clients optimize, streamline and grow their businesses, as well as deliver value to consumers.**

WL competitor

It has built a scalable rewards platform that enables **financial institutions** to provide consumers with **benefits** and **services**. **For merchants**, they provide campaigns with targeted **offers** and **rewards**, management services for publishing offers, and **accelerated points programs** for co-brand and rewards program members.

They have extended their processing capabilities in the payments value chain globally with a suite of offerings, including:

- **Issuer solutions**
- **Payment gateways**
- **Mobile gateways**
- **Open banking connectivity hub**

direct WL competitor

As Mastercard continues to broaden its portfolio it is increasingly competing with Worldline



FS	MS	MTS	eWL
Issuer processing (read more)	Instant payments (read more)	IoT applications (read more)	Instant payments (read more)
Card-linked offers (read more)	Internet payment gateway (read more)	Self-Sovereign Identity	Open banking connectivity hub (read more)
Mastercard Identify Check			
	Fraud detection		
Mastercard InControl expense management solution	Masterpass		
	Merchant tokenisation		
	Mastercard Send and HomeSend (read more)		Mastercard Send and HomeSend (read more)



Potential future moves?

Loyalty and rewards solutions directly compete with Worldline's card-linked offer



In 2012, Mastercard acquired Truaxis (US), which offers consumers personalized shopping offers from merchants and financial institutions.

Mastercard integrated this platform with its network to offer an enhanced shopping experience.

The truaxis platform offers advanced analytics and real-time offers to linked personalised offers to cards. Primary reason for acquisition is the intellectual property. **This acquisition, strengthens Mastercard's position in the loyalty space.**

Offerings:

- **Personalized Card-Linked Offers**
- **Mastercard Traveler Rewards**
- **Card-Linked Services**



A MasterCard Company Pinpoint Travel Group Pty Ltd

In 2014, Mastercard acquired Pinpoint (Australia). Founded in Sydney in 1984, it has been developing innovative **customer loyalty and incentive programs for over 30 years.**

This acquisition will significantly strengthen MasterCard's loyalty and rewards offerings and underscores MasterCard's **commitment to delivering unparalleled services to consumers, merchants and issuers in this vital and fast growing region and beyond.**

Mastercard Payment Gateway Services



This payment gateway positions itself as a global consolidator addressing global enterprises and therefore directly competes against Worldline's offer.

 **DATA CASH**



 **Transaction
Network Services**



 **mastercard.**
Payment Gateway Services

- In 2010, Mastercard acquired **Datacash**, a provider of multi-channel payment solutions to merchants and banks. The acquisition enabled Mastercard to expand its e-commerce payment gateway services to European and Asian countries. Datacash is a global internet payment gateway with proprietary **fraud solution**.
- In 2014, Mastercard acquired the Payment Gateway Services of **Transaction Network Services** (TNS) and added it to its subsidiary DataCash, a payment processing company. This helped Mastercard expand its portfolio of payment gateway solutions. With the addition of TNS Payment Gateway Services, DataCash was able to drive additional growth of the eCommerce category – and use of MasterCard-branded products – in North America and Latin America.
- Nowadays, Mastercard Payment Gateway Services, **based in London** and **with 363 employees**, provides partners with a white label technology solution for **payment processing** and **fraud prevention**.

Mastercard Issuing Service



Mastercard acquired Provus, a provider of issuer and acquirer processing in Turkey that coupled with the acquisition of Trevica in Poland to increase their processing presence in high-growth markets in Europe.



**Mastercard Payment Transaction
Services S.A.**

- Established in 2008, **Trevica** was a **pan-European payment processor** and since 2012 that was acquired by Mastercard it becomes **Mastercard Payment Transaction Service (MPTS)** wholly subsidiary of Mastercard.
 - MPTS is headquartered in **Warsaw, Poland**, where its data centers and operations are located.
 - In addition, **business teams** are located in **Frankfurt, Munich, Paris, Madrid** and **Lisbon**.
 - The company provides **its issuing clients with card and transaction processing services**, as well as **enables digital payment solutions and innovations**.
-
- Mastercard acquired **Provus**, which provides payment solutions and **processing services** for **issuers, acquirers** and **ATMs** in **Turkey**. The acquisition has helped Mastercard develop innovative **mobile payment solutions** and expand its processing presence in Europe.
 - Provus was founded in 2001. Clients include FI, Telco.

- we lost a recent RFP against MasterCard Processing in Spain for Orange Bank.

Mastercard and IoT



Mastercard sees the long-term potential on connected devices (cars, homes, wearables etc.) in driving commercial transactions and new models such as subscription. Like Visa, it is therefore engaging in a number of ways to position and be either scheme or the payment processor on IoT. "every device is a secure commerce device" Executive Vice-President (Asia-Pacific)

- In 2014, Mastercard invested \$14m in **nymi**, a connected devices & IoT company.
- In 2016, Mastercard partnered with **Fit Pay**, a white-label platform connecting contactless payment capabilities to wearables. Also, Mastercard partnered with **IBM** and **General Motors** and joins the mobility platform OnStar Go, adding **Masterpass** and **Mastercard Digital Enablement Services** (MDES).
- In 2017, Mastercard partnered with **Garmin** and **Fitbit**, manufacturers of wearable electronic devices, to **add contactless payment** capabilities.
- In 2018, it partnered also with **HERE Technologies**, a cloud platform which offers **mapping and location-related services**, to jointly develop **connected vehicle payment services**. This service enables users to make purchases directly from their car's dashboard.

Partnerships



Fintechs Investments



Mastercard developments

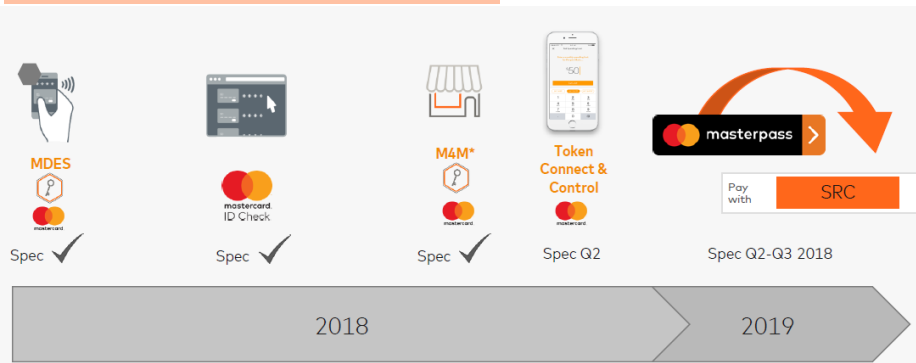


City Possible is a new model of public-private partnerships that brings together cities with a united private sector to solve system-wide challenges. Using **Mastercard's payment network** and **Microsoft's data analytics** and cloud technologies, the companies will look for smart city solutions.

Security Remote Commerce



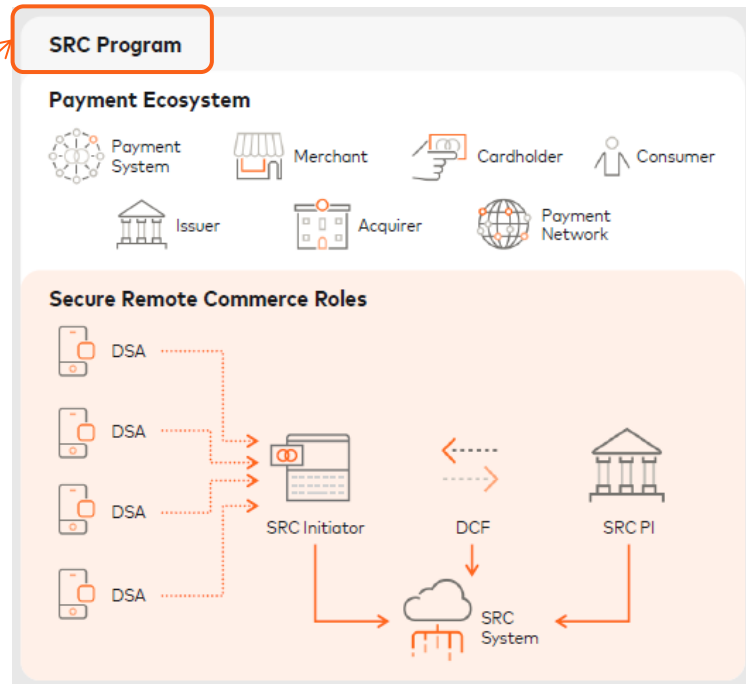
Is SRC – the last rescue of Mastercard?



- The finalized EMV SRC specification is expected to define interfaces for the **secure exchange of payment data** and accommodate the use of dynamic data, such as **cryptograms**.
- In addition, the specification is expected to enable compatibility with technologies such as **EMV 3-D Secure** and **EMV Payment Tokenisation**, while facilitating recognition of a common user experience by consumers via an **SRC Mark**.
- It will be released in **2019**.

Jorn Lambert, executive vice president of digital solutions at Mastercard:

"The investments that we have made in technology and security, including EMV SRC, will help deliver what merchants and their customers are looking for. We believe a seamless shopping experience must also bring in tokenization and advanced authentication as a means of protecting account numbers and reducing fraudulent transactions,"



Mastercard + Vocalink: a strategic perspective



By acquiring Vocalink Mastercard continues to transform beyond a card-based payment scheme. The increased payment transaction volume means larger data lakes which in turn gives it more scale for data driven solutions from fraud through to customer engagement.

- Vocalink is a **payment systems company** headquartered in the UK. Mastercard acquired Vocalink in 2017 for GBP719m (\$929 million) with potential contingent consideration of £169m.

Why acquire Vocalink?

- To attack UK debit volume where Mastercard has single digit scheme market share
 - To underpin growth in its UK pre-paid business
 - To deliver a major future position in the US ACH market
 - Gain a platform for further international expansion as a “general payments processor”
- In Dec 2018, Liz Oakes is appointed as new executive vice president of market development for its new payment platforms team (coming from Vocalink). She handles the **strategic development of real-time payments programs globally**.
 - In Feb 2019, Paul Stoddart is appointed as President of New Payment Platforms (coming from Vocalink). Stoddart will oversee the **development and strategic integration of Mastercard’s real-time payments capabilities beyond traditional card-based solutions**. Among these solutions are: **Vocalink** account-based payments, the **Homesend** joint venture and **Mastercard Send**.

Mastercard and Vocalink

Redrawing the lines of what's possible in payments

Bringing card and bank account-based payments under one roof will enable:

- Greater innovation and choice in payments
- More efficient alternatives to cash for individuals, businesses and governments
- More real-time payment options for more people in more places



NEW PRODUCTS:

PayPort: Faster Payments Service
Vocalink Analytics: fact-based, timely insights via up-to-date, transactional data, which enable better informed decision making and help to solve some of the big problems that affect society
Pay by Bank app: offers all the benefits of real-time payment and billing using the smart phone

Leveraging Vocalink contracts to cross-fertilise

Example:

[Mastercard Bill Pay Exchange](#) enables consumers to use mobile banking apps to set up billers, received notification when a bill is due, see details and pay. Links to The Clearing Houses real-time infrastructure (build on Vocalink). Live in 2019 in US

Expect similar in other regions.

UK Mastercard/Vocalink 'Pay by Bank' app is struggling to gain traction



- Real-time A2A payment system developed in 2013 (launched in June 2016 when **Barclays** agreed to make it available to all **3 million Ping-it users**)

- It enables customers of U.K. businesses to make online payments for goods and services via their banking app, and directly from their bank account.
- On the acceptance side, Mastercard is trying to expand the network. **WorldPay, Barclaycard, Wirecard and Elavon** have agreed to support it in their respective payment gateways.
- On the issuance side: partner with **Barclays**.
- Many banks agreed in 2014 on implementing it, but at the moment just **HSBC** (only mobile).
- **In 2016 Worldline decided not to add PaybyBank as a payment acceptance method**, despite being offered a £250,000 signing bonus which meant that by implementing it as a payment method and driving just one transaction through we would receive the payment, even if we were subsequently passive.

Latest news Feb 2019:
Barclays has announced is to roll out Pay by Bank online checkout option to its merchant network and six million mobile banking customers.

Mastercard and Self-Sovereign Identity – another brick in the payment ecosystem (and beyond)



- December 2018 this [announcement](#) that [Mastercard](#) and [Microsoft](#) will develop a common shared digital identity implementation is a major step forward for Self-Sovereign Identity, Hyperledger Indy Project and the Sovrin Foundation.
- [Cisco](#), [IBM](#) and Microsoft, as well as Banks and Credit Unions, are committed to the concept and implementation of a common Self-Sovereign Identity (a concept [Microsoft has promoted](#) since early 2017) and now Mastercard has joined that club:
- Mastercard and Microsoft will work together on a new unified solution that could be a **consumer's sole 'digital identity'** online.
- Mastercard says that creating a single digital identity could provide solutions for a number of widespread issues in the world today, including official citizenship recognition for more than a billion people worldwide, allowing them access to health, banking and social services.
- Microsoft will contribute its Azure cloud service towards the new initiatives, with the banking, mobile and government sectors (such as tax and passport applications) initially identified as core target industries.
- Broad adoption of Self-Sovereign Identity by [authenticators](#) and consumers is years away and is at risk by governments that prefer to be the sole arbiters of identity. Regardless how a trusted digital identity plays out, it is needed to make the Internet a safe place to do business and nobody knows this better than banks. Banks can place an actual dollar value on all the losses driven by the lack of a trusted solution

At the time of writing, no further details were available on this announcement – no specifics or timelines.

Digital Identity in Action



Open Banking Connectivity Hub



Due to be launched Q1 2019 in the UK followed by Poland, Mastercard's will provide a new suite of banking connectivity services. - "helping to power the open banking revolution". This project is a direct result of the Vocalink acquisition and being driven by Vocalink and SVP Jim Wadsworth is leading the development.

Key functionality:

- A **pan-European directory of third party providers** to help banks to ensure that parties seeking access to a customer's account are legitimate. => MC is using RegTech firm Konsentus to delivery TPP identity and regulatory checking solutions.
- A **fraud monitoring service** (based on Mastercard's own solutions), which will enable banks to better assess the risk associated with a given third party.
- A dedicated **dispute resolution mechanism**, spanning both a clear set of rules and a communications platform and leveraging our extensive expertise of handling disputes in today's payment card industry.
- A **connectivity hub** that will help third parties establish and maintain communication with banks. => Token.io to supply the connectivity layer.

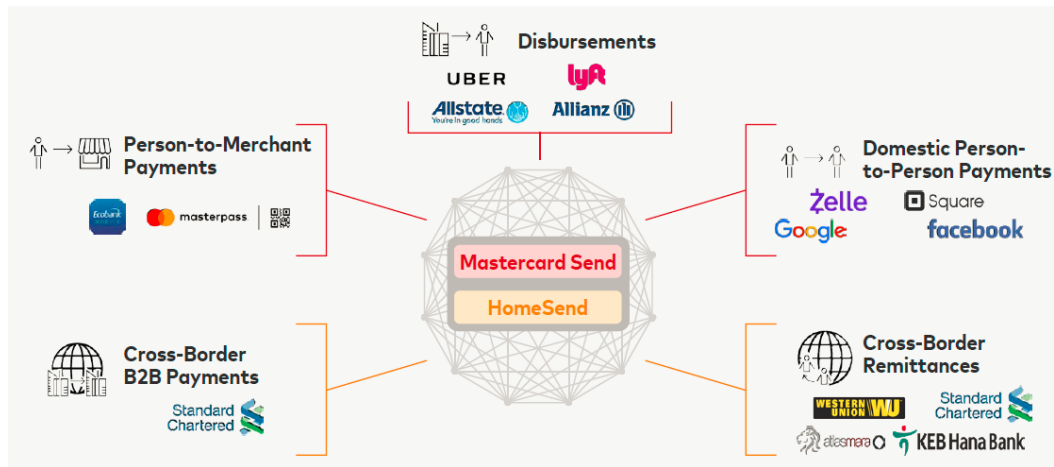
Currently little information is available but clearly Mastercard is leverage it brand to enter this landscape in which many players are trying to position themselves. Ultimately, how many directories and connectivity hubs can survive?

Mastercard Send and HomeSend



As a defensive move against instant payments and P2P competitors, it provides a real-time funds transfer solution that is still based on the scheme card rails. It enables Mastercard to address a key functionality required for payouts.

- **Mastercard Send is a real-time payments** solution that enables **P2P** payments (**domestic and international**) and disbursement of funds from a debit card account, including non-Mastercard branded debit cards. Originally launched in the US in 2015, it is being rolled out globally.
- **HomeSend**, is a **joint venture**, created by **MasterCard, eServGlobal and BICS**. HomeSend **bridges the gap between finance and telecommunication service providers**, enabling businesses and consumers to send and receive money across borders, to and from mobile money accounts, payment cards, bank accounts or cash outlets – regardless of their location.



Uses Cases/References:

Uber and Lyft uses Mastercard Send to pay their drivers.

Allstate Insurance is using it to pay out claims.

And the new [Assemble](#) offering combines the power of Mastercard Send payments with money management capabilities such as budgeting and savings goals.

MasterCard Advisors



In addition to its neutral advisory service (which may not be neutral), we believe that this can be leveraged to sell services which directly compete against Worldline.

- MasterCard Advisors LLC (MasterCard Advisors) is a **financial service provider** that offers **information**, **consulting** and **implementation services**.
- MasterCard Advisors is headquartered in New York, the US.
- The company serves consumers, merchants, government and public sector; business, and issuers and other partners.
- The company offers real-time transaction data and proprietary analysis, data-driven consulting, and marketing services.
- Services:
 - **payments strategy development**
 - **product strategy and management**
 - **market segmentation**
 - **predictability**
 - **anonymization and data analytics**
 - **functional diagnostics**
 - **competitive assessment and best practices**
 - **portfolio optimization**
 - **business case development**
 - **card acquisition**, and others.

TRŪATA.

Trūata was founded in early 2018 by Mastercard and IBM to deliver next-generation data protection and analytics to <the marketplace

B2B payments (beyond commercial cards) as a key component of its growth for 2018 onwards



Mastercard has long pushed commercial cards and associated VAS (11% of MC's transaction volume 2017) and believes that the B2B market has huge growth potential. Now it pushing further into the B2B segment a series of moves.



Mastercard Track = collaboration with Microsoft - launched Sep 2018 - phased global roll out.

The platform is focused on accounts payable management, and grants companies access to a database of over 100 million companies that they can use to identify and screen payees, as well as exchange information before transacting. Track is payment agnostic and allows firms utilizing it to pay with ACH, real-time ACH, and cards.

The potential for Mastercard; this could be a big opportunity: B2B payments are worth \$120 trillion globally, but tend to be paper-heavy, inefficient processes — especially for smaller businesses. Track helps reduce some of that friction and digitizes aspects of B2B payments, if not the entire process, which in turn could appeal to customers and allow Mastercard to capture some of that market — even a 1% share could give Mastercard \$1.2 trillion in new volume annually — accelerating growth of its own business.

Mastercard B2B Hub platform enables small and midsized businesses to **optimize their invoice and payment processes** with automation tools that improve the speed, ease and security of their commercial payments. Launched in 2017 in partnership with AvidXchange.

Mastercard Blockchain: Cross-border B2B Payments

When two parties agree to transfer funds they write a settlement request to the Blockchain. The Mastercard Settlement Network reads the Blockchain and will transfer the funds between two banks. It then writes a confirmation of transfer to the Mastercard Blockchain.



Mastercard partnered with Basware (Finland) in 2013, a vendor of e-invoicing, e-procurement, and financing solutions, to launch Basware Pay. With this partnership, Mastercard wanted to **increase its marketshare on B2B**



Mastercard has entered into an agreement (March 2019) to acquire Transfast, a global **cross-border account-to-account money transfer network**. This acquisition will enhance their cross-border capabilities.



Mastercard has entered into an with Bill.com to offer the network's **virtual cards to small and mid-size businesses as an alternative means of bill payment.**

But there is much more to this as it boost a **clear ambition to entered B2B and P2P** flows not captured by cards and become a single platform for card and non-card end points. **Transfast already supports Mastercard Send** (the B2B and P2P instant payment solution based on push debit card trx). Mastercard also has a JV with HomeSend.

Mastercard investing in India but domestic payments network under Indian banks umbrella



To bolster overarching global processing strategy, in 2014 Mastercard acquired the Indian company **ElectraCard Services** with the objective of further **extending the company's platform and product offerings in Asia/Pacific, Middle East and Africa**.

This company provides **software and processing services in electronic payments**. Clients are Fis retailers and telcos in 25 countries. Core **issuer and acquirer processing and switching**.

Mastercard (and Visa) are losing market share to upstarts in e-payment

Mastercard and Visa are experiencing difficulties to expand in India's payment market, as the Government is pushing local payments network by creating UPI (Unified Payment Interface) by the organization of Indian banks. Also, declarations as the India's finance minister "when Indians use RuPay they were serving the country as its transaction fees stay within India and could help build roads, schools and hospitals".

Indian companies as **RuPay** and **Unified Payment Interface (UPI)** are growing and taking leading positions:

- **Amazon.com Inc. and Jet Airways India Ltd.** -- the nation's second-biggest airline by passengers -- are among firms that **have integrated UPI** into their apps in order **to take payment from customers**.
- **Facebook Inc.** is piloting a payments service in India with a **UPI backbone** for its **WhatsApp Pay**, which has already drawn comparison with the way WeChat reshaped payments in China

2018 Indian Strategy

Grow

Strengthen the **Core business** by increasing Debit share & winning in Affluent



Expand **Acceptance** through aggregators



Diversify

Scale **Partnerships** within the digital ecosystem



Build

Smart **Cities** by winning in Transit



Grow **Commercial**

APAC – Capitalizing on China



In China, Mastercard is currently excluded from domestic switching and are seeking market access, which is uncertain and subject to a number of factors, including receiving regulatory approval. In the meantime, they continue to work to expand issuance and acceptance of Mastercard-branded products in the Chinese market to support their existing cross-border business and to prepare for potential domestic opportunities.

Countries in APAC

- **Singapore -> Headquartered**
- Australia
- Bangladesh
- Beijing
- Shanghai
- Guangzhou
- Hong Kong
- India
- Indonesia
- Japan
- Korea
- Malaysia
- New Zealand
- Philippines
- Sri Lanka
- Taiwan
- Thailand
- Vietnam

Market Opportunity in APAC



Medium to long term strategy in China

Grow

Strengthen the **Core business** with 4x single-branded card issuance



Expand **Acceptance** to 10 million in 5 years

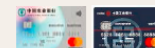
Diversify

Scale digital **Partnerships**



Build

Grow **Commercial**



Differentiate through **Services**

- Loyalty
- Insights
- Safety & Security

Middle East and Africa



Following its diversification strategy, Mastercard objective is to accelerate digital payments adoption in the Middle East and Africa



- Mastercard has confirmed plans to make a cornerstone **\$300 million investment** in Middle Eastern payments processor Network International
- The company operates in over **50 countries across the Middle East and Africa**, processing digital payments for merchants through desktop PCs and smartphones.
- The investment by Mastercard will give the card scheme a **9.99 percent stake** in the company, making it the fourth biggest shareholder in the business, conditional on the offering of 25% of its shares on London's main market.



- Mastercard is set to invest **EUR50 million** in Jumia Technologies through a private placement ahead of the **Africa-focused ecommerce** firm's upcoming initial public offering
- Jumia, which was founded by French entrepreneurs and now claims **four million users across 14 African countries**, is preparing to sell American Depositary Shares in New York in an IPO that could raise \$216 million.
- As part of its investment, Mastercard will partner with Jumia to help the firm expand operations in a move that should also help the payments giant **increase its presence in Africa**.



- In 2018, Mastercard acquired Oltio (South Africa), a **security and authentication solution provider for mobile payments**. The acquisition helped bring mobile PIN-based authentication to MasterPass.
- Mastercard objective was to accelerate digital **payments adoption in the Middle East and Africa**.

PART THREE– Key Financials

- ❑ Growth indicators
- ❑ Partnership volume
- ❑ Key Annual Financials 2018
- ❑ Growth by region
- ❑ Total Segment Market Share Q3 2018
- ❑ Market capitalization and shareholders

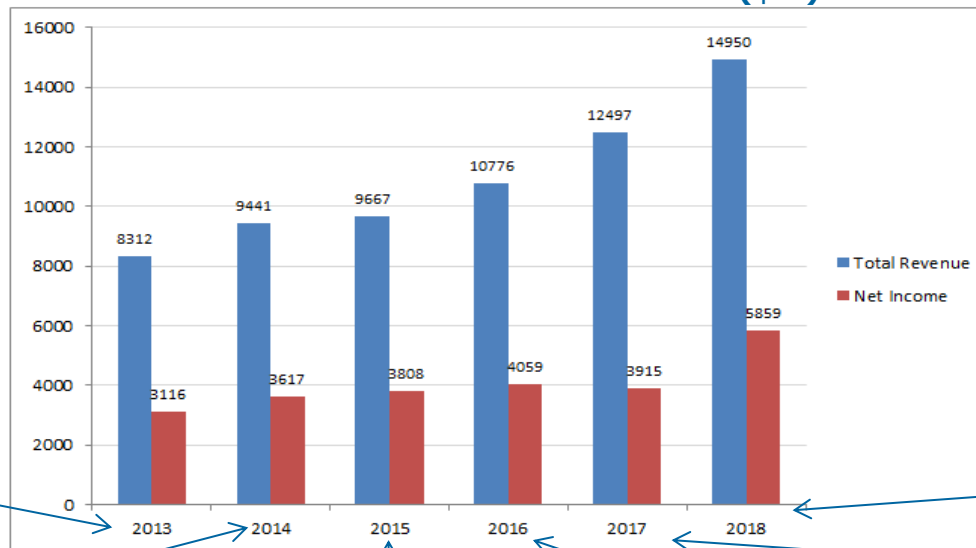
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Key Financials

Growth Indicators



Total Revenue and Net Income (\$m)



Partnership with **Basware**.
Launch of **MasterPass**

Provus, C-sam and Transaction network services acquisitions
Zwipe partnership
Launch of **Mastercard Digital Enablement Service (MDES)**

APT acquisition.
Launch of **Mastercard Send** and **Mastercard Identity Check**.
Introduction of **MDES express**

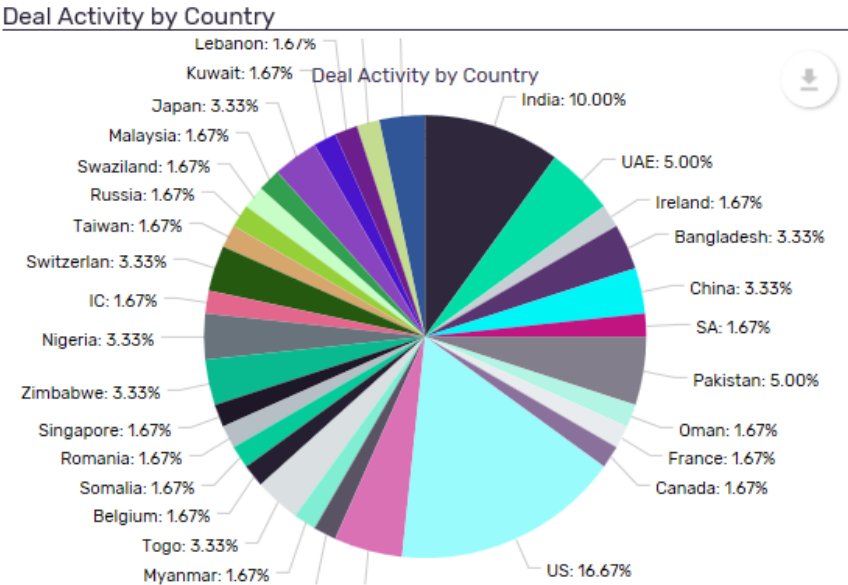
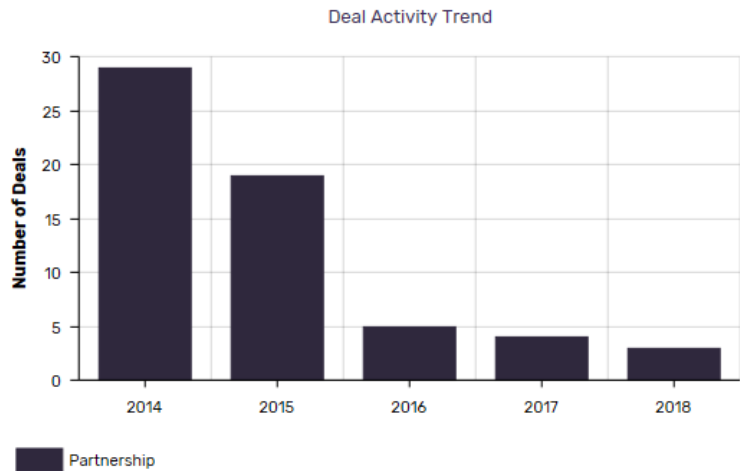
Partnership with **Kasisto, Verifone** and **Fitpay**

NuDataSecurity, Vocalink and Brighterion acquisitions.
Garmin, Fitbit, Qualcomm, ODG and **Bharat QR** partnerships.
Launch of **Mastercard Blockchain** and **Mastercard Engage**

Oltio acquisition.
Mastercard and IBM founded **Truata**.
Partnership with **HERE**



Partnership volume



Key Annual Financials - 2018



	For the Years Ended December 31,			Percent Increase (Decrease)	
	2018	2017	2016	2018	2017
	(\$ in millions)				
Domestic assessments	\$ 6,138	\$ 5,130	\$ 4,411	20%	16%
Cross-border volume fees	4,954	4,174	3,568	19%	17%
Transaction processing	7,391	6,188	5,143	19%	20%
Other revenues	3,348	2,853	2,431	17%	17%
Gross revenue	21,831	18,345	15,553	19%	18%
Rebates and incentives (contra-revenue)	(6,881)	(5,848)	(4,777)	18%	22%
Net revenue	\$ 14,950	\$ 12,497	\$ 10,776	20%	16%

Net revenue increased 20% both as reported and on a currency-neutral basis, in 2018 versus 2017, primarily driven by:

- Switched transaction growth of 17%
- Cross-border growth of 18% on a local currency basis
- Gross dollar volume growth of 14% on a local currency basis

Operating expenses increased 31% in 2018 versus 2017

- 2% point increase from acquisitions

Growth by region



	Years Ended December 31,			
	2018		2017	
	Growth (USD)	Growth (Local)	Growth (USD)	Growth (Local)
Mastercard-branded GDV ¹	13%	14%	8%	8%
Asia Pacific/Middle East/Africa	13%	13%	8%	9%
Canada	10%	10%	13%	10%
Europe	18%	19%	10%	10%
Latin America	8%	17%	17%	15%
United States	10%	10%	5%	5%
Cross-border volume ¹		19%		15%
Switched transactions		13%		17%

Total Segment Market Share Q3 2018



With revenue growth of 6.29 % within Total segment, Mastercard Inc achieved improvement in market share, within Total segment to approximate 30.3 %.



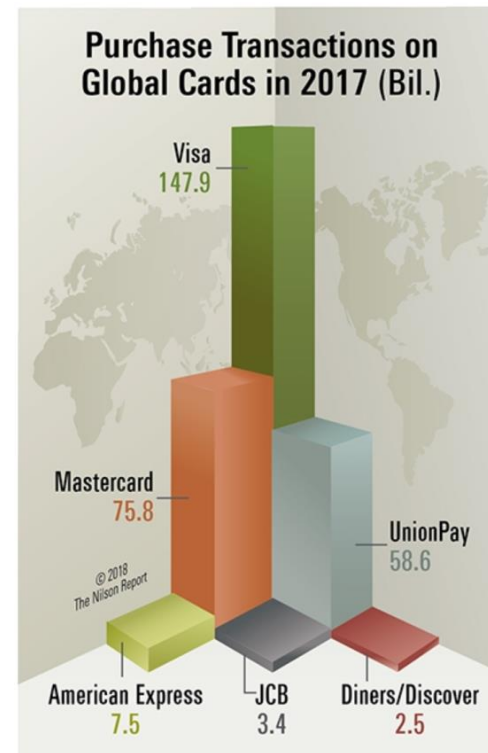
In Europe, Market Shares of credit cards purchases volume are as follows at the end of 2016:

Visa had 66% of the market

Mastercard 31%

American Express 3%

Diners less than 1%



Market capitalization and shareholders



5 years evolution



Exchange: NYSE
Market Cap: 226.305b
Total number of shares: 1,014,238,000

Top Institutional Holders at 30th Dec 2018

Holder	Shares	% Out	Value
Vanguard Group, Inc. (The)	70,668,271	6.89%	13,331,569,324
Blackrock Inc.	64,203,929	6.26%	12,112,071,205
FMR, LLC	39,720,669	3.87%	7,493,304,206
State Street Corporation	35,677,170	3.48%	6,730,498,120
Price (T.Rowe) Associates Inc	32,240,331	3.15%	6,082,138,443
Capital World Investors	20,678,378	2.02%	3,900,976,009
Capital Research Global Investors	17,711,942	1.73%	3,341,357,858
Janus Henderson Group PLC	15,567,300	1.52%	2,936,771,145
Jennison Associates LLC	14,760,545	1.44%	2,784,576,814
Morgan Stanley	13,878,533	1.35%	2,618,185,250

Thanks

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Worldline

4

Appendix

PART FOUR – Appendix

In-House Applications in 2017

Fintech investments

Accelerator Programs

Partnerships in 2018

African expansion

Brazilian Strategic Alliance

Biometrics and Behavioral Analytics acquisitions

Artificial Intelligence

Processing Companies

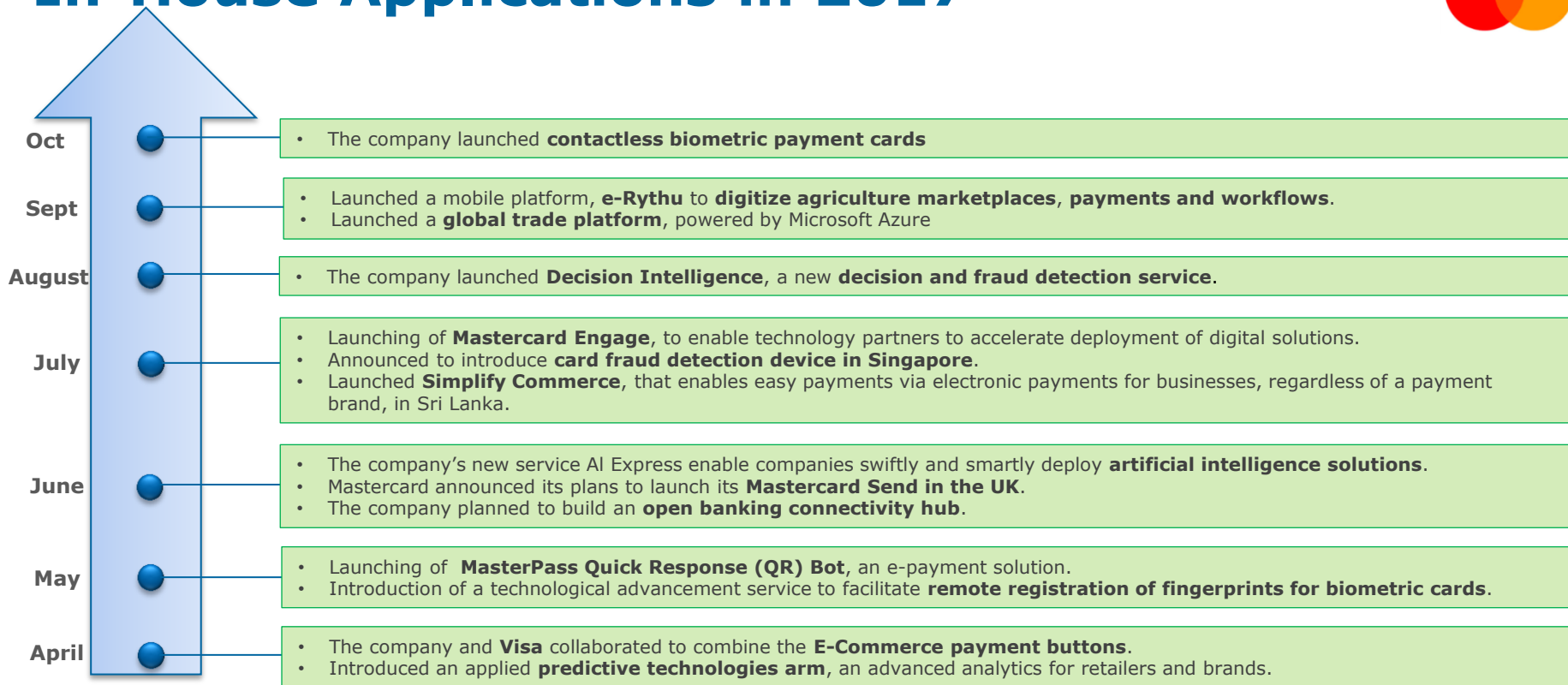
Acquisition of NuData

Mastercard Biometric

Mastercard will acquire Ethoca

Apple Credit Card

In-House Applications in 2017



Fintech investments (1/2)



Single Investor Funding Round

Commerce & Payment Technologies	
Company	Total investment
Razorpay	Undisclosed (Jul 2016)
Security	
LP2	\$2m Series A (Dec 2017)

Enabling Solutions	
CRM	
Company	Total investment
First Performance	Undisclosed (May 2015)

Consortium Investment Rounds*

Blockchain			
Company	Total investment	No. of investors	Average contribution
DIGITAL CURRENCY GROUP	Undisclosed Venture (Oct 2015)	11	–

Security			
Company	Total investment	No. of investors	Average contribution
SECURE KEY	\$30m (May 2012)	6	\$5m

Note: The specific amount contributed to consortium deals is not disclosed. We use an average contribution value for analysis.

Consortium Investment Rounds*

Commerce & payment technologies							
Company	Total investment	No. of investors	Average contribution	Company	Total investment	No. of investors	Average contribution
YAPSTONE Series C (Feb 2018)	\$71m	4	\$17.7m	CONE (Aug 2015)	\$1m	9+	–
AIRWALLEX Series A (Apr 2017)	\$13m	3	\$4.4m	MOZIDO Series C (Dec 2014)	\$70m	4	\$17.5m
iZettle Series D (Jan 2017)	\$15.8m	16	\$1m	iZettle Series B (Oct 2014)	\$185m	4	\$46.2m
PayKey Series A (Nov 2016)	\$6m	7	\$0.8m	iZettle Series B (Jun 2012)	\$31.4m	6	\$5.2m
masabi Growth (Dec 2015)	\$12m	4	\$3m	mFoundry (Dec 2011)	\$18m	4	\$4.5m

Note: The specific amount contributed to consortium deals is not disclosed. We use an average contribution value for analysis.

Fintech investments (2/2)



Consortium Investment Rounds*			
Enabling solutions			
Company	Total investment	No. of investors	Average contribution
monitise™	\$77.4m (Nov 2014)	3	\$25.8m
	\$179.7m (Mar 2014)	Undisclosed	—
CRM			
First Performance	\$17.5m (Jan 2017)	4	\$4.4m
Automation			
avidxchange	\$300m Equity (Jun 2017)	4	\$75m
Analytics			
Company	Total investment	No. of investors	Average contribution
Moneytree™	\$1.6m Seed (Nov 2013)	4	\$0.4m
Artificial intelligence			
Kasisto	\$17m Series B (Dec 2017)	6	\$2.8m
Kasisto	\$9.2m Series A (Jan 2017)	8	\$1.1m
AppZen	\$2.9m Seed (Jun 2016)	Undisclosed	—
Connected devices & IoT			
nymi	\$14m Series A (Sep 2014)	5	\$2.8m

Note: The specific amount contributed to consortium deals is not disclosed. We use an average contribution value for analysis.

Accelerator Programs (1/2)



Mastercard is actively organizing the StartPath program as well as partnering with Startupbootcamp and the fintech Innovation Lab.

New York Fintech Innovation Lab

Task: Jointly launched by 'The Partnership Fund' and Accenture in 2010, the New York Fintech Innovation Lab is an annual accelerator programs. It offers 12-week mentorship to early and growth-stage fintech companies across London, Hong Kong, New York, and Dublin. Mastercard is one of the partners for the New York program.

Location: New York

Total Investment: \$531m

Partners: 43

Proof of Concept: 170



Mastercard Start Path

Task: Launched in 2014, Mastercard Start Path is a six-month virtual incubator program that supports later-stage fintech start-ups focused on developing next-generation commerce solutions

Location: Global

Partners: KB Kookmin Card Ltd., Concordis, Intesa Sanpaolo, Poste Italiane, Tesco Bank, International Card Services (ICS), Arvato, Alior Bank, Santander Innoventures, TSYS, Target Corp., Rakuten Inc., NetSpend, Canadian Tire Bank

Accelerator Programs (2/2)



Fintech London – Startupbootcamp

Task: Launched in 2014, Fintech London – Startupbootcamp is a three-month accelerator program that selects 10 fintech start-ups and offers office space, mentoring, and funding through partners.

Location: London

Key focus areas: Blockchain, mobile security, robo advisory, financial inclusion, identity – AML/KYC, SME solutions

Corporate partners: Mastercard, Lloyds Banking Group, Intesa Sanpaolo, Route 66 Ventures, Cognito.

Fintech Singapore – Startupbootcamp

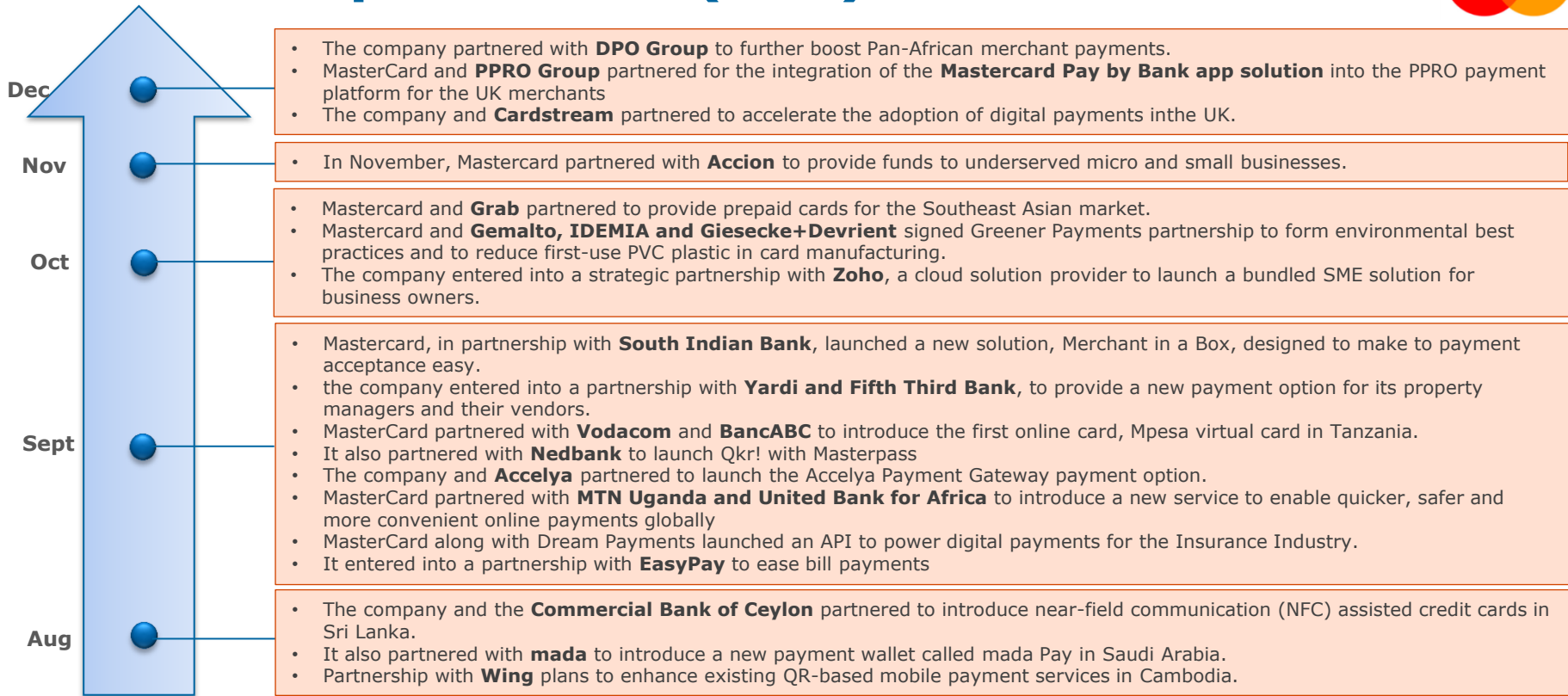
Task: Launched in 2014, Fintech Singapore – Startupbootcamp is a 12-week accelerator program that selects 12 fintech start-ups and offers office space, mentoring, and funding through its partners and investors network. .

Location: Singapore

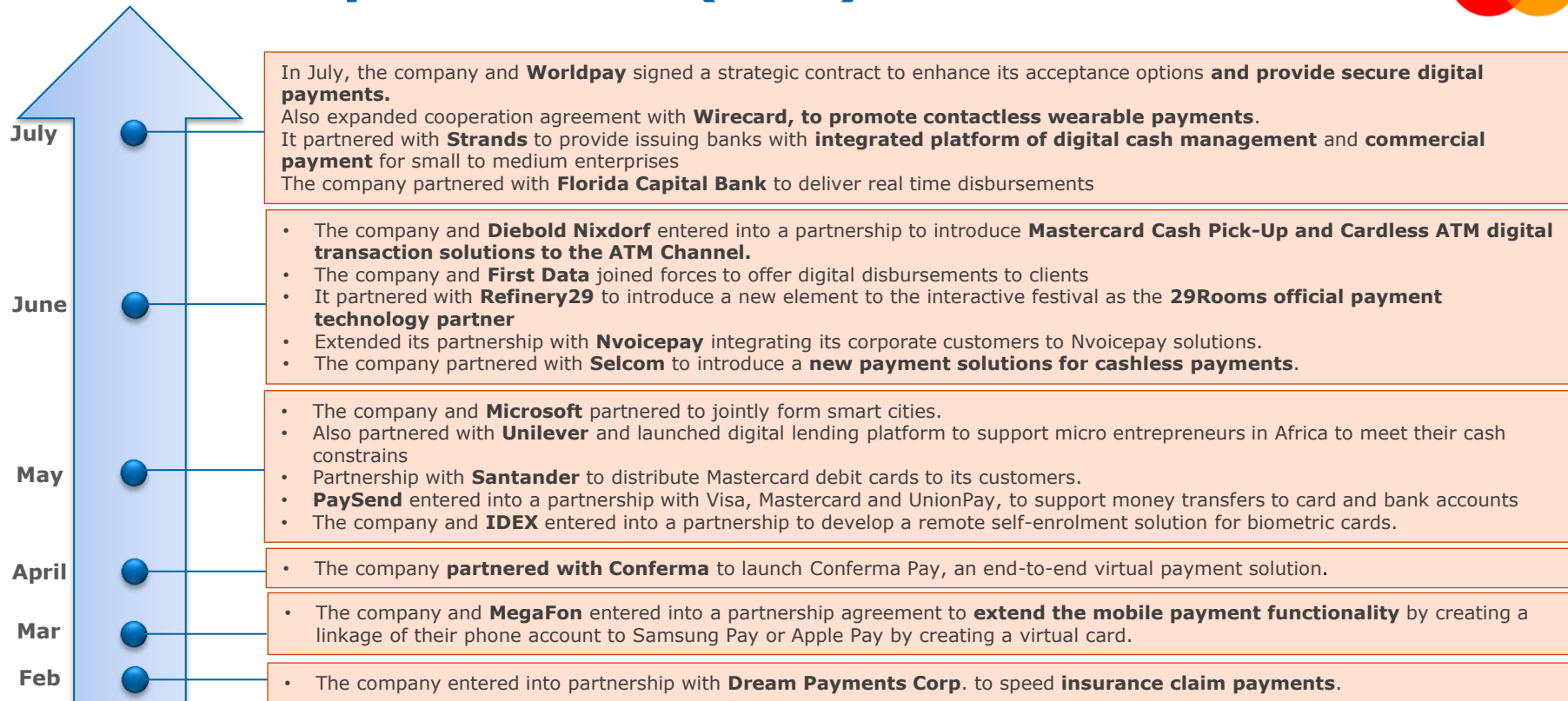
Key focus areas: Blockchain, advanced analytics, mobile security, investments & personal finance, payments, financial inclusion, identity & authentication, P2P lending, wealth management, insurtech, and compliance.

Corporate partners: Mastercard, CIMB, DBS, IDA, SG Innovate, Jungle Ventures, Pix Vine, RHB, Intesa Sanpaolo, ThinkZone, PwC

Partnerships in 2018 (1/2)



Partnerships in 2018 (2/2)



African expansion



In 2015, Mastercard partnered with **Egyptian Government**. The aim is to **extend financial services to 54 million Egyptians**.

As part of the agreement, MasterCard would work with the government to roll out a **digital ID program** that links citizens' national ID to the existing **national mobile money platform**, allowing Egyptians to participate in the formal electronic economy through a single, easy-to-use cashless program.

<http://investor.mastercard.com/investor-relations/investor-news/press-release-details/2015/Egyptian-Government-and-MasterCard-Collaborate-to-Extend-Financial-Inclusion-to-54-Million-Citizens-through-Digital-National-ID-Program/default.aspx>



Mastercard also partnered that year with **eTranzact, Africa's leading provider of mobile banking and payment services**. The first fully operational multi-application and multi-channel electronic transaction switching and payment processing company that is publicly quoted on the **Nigeria** Stock Exchange.

The aim was to **enable Nigerians to securely receive international remittances** into their eTranzact mobile money wallets or select bank accounts through the international transfer hub, **HomeSend**. A joint venture between MasterCard, eServGlobal and BICS, HomeSend bridges the gap between various entities globally such as financial institutions, non-financial entities and mobile network operators, enabling Nigerians living and working abroad to send money from mobile money accounts, payment cards, bank accounts or cash outlets back home.

<http://investor.mastercard.com/investor-relations/investor-news/press-release-details/2015/MasterCard-and-eTranzact-Make-it-Easier-for-Millions-of-Nigerians-to-Receive-Remittances/default.aspx>



The same year, Mastercard partner with **Steward Bank**, a medium-size commercial bank in **Zimbabwe**. It is one of the **regulated banking institutions licensed by the Reserve Bank of Zimbabwe**, the national banking regulator. Steward Bank has 9 branches across most major metropolitan areas in Zimbabwe, providing convenient **banking to mobile clients**. It handles Econet's Ecocash transactions.

Through international money transfer hub HomeSend, a joint venture between MasterCard, eServGlobal and BICS, remittance services is available to the bank's more than 1.5 million account holders. For the first time, **the bank's customers will be able to receive funds sent by family and friends abroad directly into their Steward Bank accounts**.

<http://investor.mastercard.com/investor-relations/investor-news/press-release-details/2015/MasterCard-Launches-Cross-Border-Remittance-Service-in-Zimbabwe/default.aspx>

Brazilian Strategic Alliance



In 2015, Mastercard formed a Strategic Alliance with Itaú – Unibanco (Brazil), **one of the largest banks on the planet**, with approximately 93,000 employees and operations in 19 countries throughout the Americas, Asia and Europe. It is a universal bank with a range of services and products serving the most varied client profile – both individuals and companies of all sizes, from major transnational groups to local micro-entrepreneurs. In Brazil, Itaú has nearly **5,000 full-service branches and nearly 30,000 ATMs**.

As part of the agreement, Itaú and MasterCard will **establish and operate a new electronic payments network in Brazil**. In addition, Itaú will issue payment solutions including credit, debit and pre-paid cards as part of the newly created payments network and focus on enhancing the efficiency of their payment value chain. MasterCard will be responsible for managing the operations of the new network and transaction routing.

<http://investor.mastercard.com/investor-relations/investor-news/press-release-details/2015/Ita-and-MasterCard-Sign-Agreement-That-Expands-Relationship/default.aspx>

Biometrics and Behavioral Analytics acquisitions



2017

Mastercard acquired **NuData Security**, a **behavioral and biometrics company from Canada**.



It added NuData's biometric authentication technology to its existing suite of **fraud management and security products**.

MasterCard had incorporated ML technology into its fraud solution and with the acquisition of NuData, the enhanced this further.

The acquisition will **strengthen its efforts around device-level security and authentication**, enabling near real-time collaboration between issuers, merchants and processors.

Their flagship product, **NuDetect**, helps organizations form digital trust by identifying users based on their online interactions - behavior that can't be mimicked or replicated by a third party. NuDetect **analyzes 80 billion online interactions yearly** and is trusted by some of the **largest global brands in the world** to verify users with their own natural behaviors while offering a great customer experience.

<http://investor.mastercard.com/investor-relations/investor-news/press-release-details/2017/Mastercard-Enhances-Security-of-the-Internet-of-Things-with-the-Acquisition-of-NuData-Security-Inc/default.aspx>

Behavioral Analytics



2012



Mastercard acquired **Truaxis (US)**, which offers **consumers personalized shopping offers** from merchants and financial institutions.

Mastercard integrated this platform with its network to offer an enhanced shopping experience.

The truaxis platform offers advanced **analytics and real-time offers to linked personalised offers to cards**. **Primary reason for acquisition is the intellectual property**. This acquisition, **strengthens Mastercard's position in the loyalty space**.

<https://newsroom.mastercard.com/press-releases/mastercard-acquires-truaxis-inc-to-enhance-delivery-of-personalized-shopping-offers-and-rewards-to-consumers/>

2015

Mastercard acquired **Applied Predictive Technologies (APT)**, a **US cloud-based predictive analytics platform** for \$600m.



Applied Predictive Technologies is a leading cloud-based analytics provider. APT's Test & Learn® platform helps companies tailor investments and maximize bottom-line impact by harnessing analytics to design, measure and calibrate marketing, merchandising, operations and capital initiatives.

Mastercard offers APT's Test & Learn platform to its corporate customers, which analyses the effectiveness of digital strategies.

This acquisition advances MasterCard's agenda to **deliver differentiated services to merchants**, complementing its recent acquisition of 5One, a London-based retail consulting and analytics firm. As part of the company's services portfolio, APT now have access to MasterCard's analytics suite, consulting capabilities, marketing services and global footprint that will expand its reach and value.

<http://investor.mastercard.com/investor-relations/investor-news/press-release-details/2015/MasterCard-Announces-Acquisition-of-Applied-Predictive-Technologies/default.aspx>

<https://www.predictivetechnologies.com/en/financial-services>

Artificial Intelligence



In 2017, Mastercard acquired **Brighterion (USA)**, an **AI solution for real-time fraud prevention, risk management**, and **AML/KYC compliance**.

Brighterion assess payment transactions and delivers insights to improve the accuracy of Mastercard's fraud decisioning.

San Francisco-based Brighterion claims to offer the world's deepest and broadest portfolio of AI and machine learning technologies, used in homeland security, AML and cross-channel fraud prevention, data breach detection, marketing, trading and healthcare

The firm's Smart Agent technology will be added to Mastercard's suite of security products that already use AI, promising greater accuracy in making fraud decisions.

Mastercard **enhanced its artificial intelligence capabilities with this acquisition.**

https://www.finextra.com/newsarticle/30844/mastercard-to-buy-ai-outfit-brighterion?utm_medium=dailynewsletter&utm_source=2017-7-19

Processing Companies



2009

In 2009, Mastercard acquired Orbiscom, a payment solutions provider. Prior to the acquisition, Mastercard partnered with Orbiscom and launched "Mastercard inControl", a platform providing advance authorization, transaction routing and alert control solutions.

MasterCard acquired a supplier - one key product is the MasterCard InControl solution for issuers. So Mastercard is going to accelerate development of such solutions.

http://www.mastercard.com/us/company/en/newsroom/project_satellite.html



2010



DATA CASH

A MASTERCARD COMPANY

Mastercard acquired Datacash, a provider of multi-channel payment solutions to merchants and banks. The acquisition enabled Mastercard to expand its e-commerce payment gateway services to European and Asian countries.

Datacash is a global internet payment gateway with proprietary fraud solution.

This acquisition helps to expand MasterCard existing ecommerce MiGS gateway in APAC for a global offer. Fraud technology. Drive MasterCard scheme acceptance online.

<https://newsroom.mastercard.com/press-releases/mastercard-to-acquire-datacash-group-plc-to-drive-e-commerce-payment-expansion/>

2011

Mastercard acquired the prepaid card program management business of Travelex (UK) and renamed it Access Prepaid Worldwide.

The prepaid card program management operation for GBP290

This acquisition means to add a distribution channel for MasterCard scheme cards.

<https://newsroom.mastercard.com/2011/04/15/check-your-%E2%80%9Ccheck%E2%80%9D-at-the-gate-prepaid-is-the-only-way-to-fly/>

<https://newsroom.mastercard.com/press-releases/mastercard-acquires-travelex%E2%80%99s-prepaid-card-program-management-assets>



AccessPrepaid
Worldwide

A MasterCard Business

Processing Companies



2012

In 2012, Mastercard acquired Trevica, a Poland-based provider of third-party issuer processing services.

<https://www.mastercard.pl/pl-pl/institucje-finansowe/mastercard-payment-transaction-services.html>



2014

pinpoint™

A MasterCard Company Pinpoint Travel Group Pty Ltd

In 2014, Mastercard acquired Pinpoint (**Australia**). Pinpoint was founded in Sydney in 1984, and has been developing innovative **customer loyalty and incentive programs** for over 30 years. Being a leading loyalty service provider in Asia Pacific, Pinpoint offers a full suite of loyalty services from point schemes and benefit programs through to redemption services.

This acquisition will significantly **strengthen MasterCard's loyalty and rewards offerings** and underscores MasterCard's commitment to delivering unparalleled services to consumers, merchants and issuers in this vital and fast growing region and beyond.

<http://investor.mastercard.com/investor-relations/investor-news/press-release-details/2014/MasterCard-to-Acquire-Pinpoint/default.aspx>

<https://newsroom.mastercard.com/press-releases/mastercard-concludes-acquisition-of-pinpoint/>



In 2014, Mastercard acquired ElectraCard Services (**India**). This company provides **software and processing services in electronic payments**. Clients are **Fis** retailers and telcos in 25 countries. Core issuer and acquirer processing and switching.

MasterCard intends to offer full end-to-end solutions.

<https://newsroom.mastercard.com/press-releases/mastercard-acquires-electracard-services>

Processing Companies



2014

In 2014, Mastercard acquired the Payment Gateway Services of Transaction Network Services (TNS) and added it to its subsidiary DataCash, a payment processing company. This helped Mastercard expand its portfolio of payment gateway solutions.



Geographical expansion once integrated into the former DataCash operation, MasterCard also covers NA and LATAM

<https://newsroom.mastercard.com/press-releases/mastercard-expand-datacash-footprint-acquisition/>



Mastercard acquired also C-SAM, a mobile wallet and on-device software provider, and integrated it with MasterPass.

Formed the basis of the MasterPass digital service which C-SAM help provide and Mastercard was already a minority investor.

Provided turnkey solutions to carriers, banks, merchants etc. had clients in US, Japan, Vietnam, India, Singapore and Mexico.

This integration has enabled Mastercard to offer in-store mobile-based payments through NFC, QR/barcodes, and remote checkout.

<https://newsroom.mastercard.com/press-releases/mastercard-to-acquire-mobile-transactions-technology-provider-c-sam/>



A MasterCard Company

Mastercard acquired Provus, which provides payment solutions and processing services for issuers, acquirers and ATMs in Turkey. The acquisition has helped Mastercard develop innovative mobile payment solutions and expand its processing presence in Europe.

Provus was founded in 2001. Clients include FI, Telco.

With this acquisition, Mastercard continued in line with strategy to increase its processing presence in high-growth markets.

<https://newsroom.mastercard.com/press-releases/mastercard-completes-acquisition-of-provus-the-leading-independent-turkish-payment-solutions-provider>

Processing Companies



2017

VOCALINK



mastercard

Mastercard acquired a **92.4% stake in Vocalink Holdings Limited ("Vocalink")**, a **developer of bank account-based (ACH) payments solutions based in the UK**. This helped Mastercard expand beyond card-based payments into the instant payments infrastructure market.

VocaLink operates key payments technology platforms on behalf of UK payment schemes: BACS for ACH, Faster Payments and LINK: the UK ATM network. In addition, VocaLink offers innovative products with global potential, including ZAPP, a mobile payments app that leverages Fast ACH technology, and licenses its software and provides services to support ACH activities in **Sweden, Singapore, Thailand and the United States**.

This acquisition accelerates MasterCard's efforts to be an active participant in **all types of electronic payments and payment flows** and to enhance its services for the benefit of customers and partners. It will allow MasterCard to play a **more strategic role in the UK payments ecosystem**.

<http://investor.mastercard.com/investor-relations/investor-news/press-release-details/2016/MasterCard-Announces-Acquisition-of-VocaLink/default.aspx>

<https://www.vocalink.com/>

2018

In 2018, Mastercard acquired **Oltio (South Africa)**, a **security and authentication solution provider for mobile payments**. The acquisition helped bring mobile PIN-based authentication to MasterPass.

Mastercard objective was to **accelerate digital payments adoption in the Middle East and Africa**.

<https://www.oltio.com/>



MasterCard – developed a solution to augment existing solutions and has acquired NuData which uses ML for user verification

- Building on other proprietary services, Decision Intelligence uses algorithms to provide a predictive score to the issuer, based on intelligent analysis. They then incorporate that information into their **existing fraud mitigation** efforts.
 - Can be used alone or as part of complete holistic Mastercard tool, which makes data-driven, real-time decisions tailored to the account, including defined alert and decline thresholds.
 - MasterCard states “This new functionality can help improve the accuracy of real-time approvals of genuine transactions and reduce false declines. In specific verticals, like fuel or ATM, the information could be used in real-time to react to potential concerns much quicker, reducing operational expenses like chargebacks.”
- ▶ Acquisition of NuData which uses ML technology for its behavioural biometric ID verification system.
 - ▶ acquisition will strengthen its efforts around device-level security and authentication, enabling near real-time collaboration between issuers, merchants and processors.

source: Briefing notes AI and Fraud detection-V1-CI-March 2017



Mastercard Biometric



- Mastercard Identity Check™**, a fingerprint, face and iris scanning biometric technology to verify online purchases on mobile devices. All consumers will be able to identify themselves with biometrics such as fingerprints or facial recognition, when they shop and pay with Mastercard by April 2019. In practice it means that **banks issuing Mastercard-branded cards will have to be able to offer biometric authentication for remote transactions**, alongside existing PIN and password verification. **It will also apply to all contactless transactions** made at terminals with a mobile device. Mastercard Identity Check, now available in **37 countries** around the world
- Biometric Card** which has a fingerprint scanner built in to the card and is compatible with existing EMV payment terminals.



Mastercard will acquire Toronto-based digital commerce fraud protection provider Ethoca



- Mastercard will buy Ethoca to reduce fraud in digital commerce.
- Ethoca's network has more than **5,000 merchants** and **4,000 financial institutions** around the world.
- When a fraudulent transaction is identified, near real-time information is sent to the merchant so they can confirm the transaction, stop delivery or reverse the transaction to avoid the chargeback process.
- Mastercard intends to further scale these capabilities and combine Ethoca with its **current security activities**, **data insights** and **artificial intelligence (AI)** solutions.

Apple is launching its own credit card that will be tightly integrated into its mobile wallet and promises to help customers lead a "healthier financial life"



- It will be available in the US this summer
- The tech giant has teamed up with **Goldman Sachs** and **Mastercard** on the new venture, which takes it deeper into the financial lives of its customers as it focuses on fee-generating services.
- Users can sign up for the card in the Wallet app in minutes and start using it with Apple Pay in stores, in apps and online. There are **no annual, late, international or over-the-limit fees while interest rates are "among the lowest in the industry"** claims Apple.
- Machine learning and Apple Maps are being used to **label transactions with merchant names and locations**, with purchases automatically totaled and organized by color-coded categories. Users also **get weekly and monthly spending summaries**.

