

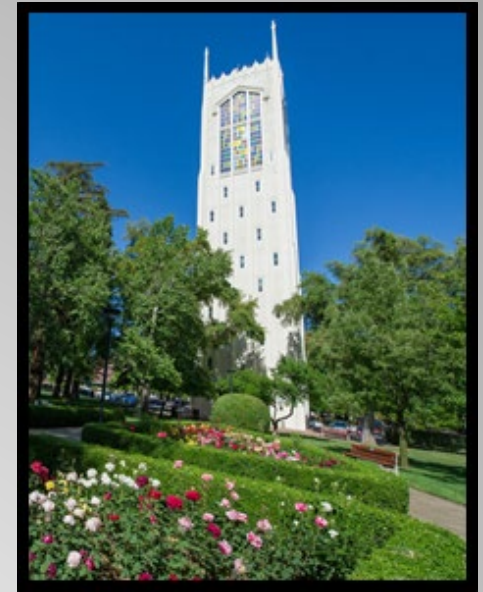
Credit Card The ~~EMV~~ Checkup



Matt Camino
Director of eCommerce
University of the Pacific

The University of the Pacific, the first chartered institution of higher education in California, is an independent and comprehensive university offering over sixty-six (66) undergraduate programs and thirty-three (33) graduate programs.

Currently, more than six hundred (600) faculty and nine hundred and eighty (980) staff members serve more than six thousand (6,000) students in its eight (8) colleges and three (3) campuses located in Stockton, San Francisco and Sacramento



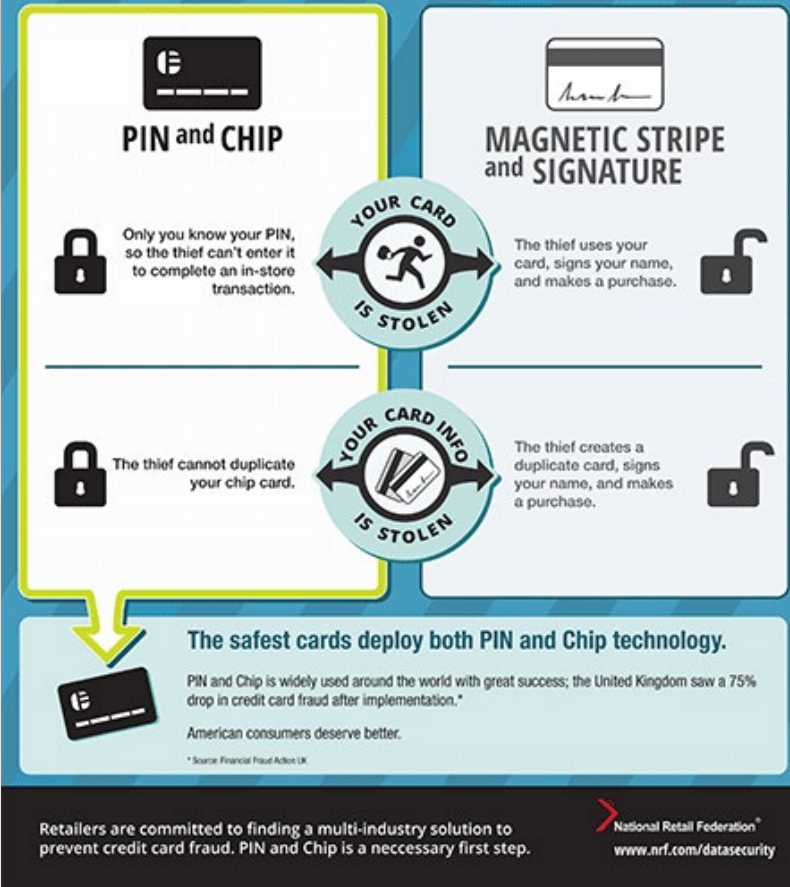
UNIVERSITY OF THE PACIFIC

- Formed by Europay, MasterCard, and Visa
- Now known as EMVCo, LLC
- Membership includes
 - American Express
 - JCB
 - Discover
 - MasterCard
 - UnionPay
 - Visa
- 21 Year Old Technology
- Software and Hardware specifications

What is EMV?

- Two consumer facing options:
 - Chip + PIN
 - Chip + Signature
- USA deployed Chip + Signature, with the exception of Federal Employee Purchasing Cards.

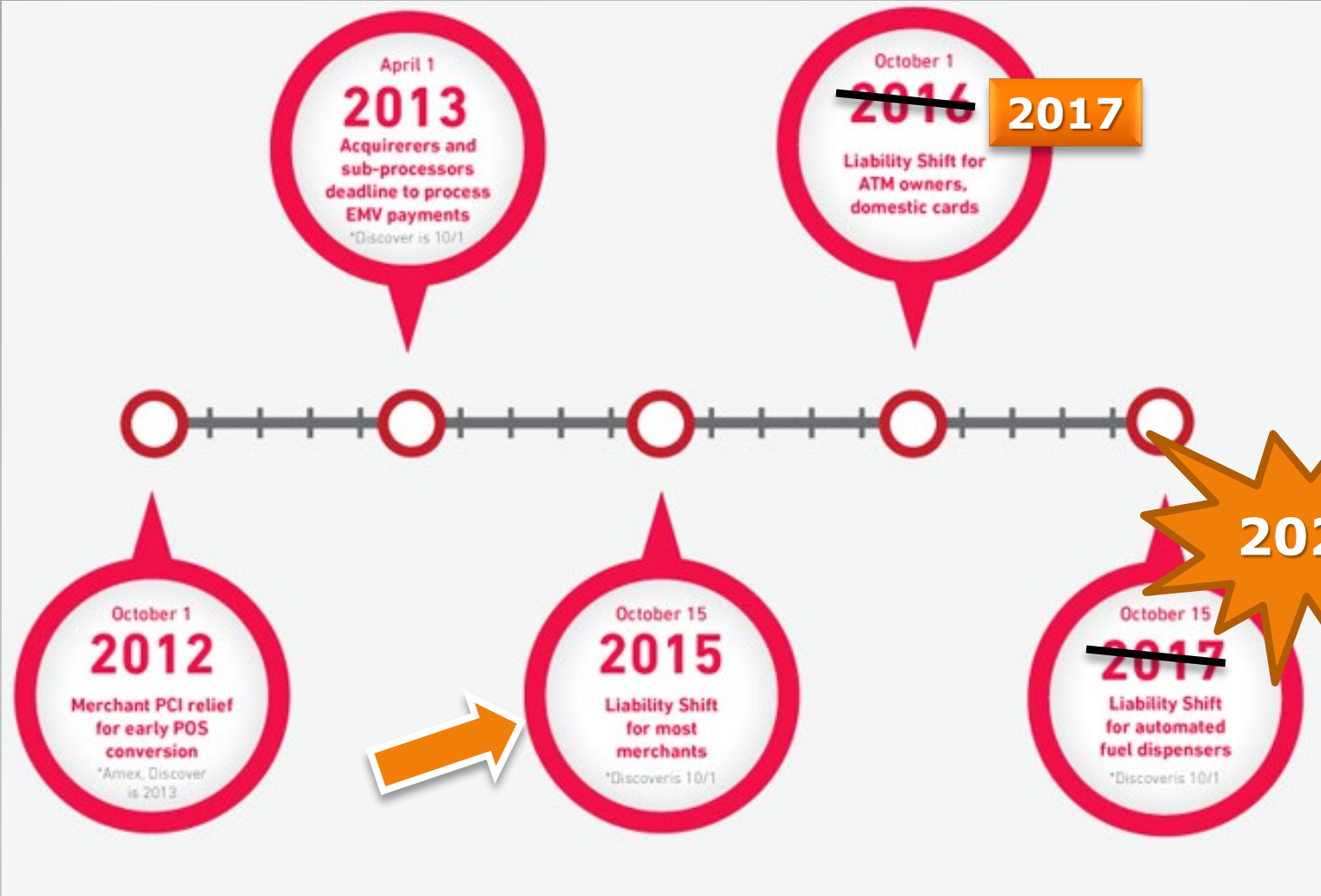
PIN and Chip Prevents Credit Card Fraud...and Protects You.



What is EMV?

- Liability Shift October 15, 2015
 - (Discover Card October 1st, 2015)
- Shifts \$\$\$ of fraud transactions from Card Brands/Issuer to Merchant
- EMV is NOT PCI Compliance
 - 0 mentions in PCI version 3.2

What is EMV?



An EMV Timeline

Visa Chip Card Update: March 2017

EMV chip cards and chip-activated merchants combat counterfeit fraud in the U.S.

The number of Visa chip cards in the U.S. increased by **164%** in the last year.



Chip transactions continue to increase in the U.S.



There were a billion Visa chip transactions in March 2017, a 330% increase over last year



Chip-ready merchants now represent 49% of Visa's in-store payment volume

Visa Chip Transactions (M)



Visa Chip Payment Volume (B)

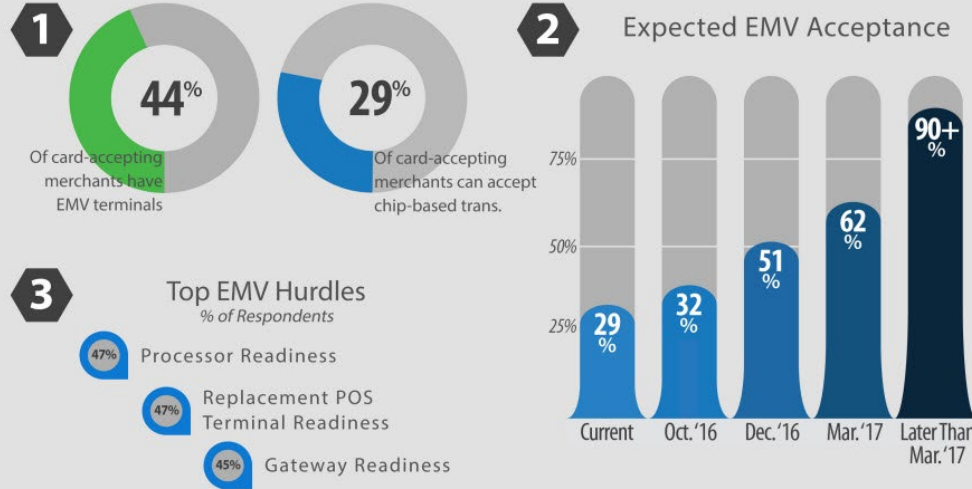


An EMV Timeline

EMV THE ANNIVERSARY



EMV Merchant Adoption Remains Sluggish a Year Later



Payment Service Provider Commentary

"What a mess. No one was ready for it, it's as if they thought it was not going to happen like smart cards."

"We have implemented fees to address the increased support impacts of non-EMV enabled customers who have deferred migration to the currently available EMV solutions."

"Implementation impacts will continue as customers and solutions migrate further towards EMV adoption. The pace of SMB merchants moving to EMV has slowed in 2016 compared to 2015."

"What a nightmare...!!"

Data Based on August 2016 Survey, the Sample Included:

79 Payment Service Providers

3.4 Million Card Accepting Merchants

~50 Percent U.S. card accepting Market

An EMV Timeline

- Card Present vs. Card Not Present
 - What does EMV do for this?
- Fraud Shift
 - Blueprint in European countries
 - USA should expect something similar.
 - New Data!!
 - 200% increase in credit card testing
 - Fraud up 30% overall

<http://www.pymnts.com/news/security-and-risk/2017/ecommerce-fraud-to-surge-says-radial-data-retail/>

EMV Security/Risk

For merchants who have completed the chip upgrade, **counterfeit fraud dollars** dropped 58% in December 2016 compared to a year earlier.



DOWN
58%

EMV Security/Risk



CHIPOTLE

MEXICAN GRILL

EMV Security/Risk

- The 1 second EMV Transaction
 - Wrote own kernel (processing logic & data)
 - EMVCo certified
 - New tech instead of repurposing old

“What we heard from our partners is that longer lines equals lost sales. All of us can imagine that experience because we’ve all had it before at a QSR. Then you decide it is too long and you don’t want to wait. So any experience that extends the line – like waiting around for the EMV chip for an extra few seconds – has costs,” noted Marc Freed-Finnegan, co-founder and CEO, retail software provider Index.



<http://www.pymnts.com/news/emv/2017/index-introducing-1-second-emv-faster-payments/>

EMV Security/Risk

- It's not perfect
 - Skimmers
 - Tape....yes....tape.
 - New card vs. cloned card
 - Identity theft
 - Wear/Tear

Never seen this before. A sign I've been using my credit card too much: the microchip got ripped off. 🤔🤔



Image via Twitter/Courtney Cronin

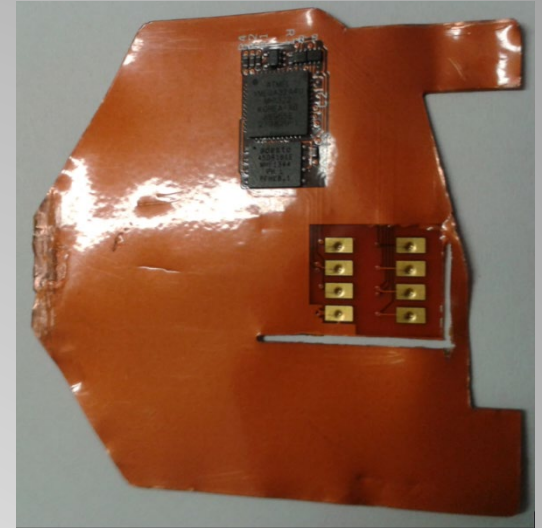


Image via krebsonsecurity.com



Image via dataprivacymonitor.com

EMV Security/Risk



EMV Security/Risk

- Inspect Machines
 - (PCI required 9.9.2)
- Train employees to identify issues
 - What are your policies/exceptions
 - What if swiped and redirects EMV?
- Train your customers
 - Make sure they're aware of what to do
 - Each POS system is different

EMV Security/Risk

Understanding the slow, tortured process of the ongoing transition to microchip cards in the U.S. requires a closer look at how all of the companies involved profit in different ways from credit-card transactions. Nearly every transaction involves three parties: a retailer that accepts the card, a bank that issues it, and a processor that facilitates the payments between the first two parties. For example, when I try to buy a train ticket at Charles de Gaulle with my Bank of America MasterCard, the French train system, Bank of America, and MasterCard all get a cut of the payment. But if someone else uses my credit card to make that purchase, those same companies have to figure out how to cover the costs since I, the customer, am not held liable for fraudulent charges. So rather than trying to eliminate fraud, all of these different companies are trying to reduce their own obligation to pay for it when it happens.

- Josephine Wolff, The Atlantic, March 2016

<http://www.theatlantic.com/business/archive/2016/03/us-determined-to-have-the-least-secure-credit-cards-in-the-world/473199/>

Why is EMV Happening?

- A \$2.6 Billion industry is born
 - Consultants and installers raking it in

“Five years from now, we’ll probably look at [EMV] as the biggest mandated waste of money and effort,” Richard Crone, chief executive officer of Crone Consulting, said in an interview. “Where in history have we ever taken a 20-year-old technology when we are on the cusp of something new, like mobile payments, and forced retailers to take a giant step backwards?”

<https://www.bloomberg.com/features/2016-credit-card-chip-ninjas/>

Why is EMV Happening?

- Pacific has 5 merchant accounts
 - EMV migration affects 4 of them
 - First Data is merchant acquirer
 - Ignite Payments
- High \$\$ ticket first
 - On The Spot (OTS) devices replaced
 - FD130 Duo
 - Analog for PCI Compliance
 - 2 merchant accounts migrated
 - Dental & Hearing clinics
 - 11 machines total



Photo courtesy of First Data

Pacific Progress

- For POS Units @ Food Service/Aux



Can EMV, but not P2PE. Vendor estimates May 2016 readiness. P2PE part of Pacific scope reduction, protects against non EMV card

Pacific Progress

- For POS Units @ Food Service/Ar...



Not done. Vendor wasn't ready until October. Then came a staffing issue.

Control P2PE. Vendor estimates May 2016 readiness.
P2PE Pacific scope reduction, protects against non EMV card

Pacific Progress

- For Student Payments @ Cashier's



Photo courtesy of Ingenico

**Pending
Summer 2017
Deployment**

Pacific Progress

- Success at Pacific is getting EMV deployed, but also reducing scope.
- So far 5 chargebacks related to non EMV transaction fraud. Net loss of <\$100.
- EMV Victory: \$2000+ clinic transaction
 - Chip transaction
 - Provided signed receipt for proof

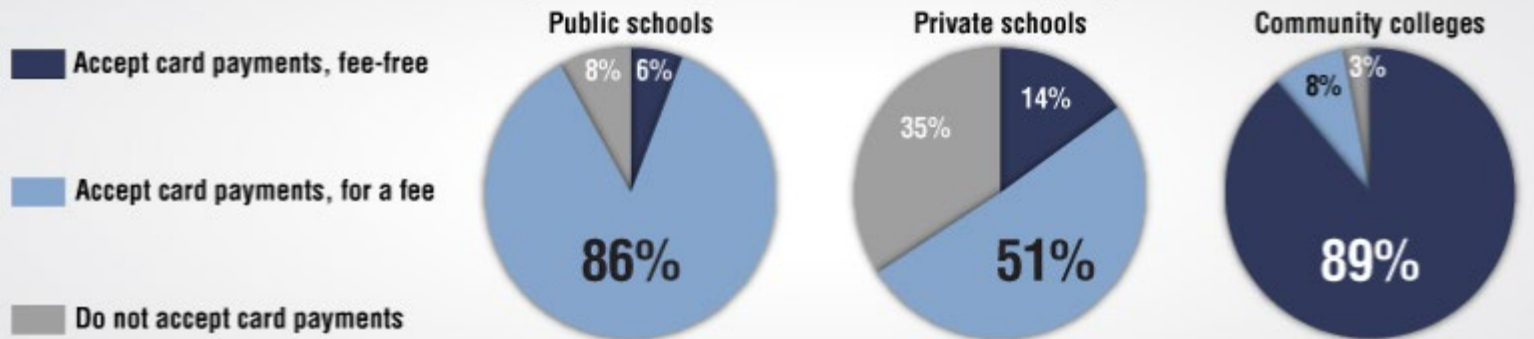
Pacific Progress

- Credit card fees reduced
 - Talk to merchant acquirer
- Identified conversion from retail to ecommerce
- Mobile app request explosion
 - Not EMV yet
 - Cheqroom

Pacific Progress

- Evaluate input locations
 - Are you encrypted or EMV ready?
 - Opportunity to move away from retail trans?
- Do you charge for acceptance?
 - Are you covering your actual costs?

Which colleges charge for credit card payments



Source: Creditcards.com 2016 tuition payment survey

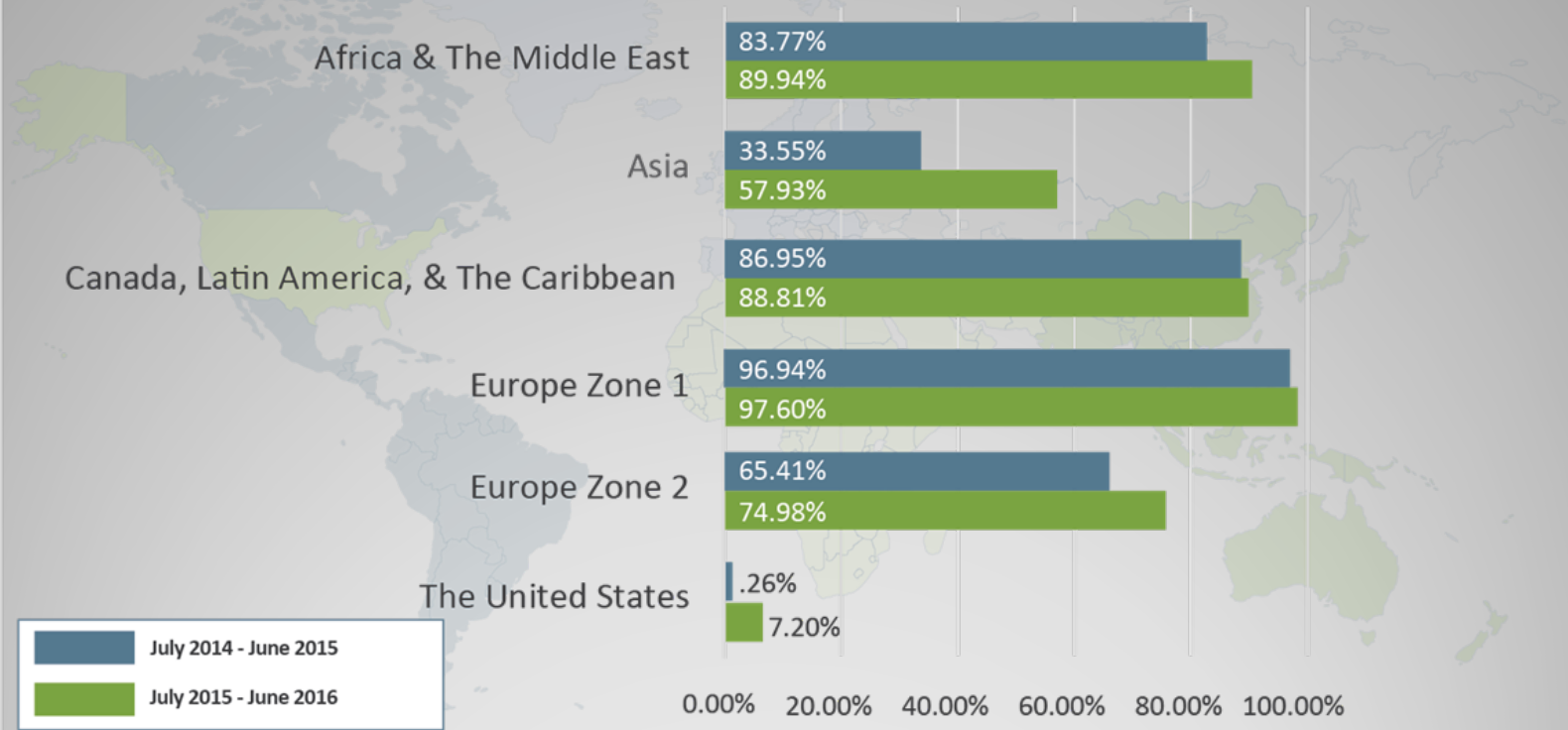
CreditCards.com

<http://www.creditcards.com/credit-card-news/colleges-charge-card-fee-survey.php>

What Can You Do?



Percentage of Card-Present Transactions that are EMV



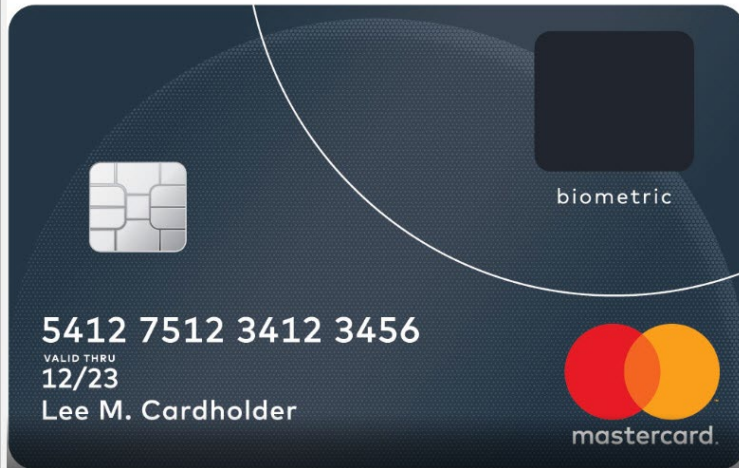
Figures represent the percentage of all card-present transactions processed by each member institution that are EMV transactions (Contact or Contactless). The reported data (blue bar) is from the twelve months of July 2014 through June 2015 and (green bar) the twelve months of July 2015 through June 2016; the data represents the most accurate possible data that could be obtained by American Express, Discover, JCB, MasterCard, UnionPay, and Visa during this period. To qualify as an "EMV transaction" for the purpose of this methodology, both the card and terminal used during a transaction must be EMV-enabled. Data is reported from the acquirer perspective. These figures do not include offline transactions, "on us" transactions (defined as a transaction handled exclusively by another processor), and/or transactions processed by non-EMVCo-member institutions, such as local schemes.

Industry / Next Steps

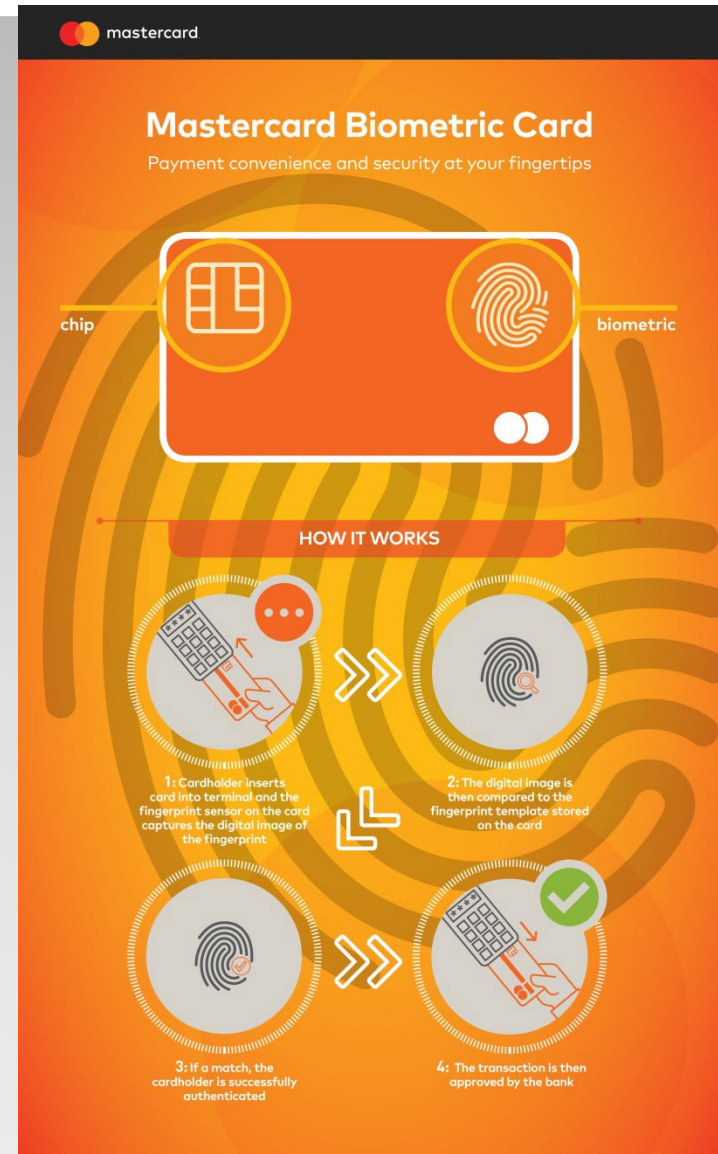
- A Safer Card?

Mastercard Launches Biometric Cards

P By PYMNTS  
Posted on April 19, 2017



<http://www.pymnts.com/mastercard/2017/mastercard-launches-biometric-cards/>



Industry / Next Steps

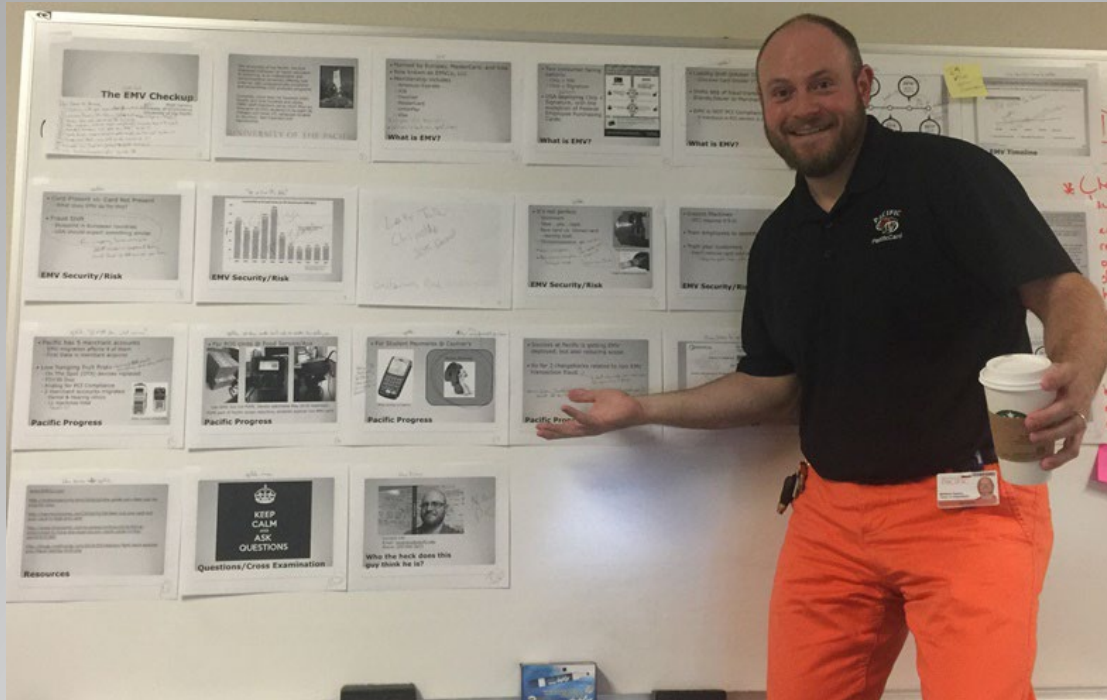
- No (physical) card at all? Order Ahead!
 - Starbucks
 - McDonalds
 - Wendy's
 - Panera
 - Taco Bell
 - Chick Fil A
 - University of the Pacific?
 - Food Service
 - Tuition

<http://www.pymnts.com/exclusive-series/qsr-and-mobile/2017/why-mobile-order-ahead-isnt-about-payments-mobile-pay-mobile-order-qsr-orderahead/>

Industry / Next Steps



Questions/Cross Examination



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**Who the heck does this
guy think he is?**