



# EMV

## white paper

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### The Smart Card Revolution

Welcome to the financial transactions of the 21st century – transactions where ‘smart’ cards are replacing the traditional magnetic stripe card for credit and debit payments worldwide. Embedded with a special computer chip, smart cards offer a number of crucial advantages for banks, financial institutions and retailers – on which top of the list is improved security that can save time, money and clamp down on fraud.

Three of the world’s leading card organizations – Europay, MasterCard and Visa (EMV) – joined forces more than a decade ago to develop specifications for the widespread acceptance and circulation of smart cards throughout the banking industry. The concept of smart cards has been evolving for a while now in other industries – for example, in telecommunications we’ve seen the growth of SIM (Subscriber Identity Module) Cards for mobile phones used in wireless networks, while in retail industry we’ve witnessed the popularity of loyalty smart cards, where retailers build on customer relationships by offering special discounts and rewards through the use of these cards - which in exchange offer the vendor a wealth of crucial information on the cardholder as well as improved security and cost savings. In Europe and Japan this form of smart card has been responsible for changing consumer perception and acceptance of the smart card. Now the time is ripe (right) to open the vault to financial institutions who can only benefit from the smart card revolution when they consider the reductions in fraud losses, operating costs and errors that accompany the switch to EMV compliance in their daily operations.

On Products Group supports the drive towards EMV compliance and recognizes the significance of the smart card revolution and the impact it is already making within major business sectors on a global scale. Our commitment to the enormous benefits of this system is showcased by our development of cutting-edge products for the financial sector. We have designed highly intelligent devices that offer smart card readers and writers, and which also eradicate security breaches which can occur through stolen cards and false identification. Magnetic swipe cards and the terminals with which they currently interact can make it all too easy for thieves to illegally gain access to others’ funds and data. On the other hand, encrypted cards which are processed through highly secure devices like the Keymax teller series of keyboards for example, reduce the incidence of fraudulent transactions dramatically.

## Why EMV compliance is the future of banking

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We have already mentioned that in today's financial world, you can't afford to waste time, let errors slip through your fingers or expose your organization to security breaches. This is where the smart card offers increased security – because these cards are harder to duplicate or counterfeit than standard magnetic swipe cards, and because they are encrypted with vital cardholder information, positive identification is established - making it difficult for 'imposters' to steal or PHISH deleted the word or the data and duplicate the cards.

Visa claim that up to 70 percent of fraud can be avoided with a switch to smart cards, and up to 90 percent of fraud can be eliminated if cardholders are required to enter a PIN for further security when using their card.

## Smart Card enabled products

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On Products Group has already developed a number of specifically tailored products to fulfill all this criteria and provide financial institutions with the added security and data needed to embrace smart card technology and assist in the eradication of fraud. The **KeyMax Teller** series of keyboards are all-in-one units that enable the reading and writing of smart cards, the authorisation of users, the identification of card holders, the provision of security through PINs or biometrics – where fingerprint ID uses a much more exact science than signatures or passwords because fingerprints can't be faked, they can't be duplicated. Combining these product breakthroughs with the new smart card technology means achieving efficiency and security never before experienced. The savings from fraud and error are staggering. It's a necessary time, space and cost-saving solution for the competitive and fast-paced fields of banking, finance, insurance and travel.

On Products Group **KeyMax Teller**, **MobiPos** and **BizPos** all process and transact smart card technology.

## What EMV is all about

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Europay, Mastercard and Visa published their first EMV specifications in 1998, which defines the basis of smart-card debit and credit transactions. The EMV specifications outline how the new smart card technology can operate successfully with the terminals that normally process cards – including ATMs, POS terminals, keyboards and PCs – and how these terminals require additional new features to handle the increased card information and the higher security requirements.

In the near future, EMV compliance will be universal on a global scale. There will be a transitional changeover period when both smart and magnetic swipe cards will be in circulation, but eventually the smart card technology will phase out its predecessors and become the dominant form of financial transaction.

EMV is a standard introduced specifically to clamp down on fraud – so when customers or cardholders complete a retail transaction, for instance, they won't be expected to supply a signature which is unreliable and prone to forgery; instead a PIN – which is already encrypted in the smart card – will be punched in to verify the validity of the transaction. This is a much more accurate, fool-proof system of identification, sometimes known as 'chip & pin' technology.

The advantages to banks and financial institutions of this new EMV standard is that at the front-end teller level, the data on the new smart cards can be read, overwritten or changed simply with the use of smart card enabled keyboards, like Keymax, which are specially designed to cater for this new technology and give banks access to more information, and tighter control over fraud than ever before. Essentially, banks will need more sophisticated equipment to handle the heavily-encrypted cards and to deliver a much better processing capacity.

Likewise, Eftpos machines must be able to accept smart cards and process transactions based on smart card technology without having to rely on the magnetic swipe action: instead the process is to insert, read, and punch in the PIN, leaving little or no room for error.



## EMV around the world

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The philosophy of EMV smart card technology is that it is an accurate, highly secure method of transaction - and all banks and financial institutions will need to become compliant by a certain date specified by EMVCo in order to be supported by the card companies if fraud occurs. In Western Europe EMV compliance is already mandatory, and in Eastern and Central Europe, the Middle East, South America and Africa compliance is underway. The Asia Pacific Region is set to reach compliance in the very near future. Suddenly the world has shifted to a new system of payments and transactions – a system that is evolving as the definite future of card payments.

In other words, if banks don't introduce this technology by a required time - and install the terminals, keyboards and devices required to process it - then they are not significantly reducing the risk of fraud. So if fraud occurs, the EMV companies will not reimburse the banks. The banks, not the card issuers, will be liable for their losses. This could result in annual costs of millions of dollars, which you can't afford in a competitive world of plastic money. This is why EMV compliance is a desirable solution.

## State of the art products to fulfil compliance

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### KeyMax

In today's financial world you can't afford to waste time, let errors slip through your fingers or expose your organisation to security breaches. It takes sophisticated equipment to help you handle encrypted documents and cards that come your way.

When we say sophisticated we don't mean bulky and complicated. We're talking about doing it all from one point. One compact keyboard that can do the lot. KeyMax Teller series can handle most types of documents or transactions, making them a necessary time, space and cost saving solution for the fast-paced and competitive fields of banking, finance, insurance and travel. Swipe, scan, read, process - it's all at your fingertips.

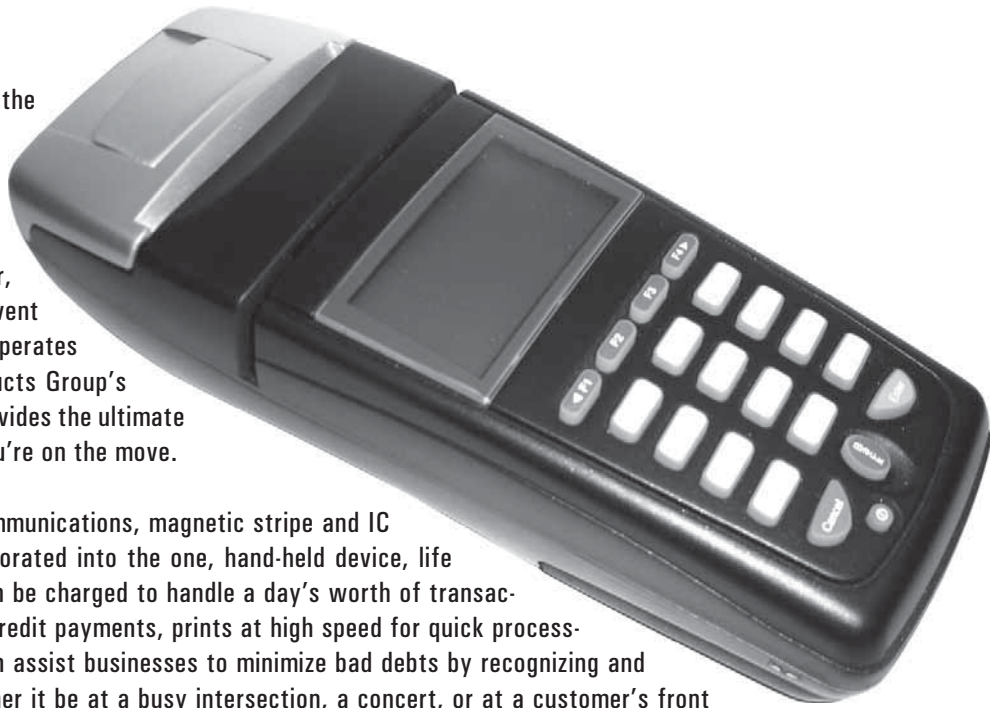
KeyMax Teller is efficient and enables you to perform a multitude of tasks. It provides security for the future and offers peace of mind. All that from one keyboard? KeyMax is the smart choice.



**State of the art products to fulfil compliance**

**MobiPos**

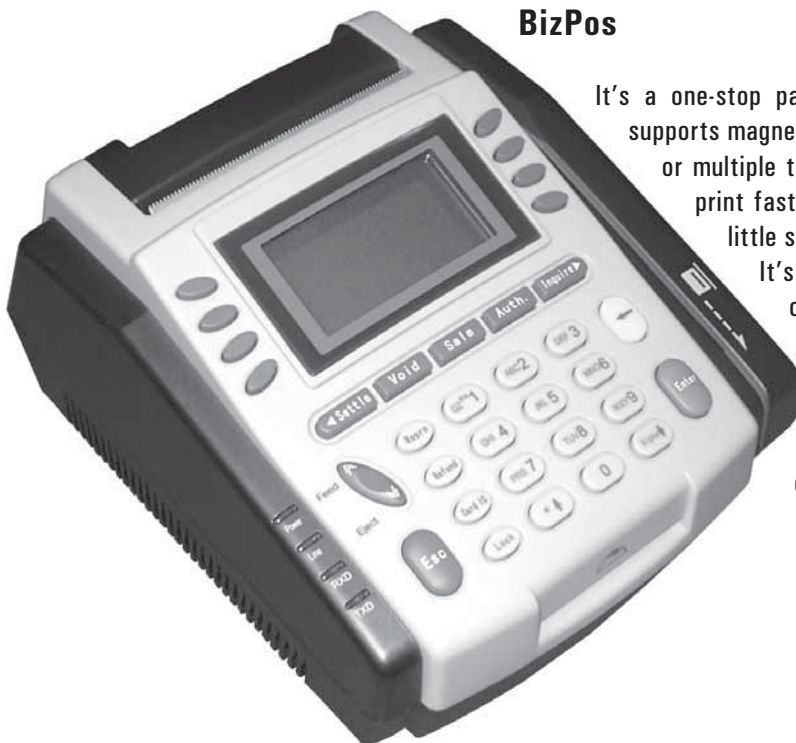
Your customers are sipping wine on the terrace, taking a ride uptown, receiving boxes of fresh produce or having their blood-pressure checked: whether you're a restaurateur, driver, courier, doctor, tradesperson, mobile caterer, event vendor or in fact any business that operates on location or on the road, On Products Group's MobiPos wireless eftpos terminal provides the ultimate freedom for easy payments when you're on the move.



With a printer, wireless network communications, magnetic stripe and IC smart card reader all cleverly incorporated into the one, hand-held device, life doesn't get any easier! MobiPos can be charged to handle a day's worth of transactions on the go, supports debit and credit payments, prints at high speed for quick processing, handles wireless dialing, and can assist businesses to minimize bad debts by recognizing and approving cards on the spot – whether it be at a busy intersection, a concert, or at a customer's front doorstep.

Its compact design lets MobiPos fit snugly into your palm so that cards are easily slotted, information quickly read and receipts instantly printed. With so much business today being conducted out of doors and away from base, the need for secure, effective, mobile transactions has never been so great – nor, up till now - so flexible!

**BizPos**



It's a one-stop payment solution for switches on businesses: BizPos supports magnetic swipe credit cards and smart cards, can read single or multiple tracks as well as cards swiped in both directions, can print fast, even complex images and receipts, and yet takes up little space on your counter.

It's backlit display also means that even dimly lit premises or venues with dark surroundings, it is business as usual with the processing of payments.

BizPos swipes, reads and prints versatile payment methods with speed and accuracy, giving your business secure, reliable transactions all from one compact and efficient unit.



## About the Author

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Ron Stolikis is the CEO of the On Products Group. He has nearly 20 years experience in the office and banking equipment industry, encompassing, strategizing, designing, deploying, improving operational efficiency, managing solutions and teams. He has worked in co-operation with banking world industry leaders, and has led teams that have been successful in tenders worldwide.

He is a leader in his field and a well respected authority for innovations in banking, and is frequently sought for opinions on new technology. He is a graduate from the University of New South Wales in Commerce.