



# POSITIVITY magazine

AGGREGATED NEWS FROM YOUR WORLD OF PAYMENTS • ISSUE 71 / MARCH 2017



## MPE 2017 BREAKDOWNS



## Chair summaries from MPE 2017

### Machine Learning for Merchant Real-time Payment Fraud Prevention/Detection

Top  
Rated  
Speakers  
*on page 19*



Sponsors  
& Exhibitors  
*on page 20*



Articles  
from  
MPE speakers  
*on page 41*





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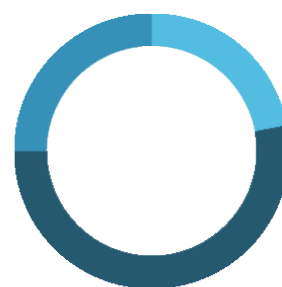
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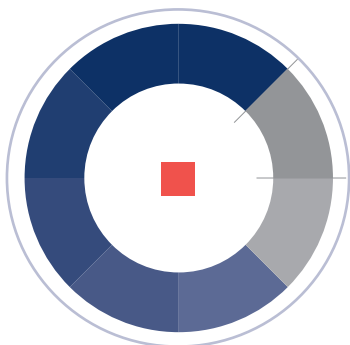
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# Chair summaries from MPE 2017



## David Birch Co-Founder Consult Hyperion

(chair Day 1, Common Program)

This was my first visit to Merchant Payment Ecosystem despite a number of recommendations from our guys and others, and I have to say that it's an excellent event. I was genuinely flattered to be asked to chair the first morning and the key panels. The first was with the panel about digital commerce and omnichannel payments with:

- Gijs op de Weegh, COO, Payvision
- Marc Birkner, Ingenico ePayments
- June Felix, President Europe, Verifone
- Simon Black, CEO, PPRO Group
- Marc-Henri Desportes, General Manager, Worldline

The discussion was absolutely first-class. As I explained the audience at the time there were no rehearsed questions and no PR scripts to follow. We had a genuine conversation about a wide topic and I can see from the feedback that the delegates greatly appreciated hearing

smart people speak their minds. I really hate to paraphrase such a fascinating discussion, but if forced to I would say that:

- There is a shift underway from the POS as a device to the POS as a platform and
- There is a convergence underway but that convergence is towards the virtual rather than the real.

In other words, the checkout and payment experience is converging to the app, not the tap (okay, that's my bumper sticker and not exactly what the participants said but I think it conveys the sense of the discussion!) and the payment experience will be the same whether in-store, on the phone or at a web site.

The second panel was great too. The organisers did me the great honour of allowing me to cross-examine some of the industry's most senior people on behalf of the wider audience. The panel was:

- Ron Kalifa, Vice Chairman, Worldpay
- Diane E. Offereins, Executive Vice President, Payment Ser-

**THE CHECKOUT AND  
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AT A WEB SITE. ”**

- vices, Discover Global Network
- Burkhard Ley, CFO, Wirecard
- Michael Steinbach, CEO, equensWorldline SE
- Paul Thomalla, SVP Global Corporate Relations and Development, ACI Worldwide

The panellists allowed me to push them on some of the tough issues facing the acquiring and processing parts of the industry. I made the point that in an environment moving towards instant, push payments the role of acquirers and processors will change substantially. Naturally, since everyone on the panel knew more about this than I did and had already thought of it, they had some great perspectives. I was particularly interested by their views on future value-added services which, it seemed to me, had a lot to do with data. Hence I was left with the impressions that



- Some of the big plays coming in this space are no longer about devices or charging bundles or apps but about big data, analytics and machine learning, and
  - We need to begin to reframe the acquirer as a merchant service provider (MSP).
- All things considered it was a terrific event.

**“It was a brilliant event and we were glad we could be a part of it. I get to see a lot of Financial Conferences around the world and this was up there with the best”**

Doug Mackenzie, Project Director - Payments , Fintech Finance

**“Good quality of speakers, good quality information for the visitor, good quality of visitors... what can I say? Congratulations.”**

Diego Marcos, CEO, PAYTPV

**“Was a really great event! Highly appreciate - met really interesting leads.”**

Max Laemmle, CEO, Fraugster



# Falk Schubert

## Head Of Sales Europe

### ACI Worldwide

(chair Day 1,  
stream Payments Ecosystem A)

#### **Session: The New Payment Ecosystem**

Ulf Geismar and Javier Santamaria Navarrette introduced the audience to Instant Payments and reasons to create an unified Instant Payment Scheme across Europe which the EPC is working on. Some of the dangers seem to lie in the possibility that the payments industry is not going to see the emergence of only one European wide IP scheme but multiple schemes and thus there is fear about a fragmented landscape with varying standards which might reduce the attractiveness of this major infrastructure change to the way bank transfers are handled and in its way really paving the way into a New Payment Ecosystem.

Victor Dostov's presentation was illustrating a world where payments are a public good and the world of payment is based on what he called an "Uber"-scheme where there is no active participation of the shopper in the payment process anymore. It remains to be seen how such a world can become a reality when regulatory initiatives that we are seeing moving into an entirely different direction.

Arnaud Crouzet then was highlight-

ing the increased importance of standardized integration approaches and presented how an organization such as NEXO establishes such standardizations and how companies involved in such a New Payment Ecosystem can profit from these initiatives.

#### **Session: Wallets & Contactless, Beyond**

This session was giving insights how the payment world is going to change in the near future whether is because of the emergence of the Internet of Things (IoT), the increasingly important role of social media giants in commerce or NFC / Contactless related trends which will require new technology platforms to service the industry. While the presentations gave fascinating insights into approaches how the future might look like the panel discussion made it quite clear that merchants such as IKEA continue to focus in their expectations towards the industry on what one could consider its very basics: security, speed of transaction, convenience at the checkout and cost.

It is quite likely that those innovations required and the further improvement on the basics will need

to go hand in hand and thus create a dynamic ever-changing payments environment for years to come.

**MERCHANTS SUCH AS IKEA CONTINUE TO FOCUS IN THEIR EXPECTATIONS TOWARDS THE INDUSTRY ON WHAT ONE COULD CONSIDER ITS VERY BASICS: SECURITY, SPEED OF TRANSACTION, CONVENIENCE AT THE CHECKOUT AND COST** ”



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# Janusz Diemko

## CEO

### Polskie ePlatnosci

(chair Day 1,  
stream Checkout & Conversion &  
Day 2 stream Payments Ecosystem)



Across all of the presentations panels and themes which included Futureproofing PSP business models. Fintech in payments, Mobile and online conversions strategies and Optimising checkout and conversion strategies, the one thread interweaving all of the topics is the need to understand the customer and his detailed needs and requirements. This leads to solutions to specific problems which they are willing to pay for. This is true for Fintech startups or established players space across the areas presented and discussed in the streams. Highlights of the sessions are summarized below;

**Mobile and online conversion strategies;** app commerce is the key component in mobile payments, not HCE and physical phone payments. Social applications will integrate and drive payments on their platforms more successfully than trying to incorporate social into payment; but regional specifics lead to regionally strong players that cannot always easily migrate to a strong position elsewhere. Omnichannel needs to be considered and built into any solution from the start with ease of use and as far as possible providing automated / virtually invisible payments a key consideration to increase custom-

er satisfaction; e.g. at fuel stations apps and integrated payments have a part to play to increase customer satisfaction especially in the self service / automated stations. Voice commerce though at an early stage already has many proponents and providers and many use cases to speed up orders and checkout increasing sales and satisfaction – no one large global player is seen to be able to dominate in this space.

**Optimising checkout and conversion strategies;** making payments simple and virtually invisible is a way to improve loyalty, sales and

return purchases whilst minimizing cart abandonment. Part of this process is simplifying authentication as much as possible and utilizing mobile operator as a factor in authentication is one new possibility. Digital mobile loyalty must be built into the process for shopping and paying from the start In order to leverage the customer relationship to drive sales. Psychology and an understanding of consumers helps develop the website, and shopping and payment process to maximize sales, minimizing complexity and hassle for the consumer leading to improved loyalty satisfaction and





sales.

Futureproofing business models of **PSPs**; as risk is critical to PSPs with Ecommerce business which in itself is higher risk, it needs to be built into all the processes from boarding, KYC-AML to transaction authorization and merchant settlement. For PSPs to provide an omnichannel experience to their merchants, it's not enough just to tack on POS solutions to Ecommerce; merchants expect a seamless integration of systems, processes and reporting

to provide payments and a unified experience for their customers leveraging knowledge about their behavior.

**FinTech in merchant payments**; investments in all areas of fintech are continuing to increase. It's not a question of whether but how to work with fintech startups. If the pace of change in the industry is faster than that internally for a company, it is in trouble unless it can leverage partnerships; this is the case frequently in larger organisations

in the current payments industry environment. A skunkworks approach to building new products internally parallel and separate from the core organization and rolling out only once the product is ready to be presented is a good option. The decision whether to buy or partner depends upon the criticality of the application, with mission-critical requiring in-house but a collaborative cooperative model will work for new areas and add-on products and processes



## Phil Jones CEO & Founder UK Cyber Secure

(chair Day 2,  
stream Checkout & Conversion &  
Day 3 stream Checkout & Conversion)

### Day 2: Checkout & Conversion

In the morning session FinTech and "frictionless payments" were hot topics i.e. payments which happen easily, securely and without hindrance for the purchaser and fraud for the merchant were discussed. There are several industry and regulatory initiatives coming along soon which may improve or hinder frictionless payments e.g. PSD2, 3D Secure Vn2, Dynamic CVV etc.

Most fraud occurs from card details

which have been stolen and then used to purchase goods fraudulently. Fraud can be tackled by preventing these thefts in the first place, authenticating the payment and/or the identity of the payee, checking that the delivery address matches the billing address, identifying fraudulent transactions through evaluating other data associated with the transaction, knowing your customer, and recognizing that customers' typical behavior, and through the use of Issuer / Merchant collaboration tools.

Merchants need to protect themselves from fraud and accurately determine the fraudulent transactions from the good ones. Research from Ethoca has revealed that over aggressive fraud rules lead some merchants to declining thirteen times more transactions (false positive declines) than necessary.

The session looked at fraud prevention tools which take different approaches to detecting fraudulent transactions. Tools based on Big





Data, Machine Learning, IP address intelligence, device finger printing and Issuer / Merchant collaboration. The tools can deliver real-time decisions at the time of payment.

A common approach across these tools was machine learning to identify the fraudulent transactions. The advantages and disadvantages were discussed. Some of the presenters said that along with the

decision the reasoning for the decision was also available.

### Day 3: Checkout & Conversion B

The first session continued on from the themes discussed on the previous day with a presentation on the PCI SSC's work on producing resources for small merchants to provide simple guidance on why and how to keep payment card data

safe. This is to tackle the problem of card data being stolen in the first place. This was followed by more presentations on fraud prevention tools.

Session 2 was about B2B payments, virtual and corporate cards. Alexandra Fitzpatrick gave a presentation which highlighted the difficulties and issues faced by the corporate travel industry using cards to purchase travel and accommodation on behalf of the corporate traveler and the fraud which occurs as a result of this. This is leading to more use of virtual cards in that industry.

Two Fintech companies presented their infrastructure solutions which enable corporates to efficiently exchange procurement and supply documentation and payments between organisations.

In summary, the Checkout and Conversion track gave a fascinating insight in to the issues and possible solutions for B2C and B2B payments and how the industry can move towards frictionless payments.

**“The event was a great success. I really liked and enjoyed it.”**

Stefan Ehrmeier, Manager Payment Systems , BSH Home Appliances



**“Many thanks for the excellent organization for the MPE conference this previous days in Berlin. There were a lot of interesting presentations, discussions and it is exciting to see how dynamic the payment industry is.”**

Cristina Soviany, CEO, Features Analytics





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# Ashok Misra

## Business Program Manager

### MICROSOFT

(chair Day 3,  
stream Payments Ecosystem)



I moderated a panel on alternative payments at the 10th MPE in Berlin, Germany. Berlin's Tegel and Schönefeld airports had a major disruption due to a labour strike. That notwithstanding we had a really large number of keen participants, so much so that we ran out of time for questions and had to end before all audience questions had been answered.

In the first session on blockchain / bitcoin I had a diverse set of presenters with different viewpoints

on the technology and divergent views on the solutions to the issues that befall us; For instance on the subject of scaling, a subsection of the panel felt that the community must decide if bitcoin is a store of value or a transaction network. However others felt that the scaling issue must be solved if any progress is to be made at all.

We followed with a series of presentations on digital payments. It was soon clear that there was no 'winner takes all' solution in the field. There

is plenty of growth and so there is bound to be opportunity for multiple solutions to be winners. I am sure we are going to see specialized digital solutions for specific verticals.

Net net, the tenth MPE event was a hugely successful. It was a learning experience to moderate the Blockchain and the alternative payment sessions. I look forward to next year's event.

**"It was great to be there – and my complements to you and the perfect line-up – as well as the superior preparations!"**

Martin Christl, Business Development Executive, Bluesource Mobile Solutions

**"I thought the event was very well run and have not seen or heard of any hiccups from my end. Job well done by you and your team - congrats!"**

George Urdea, Co-Founder, Nobly POS





# Gary Munro

## Principal Consultant

### Consult Hyperion

(chair Day 3,  
stream mPOS WISE)

#### Day 3 mPOS Wise – Session 1 Mobile POS

A super group of speakers and panellists produced one of the liveliest panel sessions of this year's conference.

Bjorn Lindberg of iZettle provided an overview of iZettle to show how the company has changed over time to match the changing needs of the small merchant customer base they serve. Bjorn provided one of the main talking points for the panel session when he looked into the near future and the potential of "PIN on Glass", where the cardholder enters their banking PIN into a merchant's mobile device.

Nigel Dean of Spire Payments presented the view from a traditional POS vendor perspective on how mPOS has changed over time, and discussed what it takes to ensure a successful mPOS solution. Now that POS terminals are evolving into Android based platforms, the synergies between traditional POS and mPOS are becoming more apparent, with the "applification" of payments.

All of these solutions need to be cer-

tified as fit for purpose, and Kristof Van Donick of FIS gave an excellent overview of how certification services work, and how these services are also adapting to the changing environments, for example of how do you test a cloud based POS?

Marc-Alexander Christ of SumUp and Nitzan Tal of Verifone joined for the panel discussion, where there was lively debate on the merits of owning the whole, as iZettle and SumUp do verses providing solutions or components of solutions to allow customisation and customer specific solutions as Spire Payments

and Verifone. All agreed that there is a need to provide APIs to allow end users and services to provide simple integration, but whether this is for components or overall solutions there was a clear difference of opinion.

The discussion on "PIN of Glass" (as opposed to PIN on secure touchscreen) focused on the security aspects of this proposal, and the nature of disruptive technologies in POS. Regulation clearly has a role to play here, but it looks like once again this will be added after the



disruption has changed the landscape.

### **Day 3 mPOS Wise – Session 2 Retail Futurology at POS**

This session provide the opportunity to look into the near future of payments, looking at how technology can change the way we pay.

Natasha Toothill from Visa kicked the session off looking at how retailers and brands are using technologies to engage and connect with customers. From coffee machines using facial recognition to dispense coffee when you smile, to the ubiquitous IoT connected fridge which has cameras in it to help you shop. Natasha noted that technology can go too far, and when people know they are being manipulated there is a negative experience.

Mathew Sant of Sagepay then spoke about Bots and the rise of the chatbots. Simple to create, these bots provide a more interactive experience to the consumer and introduce us to the concept of conversational payments.

Ergi Sener of Bonbon Technology explained how technology can be used to track people entering stores, and their paths through the stores. However the data alone is not enough, connecting the data to powerful analytics software aims to provide merchants with predictive analysis and the ability to directly market to their customers.

We further explored these concepts in the panel, looking at how Technology can utilise big data & small data to provide better experiences for the customer and higher conversion rates for the merchant. Smart

mirrors, allowing people to virtually try before they buy. The ready availability of biometric sensors in the mobile, and advances in in-store facial recognition technology can provide experiences such as the Amazon-Go scenario. However is this optimal, is frictionless payments the end game or should there be a call to action, a point of recognition that a transaction is taking place? The technology enables collection of massive amounts of data, but it must be used correctly, take it too far and it creates a “creepy” negative experience, however get it right and we get to the “cool”. The technology exists to change the way merchants and consumers interact, but its use needs to be centred on the consumer experience and benefit both merchant and consumer to succeed.

# Diderik Schonheyder

## Managing Director

# Schonheyder & Associates

(chair Day 3,  
stream mPOS WISE)



### **Day 3 – Checkout & Conversions A – Session 1, X-border e-commerce payments**

The first presentation of this session was given by a person from MasterCard. She explained to the audience the global issues and initiatives that

they were undertaking to support their acquirers and their merchants. The next two presenters – the first from Iyzico and the second from PagBrasil covered in detail their actual experience in setting up and running cross border services in Turkey, Iran and Brazil.

Although their presentations were very different, the underlying messages were very similar and can be summarised as follows:

- The most important, difficult and time consuming task was

to set up a robust and timely settlement process

- Next was the reality that the service must handle all the payment options available in the market and many of these are likely to be local. In fact from a volume and value point of view they are far greater than the business handled on cards with one of the international brands
- The final underlying theme from the presenters was that one must understand the local/national markets in a very comprehensive and detailed way. Without that knowhow many problems can occur resulting in high cost

The presenters agreed that moving into x-border e-commerce payments also has several benefits. The most important was to provide services to new or current merchant customers. These merchants did not have their principle place of business in these markets, but had identified some opportunities in which they needed acquiring services support.

#### **Common Program – Closing Sessions**

To help wrap up the conference the moderator was assisted by five other panel guests from five different verticals within the acquiring value chain; Wirecard, Neste, RatePAY, Verifone and AEVI.

The panelists concluded that the key messages articulated/presented by many of the speakers, and especially those in the common sessions, were that the industry is changing rapidly due to the following key factors:

- To be successful in this new environment of Internet of Things (IoT) and open API one has to make its customer the focus
- New technology is allowing entrance into the “Merchant Payments Ecosystem” of new (many fintech) competitors. Having said that, no one was quite sure which technology based service would be the Uber of the payments industry, but they all thought it was likely that we would see one in the next few years – recognising of course that getting and driving a taxi is less complex than handling customers money
- Within some markets, like the EU region, regulations and legislations are requiring significant investments which leave little time for other activities such as innovation. The most frequently mentioned regulations and legislations were MIF, PSD2, E-Money directive, GDPR and instant payment. There was a sense of – let’s get on with it – although only a few speakers could see much positive business benefits to come

from this. There were also some who were concerned about the unintended consequences and how that could impact the implementation of these new initiatives. A sub part of this, and again especially within the EU region, is the promotion of standards for new areas. This is seen as positive although the challenge quite often becomes the implementation. So unless that is very similar the ecosystem around Europe may still not be very interoperable

In conclusion there was an agreement that the conference had demonstrated that we are moving from an ecosystem with relatively defined roles and challenges like e-com, mobile and the four party model to an environment of Internet of Things (IoT), Open API, and frictionless consumer experience. To achieve this the conference agreed that the industry was likely to see many new partnerships both vertically and horizontally. Up to now the major change to the payment industry has been due to technology, but industry also needs to change its business model so that in this new environment costs and revenue have a reasonable distribution.

With that the moderator closed the conference thanking all the speakers, panelists, sponsors, exhibitors, delegates, and not least the staff of the Empiria Group.

“Thank you and the whole Empiria team for - once again - awesome MPE event. Really enjoyed being there and it was good to hear positive feedback from the audience afterwards.”

Kai Lindstrom, Head of Payments and Payment Systems, Neste



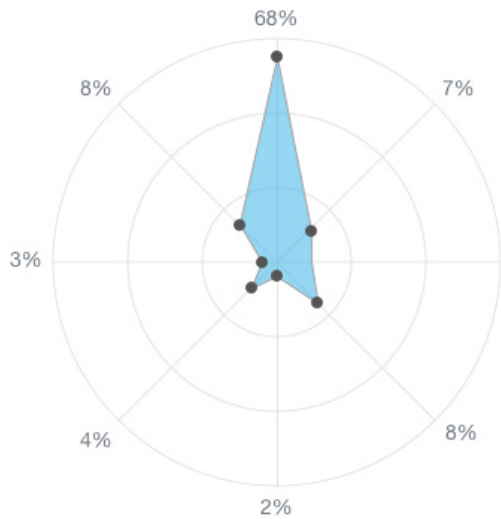
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# MPE 2017 breakdowns

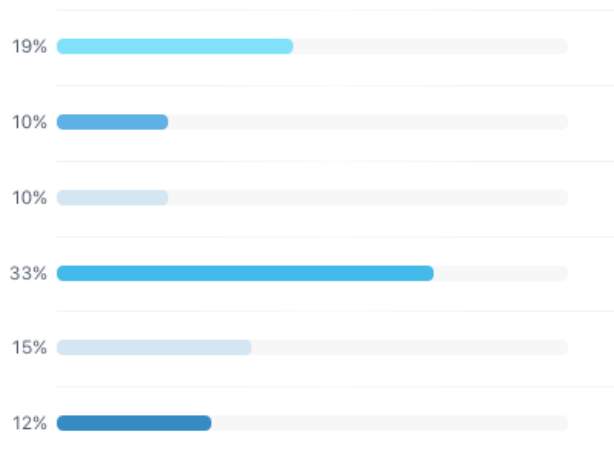
## Geographical breakdown



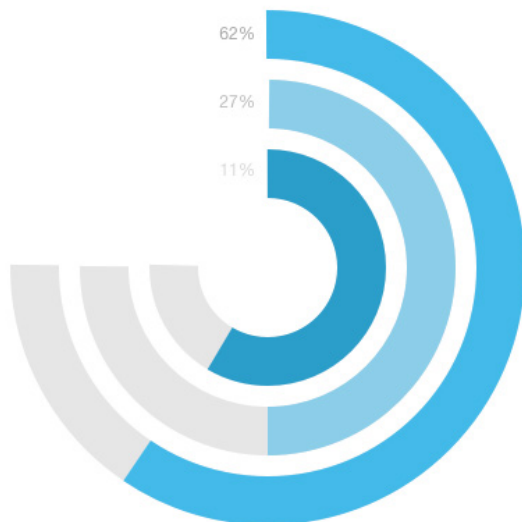
- 68% - Western Europe
- 8% - Southern Europe
- 8% - Northern Europe
- 7% - CEE
- 4% - Americas
- 3% - MENA
- 2% - Asia & Australia

- 19% - acquirer
- 10% - merchant
- 10% - regulator/scheme/MNO
- 33% - payment/solution provider
- 15% - PSP
- 12% - industry expert

## Industry breakdown



## Seniority breakdown



- 62% - Heads, Directors, Senior Managers, Advisors
- 27% - EVPS, SVP, VP, President, CEOs, C-level Execs
- 11% - MDs, Board Members, Country Leads

# Top rated speakers



**Christian Bucheli**

Head of Strategic Ventures,  
Executive Director  
**SIX Payment Services**



**Ron Kalifa**  
Vice Chairman  
**WorldPay**



**James Booth**

Head of New Business Development Europe/  
International  
**PPRO Group**



**Neeraj Gupta**  
Leader, Product Management  
**Vantiv**



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In addition to our own proven expertise, we are also able to leverage our extensive global network of industry subject matter experts.

The combination of our excellent payments industry knowledge and EY's expertise and global reach enables us to holistically advise our clients in every situation. As an example, the cooperation allows us to provide comprehensive judgement from a commercial, as well as financial, perspective when conducting due diligences. Moreover, we can expand our services to include leading-edge methods, such as data-analytics.

### Connect with us:



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The Merchant Payment Ecosystem Awards (MPE Awards) are the successor to the prestigious ECAF Awards. Its history began in 2010 as the first awards to recognize the outstanding role of card acquirers, processors, PSP's and respective solution providers and to honor companies and individuals who help moving the industry forward.



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This Award will go to the outstanding Acquirer who has developed an excellent acquiring service for merchants throughout Europe.





## WINNER IN CATEGORY MOBILE PAYMENTS AWARD

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# Barclaycard

Goes to the acquirer, the processor, the network services provider, the payment services provider, the payment scheme, the MNO or the solution provider, who has the best performing security system, as expressed by merchant satisfaction, fraud rates or security breaches.





# Worldline

Goes to the payment solution provider who offers the best shopping experience for consumers via using smartphones, tablets or PDAs as a POS.



# Payvision

This Award will go to the PSP or Merchant Acquirer who provides the best overall service to its customer base.





## WINNER IN CATEGORY CHANNEL AWARD

# AEVI

Goes to the acquirer, the processor, the network services provider, the payment services provider, the payment scheme, the MNO or the solution provider, who was able to offer innovative or the most complete offering regarding card, mobile or online acceptance in different channels.





## WINNER IN CATEGORY ONLINE PAYMENT METHOD AWARD

# Payza

Goes to the payment solution provider offering the best mix of security, compliance, simplicity of integration and best overall user experience for both merchants and end-users.





# WINNER IN CATEGORY PAYMENTS STARTUP INNOVATION AWARD

## Wallee

This Award will go to the winner of the Innovation Corner competition for the most innovative start-up company in Merchant Payments Ecosystem.





## Miriam Wohlfarth, CEO & Founder, RatePay

Goes to an individual who made an exceptional contribution to the development of the card acquiring or payment acceptance business in its widest interpretation, covering merchant business, as well as processing of accepted card, online or mobile payments transactions, security, networked services, etc.







## Swift and secure cashless payment solutions

Whether at the point of sale, in E- or M-commerce, the reliable and customized cashless payment solutions of SIX Payment Services open up new sales potential. With our flexible payment systems, we make sure that your online business is secured on the highest standard and offer the appropriate payment methods and card acceptance for your online shop. Focus on your core business and trust a reliable partner.

[www.six-payment-services.com](http://www.six-payment-services.com)



Payment Services



# D8 Corporation

**We provide reliable financial technology solutions  
to help your business succeed!**



**Are you looking for more effective payments cards acquiring process?**

**We can refer to solid deployment reference base!**

Advanced technologies provided by payment schemas, e.g. VISA MDEX, allow medium to large scale retailers to build direct integrations with networks of payment schemas and that way lower processing costs per transaction. We have completed successful projects for in EMEA.

**Are you building own digital wallet and require HCE enabled?**

**We are innovative technology partner!**

Digital Wallet platform we provide supports HCE and would fully integrate your existing services offering and existing technology components within single unified solution.

**Are you a thinking to expand into e-commerce space?**

**We do have an experience!**

Merchant Gateway technology for e-commerce developed by us is a full scale solution for PSP. Based on the modern technology stack and includes latest security elements, e.g., tokenisation of cardholder cards, etc.

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# 2017 CHINA (GUANGZHOU) INT'L

## COMMERCIAL INTELLIGENT MANAGEMENT, PAYMENT SYSTEM & INTELLIGENT EQUIPMENT EXHIBITION

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# How Merchants can use Machine Learning for Real-time Payment Fraud Prevention/ Detection?

## features ■ analytics

### Introduction

Data is growing exponentially. In fact, 90 percent of the data in the world has been created in the last 2 years. We talk about 'Big Data', means data that is too large or complex to be processed using traditional database techniques. Today, the challenge and opportunity of Big Data is to cope with the sheer quantity of data available, to analyze it and to make sense out of it to generate useful insights. Machine Learning can be used as an effective fraud prevention technique but many merchants did not put it in place yet. They believe it is difficult to implement, expensive, not practical and too demanding to maintain. In contrast, many financial institutions already make use of machine learning, at least for some of the potential applications. They have been doing this for some years already. Starting

with the neural network based solutions and gradually moving now into machine learning/artificial intelligence.

So, while machine learning has been historically associated with financial institutions, the landscape is now changing and new solutions are emerging within the machine learning field to help all types of financial and business organizations, including merchants: to make use of this technology for marketing purposes, to improve sales conversion or fraud detection.

Today, machine learning can be an effective solution for real-time fraud prevention when it is necessary to assess the risk of a transaction to be legitimate or fraudulent exactly when the transaction happens and to provide then a fraud score or probability

in a time of tens of milliseconds. This is how an organization can do even better than just detecting fraud. It can prevent fraud and minimize as much as possible losses, while preventing reduction in sales conversion.

Recently the need for advanced solutions using machine learning has become more acute because of the increase of online fraud. Machine learning co-exist well with many current fraud tools and services. These tools, many of them rules based, will provide to the machine learning additional signals. So, using all the tools available, legacy ones and machine learning, will improve the overall performance, so not only the fraud detection rate but even more importantly, will considerably increase the sales conversion rates so important for the merchants.

## Machine Learning versus existing fraud detection solutions

It is important to understand the similarities and differences between machine learning and previous rule based/fraud scoring solutions. The two techniques are actually different. Machine learning solutions are able to detect hidden patterns in the data with less human intervention, and if developed in the right way they can also evolve with the data. This is a major advantage compared to static rule based/fraud scoring techniques.

Both fraud scoring/rule-based and machine learning provide a score to represent the risk on a transaction. The score is what the organization uses to determine the potential outcome of a transaction or order.

The rule-based score is created from the usage of rules or from the underlying score card model. In case of machine learning, the predictive model is built using sophisticated algorithms applied on the organization historical data.

In fact, machine learning is able to detect hidden patterns by learning from examples provided in the organization's past historical data and train predictive models that can deliver good results on future, unseen transactions. This means that organizations (and in particular merchants) must have or be able to provide historical data to build custom predictive models.

On other hand, the rule-based model used for fraud scoring is based on aggregated transactions from many organizations the vendor already works with or it relies on sets of rules based on general observations, so there is no need for an organization to provide historical data to make use of fraud scoring/rule-based. It is much easier, thus but the disadvantage is that the rules need to be reviewed very often (sometimes on a daily basis) and that they produce a lot of

false positives.

So while an organization can get up and be running with fraud screening/rule-based solution faster than with machine learning, machine learning solution will be much more effective for detecting hidden patterns and thus for preventing fraud, minimize the insult rate. Using machine learning will generate a truly superior business performance for merchants.

### The key components for an effective Machine Learning fraud prevention/detection solution

For a merchant, a prerequisite for building a machine learning fraud detection solution is thus to have historical payment transaction data available. Ideal situation is to accumulate 12-18 months of historical data, but model building can start as well with 2-3 months of data.

It is important to have good and reliable outcome information on transactions, proper recording of which transactions were converted into real sales and payments, and which have ended up in fraud. This precise historical data with tags (also called labels) will be very important as it will be used to design the custom predictive models.

Machine learning fraud detection and prevention solution will comprise several components and sets of functionalities that need to be implemented. Three key capabilities will be required: modeling expertise, a modeling software and a platform to run the models in production.

1. First, the merchant has to have access to a team of experienced data scientists who are able to design predictive models. These are scientists who are fluent in working with complex data, skilled in utilizing advance modeling tools and algorithms to build models from the data. Some larger size merchants could find this expertise from

individuals with hands-on experience in building machine learning models, Masters or Ph.D.'s in statistics, computer sciences or other related fields. However the overhead to acquire this level of expertise can be expensive. So, for many organizations the choice will be to "lease" experts versus trying to hire them deciding, thus to work with specialized machine learning service vendors.

2. Equally important, a critical ingredient for the use of machine learning is the technology and how it enables to reach desired business KPI's. We mean here the modeling software and technology stack, the means and tools by which the "expert" designs the predictive models and how these models can be executed on the organization production systems. The software must work within the organization's infrastructure and technology stack and provide functionality to aggregate, manufacture, produce and implement the designed predictive models in an effective fashion. But the most important is the performance of the predictive models. The tools that are used must be capable of designing models that will deliver high performance so that business KPI's are properly addressed.

The most important KPI's in fraud detection are:

- How large is the alert queue (orders/transactions that are put on hold or stopped online and that need to be investigated) that is generated to achieve a certain fraud detection rate? How much of the daily transaction volume can the business review? Is this 5% of the total number of daily orders or is it less? This will influence the amount of blocked or put on hold orders. If actually legitimate, these blocked

orders are in fact potential sales but they could be lost because they are stopped on line by the current solution, or they are just put on hold. The less is the size of the alert queues produced to achieve a certain fraud detection rate, the better it is for the business.

- How many fraud analysts are required to review the alerts produced? The fraud departments tend to grow almost at the same speed as the number of alerts and this actually represents a rapidly rising cost for an organization. What is the business expected fraud detection rate in counts (fraudulent transactions detected) and/or amounts? How does it compare to the current one? Does the business target to detect 80% of the fraudulent amount within 1% alert queue? Or 90% of the fraudulent amount within 5% alert queue?

In conclusion the modeling software and technology stack performance need to be at the right level to deliver significant business and financial benefits.

Usually, the development team will take the specification of the designed models and write the necessary code so that the models can be integrated and used in the organization's production environment. Several questions need to be addresses here. Especially, how long is this whole process of code writing? This is critical. By the time the model is developed, then coded and ready to run in production, many weeks or most often months could have passed. Then, the model may not be up to date any more as new patterns in the data could have developed in the meantime. We are living in a world of rapidly evolving Consumer behavior, dynamic evolution of the business and most importantly fraudsters are changing their patterns, too! So, how this can be overcome? What to

do if while running in production, the model detection performance degrades in time? How quickly can a model be refreshed? How long does it take till the new updated models can be put again in production? Are machine learning fast time to market solutions available? The answer is yes. Today, there are new technology solutions that can address these issues in an effective way and can provide an accurate and agile real-time fraud prevention solution for the business.

3. Another component that an organization needs is a platform to run the predictive models and score live payment transactions. The models will be used on the platform to process the orders. (approve/block online or send them to investigation) The platform serves as an environment that embraces the technology and expertise to build and deploy models and analytics. Platforms will typically provide means for accessing other fraud prevention techniques, such as velocity and negative lists as well as to apply rules and to test models before deployment.

### Conclusion

"Effective machine learning solutions can revolutionize merchant fraud detection capabilities and enhance business results, by leveraging modern technology and organization's data. But all the components described above: right modeling expertise, advanced modeling software and technology stack, and adequate platform to put rapidly models in production, they are all required for a solution to be effective, to enhance the customer experience and deliver a clear ROI on the investments made by the merchant."

**Cristina Soviany, PhD**

*CEO of Features Analytics - a Belgian technology firm specialized in delivering custom and fast to market machine*

*learning based solutions for risk and fraud management based on Features Analytics' proprietary eyeDES®-Streamlined Machine Learning technology.*



# Payment data: the key that unlocks real omnichannel retail success



## Gijs op de Weegh COO Payvision

In the omnichannel era, retailers have an ever increasing amount of payment data streaming back to them from various sources – in-store, online, mobile and social. This massive volume of information is one of the modern merchant's most valuable assets when it comes to better understanding their consumer, improving their payment authorization rates and locking out fraud. And yet, properly leveraging payment data requires expertise, resources and a lot of time. That's why, of the mountains of data produced, less than 0.5% is ever analysed and used by retailers.

This is an area in which a retailer's payment service provider (PSP) can offer crucial assistance. The truly forward thinking PSPs are now putting data at the heart of their solutions, crunching the data behind every payment and reporting back to clients with never-before-possible insights that eliminate

risk, enhance the customer experience and maximize revenue.

### **Online data supporting offline expansion**

The typical modern retailer sells through a number of channels, online and offline. While ecommerce consumer behaviour is relatively easy to follow, the in-store shopper is much harder to track scientifically. With 92% of all transactions still taking place offline, this represents a knowledge gap for the omnichannel merchant.

At Payvision and Acapture, we centralize data from all transactions processed through our solution, whether they be point-of-sale, desktop or mobile. Consumers can be followed from touch point to touch point, creating a more complete view of the buyer and supporting the development of a tailored

product and service.

### **Higher authorization rates**

While you might think a payment will be authorized so long as the buyer has enough funds in their account to cover the purchase, other factors can get in the way to disrupt the process. In particular, transactions are often rejected when one of the banks involved demands stringent security standards that are not being met. For example, they might block payments coming from banks registered in certain countries or use particularly tight security checks. So, even though the consumer is totally honest, the payment never reaches the retailer.

Using data science, we can increase the chances of every legitimate transaction being authorized. Based on past transactions, we predict which banks

are most likely to accept which transactions, and route our clients' payments accordingly. The results are better authorization rates and higher revenues.

### Supporting good business while locking out fraud

When it comes to fraud, PSPs perform a delicate balancing act. Their platform must be secure enough to keep the fraudsters at bay while being flexible enough to accept as many legitimate transactions as possible. In the past, PSPs have been overly cautious. For example, they have blocked the IP address of entire countries where fraud is prominent, cutting out millions of potential genuine customers in order to stay protected.

At Payvision and Acapture, we have developed a data driven fraud solution that makes this balance far easier to strike. This system uses intensive data

mining to reduce the chances of 'false positives' – instances where a perfectly good payment bears some resemblance to a fraudulent one and is rejected. By using specific historical transaction data rather than making broad, sweeping rules, we can massively improve authorization rates without putting our clients at undue risk.

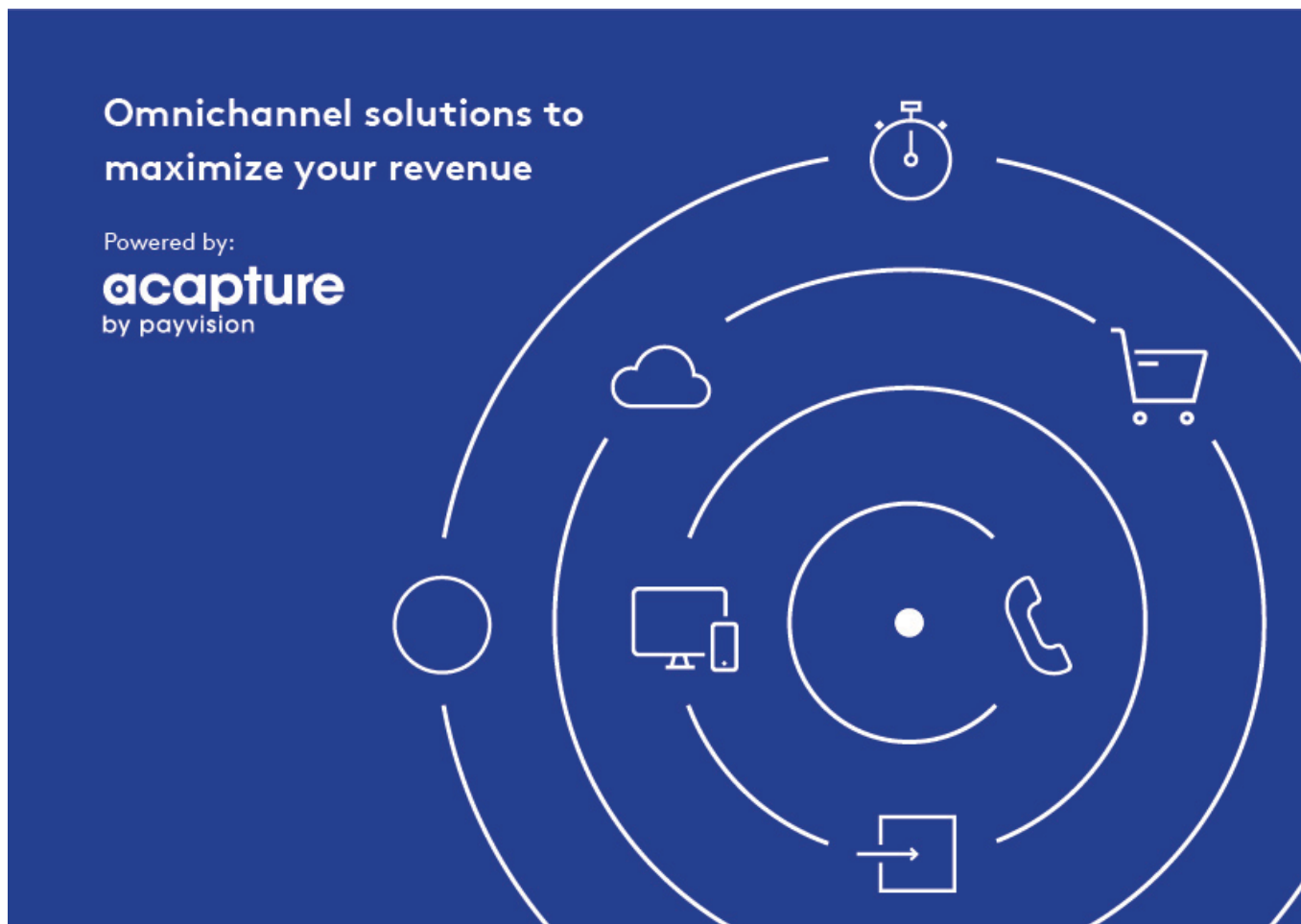
### A new level of consumer insight – without turning the consumer off

Given that consumer data is so important to every ambitious company, it's understandable that retailers are desperate to find out more and more about their buyers. And yet, elongating the sales process in order to collect as much information as possible is liable to see the buyer abandon the purchase in frustration.

Again, a balance needs to be struck and that balance will depend mainly on the

type of product being sold. For example, an Uber customer expects no more than a single, quick step to purchase their taxi journey. An airline customer, on the other hand, is comfortable filling out five or six webpages to book their holiday. At Payvision and Acapture, we specialise in tailoring the checkout process to the merchant's specific industry. This way, we ensure you accrue as much potentially valuable data as possible without exasperating your target audience.

As you can see, the scientific use of data is changing the way retailers operate. Yet there are pitfalls that need to be avoided in order to successfully implement such a strategy. Here at Payvision and Acapture, our team of experts specialize in maximizing our client's revenue through the intelligent use of data. This is how we help our merchants stay ahead of the competition in the rapidly shifting omnichannel retail world.



# BonAir: Making Sense of Big Data with a unique IoT based advanced ana- lytics solution



**Ergi Sener**  
CEO  
**Bonbon Technology**

In recent years, the increasing importance of “big data” has also led to “big” expectations. Particularly with the introduction of the concept of Internet of Things (IoT), each object is linked to the internet and with the continuous increase in mobile and digital applications and services, data has been gathered at a surprising rate from various sources. When used and evaluated correctly, data has become a crucial competitive weapon, so in the technology world, data is frequently expressed as “new gold” or “new oil”. So far, the most referred reference to “big data” and objectively one of the best definitions has been made by Duke University Professor Dan Ariely: “Big data is like teenage

sex. Everyone talks about it, nobody really knows how to do it, everyone thinks everyone else is doing it, so everyone claims they are doing it...”

Indeed, while each and every company continues to aggregate customer data, few of them can use such data to improve customer relationships and create customer satisfaction. The truth is that data does not represent a value by itself; “value” is formed as a result of processing data to solve a unique problem or fulfill a need.

#### **Big Data “needs to be systematically developed**

Big data has not been used enough

to differentiate businesses and offer new and innovative value propositions till now. Rapid analysis and interpretation of data has become more and more important every day to create value and gain valuable information. In order to obtain meaningful and useful insight from “big data”, businesses need to develop systematic processes based on their business processes. Although the methods and channels can be differentiated, it is quite critical to follow these three steps for “big data” processing:

- to determine the channels through which the data will be collected and stored





inter-channel customer experience, hence gain a competitive advantage. **With Bonair, we make sense of Big Data**

Bonbon Technology is a new generation technology company by design and a next generation IoT company at heart with the aim of using data in the most efficient way that will give rise to increase in profits. With BonAir, the flagship solution of Bonbon Technology, we try to solidify all big data trends to uncover the potential of big data and lead to provide competitive advantages for our clients.

### **BonAir - New Generation Retail Analytics:**

We aim to bring extra value to businesses with BonAir. We believe that we make sense of big data by analyzing the data collected from customer visits, customer behaviors and customer profiles.

BonAir is a disruptive technology innovation that understands and analyzes in-store customer behavior (wait time, service time, visit frequencies etc.) without being connected to any wi-fi, or open Bluetooth or without having a smart phone application. With its unique technology, BonAir aims to perform real-time behavior-based analysis. Based on their needs, customers can be directed at the right time to the right location with an 'optional' app integration as well.

**Data Collection:** Data is collected from wi-fi mode-on mobile devices at the locations, where Bonbon sensors have been deployed. It is sufficient that wi-fi mode is ON in the user's device. Customer data is collected without being connected to any wi-fi.

**Data Processing:** Various behavioral data is extracted and classified in detail with special Bonbon analysis and algorithms. With its special algorithms, it is easy to pinpoint locations of customers.

**Data Reporting:** Customized reporting with best-in-class dashboard is

provided to each customer. Different analysis can be prepared based on customer and employee needs. We analyze behavior and process realistic business data via heat maps.

It is also possible to interact with customers bundling location based campaigns via push notifications.

### **BonAir Product Features:**

- **Device Agnostic Passive Data Tracking:** All data coming from customers' Wi-Fi enabled devices (independent of their brands and models) are analyzed in detail by means of Bon-Air sensors deployed at the partner locations.
- **Application Agnostic:** No mobile application is needed for reporting the location and moving pattern of the customers.
- **Real-time Analysis and User Friendly Dash Board:** A dashboard is provided that is designed with best-in-class user experience, where customer movements are viewed in real time, campaign effects or specific time intervals are tracked, real-time heat maps are formed and monitored.
- **Heat Map:** The intensities of in-store visits are analyzed based on the factors like campaigns, special event days, display windows.
- **Dynamic Data Query:** Authorized users can easily change data queries and data classification in order to carry out diverse and detailed analysis.
- **Remote Sensor Management:** Remote management of installed sensors and notification about the sensor status
- **Employee Tracking:** Employee badges are digitalized and employees are tracked based on their working hours with an integration of customers' HR systems
- **Segmentation:** detailed and need-based customer segmen-

tation is provided based on data such as customer behavior, the brands and models of the devices, visiting and expending frequencies etc

- **Real-time Direct Marketing:** By integrating with the mobile applications, profile based messages are sent to customers at the right time, at the right place.
- **Branch Efficiency Comparison & insight for branch openings / closings:** Detailed comparisons based on branch efficiency can be provided with different parameters and analysis can also be used to determine new locations for opening up new stores or closing inefficient branches.
- **Free wi-fi:** With BonAir devices, free wi-fi support can also be offered to the customers.

We see that more data is generated each year, and companies in almost all sectors struggle to ensure the reliability and quality of this data. The right use of data allows organizations to address their business challenges more effectively, while also providing invaluable guidance for managing and interacting with their customers. So, we as Bonbon Technology aim to support our partners to use their data in the most efficient way.

# Global Map of mPOS Providers

The most comprehensive industry overview of mPOS providers. The interactive map monitors the increasing complexity of mPOS ecosystem listing players coming in from different sectors around the Globe.

[www.merchantpaymentsecosystem.com](http://www.merchantpaymentsecosystem.com)

2010

Jan

 Square

## Square

**Provider to merchants:** ✓  
(Core Service & Wallet)

**Vendor to providers:** ✗

**Accepted Card Brands:** VISA,  
MC, AMEX, DISCOVER

**Countries Serving:**  
United States, Canada, Australia,  
Japan

**Product Names:** Square Register

**Connection Type:** Audio jack card reader

**Features:** Free secure card reader available after sign up, secure encryption, easy setup, free Square Register app, no setup fees or long-term contracts, funds from swiped payments are deposited directly into bank account within 1-2 business days, includes checkout customization, management tools, data analytics

**Verification Method:** Signature

**Compatibility:** IOS, Android

**Website:** [www.squareup.com](http://www.squareup.com)

2010

Mar

 LightSpeed

## Lightspeed

**Provider to merchants:** ✓  
(Core & Front Office & Back Office  
& Open API)

**Vendor to providers:** ✗

**Accepted Card Brands:** VISA,  
AMEX, DISCOVER, MC, JCB

**Countries Serving:**  
United States, Australia

**Product Name:** LightSpeed Mobile

**Connection Type:** Mobile payments sled, serial port & audio jack card readers

**Features:** Create new invoices, perform inventory lookups, add or create a customer, scan products with line-a-pro hardware, process credit card payments, accept signatures on-screen, email receipts. LightSpeed is the complete retail solution

**Verification Method:** Signature

**Compatibility:** iOS

**Website:** [www.lightspeed.com](http://www.lightspeed.com)

2010

Apr

 ShopKeep POS  
The simplest way to make smarter business

## Shopkeep

**Provider to merchants:** ✓  
(Core Service, Back Office, Front Office)

**Product Name:** Shopkeep