20 YEARS computop
the payment people

flow

Payment innovation drives us

No. 5

Issue
Winter 2017/2018

PSD2 & SCT INST
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BIOMETRICS

Greater security of payment transactions with fingerprint scanners, iris recognition etc.

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WE'VE GOT OUR FINGER ON THE PULSE

by Henning Brandt – Head of Communication

Have you got your finger on the pulse? Most probably: after all, almost every smartphone these days comes equipped with a fingerprint sensor. This convenient access control solution for our companions in daily life is now commonplace.

And what about for payments? Apple and Google also allow their users to make payments with the tap of a finger. But there's more to come. The next generation of smartphones with new user recognition technologies is already in the starting blocks: facial recognition, voice recognition and, with the Samsung S8's infrared camera, even iris recognition.

Consumers themselves are also on board: according to a survey by the Bitkom industry association, 81% of Germans are willing to use their fingerprint to validate payment transactions. 36% would use iris scanners, and a further 22% are positively disposed towards voice recognition. And this latter group is only likely to grow further with the spread of Alexa, Homepod and the like. A similar study for the USA produced slightly lower acceptance ratings for fingerprint scanning at 62%, yet higher acceptance for voice recognition at 38% (all based on figures from 2016).

What does this mean for merchants? There's no need to fear biometric technology! Smartphone manufacturers have already laid the groundwork for breaking down consumer prejudices with respect to the use of these personal characteristics. Not only payment schemes, but also the Payment People here at Computop are now preparing to integrate biometrics into the payment procedures of the future.

You can find out more about this and a host of other topical issues in the latest edition of flow. And don't forget to keep that finger on the pulse!

IN THIS ISSUE

PUBLISHING INFORMATION

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BIOMETRICS: SECURE IDENTIFICATION, AND NOT JUST FOR PAYMENTS

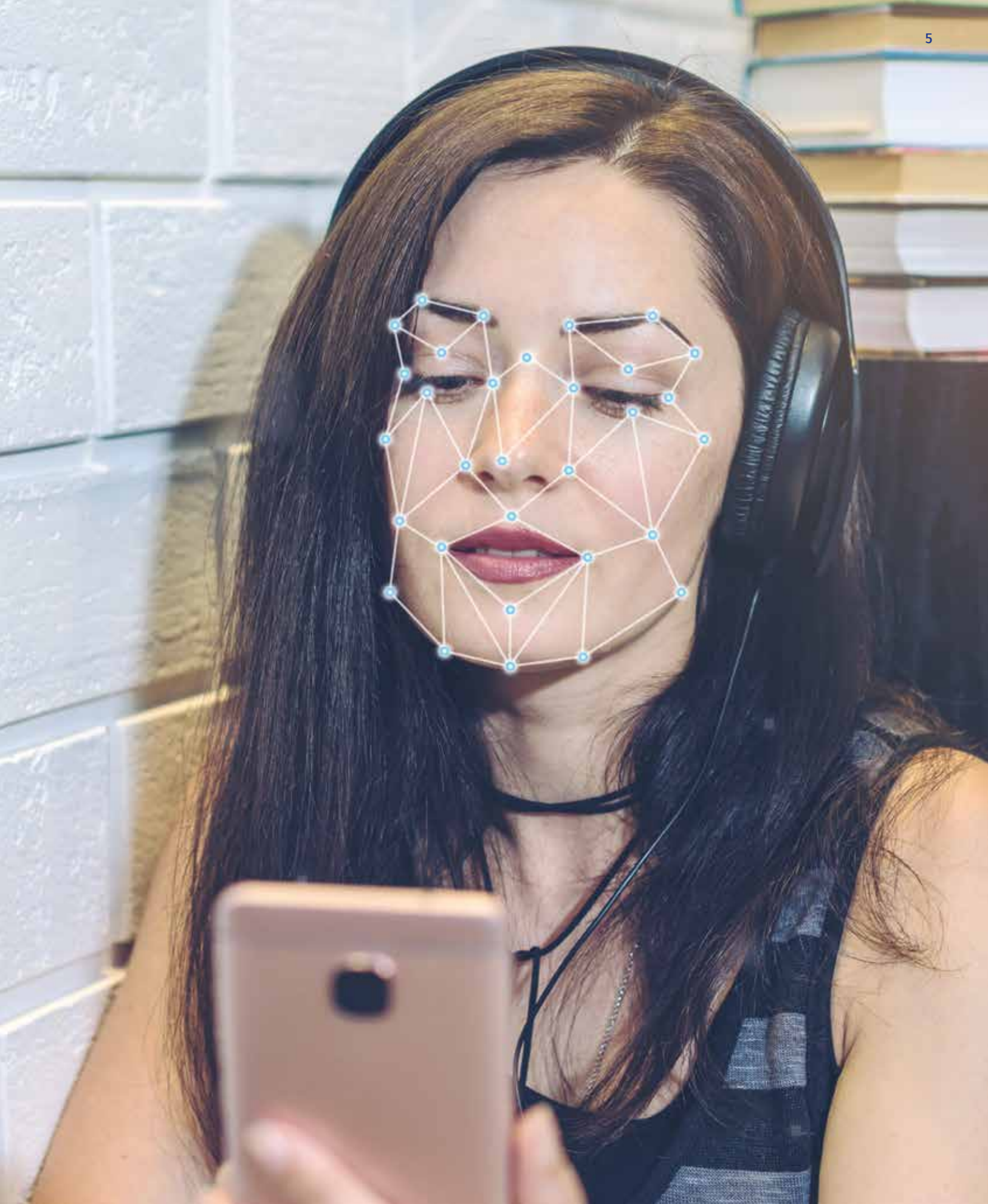
You don't get much more individual than the human fingerprint. Our voice, retina and other facial features are also individual characteristics, which cannot be easily stolen, duplicated or lost. This is not just of benefit to merchants: more and more sectors are discovering the boons of biometric identification, and the Payment People are now integrating it into the Computop Paygate.

As soon as one security vulnerability has been eliminated, fraudsters find a new one: since the dawn of e-commerce, fraudsters and merchants have been engaged in a neck-and-neck race for the security of electronic payments. As the volume of these payments rises, so does the risk of fraudulent activity. Unequivocal identification of buyers and sellers is key to ensuring the security of transactions.

However, the procedures used by merchants and payment service providers to date in order to verify the identify of the person at the other end of the payment transaction are reaching their limits. PINs alone are no longer secure enough. All too often, they are acquired from emails, at cash points or via phishing.

This has not gone unnoticed in the political sphere, either: the second 'Payment Services Directive' (PSD2) not only foresees opening up payment transactions in the EU area to non-banks in order to encourage innovation and competition, it also proposes to increase consumer protection. Underlying the new directive is also the stated intention to reduce the costs of payment processing and improve security, through new providers, new solutions and stronger competition. That is why PSD2 stipulates that, as of January 2018, the payment originator must be authenticated on the basis of two out of three factors: knowledge, possession and inherence.

The 'knowledge' factor consists of something that the user knows, for example a username, password, PIN or TAN. The 'possession' factor refers, on the other hand, to items of property that can be used to make payments, such as a smartphone, hardware token, bank card or key. The third factor covers everything that is



an inextricable physical characteristic of the user: so with today's technology, this could mean their voice, fingerprint or iris.

With the spread of smartphones, this third factor has taken on an increasingly important role. Fingerprint recognition has been available on devices made by leading manufacturers for some years now, but it can do a lot more than just replacing a password or PIN and controlling access to the device. Wallets such as Samsung Pay and Apple Pay are already integrating fingerprint recognition into payment transactions, and Computop offers biometric authorisation via Computop Paygate.

Retail stands to benefit a great deal from this, especially with a view to the upcoming 'instant payments', or payments essentially made in real time by a third-party provider at the request of the account holder. These instant payments are also subject to the aforementioned dual-factor authorisation under the new Directive upwards of a transaction value of 30 euros.

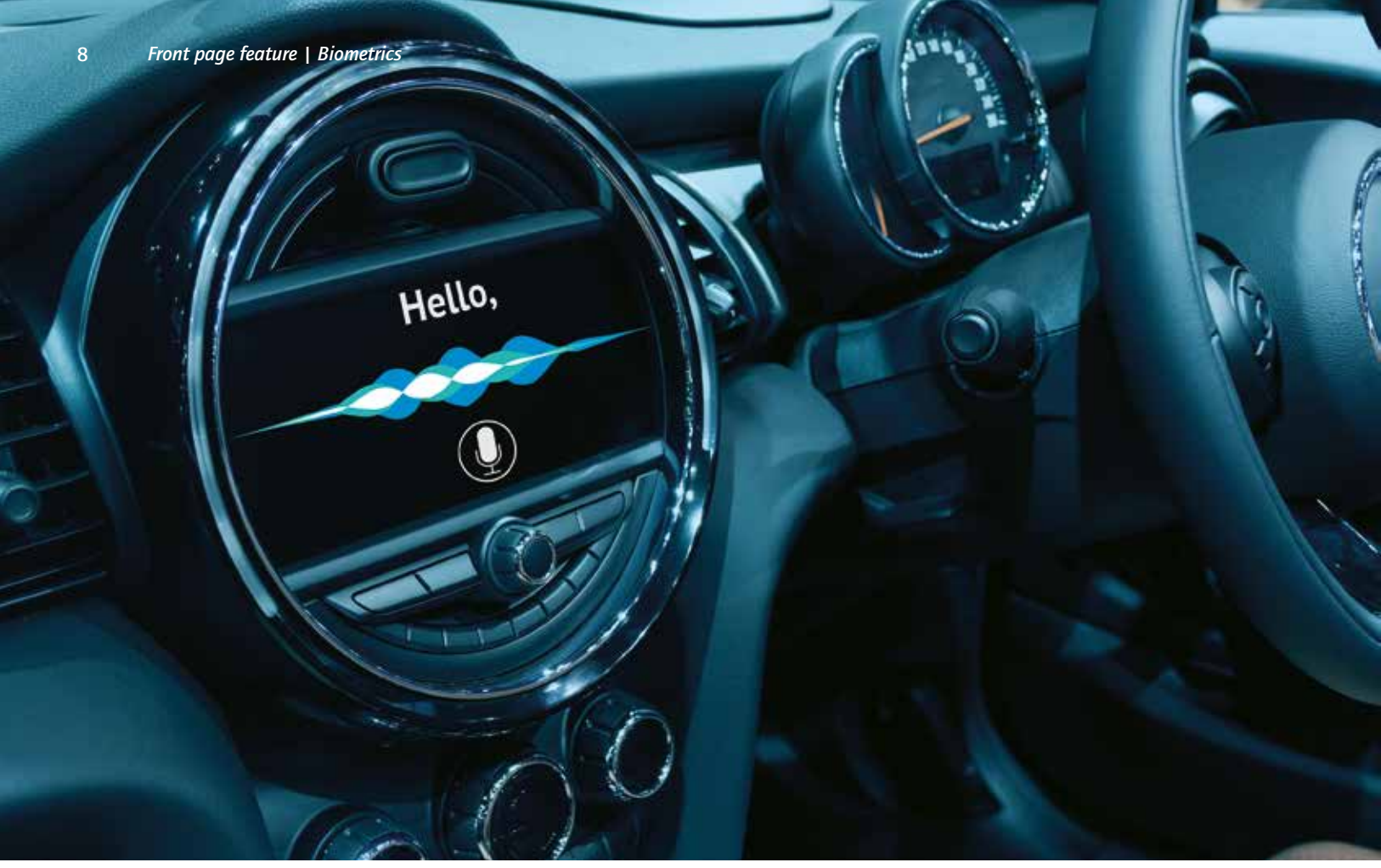
Secure and unequivocal identification for payment transactions is the subject of some exciting developments in the retail sector, such as in the field of voice commerce with Alexa and similar technologies. If the system is able to detect whether the person speaking is an authorised user, it would no longer be possible for unwanted online shop orders to be made by guests or – and this has actually been known to happen – people talking on the television in the background. Shopping in virtual worlds with the use of voice recognition for security purposes will soon be taken for granted, too. Facial recognition could become an integral part of automated payment transactions, for example in bricks-and-mortar retail establishments. Pilots have already been carried out: for example the 'MasterCard Identity Check', also known as 'Pay by Selfie', where a payment can also be authorised by the buyer taking a photo of themselves with their smartphone. This photo is then compared with a comparison image. If the two photos correspond, the payment can go ahead. In the not too distant future, this technology could even go so far that an intermediary app is no longer needed.

However, not many merchants will want or be able to establish their own structures for storing biometric characteristics securely and, most importantly, whilst respecting data protection rules. Ideally, this requires interplay between hardware manufacturers and payment service providers. Providers of hardware such as smartphones, tablets or VR glasses will save a highly encrypted copy of the user's fingerprint or voice pattern on the end device. However, Computop will not receive the original profiles, just character sequences encrypted according to a specific pattern, known as hash values. Computop then checks whether the hash

value received matches the originally saved value, without actually being able to recreate the file, i.e. the fingerprint. This enables secure identity checks to be performed without disseminating biometric data – something that is important to many consumers.

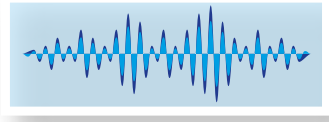
One of the pioneers in the field of biometric identification for end consumers is Samsung SDS. Their technology, NexSign, is certified in line with the FIDO Alliance standard. FIDO stands for 'Fast Identity Online'. The Alliance, which is comprised of numerous and often multinational companies, develops open and license-free standards for secure authentication in the digital sphere, and is aiming to reduce worldwide dependency on passwords, which are often insecure.

The Samsung technology NexSign not only offers users what has now grown to become a standard feature of smartphones, namely identification via finger print, it also offers identification via voice, facial recognition and even iris scanning. The most recent variant records the individual structure of the iris, which gives our eyes their unique colour, and transforms it into the hash values mentioned above. With the help of these values, individuals can be identified via retina scan. This would, for example, facilitate making



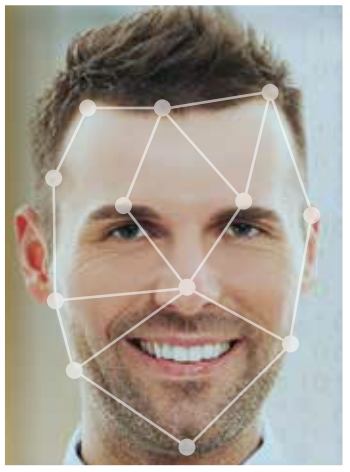
mobile payments with your smartphone, as complicated passwords are no longer needed and the user can be unequivocally identified. In order to perform iris scans, however, the smartphone does require an infrared camera, such as the one on the new Samsung S8.

But the opportunities for using biometric authentication are not limited to verifying payment transactions or use with smartphones. A whole host of applications can be envisaged where secure recognition of a person is required: logging on to a computer with a mouse equipped with a fingerprint scanner, for example. Or restricted access to certain areas of a company that require greater security. Biometric data could also prove useful for the secure identification of recipients picking up parcels from 24-hour parcel pick-up points.



And our homes are becoming increasingly smart too: voice-controlled smart home solutions are already a reality. Work has now moved on from the development of pure voice control to more in-depth voice authentication: in future, systems will not only be controlled by voice, new smart home solutions will even be able to recognise who exactly is speaking to them. This could allow, for example, the lighting or the room temperature to be automatically set to the relevant inhabitant's preferences. Whilst the use of fingerprints for access control at home is no longer a rarity, technological progress may soon allow doors to be opened by voice command, too. By using a code phrase such as 'open sesame', the owner of the property would quite literally have all doors open to them: lighting, temperature and television programmes would automatically be adjusted to suit their preferences.

For the automotive industry in particular, biometric recognition offers desperately needed security: some manufacturers now operate their own rental car fleets, such as Car2Go from Daimler Mobility Services, which can be rented at short notice via an app and then dropped off at the user's final destination. The



car then stays there until needed by another app user in the area. Users only pay for the amount of time they use the vehicle. At the moment, the cars are usually unlocked using a PIN code sent via text. This is where biometric identification, for example using fingerprints, could offer much greater security.

There are also many other opportunities in connection with vehicles where biometrics could be applied in order to prevent misuse. It might well be possible to reduce the number of car thefts by having fingerprint recognition on the start button of cars, or by having voice recognition integrated into the hands-free system. Voice recognition can be of use to drivers on the road when it comes to payment, too: it's now perfectly possible to order food to arrive at home and pay for it instantly whilst stuck in traffic, to give but one example. And thanks to voice recognition, this can all be done without lifting a finger off the steering wheel. C

IN HISTORICAL BANKING HALLS: PLANET TRADE 2017 IN BERLIN

A symbiosis between the future of payment and the old world of finance was in evidence at this year's Planet Trade, the annual payment conference powered by Computop that took place on 9 and 10 May at the Humboldt Carré conference centre in Berlin. The Humboldt Carré was constructed in 1901 for the Disconto Bank, and is located between Gendarmenmarkt and Unter den Linden.

How will payment change in the future? What are the latest trends and developments? What does omnichannel mean for retail? All of these questions were the subject of heated debates and discussions over the course of 3 podium debates and 12 presentations.

The 170 participants spent two days finding out about future developments in the payment sector, and had an opportunity to exchange views during a sightseeing tour through the centre of Berlin on the Spree river and an evening meal overlooking the city rooftops. The evening was usually rounded off by everyone posing in our photo booth.

Many thanks to Discover, Intercard, Daimler Mobility Services, Sixt, Samsung SDS, Facebook, ibi Research, Papagena Projects/adsigo, eshop World and dotSource for their excellent and interesting presentations.

A big thank you also goes out to Discover, our main sponsor, as well as to the other 13 sponsors.

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20 YEARS computop the payment people

CASH, E-COMMERCE AND OMNICHANNEL: 20 YEARS OF PAYMENT AT A GLANCE

Money has a long history. Invented around 2700 years ago in modern-day Turkey, it was intended to facilitate trade with merchants from foreign countries: goods in return for cash. This remained the case for a long time: even up to the 1980s, 'cash is king' was the slogan of the hour. It is only in the last 20 years that international payment flows have really started gaining momentum. In 1997, technical innovations and a desire for convenience drove Computop's two founders, Frank Arnoldt and Ralf Gladis, to enter the exciting market of payments. Twenty years later, they take a look at the past, present and future of the sector.

Twenty years of Computop: the company's own history is closely linked to the development of the payment sector. This year, Computop is celebrating its 20th anniversary—a look back at the milestones

1993

When it all began: in a student flat-share in Bamberg, Ralf Gladis and Frank Arnoldt bring CompuTeam into being, a successful editorial office for specialist IT journalism.

1997

From CompuTeam to Computop: Frank Arnoldt and Ralf Gladis found Computop GmbH, and move into their office at number 4 Schwarzenbergstrasse in Bamberg.

1998

Computop sets up a virtual shopping centre offering secure payment at www.netkauf.de. Some of the company's first customers are Kunert, Lexmark, CEWE Color, HypoVereinsbank and Tipp24.

"The main drivers behind any changes in the sector are technological advancement and the human desire for convenience," explains Ralf Gladis when asked about the rapid developments that have happened over the past few decades. The introduction of payment by credit card in the 1950s and the withdrawal of money from ATMs started off as innovations, but soon people wanted even more convenience. Starting with PayPal in 1998, which only required an email address and password for making secure payments online, dozens of alternative payment methods began appearing all over the world.

However, there have always been concerns among merchants and consumers as to the security of these methods. Credit card companies soon started trying to allay these fears with security standards such as SET (Secure Electronic Transaction). But in practice, these very first electronic payment standards were far too complicated for customers, merchants and banks. And this is where Computop founders Frank Arnoldt and Ralf Gladis spotted a gap in the market: they were some of the first people to offer SET-standard-compliant payment handling as a service.

Much has happened since then. "For me, e-wallets like PayPal and online bank transfer systems like iDEAL or SOFORT are without a doubt the greatest innovations in the world of online payment," says Frank Arnoldt. They represent a great achievement in terms of convenience, especially for users. In addition, they offer consumers and sellers a high level of security. "But for bricks-and-mortar retailers, it's the chip-based EMV standard and near field communication (NFC), which allow you to make payments with your smartphone, for example, even without an internet connection."

However, in today's payment sector it's about much more than just technical innovations. The real challenge is enabling payment via all channels, across the globe. "Although there are still cultural and national differences in terms of buyers' payment preferences, we are seeing a trend in over-the-counter retail towards standardised, international solutions," says Ralf Gladis. "E-commerce is a different beast, though: here, local and regional payment methods dominate." After all, when it comes to money, trust is the name of the game. It takes time to build trust, which is why customers tend towards payment methods with which they have already had good experiences.

But this is not the only challenge facing the payment sector. "There are three major issues at the moment: omnichannel, diversity and security," explains the payment expert. Although there is high demand for uniform payment solutions across all channels, only a small number of providers have so far been able to provide satisfactory coverage of all sales channels. When it comes to diversity, the different markets, sectors, payment types and POS terminals – not forgetting the varied ways in which they generate data

2008

2000

The Paygate is born: Computop continues to focus on secure payment processing. In 2006, the primary product 'Paygate' becomes a registered trademark.

2001

Security first: on behalf of MasterCard and VISA, Computop carries out pilot projects that guarantee the security of credit card payments online using 3D Secure and PCI.

2006

Steady expansion: Giropay and PayPal are added to the list of payment methods along with credit card and direct debit. Computop gradually begins offering more and more opportunities for secure payment processing across the world—the total has now reached 200.

– are putting merchants to the test. The Computop Paygate processes this data and presents it in a single, standardised file, the Computop Settlement File (CTSF). Given the pace of progress in diversification, services such as this are growing in importance for web shop operators.

The subject of security is, and will remain, a perennial issue. Fraud prevention is becoming both more important and more difficult due to the advent of omnichannel solutions, which require connectivity and interoperability. This makes encryption such as P2PE (point-to-point encryption) on POS terminals an absolute must. "If there is one thing I'd like to see, it would be for all new terminals to support P2PE encryption in order to protect buyers' credit card data," says Frank Arnoldt. "Biometric authentication also holds great promise: it facilitates and speeds up payments and significantly reduces the risk of fraud."

In future, he foresees further growth in e-wallet solutions such as AliPay, MasterPass, PayPal and WeChat. Once introduced, instant payments that allow money to be transferred between countries in a matter of seconds are set to rapidly gain importance in Europe. However, it's not over for cash payments just yet. Although countries such as Sweden and China are heading towards a cashless society, and the importance of cash is diminishing even in Germany, there's still a long way to go before this vision of the future becomes a reality. "We shouldn't underestimate the fact that most customers take time to change their habits."

Over the next five, 10 or even 20 years, the Computop founder nonetheless predicts far-reaching changes as a result of advancements in digitalisation. "Our cars will soon pay for petrol and parking tickets automatically, and our smartphones will become our primary means of payment." For this to happen, the processes need to be automatic and able to run smoothly in the background. "That's why the payment industry should focus on optimising existing methods rather than constantly inventing new ones that are here today, gone tomorrow."

Banks will have to adjust to new challenges, too. Whereas they currently have the privilege, in most cases, of exclusive access to the accounts and data of their customers, in accordance with the new EU Payment Services Directive (PSD2) they will soon have to grant third parties access to these at the request of the account holder. "This creates room for new innovations and services, but also forces banks to pursue new avenues in order to hold their ground against fintech companies in the long term," predicts Ralf Gladis.

The growing importance of biometric authentication is also evident from the new PSD2. It lays down an obligation to implement dual-factor identification, which

Online trading expertise: the first edition of Planet Trade takes place in Bamberg as an expert conference for e-commerce.

2009

Computop goes global: with offices in New York and, one year later, in London, as well as premises opening in Hong Kong/Shanghai in 2013, the company continues in its pursuit of internationalisation.

2011

From online payment to omnichannel: Computop widens its product range, and starts providing POS terminals.

2015

Expanded portfolio: the new 'mobile SDK' tool for in-app payments is included in the product range.

2016

essentially renders use of biometric data mandatory. "I can see fingerprints and voice or facial recognition replacing usernames and passwords in the near future," emphasises Ralf Gladis. "Biometric systems are quick, secure and reliable: and you can't forget your own fingerprint."

2004

COMPUTOP SECURITY

2006

COMPUTOP
SECURE YOUR SUCCESS

Major anniversary: Twenty years after it was founded, the company's more than 100 employees now process payments amounting to USD 24 billion each year on behalf of over 14,000 international customers—and the figures just keep on growing.

2017

URGENTLY WANTED: UNIFORM STANDARDS

With its call for quick and easy payment transfers in the SEPA zone, now referred to as 'instant payments', the EU is forcing innovation in the payment sector. Since last year, there has been increasing talk about the overarching legislation, PSD2, which is bringing in new authentication requirements for retailers and consumers. flow has the latest.

Europeans can expect great things in 2018, with the launch of a new European payment system available to all account holders in Europe. Money transfers will be possible 24 hours a day, 365 days a year, and will be able to be completed from anywhere in Europe within a maximum of 10 seconds. Instant payments are not only intended to be available via online banking, but also aim to revive POS in retail outlets and find application online and via smartphone apps. Data protection is also guaranteed. All in all, the future looks extremely promising.

However, in order for instant payments to really become established on the market and become a genuine step forward in smooth payment processes, it is also necessary to consider uniform standards for authentication and regulation. Without clear guidelines for practical implementation, there is a risk that many good ideas will amount to nothing, and that differences in the finer details will lead to complexity and uncertainty for users.

Take the example of technology: banks and fintech firms are currently still discussing how the initiation of payments by the 'third party payment service provider' is going to work. In its technical standards, PSD2 stipulates the transfer of data via interfaces (APIs). Service providers who are already able to initiate online transfers via an internet banking PIN and TAN would prefer to stick with 'screen scraping', i.e. the automated reading and population of (online banking) websites. They fear that banks will provide them with insufficient, slow interfaces in order to limit competitors' performance in comparison to their own services.

Take the example of authentication: PSD2 stipulates that authentication must involve two factors. When making a purchase online or when making a cashless payment at a point of sale, the customer must be identified using two of three factors: possession, knowledge and inherence. For a debit card, this could be possession of the card and knowledge of the PIN; when paying with a smartphone, possession of the device and inherence of the fingerprint. But who is responsible for verifying these factors?

According to PSD2, it is the service provider who initiates the payment who is responsible. The worst case scenario for consumers would be to have several identifiers for the same account: if their bank uses a different procedure to a major retailer who also acts as payment initiator or to a PSP that rolls out an identification tool for its affiliated merchants. Ultimately, device manufacturers themselves could also act as initiators and develop their very own procedure.

This is where the threat of chaos is imminent: if merchants, banks and PSPs all have different methods for authenticating customers, instant payments will be a piecemeal affair for consumers. From the perspective of a PSP such as Computop, instant payments could replace payment methods such as prepayment, online banking and direct debit for online shopping. If every shop has a different procedure for online authentication of instant payments, buyers could become confused, which would jeopardise and delay uptake of instant payments.

In order to make instant payments a success, therefore, the EBA should at least come up with a minimum standard for authentication that can be used by all participants if they do not wish to create their own form of authentication.

A standard is necessary – but it should not put smaller providers at a disadvantage

A standard for the authentication of instant payments is also necessary in order to avoid concentration on the market. In order to authenticate a customer, they first need to be identified. This requires customers to go through a time-consuming self-registration process. Undoubtedly, customers will have no problem registering for Amazon, OTTO or Zalando, as they often shop there. But is it worth registering for a small shop you only use once a year? The registration obligation threatens to trigger a process of concentration on the online market that would benefit large companies and disadvantage small ones. This is clearly not the intention. Yet another reason why there should be an authentication standard for instant payments that small retailers can use without complicated registration processes.

The market will be unable to find a quick solution on its own, as establishment of an authentication process that complies with the regulatory provisions requires, on the one hand, the registration of millions of consumers, and on the other implementation in many thousands of online shops. The situation is similarly complex for bricks-and-mortar retailers: if dual-factor authentication is rendered obligatory for both instant payments and existing payment types, this may mean POS terminals and software used in shops will need to be replaced. This would be an expensive process that would take many years.

Banks, PSPs and merchants are currently acting in a regulatory no man's land

Instant payments are set to be available by 2018. In order to foster competition and innovation, it is explicitly foreseen that non-regulated third parties such as fintechs or PSPs will be granted access to instant payments. However, a license or minor regulation will be required. As these kinds of regulatory processes tend to take a long time, it is not too soon to clarify what the requirements are, so that all market participants have time to prepare for instant payments and dual-factor authentication. Many experts already have doubts as to whether the 2018 deadline will be met.

Instant payments and strong authentication are good for Europe, which is why we should take care not to make avoidable mistakes in their regulation and implementation.

OMNICHANNEL, THE SECURE WAY

Swoosh, click or beep: how do customers make cashless payments in store? You can always tell from the sound it makes!

For those belonging to the 'swoosh' camp, a change in card terminals is long overdue, as magnetic stripe technology is flawed and easily abused. Today's credit and debit cards are popped into the machine with a click; data is transferred via the in-built EMV chip, which offers greater security thanks to its inherent PIN-based authentication system. If all you hear at the till is a beep, the retailer is at the vanguard of technology: NFC allows not only the latest credit cards to be read contactlessly, but also enables payments to be made via smartphone. The only thing missing in terms of the latest technology? A highly encrypted connection to the Computop Paygate via PCI P2PE. The new encryption standard not only ensures secure data transmission, it also saves stress and money at the POS, as well as being the entry ticket to international omnichannel business.

Omnichannel in back-end tools: in Computop Analytics, payments from across all channels are displayed in one single list and can be edited individually.

Criminal hackers are desperate to get their hands on people's credit and debit card details. That is why the number of attacks on POS systems in retail, restaurants and hotel chains is on the rise. Only recently, it was reported that card data had been stolen from three global hotel chains: Marriott, Hyatt and Sheraton. This isn't just an annoyance for the customers, it also damages the image of the businesses affected.

In order to counter this loss of trust, Visa and MasterCard have introduced new security standards which protect merchants against data theft through strong encryption: point-to-point encryption (P2PE). Payment data is heavily encrypted directly on the POS terminal, without intermediate storage. Each payment is given a new key. The data is not decrypted until it reaches Computop. Thanks to the strong coding, the data can be transmitted via any device. During this process, no real data is displayed or stored, which means it cannot be stolen – certainly a weight off your mind. This is why for merchants who use the PCI P2PE standard, the need to gain PCI certification for their IT system landscape, which would otherwise be necessary, is reduced to almost zero. A couple of crosses on a PCI form is all that is required, but it saves them hard cash.

The security offered by P2PE POS solutions also facilitates integration into an omnichannel environment as POS devices can be used with any smartphone or tablet even though mobile devices are still usually classed as insecure. Thanks to the strong P2PE encryption, card data is kept secure even when the devices aren't. This means businesses are free to choose any mobile device and app for their omnichannel retail strategy.

Important prerequisites for true omnichannel

In order to really achieve thorough integration of the various sales channels, payment service providers must meet a number of important preconditions. Firstly, the platform must be suitable for uniform connection of both e-commerce and m-commerce as well as POS terminals. Only in this way is it possible to guarantee real omnichannel reporting that enables analysis of sales across all channels, branches and online shops. The accounting team must be able to refer back to settlement files, which are standardised worldwide, so that upon receipt of a previously unpaid statement, the status can be automatically changed to 'paid' (reconciliation). And the support team can use the uniform processing method to find not only online and mobile payments, but also data from over-the-counter trade. In 2015 one company became the first German payment service provider to become a certified P2PE solution provider. It was, of course, Computop, and with our terminals we offer POS solutions with P2PE encryption.

Payment at POS terminals in over-the-counter trade used to be an area of business with domestic focus. In almost every country, international merchants had to sign separate contracts with local service providers. This resulted in high processing costs as different terminals, reports, statistics and file formats were being used in each country. Modern POS terminals can be used worldwide, and merchants can easily select the main local payment types and best acquirer for their international business via the central access point. This offers them the highest degree of flexibility in terms of international expansion and optimises running costs.

The symbiosis between POS and e-commerce globally means new turnover potential which can be achieved through customer-orientated sales and service features, such as In-Store Return, Click-and-Collect or Order In-Store. That is why it is important for the available POS hardware to range from countertop terminals for use in a till environment, mobile POS and multimedia devices to self-service terminals for machines. Support for a broad range of modern till solutions by leading manufacturers such as IBM, Microsoft Dynamics AX, NCR or Oracle also facilitates integration.

So to those wanting to step away from the swoosh and towards the increased security of a click and the convenience of a beep: it's time to take the leap! Better security, easier omnichannel integration and global coverage are very good reasons to opt for the new P2PE solutions.

WELL CONNECTED:
PARTNER MANAGEMENT AT COMPUTOP

Irene Liberal
Head of Partner Management

Secure financial transactions on all channels, across the entire world: that is the objective of the Computop Paygate payment platform. In order to provide the perfect mix of payment types for each customer, but also to be able to offer additional services such as credit checks and currency conversion, the Payment People rely on a solid network of experts along the value chain for merchants: ranging from top players in merchant ecosystems, such as agencies, shop and ERP systems via banks, payment providers and financial service providers, up to financial accountants. All of these stakeholders are taken care of by the Partner Management Team.

Irene Liberal, Head of Partner Management at Computop, neatly summarises the core task of her team: "Our job is to find the right partners for our customers." And the partners have high standards to live up to as well: "As we are working for our customers, the partners must be a good match with our corporate culture as well as offering the products our customers need today and in the future. It goes without saying that the technical solutions have to be top notch: our task is to ensure the experts involved speak the same language and understand one another – an essential foundation for a successful project."

Marie-Christin Gräfin von Plettenberg
Partner Manager

To this end, it is important to take a close look at each customer's needs, objectives and difficulties, and then to point them towards partners from the existing network who are best placed to help the customer overcome these challenges. For major projects, this might also involve searching for partners who meet very specific requirements. Even the partners' own wishes are taken into account by the Partner Management Team. They remain in close contact, and work together to come up with the perfect solution.

Whenever there is a project to build a new webshop or optimise existing services, Irene Liberal and her colleagues have the right partners for their customers to hand – and the right customers for their partners. Regardless of whether the merchant is developing their own solution or wishes to use a standard shop system, Computop offers the right payment services for them. Constantly maintaining and expanding this complex network and adjusting it to the needs of the market is part of their day-to-day job. That is why it is so important to keep a close

Stefan Grieger
Partner Manager

eye on any new developments and trends in the sector. Through partner events, trade fairs and one-on-one meetings, the Partner Managers always keep their finger on the pulse.

That is why they are not all based at the headquarters in Bamberg. Computop has acquired payment specialists from all over Europe, who work in Berlin, Hamburg, Munich and Frankfurt. This means they can be close to where the partners and players in the sector are. However, within the Partner Management Team, tasks are allocated by subject area rather than on a purely geographical basis.

Bernd Schelter
Partner Manager

Marie-Christin Gräfin von Plettenberg is the team's specialist in national and international agencies as well as shop system providers. Stefan Grieger is the man for financial partners, Sabrina Jantschik the expert in reselling and white labelling partnerships. But there's one thing they all have in common: they are all old hands in the payment sector. Team leader Irene Liberal alone has built up over 25 years of experience.

This also applies to the technical experts: Bernd Schelter sees himself as an auditor and translator between the many parties involved. He scopes out the necessary interfaces and technical requirements for potential partners, and is responsible for their connection. His job involves regular contact with Product Management and Development at Computop and with external agencies who provide the modules for connection to the Computop Paygate.

Sabrina Jantschik
Partner Manager

The team also works closely with colleagues from Sales. That is how the Partner Management Team came about roughly two years ago as a dedicated team in the Sales field: Irene Liberal reports back to the Head of the Sales & Merchant Services Division, Martina Schmitt. The synergies between the two teams are skilfully exploited, and the Partner Managers work together across the board with the management and Business Development, Product Management and Development departments to reach their shared objectives.

"The business segment is in constant flux," explains Irene Liberal, "which is why there is no such thing as a typical working day for us." The constantly and rapidly changing demands of the market are both a challenge and an incentive for the Partner Managers. The omnichannel payment field, in which Computop is a pioneering figure, illustrates this nicely. For the team, it involves finding the right partner for bricks-and-mortar retailers too, as well as further developing new business segments with existing partners. In future, the network will have to be developed further towards payment across all channels. Yet another reason why the Partner Management Team at Computop is constantly growing: this year alone, the Payment People will be joined by two new colleagues.

PLENTY OF NOVELTIES IN THE ANNIVERSARY YEAR

Payment processing is the beating heart of Computop. Here, we call it Computop Paygate. This is the name that was given to the in-house-developed payment platform Computop has been optimising over the past 20 years, and which connects customers of merchants and financial service providers with hundreds of payment types across the world – via one single connection. Just as the heart supplies blood to the human body, the Computop Paygate ceaselessly pumps payment transactions around the network, 24 hours a day, 365 days a year. However, there is room for optimisation of this heart when it comes to the digital world, which is why over 20 developers at Computop have spent 2017 working on the implementation of numerous new features. Here is an overview of the most important ones.

Open for payment: the gate icon stands for the Computop Paygate

Mobile payment

Mobile payment services are becoming increasingly well established. There are major regional discrepancies, however: in China, mobile payment methods such as **Alipay** or **WeChat** are a must have, whereas the attention-grabbing payment method **Apple Pay** is still steering well clear of the less enthusiastic German market.

Nonetheless, the Payment People have integrated the payment services of the two main operating systems for mobile devices: both **Apple Pay** and **Android Pay** are available in the Computop Paygate. And this is true for over-the-counter retailers, too: anyone with contactless card terminals can already receive payments from third-country customers with these wallets.

Yet even the European market is home to innovative mobile payment methods. Scandinavia has produced **Mobile Pay by Danske Bank** and **Swish**, which has revolutionised Swedish payment habits. Both were integrated into the Computop Paygate in 2017, and are available to merchants operating in Northern Europe.

With the **Mobile SDK**, Computop also offers an easy-to-integrate software component for app developers, which can be used to easily integrate mobile payment and connection to the Paygate into the development of merchants' own apps for iOS and Android.

Internationalisation

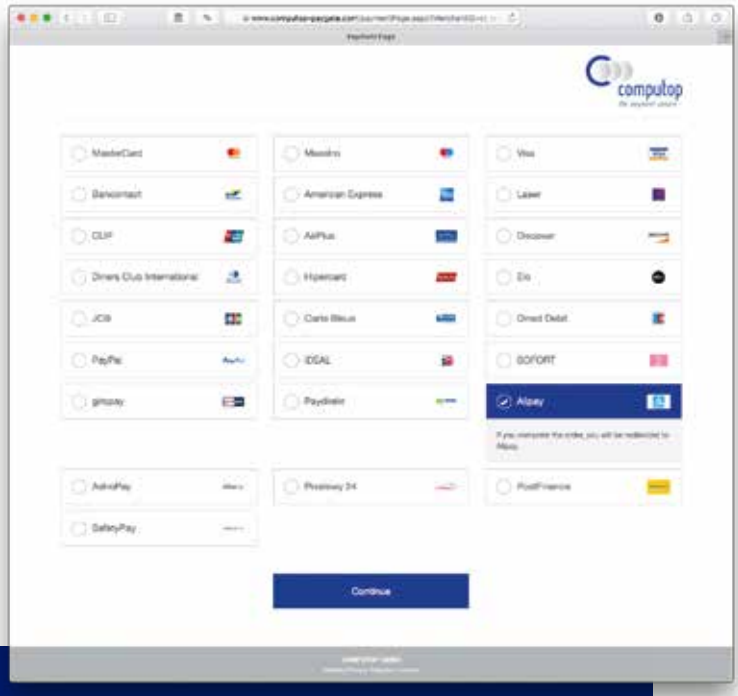
Trade is growing evermore global, and many merchants have found that successful product ranges are often popular in markets other than their own domestic market. This offers the prospect of new sales opportunities, if the merchants in question are able to adjust to the payment preferences of their new customers.

In Europe, South America and China, Computop has a solid basis with its wide range of APMs, i.e. alternative payment methods aside from credit and debit cards. Thanks to good cooperation with its partner **PayU**, additional popular payment types for Africa and India were added in 2017. In the case of the latter, this gives merchants the choice between common local credit and debit cards as well as online transfers

from around 20 banks, without needing to set up a local branch.

This makes Computop the first PSP to combine all of PayU's platforms and make use of this broad range of payment types possible via just one connection.

With the addition of new payment types such as **Dragonpay**, **e-Pay Petronas** and **PAYSBUY**, the payment methods available to countries such as Malaysia, Thailand, Singapore and the Philippines is being further expanded. For the German market, with its special affinity for sales on invoice and payment by instalments, **easycredit by Teambank** has been added to the range of payment types as an innovative sales on account solution, whilst **AfterPay** now allows payment by instalments in nine European countries.



Via the hosted payment page, a wide range of payment methods can be easily and flexibly integrated

Services

For merchants who wish to offer an attractive range of payment types and therefore set great store by flexibility, Computop has developed the **Hosted Payment Page**. This page, like the credit card or direct debit form, can be integrated into the design of the online shop, and provides a clear list of the local payment types selected by the merchant. If they wish to add new payment types, all they have to do is send a quick message to the Payment People, and the new service will be available in a flash. The customer is guided through the relevant payment process without the merchant having to program the dialogue in their webshop. Afterwards, only information about the successful payment is displayed. This service is already available in 23 languages for numerous international markets, and is constantly being developed.

Another of Computop's services is aimed at merchants looking not just for technical processing, but also contract management and payment flow services. For many payment types, Computop already offers **collecting** services via partners such as **PPRO**. An even more comprehensive solution enabling complete payment via a single source is due to be launched in 2018.

COMPUTOP CONTINUES GROWING

...and needs lots of nice new offices. That is why we have also taken over and thoroughly renovated the first floor of our building on Schwarzenbergstrasse in Bamberg. The other floors are next on the list. This superb, high-quality office building is setting a new standard and acting as a model for all other offices, be they in Berlin, London, Shanghai, Hamburg or Frankfurt.

Photos: Bjoern Seitz

We obtained our new office in Berlin at the end of June, and have renovated it in similar fashion.

Why not come and visit us in Bamberg? We have excellent new meeting rooms, delicious coffee and freshly squeezed orange juice at our juice bar!

Our new address in Berlin:

Computop – The Payment People

Gertraudenstr. 18, 6th floor

10179 Berlin

JOBS@COMPUTOP.COM

Want to join the Payment People?
Visit computop.com to see our current vacancies

THOROUGH PROTECTION FOR CUSTOMER DATA

With the entry into force of the new EU General Data Protection Regulation on 25 May 2018, data protection law will undergo comprehensive reform and is set to become more uniform than ever. And the world of trade will have to meet new requirements, too.

by Donata Noack
Legal Counsel
Data Privacy Specialist

Since 1 May 2017, the Payment People team has been supported by a Data Protection Expert in the form of Donata Noack. A qualified lawyer, she has already spent six years working as an external data protection adviser, one of her clients being Computop. This means she is already very familiar with the company. At the moment, she is based at the Frankfurt office and is mainly working on the implementation of the new Basic Data Protection Regulation. In practice, this means checking processes, drawing up model contracts and setting out guidelines. As a member of the Legal team, she also acts as a contact point for all other legal questions.

Current legal situation

Currently, the EU Data Protection Directive (Directive 95/46/EC) is in force in Europe. EU Directives are not directly applicable in the Member States; instead, they have to be implemented into national law. The immediately applicable legislation in Germany is currently the Federal Data Protection Act (Bundesdatenschutzgesetz), which implements and gives shape to the EU Data Protection Directive. In addition, there are numerous special legal provisions on data protection in other legal acts.

Future legal situation

In future, the EU General Data Protection Regulation will be the central, immediately applicable legislation on data protection in Europe. The special feature of EU regulations is that, unlike directives, they are directly applicable in the Member States and therefore do not need to be implemented into national law. With the entry into force of the EU Basic Data Protection Regulation, the EU Data Protection Directive will be repealed and the Federal Data Protection Act in its current form will no longer be applicable (the same applies to the other national legislation on data protection in the Member States). A completely new Federal Data Protection Act will be drawn up, in which only a small number of points will be governed at national level, these areas being covered by what is referred to as 'exemption clauses' in the Basic Data Protection Regulation. In addition, legal data protection provisions for police and the judiciary will be laid down.

What will be changing?

The Basic Data Protection Regulation stipulates the circumstances under which personal data can legally be processed. Its geographical scope will be greater than that of the previous legislation. In future, the 'lex loci solutionis' principle will apply: this means that the Basic Data Protection Regulation will not only apply to responsible individuals and processors in the European Union, but also to those established outside the EU and who offer goods or services to data subjects in the EU or observe the behaviour of data subjects in the EU. The transparency and information obligations vis-à-vis data subjects are being substantially extended, and at the same time data subjects will be awarded more comprehensive rights than before (one particular novelty is the right to data portability between different places). The provisions on order processing (previously referred to as contract data processing) and the directory of processing operations (previously the directory of processes) are similar to existing rules, with changes in certain sub-areas. In future, the technical and organisational measures will centre around the principles of confidentiality, availability and integrity. In certain cases, before data can be processed

data protection impact assessments must be drawn up. The equivalent to this in the Federal Data Protection Act is the 'prior check', which will be supplemented by extended and more detailed provisions with the advent of the data protection impact assessment. In the Basic Data Protection Regulation, there will finally be new rules on liability and compensation, and the sanctions for breaches of data protection rules will be stepped up substantially. In future, it will be possible to impose fines of up to EUR 20 million, or 4% of global turnover in the previous financial year.

Computop is making preparations

Companies in Europe need to prepare for the EU Basic Data Protection Regulation. Computop is already working on implementing the new rules. Internal processes are being scrutinised and adapted, corporate codes of conduct are being revised, new model contracts are being drawn up, contracts are being concluded in line with the new provisions, process directories are being transferred into a directory of processing operations, data protection impact assessments are being drawn up, and so on and so forth. New model contracts for order processing that meet the requirements of the Basic Data Protection Regulation are already available from Computop upon request.

High-level security measures

In order to protect personal data, technical and organisational measures are being taken to maintain the high level of security. Computop is certified in accordance with the Data Security Standard of the Payment Card Industry (PCI-DSS), and as such is subject to strict, external audits. The most recent certificate can be found on the Computop website, and a detailed description of all audit criteria applicable under the PCI certification system is available on the website of the PCI Standards Council at www.pcisecuritystandards.org.

FOCUSING COMPUTOP

International press coverage

The Reality of High Street Shopping: Virtually Different

(...) Ralf Gladis explores how virtual reality is "by no means simply the stuff of movies anymore, offering safe and easy-to-use virtual reality shopping experiences for shoppers." (...)

Huffington Post Tech

Cross-channel payment: what the future is all about

(...) If a customer orders a product online but wants to pick it up from the shop round the corner, they should be able to decide whether to pay online straight away or when they get to the shop. Usually, merchants use different accounts and credit card contracts for their bricks-and-mortar and online businesses. "In order for merchants to be able to correctly compare stock quantities with incoming payments, the payment service provider must be able to manage both over-the-counter and online payment," says Ralf Gladis, CEO of Computop (...)

iBusiness

Computop and AsiaPay form strategic partnership

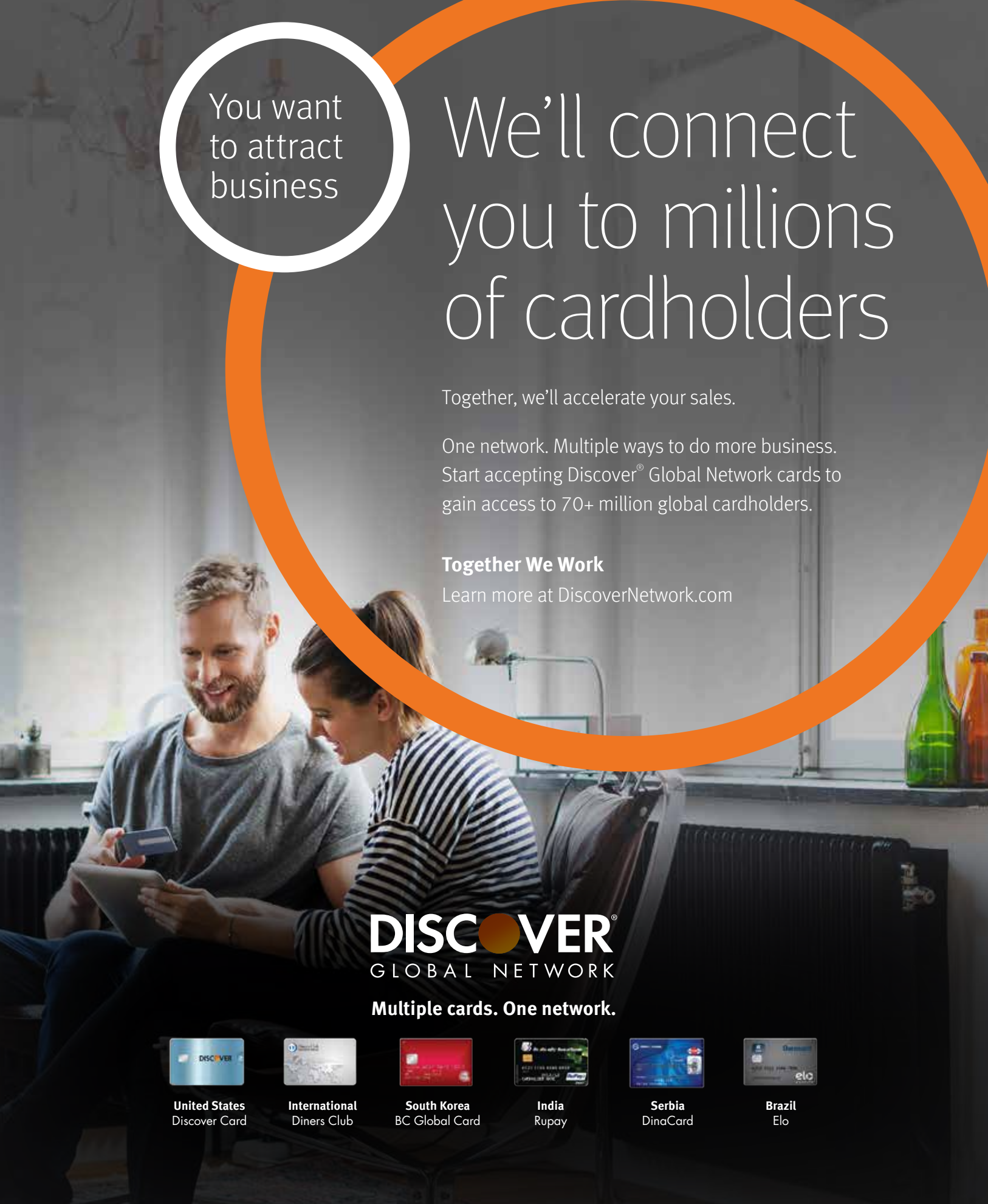
Computop, a leading payment service provider, and AsiaPay, one of Asia-Pacific's most distinguished payment service providers, today announced their new strategic partnership. The relationship enables retailers to securely process payments in Asia-Pacific through Computop's Paygate payment gateway using the payment methods that consumers in the region prefer and trust, helping to positively impact sales and the overall customer experience. (...)

Finextra

EBA backpedals on e-payment

"(...) Payment service providers see both light and shade in the future regulation: if PSD2 leads to registration obligations and whitelisting, this could further exacerbate concentration in e-commerce," warns Ralf Gladis. On the other hand, the CEO of the payment service provider Computop also expresses high hopes of "instant payments". According to Gladis, transferring money in a matter of seconds has the makings of a "killer application" in the field of payment. (...)

Lebensmittel Zeitung


You want to attract business
We'll connect you to millions of cardholders
Together, we'll accelerate your sales.
One network. Multiple ways to do more business. Start accepting Discover® Global Network cards to gain access to 70+ million global cardholders.
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