FINTECH
COMING OF AGE

RON SUBER
FUTURE OF FINTECH

CHRIS SKINNER
OPEN BANKING IS MORE THAN AN API

DANIAL DAYCHOPAN
THIS IS HOW PLUTUS.IT IS COMING OF AGE

EUROPE'S 27 HOTTEST FINTECH COMPANIES 2017

THE WINNERS OF THE EUROPEAN FINTECH AWARDS - PAGE 12

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"FUNDERBEAM COULD BE THE NEXT MICROSOFT"

This was one of the comments by the judges of the European FinTech Awards 2017, which took place in Brussels in September. They were talking about the winner of the 2017 European FinTech company of the year award, which went to Funderbeam, a company that created the first and only platform where growth companies are funded and traded across borders, on blockchain.
The line-up of companies that competed for the nine coveted European FinTech Awards in 2017 was impressive, with 27 companies vying for recognition from the panel of judges.
Attendees learned more about leadership, the latest technology developments, the status of regulations and the characteristics of successful insurgent businesses.
Many of these companies may have started out as ideas with some venture capital on their balance sheets, but all are now serious businesses, attracting fresh investments from financial institutions, not just venture capitalists. This is a clear sign that the industry is coming of age.
While the lion's share of FinTech investments is earmarked for startups, more and more growth capital is finding its way into highly customer-centric companies like Monese and N26 that sprout at the center of very profitable markets.
As major financial institutions jump on the bandwagon, the FinTech rebels become partners and begin to look more mainstream. This has attracted the attention of the regulators, who try to balance regulation and innovation to create an enabling environment.
And the environment is enabling, as countries and jurisdictions increasingly view FinTech businesses as a welcome presence and actively engage with them.

FinTech companies also engage with each other, with many viewing collaboration as more important than ever to ensure that the benefits of regulation and stability filter through to their businesses and their clients.
So what of FinTech's disruptive potential? It's still there and more powerful than ever before as innovation incubators and the numerous accelerators focused on developing new products work together for the good of the industry.
In fact, maturing FinTechs are now in a position to drive fundamental changes to financial services organisations. This means better experiences for consumers as they help streamline infrastructure, reduce costs and provide the type of services that people have come to expect.

Yes, FinTech is coming of age. Rather than diluting its disruptive potential however, this amplifies its power. The next Microsoft? We haven't seen anything yet...

Maud Meijvis
Community Manager FinTech

Navigating the

FINTECH GODFATHER RON SUBER OUTLINES THE PITFALLS AND POSSIBILITIES FOR A MATURING MOVEMENT

mainstream

The next 12 months will see an acceleration of FinTech acquisitions and new partnerships as the industry is maturing and becoming mainstream, says Ron Suber, FinTech's most famous entrepreneur, investor and thought leader. In an exclusive interview , Suber discusses the pitfalls and possibilities of this new era. "A continued sense of urgency and agility are required."

"FinTech is in its third phase," Suber explains. "We are past phase one, when only the early adopters were involved. We are past phase two, when many tried it sporadically. Phase three is now: FinTech is known worldwide and has widespread acceptance. Soon we will get to phase four, where it's ubiquitous. Phase five is when people can't live without it."

The San Francisco resident knows what he is talking about. Often dubbed the mayor or godfather of FinTech, his presentations are well-known the world over, as are his investments and his groundbreaking and business-accelerating work at peer-to-peer lending company. Prosper Marketplace. For years, Ron has been travelling the globe as an evangelist for FinTech's revolutionary role. These days, his gospel is catching on big time.

"You now see it accepted by the masses, and the incumbent banks and tech companies are investing, partnering and acquiring FinTech companies globally too," Ron says, singling out recent acquisitions by traditional banks, but also by companies like PayPal and Mastercard. "That trend will escalate towards the end of the year and next year."

DANGERS

Suber confirms that there is a risk that the dynamic FinTech world becomes stale. "Yes, new ideas, products, talent and continued innovation are required. A continued sense of urgency and agility are also required," he says. "Dangers of the current phase that FinTech finds itself in include growing too fast, losing focus, not keeping quality high, not maintaining mission, vision and values, and not becoming profitable cash flow positive companies."

Many of these dangers – and ways to prevent them – are addressed in Suber's talks around the world. His status as FinTech guru number one certainly does not stem from a childhood of fiddling with money or technology, he says. "When I was young I wanted to be doctor or a teacher," says Suber, now 52 years old. "I thought those would be great ways to help people, but as I went to college to become a doctor, I realised that this wasn't the way for me."

In the business and FinTech world, he found a way he could help people in a way that suited him better, Suber explains. "Over my career, I have become a coach and mentor to many entrepreneurs. I teach at many universities. For me, that is a very enjoyable part of what I am, especially as I can convey lessons to people so they hopefully do not make the same mistakes as I have made."

EXPENSIVE LESSONS

After graduating from UC Berkeley in 1986, Suber spent 20 years at two Wall Street compa-

"THROUGH PERFORMANCE, WE HAVE STARTED TO CONVINCE THAT THIS IS NOT A FAD BUT A GENERATIONAL SHIFT"

nies – Bear Stearns and Merlin Securities – where he "learnt about finance, risk and some tech". In 2006 the American decided to change course and became a FinTech entrepreneur. "My first company failed. It grew, but did not succeed. I was not working with the right partners and I did not have the right capital structure. Those were very good, but very expensive lessons."
Suber says that the question what the "right capital" is still occupies his mind a lot. "There is dead capital and equity capital. Equity capital is what you need to be able to spend on people, real estate, marketing, technology and payroll. This is hard when your company is losing money every day. Can you get your money to cash flow positive? That should be your first big goal. Don't worry about EBITDA or earnings, focus on cash flow. And then there is your dead capital, which relate to a loan, a product or a mortgage. The asset liability match between capital and loans is a very important element of a small, growing business."

Still fondly looking back at the "first phase" of FinTech, Suber says his trials, errors and tribulations contain many lessons. "It was a very interesting period. I was pioneering online lending, but there was a lack of trust, a lack of education and a lack of awareness. I went through the same as Uber and Airbnb. Who wanted to jump in the car with a stranger? Who wanted to sleep in a stranger's house? Those brands had to teach people that it was safe and comfortable and that they could offer a better experience for the right price."
In Suber's case it has been hard to explain that online lending is not a Ponzi scheme, he says. "I have done 80 speeches around the world last year, in Europe, in Asia and in America. All I do is helping to explain to banks, technology incumbents, rating agencies and entrepreneurs,

how this works and why this works. I need to continuously explain the safety and soundness."

GENERATIONAL SHIFT

Listing a dazzling list of industry bodies, regulators and banks from across the world, Suber says he has spoken to all of them over the last few years. "I want them to know about the benefits to borrowers, who can pay less interest, improve their credit scores and even get return on their money, creating an entirely new asset class. In the beginning, I did many presentations and saw people cross their arms, roll their eyes, whisper to their neighbours and shake their heads. Through performance, we have started to convince that this is not a fad but a generational shift."

Suber has been responsible for a crucial overhaul and revitalisation of Proper Marketplace, which was doing $9 million in new loans when he joined in the beginning of 2013. Three years later, that number had grown to a baffling $400 million. "I was one of the first people in Wall Street in January 2013 to come into the offices of massive institutional investors like Blackrock and Citigroup," says Suber. "Netflix also took many years to convince people that streaming movies was the way forward. I was in the same boat with marketplace lending."

On his LinkedIn profile, Suber states he has "Medium IQ, High EQ and High AQ (Adversity Quotient)". The latter is crucial for FinTech entrepreneurs, he says. "It means that you are resilient and tenacious – that you have grit. In this industry, you must be able to bounce back from failure. You have to be able to pivot the business when you have a problem. I think this is really important. When you go into a boxing match, you get punched in the nose. You have to recover. Many people get punched and fall down or run, that won't work as an entrepreneur." •

SUBER'S SUPER HOT FINTECH TIPS

"Payments, bill pay and money transfer are being watched, studied and invested in heavily right now," says Ron Suber, who has four not-so-secret tips for FinTech companies to look for:

Juvo.
San Francisco-based startup that helps mobile users in emerging markets improve their financial standing by combining data and identity to provide micro-loans.

AvidXChange.
Automated AP solutions, accounting software and bill pay services, partnering with Mastercard.

PayPal.
The online payment system that's acquiring up a storm.

ANT Financial.
An affiliate company of the Chinese Alibaba Group, formerly known as Alipay.

Funderbeam most innovative tech company

“BANKING DOESN'T DISAPPEAR BECAUSE OF FINTECH, BANKS HAVE LICENCES BUT THEY WON'T HOLD THEM FOREVER,” CHRIS SKINNER, THE GODFATHER OF FINTECH.

At the heart of continental Europe, the sexiest FinTech firms met again this autumn for the yearly European FinTech Awards in Brussels. As in previous years, the 2017 edition attracted more than 300 tech-savvy people from all over the continent. With 30 nominees in nine categories, it was an exciting day for the award winners as well as for the bigger audience. Estonian blockchain specialist Funderbeam came out a double winner, chosen by the jury as both most innovative tech company in Europe and best firm in the category ‘Alternative Financing’.

Among the list of top-class speakers, FinTech specialist Chris Skinner was the eye-catcher at The Egg, the congress centre where the conference was held. According to Skinner, Financial Technology, as the full name of FinTech indicates, has been around long before it became ‘cool’. The digital structures of the 20th century lay the foundation of the current success of FinTech. Nowadays everything is a platform and more and more people are part of it, in various communities, Skinner ascertains.

Chris Skinner, nicknamed ‘FinTech titan’ by Next Bank, the collective of banking industry professionals. Wall Street Journal named Skinner one of the top40 FinTech Influencers globally.

"HOW CAN A BANK EVER BE DIGITAL IF FOUR OUT OF TEN BOARD MEMBERS HAVE NO AFFINITY WITH DIGITALISATION AT ALL?”

Although FinTech has not always been perceived as a threat, incumbent banks should bear in mind that they cannot lean back and hope that everything will be fine, according to the FinTech titan. “Banking doesn't disappear because of FinTech, banks have licences but they won't hold them forever.” Accordingly, banks should realise that they facilitate and ‘manage’ a marketplace with the financial traffic. “If there is hostility, the unicorns of FinTech will team up,” Skinner says, showing a slide with a few of these unicorns: N25, Saxo Bank, and TransferWise. “FinTechs see a big opportunity for themselves.”

A lot has changed, he continues. "Today, teenagers can easily build banking applications.” Skinner blogged about it 20 years ago: Banking as a Service (BaaS). “I can build my own bank if I want to." According to Skinner, banks could take the lead in the digital era by looking for competent managers. However, they are not ready for it. "How can a bank ever be digital if four out of ten board members have no affinity with digitalisation at all?” he asks. On the other hand, FinTech has plenty of benefits to join forces with traditional institutions, Skinner resumes. "Thousands of tech companies do one thing great, while a bank does a thousand things moderately.” He concludes his plea by explicitly mentioning two crucial aspects young

Edle Everaert, senior executive for Belgium and Luxembourg at Accenture, on Artificial Intelligence: "AI is seen as the fourth revolution, after the steam revolution, the industrial revolution, and the digital revolution."

technology companies usually lack: capital and manpower. "So why wouldn't both parties, the old and new ones, work together more often?"

SmartFin Capital investor and Clear2Pay founder Jürgen Ingels presented a golden tip for entrepreneurs who would like to scale up their business: save time. At a certain moment, he realised time is the most valuable asset of an entrepreneur. Ingels sees many ways to win time, of which five are important here.
1: If you want to grow in a new market, you should take over others instead of starting a new business yourself. This will spare you the effort of getting familiar with a new market.
2: If you are about to sell your business, always do that yourself. This way you learn much faster about your customers' wishes and prevent you from wasting time on the wrong business.
3: Invest in human resources, so that you have the right people for your business and do not waste time searching, getting to know, and working with an unsuitable employee.
4: Get rid of the meeting culture. Meetings are very time-consuming, cost a lot of money and often yield little. Instead, keep things to the point.
5: Buy a Porsche (and take good care of the right rewards). At the company where Ingels worked, the CEO bought a Porsche and informed him that the company would pay for it. The best-performing salesman was then allowed to take the car for the weekend. "If someone had driven the Porsche with his girlfriend for the weekend, he had to work twice as hard the next week to not let his girlfriend down." •

Pitches by the 'Challenger Banks', the three nominees in this category: Monese, N26, and Revolut. The Berlin-based bank N26 came out a winner. Alex Weber, head of International Markets, was handed the award for this category.

SmartFin Capital investor and Clear2Pay founder Jürgen Ingels.

The Belgian stuntman Cedric Dumont: Growing business is not a 'walk in the park'. Your success largely depends on the extra mile you are prepared to go.

WHO ARE THE WINNERS OF THE EUROPEAN FINTECH AWARDS?

EUROPE'S 27 HOTTEST FINTECH COMPANIES 2017

ALTERNATIVE FINANCE

COMPANY: FUNDEDBYME
CEO: DANIEL DABOCZY

FundedByMe is one of the only full-service crowdfunding platforms offering capital through equity crowdfunding.
In the past years, some 463 companies from 25 different countries have been successfully funded with more than €38,8 million. The member base is a rapidly expanding network of more than 87,000 investors from over 197 countries around the world. FundedByMe is headquartered in Stockholm, Sweden, with a local presence in Helsinki, Finland, and other countries throughout Europe, as well as Singapore, Malaysia and Mexico.
FundedByMe has achieved multiple awards and is constantly in the Top five list of innovative FinTech companies out of the Nordics.

COMPANY: TWINO
CEO: JEVGENIJS KAZANINS

TWINO connects investors seeking premium returns with borrowers searching for convenient loans, through the digital landscape. Its disruptive platform has democratised an investment process that was previously only accessible to the prosperous few.
It is now one of the most successful marketplace lenders in Continental Europe. It is so successful that it issues roughly €1 million in loans every single day, offering investors rates in excess of 10 percent per annum. TWINO has made this possible by employing 400 talented people across six locations.

WINNER FUNDERBEAM

"Truly innovative and end-to-end disruptive." The jury members of European FinTech Awards (EFTA) were unanimously thrilled by the prospects of Funderbeam, the overall winner of the EFTA and winner in the category Alternative Finance.

TWINO regards the investment platform for startups as a 'crowd funding 2.0' company and predicts a promising future for the company, which was founded by Urmas Peiker and Kaidi Ruusalepp in 2013. "If successful, they can become the next Microsoft," one of the jury members comments. Chief Marketing Officer Mads Dalgaard accepted the award on behalf of the Estonian company. "This award is a great boost for the morale of the team. They've been working very hard and it's great to receive some acknowledgment." Funderbeam can use it, because the company is keen on making a buzz. "Our biggest challenge for scaling up is to find more people who believe in what we do. Both new clients and users. It's easy when you meet people, but we are relatively small and don't have large budgets, so getting out there and getting attention is what we need to do."

> "They can become the next Microsoft"

COMPANY: FUNDERBEAM
CEO: KAIDI RUUSALEPP

Funderbeam is a platform where growth companies are funded and traded across borders on blockchain. Early-stage companies around the world face significant problems accessing financing to support their foundation, fuel growth, and enhance their competitiveness in global markets. Innovative companies – when still in the pre-revenue phase – have traditionally had almost no other financing option but to turn to equity investors. Funderbeam's aim is to solve the financing gap for startup equity investments and to facilitate investments (equity, convertible note, fund, and bond) of the sizes offered by traditional methods. The Funderbeam platform consists of a data intelligence platform, which contains two action layers: syndication and trading.

BLOCKCHAIN/BITCOIN

COMPANY: I/O DIGITAL
CEO: RICHARD GROEN (COO)

I/O Digital is developing blockchain technology with a strong focus on security, sustainability, scalability, enterprise usage, and user friendliness. With its open source technology it is creating business opportunities, new jobs and technological innovation in many different sectors. Environmentally friendly, cost effective/redundant and easily adoptable by any company that is in need of a robust, secure and proven blockchain for their proof of concept. Think of storing legal documents, music rights, identity info and intellectual property in the blockchain, where the consensus model ensures public or private validity of this stored information.

Company: SettleMint
CEO: Matthew Van Niekerk

SettleMint is a young Belgian-based startup. The founders developed 'Mint', a 'distributed middleware', to bridge the knowlegde gap to support organisations in benefiting from blockchain technology.
'Mint' encapsulates considerable R&D on the technical, operational and organisational aspects of blockchain technology, and packages this in easy-to-use software development kits that take away the complexity of blockchain technology. SettleMint estimates that 'Mint' covers approximately 80 percent of the kinds of interactions with blockchain technologies, that are required to power blockchain-based applications.

WINNER **TRADLE**

Blockchain company Tradle has 'great traction, a good solution and a great idea' and was therefore chosen by the jury as the winner of the EFTA Award 2017 in the category Blockchain/Bitcoin.

"Big in the RegTech space"

The jury agrees Tradle is onto something and that, if they are able to keep the competition at bay, it can become 'big in the RegTech space'. The company, founded in 2014 by CEO Gene Vayngrib, uses blockchain technology to bridge the gap between internal (intrabank) and external networks (utility to bank to telecom), thus enabling portability of KYC data (know your customers). Simon Wilkinson, operations director at Tradle, is happy with the valuation the award brings, but sees much work ahead. "Our big challenge is to bring Tradle to as many banks and insurers as possible and build our network faster." This also implies the company is looking for additional employees. "We have incredible talent, but we are in a growing stage, so you can never have enough talent."

COMPANY: TRADLE
CEO: GENE VAYNGRIB

Tradle is a structural solution for KYC that works for all sectors of finance, provides an omni-channel interface, and employs the blockchain to manage trust and proof. Tradle's mission is to enable the customer to own, control and share their data, which allows them to move their KYC and other e-docs across ring-fenced institutions, jurisdictions, and even verticals. Such portability better fits the new regulatory landscape, creates an smooth customer experience and a new uniform integration point for other startups. Or, in Tradle's words: 'It is a start of an era of 'Customer As A Platform', a new product delivery pipeline.'

CHALLENGER BANKS

COMPANY: MONESE
CEO: NORRIS KOPPEL

Monese enables anyone to open a local banking account on-demand, anywhere in Europe, with their mobile phone. The company provides instant banking accounts regardless of the customer's citizenship. The company has developed a technology platform which can validate customer identity in real-time. Accounts can be opened using the company's mobile app with or without a local address or good credit history. This revolutionises banking for expats and new residents as 'residency restrictions' imposed by traditional high street banks are one of the single greatest barriers to accessing the banking system when people arrive in a new country.

COMPANY: REVOLUT
CEO: NIKOLAY STORONSKY

With Revolut, users can open a current account in 60 seconds, make free international money transfers and spend fee-free globally, always at the real exchange rate. To dive even further into our innovation, Revolut will soon launch travel and device insurance and integrate an investment platform as well as cryptocurrency within the app, allowing customers to hold, exchange, transfer and spend in Bitcoin, Ethereum and Litecoin. In just two years, Revolut has acquired over 800,000 customers from 42 European countries. Currently about 2,500 new users sign up each day, making Revolut one of the fastest growing FinTech companies worldwide.

WINNER **N26**

N26 is building the bank the world wants to use - at least, that's what they say themselves.

The jury of the EFTA seems to agree by means of the award for Best European Challenger Bank of 2017: "The company has a strong overall performance, an innovative portfolio of services and a strong market traction. It is best of breed, smart, mobile and fast in onboarding. They are one of the leading challenger banks, have a promising future and offer one of the best user experiences ever. Awesome!"

The enthusiasm of the jury resonates with the reaction of N26 employee Lauren Robson. "We think consumers should have control over their lives, just as we do." By now, the bank has grown to half a million customers.

"A strong overall performance"

COMPANY: N26
CEO: VALENTIN STALF

N26 is Europe's first mobile bank, with a full European banking licence, and has redesigned banking for the smartphone, making it simple, fast and contemporary. Opening a new bank account directly from your smartphone takes only eight minutes. Users can block or unblock their card with a simple click, withdraw cash all over the world, and send money instantly to friends and contacts. N26 was founded in early 2013 by Valentin Stalf and Maximilian Tayenthal. In two years, N26 has acquired more than 500,000 clients. It operates in 17 eurozone countries and currently employs 290 people.

FINANCIAL INCLUSION

COMPANY: EASYPAY ALBANIA
CEO: LINDA SHOMO

EasyPay is the only Albanian electronic money issuer providing real-time payments, just one click away. As an eWallet solution, EasyPay is available online, mobile and offline through 320 agents all over Albania. It offers a large portfolio of local services to both the banked and unbanked, who can choose to top up their account either with cash or cashless. Last year Easypay partnered with RIA Financial, the third biggest MTO worldwide, and now provides cheap remittance services to low and middle-income households. EasyPay's most recent service, tax payments, is an important step in the process of tax reforms in Europe. Linda Shomo, the founder and CEO, was awarded 'Woman of the Year in ICT 2015'.

COMPANY: ID FINANCE
CEO: BORIS BATINE

ID Finance is a data science, credit scoring and digital finance company that is pioneering FinTech innovation in emerging markets. In developing countries, over 70 percent of adults are not involved in financial services. ID Finance technology addresses the issue of finance accessibility, providing loans to the unbanked population at emerging markets. It does so with a range of competitive and transparent loan products available over the internet. ID Finance has built a rapidly scaling and increasingly diverse loan portfolio covering Europe, Asia, Caucasus and Latin America. The company is headquartered in Barcelona, Spain.

WINNER MYBUCKS

Michal Gebala of MyBucks doesn't beat about the bush. "We want to drive financial inclusion over all continents as fast as possible."

And he got some help from the EFTA jury, which awarded MyBucks in the category Financial Inclusion. The jury sees a well-run company. "It's a fast-growing company, with great management. It's a simple product, but very relevant and really adapted to the needs of the unbanked. They offer a great combination of financial and non-financial services." The award encourages MyBucks to speed up its growth. "This award is great. We see many opportunities to use our technology to get unbanked people into the financial world and change their lives." The company was founded in Africa in 2011 by Dave van Niekerk. It offers virtual banking products including lending, insurance and banking. Currently the company is also active in Europe and Australia and aims to reach unbanked people all over the world.

> "A simple product, but very relevant"

COMPANY: MYBUCKS
CEO: MICHAŁ GĘBAŁA

MyBucks is a financial technology company based in Luxembourg that embraces technology as a means to provide financial products and services to the low and middle-income consumer segment. MyBucks predominantly operates in the emerging markets of Sub-Saharan Africa. The broad portfolio of the FinTech company includes banking, lending, and insurance products, and is supported by financial services such as mobile banking, credit reports with credit education features, as well as financial budgeting, and emergency cover through insurance. To date, the company has disbursed over one million loans with a value exceeding €250 million.

INNOVATIVE BANKING SOFTWARE

COMPANY: CONNECTIVE
CEO: ERIC BOHNER

Connective is a key player in delivering European identity services and digital signature solutions. With its Digital Transaction Management software, Connective enables businesses and other institutions to transform any paper-based customer journey (digital onboarding, KYC and contract management) into a smooth digital user experience. Connective is known for integrating the best-of-breed European identification and signature methods (such as beID, IDIN, FranceConnect, SuisseID, SMS- or email OTP) so that clients can do business at any place, anywhere and anytime they prefer.

COMPANY: DORSUM
CEO: RÓBERT KŐŐ

Dorsum is a multi-award winning, innovative investment software provider. Since its foundation in 1996, it has become a leading software company in the CEE region. Its latest innovation – Botboarding platform – is a mobile customer acquisition engine. It allows financial organisations to create chatbots for selling any products. The AI-powered chatbots communicate in a human-like way and help with customer data gathering and user profiling, making customer onboarding more effective and frictionless. The bots' performance can be followed on a dashboard, while the built-in APIs help to transfer all information into the financial institution's CRM system.

WINNER ORADIAN

Oradian wants to reach 100 million underserved families with its cloud-based microfinance banking software.

"A very impressive goal," the EFTA jury commented, but they believe in it and awarded Oradian in the category Innovative Banking Software. "The company is well oriented as a SaaS business and has a refreshing business model that is very well suited for the target markets." Julian Oehrlein, the operations manager of Oradian, is convinced its customers agree with the EFTA jury. "Our users are very happy, new customers are joining us every day and we are moving at a good pace." Nevertheless, the company needs to be cautious, because growing fast comes with growing pains. "Since we are dealing with sensitive information, we have to be sure everything works seamlessly for our customers. Our main challenge is to overcome the hurdles to become accepted in new markets. Therefore, we have to explain to customers that the cloud is the future and if they don't move, they will eventually lose out in the long run."

"A refreshing business model"

COMPANY: ORADIAN
CEO: ANTONIO SEPAROVIC

Oradian is a Croatian FinTech company that addresses the challenges of the microfinance industry in emerging markets. Oradian provides Instafin, a cloud-based banking software for rural banks, cooperatives and microfinance institutions that manages all daily operations, improves efficiency and enables growth. Oradian eliminates the financial barriers that currently prevent microfinance providers from accessing technology by using a Software-as-a-Service (SaaS) subscription model. With a subscription based on the number of clients served, any microfinance institution can access Instafin and use it as a tool for growth. Oradian currently partners with over 40 institutions.

INSURTECH

COMPANY: GAVIN
CEO: MATTHIJS NELEMANS

Gavin is a risk-sharing service that promises customers the same coverage as traditional insurance companies, but with better service and at half the price. Unlike traditional insurance companies, Gavin only charges people after damages have occurred. The company's models divide the costs of all claims among all the users, meaning that they benefit by only paying for actual losses and not for 'future losses'. The benefit to Gavin is that it can operate as a lean and flexible insurer. Gavin has also repaired the claim settlement incentive. Gavin's business model is built on accepting instead of rejecting claims, which also benefits the users.

COMPANY: INSUREAPP
CEO: JOCHEM DAVIDS

InsureApp is a SaaS platform that offers a revolutionary approach to customer engagement for the insurance industry. InsureApp blends with user's lifestyle patterns and adapts interactions and insurance products to their real-time needs. By fusing and interpreting data gathered from smartphone sensors, IoT devices and/or services, InsureApp contextualises human behaviour. Based on this, it generates user profiles and segments and is able to detect real-time events. Based on these real-time events and lifestyle patterns, InsureApp engages with the user with automated multichannel notifications (commercial and/or coaching). In addition, insurance products will be automatically customised and personalised.

WINNER

OPENCLAIMS

The Dutch startup Openclaims provides an online claim tendering platform for insurance companies, leasing companies and fleet owners.

> "A nice digital claim value proposition"

The jury really likes the value proposition if the InsurTech company. "It's a very interesting concept. Openclaims operates in a large market, with a nice digital claim value proposition, and has a very good team."

The company was founded by Lex Orie and Stephan Stergiou, and currently tenders car insurance claims in The Netherlands, but aims for more. "We are now in the position that we want to expand in Europe. The challenge in scaling up is all about people. We need to get the A-players to make the next steps, improve our sales and customer experience, and get in touch with the right customer. The European FinTech Award helps us to get more leads."

COMPANY: OPENCLAIMS
CEO: LEX ORIE

Openclaims is an online claim tendering platform for insurance companies, leasing companies and fleet owners. It offers these parties a web-based white-label claim handling platform to tender and manage their customers' motor insurance claims. It does so by matching individual repair jobs to the best-suited body shop, based on capacity, expertise, lead time, price and repair quality. This allows insurers, leasing companies and fleet owners to have full control over their repair network and each individual repair process. They can offer their customers the best quality of repair and service, which results in a highly rated customer journey (+40 NPS score).

PAYMENTS & TRANSFERS

COMPANY: DOCCLE
CEO: BRAM LEROUGE

Doccle is the largest administration ecosystem in Belgium and offers an interactive platform where people and businesses can manage, handle and archive all sorts of documents. With over 900,000 active users and over a million connections between end users and organisations, Doccle is an established and patented platform for online administration. The number of partnered companies expanded from four companies in 2014, to more than 56 partners today. By listening to and working closely with both private users and professional partners, the company keeps improving and innovating their services.

COMPANY: PAYWORKS
CEO: CHRISTIAN DEGER

Payworks develops next generation point of sale (POS) payment gateway technology, enabling developers of POS solutions to quickly and cost-efficiently integrate card payment functionality into their applications and securely process EMV, contactless and mobile wallet transactions at the point of sale. Payworks is able to take the heavy lifting away from clients, and provides a simplified implementation process in return. Through the easily accessible gateway technology and a five-minute integration process, Payworks is facilitating innovation in the integrated POS space. Some of the leading payment and technology companies rely on Payworks' technology.

WINNER TWISTO

Founder Michal Smida from Twisto welcomes the award in the category Payments & Transfers.

"It is a great encouragement and recognition for the work we did in the past years. We provide simple and fair financing and are the fastest point of sale in the credit market." This proposition is also noticed by the members of the jury. "It's perfect. A realistic, useful and strong service. Innovation at its best, combining several innovative components such as a P2P community, instant notification and in-house scoring." Twisto reaches customers who are not served by the existing providers of consumer credit. "It's a very good solution and addresses a real need for underserved credit customers." Encouraged by the award, Smida shares his next challenge. "Our next step is to scale internationally. First, we want to expand across Eastern Europe. Our first step will be Poland."

> "A realistic, useful and strong service"

COMPANY: TWISTO
CEO: MICHAL SMIDA

Millions of millennials are credit invisible to banks: freelancers, students, young families. Twisto's mission is to provide them a simple and fair daily financing solution by leveraging non-traditional data sources and machine learning for credit assessment. The company has already served over 200,000 customers with their so-called "buy now, pay later" solution for online payments. This year, Twisto partnered with Wirecard and Mastercard to launch Twisto Card. This will enable users to use Twisto instant credit everywhere. The company has raised €3.6 million and closing Series A for international expansion to become the leading daily credit provider across the CEE region.

PFM ROBO ADVISORY

COMPANY: I KNOW FIRST
CEO: YARON GOLGHER

I Know First is a FinTech company that provides self-learning, AI-based algorithmic forecasting solutions for the capital markets. The forecasting algorithm utilises artificial intelligence and deep learning techniques to find relationships and patterns in large sets of historical stock market data in order to analyse and predict its behaviour. This self-learning predictive technology does not require human-derived assumptions and maintains flexibility, adapting to new market conditions. The generated forecasts provide investors with important insights on the markets they trade in, and are also utilised in the development of AI-powered trading and allocation strategies, as well as structuring of corresponding investment vehicles.

COMPANY: VT FINTECH
CEO: VISHNU THURPATI

In a world where passive investment strategies and ETFs are posing a threat to active asset management, VT FinTech brings both together through the standalone technology platform, Parity One. Smart beta and factor-based risk premia strategies can be modelled and managed on this platform in a cost-effective manner. The ultimate aim of VT FinTech is to pass on the cost savings to investors. To do so, it enables active and passive strategies (ETFs or otherwise) to coexist in each asset management house. Phase 1 of Parity One, Parity One Benchmarks, can be used to create investment strategies in the form of tailor-made benchmarks.

WINNER **MENIGA**

Meniga is helping leading financial institutions worldwide in the utilization of their data, driving customer engagement and developing new revenue streams.

And they do a very good job at it, according to the comments of the EFTA jury. “It’s the best in town, really one of the leading FinTech firms, with a solid, scalable platform that includes engagement and monetisation modules.” This probably explains why the Icelandic company already serves more than 50 million digital banking users through its products. Asgeir Orn Asgeirsson, Viggo Asgeirsson and Georg Ludviksson started the company in 2009 and aim to make banking more personal by using humor, gaming concepts, and social curiosity.

> “A solid, scalable platform”

COMPANY: MENIGA
CEO: GEORG LÚÐVÍKSSON

Meniga is helping financial institutions worldwide drastically improve their online and mobile banking environment to provide a personalised service to customers – enriching the user experience of over 50 million digital banking users across 20 countries on five continents. Its award-winning products enable some of the world's largest financial institutions, such as Santander, Intesa, ING Direct, Commerzbank and mBank, to utilise their data, drive meaningful customer engagement and develop new revenue streams through digital channels. Meniga’s offices are in London, Reykjavik and Stockholm.

RISK, INTELLIGENCE & SECURITY

COMPANY: CYBERSPRINT
CEO: PIETER JANSEN

Cybersprint offers a digital risk monitoring platform that detects online vulnerabilities and helps organisations managing cyber risks. The Cybersprint Digital Risk Monitoring (DRM) Platform gives organisations real-time insight into the visible and hidden online vulnerabilities and risks. The platform detects vulnerabilities of the brand on: web, network, dark web, social media, mobile apps and Internet of Things (IoT) devices to protect the company from hackers. It also advises and provides service on remedial actions. Cybersprint employs the best, prize-winning hackers to prevent cybersecurity incidents from happening.

COMPANY: SEQVOIA
CEO: NICOLAS BUCK

FundD, the documentation software developed by Seqvoia, promises to improve the accuracy, efficiency and traceability of production, translation and electronic distribution from the manual update. Instead of using MS Word or Excel datasheets to assemble fund documents, FundD uses a collaborative web-based environment where users can maintain fund data, both static and dynamic, generate their documents, manage translation requests and disseminate to dedicated recipients. FundD promises risks will be drastically decreased and costs reduced, and users can focus more on marketing the appropriate products to the right investors.

WINNER CARBON DELTA

David Lunsford, Oliver Marchand, and Elke Schaper started the Swiss company Carbon Delta in 2015 and have already snatched their first award.

The environmental FinTech company exposes climate risks in the financial markets, which enables companies to protect assets, optimse performance and reach sustainability. Useful for investors, because the number-crunchers at Carbon Delta identify how much a company's value is possibly affected by climate change, thereby uncovering a global risk for the financial system, which until now has been undervalued. The company sells its analysis to investment firms on a subscription basis.

The jury acknowledges the need for smart solutions to tackle the big environmental challenges. "Carbon Delta has a very good value proposition. As we enter the era of changing climate conditions, it is important for companies to quantify their exposure to changes in climate. Leveraging big data this way is a great idea."

> "Smart solutions to tackle challenges"

COMPANY: CARBON DELTA
CEO: OLIVER MARCHAND

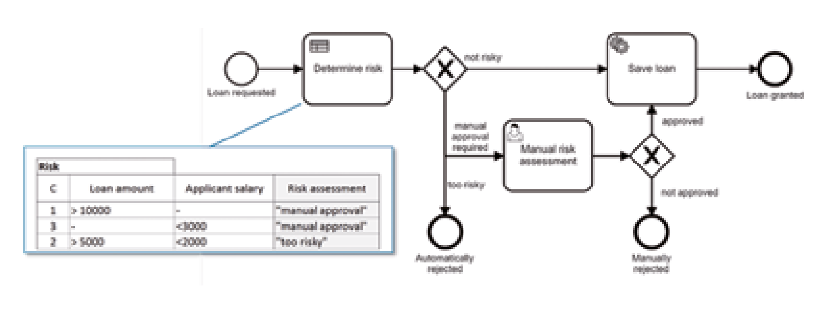
Carbon Delta is a software engineering firm conducting comprehensive computations of the climate change risks and opportunities embedded within investment portfolios. Carbon Delta has developed the first automated and forward-looking financial climate risk metric Climate Value-at-Risk. Their clients are institutional investors, including asset managers and asset owners, (re-)insurances at the forefront of sustainable investment. With climate change expected to cause $24 trillion in economic loss until 2060, investors use their data to optimise and secure their investments and create new, climate-resilient financial products.

SCALING YOUR FINTECH BY AUTOMATING CORE PROCESSES AND OPERATIONAL DECISIONS

Successful FinTechs grow quickly but need to remain flexible and agile. This challenges technology choices at the heart of the company when it comes to delivering core services. Success stories show that automation is king but needs to be adopted wisely.

To execute a sustainable business model and compete with large banking institutions, FinTechs need to streamline their core processes as well as their operational decisions. The key principle is digitalisation with the goal of automating as much as possible. However, a lot of companies struggle when it comes to selecting proper methodologies and tools. Sometimes the related acronym BPM (Business Process Management) even triggers resistance because of mistakes made in the past. An increasing number of FinTechs have become successful by introducing open standards and lightweight tooling.

There are two important globally adopted standards: BPMN to model business processes ("flow charts") and DMN to model complex decision tables. Both standards concentrate on business readable models that are directly executable with a suitable engine. A simplified example of a loan approval is shown below; it contains an automated decision using a rule table, a decision point based on the result, a service call, and a human task. The range of possibilities allows for different use cases, especially straight-through processing (STP), workflow management or microservice orchestration. Platforms support the whole process lifecycle from definition, implementation and operation, to in-depth analysis for continuous improvement.



With a graphical model, some vendors sell the dream of business departments directly automating their processes without IT being involved. Many companies fall into this Zero-Code-Trap when selecting a runtime BPM platform. But it never works out. Even if the models are executable, core processes are reasonably complex, as you need more than just the process model, e.g. service integration logic or user interfaces. And monolithic platforms don't fit into modern environments such as cloud, serverless, microservices or blockchain.

Successful projects recognise this and handle process automation as agile software development. They follow a developer-friendly approach using a very flexible and lightweight engine which nonetheless delivers the business-IT-alignment as described. One example of a fitting vendor is Camunda (http://camunda.com), which provides an open-source platform used by numerous customers in all industries, including finance, insurance, software and also FinTech startups like Credimi and MyJAR. Co-founder, Bernd Rücker explains the secret sauce: "Our most successful customers value their developers and are proud to hire an awesome tech team because they know that they differentiate themselves not only by their business model but their technical ability to execute. This is especially true for FinTechs, as continuous innovation in information technology is their core competency." •

FINTECH TROUBLE OR FINTECH BUBBLE

2017 MARKS A DECADE SINCE THE BEGINNING OF THE GLOBAL FINANCIAL CRISIS. WITHIN A YEAR, THE INTERNATIONAL FINANCIAL SYSTEM DETERIORATED TO A POINT WHERE THE ENTIRE FINANCIAL FRAMEWORK ALMOST FAILED. THAT EVENT HERALDED BANKING'S DECADE OF RETREAT, RETRENCHMENT AND REINVENTION. IT WAS CHARACTERISED BY LOW INTEREST RATES, NON-PERFORMING LOANS, RECORD INTERNATIONAL FINES, AND WEAK GROWTH.

AUTHOR JULIAN LEVY

The advent of technology-led disruption has been a shock for many industries

Politicians have significantly empowered regulators to ensure the same mistakes do not reoccur, and increased capital requirements have enhanced the robustness of the banking system. This has driven down the return on equity for most banks. This, in turn, has often been exceeded by an institution's cost of capital.

It is within this challenging environment that beleaguered bankers have been facing a mounting threat from nimble technology companies that have been functionally disaggregating their business model and attacking the most profitable areas. In addition, non-bank credit providers are benefiting from lighter regulation, and large technology players are expanding into payments and lending.

FINTECH TROUBLE

To understand the scale of the challenge, it is worth looking at capital allocated to investment in change. Celent, an analyst firm, estimated global bank IT spending in 2016 at $240 billion. Approximately 80% of this spend goes on run-the-bank activities – critical operations and infrastructure necessary to ensure the business functions. The remainder goes on change-the-bank activities, where an increasing percentage has been taken up by mandatory regulatory changes.

In parallel, venture capital has been investing in new competitors, unencumbered by legacy infrastructure, regulation and costs. Between 2010 and 2016, more than $130 billion was invested in FinTech[1], with almost $18 billion in 2016 alone. FinTech companies have been able to take advantage of new technology and development methodologies. Product release cycles are orders of magnitude faster than traditional banking. This has resulted in rapid improvements to their products in-line with changing customer expectations and behaviours.

The advent of technology-led disruption has been a shock for many industries. Citibank's analysis of the digitalisation of verticals such as music, travel and news, observed an average shift of 44%[1] of market share to new players over a decade. Goldman Sachs estimates that $4.7 trillion in financial services revenues[2] is at risk of displacement, and McKinsey[3] suggests 40% of revenues and 60% of profits in the retail business are at risk.

Customer adoption of FinTech is increasing to a level where it is becoming the normative method of engaging with financial services. EY's annual FinTech adoption index highlights a worldwide average of 33% of consumers regularly using FinTech services, with growth across all age groups; with China, leap-frogging much of traditional banking infrastructure and leading the world at over 70%. This is significant, as retail banking is a notably high inertia industry. The average Briton retains a relationship with their bank for around 17 years, with similar behaviours across the rest of Europe. To set this in context, the average marriage in the UK lasts 11 years 6 months[4].

Whilst challenger banks and non-bank credit providers have emerged focusing on specific niches such as student-debt, supply-chain financing or e-commerce merchant credit, the threat to mainstream banking are less from specific companies, and more from a combination of them. These include new credit providers, wide-spread profit erosion by functionally specific capabilities formerly bundled as part of monolithic banking relationships, and increased regulatory oversight for banks that does not impact their competitors.

FinTech threatens retail banking across four functional areas: lending, foreign exchange, payments, and advisory. In Europe, its impact will be magnified by payment services directive 2 (PSD2), which forces banks to open up access to customer data. This has the potential to reduce friction in adopting third-party financial services, increase transparency around pricing, empower consumers, disintermediate banks, and eat into cross-selling opportunities.

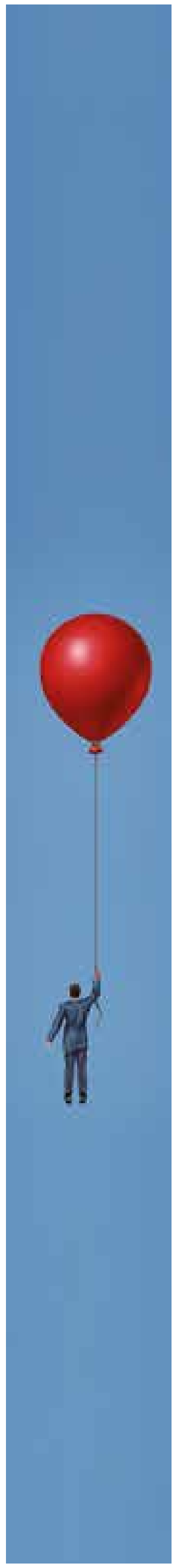
In an analysis of shadow banking (lending activities outside of the banking system), Goldman Sachs looked at consumer/commercial lending and mortgage servicing across six US lending segments. They identified $12 trillion in loans of which they estimated 59% were held on bank balance sheets (or serviced by banks in the case of mortgages), while non-banks held 41%, implying approximately $11 billion in banking profits moving to non-banks[5].

Banks have also created digital teams around core banking capabilities delivering their own services

Deloitte[6] estimates that 25% of European banking revenue is linked to payments, and the online players in this space have matured to the point where they can now address other financial services revenue lines. Companies such as PayPal and Square have vast data sets that enable new lending models which can better price credit risk by looking at historical and real-time transaction data. Non-traditional finance players like Amazon, which has a merchant platform, have been able to make over $1 billion in short-term loans to small businesses in the past 12 months.

Companies such as Revolut and Transferwise started offering reduced foreign rates on currency transfers and have expanded to additional services, such as international bank accounts for consumers and SMEs. What's more, robo-advisors are coming into their own as both a tool to augment advisor capabilities and to provide new services to previously economically unviable customer pools.

Functionally discrete FinTech offerings are well-suited to third-party aggregators that try and provide a single entry-point to services. In theory, they increase transparency, facilitate switching to better services and present a disintermediation risk for banks by sitting between an end user and their financial services, and eating into their cross-selling opportunities. The reality of adoption has been much slower as banks have broadly refused to simplify access to their client data. This is a major PSD2-enabled opportunity and as the underlying standards for interconnectivity, authentication and liability mature, banks will have a reduced ability to hinder consumer adoption of these services.



FINTECH BUBBLE

In 2016 at Davos, James Gorman, CEO of Morgan Stanley, observed "near hysteria" about FinTech, and pointed out that it will take years for the potential and impact of these technologies to unfold.

Despite eye-watering investment numbers and busy headlines, there has been a slowdown in overall funding volumes and decrease in average deal sizes for earlier stage companies over the past two years. This has been countered by increasing investment into later-stage players who have been gradually extending their capabilities and services.

The difficult macro-economic environment has resulted in failures and consolidation, and banks have adopted a number of specific approaches to address their new normal. Structurally, banks are working at cutting costs, with US and Northern European banks reducing operating expenses to assets by 30–35% relative to pre-crisis averages[7]. Technical efficiencies, large-scale branch shutdowns and process automation enable banks to reduce headcount and optimise expenditure, and are beginning to make more effective use of historically siloed data pools supporting faster and better decision-making.

The ubiquity of mobile devices and consumer expectations of frictionless mobile-first experiences is being met by new applications, omni-channel engagement, and digital experiences. Many leading banks are building out technology infrastructure that allows them to partner with third parties and build an ecosystem with their capabilities at the centre of a customer experience.

Banks have also created digital teams around core banking capabilities delivering their own services, and moved in part from technology as a hygiene factor to technology as a strategic differentiator culture. They have used one or more of four distinct strategies to deliver more flexible digital options; separate subsidiaries dependent on a parent organisation's banking licence; brand-only offerings that rely on the parent's back-end infrastructure and sales channels; digital channels that only leverage the parent's back-office; and top-to-bottom digital native banks with their own banking charters. Combined with a three-pronged approach to startups; investment, acquisition and partnerships, banks are beginning to deliver viable alternatives to pure-play digital offerings.

A structural protection for banks is a lower cost of capital than non-banking lenders. While increased numbers of alternative credit sources will put pressure on borrowing rates, with approximately 65% of banking revenue driven by their net interest income, any increase of interest rates from today's unprecedented lows will strengthen profitability for banks while increasing delinquency rates for untested credit models that prove less robust.

Finally, regulations will catch up. Dutch finance minister Jeroen Dijsselbloem said "*Regulators should never be at the front of technological development. Regulators should follow it as closely as possible, understand it and deal with financial stability and consumer protection. You don't want to over regulate before you understand it.*"[8] Whilst some regulators have moved faster in terms of enabling new players such as the FCA regulatory sandbox, they have moved slower in terms of restricting new business models. Given one of the main 2008 lessons was about managing risk interconnectivity throughout the financial system, if significant portions of the lending market move to more lightly regulated and opaque vehicles, it is to be expected that the regulatory arbitrage opportunities will disappear in time.

WHERE NEXT?

FinTech is here to stay, as are traditional banks – although how they service their clients, and run their businesses is changing as they reform around the new normal. The number of banks continues to fall and those that survive will need scale or specialisation. Similarly, there will not be room for all the new FinTech players, and many will not make it, although those that do, have significant opportunities.

Whilst some lending businesses may not stand the rigour of an economic cycle, when interest rates return to historical norms, others will have access to robust differentiated sources of data. A combination of focus and strong risk analytics will enable them to thrive. Additionally, as Japan demonstrates, low interest rates can continue for a long time, and weak productivity growth combined with oversupply of credit means banks will struggle to deliver returns-on-equity remotely near pre-crisis levels for the foreseeable future. Many questions also remain around the level of risk associated with shadow banking, and the balance between regulatory arbitrage versus innovative business models using new technology. As this becomes clearer, regulators will need to step up governance to avoid a new crisis.

Opportunities remain around the role of aggregators. PSD2 combined with open banking standards presents a disintermediation threat for consumer and SME services. It remains to be seen whether users can be offered a truly frictionless bank disintermediation platform, and whether banks come up with effective strategies to maintain ownership of customer relationships as technology platforms mature and a new generation of customers, whose primary interaction with banking will be via apps, not a branch, emerges.

In conclusion, the FinTech revolution is not over. There is still much to play for as regulators, FinTechs and banks continue to partner, collaborate and battle over the future of finance. •

ABOUT JULIAN LEVY

Julian is the CEO of Ayarma Ltd, an advisory firm that supports FinTech and enterprise technology companies with strategic projects and fundraising; and carries out due diligence projects for private equity, venture capital and corporate development teams. He has been an engineer, an equity research analyst, run business development teams at tier 1 investment banks, been an advisor to investment firms, and run board projects for large international banks.

Footnotes

1 KPMG - Pulse of Fintech Q4 '16, Global Analysis of Investment in Fintech
2 Goldman Sachs – The future of Finance 2015
3 The Fight for the Customer: Global Banking Annual Review 2015
4 https://www.theguardian.com/money/2013/sep/07/switching-banks-seven-day
5 Goldman Sachs – The future of Finance 2015
6 Deloitte 2015 – Payments Disrupted – The emerging challenge for European Banks
7 IMF October 2016 – Financial Stability Challenges in a low-growth low-rate era
8 http://www.bloomberg.com/news/articles/2016-01-25/biggest-global-banks-at-davos-we-re-all-fintech-innovators-now

FORMER FINTECH-RAPPORTEUR CORA VAN NIEUWENHUIZEN

WAKE-UP CALL FOR FINANCIAL SECTOR

EUROPE MUST ACT QUICKLY TO REAP THE BENEFITS OF FINTECH, SAYS FORMER FINTECH RAPPORTEUR CORA VAN NIEUWENHUIZEN.

FinTech companies are redefining the rules for success in the financial sector at a rapid pace. Changes are happening so quickly that the actual laws for the sector have become outdated and now form a stumbling block for a safe and innovative future. Outdated regulations refer to borders that do not exist online, focus on risks from the past, and do not treat companies – such as banks and crowd-funding platforms – equally. The time has come to take action.

These and other obstacles were not yet a problem at the outset of FinTech; however, the sector is maturing. Established companies, such as banks and insurance companies, are investing more and more in financial technology, and outdated laws are a huge burden for the development of the financial sector. The majority of legal regulations that govern banks, payment services, insurers, pension funds and the financial markets are established at a European level, which means that reforms to legal regulations must come from Brussels, and need to come soon. Competitors worldwide have their sights set on the European consumer, while outdated legal regulations are likely to impede the competitiveness of European financial firms and institutions.

How do you make Europe FinTech-ready? Let's take a brief look at how things are done in Brussels. New legal regulations require the approval of the European Parliament. To have something to vote on, the Parliamentary Committee prepares a bill. A rapporteur is then appointed to begin preparations. This individual studies the matter and draws up a recommendation. The Committee on Economic and Monetary Affairs (ECON) is in charge of FinTech, and committee member and VVD party member, Cora van Nieuwenhuizen, was appointed to the position of FinTech rapporteur in 2016. The interview took place while she fulfilled this role. Now she is the Dutch minister of Infrastructure.

The brand new rapporteur travelled all over the world and spoke with traditional parties, such as banks, insurance companies, pension funds and accountants; local and European regulators; small and large FinTech companies (including Klarna and Forte); and people from academia - from PHDs to professors. She also found experts to take part in a *public hearing* in Brussels. As a banker's daughter and former bank employee, Van Nieuwenhuizen already knew the financial sector very well; nevertheless, it opened up a whole new world for her as she explored the FinTech market. "I have learnt so much over the past 1.5 years. FinTech is going to change the whole world."

FINTECH IS NOT JUST FOR STARTUPS

"FinTech is not the exclusive domain of startups. I consider all financial services that change as a result of new technology, including the insurance world (InsurTech) and legal regulations (RegTech), as FinTech", says Van Nieuwenhuizen. She is convinced that the rise of new technology, driven by developments in artificial intelligence, cloud computing and distributed ledger technology (used for bitcoins and others), is unstoppable, and she sees many benefits for the financial sector and the consumer alike. Her report is full of information on the topic. "There are specific benefits for consumers and companies, such as low transfer fees, low consumer fees for financial services, better access to money markets for small companies as well as making it easier to do business internationally." Other points that are of political importance are also mentioned, such as increasing financial stability, ensuring a level playing field for all financial services in the EU and the 'inclusion' of people who cannot afford "quality' financial services. Van Nieuwenhuizen even sees an opportunity to reduce systemic risks of the financial system. "FinTech can help reduce risk by decentralising risks."

> "FinTech is not the exclusive domain of startups"

“Regulators must understand the risks”

A CIVIL SERVANT CANNOT WRITE ALGORITHMS

However, all those good developments don’t just happen on their own. To make the most of FinTech, thus serving the European citizen, policy makers and regulators must be capable of assessing the risks. Van Nieuwenhuizen came to the worrisome conclusion that many institutions – particularly government organisations – do not have the knowledge in-house to adequately perform the duties of their job. She names regulators as an example. “Most regulators are lawyers and economists. They are not *tech-savvy* and they cannot write algorithms. This is why they also cannot see whether programmers have built biases into the algorithms.” Unintended biases are a well-known phenomenon when developing algorithms. It is harmless when developing a game, but it can lead to major systemic risks in financial markets. Van Nieuwenhuizen believes this is unacceptable. “As a regulator, it is your job to understand the risks so that you can sound the alarm on time to protect citizens. Therefore, we must invest in people with the right knowledge and also begin experimenting with FinTech ourselves.”

Policy makers can explore FinTech even before the *quants* in Brussels get to work. “We must also start experimenting ourselves. For example, if you start talking about bitcoins or other cryptocurrencies, people’s eyes start to glaze over. However, anyone can create a wallet; you don’t have to be a programmer to do so. When I recently opened my *wallet* I saw ads from Amazon. They offered big discounts on bitcoins. When you see something like that from a large company like Amazon, it makes you think. Just like with cash payments, VAT is often not charged for bitcoin payments, which means that governments miss out on revenues.” As you can see, a political risk emerges if there is no technical knowledge. These types of practical experiences are crucial, according to the rapporteur. This is why she provides encouragement when civil servants start experimenting. “Let the ECB launch a crypto Euro and the DNB a crypto Dutch Guilder. They don’t have to deploy them to the market as an official means of payment, but it does allow them to gain hands-on experience.”

COMPREHENSIVE ACTION PLAN

While Van Nieuwenhuizen encourages civil servants to dive into FinTech, in the long-term she is guiding them towards an overall, sustainable approach to promoting FinTech development. Her report steers clear of specific proposals for new or updated regulations, and instead hones in on general terms and conditions. She wants a comprehensive action plan for FinTech that consists of statutory and non-statutory regulations aimed at competitiveness, financial stability, interoperability, transparency and consumer protection. The plan must also provide FinTech with more legal certainty and clarity.

Van Nieuwenhuizen does provide specific recommendations for cybersecurity, data sharing,

blockchain and payments. “Any company can experience problems due to a cyberattack. You cannot fully protect your company from every attack – especially if employees write their passwords on a post-it note next to their desk," she says. Cyber security must become the number one priority in her opinion. She wants companies to protect themselves against cyberattacks and to have a disaster recovery plan in place in case of a problem.

The rapporteur is also very concerned about the increased use of open blockchain applications, such as bitcoin, for criminal activities, tax evasion, tax avoidance and money laundering activities. After all, as a method of payment it is just as anonymous as cash, but it can be used anywhere in the world. Criminals no longer have to worry about having bags full of cash. The anonymous character of these payments should be addressed, Nieuwenhuizen believes. What does she think should happen? Her report outlines the necessity to hold a conference each year with the different stakeholders from the blockchain world.

Closed distributed ledger technology systems that you have to be granted access to do not have these disadvantages and can be used in practically all areas of the financial sector. Since all participants have access to all information at the same time, it can save a lot of time and money, while increasing transparency.

WAKE-UP CALL

With this report, Van Nieuwenhuizen has taken a step towards better aligning the legal regulations in Brussels with the rapid developments in the FinTech market. At the same time, she is also sending a clear message: “This report must be seen as a wake-up call. Many financial institutions have an innovation manager, but that is often no more than *window dressing*. That is dangerous, because companies that do not take FinTech seriously will no longer have a place at the table in a couple of years; they will be on the menu.” •

SAS AND FINAPS WORK TOGETHER ON INTELLIGENT APPS

As you sit in your office and think about planning your next holiday. You ask your companies HR chatbot how many days you can take. The chatbot answers: “You don’t have any days left...” You are just about to faint when the bot starts typing again: “... just kidding. You still have 13 days left. How many days would you like to take?”

Andrew Hagens of Finaps and Mark Bakker of SAS

LAUGHING WITH SIR BOTSALOT

“We have programmed jokes in chat to keep it fun”

This is an example of one of the many innovative applications from SAS and Finaps, two tech companies that are complete opposites of one another. SAS is an American company that was founded in 1976. It has 14,132 employees and a subsidiary in the Netherlands that is located in a green, wooded environment in Huizen. Finaps is a young Dutch company with 28 employees that is located in Amsterdam. SAS develops analytical software, algorithms and artificial intelligence, while Finaps creates apps. Together, they make intelligent apps for clients.

LINKING STATISTICAL MODELS TO AN APP

The two companies complement each other well, thanks to their partnership. “I can’t come up with a neural network, but I know how to use one,” says Andrew Hagens, technical business engineer at Finaps. He is visibly enthusiastic about the technology developed by SAS. “SAS has a strong focus on R&D and we partner with them on that. We then translate it to the application. For example; SAS has a statistical model that recognises pictures. I had the idea to use it to identify licence plates for processing damage claims. Together with SAS I could turn the idea into reality.” Mark Bakker, senior business solution manager at SAS, also sees the benefits. “We make sure that the data is up-to-date and that we can create excellent analyses for our clients, the output of which we often provide through a dashboard. That is a shame, because images on a dashboard are aimed at visualising data and are not used for anything else except giving you insight into your data. You can do a lot more if you merge data and analytics together in an app or for example a chatbot.”

PLAYING WITH STATISTICS AND ECONOMETRICS

Bakker considers this type of partnership a natural outcome of each company’s competencies. The flexibility of Finaps is a perfect match with the rapidly changing and widely varying needs of clients. Nevertheless, the development of reliable statistical models requires time, manpower and continuous management. SAS developed those skills and capacity over the years. However, flexibility and those statistics are not enough for a fruitful partnership. There are plenty of companies like Finaps that know how to build an app, and even SAS has a few competitors that know how to perform a good quantitative analysis. It all boils down to the fact that the Finaps engineers know exactly what they can do with the SAS tools and that SAS is not afraid to open up its technology to third parties. “You can play around more with the SAS tools; therefore, someone who understands our systems can accomplish a lot.” It also requires much skill and effort, because not everyone has what it takes to use SAS to this extent. “You need to know about econometrics, statistics, and you have to be able to build an app. This is a rare combination, but the engineers at Finaps are capable of mastering all the aspects”, says Bakker. SAS and Finaps don’t have an exclusive partnership, but the scarcity of the necessary knowledge brings both companies together. According to Bakker, the partnership leaves you wanting for more. “I do see this partnership as a model to build upon. Companies in other countries are also interested.”

PROGRAMMING HUMOUR INTO A CHAT APP

The partners in crime serve many financial clients. SAS works for ING, Rabobank, Van Lanschot, AEGON and others. Finaps serves ING, ABN AMRO, De Hypotheker and the PGB pension fund. For the ING Innovation Day, Finaps and SAS developed the chat app ‘Sir Botsalot’, who can answer questions about human resource matters. The app is used by the HR department of ING and answers questions like ‘how many holidays do I still have?’ and ‘how much am I allowed to spend on a company car?’. Relatively simple questions, but the bot helps you find the right HR employee for more complex questions. The HR department has more time now to spend on complex matters, while ING employees can quickly obtain answers to their simple questions. Hagens sees this as an example of how technology and human beings can work

“We can make the financial sector more stable”

together. “The bot can perform simple, routine tasks so people can spend more time on more complex and interesting topics.” At the same time, Hagens is working on making the technology ‘more human’. “Human language is very complex. This is why chatbots do not always understand what a person wants or means. We have also programmed jokes into the chatbot to keep it fun. When something goes wrong, people need to laugh a little and try again instead of getting frustrated and giving up.”

And, as the funny Sir Botsalot helps ING work more efficiently, Hagens and Bakker see many more problems the financial sector is struggling with where their technology could provide a smart solution. “This is just the tip of the iceberg, but I think our technology can improve the majority of services provided by banks, insurance companies and pension funds. Approximately 80 percent of insurance damage claims could be processed automatically. And algorithms could make it a lot easier and faster to identify insurance fraud than human researchers can. The same holds true for evaluating someone’s credit worthiness. That is the perfect example of a statistical problem.”

START FAST, FAIL FAST

The men are full of ideas, but things don’t work that quickly in practise. “A partnership with people and companies in the financial sector is not always easy. It is often new, and there are many regulations and processes to deal with. However, it usually works out in the end. We are currently working on a couple of interesting projects,” concludes an optimistic Hagens. “I notice that financial institutions are getting better at partnering with innovative technology companies and vice versa. They see the necessity of FinTech and are familiar with how startups generally work, such as agile scrum and the start fast, fail fast principle.” Bakker sees that the willingness to embrace FinTech has also been sparked by a technological rat race among financial institutions. “We receive requests from companies that have seen something at a competitor and would like to implement it for their own clients. In a sense, we can copy the technology and adapt it to the other company’s needs.”

THE SKY IS THE LIMIT

Bakker touches on a sensitive issue, because what makes a bank unique if more and more of its work is done by software that everyone can buy? The power shifts to the technology companies that are entering into the financial market. Managers of financial companies are now faced with a difficult choice. “They must ask themselves whether they are now a financial company or a tech company," Bakker says. He doesn’t know what the right choice is, but he sees that the technology is being developed at an increasingly rapid pace. “Computers are becoming more powerful and efficient, which means you can do more for less money. That is reinforced by improved algorithms and by the capability of machines to learn, for example, deep learning in which computers learn to identify patterns that indicate possible insurance fraud. “The sky is the limit. There aren’t many problems machines cannot handle. They can keep learning more and more, and can even speak. Now they just have to learn how to make decisions. Once we have accomplished that, you can do some really cool things. The only obstacle I see is creativity,” Bakker says.
Is the financial sector ready to give creativity free rein? The techs see that their clients in the financial world still have doubts because they do not want to run any risks in compliance, privacy and cyber security. There is also a technological solution to this problem, according to the optimists of SAS and Finaps. “You cannot program people’s trust, but you can program data security, privacy and transparency,” says Bakker. Hagens takes it one step further: “We can implement technology to make the financial sector more transparent and stable.” •

Guard Square

Protecting banking and payment apps against hacking

Mobile banking and payment applications are vulnerable to a broad range of hacking attacks. As with any other mobile application, they can be reverse engineered in no time, allowing hackers to extract sensitive information from the code, or even tamper with the application. Banking and payment apps can also be the targets of runtime analysis and live attacks. To ward off these attacks, it is imperative to harden the code for payment and banking applications and to integrate runtime self-protection functionality.

Company description

GuardSquare is the global reference in mobile application protection. GuardSquare develops advanced software for the protection of Android and iOS applications against reverse engineering and hacking. The company's products are used across the world in a broad range of industries, from financial services, e-commerce and the public sector, to telecommunication, gaming and media. GuardSquare is based in Leuven (Belgium) and San Francisco (USA).

IDnow

IDnow is an international expert for identification and electronic signing products.

The Munich software company develops and markets secure solutions for the electronic identification of persons, as well as for contract signing via computer or smartphone. IDnow guarantees legal validity and the highest level of data security for its solutions. IDnow's products address all business clients who acquire new customers online and want to offer AML-compliance and the conclusion of contracts online – e.g. online banks, modern retail banks, credit and finance providers, credit card providers, local authorities, and insurance companies. The FinTech's clients include numerous leading companies like Commerzbank, UBS and N26.

Kontomatik

Kontomatik is an API that allows financial institutions to access customers' banking activity.

Kontomatik add-ons enrich and structure the data to build a broader financial behavior profile for analytics purposes. Kontomatik data can be used to identify a customer (KYC) online, perform a detailed credit scoring, and faciliate more precise customer segmentation in a more precise way.

Started in 2009 as Kontomierz.pl, a leading Polish personal finance application, the team has seen a significant need for the development of the Banking API. This is why, two years later, the team has released its first version of the Banking API that was used in the award-winning service: Alior Sync. Since then, Kontomatik has been launched not only in Poland but in nine other countries.

WIM MIJS ABOUT FINTECH AND BANKING

“FINTECH IS A TRUE BLESSING FOR OUR INDUSTRY”

SLEEPING GIANTS? DINOSAURS? BANKS ARE OFTEN DESCRIBED AS COMPLETELY MISSING THE BOAT WHEN IT COMES TO FINANCIAL TECHNOLOGY. BUT NOT FOR WIM MIJS, CHIEF EXECUTIVE OFFICER OF THE EUROPEAN BANKING FEDERATION (EBF). FOR MIJS IT IS CLEAR: THE SLEEPING GIANTS ARE AWAKE WITH THEIR EYES WIDE OPEN.

“FinTech is maturing at a fast pace - a development we welcome wholeheartedly. The sector’s potential is not to be underestimated, but at the same time we have to be realistic about the hurdles. Many banks are solving inefficiency problems through the smart use of technology while meeting customer expectations. FinTech is a true blessing for the banking industry.

“We see progress with faster credit applications, mobile banking and automated advisory. It is too easy to say technology instantly causes banks to scale down. Banks follow the customer. It is true that the customer does not want to stand in line anymore at the bank, something my parents had to do in their time, but today, most banks already are on your phone, and that is the right place for basic financial services nowadays.

“Only life events such as marriage or buying a house require you to actually go to your bank. But for the rest, it is all in your pocket. So, yes there may be fewer banks in the future because some legacy systems are not able to meet today’s demands or are simply too difficult to keep up to date.

“In the meantime, FinTech is being scaled up by both startups and banks. It is even being integrated in totally different industries, and that is an exercise in itself. Scaling down is sometimes part of the digital strategy. But what we also see now is that banks which are integrating more and more new financial technology eventually need new talent and skills - developers, product designers and technology strategists, to name a few. Banking in the cloud is also very promising but can only be in full operation when there is trust and an industry standard in place.

“Banks and startups must cooperate to achieve a single goal: offering modern and reliable financial services. Banks are helping FinTechs accelerate across the financial services value chain by actively investing, educating and developing FinTech products. Many banks have set up platforms to attract entrepreneurs and experiment with banking infrastructures. Now that a financial service has transformed from a legal administrative product to a pure technology product, you need knowledge and expertise from both domains.

“The most successful way to cooperate is to enable the best of both and complement each other where needed. Of course, there is competition but this is only healthy for the market.

“Now that more online devices and channels are connecting us with banking services, the risks are indeed bigger. Cybersecurity is a very important issue for banks and an important part of our work at the EBF. Customers expect banks to protect their data, so banks must put everything

"Many startups really have great ideas but are struggling with the heavily regulated environment"

in place to create a safe and stable system in the interest of the end-user. Customers now want to sign their agreements digitally instead of by hand. Biometric technology and e-identification provides great solutions to avoid the paper trail. To protect this new private and sensitive data, we need clear rules and active supervision.

"It is not enough for banks to keep systems up-to-date. They must follow all protocols and always stay alert. Awareness must start at local level and go up all the way to the boardroom. It is also necessary to share security information and best practices in the financial community. Cybercrime is a threat to us all and can affect financial stability. With the emergence of all sorts of hackers and cybercriminals, some outdated technologies also need a revision. Screen scraping, for example, exposes customer data without guaranteeing control. Data protection stays the priority, for industry and regulators. Only then can innovation flourish.

"At the EBF, we are working closely with European cybersecurity agency ENISA and with EC3, the cybercrime unit of law enforcement agency Europol, with whom we signed a memorandum of understanding. We work together on awareness campaigns and help build bridges between police units and banks.

"The rules of the game are complex. At the EBF, we deal with financial regulation every day. We want to make sure that technology is dealt with properly when it comes to legislation. New entrants also have a role to play and require a fresh look at the law. The regulatory environment remains tightly controlled. Also, the European FinTech environment knows many unique markets, each ecosystem presenting different challenges and potential.

"To overcome this, with the digital transformation in mind, we have launched a FinTech platform where we want a constant dialogue about regulation and innovation at EU level. We saw that many startups really have great ideas but are struggling with the heavily regulated environment.

"Without expensive lawyers' fees, the EBF can share its knowledge on a wide range of topics. Startups can enrich our work with the latest view of the market. We have expert working streams on cloud, data, cybersecurity, payments, blockchain, e-identification and digital skills.

"In a recently published EBF report, entitled 'Innovate Collaborate Deploy', the EBF outlined the most important FinTech positions to date in all working streams. However, the landscape changes fast and collaboration is needed to stay ahead.

"So let me call on FinTechs of all sizes, coming from all corners of the continent, new and old, to help us refresh and refuel the regulatory engines for next generation financial services."

CREATING A **WOW EXPERIENCE** WITH PAYMENTS

Marjolein Gerritsen, director of customer and market for International Card Services (ICS), responsible for the business strategy, products, marketing, sales and customer experience, responds to a number of statements about the future of payments and credit cards.

The credit card of the future is not rectangular and plastic. There are endless ways to pay for something with all types of objects.

Thanks to chip technology for contactless payment, credit cards can come in many different shapes and sizes. Payment become a more integral part of the total customer experience and will be increasingly more integrated in the purchasing process. At the same time, additional functionality will be added to credit cards, enabling quick and easy payments. In London, you can travel by public transport with a contactless credit card that is linked to a credit card account. Travellers no longer need to look for a machine to buy a ticket, to then insert that ticket into the access port. With contacless credit cards they are checked in and checked out automatically at the end of the trip. That is interesting for us as a credit card issuer, for the public transport sector, and the customer who no longer has to stand in line. This does not change the essence of the payment functionality, but it improves the customer experience.

“We have experimented with a prepaid credit card, built into a bracelet. It could have also been built into a ring or a watch”

In the Netherlands we have experimented with a prepaid credit card, built into a bracelet. It could have also been built into a ring or a watch, or another object that would make payment easier. Bracelets like these may be convenient and safer for concert-goers who do not want to keep pulling their credit card out of their pocket; they only need to wave their arm to pay for a beer. We gave our employees a bracelet to see how the outside world would react because merchants must get used to these bracelets too, and consumers must be a little technologically inclined to want to use one. It allows retailers to improve the whole customer experience.

The payment process must become a part of the total customer experience instead of the last hurdle the customer must get through.
Our customers give us a high rating for the ease of use of the app and the website. We are in the middle of a digitilisation process and continue to learn how to make the customer experience and the customer journey even better and more fun. We are measuring a lot and are in continuous dialogue with our customers to understand their needs. Paying for something must be easy and safe. Those are not necessarily conflicting interests, but if you know the customer well, that will help towards achieving both goals. Additional checks are built into PSD2 to determine whom you are dealing with. That demands stronger customer authentication in some cases, but PSD2 also allows you to apply fewer checks to a customer you know well. The ideal customer experience for us is to make it so easy to pay that it creates a WOW effect. Because paying for something is not always easy in the customer's experience.

The new European Payment Service Directive 2 (PSD2) for standardising payments is both a threat and an opportunity.
With the PSD2, non-traditional players in the payment sector can also facilitate payments. The potential threat for credit card companies is that the designers of new payment systems will bypass Visa and Mastercard. However, in reality, PSD2 will more likely lead to a multitude of new, small payment systems, which will be followed by consolidation because many of them will not survive. That can definitely lead to confusion for consumers and companies in the beginning. The opportunity for us is that we will see movements in the payment market, which will lead to “aha” moments, and we will be able to partner with FinTech companies to come up with amazing applications.

Providing so many payment options will be overwhelming to customers. Customers should be able to choose between iDEAL, a credit card or paying later.
I don't think consumers will be overwhelmed by the number of choices. Consumers have preferences and make their choices accordingly. Therefore, some payment methods will truly take off and others will not. People must be willing to accept all those new payment methods. Paying for something in our country is highly efficient. Payments are processed in nanoseconds. Whoever wants to stand out as a payment system provider must turn the customer experience around, while being large enough in scale to be accepted by companies. I believe in the power of credit cards and in the new developments within the payment industry as a whole.

IN THREE MILLION WALLETS

A Visa or Mastercard credit card issued by International Card Services (ICS), a wholly owned subsidiary of ABN AMRO, can be found in more than three million wallets in the Netherlands. ICS issues credit cards directly to consumers and business clients, as well as in cooperation with partners like De Bijenkorf and ANWB. The company, with its head office in Diemen, processes approximately 80 million transactions a year.

> "FinTech companies are looking for a market, and they are often good at one thing. We can benefit by working with them"

Credit card and ATM card providers are leading the payment evolution. Only they have the size, the globally accepted payment systems, and the customers who do not want to deal with payment hassles.
The digital payment evolution will be a partnership between companies like ICS with a large customer base and a worldwide eco system, and FinTech companies that zoom in on a small piece of the payment chain. I see that as an opportunity. FinTech companies are looking for a market, and they are often good at one thing. We can benefit by working with them. The WhatsApp revolution happened quickly, up to a billion users per day in 2017. The only thing they needed was users. Developments such as complicated infrastructure and payment eco systems that involve multiple parties do not take hold so quickly. The EMV initiative, the international standard for secure chip technology in cards, began in 1998, but it took until 2012 before it became the standard in Europe. Cards in the United States have only just recently been equipped with this technology. We are seeing a direct reduction in the number of fraud cases as a result.

The Internet of Things (IoT) is a win-win for credit card companies that can enter into new partnerships with companies from other industries.
Convenience and the ability to manage things remotely are in full swing thanks to developments in technology. The more devices that are interconnected through the internet, data extraction or artificial intelligence, the easier the processes will become. The automotive and the white goods industry, along with manufacturers of vending machines, are taking a very close look at the IoT, and offer payment choices that are in part handled by Visa or Mastercard systems because those cards are accepted worldwide. Otherwise each country would have to conclude its own deal for payments. Technology opens up a lot of options, but success will ultimately depend on the ability to focus on the needs of the customer. If a customer thinks: what am I supposed to do with this, technological innovations will have no chance of succeeding.

The payment solutions that Google, Samsung and Apple create cannot realise their full potential without the customers of banks and credit card companies.
Facilitating payments is not their core business activity. However, these technology companies also see the movement of massive amounts of transaction data in the payments world, and that the sector offers great opportunities. The market for Wallet payment systems is fragmented. E-wallets don't always work without specific hardware or mobile operating systems. Millennials, people who are technologically-inclined, and digital natives will undoubtedly try wallets, but that is not the case for everyone by any means. Many Dutch people have become so accustomed to their credit card that they do not see a need for a virtual wallet. We won't suddenly start using different payment methods tomorrow, new payment methods will simply be added to the existing ones.

A cashless society is ultimately a political decision.
Every society must keep groups of people in mind who cannot keep up with the pace of digitisation. People don't always understand how unsafe it is to have physical cash in their hands. The Netherlands is leading the way in reducing the use of cash in comparison with countries like Germany or France. It remains to be seen whether cash will completely disappear in the future. •

CONTACTLESS PAYMENT

A total of 1.4 million credit cards issued by ICS in the Netherlands already have a built-in NFC chip for contactless payment, and that number is growing. Thanks to the emergence of contactless payment methods and new types of credit cards that are more in line with the customer's experience, the credit card may be able to remain in the wallet in the future.

Meniga

Meniga is a global leader in white-label digital banking solutions.

Its award-winning products enable the world's largest financial institutions, such as Santander, Intesa, ING Direct, Commerzbank and mBank, to dramatically improve their online and mobile digital environment, enriching the user experience of over 50 million digital banking users across 20 countries. Meniga has developed a framework for next-generation digital banking around advanced data consolidation and enrichment, meaningful customer engagement and new revenue opportunities. Meniga enables banks to offer a rich, user-centric digital banking environment filled with innovative functionality such as the engaging social media-like financial activity feed, habit forming Challenges savings feature, highly relevant card-linked offers, and tailored product recommendations. Meniga's solutions combine a seamless user experience with humour, gaming concepts and social curiosity, to provide banking customers with a personalised experience to manage and get the most out of their personal finances. Meniga was awarded European FinTech top 100 in 2016, "Best of Show" at Finovate Europe in 2011, 2013, and 2015, and was featured on Fintech50 in 2014, 2016 and 2017. Meniga was founded in 2009 and is headquartered in London, UK, with offices in Reykjavik, Iceland and Stockholm, Sweden.

N26

N26 is Europe's first Mobile Bank with a full European banking licence and is setting new standards in banking.

N26 has redesigned banking for the smartphone, making it simple, fast and contemporary. Opening a new bank account takes only eight minutes and can be done directly from your smartphone. Users receive a Mastercard to pay cashless or withdraw cash all around the world. They can block or unblock their card with a simple click and send money instantly to friends and contacts. N26 was founded in early 2013 by Valentin Stalf and Maximilian Tayenthal. In two years, N26 has acquired more than 500,000 clients. It operates in 17 countries: Austria, Belgium, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Portugal, Slovakia, Slovenia, and Spain, and currently employs 290 people. Since January 2015, N26 has been available for Android, iOS, and desktop. N26 has raised more than $55 million from investors, including Li Ka-Shing's Horizons Ventures, Battery Ventures and Valar Ventures, in addition to members of the Zalando management board, Earlybird Venture Capital and Redalpine Ventures.

Sonect

SONECT is the world's first network of ATMs (Cash dispensers) without owning any physical infrastructure.

SONECT converts any shop or individual into a "Virtual ATM", reducing the high "cost of cash" via a location-based on-demand service that allows its users to withdraw cash using a smartphone. SONECT disrupts the ATM industry by democratising the process of cash distribution. What UBER is to Taxis, AirBnB is to Hotels, SONECT is to ATMs. It is a location-based matchmaking platform that connects those who want to withdraw cash with those who want to deposit cash – typically, a shop owner. This way, the shop owner not only reduces his cash management efforts but also earns money and increases footfall, while consumers can withdraw cash at the click of a button (on their smartphone) wherever they are, and banks can save up to 50% in running their ATMs while generating new revenue. As branchless transformation gains importance with most retail banks, SONECT provides a perfect solution that helps reduce physical presence, yet brings the bank much closer to their customers.

SCALE-UP WITH TOPICUS

PLATFORM PROVIDER CHALLENGES MORTGAGE MARKET

Topicus is growing like a weed and is now launching its own peer-to-peer mortgage. The scale-up was not without growing pains, but with help from experienced advisors from law firm Van Doorne and its own resilience the company got through.

Topicus began as a spin-off of the University of Twente in 2001 and currently, with the recent acquisition of Able that was closed early October this year, has grown to 800 employees. Most of the company's earnings are from the financial sector, but it is also active in other sectors, such as healthcare and education. Managing the full chain of financial service providers was on the company's growth agenda from the very first day, according to managing director of Topicus, Daan Dijkhuizen. "Every process at a financial institution has inefficiencies. Our objective is to eliminate them." The inefficiencies Dijkhuizen is referring to are the result of work done by human beings. "The market is stacked. A business process is spread over multiple companies, departments, and people. Everyone works on his or her part of the process and then forwards the work to the next department. That transfer takes time and things go wrong. We connect the different links in the chain to reduce the risk of mistakes while speeding up the process and improving the user experience."

ACCELERATE SCALE-UP WITH M&A

"The connection is created through our own software platform. The programmers are expanding the software step by step and the company has experienced steady growth.
To accelerate growth, the scale-up requires taking far-reaching measures, such as strategic acquisitions. "The acquisitions are currently being financed from the company's own funds, but Dijkhuizen expects that external financing will be necessary in the long-term to maintain growth. The scaling-up comes with an increasing need for professional support. "We have required legal support from the ZuidAs for some three years now," says Dijkhuizen. Since 2014, he has been working with lawyers from Van Doorne, Friso Foppes and Arno Voerman. Foppes says: "Our partnership began with governance-related topics, as the fast growth required some changes to the informal and flexible way of working, without letting go of the startup and challenger spirit. The partnership broadened since and has primarily extended to external partnerships and acquisitions."

IMPACT INSTEAD OF MONEY

Topicus wants to continue its growth. Dijkhuizen prefers to talk about impact instead of money. "We have happy teachers, users, and consumers and we want to double the growth in impact that we have achieved since 2001. There is obviously a financial side too. We now generate 80 million in revenues per year." In the company's quest to increase impact, it lives by one fundamental rule: The IP stays with the company. "Every piece of software that we develop remains our property." This occasionally led to misunderstandings during the startup years of the company and the company sometimes passed on appealing projects as a result. However, 16 years later, Topicus has benefited greatly from that rule. "Because we own the product, we are able to further develop our solutions discretionary and in cooperation with other clients, in the financial sector as well as in other sectors that are struggling with comparable challenges."

CHIP IN TOGETHER

These efforts circle back to the original clients because the experience the company gains from other companies is used to improve the existing software. Topicus has introduced a coin system to accelerate this cross-fertilisation. "We try to bring competitors together to jointly invest in our platform. The various clients and Topicus each put fictitious coins on topics that are important to them. This allows us to prioritise the most important topics." Various banks and insurance companies work with the same software thanks to this intensive partnership method combined with the large market share held by Topicus. Can they still differentiate their services? "Financial institutions decide how they will differentiate themselves. We are only responsible for development and management, but the banks and insurance companies have access to client data."

THE TABLES ARE TURNED

Topicus now connects directly to the end-user. The company gained a lot of knowledge about the processes service models in the markets in which it operates. "A shared interest brings better rates." Because Topicus is not an incumbent service provider yet, it still has room and the flexibility to experiment to an extent which incumbents are hesitant of, because reputations and positions are at stake. Therefore, Topicus can – in cooperation with its business-to-business clientele – perform the role of frontrunner in deploying disruptive concepts to the markets. Again, the lessons learnt will be circled back to Topicus' clients. For example, Topicus knows the financial retail markets so well that it is now entering the market to approach consumers as a lender for consumers. "We are now going to prove that a more re-intermediated

> "Every piece of software that we develop for our clients remains our property"

“Outplacement is a forbidden word at our company because we are not consultants”

form of lending and borrowing in conjunction with existing financial partners benefits all: the funder, the advisor, the regulator and, most importantly, the consumer. Operating under the guiding principle that ‘a shared interest brings better rates’. We are taking Jungo, a platform for peer-to-peer mortgages, directly to the customer. We will begin by issuing 40 mortgages. If all goes well, we will keep going until we reach 200.” Even though this Topicus daughter will be approaching consumers directly, the company explicitly involves and cooperates with established financial institutions. “We do not have the capital or the distribution mix (and knowledge) to issue mortgages ourselves. Consumers collect the top 20 percent of the mortgage through crowdfunding; the rest comes from institutional investors, such as insurers and pension funds.” This step makes Topicus both the supplier and the challenger of existing mortgage lenders. Nevertheless, the company has not kept the development of Jungo a secret. “On the contrary. We have been sharing our ideas with our existing clients in the financial sector since the beginning. We have even invited them to participate as a funder, and two of them took that step. One on funding and one on concept development.”

PROBLEMS BECOME PRODUCTS

Under the full attention of the financial sector, Topicus is now entering the heavily regulated domain of financial institutions. The techs were also given a lesson in entrepreneurship in this case. “I thought we were in the clear after obtaining the AFM permit, but we still had to deal with the DNB. It is a strict schoolmaster, but we were able to overcome any issues and find our way with them as well. The main difficulty was to bring together the requirements of both regulators,” concludes Dijkhuizen. FinTech-partner Arno Voerman recognises the problems experienced by Dijkhuizen. “Regulatory oversight is a patchwork and with the emergence of FinTech companies you see more and more propositions that no longer fit inside the AFM or DNB box. This makes it particularly complicated, and very time-consuming and expensive for small FinTech startups to organise everything appropriately.” Dijkhuizen sees the extremely complicated regulatory and legal bureaucracy as an opportunity. “If there is a problem, techs want to solve it; that is why we also want to enter the legal sector.” For now, Foppes and Voerman do not have to be afraid of losing their income to their client’s software. Advice and management are not on the agenda for automation yet. “We close the circle, just like in FinTech. We have already begun by supplying information for rechtspraak.nl, so that they no longer have to carry the piles of paper documents back and forth in their carrier bags. The next step will be to view documents using artificial intelligence.” The first signs are positive; Van Doorne is already a client.

Finaps

Finaps develops high-quality innovative IT solutions for the financial sector using advanced technologies.

In the fast-changing technology environment we live in today, Finaps continuously explores innovative new technologies and frameworks to work with. Data analytics, machine learning, workflow and portal solutions, mobile apps and chatbots are examples of our solutions. Our team of young, passionate and ambitious business and data engineers develops high-quality solutions with a short time to market. Many organisations see Finaps as the partner of choice when it comes to the delivery of top-quality innovative business solutions that work.
Organisations in the financial sector need to act quickly and respond to daily changes more than ever, perhaps even more than in other sectors. SAS has been a leader in analytics for over 40 years. With innovative software in the areas of data management, customer intelligence and fraud management, we help customers make faster decisions so they always stay ahead of their competition. DirectPay, for example, applies SAS Visual Analytics insights to optimise risk management, and CZ uses the SAS Fraud Framework to detect unjustified claims and better manage healthcare costs. SAS's solutions are user-friendly and contain the latest technologies that help organisations get the most out of their data.

Connective

Connective redesigns your identity and signature-driven processes into an unparalleled digital customer journey

Connective is a key player in delivering European Identity services & digital signature solutions. With our Digital Transaction Management software we enable businesses and institutions to transform any identification or signature based transaction into an unparalleled digital customer journey (e.g. digital onboarding, KYC, contract signing,…). Our modular software includes solutions for smooth yet secure Identity Services, flexible generation of smart Digital Documents and obtaining legally binding eSignatures (eIDAS certified). Connective is known for integrating the best-of-breed European identification & signature methods (such as beID, IDIN, FranceConnect, SuisseID, SMS- or email OTP and more) so that our clients can do business any place, anywhere, anytime – in a fully digital way. By digitally managing any kind of paper-based transaction, Connective provides its clients with the tools to increase operational efficiency, offer best-in-class user experience and obtain easy-as-can-be compliance to national and European regulation (e.g. eIDAS, GDPR, AML4). Connective was founded in 2014 and is a fast growing FinTech provider in Europe with established offices in Belgium, The Netherlands and France. Today we help accelerate the digital transformation for our clients, which include BNP Paribas, ING Bank, AG Insurance.

Openclaims

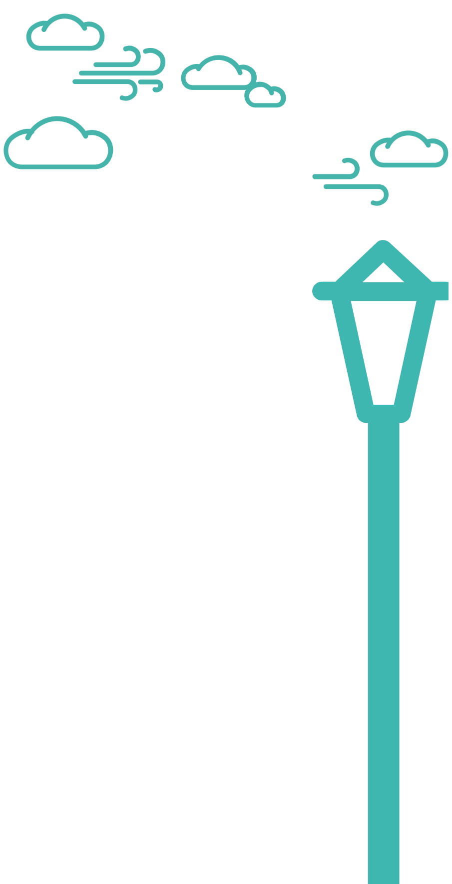
Dutch startup Openclaims assists insurance companies, brokers and intermediaries in offering their clients an intuitive journey, while digitalizing the workflow and optimizing procurement and the same time.

We believe claims management is at the heart of the insurance process, the real moment of truth. We also believe that great claims processes are customer centric and efficient at the same time.
One of these processes is the claims auction, wherein the customer benefits from an excellent and easy customer journey in which each damage is matched to the best-suited body shop based on capacity, expertise, lead time, price and repair quality. This also allows insurers, brokers and intermediaries to have full control over their repair network and each individual claim.
The claims auction results in a highly rated customer journey (+40 NPS score) and saves insurers, brokers and intermediaries 20-25% on out of pocket claims costs. The Openclaims platform has been thoroughly tested and has proven to be successful in saving massively on out of pocket claims costs and provides the customer with an easy, excellent and unique customer journey.

ADAXIO & DAVINCI INNOVATE THE MORTGAGE PROCESS

AN INTEREST RATE PROPOSAL READY IN 2 MINUTES!

When looking to buy a house, customers normally have no problems finding one that meets all their needs. However, the time needed to arrange funding tends to irritate both financial advisors and customers. The average mortgage application in the Netherlands takes 20 days. However, once an application has been submitted, a lot of valuable time passes for all involved parties and customers are left with doubts about whether funding will actually be provided.



Believing that this process could (and should) be improved, Adaxio and Davinci decided to join forces in an attempt to significantly reduce the mortgage servicer's application process. And this has been successful. Thanks to a fully automated process in Close Origination, it is now possible to issue an interest rate proposal within 2 minutes. By using automatic document assessment and performing automatic checks with various sources, it has also been possible to significantly reduce the time taken to complete the file.

LOOKING TO DRASTICALLY SPEED UP THE PROCESS

When customers apply for a mortgage, this is followed by a time-consuming process involving many manual actions, which include identity checks, credit worthiness checks and manual analysis of acceptance documents. Adaxio recognised the need to change this process.

Stefan Bruggeman - CEO Adaxio: "These days, everything can be arranged quickly and easily through digitisation, with the exception of mortgage applications. We think this is rather outdated. In the past, we were not able to offer our customers the service and speed they deserved. That is why we decided to work with Davinci to find a futureproof solution that would significantly speed up the process. This vision resulted in an automatic acceptance tool, where manual actions have been minimized and a process has been designed where feedback and, if needed rejection, can take place at an early stage."

STREAMLINED PROCESS AND TRANSPARENT ACCEPTANCE POLICY

A fast and predictable application and acceptance process has been created because almost all steps in the process are digitised and automated. Once an application is received, it is checked automatically and supplemented with data from various sources. The output is then immediately integrated into the process and helps to improve fraud prevention, compliance and creditworthiness assessments. In addition, the midoffice uses a fixed set of business rules, which leads to a clear and transparent acceptance policy.

Victor Collast - Senior mortgage acceptant Adaxio: "Clarity and transparency are appreciated by us and advisors alike. It makes it easier for the advisors to evaluate which customers comply with the acceptance policy. In addition, automatic processing means I no longer have to enter data manually, and I can focus on evaluating complex cases and exceptional situations."

The required supporting documents are supplied digitally and are processed and evaluated automatically wherever possible. The time needed to evaluate documents has been reduced considerably, which means a lot of time has been saved during the whole process. Close Origination supports an STP application process, which helps to significantly improve FTR ratios. Another advantage of this approach is that it allows a complete, high-quality digital file to be created.

QUICK RESPONSE TO CUSTOMER'S MORTGAGE APPLICATION

Adaxio is able to issue an interest rate proposal within two minutes. This offers a great advantage because it gives customers a decisive answer to their mortgage application within a few minutes.

Stephan de Graaf – Manager Mid Office Adaxio: "It is essential for us to meet the needs of our customers and offer them the best possible quality. Compared to others, we are doing very well. On average, our complete process is three times faster than our competitors', which results in satisfied advisors as well as satisfied customers!"

STRONG COLLABORATION AND A TIGHT-KNIT PARTNERSHIP

The collaboration between both parties was one of the reasons why the new process has been a success.

Stephan de Graaf – Manager Mid Office Adaxio: "Davinci and Adaxio share the same vision when it comes to digitalising the mortgage process, and that's what makes our partnership so pleasant. We were in very close contact all throughout the process and are always trying to make improvements after seeing how things pan out in practice. A good example of this was the new functionality added after new legislation last year. In order to comply with this legislation, mortgages had to be fully re-checked on the offer date. These automatic checks have been implemented in a short period of time and save us a lot of extra work." •

" ON AVERAGE OUR PROCESS IS <u>3 TIMES FASTER</u> THAN OUR COMPETITORS'. "

Stephan de Graaf
Manager Mid Office Adaxio

ARTIFICIAL INTELLIGENCE – A HUMAN REVOLUTION

AUTHOR EDLE EVERAERT

Artificial Intelligence (AI) will radically transform the way we do business in the future, and the way we live. That's a strong statement, but I believe it's true. AI has many faces. As we are increasingly confronted with it, it's important to understand what it can and can't do and how companies can pivot wisely to this still evolving reality without overlooking the ethical, human and regulatory questions it raises.

WHAT IS 'ARTIFICIAL INTELLIGENCE'?

There is not one but many definitions of AI, and its scope remains fluid and evolving. Some people even state that AI is everything that has not yet been done, referring to the observation that as the tools we use daily become increasingly sophisticated, tasks previously considered as requiring 'intelligence' are now considered routine and get excluded from the AI definition. Think for example of a good spam filter, spell check or optical character recognition, all of which used to be considered revolutionary, but today don't impress people anymore.

Accenture defines AI as follows: *'A constellation of technologies that extend human capabilities by sensing, comprehending, acting and learning – allowing people to do much more.'* In other words, we put the focus on the ability of AI to complement and empower people instead of replace them.

Therein lies the key: If you only look at AI from the perspective of a technology that 'can do it all', it will fail and create problems within organizations and society. The added value of Artificial Intelligence lies in its ability to extend human capabilities. People, not machines, are at the heart of this so-called Fourth Industrial Revolution.

WHY IT'S CATCHING ON NOW

While AI exists since the 1950s and a good number of the AI tools we use today have been around for a while, its adoption has grown exponentially in the last couple of years. There are multiple reasons for why AI is affordable, doable and available today:

- **Computing power** continues to grow and decrease in cost, making it possible to capture vast volumes of data and run increasingly complex machine learning.
- **Data** is growing exponentially and the Internet of Things and Big Data solutions are creating new data sets each day. The resulting ocean of data provides the ideal basis for training AI tools.
- **AI software** packages and toolkits are becoming increasingly available, often offered as plug & play solutions through the Cloud.
- Lastly, the open innovation aspect of AI means it is easier to gain **access to leading AI thinking and skills**. As a result, more and more people will be able to create a bridge between humans and these technologies.

AI MATURITY

AI is not omnipotent or capable of replacing us. AI systems are trained for a narrow situation. In essence, they **sense** (capture data), **comprehend** (associate a meaning to them), **act** (execute an action or pass it on to another system, be that a robot or human) and **learn** (an essential catalyst of AI is the ability to learn from historical data in order to improve its future performance) for a specific activity.

With AI covering a broad range of very different techniques, we observe different levels of maturity in these different techniques. Currently, the four most actively explored are often used in combination as these examples show:

- **Natural Language Processing:** An AI system that understands and uses language as used by humans without imposed structures, words or commands. For example, an

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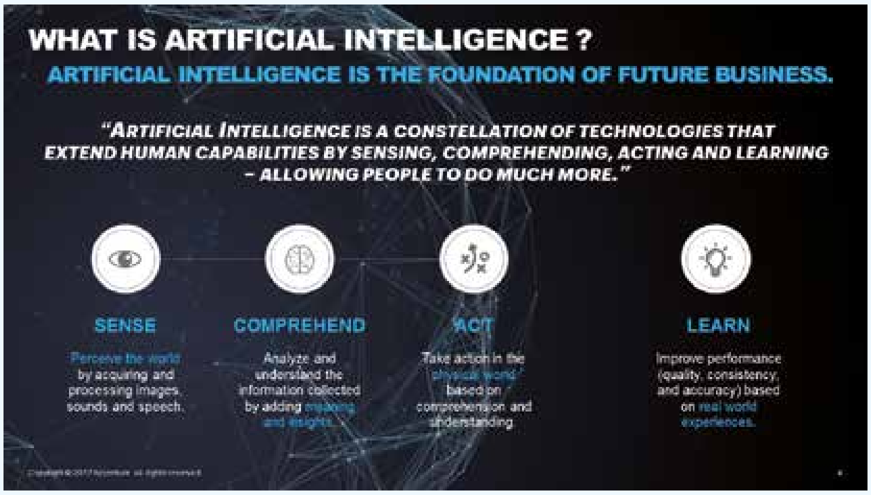


intelligent email assistant can process incoming emails with questions about a bankcard, a loan or insurance claim, identify the topic and either act itself or forward the email to a human or robot for further follow-up.

- **Chatbots & virtual assistants:** Natural language dialogue based and machine learning enabled, these computer-generated 'characters' can converse with people and answer their questions, transforming the way of interacting with customers. For example, Accenture and Fjord have developed a virtual mortgage agent, Collette, to provide personalized support and information on mortgage products, risks and options to individuals in the UK.
- **Machine learning:** By leveraging data and experience to improve its performance, machine learning is used, for example, in fraud detection, claims underwriting, credit scoring and micro customer segmentation. In the latter, the ability to analyze larger sets of internal and public data on customers through powerful algorithms drives customer acquisition and profits.
- **Computer vision:** Focusing on safety, security, and operations by live capturing and analysis images and video materials. For example, assessing suspicious behavior, monitoring traffic or assessing car damage for insurance claims, which is currently a lengthy process involving multiple intermediaries. In another example, Accenture has combined existing surveillance cameras with computer vision and deep machine learning to track dealer performance and detect fraud in a casino.

WITH GREAT POWER COMES GREAT RESPONSIBILITY

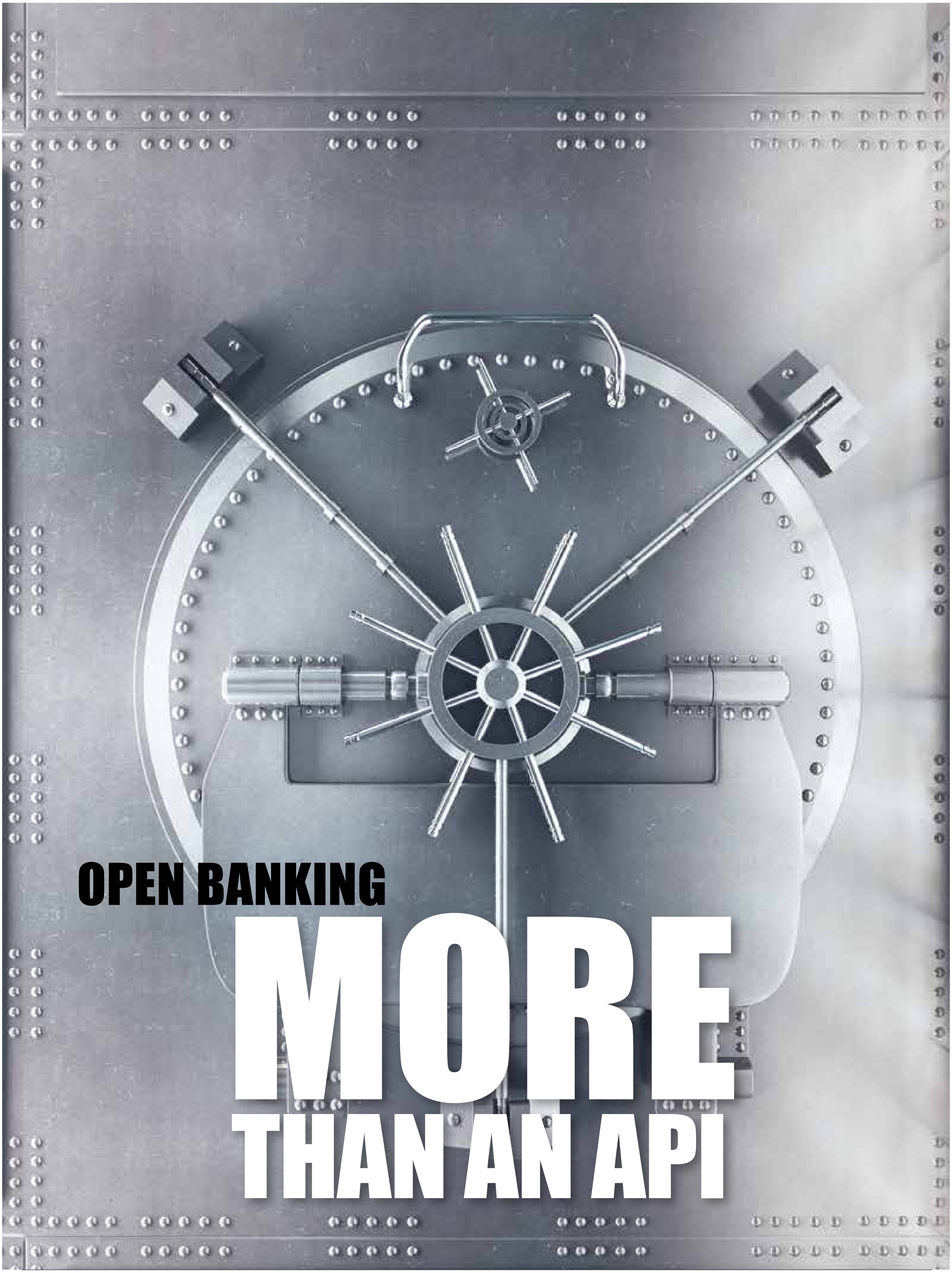
There is no denying the added value AI systems can bring. At the same time, we must not ignore their power and with that, our responsibility to use them ethically. This means making sure people remain at the center (enhancement of human activities, new skills, re-training…); that algorithms are not discriminatory (for example, in loan or insurance decisions); that personal data is protected; and labor and employment laws are complied with.

WHERE TO START AS A BUSINESS?

The business case for AI is not just about reducing costs or improving productivity. It is even more about enhancing judgement & decisions, customer interactions and trust plus creating intelligent products – hence enabling people and businesses to grow and do more. Used in the right way, AI can increase enterprise value. The secret is to think wisely, experiment and collaborate. But beware: this will trigger a shift at the core of the organization that will impact the way of doing things forever.

To initiate that shift, companies will need in-house AI capabilities while at the same time being deeply involved in a broader ecosystem. Neither corporates nor startups will thrive if they operate in isolation. Reflecting this, a recent Accenture study of the Fortune Global 100 and what we call the Intelligent Global 100 – pioneers in the development of AI applications and technologies – introduced the 'AIQ' concept to measure the AIQ of a company by looking at their in-house focus (AIQ for invention) and their outside focus (AIQ for collaboration). Only 17% of the 200 companies scored well on both indexes. These 'collaborative inventors' have shown significant growth in enterprise value, which shows that AI is already generating returns today.

AI can make or break reputations. As such, it must be handled with care. As we reach the next level of these technologies, they must also bring businesses and people to the next level, empowering them and building a better future for society. There are no ideal rules or timescales for doing this. Pivot to the new wisely. ●



OPEN BANKING

MORE THAN AN API

THERE IS A LOT OF DISCUSSION ABOUT "OPEN BANKING" AFTER THE PAYMENT SERVICES DIRECTIVE 2 (PSD2) FORCED BANKS TO PROVIDE OPEN APIS TO TRUSTED THIRD PARTIES.

AUTHOR CHRIS SKINNER

The UK, even with its stance on leaving Europe, actually interpreted PSD2 and took it further, building an open banking initiative.

The UK regulator defined open banking as:

- the use of open APIs that enable third party developers to build applications and services around the financial institution;
- greater financial transparency options for account holders ranging from open data to private data; and
- the use of open source technology to achieve the above.

But is this just about open APIs or does open banking imply something more? I claim that it goes far deeper than just payments and APIs, and extends right across the range of financial processes. In fact, it makes banking processes pure plug-and-play, with interoperability and simple switching across all bank services. That has far more implications for mainstream institutions than the offering of an API.

For example, an open banking structure is actually based upon apps, APIs and analytics, and offers access for everyone in an open marketplace. This is all about moving us from vertically integrated control structures to a marketplace of plug-and-play processes that are delivered through platforms.

It's analogous to a taxi firm that owns no taxis, hotel chains that have no rooms and media companies that produce no content. The taxis, rooms and content are created by those who play in your marketplace as you have become their preferred digital platform. In this scenario, it is the people who need rides connecting to the taxi drivers registered on Uber; it is the people who need accommodation connecting to the people offering rooms through Airbnb; and it is the individuals creating and sharing content on social media through Facebook and more.

These marketplaces are the digital platforms for the sharing economy and many of us have struggled to find a good banking example. We have struggled because there isn't one, yet, but open banking is moving us in the right direction.

In an open marketplace, everyone can play. Banks therefore are moving from proprietary structures that they control, to open platforms where everyone can play in their marketplace. That is a massive cultural and structural change, not just the offering of an Open API.

Banks have the opportunity to be better positioned to be the digital platform that allows open marketplaces to operate. That is because they currently own the customers' accounts and have the size and capital to control the marketplace. It does not mean they will succeed, as there are a lot of FinTech startups also focused on building marketplace structures based upon apps, APIs and analytics – FinTech startups such as Leveris, Thought Machine, Solaris, RailsBank, ClearBank, CBW and more, to name just a few.

For banks to be players in a marketplace will involve the banks opening to offer their APIs for others to use. Equally it means that they will most likely become curators and aggregators of others apps, APIs and analytics, to give their customers the best user experience. This is what open banking is all about.

BANKS HAVE THE OPPORTUNITY TO BE BETTER POSITIONED TO BE THE DIGITAL PLATFORM THAT ALLOWS OPEN MARKETPLACES TO OPERATE

THE KEY TO THE OPEN BANK VISION IS THAT EVERYTHING CAN BE CONNECTED FROM THE BANK TO BUSINESS TO CONSUMER STRUCTURE

When you have an open Bank, you can move really fast. You can incorporate any other FinTech into the open bank and, just as powerfully, you can connect the open bank into any other FinTech. The key to the open bank vision is that everything can be connected from the bank to business to consumer structure. In other words, they can plug and play into any other FinTech, payments or other players.

In doing this, and combining this with changing banking architecture for open sourcing, I can see one particularly powerful play: thesemantic bank.

This has been alluded to for a while, and already has some crude illustrations, such as the BankAmericard Rewards. Using cardlytics, Bank of America can push you a reward coupon via their app at the point of relevance, as you're walking past one of your regular stores, for example.

We are seeing other powerful capabilities today, such as UBS (Switzerland) and DBS (Singapore) using IBM's AI machine Watson to analyse terabytes of data non-stop in real-time to push knowledge to their high net worth customers. Personalised investment portfolios are issued every morning, with analytics on every dollar held with the bank. That's powerful today, and my vision of the near-term tomorrow is where a bank has cleansed their data into an enterprise architecture that is separated from processing. The enterprise data store is held in a private cloud, and has non-stop real-time analytics. These analytics enable the bank to delve deep into the psyche of their clients, and use neural networks to proactively predict their needs, advisory services and support mechanisms.

These support mechanisms are provided in non-stop real-time to my devices, which then tell me what is important, and transact and manage what is not. The delivery of knowledge to my devices is sometimes via the bank direct, but often through third=party APIs that have plugged into my open-sourced bank. As a result, my financial ecosystem is massively personalised at a micro level, and I stop thinking about questions. Who would ever ask *about their* balance or have to remember to pay that bill, when the system takes over all those tasks? All you really need to know is *your deposit balance is low* or *that you should save more for that holiday this month, and you just say yes* or *no*, depending on your mood and feeling.

This means that banking has moved from a pull industry – where you have to go and find your information and manage it – to a push industry – where your bank tells your things what to do.

I love the idea of the Open Bank and a financial ecosystem personalised to my lifestyle and managed for me. The problem we have today and right now, is that banks have only just got to the point where they can take a debit and credit statement and plug it into a mobile app. An open-sourced structure proactively pushing service to my IoT ecosystem is going to be a big stretch.

Some banks are, however, proactively moving in this direction. A good example is BBVA and Santander who have not only been investing in FinTech startups, but moving generally to partnering and including firms in their marketplace. BBVA have Holvi, Simple and Atom Bank, while Santander is the leading European bank for investing in startups. The firm made 13 investments into 12 unique FinTech startups, with the largest investment being a $135 million in Q3 2015 to small business lender Kabbage, that also included participation from ING, among other investors.

What we are seeing, therefore, is banks curating their marketplaces and choosing the cream of the FinTech crop to offer their customers a better user experience and service.

After all, is your average Joe or Mary going to test 1,000 startup products and find the cream of the FinTech crop? Probably not, which is the real opportunity here for the collaborative open bank. After all, the collaborative open bank recognises that it controls nothing, can only build some decent functionality, and needs lots of other players to play on their platform if they are going to be able to offer choice to their customers. So, an open bank offers their customers this choice but also offers to aggregate such services on the customers' behalf. After all, when faced with 1,000 different P2P services, which one do I choose? Why choose at all? Let the open bank do it for you.

That's the beauty of a marketplace. Do you choose the Facebook content you read or the Uber taxi driver you want, or let Airbnb, Facebook or Uber do if for you? It depends how much time and interest you have. Same with banking.

So, what is the business model of an open bank? How does it look? I've been working on this for a while, and the chart below shows the bank structure based upon a back-office manufacturing products and services; a middle office processing transactions and payments; and a front office retailing intimacy and experiences.

My assertion is that in the old, industrial era bank, all of this front, middle and back office structure was proprietary and internalised and has to become open and externalised.

This is because smart devices are where the relationships are developed in the front office; plug-and-play software across the operations allows anyone to offer code through APIs to improve the middle office link between front and back office; and those APIs and apps are fed through data leverage based upon machine learning and artificial intelligence through the cloud.

As a result, the back office is all about analytics, the middle office about APIs and the front office is smart apps for smart devices.

The banks that can pivot from being monolith, vertically integrated, physically focused structures to microservices, open market, digitally focused structures within the next ten years, are the ones that will survive and thrive. •

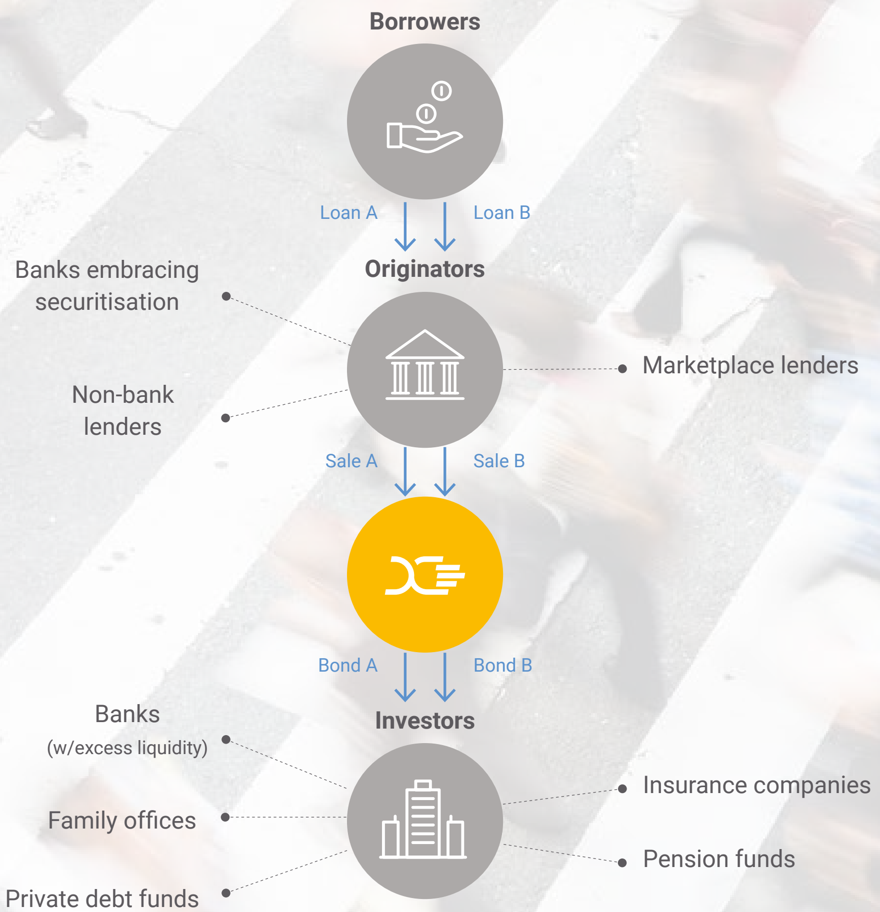
Chris Skinner is one of the most authoritative voices in the FinTech Industry. Skinner captures the pulse of the industry like no one else and will share his view on the coming of age of FinTech. Chris is known as the number one independent commentator on the financial markets and FinTech through the Finanser.com, as author of the bestselling book Digital Bank and its new sequel ValueWeb, and Chair of the European networking forum The Financial Services Club. He is on the advisory boards of many companies, including Innovate Finance, Moven and Meniga.

How can we resolve Europe's economic stalemate?

By changing the game, so everyone wins

It's no secret that despite massive liquidity programmes and zero-to-negative interest rates, the eurozone's real economy is underfunded. Meanwhile, regulation and imperfect capital markets prevent large pools of institutional capital from flowing effectively across Europe's borders.

Our game changer is an innovative bond structure that allows single loans to be transformed into tradeable bonds on a 1 loan:1 bond basis. Both time- and cost-efficient, automated single-loan securitisation creates a **win-win-win situation for all industry players:**



Borrowers – including small and medium-sized enterprises (SMEs) enduring financing constraints – benefit from originators' new flexibility in issuing loans.

Originators – whether MPLs, non-bank lenders or banks embracing securitisation – profit from flexible opportunities to scale their lending business, while relieving their balance sheet and maintaining customer relations.

Investors gain access to a non-correlated asset class historically yielding attractive returns. They can build diversified portfolios of loans, via bonds, at a pan-European level, with complete risk transparency.

Our next move: building the European Debt Exchange

Improving Europe's lending and investment ecosystem is just the first step in our strategy to establish an international exchange where all forms of debt can be bought and sold.

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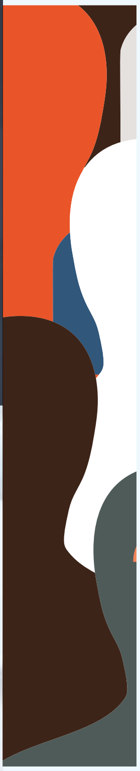

We often need to identify ourselves in order to perform an important transaction, open an account, commit to a long-term loan, and more.

MOBILE VERIFICATION OF E-DOCUMENTS

We currently have to show up in person at the bank, government office, etc. with our official government ID to prove who we really are. In today's digital world, showing up in person for such matters is seen as inconvenient, expensive and time consuming. Luckily, this is becoming a thing of the past, says Maarten Wegdam, CEO of ReadID. Identity documents with an embedded RFID chip are the best way to extract the correct identity information, and also unequivocally verify their authenticity. "Now this process can be performed anywhere, anytime, with a mobile phone!" says Wegdam. "For example, this is a powerful solution for a financial institution wishing to improve their customers' experience and reduce costs when opening a new account. "

Evelien Mooij, product manager customer processes with Rabobank's Digital Bank department, says: "Rabobank will implement the ReadID solution, in the fourth quarter of this year, to offer customers in a specific target group the option to use mobile identification, instead of coming to the bank's branch. The main driver is to make the identification process much more convenient."

The process is as follows: First, the RFID chip's content is read using the Near Field Communication capability of the smartphone, after which the authenticity is verified. The information extracted from the RFID chip with the ReadID app is always correct and, after verification, is known to have not been tampered with since the government issued ID was created. The applications of such an identity verification solution in the financial sector are many, including: opening a new account, AML compliance, approval of loans/mortgages, password reset, step-up authentication. The solution can also be used in a face-to-face situation where a customer's identity needs to be verified before performing important financial transactions at the branch.

From a privacy point of view, using ReadID is not much different than presenting your identification document in person, having it validated and copied. All transmission of data is encrypted, and once verification has been executed a formal confirmation is transferred to the financial institution and promptly deleted from the ReadID servers.

As the financial sector transitions to operating fully online, people expect easier processes which they can undergo on their own, without needing to physically visit an office. Offering a strong online verification solution with ReadID reduces costs and inconveniences, without compromising security and privacy concerns.

ReadID verifies the authenticity of a biometric identity document, such as a passport, ID card and driver's license. •

READID
NFC PASSPORT READER

FOCUM builds more rewarding customer relationships with **SmartPurchase**

INTRODUCING omni-channel payments

FOCUM

First see and try, then pay. Dutch consumers prefer to pay through online stores after they have received and inspected the product. When buying from a regular shop, it is almost always possible to bring the item in for an exchange, but it is new for retailers to offer the possibility of payment in arrears.

Focum has developed a transaction platform for Smart-Purchase, specifically for retailers. This platform involves much more than just payment, it is a new way of binding customers to you, linked to your own loyalty card. Focum recently introduced the platform at a large, internationally known retailer. Odd-job firms with a loyalty card can easily purchase products in the shop and be charged for them later. By expanding their existing loyalty card service to include SmartPurchase, this retailer gives customers the possibility of registering online, paying by invoice afterwards, viewing their spending, and managing limits online. This also gives the retailer itself more insight, control and statistics.

ACCEPTANCE TEST

Every account is linked to a unique spending limit. If your customers opt for SmartPurchase, we automatically perform an online credit check. We also check the customer data in real time and make an estimation of the payment behaviour that can be expected from each individual client.

INVOICING

If desired, SmartPurchase can take over the entire process of drawing up invoices and reminders. After purchasing the item, the customer receives an invoice by email. The customer then logs in and pays the invoices easily using iDEAL or bank transfer. Invoices remain online for viewing, so your customer never has to search for a receipt.

MORE CUSTOMERS, MORE TURNOVER

For customers, payment in arrears is significantly more customer-friendly than paying directly in the shop. You convey the fact that you trust your customers and this serves to increase the likelihood. With SmartPurchase, you put the customer in charge and encourage customer loyalty. The platform also provides to possibility of processing returns. This means you no longer have to give refunds in the shop. In short, SmartPurchase allows you to combine payment for the purchase in the shop using existing facilities (the account already linked to the card) with online spending by your customers. This will have a positive impact on your turnover.

DATA MANAGEMENT

SmartPurchase gives you a stream of valuable new customer data daily. If a customer pays through SmartPurchase, he provides more data than when paying in the shop. This yields usable data for marketing purposes, like mailings and newsletters.

PAYMENT GUARANTEE

If desired, for every order accepted, we can guarantee 100% payment if the customer defaults. We entirely take over all the risk of non-payment and pay you the amount in full if the consumer fails to do so.

SMARTCOLLECT

Has a consumer unfortunately failed to pay? Then we will collect the claim with our SmartCollect service. Our collection specialists handle the claims via the optimal process at the most suitable collection partners.

BRANDING

We do all of this under the corporate identity of your shop, which means that customers recognise the invoice as correspondence from your online store. The style and tone of the communication can also be tailored to your wishes. Focum also offers the option of having a card provided with your company's style. It is also possible to expand to include multiple payment methods in addition to iDEAL.

Focum is one of the market leaders in data and risk management and offers various solutions in the areas of marketing, customer management, industry of risk and credit management. With intelligent and innovative solutions, Focum helps companies get the maximum return from their customer relationship. Focum works for SmartPurchase, together with Worldline and Symfony.

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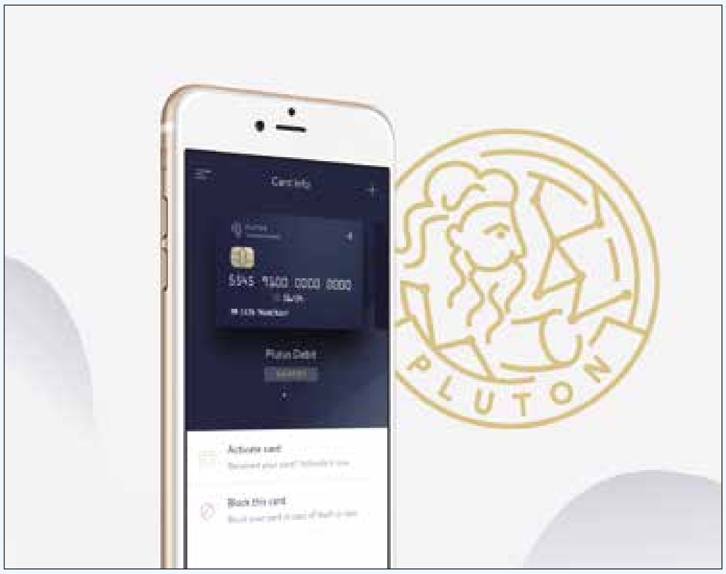
Plutus.it brings your cryptocurrencies to the shop floor

PLUTUS.IT MAKES YOUR CRYPTOCURRENCIES VALUABLE FOR YOUR LOCAL RETAILER. MONTHS BEFORE THE OFFICIAL LAUNCH OF ITS PRODUCT, FOUNDER DANIAL DAYCHOPAN REFLECTS ON SCALING UP HIS BUSINESS.



"WE HAVE LOWERED THE BARRIER OF ENTRY FOR PURCHASING CRYPTOCURRENCY ON THE PLUTUSDEX"

Danial Daychopan is approaching a huge milestone since founding Plutus.it in 2015. “The full release of our platform is only a few months away. We are currently in the late stages of integration and testing of the PlutusDEX BETA. As soon as we are satisfied with our security audit, we will be able to officially announce a public release date for the PlutusDEX, which will be closely followed by the launch of Plutus Tap & Pay app and the Plutus Debit Card.”

With the launch of the platform, Daychopan is ready to disrupt the payments market. PlutusDEX is a peer to peer gateway build on blockchain for buying digital assets and currencies. Combining the gateway with debit cards, an iOS and Android app for making contactless purchases, trading and managing wallets, Plutis.it gives its clients the opportunity to pay with cryptocurrencies in a brick-and-mortar store.

SCALING UP

The expected launch of PlutusDEX marks a starting point for further scaling up the business of Plutus.it. Daychopan and his team members have to go out and spread the word of Plutus. it. “Our upcoming challenges focus on two goals. One - to bring Plutus to all NFC users who own, and aim to own digital assets such as bitcoin. And two - to streamline contactless debit card payments for digital assets, particularly in countries where contactless payments are only now being introduced.”

Danial Daychopan

To be able to sustain the scale-up the company needs all the talent it can get. “In the blockchain space, it is especially difficult to find the right team. Most desirable experts are already working on a project, which is why we go above and beyond to encourage professional growth. We built our team on recommendations and references, as well as a rigorous application process that includes programming challenges and more.” In preventing the pitfalls of scaling up, Daychopan keeps a close eye on its competition. “We work alongside our competition to learn from their mistakes.”

One thing Daychopan doesn’t have to worry about is cash. “We raised over 1 million USD during our crowd funding round in 2016. Although we are open to further investment and funding rounds, we are not actively seeking at the moment. Instead, we are focused fully on developing our technology and strategic partnerships.” The focus pays off, because Plutus.it recently partnered with PPRO, a prepaid card issuer and member of the MasterCard prepaid program in Europe.

ADAPTING TO CRYPTOCHANGE

The product of Plutus.it exploits the hesitation of companies to directly accept cryptocurrencies. Nevertheless Daychopan sees no problems in cryptocurrencies becoming mainstream. “The PlutusDEX will provide unmatched benefits. By providing a seamless exchange pathway for digital assets, Plutus will be invaluable to the community even when bitcoin and/or ethereum becomes mainstream. Stores will never accept every digital asset, so our main focus will shift to providing other cryptocurrency purchasing entry points. We are also looking to develop new fiat entry points and other services we can provide by leveraging our existing network. We believe the key to the success of any innovative start-up is the ability to adapt.”

The success of one currency over the other is no problem for Plutus. “When you charge your Plutus Debit Card account with digital currencies, you transfer your deposit directly to someone who has placed a purchase order on the PlutusDEX. This unique approach means there is no central point of failure. Plutus never stores any digital currencies, which also allows us to offer 0 percent fees for buying bitcoin, ethereum, and pluton.”

Adaptability and flexibility reaches its limits when cryptocurrencies cede to exist as a result of regulation. “Plutus will only operate in jurisdictions where we have full regulatory approval. In the impossible scenario, if companies were banned to use cryptocurrencies worldwide, we would be able to use our existing infrastructure and partnerships to pivot to a fiat-only ecosystem.”

KEEP IT FUN

Scaling up a company in the fast changing environment of cryptocurrencies takes a toll on the employees. How do they keep it fun? “We also encourage a working environment that fosters open-mindedness and creativity. We highly value honest, brutal and constructive critique by our team members. After all, we’re all in this together.” The believe in the benefits of its product is also a boost for employee morale. “The blockchain ecosystem moves fast. We know that the ability to use Plutus Tap & Pay will provide tangible benefits in the lives of all current and prospective digital asset owners.” •

> **Visit our booth on the 6th-7th of December at the FinTech Connect Live conference in London’s EXCEL. Our tremendous CTO Martin will be presenting a live demo of Plutus. Attending events is an integral part of assessing the market and networking for the future benefit of our enterprise, but also a lot of fun.**

VENTURE CAPITAL IN FINTECH

TOP 10 EUROPEAN FINTECH INVESTMENTS OF 2017

AUTHOR WILLEM VAN OOSTEN

FOLLOW THE MONEY AND YOU'LL FIND THE MOST PROMISING FINTECH COMPANIES. THE COMING OF AGE OF FINTECH IS BEING CLOSELY MONITORED BY VENTURE CAPITALISTS. THESE TEN EUROPEAN FINTECHS SECURED THE BIGGEST INVESTMENTS IN 2017.

1 ATOM BANK

Founders: Mark Mullen and Anthony Thomson

Investment: £83 million (€90 mio) venture capital and £30 million (€33 mio) debt finance.

The biggest investment for the FinTech is named after the smallest particle: Atom Bank. The British mobile-only bank convinced a consortium led by the Spanish bank Banco Bilbao Vizcaya Argentaria to provide equity finance, with British Business Bank Investments providing debt finance, together totalling an investment of €123 million this year. The bank that 'never wants to be more than one atom away' from its customers is founded by the renowned banking challengers Mark Mullen and Anthony Thomson. Mullen is a former CEO of the online bank First Direct, while Thomson founded the 'high street' Metrobank in 2010. They launched Atom Bank in 2015, because they believe that everything anyone wants to do from a banking perspective, can be done via mobile. Their launch took place in the same year as the world's first purely internet-based bank, Fidor, which started its UK site with the aim of attracting 50,000 British customers. Nevertheless, Atom Bank welcomed 18,000 new customers, with savings deposits approaching 700 million British pounds.

2 FUNDING CIRCLE

Founder: Samir Desai

Investment: $100 million (€84 mio) equity finance and $40 million (€34 million) debt finance

Lending platform Funding Circle secured its own debt package from the British Business Bank and complemented it with equity finance from a venture capital consortium led by Accel Partners. They can spend the combined €118 million on the international roll-out of the platform. Entrepreneur and former BCG consultant Samir Desai started the credit marketplace for small businesses in 2009. Currently, the platform has brought together more than 69,000 investors with 32,000 businesses, resulting in a total lending sum of €3.3 billion. The platform is active in the UK, US, Germany and The Netherlands.

3 IZETTLE

Founders: Jacob De Geer, Magnus Nilsson

Investment: €15 million equity finance and €45 million debt finance

iZettle just received millions but is aiming for more. The Swedish developer of nifty payment devices received a grand total of €60 million to improve its gadgets, but is already pondering an IPO. The recent investment was transferred by eight venture capital companies. Added to this was debt finance from Victory Park Capital. The entrepreneurs from Stockholm launched their first mobile chip card reader in 2010 and are steadily increasing their product portfolio. They offer POS systems, invoicing software, and analytics software and recently started a financing tool for small businesses. iZettle now operates in12 ,markets in Europe and Latin America, with around 1000 small businesses signing up every day. This rapid growth in customers resulted in their revenue increasing to €66.8 million, up from €41.7 million in the previous year.

4 ZOPA

Founders: Giles Andrews, Dave Nicholson, Tim Parlett, James Alexander

Investment: £32 million (€34,7 mio) equity finance

Zopa wants its banking licence and is ready to pay for it. This P2P money lending service attracted millions from a consortium of investors led by Wadhawan Global Capital, an Indian financial services group, and Northzone, a European venture capital fund specialising in technology companies. Zopa cuts out the traditional banks by facilitating a direct relationship between lenders and borrowers. The new investment follows significant growth at Zopa over the last 12 months. Since June 2016, Zopa has facilitated over 800 million British pounds in personal loans to UK consumers, totalling 2 billion British pounds in facilitated loans since the company was founded in 2005.

5 RAISIN

Founder: Tamaz Georgadze

Investment: €30 million equity finance

Just two handshakes away from Donald Trump, millions are invested in Berlin. Joshua Kushner is at the helm of venture capital firm Thrive Capital. The younger brother of Trump's son-in-law bet millions on the success of Berlin-based Raisin, an online marketplace for savings products across Europe. In 2013, former McKinsey consultant Tamaz Georgadze started his quest to break up the European market for savings deposits. Four year later, more than €3 billionhas moved to saving accounts through Raisin's site.

6 BLOCKCHAIN

Founders: Peter Smith, Nicolas Cary and Ben Reeves

Investment: $40 million (€34 mio) equity finance

'Bitcoin Jesus' Roger Ver and Sir Richard Branson already invested in the British developer of a bitcoin platform with the apt name Blockchain. Now the well-known investors from Lakestar have joined them. The provider of the popular Bitcoin wallet aims to make using bitcoin safe, easy, and secure for all consumers and businesses worldwide. The London-based founders started their adventure in

2011. Including this year's 40 million, Blockchain raised 70 million US dollars from investors.

7 SOLARISBANK

Founders: Andreas Bittner, Marko Wenthin

Investment: €26,3 million equity finance

The FinTech for FinTechs' provider SolarisBank raised millions from four investors to expand its operations to Asia. The Berlin-based company is a banking platform with a full banking licence, allowing other companies to offer their own financial products. They offer a regulatory-sound banking ecosystem for FinTechs, established digital companies and also banks. For their partners, they deal with the legal, technical, and procedural hurdles related to giftcards, P2P payments and credit services. The company was founded in 2016 and already raised €38.5 million in two rounds of financing.

8 FINTONIC

Founders: Marcos Icardo, Aitor Chinchetru, Lupina Iturriaga, Sergio Chalbaud

Investment: €25 million equity finance

A bank that buys a bank app to compare other banks – that's what happened when the Dutch bank ING transferred millions to the bank account of Spanish Fintonic, a mobile-centric consumer banking platform that provides its users with insurance, investment products and targeted loans from different institutions (without leaving the app). Users can enter all of their accounts and analyse them to check if they are on the right track or not. The application was launched in 2012 and is available in Spain and Chile, with over 250,000 users.

9 MONZO

Founders: Gary Dolman, Tom Blomfield, Paul Rippon, Jonas Huckestein, Jason Bates

Investment: £19.5 million (€21.2 mio) equity finance and £2.39 million (€2.6 mio) equity crowdfunding.

Monzo is the second mobile-only bank to feature in this top ten. The London-based founders started doing business in 2015 and aim to build a bank that is as 'smart as your phone'. In April 2017, the startup had a party, because it received its full banking licence. With the licence and millions from Thrive Capital and others, Monzo started offering current accounts to a small number of people first and, as it further develops, will move on to all of its existing 150,000-plus users and new customers.

10 PLYNK

Founders: Charles Dowd and Clive Foley

Investment: €25 million

Former Facebook manager Charles Dowd and former Wonga engineer Clive Foley started Plynk in 2015. The Dublin-based company is developing a European money messaging app offering instant person-to-person payments. The millions it has raised come from Swiss Privee, a private investment trust, a relatively unusual source since traditional money managers usually leave these kind of risky deals to VCs. The technology, however, could be of use for the clients of an investment manager too, since Plynk aims to make transferring money fun, fast and free. •

Numbers and data used in this article are derived from company websites, Crunchbase.com and KPMG reports 'pulse of FinTech' Q1 and Q2.

Birdee

Birdee is a digital savings management solution dedicated to Mass Affluent investors. It has been developed by Gambit Financial Solutions, a software company that has been implementings customer-centric solutions in Europe since 2010.

With Birdee, through a combination of powerful algorithms, everyone can invest, even if they have no personal fortune, or advanced finance knowledge in finance. They can select a portfolio in line with the function of their risk profile and personal goals, or an investment theme they believe in. They can then easily follow their portfolio's performance using a clear and simple monitoring tool. For the rest, Birdee takes care of everything else.
Birdee's aim is to reconnect people with their money. It matches the simplicity of a savings account with the performance of mutual funds, as has developed two offers to do so. Birdee Institutional is currently marketed to financial institutions willing to provide their clients with a new digital experience. In Autumn 2017, Birdee will launch Birdee Money Experts, a dedicated website where each and every person will be able to invest in one (or more) of our 17 portfolios.

CrossLend

Connecting Europe's investment capital with the real economy's financing needs through single-loan securisation.

CrossLend's mission is to help drive Europe's economy by building a more efficient lending and investment ecosystem to get capital flowing effectively across Europe's borders.
Our formula for success is an innovative bond structure which transforms single loans into bonds on a 1 loan:1 bond basis. This setup allows investors to build diversified portfolios of single-line loans (via bonds) at a pan-European level, while enjoying complete risk transparency. Loan originators in turn profit from flexible opportunities to scale their lending business, opening much-needed financing avenues to Europe's SMEs.
CrossLend's long-term strategy is to establish an international exchange where all forms of debt can be bought and sold. The company is backed by an array of prestigious equity investors from Europe and the U.S, including Lakestar, CME Ventures and the Luxembourg Future Fund.

Dorsum

Dorsum is a multi-award winning, innovative investment software provider. Since our foundation in 1996, we have become a leading software company in the CEE region.

Our latest innovation – Botboarding platform – is a mobile customer acquisition engine. It gives financial organisations the ability to create chatbots for selling a variety of products. The AI-powered chatbots communicate in a human-like way and help in customer data gathering and user profiling, making customer onboarding more effective and frictionless. The bots' performance can be followed on a dashboard, while the built-in APIs help transfer all of the information into the financial institution's CRM system. Our solution was a Best of Show winner at FinovateEurope 2017.
Dorsum's proprietary software platforms offer versatile solutions to all the needs of the capital market.
Over the last two decades, innovation has always been in our focus. Keeping up with the challenges of the financial market, the developments are aimed at mobile and online technologies.
Our latest innovation, the Botboarding platform, is a pioneer mobile customer acquisition engine that gives outstanding technology to financial organisations to create chatbots for the selling of financial products.

WealthObjects

About WealthObjects:
B2B Digital Financial Services Platform
WealthObjects provides B2B Robo Advisory, Financial Planning and Engagement platform for Consumer Banks, Fund Managers, Investment firms, and Insurance firms to launch their own customised automated digital wealth platform using readymade platform or modular APIs.

Intelligent with Superior Experience:
Our client-centric proprietary algorithms powering our modules create an intelligent platform serving every end customer through personalised guidance and suggestions. Our customisable platform allows firms to pick the module features that they want and create unique client propositions to better serve their customers with a superior digital experience.

Faster Implementation with Low costs On-Premise or On-Cloud:
Our API based architecture makes implementations faster at a fraction of the cost. Our platform reduces operational costs through automation using robust and next gen technologies.

Future Proofing your Business:
We enables firms to stay ahead of their competition by collaborating with us through our first and faster to market innovative technology features, as we aim to become the leader in Wealth Technology Innovation.

Awards and Successes
We have been consistently named amongst the Top 100 European and UK FinTech Companies since our launch.

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