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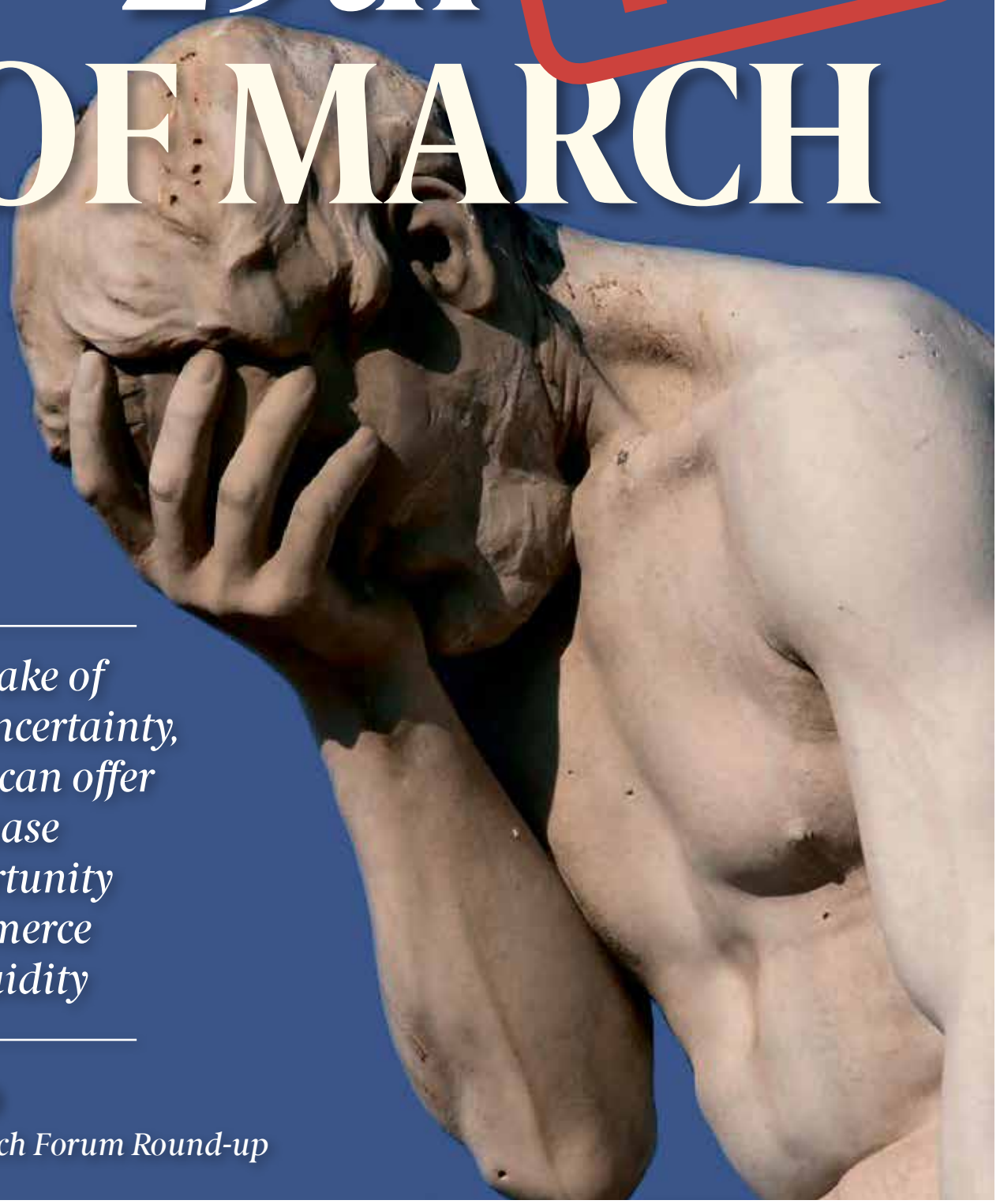
CommerceBlock
Nicholas Gregory discusses the benefits and security that DLT can offer in tokenising real-world assets such as precious metals and art

SM&CR: The Buck Stops Here
Stuart Alexander explains the impact of Senior Management & Certification Regime on senior fund managers' conduct

Tech Circus: Delivering UX by design
Luke Reed talks about the dearth in UX design talent and the opportunities for UX design development for the fintech industry

BEWARE THE ~~29th~~ TBC OF MARCH



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Picture credit left: Wikipedia, concept Matthew Dove

Read online at: thefintechtimes.com

News & Updates

UBS Fined €3.7 billion in tax fraud case

UBS has been fined a record €3.7bn (£3.2bn) and ordered to pay €800m to the French government in a tax fraud case. The Swiss bank has been found guilty of helping high-net-worth French clients evade tax between 2004 and 2012. Prosecutors say UBS employed an array of money laundering tactics; from targeting clients at corporate events to the use of self-erasing hard drives.

The fine is much higher than the $2.46 billion the bank has set aside to cover potential losses from litigation and regulatory requirements.

Prosecutors told the court how UBS was "systematic" in offering its support to tax-evading customers and that the laundering of proceeds from the tax fraud was done on an "industrial" scale.

In a statement reported to the BBC, UBS said it "strongly disagrees" with, and will appeal, the verdict.

"The bank has consistently contested any criminal wrongdoing in this case throughout the investigation and during the trial. The conviction is not supported by any concrete evidence, but instead is based on the unfounded allegations of former employees who were not even heard at the trial."

History repeats itself as this is not the first time UBS has been involved in tax fraud. In the US in 2009, UBS agreed to pay $780 milion after admitting helping thousands of clients evade tax. In Germany in 2014, the bank was found guilty of similar charges and fined €300m.

European banks have come under pressure from regulators to tighten compliance with anti-money laundering rules since the financial crisis and will scrutinise the ruling, analysts say.

Shares in the Swiss bank fell by as much as 3.2 percent after the ruling on 20/02/19.

Modex Braves Crypto Bear, Listing on LATOKEN and Offering Token Rewards

Some would call striding into a burning building, head held high, heroic. Others would call it deeply foolish. Either way, most would agree that it's a bold move...

Similarly, listing your cryptocurrency on a trading exchange as the market tentatively recovers from the worst slump in its history is a bold move and requires unparalleled confidence in your offering. The team behind Modex (MODEX) most certainly showed faith in the quality of their dApp development platform as they listed it for trading on LATOKEN yesterday. The coin's value has already taken the kind of hit you'd expect from such an exposure but, as ever, eyes should be on the tech and not the price.

Modex acts as a marketplace where developers can write and upload smart contracts, then sell them to companies. Furthermore, companies can purchase readymade smart-contract solutions from an extensive native library. The tools required by blockchain developers are provided free of charge, allowing for a level of experimentation in areas as diffuse as finance, health, manufacturing and administration which is largely unavailable elsewhere.

The coin's architects were out in force last month at the MindChain forum, preaching the good word and pushing that product. The delegation included; Alin Iftemi (CTO), Dan Popescu (Software Tech Lead), Florin Otto (VP Product), Loredana Bourceanu (Software Lead) and CEO, Mihai Ivascu, who made the announcement with characteristic bravura, "I am delighted to officially announce this important partnership which has been eagerly awaited by our supporters and contributors. I am convinced that this partnership with LATOKEN - which has more than $140 million daily turnover, over 120,000 registered traders and more than 250 crypto pairs available for trading - will lead to amazing results. I also want to thank everyone who has supported Modex until now, everyone who believes in the project, and to let them know that 2019 is going to be even more exciting for all of us."

To sweeten the deal for the unconvinced and those still reeling from the chill of 2018's bear, the dApp development platform offered everyone who bought and held a minimum of 10,000 MODEX bonus, MODEX Tokens.

Ant by Name, Whale by Nature: Chinese Behemoth Absorbs UK Currency Exchange, WorldFirst

As some of the sector's windier players get cold feet in the build up to Brexit, shuffling nervously towards the exit, Ant Financial has made a decisive stride boldly in the opposite direction. The affiliate of Alibaba has acquired UK-based currency exchange, WorldFirst, in a deal reportedly worth $700 million.

Arriving with little fanfare the acquisition offers a tantalising glimpse of potential Sino-British relations post-Brexit. And the fact that Ant Financial can execute such a substantial deal without breaking stride is perhaps a decent indication of the Chinese economy's general momentum.

The remittance service and currency exchange being acquired is no slouch either.

From its creation in 2004 by two bankers in a South London basement, WorldFirst has positioned itself as a vital alternative to legacy providers and boasts of offering its customers market-beating rates. It presently has more than 600 staff worldwide, facilitating 1 million transfers per year worth somewhere in the region of $90 million. Exact figures for WorldFirst are hard to gauge as the platform is financed privately and keeps its books firmly closed.

However, you can bet that Ant Financial haven't just crash landed in London for the weather and a trip to Selfridges.

Clearly seeking to expand their global reach, the company behind Alipay - China's freakishly popular (550 million registered users and counting!) mobile payment app - will make WorldFirst a wholly owned subsidiary under the terms of the deal. However, its thought that WorldFirst will retain its current branding as, according to WorldFirst co-founder and CEO Jonathan Quin.

"Alipay and WorldFirst's capabilities and international footprints are highly complementary"

As TFT found at London Blockchain week, the Chinese bull is in buoyant mood. A presentation by Assistant Dean of the CKGSB Cheung Kong Graduate School of Business, Dr. Bo Ji, was so chocked full of jingoist swagger and braggadocio that reference to blockchain technology was almost entirely omitted.

THE FINTECH TIMES

PRINCIPLES

- To deliver fintech opportunities and solutions to mainstream audiences
- To identify social, economic, political, and cultural trends
- To bring stakeholders together to develop solutions
- To connect the elements of the fintech ecosystem

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MATTHEW DOVE
Digital Editor

from page 1

BEWARE THE ~~29th~~ TBC OF MARCH

I READ THE NEWS TODAY, OH BOY...

You're bored of Brexit, I'm bored of Brexit, Hell, even Barnier's bored of Brexit. As far as historical harakiri goes, Britain and Northern Ireland limping out of the European Union will surely rate as one of the most tedious...

However, for better or (much, much, much) worse we've made it this far, and perhaps, with *TFT* holding your hand, you're willing to come a little further? After all, crisis breeds opportunity and fintech is going to lead us back into the light, right? asks *Matthew Dove, TFT Digital Editor.*

I've been pestering regulators, fintechs and bankers to find out who's bored, who's terrified and who's got plums enough to take this epic turd and roll it in glitter. (Spoilers: It didn't go well...)

The first question I asked my quotable notables was, how on earth did we get here?

The image of a foppish little Scotsman called Fred Goodwin still provokes an eye-bulging level of ire in certain circles and the reason for poor wee Freddie's lack of popularity is simple; he's an absolute banker.

With spending habits which would embarrass the Sun King and an unbridled arrogance to match, this walking, talking hubris factory typifies everything Brexiteers loathe about what they consider to be a sneering neoliberal elite.

Fred the Shred's blind faith in the so-called free market and insatiable avarice led the Royal Bank of Scotland straight into the poor house, or more accurately, state ownership. At the height of the crisis in 2008, Goodwin managed to exit stage left with a 300 grand pension and a £2.7 million bonus for good measure.

If RBS's £45 billion bailout and subsequent decade sans profit have taught us anything, it's that the real freedom the market enjoys is the freedom to fail. Whilst most of us are leaning, grim-faced into a chilly capitalist reality, Freddie and friends knew that when they fell, the taxpayer would catch them. Shitting the bed never felt so good!

Photo Credit: Unsplash.com

> **"'We all too often have socialism for the rich and rugged free market capitalism for the poor."**
>
> **- Dr Martin Luther King Jr.**

Subsequent to that fateful afternoon at the ballots in 2016, many efforts have been made to identify the true target of the Brexit tantrum. The job-seeking immigrant and the Brussels bureaucrat are perhaps the easiest to spot, but look a little closer and "the characteristic villain of our day," remains the humble banker, bless his ill-gotten cotton socks.

Bear in mind that the average worker has seen little improvement in their lot for years and, if anything, the next generation will be even worse off. The rise of populist causes in Europe, most notably the Brexit campaign, and the election of Donald Trump in the US, reflect the disaffection many feel towards established political institutions and the private enterprises they so consistently prop up.

Ian McKenna of the Finance & Technology Research Centre offered *TFT* his own view on the origins of Brexit; "As time goes on, I think it is increasingly clear that, for many, Brexit was a vote against the status quo, millions of people who don't usually vote made a protest but the political establishment deflected their anger at the EU, with disastrous consequences.

IAN MCKENNA,
Director, Finance and Technology Research Centre

Equally politicians, right and left, encouraged by the red top media have used the EU as the people to blame every time they had an unpopular policy for the last 50 years rather than own the issues themselves. In time, they may regret not having the EU to blame for everything."

If Brexit is the populist bastard of privatised greed and state sponsored complicity, then the real flesh and blood children of the financial crisis are surely the fintechs.

Financial innovations in sectors as diffuse as cryptocurrency, APIs and peer-to-peer lending can all trace their origins back to the 2008 debacle. Young pretenders like Monzo, Yolt and Emma owe their places in the market to measures like open banking, an initiative designed to lessen the hegemony of the big banks. The first Bitcoin transaction was emblazoned with the words, *The Times 03/Jan/09 Chancellor on brink of second bailout for banks*, words serving as both a timestamp and a nod to its ideological beginnings.

Along with the incumbents they set out to disrupt, the fintechs now face their biggest challenge yet. Brexit has been described as "the mother of all unforced errors," and its fallout could be huge.

Even the figures are beginning to echo those of 2008/9 as last year the UK's economy slumped to its lowest annual growth rate since the crisis. It grew by a mere 0.2 percent across 2018 (1.4 percent overall) and contracted by a further 0.4 percent in December. This leaves the UK ahead of Italy only in terms of the continent's leading economies and suggests that Brexit anxiety is finally taking its toll.

Mark Carney of the Bank of England has essayed an unemotional vision for a post-Brexit Britain which includes property prices plunging 30%, unemployment hitting 10% (up from around 5% today), net emigration from the UK, inflation, higher interest rates and so on and so on...

Try as he may (excuse the pun), Phil "The Spreadsheet" Hammond converted only the choir when he opined a sunnier outlook recently. Referring to a forecast which runs until 2023, Hammond was quoted in the *FT* as having said that;

"The UK's economy continues to grow and remains fundamentally strong. Growth of 1.4% in 2018 means the UK has grown every year for the past ten years and the Office for Budget Responsibility expects it to continue growing in every year of the forecast"

However, with just 4 of the "40 trade deals ready for one second after midnight", on 29 March being tentatively agreed in negotiations, trade minister Liam Fox claimed would be "the easiest in human history", that forecast may require some rigorous adjustment.

In the short-term, the Bank of England places the chances of a recession in 2019 at one in four.

So, the banks caused it, regulators let it happen and the fintechs couldn't stop it... Brexit, that most movable and unedifying of feasts, is sitting in the middle of the table and we're all going to have to take a bite.

Who's up first? Don't all speak at once, will you...

Most of the legacy banks we approached were too busy packing their bags and searching for their passports to comment (apparently the trillion dollars they're moving to the EU can't travel unaccompanied). We were therefore compelled to allow their actions speak for themselves.

Deutsche Bank, Citi and Goldman Sachs were amongst the first to hop the fence in a monetary exodus that's seen roughly 10% of the UK's banking sector assets leave the country, in the build up to Brexit so far. That figure will continue to rise as more banks initiate their Brexit strategies which, by and large, appear to be "form an orderly queue and abandon ship."

A representative of Barclays told us that, "Unfortunately Barclays won't be able to feature in this article. The MD who would contribute is on leave and won't be returning in time."

With further details lacking, we were left pondering the exact nature of said MD's leave (Dublin? Or Frankfurt, perhaps?) and whether they will be returning before the 29th. No matter, we allowed the numbers to do the talking once again.

As well as moving its European headquarters to the Republic of Ireland and borrowing billions from the BoE's Term Funding Scheme, Barclays has latterly decided to shift almost 200 million euros worth of assets to Dublin along with 40-50 investment banking positions to Frankfurt from London.

Having left the banks arguing over who's going to turn the lights off, we troubled the regulators at the FCA and the EBA for some words of wisdom instead. Rather remarkably, they chimed in unison. That said, "chimed" implies that either body actually made a sound, they didn't.

"Thank you for contacting us. Unfortunately, it would be difficult, at this point in time, to contribute to your piece as we have not released any views on the impact of Brexit on fintech."

Franca Rosa Congiu, European Banking Authority

"The FCA does not comment on Brexit, over and above what's on the website. So, I'm sorry, but I can't comment"

Gordon Chapple, Financial Conduct Authority

That left it to Peter Smith, NED/principal at FinTechReguLab, to shed some light on the regulatory situation. He confirmed that the sounds of silence were not only affecting *The Fintech Times*' cover story but British business as a whole.

"The mood music is saying that most businesses lacked the information and clarity they need to navigate their forward course heading in to what could be the biggest change for them in a generation.

There is a very real risk that a lack of clear, actionable information from government will leave firms, their people and their communities in an impossible position. Even those companies trying their hardest to get ready are still in the dark on important matters from contracts through to customs. Many others, who took the decision to wait for the political process to conclude before acting, would face sudden and costly adjustments, if a deal is not reached.

The British Chamber Commerce (BCC) is particularly concerned over potentially escalating costs from export tariffs, but also retaliatory measures from the UK on its EU imports, with members telling the body they would like to see an official information hub where information about tariffs, duties and trade agreements for different countries are stored."

Come March 29th, some of the big boys may find themselves playing a game for which the rules are painfully unclear, but what of the fintechs? Will they fare any better? Ian McKenna certainly thinks so...

When asked who he thought was suffering the most as a result of Brexit uncertainty, the fintechs or the incumbents, the self-proclaimed finance futurologist replied, "I think this has to be institutions. They inevitably have far wider issues to address. Ironically if Brexit forces UK fintech to concentrate on issues globally and especially the Far East, where much of the most interesting action seems to be right now, there could actually be a significant benefit, although personally I would much rather we avoided this whole fiasco."

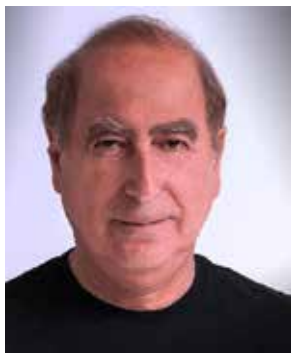
Fiasco or not, McKenna refuses to indulge in the kind of negativity which increasingly sees Cheapside heading for the airport. He feels there are ample opportunities to be found in the fog engulfing Brexit, especially for those agile enough to seize them. However, McKenna predicts the upheaval sparked by the UK's withdrawal from the European Union will be far broader in scope than most mainstream sources are suggesting;

"In practice Brexit will be the end of the United Kingdom. As I understand it, the Good Friday Agreement requires that if the UK leaves the EU there will be a referendum within five years on the reunification of Ireland. Northern Ireland voted to remain therefore reunification would achieve the wish of the population.

Equally Scotland, which also voted remain, will understandably be pressing for another referendum which, in the aftermath of the economic pain of Brexit, I would expect to result in a strong mandate for independence. The EU may find it tempting to offer them attractive terms to rejoin, although the Catalan issue may be a challenge there."

Those of a delicate disposition may wish to read this next bit whilst seated comfortably with a cushion or loved one supporting the weight of their head.

In the wake of what he sees as the post-Brexit fragmentation of the United Kingdom, McKenna feels there's only one way for the remnants to compete on the global stage;



ELI FATHI
CEO, MindBridge Ai

"We need to be able to attract the brightest and the best. I think London is especially well placed for that but to optimise the benefits we probably need to go down a true Singapore type route, with London leaving what will be left of the UK and operating as a city state in the same way as Singapore does very effectively with Malaysia."

Note: Whilst some of our more sheltered readers might already assume that London is its own autonomous city state, the conurbation actually resides (for the time being at least) within a small but proud nation called England.

The role McKenna sees fintech playing in this frankly startling vision of the future will be both as a crutch for the legacies and as a weapon wielded by others against them. He feels that just because banks are well placed to invest in fintech, it doesn't necessarily follow that it will cure them of their numerous failings. "Some banks have learnt some lessons and you certainly see people in many organisations wanting to do better. Regrettably they are hugely constrained by their size and the need to constantly generate shareholder returns quarter on quarter.

The mutual model dispensed with in the 80s, actually gave many institutions the opportunity to take a long-term view. All too often decisions are now taken to meet the needs of the next quarter's results.

The banks will undoubtedly seek to acquire fintechs - they can achieve similar results in a fraction of the time and cost, however in doing so they must make sure that they manage the cultural challenges so that these benefits are not lost in the course of acquisition."

McKenna went on to tell us that financial technology is best utilised by the fintechs themselves as, "the major financial institutions are bogged down by a relentless quest for profit. They have consistently failed to replace legacy systems and only making investment where there is a legal or regulatory necessity. Too many institutions have lost sight of what is in their customers' interests and only for products that are tired and self-serving.

Unconstrained by the costs of expensive bricks and mortar and legacy systems and being agile in their delivery, fintechs can genuinely put the customer first and deliver far more attractive propositions affordably to consumers."

The CEO of MindBridge Ai, Eli Fathi, thinks that fintechs will not only out manoeuvre the legacies, he thinks they'll thrive;

"The biggest challenge for post-Brexit firms will be managing uncertainty and that's where innovative financial technologies will shine. Whether it's potential changes in regulations or restricted access to markets and supply chains, technologies like artificial intelligence and machine learning will help firms break down barriers in acquiring, understanding, and reporting on data. No matter where they are located, these products and services are purpose-built to democratise traditionally complex and laborious tasks, and are agile enough to adapt to any changes in operating environment. As a result, firms smart enough to use these enabling technologies become more agile and resilient to change."

Herein lies the kicker, if Brexit is closing doors then, it's hoped, fintech will simply use the window.

"Fintech solutions have no borders in the technical sense, and allow firms to compete anywhere. More importantly, artificial intelligence platforms democratise data analysis and boost the scope of human understanding without significant costs, meaning smaller firms that are feeling the Brexit pinch can remain competitive and even open up into new markets and services that are currently dominated by larger and slower monoliths."

John Iadeluca, managing partner of digital asset quant fund, Banz Capital, asserts that, in the years to come, fintech alone can offer consumers financial products they can trust. Furthermore, Iadeluca believes that a combination of fintech and regulation can foster conditions in which the vagaries of the past would be difficult to repeat;

"Regulation and fintech were the prime forces behind the global financial reform that occurred after 2008. The two worked parallel to one another, in different ways of course, but with a common denominator, which was to fix a legacy system only recently discovered to be broken.

In the case of regulation, the major problem that needed fixing was regarding individual entities. Virtually every investment bank and firm, minus a few macro funds or those who shorted subprime in 2008, went under.

Regulation redefined, where possible, a system where if something like that ever happened again, companies would fail out of their own faults, not as a consequence of pure jurisdiction. It was more of refining the framework, but the foundational structure wasn't ripped out and replaced. Since imposing this effort, the financial regulatory environment has been more secure than it ever has, which as a result can be deduced that regulation effectively worked. However, while the environment was refined, the core foundation which was found to be flawed hasn't changed, because it wasn't designed for editing.

Fintech looked more at a direct solution. As a result of the financial crisis, financial technology as a whole analysed what was wrong with the core infrastructure of pre-2008 finance, analysed it, and came up with solutions to uproot what finance meant by rebuilding it using technology. In terms of fintech, if you look at the developments that have come to fruition since the crisis, the rate of growth is paramount, and it appears likely to continue through blockchain and immutable technology"

Whether you think that Brexit has its roots in the financial crisis of 2008/9 or not, one thing's undeniable, the banks and the regulators have offered inadequate responses to both. Even in their infancy, the fintechs are more willing to answer questions on these most problematic of issues and, one suspects, when push comes to shove, they'll be quicker to act too. ◆**TFT**

TRANCHE WARFARE:

ARE STOS SIMPLY TEACHING OLD DOGS NEW TRICKS?

Innovation is a double edged sword, it cuts both ways and if fintech is capable of pulling us up, it can also drag us back down. As Brexit looms, feckless opportunism could easily trump functional innovation. **MATTHEW DOVE**, *TFT digital editor ponders tokenisation creating avenues for fresh liquidity*

Champions of digital assets are heralding 2019 as the year of tokenisation - the practice of digitally fractionalising new and existing assets which can then be traded in their smallest increments quickly and without barriers. The idea is to open up the market to previously excluded retail and institutional investors, as well as loosening illiquid assets like private equity, real estate and diamonds etc.

This new asset class consists of two categories; the security token and the tokenised security. The former is a beefed-up, generally asset-backed, reimagining of the ill-fated initial coin offering (ICO), rebranded here as a security token offering (STO).

The tokenised security, on the other hand, is a traditional security given the DLT treatment. Gone are cumbersome secondary markets and in come blockchain-based trading solutions guided by smart contracts.

In a post-Brexit economy, such products may be just the kind of stimulus needed to restore timid markets to their bullish glory. However, the pursuit afresh of liquidity could just as easily bring nasty habits back to the fore.

Collaterised debt obligations (CDOs) can be seen as a trial run of the kind of fractionalised digital assets being floated today. Take an illiquid and potentially risky asset (i.e. a subprime mortgage), chop it up, repackage it in a tranche with less risky assets (A and B graded loans) and sell it on. Repeat ad nauseum. The only problem here is that you soon run out of "good" debt and start repackaging crap with more crap. The profits are great in the short term but the risk is huge (especially if everyone is using the same insurance company!). This way global financial ruination lies...

Speaking to *TFT*, John Iadeluca, managing director of Banz Capital, acknowledged the disturbing similarities between the class of derivatives whose wanton trading was heavily linked to the financial collapse of 2008 and the fledgling STO. He's quick to assert though that he feels that the comparison is largely superficial.

"The similarity between CDOs and STOs is undeniable, however, at current blockchain structure levels, STOs offer efficiency that CDOs never did. If you're packaging cash flow, revenue stream, and passive value yield into any other product and reselling it, you're definitely running the risk of it being bought irrationally and justified only by speculation as was similar with CDOs. However, with STOs the framework has made it financially more efficient for investors to use products that integrate tech as opposed to not doing so. A lot of the evil with these "repackaged" financial products falls at the hands of lack of knowledge.

JOHN IADELUCA,
Managing Director of Banz Capital

Many STOs offer convertibility at the lowest possible level, which is great. With convertibility, the security tokens issued are convertible at their truest value relative to malleable assets, say for example, real estate or art. The product has a use case in this instance, but it's when company revenue, loans, and other obligations are repackaged to no end is when things can be dangerous. In those cases, it's easy to mirror exactly what happened during the financial crisis, and it's absolutely possible for STOs if traction picks up."

In a piece published online in December 2018 last year, Iadeluca also fleshed out what he sees as the fundamental operational differences between the two products and the how, in the right hands, STOs could provide a safer alternative to the much-maligned CDO.

"You can code a Security Token to function exactly like a CDO, as long as the approval is there. The main difference that should be stressed between the two is that Security Tokens possess the programmability to function as a CDO, whereas CDOs do not have programmability at all. Security Tokens are more so frameworks, capable of being linked to debts, but not absolute. CDOs are entirely static representations on paper. With proper Security Token framework and a very serious amount of compliance oversight, you can even go as far as to say CDOs can theoretically be more reliable and transparent if issued on a blockchain."

If that "very serious amount of compliance oversight" is provided by the same agencies who did such a great job in 2008, then we should all cash in our pensions before some bright spark decides to tokenise them!

As ever, the distinction between innovation and "weapon of mass destruction" depends entirely on who's using it and why.

With uncertain times ahead, Iadeluca thinks that fintech, especially the distributed ledger technologies (DLTs) on which STOs are built, will be an indispensable tool, if used responsibly. When asked whether new financial instruments are simply offering the world more of the same, teaching old dogs new tricks, he responded,

"Post-Brexit, I do believe at its absolute simplest level, binding blockchain to cash flow related products can be efficient, but past that, it can be more or less the same thing just reworded and resold. If done correctly, binding to blockchain means absolute immutability and transparency, two qualities that if implemented during the financial crisis would have statistically mitigated losses. The challenge is adding those factors without disrupting significant profitability for any party involved. In financial technology, I think it comes down to using technology to give an edge to both the buyer and seller of something in a more sustainable way than if a technology wasn't used.

When it comes to new approaches, the idea of fintech offering more of the same is dangerously realistic. It's easy to attract interest using big words and complex sentences, but at a certain point, you need to take a step back and assess what financial products are adding real value and utility, and which ones are just rehashed products issued with a slight premium."

The worry is that DLT has the power to produce supercharged derivatives which would make CDOs seem like savings bonds. The last thing the rattled British economy needs is a load of City boys chasing easy money by hocking complex products that no one understands. We've been here before and it wasn't funny the first time. ◆**TFT**

“SECURITY AT ITS HEART”

ZOYA MALIK
Managing Editor

Mobile and online purchasing via contactless cards is struggling to gain ground due to consumers' mistrust of security within the payment system, against fraud. Rather than rendering consumers freedom from card usage, payment card developers and fintechs are adding layers of biometric security to payment cards in a bid to protect buyers and vendors, and to offer comfort and garner the loyalty of a new generation of customers. **Zoya Malik**, *Managing editor TFT spoke to* **FRED MARTINEZ,** *Director, Biometrics & Advanced Payments and* **XAVIER LARDUINAT**, *Director Marcomms Financial Services, Gemalto about Gemalto's R&D and solutions for the market*

BIOMETRIC PAYMENT CARD

XAVIER LARDUINAT
Director Marcomms Financial Services, Gemalto

FRED MARTINEZ
Director, Biometrics & Advanced Payments Gemalto

ZM: What are Gemalto's developments in card security?

XL: In recent years, Gemalto's security innovation in the payments card space has accelerated. Banks and financial institutions have actioned consumer demand for an improved experience and to have better security at their fingertips.

Whether it's in-store, using 'contactless' or the traditional Chip & PIN, withdrawing funds at an ATM or making purchases online, consumers face a variety of payment card threats. But owing to the high-level security behind the Chip & PIN and the restrictions on contactless payments, fraudsters have turned their attention to eCommerce payments.

The motivation is that online payment services bypass the secure EMV Chip & PIN and can enable malicious code to steal unsuspecting consumers' financial details, including PAN, cardholder name, expiration date and the CVV code. In response, Gemalto has introduced security software called Dynamic Code Verification. This is a verification code that is visible on an e-ink display on the card's body or in the bank's mobile app and is a direct replacement for the traditional CVV numbers. For added security, it changes every hour, removing all possibility for fraudsters to swipe the card's information. It's the best defence against online fraudsters.

Gemalto continues to develop best in payment card security. Last year, Gemalto launched the world's first biometric contactless payments card, allowing users both the security and convenience of paying with their fingerprint, as opposed to remembering a PIN code. As these fingerprint readers are difficult to scam, the biometric payment card is very secure and so the user is entrusted with more payments benefits, such as the removal of contactless transaction limits.

ZM: What is Gemalto's investment into card security in 2019? What will be the roll out?

XL: Gremalto is heavily invested in banking card security and is committed to its success through 2019. The Dynamic Code Verification cards are already on the market but will continue to be rolled out to as many consumers as possible, while our biometric payments card is currently in the pilot stage in banks across Europe.

ZM: What can you tell us about new developments in biometric payment cards? How will these create greater security for users? How does the technology work?

FM: The biometric payment card has been designed with security at its heart. From the initial enrolment process to each transaction, steps have been taken to ensure that customer data is always protected. The cards contain a secure chip which stores the fingerprint reference. When it's used, the fingerprint sensor measures the data against that already stored on the card. It's so secure because all the checks take place on the card itself; there is no central database that it needs to connect to, in order to verify the identity.

Currently, if users would like to enrol at a participating bank, they would either need to visit their local branch or request a scanner to be sent to their home. If customers choose the bank, they simply place their fingerprint onto a smart tablet which records and sends the information to the card. This data transmission is fully protected and there's no data left on the tablet. If they choose to enrol at home, they are sent a small but secure card reader which runs them through the necessary steps. There are currently several live trials with VISA, Mastercard and well-known banks. Initial feedback has been that the card work well and is often the first choice for customers.

ZM: How soon will biometric cards be rolled out in the UK? What more needs to be done to create confidence in them?

FM: As the technology is still being refined and improved, the cards need as many pilot programmes as possible to ensure their success. Having said that, we expect mass market roll-out to be as early as the second half of 2019, with volume increasing sharply in 2020 and beyond.

For the UK market, a trial will be launched in the coming weeks with a key issuer. We are also in discussions with some major UK banks about pilot programmes and hope to confirm more on this shortly.

ZM: How does Gemalto partner with fintechs for R&D and product roll out, especially with biometric digital security? Please give some examples.

XL: Gemalto has an extensive R&D process to ensure that products match the standards expected by customers. For the biometric payment card, Gemalto has partnered with a leading fingerprint sensor vendor to deliver products of the best quality.

Gemalto is also partnering with leading fintech firms to develop innovative use cases for the payment card. Beyond the convenience of enabling contactless payments for any purchase amount, biometrics is a sure-fire way to verify the identity of the card user. This drastically opens up the use-case potential for the technology. For example, we could see biometric cards at the centre of social benefit distribution in years to come

ZM: What is Gemalto offering the payments ecosystem (stakeholders) in terms of card security for online use?

XL: Gemalto has developed Dynamic Code Verification cards (DCV) to replace the static CVV alternative and protect the cardholder from skimming fraud. This type of fraud is carried out by malicious eMerchants whose website collects the cardholder's data (card number, name-on-card, expiry date, CVV) to complete fraudulent online purchases.

DCV has its code changed every hour, leaving no possibility for a fraudster to skim and use the data on the card. Importantly, it does not change the user experience either, as most people are familiar with using CVV when making online purchases. The changing DCV can be found either on the individual's online banking app or through a small eInk display on the card itself. It's secure, easy-to-use and most importantly, is impossible to locate for a fraudster.

ZM: What are vulnerable points in payments processing for fraudsters to exploit?

XL: Payments cards that are used at the point-of-purchase are now so secure that fraudsters focus almost exclusively on eCommerce attacks. This is why solutions such as DCV are so important in protecting cardholders for online purchases too. There are a variety of secure solutions that online sellers can purchase from Gemalto. 3D secure version 2, card tokenisation, DCV are just a few that can be deployed quickly and scaled to individual customers' needs

ZM: How will biometric cards work for online buyers / retail platforms?

FM: The biometric card provides a very simple and secure way to authorise online payments. The solution requires two factors of authentication in order to verify the purchase; what 'I' have (the card) and what 'I' am (biometric authentication). In the future, retail platforms will have a variety of ways to integrate this payment option into their service, choosing what works best for them. This is currently in development, so stay tuned. ◆**TFT**

TOP 10 ICOS TO WATCH

DEEP CLOUD

The cloud industry is already saturated, given the big names such as Google cloud and Azure dominating the market. However there are startups that aim to democratise and decentralise the cloud industry powered by blockchain. DeepCloud is building an AI-driven decentralised cloud computing platform for decentralised applications—IoT and Web 3.0 DApps. It is a decentralised IaaS Cloud provider; its services include IaaS, Application Marketplace, and Developer Community. Although similar projects such as Golem and SONM have already captured the decentralised cloud computing space, DeepCloud has taken additional steps with its AI innovations. DeepCloud AI focuses on building a distributed cloud infrastructure based on the blockchain instead of building a specific service such as unused storage, AI computing platform, or Database as a service which were applied in Filecoin, DeepBrain Chain, and Bluzelle respectively. Data will be managed and processed through the nodes that are running on the network. In return, node holders will earn DEEP tokens. The team will earn revenues from the intrinsic value of the DEEP tokens, as the user base expands. Additional revenue will be generated by the network resources provided by DeepCloud AI itself for the infrastructure. The company's GitHub repository is still empty which could be seen as a red flag to the analyst and investor side. However, the team has an immense experience in cloud computing and AI. The project can become an attractive long-term investment for investors if it succeeds in expanding its user base after the release of its MVP. ◆**TFT**

EPHELANTS360

Ephelants360 is a unique project which aims to decentralise the TV and movie making industry. Ephelants360 is a machine learning, investing, and hybrid distributed ledger providing an ecosystem for results-driven TV and film content production. Built on Stratis, Ephelants360 is supported by a distributed system relying on machine learning and distributed ledger technology. Blockchain brings benefits such as transparency, risk reduction, automation using smart contracts and incubation of online content creation. XEP will be the utility token on the Ephelants360 platform to make monthly subscription payments. XEP tokens can also be used for contributions to TV and film projects, up-voting content, competition prizes, and rewards. The team has also created a user-friendly online networking and jobs portal that is in line with industry needs and trends. The US-based team consists of experienced players who are passionate about changing the online TV and content creation industry through the platform. The project is innovative, unique, and can help producers with crowd-funding activities to fund large-scale video content projects. Investors can seek sizeable returns as the project progresses although, building a name in such a glamorous industry is a challenge for the company. ◆**TFT**

UHIVE

UHive is a mobile device based social network that integrates the physical dimension with blockchain technology. UHive is controlled by AI and supports VR (virtual reality). The platform seeks to deliver a unique and entertaining experience using the theories of sociology and social psychology enhanced by blockchain and AI. The system will use Amazon AWS backend and a range of CDNs (content delivery networks) for fast delivery from local servers to achieve a virtual real-time experience. The ecosystem will consist of two worlds - the real world with real people and businesses that perform under the platform's regulations, and the grey world with anonymous users and no regulations. UHive has made this possible with the help of hybrid blockchain. Even with the mix of such complex technologies, the developers are trying their best to make the user experience on their apps very simple. The network is expected to be released in two stages. The first stage will be the release of UHIVE tokens required to have access to the network. The second stage will be the release of the network. The platform will be sharing its revenues with the users and reward them with UHIVE tokens based on the usage of the platform. The project will require a large audience to make UHive successful in the competitive social networking market. UHive can take months to achieve its goals and hence, investors might have to wait to seek healthy returns on their early investments. ◆**TFT**

TEMCO

The Supply Chain industry is witnessing the most vigorous disruptions using blockchain technology. Temco aims to join the wave. TEMCO is a public blockchain with the smart contracts that are used to overcome limitations of supply chain supervision in management. Small and medium-sized enterprises (SMEs) are sometimes not in a position to offer their consumers in-depth information on supply chain management data. Using RSK blockchain on Bitcoin's platform, Temco offers real-time data services via its business intelligence tool. The company also provides consumers with an application that can keep tabs on supply chain data in real time. It also boasts an online market powered by a cryptocurrency payment standard. The TEMCO project aims to ensure accuracy of the information contained in the blockchain when a product is transferred through a smart contract. TEMCO will be using tokens as a mode of payment in purchasing products and services once its ecosystem is established. These tokens will also be used to pay for smart contracts. This will ensure better interoperability and transparency between producers, warehouses, transportation companies, distributors, and end consumers. The team comprises of young South Korean visionaries. These entrepreneurs are supervised by veteran advisors to guide the project through a volatile market. Temco has potential to succeed in the decentralised supply chain industry and may well turn out to be a destination for SMEs to partner, in instances where they cannot afford to partner with the blockchain supply chain giants, such as Maersk and Walmart. ◆**TFT**

SMART VALOR

Smart Valor has announced that it will become the first company to offer a stablecoin backed by Swiss Franc. The project is about building a marketplace for tokenised digital assets and security tokens that is licensed and regulated by Swiss authorities. The project will be run in partnership with financial institutions and will strictly comply with FINMA regulations. The Smart Valor platform is a blockchain based network that allows issuers of assets not only to create but also distribute tokenised alternative investments. Several layers of distributed nodes among key participants have been put into place in order to ensure the actuality of the platform's alternative investment solution offers. The company aims to obtain a banking license with its expansion in Liechtenstein and the tokenisation of Swiss Franc (CHF) but as of now, Smart Valor is in discussion on possible collaboration with banks, crypto exchanges and prominent auditing companies. Smart Valor will generate revenues from various fees associated with the service such as listings, buy/sell transactions, custody and storage, banking services and commission on the provision of services from community members. The token holders will have the opportunity to earn extra VALOR tokens by performing certain tasks such as referring, voting, predicting or strategising on various investment opportunities. The platform has huge hidden potential as it looks to keep the regulatory measures related to tokenised securities in check. With the increasing adaptation of the token, Smart Valor can prove to be an exciting opportunity to invest for the long term. ◆**TFT**

TOP 5 TRADING TOKENS

XYO NETWORK

The XYO Network, short for XY Oracle Network, is a trustless cryptographic location network that enables layered location verification across many devices and protocols. XYO calls its network a people-powered location network built on Ethereum. It uses location-based signals that smart contracts can gather data from in the real world. XYO has created its own consensus mechanism called Proof of Origin. The consensus algorithm is combined with Transient Key Chaining to ensure that ledgers flowing into the network are valid while making it impossible to falsify the chain of origin for the data. The ERC 20 token running on the XYO network is called XYO token. These tokens are used as an incentive to help keep the network running. Users are rewarded when they run miners and help provide location information with the proof of origin algorithm. The company has been functioning since 2012, building location technology solutions for autonomous drones, self-driving vehicles, smart cities, and space exploration. The company sees its largest potential market in e-commerce. The executive team consists of well-known names with remarkable experience in their respective fields of IT, marketing, and blockchain development. The Proof of Location concept which XYO relies on can be disruptive in the blockchain industry. The concept brings a real-time tracking system for logistics and supply-chain industries. However, it will face big competition from the US military. The project is a long-term opportunity which requires patience and understanding of the investors who are expecting handsome ROI. ◆**TFT**

SINGULARITYNET

Hanson Robotics's human-robot Sophia has created a lot of buzz in the past 2 years. The company's Chief Scientist Dr. Ben Goertzel and CEO Dr. David Hanson have teamed up and founded SingularityNET. SingularityNET is a decentralised marketplace for AI. Raising $36 million through ICO took a matter of minutes. Starting the platform as an AI-as-a-Service marketplace, the team plans to develop the platform into a completely self-organising AI network primarily using resources from the OpenCog Foundation. In this open marketplace, AI developers can exchange their tools and services for SingularityNET's AGI token or for barter exchange of other tools/services. The platform uses smart contracts executed by Agents to facilitate other types of services such as matchmaking the favourable combination of exchanges and voting for governance events. SingularityNET has also forged many partnerships with other blockchain companies. This includes their arch-rivals DeepBrainChain and international bodies such as Malta Government. The team consists of 50 members including more than 10 PhD scientists. In early 2018, the team released the alpha version of the platform. The release date of the beta version is still unknown. Given the track record of the well-experienced team with the vision of merging the two most captivating technologies of the future, the project has an immense potential. ◆**TFT**

VIBE

Vibe is looking to enhance the public concert experience with the help of Augmented and Virtual Reality. The project uses Volumetric videos technology for "holoportation," to project holograms of people from all fields including music, art, education and sports, etc. It was initially used as a gig-booking platform between musicians and event organisers. The potential of VR is growing in the entertainment and gaming industry and VIBE has discovered an untapped niche to use it with blockchain. Although the company hasn't perfectly seized the market, VIBE is in serious competition with Cappasity, BlockV, Decentraland and Matryx. Vibe is currently focused on concerts and wants its customers to have the lifelike experience of public concerts from anywhere in the world. Users can simply put on the VR headset, start the app, pay VIBE tokens and enjoy the concert. The platform has partnered with PlayStation (PS4), Microsoft HoloLens, Oculus and Samsung and captured their first volumetric performance in 2017. VIBE will also be hosting live VR performances integrating its off-chain solution for micro-transactions using the VIBE currency. The company will soon launch its AR (Augmented Reality) platform which users can access without a VR or AR device, in a less immersive experience through modern browsers and increase participation. VIBE definitely is a solid project with a sound team. The team is working hard to accomplish the milestones of its roadmap. The investors will start to register noteworthy returns on their investments. ◆**TFT**

ODEM

The $6 billion education industry is currently dealing with tremendous imperfections. Educators are underpaid, students are undereducated and yet the prices are astronomical, producing an ever-rising burden of student debt. ODEM aims to remove these imperfections with the help of decentralisation. ODEM, short for On-Demand Education Marketplace, is a blockchain-based distributed network that allows university students to seamlessly interact with their professors and academic partners without the need of a middleman. The company will be employing AI to better match students with their desired educators. The student gets quality education (each educator has his full credentials and teaching history on display) and pays a lot less as the middleman is removed. The educator gets a chance to teach what he wants, when he wants and can tailor the curriculum to the needs of the student. The key element of this ecosystem is the ODEM token which will be used to buy and sell customised courses across the world. Currently, the project hasn't achieved mainstream popularity. The company needs to broaden its customer base as the growth of the platform lies on the number of students and educators active on the platform. The project is promising with an experienced team. The project can be a safe investment to make, but the investors will need to be patient until the point where the platform is live and has a substantial customer base. ◆**TFT**

ORIGINTRAIL

Improper tracking of goods is a critical issue in the supply chain industry from the consumers' perspective because consumers today want more transparency about the products they are purchasing. OriginTrail wants to satisfy the need of the customers. OriginTrail's protocol provides a solution to the problem of maintaining trust among all players involved in bringing a product to market in a supply chain. The participants are called stakeholders. These stakeholders can share and store their data through encrypted channels on the blockchain. The ecosystem is organized through a tokenised model which minimises collusion and improves accountability in the system. One of the best steps the company has taken is that it made OriginTrail fully compatible with the ERP systems. While using Excel sheets is a common practice adopted by many organisations, Origin Trail uses existing GS1 standards so as to maximise customer-supply chain interactions. The company has been working on improving the traceability in the food and gas supply sectors since 2014. Further advancements were noticed when the company introduced blockchain technology in 2016. The team has profound technical experience in the supply-chain and the blockchain industry. The key to this company's growth lies in the diversity of the products. The project has the potential to grow because the product it is offering will be a lot cheaper than the products built by Walmart and other centralised giants. The token has performed decently in the market and can produce further returns if the company manages to cover more products and partnerships in its platform. ◆**TFT**

ESTONIA E-RESIDENCY PROGRAMME

ARNAUD CASTAIGNET, *Head of Public Relations, e-Residency programme, Republic of Estonia spoke to* **Zoya Malik**, *managing editor TFT about the benefits of Estonia's e-residencey programme for fintechs*

ARNAUD CASTAIGNET,
Head of PR, e-Residency programme,
Republic of Estonia

ZM: What is e-residency's role in furthering business set up and opening up trade relations and capital flow to and from Estonia? Which businesses will it appeal to?

AC: Over the last 20 years, Estonia has made 99% of its government services available online, accessible by citizens and residents through secure, government-issued digital identities. This means almost any interaction with the state - like voting, filing tax returns and registering names of children - can be done entirely online from virtually anywhere in the world. In addition, these same digital identities can be used to access an increasing number of private sector services such as online banking. Estonia's digital infrastructure has continued to develop, yet the number of users who could benefit was always limited to the number of citizens and residents of the country.

In 2014, Estonia decided to provide digital identities, along with access to Estonia's digital services, to citizens of other countries who do not have residency in Estonia. These people were called e-residents and received e-Residency digital ID cards, offering access to many of same government e-services previously only available to Estonians living in Estonia. By taking this step, the Estonian government turned citizens of countries all over the world into potential 'users' of Estonia's services. The next step was to consider which Estonian services were most valuable and relevant to these e-residents, as well as how use by e-residents could bring value to Estonia. In the first four years, 50,000 foreign nationals from 165+ countries have become e-residents.

E-Residency connects you with Estonia and Estonian business environment. E-residents have the freedom to create and run a global, EU-company online from anywhere in the world. Estonia offers increasingly convenient ways to successfully pursue activities independently of their location. Consequently, digital entrepreneurs and freelancers selling digital services and offering cross-border IT and consultation services, location-independent entrepreneurs who could work from any location in the world and digital nomads – professionals who live and work in more than one country per year – are the people who benefit the most from e-Residency. E-Residency gives them a way to establish a trusted company in Europe and remotely manage it with low overheads.

The main nationalities in terms of company creation are Ukraine, Germany, Russia, Finland and Turkey. According to local e-Residents, the possibility to create an EU based company and access European single market (Ukraine, Russia, Turkey) and run their business fully online with no paperwork and bureaucracy (Germany and Finland) is their main motivation.

ZM: What is the e-residency kit?

AC: The e-Residency kit includes your digital ID card, a card reader and your 2 PIN codes which are necessary to authenticate yourself and legally sign documents. Each e-resident must pick it up in person at an Estonian embassy.

ZM: How is the background check fulfilled for new entrants? What's needed to satisfy authorities? How is privacy of data maintained?

AC: All applicants receive background checks by the Estonian Police and Border Guard Board, the organisation that manages the entire application process, to ensure digital identities are used by verified people with honest intentions.

Companies are registered under the Company Registration Portal with the same obligations as any other company, including submitting an annual report, the country exchanges tax-related information with more than one hundred jurisdictions in the world on the basis of the relevant OECD convention, which also means such information exchange is also available to those with whom we have no valid tax treaty.

Our digital nation depends on the trust of all its people — citizens, residents and e-residents. You cannot expect trust if the State is not transparent and accountable. If there is no citizen control of the use of personal data, citizens would be legitimately worried about their privacy. In Estonia, to ensure transparency and accountability, citizens are allowed to monitor their own privacy. They can trace anyone who has tried to access their data by logging on to the state portal, eesti.ee. Protecting the integrity of our digital identity is also a top priority.

ZM: Can fintech businesses open a bank account through e-residency?

AC: E-Residency is a government-issued digital ID. Consequently, it doesn't provide a bank account. E-residents are enabled to conduct their business activity using any credit or payment institution across the European Economic Area.

Estonian banks tend to serve e-Residents who have a business connection to Estonia and can provide a clear understanding of their business, among other considerations, and always require to have a physical meeting in Estonia. However, Estonian banks are not the only banking options for e-residents.

In fact, more than half of e-resident companies have obtained online business banking from the fintech industry. This is why we have built several partnerships with payment institutions such as Holvi and Payoneer in order to widen the choice of financial services available to e-residents. The overall trend worldwide shows that more and more global entrepreneurs chose fintech companies to access an IBAN, credit card and other financial services. Many of them actually use one of Estonia's best success stories to access these services: Transferwise Borderless account.

ZM: What types of fintech business segments will flourish in Estonia and why?

AC: Estonia is a cashless society with over 99% of financial transactions occurring digitally. Having committed to digital financial services 20 years ago, Estonia has developed unique skills and experience in the innovation and application of fintech. Estonia's fintech journey has its roots in e-Estonia, when government, financial services and telecoms providers collaborated to create a unique environment. Digital service delivery was supported by the development of digital ID, high-speed connectivity and enabling legislation. Estonia has utilised a data exchange layer since 2001 and blockchain in the administration since 2008. Guardtime, which developed KSI Blockchain technology used by the administration to ensure the integrity of critical data, was born and continues to have significant operations in Estonia, while Funderbeam attracts global investment and has been named the most innovative fintech startup in Europe in 2018.

In payments, Estonia has produced globally successful companies including Fortumo, award winning Monese and unicorn TransferWise, each of whom has significant R&D, engineering and 24/7, multilingual client service operations in Estonia. Whether you seek innovation, reliable engineering or an operational hub within the EU regulatory framework, Estonia is a smart, agile location for fintech businesses.

ZM: What types of fintech services will find a good fit with the e-residency model? What are incentives in 2019 to join the community?

AC: On our side, the e-Residency team will soon announce new partnerships with leading fintech companies in order to widen the banking services options for our e-residents. On January 1st, the Estonian Parliament has eliminated the requirement to use an Estonian bank when registering share capital, which means that e-residents are enable to conduct all business activity using any credit or payment institution across the European Economic Area. So, this is a very important change for our e-residents.

ZM: What is e-residency outlook on the growth of cryptocurrency and blockchain services over the platform?

AC: Since the inception of the programme, blockchain entrepreneurs from around the world have been enabling their customers to access products and services through e-Residency. One thing that many of them have in common is the need to authenticate the online identities of users through a process known as KYC or 'Know Your Customer'. Fortunately, the secure government-backed digital identities offered to e-residents means that they can be onboarded faster and at lower cost.

Among the examples of e-residents who are developing Blockchain services, I can mention Peter Ferry, an e-resident from Scotland, who launched Wallet.Services, which provides simplified tools for software developers to build applications using Blockchain technology. Their SICCAR platform, built with the Scottish Government, provides cybersecure information sharing between citizens and government. Another interesting company is Blockhive, established in 2017 by Japanese e-resident and Blockchain veteran Hikaru Kusaka, which collaborates with partners and develops blockchain strategy and technology solutions with them. Its four main businesses include a digital wallet, a cryptocurrency mining facility, a venture capital fund that invests in blockchain projects, and a new crowdfunding solution built based on ethereum.

The fact that the Estonian government has been testing blockchain technology since 2008 shows that our country is open to innovation and blockchain technology in particular. From 2012, blockchain has been in use in Estonia's registries, such as national health, judicial, legislative, security and commercial code systems. We believe blockchain has a great potential because it can improve trust in systems and, in our case, it adds an extra layer of security. Whether we like it or not, the world is becoming more decentralised. The development of blockchain technology should make us build new lending relationships between citizens, companies and the state. I would say it is for the best because this is one of the reasons why blockchain has such a great potential. Not only does it have the ability to remove entrenched middlemen, but it can also improve the overall transparency of our systems. Of course, coordination and openness amongst technologists, designers and citizens is necessary. However, we must not be overly optimistic about the capacity of technological innovation, on its own, to change the course of history. People always come first.

◆**TFT**

Country as a Service – Comistar's part in Estonian fintech development

Comistar Estonia is an official partner of the Estonian e-Residency programme providing legal (focus on licensing and tax) and accounting advice for foreign entrepreneurs and investors coming to Estonia. **MIKK MAAL**, *CEO of Comistar describes to* **Zoya Malik**, *managing editor TFT, Comistar's tokenisation services and advocacy with financial regulators for 'ease of doing business' for fintech entrants*

Mikk Maal is CEO, Comistar helping foreign entrepreneurs to start and run their businesses in Estonia. Maal is also Co-founder of TokenizEU security token issuance platform. A cryptocurrency enthusiast, Maal co-authors a blog at cryptoincome, and has a bestselling e-book, "*Navigating through Cryptocurrencies: Introduction, Investing, ICOs, Scams and Interviews*".

ZM: What is your role in furthering trade relations for businesses and capital flow to and from Estonia?

MM: We try to make it as smooth as possible for investors and companies to enter the Estonian market. Of course, we also promote Estonia as much as possible at different conferences, we publish reports on Estonian business prospects and advise regulators on creating a better business environment than it is currently.

ZM: How do you view tech investment and FDI into Estonia? How does Estonia partner and leverage local expertise to develop fintech platforms?

I think it's important to understand that Estonia is a very small country without any remarkable natural resources or industries that can carry the economic growth. Hence, we have to have an attractive business environment, and we have to be innovative and welcoming to new technologies. I think Estonia has a great IT infrastructure to build upon – we've digitalised healthcare, the school system, voting, tax returns, company registration and management, public transportation and so forth, but we definitely need to do more as a country to take advantage of the work already done, especially if we're talking about the fintech industry. We like to talk about Estonia in the context of, "Country as a Service". This means that the IT infrastructure we've built is used as a platform for starting new borderless businesses. This is the whole concept of the Estonian e-Residency programme. However, if we talk about the fintech industry specifically, then this is obviously a regulated industry, and I feel the regulator hasn't made the necessary adjustments in order to use the existing platform to become a standout jurisdiction for fintechs. Starting a business in Estonia is still easiest throughout Europe and the fintech industry is growing rapidly here as well, but there is still much scope remaining to improve our status as a fintech hub. It doesn't require anything complex to start with; it can be a simple public statement by the government that we're open for fintech businesses to come here. Estonia needs to focus on the big picture and to understand what it is that we wish to be, and what it takes in order to keep the momentum going.

For Comistar, it's always great if more investments and money flow to the economy, and more businesses are built here. As we usually assist foreign entrepreneurs and investors, it's in our interest to make sure investors are protected properly.

ZM: What is Estonia's regulator doing to create market confidence within Estonia's financial sector and economy?

MM: It really depends on the angle from which we look at things. Estonia's regulator is quite strict with all services related to money handling, and this certainly in itself creates a cleaner and more credible market, and minimises the risks for the economy as well. From an economic perspective, Estonia has the lowest government debt compared to the GDP in the whole of the EU meaning that banks are strong and the tech industry is booming. Of course, we're not immune to the economic downturns as we depend heavily on the foreign markets, but we are as good as we could be.

For a starting business, however, it may not be a good thing when the regulator is strict, as it could prove demanding to meet all the requirements. The requirements for the fintechs are largely set at EU level, and it's quite safe to say that Estonia doesn't hand out licenses very easily. There are upsides to this approach. For example, the Payment Institution license obtained in Estonia is a sign of quality, compared to some other jurisdictions, where acquiring a license is seen as easier. At the end of the day, it's about making the best overall choice, which includes licensing, image, tax and ease of doing business in general.

ZM: What is the current environment for fintechs' 'ease of doing business' in Estonia? What more is needed to incentivise fintech entrants?

MM: I would say any fintech business has to take into account the fact that licensing is required, and this brings extra cost and burden to the entrepreneur. Not only in the EU, but everywhere in the world and it's a good thing because consumers need protection. From the Estonia regulatory perspective, I would advocate some of the following ideas which would simplify doing business for fintechs:

- simplify the licensing process (online application forms, frameworks, easy to understand guidelines, plug and play solutions for parts of the required documentation).
- actively market and state that Estonia welcomes fintech businesses as a fintech hub. It has to be a national initiative.
- through such policy, the direct officials working on the licensing processes act as support staff in guiding the applicants and fintech companies through the regulatory environment.
- limit any sanctions or licenses revoked for the first year of business.
- lessen requirements which are decided on the Member State level

ZM: What is Comistar's TokenizeEU platform for STOs? How will STOs work offer capital liquidity and ease of transactions? How will STOs open market opportunity for investors into Estonia and global trade?

MM: TokenizEU (pronounced Tokenize EU) is a security token issuance platform in the European Union. We help companies to tokenise their assets/equity and conduct regulated offerings. It's a technology platform at its core, coupled with legal compliance. Our primary focus is on the European market and European investors. We do accept North-American and Asian companies as well, if they wish to use an European SPV (special purpose company) to raise capital in Europe. It's still very early days for the TokenizEU platform, but we're advising our first clients, and building a pipeline for offerings for the second part of the year. We're very strict with our criteria for clients, and following all the scams and fake companies in the ICO market, we really want to build out the STO market in a very different way.

ZM: What is the environment for cryptocurrency development, ICOs and STOs and cryptocurrency exchanges in Estonia? What more is required to develop this market and create liquidity for investors?

MM: Estonia has two very specific licenses that are highly interesting for cryptocurrency exchanges. These licenses are specific to Estonia (e-wallet license and license to exchange digital currencies against fiat money and vice versa). This is something that no other jurisdiction offers, and it's a really good initiative by the Estonian regulator. However, these licenses only allow opening a cryptocurrency exchange for utility tokens (i.e. Kraken, Binance, and Coinbase etc.). With security token exchanges it is different, as securities can only be traded on regulated markets. For STOs, a company has to procure an Investment Firm license, and open a Multilateral Trading Facility (MTF). The main requirements for this type of license is set by the European Union, and the requirements are similar, if not identical, in all Member States. As the security tokens are the future, then having these trading platforms for security tokens is a must. There are quite a few such exchanges popping up for security tokens everywhere in the world, including Europe. I know Binance is working with the Maltese Stock Exchange, Gibraltar is working on that, London, etc. and there are companies which are in the midst of licensing process in Estonia as well.

Of course, we need more quality companies doing STOs in order to create a retail investor market. Quality projects and real companies, not on-paper-companies. I would say Europe is an excellent place for STOs, as the offering can be carried out within all the EU. And while choosing the best jurisdiction within the EU, it's important to have good access to the regulators, and minimise the bureaucracy, as this will allow for quicker process. For this, Estonia is a great option as well, together with a few other countries.

ZM: How does Estonia differentiate over other ICO jurisdictions globally?

MM: It's really difficult to answer without having a thorough knowledge of other ICO jurisdictions. We've had quite a few clients that have come to Estonia to conduct an ICO, after they had started the process in Malta. It's because we're a lot quicker, and sometimes also because of the lower costs. Estonia is fairly liberal, as long as the token doesn't qualify as a security. If it's a security, then it's a regulated offering and it's a whole different ball-game (unless financial exemptions apply, for example, offerings below €2.5 million). ICOs do not have a specific regulation here, and if you have a proper utility token, then it's relatively cost-effective to conduct an ICO in Estonia without regulatory risks. It's many times cheaper compared to Malta or Switzerland. If it's a real utility token project, and you'll have proper risk warnings, solid investor agreements, data processing agreement and other relevant information available for the investors, then Estonia is a very good place for an ICO. ◆**TFT**

'BRENTRY', not Brexit for LHV

With BREXIT looming, forcing many large banking groups to consider exiting Britain, LHV (TAL: LHV1T), Estonia's largest payment partner for global fintechs and fastest growing domestic financial group, is doing the opposite and expanding into the UK in a bid to become a critical service provider to London's burgeoning fintech sector. With the imminent functioning of its London branch, **Zoya Malik**, managing editor *TFT*, met **ANDRES KITTER**, Head of LHV UK to ask about Estonia's regulatory framework for fintech development and how Kitter believes LHV will fill liquidity gaps for European and UK fintechs, payment providers and lenders

ZM: Kindly describe LHV's services to fintechs?

AK: LHV has always looked at fintechs from a different angle. We've always been open to innovation and new business models. Whilst many start-ups have struggled with opening a basic bank account, LHV has been willing to start providing access to payment infrastructure, card acquiring and various treasury services for many years, along with providing financing services for more established fintechs.

Our core offering today revolves around Euro safeguarding accounts, SEPA and SEPA instant payments, virtual IBAN-s, FX services etc. In May, LHV will join UK Faster payments after which LHV will be one of the few banks able to provide both Euro and Sterling real-time payments. LHV's fintech clients will also be able to access and provide the very same services and solutions to their customers.

The payment services continue to dominate as a disruptive force amongst fintechs. In order to be effective, they need a reliable partner that understands their needs and speaks the same language – that's where LHV comes into play. All of our services will be accessible through API – LHV Connect.

ZM: What is pound payment systems?

AK: LHV is a direct member of the pan-European Euro clearing system SEPA - we are also one of the founding members of the SEPA instant real time payment network. Being a direct member allows the bank more flexibility and control over our risk appetite. Same approach has been adopted in the UK, LHV is building a direct connection to the Faster Payments scheme and manages a direct relationship with the Bank of England. Faster payment service remains a key requirement from our fintech customers and in May 2019, we will be delivering on our promise to directly support the British pound payments.

ZM: How is LHV working with Estonia's financial regulator to support the Estonia fintech market and especially ICOs and blockchain development? What more needs to be done?

AK: In today's rapidly changing financial services space it is critical to have a good relationship and be in regular contact with all stakeholders, including the regulators. LHV rolled out a stable coin back in 2014, whilst keeping the regulator informed about our plans.

One of our clients, Funderbeam, that provides primary and secondary marketplace for early-stage investments, bypasses VC companies and gives retail investors access to a market that's traditionally dominated by angel investors and large VC funds. As Funderbeam's exchange platform is based on blockchain technology, LHV had a long discussion and planning phase to figure out how the actual legal and banking framework could be built. This only works if one has knowledgeable people and can collaborate closely with regulators. We always encourage involving regulators as early in the process as possible, though one must recognise that other authorities might not always be as forward-thinking as they are in Estonia. It is important to differentiate whether a novel idea is an innovation or legal arbitrage - in most cases it is difficult to draw the line between ICO token and security and this causes many disputes between token issuers, regulators and banks. In reality - if it looks like a duck, swims like a duck, and quacks like a duck, then it's probably not a chicken.

A good regulator always finds time to factor in innovation and its potential influence and implications to the current legal framework and suggest a way forward. Stability of the financial system, protection of market participants and legality, including the avoidance of terrorist financing and money laundering, are key considerations that are driving regulators.

> **We appreciate open banking principles and want to be integrated with European banking infrastructure and our existing technological level enables us to provide services to international financial technology companies.**

ZM: Who are the banking intermediaries providing services to fintechs?

AK: LHV's UK focus is on the fintech companies needing access to the banking and payment infrastructure in pound sterling and euro area – neo banks, money transfer services, FX providers and also a small number of well-established crypto currency companies. This list is not limited, there are new ventures and ideas popping up constantly outside of the traditional banking sector which will change the financial services in the future.

Andres Kitter Head of LHV, UK

ZM: How is LHV an influencer bank?

AK: We strive to be an influencer bank in everything we do. Estonia is our home market and LHV has a long-term ambition to become the most important and profitable bank in the country. LHV is already punching way above its weight - if you look at our market share, in the 6 years since gaining our banking licence, we have already had more than 15% of the population open accounts with us. We influence Estonian entrepreneurship and people's financial behaviour with the best market knowledge, activity and innovative services.

In the long-term, we see ourselves as a bank that is at the forefront of modern banking in Europe. As an influencer, we contribute to the development of financial services. We position ourselves as a new generation bank capable of integrating and connecting traditional banking with a new generation of financial services. We appreciate open banking principles and want to be integrated with European banking infrastructure and our existing technological level enables us to provide services to international financial technology companies.

ZM: How does LHV partner fintechs and offer an open approach, link fintechs with open architecture and banking infrastructure. Please offer a case study.

AK: Successful partnership with fintech requires an open mind, good infrastructure, adaptability and technology; and willingness to dive into regulatory discussions. As most of the fintech business models are different, they require tailor-made banking relationships, which start with thoughtful analysis of the fintech business model, risk management optimisation and involving the key people from the get go. In the current banking landscape where money laundering and terrorist financing are growing threats, it is very easy to disregard the growing fintech space and ignore the new and interesting companies.

When we started to offer banking services to our first wave of fintech customers, we did not have a fully functional API available. We took the opportunity to build it from the ground up whilst being in close discussions with clients, making sure we understand and cater to their needs. The same model was repeated when we developed the virtual IBAN product – after countless interviews and discussions with customers, the product

specification was completed.

With the instant SEPA, Faster payments and Virtual IBAN services managed via a single API, fintechs are able to build/provide a very bank-like experience to their customers and we are proud to provide the infrastructure.

The product development won't stop here - we will continue to directly deliver new custom-made solutions to fintechs to accommodate their future needs.

ZM: When is the bank opening in the UK and what is your target market?

AK: LHV established the branch last year and since then has been preparing the integration of Faster Payments scheme to its portfolio of services. Currently, we are in the final stages of integration and Faster Payment launch is planned at the end of May 2019. This date will also mark the official launch of UK bank accounts and sterling payments. Until then we will provide services to fintech companies from LHV headquarters in Tallinn.

LHV has an existing portfolio of fintech companies that are waiting to gain access to the UK payment schemes. As the fintech scene is very active, we have a constant flow of incoming new clients. Our target fintech client operates globally and is in need of good technical infrastructure that provides access to Euro and Pound Sterling instant payment, virtual bank account numbers, FX services and other complex financial services. UK has a population of 66 million, London is the fintech capital of Europe and there are more than 500 million potential customers in the SEPA area, therefore it's crucial for us to have a presence here.

ZM: What capital and liquidity challenges are fintechs facing in the UK? Why do they need an Estonian bank as a solution? What gap are you filling?

AK: LHV focuses on providing bank account infrastructure, payment and FX solutions. The poor quality of these services is often the biggest gap in fintechs' service offering and LHV has solutions ready for implementation.

From May 2019 onwards, LHV will be able to provide the same services in both Euro and Pound Sterling areas, and that will be one of the key differentiators and core advantages for us. LHV does not offer all the capital and liquidity solutions as fintechs' funding is dominated by the venture capital providers. Although should the fintech company be in the stage where their financial situation is sustainable and more traditional funding models can be applied, then LHV has solutions available.

ZM: What is your feasibility for growth in the UK market? What areas are you focused on serving?

AK: Despite the looming Brexit and uncertainties that come with it, we're certain that London will maintain its title as the fintech capital of not only Europe, but also the world. London's significance was clear in the first half of 2018 when fintech funding deal statistics revealed that for the first time UK exceeded the US in the value of fintech deals. We believe that steady funding flow will create strong foundations and thereafter lucrative opportunities for new ventures and client bases for LHV.

ZM: What has been your experience working with regulators in the UK? How is this different from Estonia regulator?

AK: LHV has very positive experiences working with both regulators - although the setup of regulators can be different, the main working principles and purpose of maintaining financial system stability, market participants' protection and validation is the same.

Therefore, there is no big surprise. Obviously, we have a longer working relationship with the Estonian regulator and therefore it is somewhat easier, but that does not mean we have some advantages here. The relationship is strict and pragmatic from the supervisory perspective. What we have experienced in the UK is also very positive. Although Brexit has increased uncertainties, the PRA (Prudential Regulation Authority) has been very approachable and supportive and the same can be said for the Estonian FSA.

In the fintech space, one thing which is definitely worth mentioning is the FCA Regulatory Sandbox - this provides an excellent opportunity to test your products in a controlled environment. There is no exact equivalent in Estonia, but that may soon be available.

ZM: What is your view on how fintech development will be impacted by the outcome of Brexit?

AK: A no-deal Brexit will impact the fintech sector in many ways. I think the most significant impact will be keeping UK-based fintech EU operations going. The existing simple pan-European passporting of regulated financial institutions will cease to exist for UK regulated companies and EU establishment needed for the EU client serving fintech. This itself increases the cost base, creates additional regulatory overheads and takes away the focus from developing the core product. Despite the very strong fintech funding, the overall VC funding to UK companies fell by nearly 30% in 2017 vs. 2018. The full impact of the funding will be clear after/if Brexit finally happens.

UK and EU markets are certainly very attractive for tech companies and after overcoming the hurdles of regulation caused by the Brexit, companies will continue to service customers in the same manner as they've always done. Brexit will potentially have an impact to the UK population, and will create uncertainties for migrant workers - this itself may impact certain fintechs whose client base is largely made up of migrants and people that'll be impacted by the immigration law changes. ◆**TFT**

COMMENT

SIIM SIKKUT
Chief Information Officer, Ministry of Economic Affairs and Communications, Estonia

We've witnessed in Estonia a growth in fintech and also ICO activity, due to regulatory simplicity still and via our e-Residency programme

Zoya Malik, *TFT* approached Siim Sikkut, CIO Ministry of Economic Affairs and Communications, Estonia on Estonia's regulatory framework for fintech entrants and for crypto exchanges and blockchain platform development.

Sikkut commented: Estonia does not regulate blockchain use and development – we see it as just another tech and it also depends on what it is used for.

As for fintech, if the blockchain platform is used for providing financial services, then we treat fintechs like all other financial companies with respect to licensing and the rest of the regulatory regime is general and the same for everyone. You can find all the details on https://www.fi.ee/en). We try to encourage innovation throughout the economy through various measures, but have to manage the potential financial system risks the same way in digital products as in the realms of broad financial services – because in essence, we see the risks as the same.

Having said that we've witnessed in Estonia a growth in fintech and also ICO activity, due to regulatory simplicity still and via our e-Residency programme (https://e-resident.gov.ee) – which makes it easy to start and run companies and investor relations from a distance, by means of the many and varied digital solutions that the Estonian government and our private partners provide. ◆**TFT**

Paris Fintech Forum 2019: Eyes and Ears

KATE GOLDFINCH
Associate Editor

The Paris Fintech Forum was hosted on January 29th and 30th.

The Future of Finance: New Opportunities, New Risks, New Challenges

The panel saw Christine Lagarde (Managing Director, International Monetary Fund), Stefan Ingves (Governor, Sveriges Riksbank), Carlos Torres Vila (Group Executive Chairman, BBVA) and Kathryn Petralia (President, Kabbage) discussing key industry challenges.

Lagarde, spoke of supporting diversity in fintech, the kind of diversity sadly lacking in the room on the day (Paris Fintech Forum revealed that only 25% of the speakers at "CEO only stage" were women).

Lagarde also hinted at fintech's place within the wider financial landscape: "We are extremely interested in financial stability globally and see the very important role of financial innovations in that."

Panellists agreed that data control and ownership in the modern world is becoming a hot-button issue. Lagarde noted that, "Data is the king and we have to make more sense from data"

Torres Vila added, "The data speaks for itself ... it can say that this customer owns a small business and may need funding, so we could provide such a customer with the relevant offerings from the open market."

The related question of trust was the final topic discussed by the panel. Lagarde concluded that, "Trust is the life blood of the financial system. Fintech can do unbelievable good things ... 2 billion people have access to different platforms globally thanks to fintech. So fintech can do a lot of good concerning the need of financial institutions and people."

Cross-border competition Ripple goes toe-to-toe with SWIFT

Day two's main stage provided a brilliantly provocative discussion between Gottfried Leibbrandt (CEO of SWIFT) and Brad Garlinghouse (CEO of Ripple) which tackled the cross-border payments market. Think "David and Goliath" had David been hitting the gym and quaffing protein shakes.

Rumours of a potential partnership have been flatly denied by Garlinghouse who told Bloomberg that, "What we're doing and executing on a day-by-day basis is, in fact, taking over SWIFT."

Despite these fighting words, the exchange between the two was sparky without ever becoming heated and proved a fitting swansong to an event where the clash between old and new approaches had featured so heavily.

"There are two ways of competition - between banks themselves and between traditional players and alternative. I do not see banks going away [but] if banks innovate too slowly, they may lose the market," Leibbrandt said.

Garlinghouse concurred, arguing that unprecedented choice and competition will drive the market from now on. "We think about the value. It's a different view on how the world can work. SWIFT today is just one of the messaging frameworks."

The CEO of SWIFT feels his company is up to the challenge, especially armed with its shiny new toy, the SWIFT gpi saying, "Transparency puts more pressure on banks. SWIFT has never been in a bottleneck and I am extremely inspired now by SWIFT gpi as an instant cross border solution."

"APIs offer faster and more flexible ways to integrate tracking views and details in bank back-office systems, customer channels and solutions for direct integration in end-customer systems," Leibbrandt continued before adding, "Most assets you hold today are digital. We allow banks to move various assets. You can use SWIFT systems whether your account is denominated in dollars, euros or Bitcoin."

Bragging that XRP consistently handles 1,500 transactions per second and can scale to handle the same throughput as Visa, Garlinghouse seized the final word and was met with cheers and applause from the audience. As we enter uncertain times, the crowd, at least, appears to be rooting for the fintech Davids. ◆TFT

STOs in the mass market

KATE GOLDFINCH, Associate Editor

"What are the biggest challenges for STOs and when can we expect its mass market adoption?" It's a burning question for 2019 that Kate Goldfinch put to Dave Hendricks, CEO and co-founder, Vertalo

Dave Hendricks, CEO and co-founder, Vertalo

The biggest challenge to the adoption and success of security token offerings (STOs) is a market perception of high cost and low liquidity.

Buyers of any new product or service often wrestle with issues related to price. Price sensitivity, often referred to as 'elasticity of demand', is strongly correlated with the availability of other options to potential buyers. This elasticity of demand problem impacts the two potential security token offering beneficiaries: Issuers and Investors.

Potential issuers of STOs - businesses raising money or fractionalising assets - have many options in the market with well-established pricing and processes. Adoption by issuers will not increase before outcomes (such as liquidity) become more reliable and offset increased implementation costs and risk.

Potential investors in STO-based offerings have a wealth of investment vehicles to choose from. Demand elasticity will only favour STOs when these new offerings provide alpha that is higher or more reliable than other investments. Very few investors will purchase STOs based on the novelty of the delivery vehicle, and even fewer will invest in small token-based funds with questionable secondary liquidity regardless of how they're issued.

Once issuers bring higher-performing but often illiquid assets - such as debt and real estate - to the market via efficient, transparent, and competitively-priced STO processes, more investors will recognise (like many of us already have) that this technical innovation is about unlocking investment opportunities that were previously unavailable to mainstream investors, not about funding Lamborghinis or yacht parties. ◆TFT

Tobacco Dock Plays Host to Finovate Europe

MATTHEW DOVE,
Digital Editor

The Tobacco Dock in London's Wapping played host during February 2019 to Finovate Europe.

The Grade I listed venue may seem a touch anachronistic given the high tech nature of the conference but it's perhaps fitting that two massively disruptive market forces should grace it, albeit two-hundred years apart. The dock was constructed in 1811 as a store for imported tobacco; the smoking, chewing, and snuffing of which had become a major industry in Europe and its colonies from the 18th Century onwards. Early exponents of the leaf proffered elaborate accounts of its many restorative virtues which allegedly included the opening of the body's pores and passages as well as protecting it against "grievous diseases."

But enough about poisonous weeds spouting noxious fumes, what were the bankers talking about? Customer loyalty is becoming more elusive in a market where the consumer is spoilt for choice. With that in mind, Benoît Legrand CIO, ING, spoke of the importance of focussing on the user's problem, not the company's. Joel Perlman credited Oak North's success to provision of certainty, loan flexibility and speedy response times in an era where many banks seem to do the opposite. Christophe Joyau, VP Business Development at Tink, echoed the need to support the customer and warned of the trappings of getting too comfortable in a fast-paced industry. Joyau believes consumer data should be harnessed to provide a personalised user experience thus decreasing the likelihood of unsubscribers (think Netflix and Spotify). Investments platform, Hargreaves Lansdown, sent their strategic innovation lead, Philip Cottis, into the fray to pitch an extension of open banking called Open Wealth. The system, intended to allow customers to "find, create and manage their entire wealth," is set to combine existing open banking protocols with open pensions, open savings and open investments. However, after Cottis asserted ominously that new innovations in big data, AI and DLT mean, "We can start to help [our customers] without them even knowing about it", some may find themselves eyeing the nearest open door. Elsewhere, Cottis noted that "wealth is a very personal thing." Agreed, as is the privacy of personal data and one's ability to control exactly when and how it's being used. The focus on data bingeing continued during a panel featuring Philipp Buschmann (founder of AAZZUR) and Starling Bank's lead engineer (open banking and payments services) Sam Everington. Not content to confine the limits of open banking data sharing to purely financial matters, the pair waxed lyrical about the fledgling field of "non-banking partnerships." These collaborations, we were told, could feasibly include fintechs working with ride sharing apps, device providers and social media companies to provide seamless service to users. The cost? A little peak at your data, that's all.

The two agreed that consumers are becoming increasingly generous with their private information and Everington was especially happy to report that, "people will share data for surprisingly little." At least Buschmann was good enough to acknowledge that all this, "openness has an element of risk attached to it." The size and fallout of said risk is, as yet, unknown but as the proliferation of such technologies continues at breakneck pace, we may be finding out sooner rather than later... ◆**TFT**

DLT Returns Battered but Unbowed at Opening of London Blockchain Week

MATTHEW DOVE, Digital Editor with contribution by Charley Brooke Barnett (Editorial Assistant)

Launched in June 2015, two years shy of the cryptocurrency boom of December 2017, London Blockchain Week (née Blockchain London Conference) has seen it all. It returned today at the Grange Tower Bridge Hotel and whilst numbers were a little thin on the ground in the wake of a year-long bear market, the mood was still buoyant.

The most bullish member of Day one's delegation was **Dr. Bo Ji** (Assistant Dean CKGSB Cheung Kong Graduate School of Business) who was so enthused about the state of China's economy that he forgot to talk about blockchains! In a country where 85% of people don't have a bank account, **Callum Holmes** of the Bank of Papua New Guinea highlighted the benefits of implementing DLT technology. He spoke of establishing trust in the local community, the importance of focusing on the benefits of the technology, not the tech itself and of the need to adopt a 'Keep Going' approach when tackling future obstacles. Good job then that Radix CEO, **Piers Ridyard**, spoke of nothing else as he outlined his company's three-pronged approach to establishing a viable platform for the production tokens.

They are:

- Scalability - sharding of related transactions to allow for huge volume without a reduction in speed and reliability
- Buildability - API driven model to reduce reliance on complex or unnecessary smart contracts when creating tokens
- Volatility - ever-shifting prices might be good for speculators but they're bad for businesses, Radix aims to quell instability by controlling the supply of its internal token.

On the *Blockchain, Finance & Enterprise* Panel, **Danielle Khayat Saikaly** (Senior Lecturer, Europe Business School) lead a dynamic panel of **Adi Ben-Ari** (Founder & CEO, Applied Blockchain), **Ajit Tripathi** (Partner, Consensys) and **Anthony Woolley** (Head of Innovation, Societe Generale).

All three concurred that securing and storing digitised assets would keep the blockchain busy in 2019 as well as giving rise to "interesting financial instruments" which sounded about as ominous as they are vague. In the afternoon, **Guido Augusto Quaranta** (CEO & Founder, Sesicio.com & Investoland) waxed lyrical about the digitisation of cattle before Eric Van der Kleij (CEO, C4DR) moderated a discussion between Jonny Fry (CEO, TeamBlockchain) and **Peter Smith** (Principal, FinTechReguLab) on the ebbing of regulatory tides. Fry spoke of "embedding controls" into new tokenised products which would allow for real-time compliance and oversight, whilst Smith championed the development of voluntary industry standards to placate regulators.

The hysteria of 2017 may have dissipated but the potential of blockchain technology is still very much in evidence. ◆**TFT**

L-R: Dr. Boji with attendee

Western Union Are "Getting Everyone to Speak the Same Language" But What Are They Talking About?

Like those brave souls at the Big Four and on Cheapside, Western Union know that they need to move with the times or face getting proper jobs. **MATTHEW DOVE** reports

With that less than edifying prospect in mind, Dan Nordlander, senior vice president of Western Union Way Operations at Western Union (shortened to WU Way for the sake of clarity) has come up with a deft new approach for dragging a company whose, "roots lie in the era of the telegraph" into the digital age.

"Digital transformation" is this season's must have corporate accessory after all and bragging rights will go to those who get there first.

So, what's the plan, Dan?

Well, the process "involves more than just lean deployments and agile methodologies". Glad to hear it! What else?

"It requires a change in process and culture, the adoption of a common lingo, executive buy-in, and a centre of excellence to ensure enterprise-wide success."

Okay, I think I'm still with you. Do you mean clear and concise instruction for guiding employees and partners through new technological challenges? Or is it that you have no idea how you're going to navigate the choppy waters ahead and have decided to hide behind a fog of corporate twaddle?

"The primary reason we decided to go through with this transformation is that we saw an opportunity to positively impact revenue through our daily operations and behaviours."

I see, that settles it...

The WU Way, it appears, is little more than making money by doing a good job. Surely, it can't be that simple?

Au contraire! Mr. Nordlander's strategy is multi-facetted. First on the list is communication or "Getting Everyone to Speak the Same Language."

Next up is the "Floor Walk", which "entails a leader or a manager being on the floor with people doing their day-to-day jobs, just observing the way they work."

When they're not wandering around, speaking English (whilst not explicitly stated, I assume this is the language being referred to) and watching people work, Western Union's C-Suite will be "accessing success" with "market-shaper practices."

To the layman, that might just sound like a reiteration of the do-a-good-job-make-money philosophy espoused earlier but it's actually a foolproof way, or "WU Way", to "implement lean." It's not obvious whether the leanness has anything to do with all the floor walking but it couldn't hurt, right?

So far so good, we're talking, we're walking, we're even "going to huddles."

"Top-down innovation" never felt so good but "how do you start there and end up with a fully embedded transformation across a company of 12,000 people?"

Well, with "capability building" as complex as this, you're gonna need some serious "executive buy-in" which, I'm assured, has nothing to do with the entertainment budget.

Executive buy-in involves the aforementioned C-Suite religiously quaffing the CoolAid as EB-I "will drive topline revenue growth" if, and only if, it's adopted with "real commitment."

"You're expected to find ways to optimise your processes and drive value. You're expected to come up with new ways of innovation to drive revenue growth across the organisation."

For anyone still unconvinced by this uber-waffle, Dan suggests, "creating strategy placemats (one-page strategy overviews that are easily shared)" which presumably double as actual placemats for employees munching lean cuisine at their desks.

As a new convert to the WU Way, I've spotted a couple of "further opportunities for continuous improvement" myself...

With digital transformation being the order of the day, might it be an idea to spend less time wandering around the floor and instead try sitting in front of a computer for a bit?

DAN NORDLANDER, senior vice president of Western Union Way Operations at Western Union (WU Way)

Furthermore, with "speaking the same language" proving increasingly important, perhaps Western Union will consider making their "common lingo" Esperanto or Pig Latin, thus sparing the rest of us from enduring this abject piffle. ◆**TFT**

BlockEx Flounders as Crypto Bear Continues to Bite

When you start hearing phrases like "staff reductions", "funding difficulties" and "softening of the market", you know there's blood in the water and the sharks are circling. So, is the London-based digital asset exchange platform BlockEx, fish food, or does it just need a bigger boat? Asks **MATTHEW DOVE**

On 18th January 2019, Coindesk reported how BlockEx had gone from a $24 million initial coin offering (ICO) to staff layoffs and products delays in the space of a year. Now, rumour has it that senior members of staff have gone without paycheques for months and fresh investment is desperately needed to keep the stricken concern afloat.

Initially, BlockEx seemed a safe pair of hands, offering a reputable venue for digital token issuance and trading. The exchange entered an FCA sandbox to showcase its digital bond service last summer and has long called for more involvement from regulators to lend the sector credibility (the platform was also a founder member of CryptoUK, a "trade group lobbying for regulation"). Exchanges in the BlockEx model are considered by some to be a benchmark for the new tokenised economy. However, one of the platform's main selling points could also have proved its undoing.

BlockEx offers its users a smooth on/off ramp for fiat trading, allowing traders to swiftly exit stage left at the first whiff of trouble. Unfortunately for CEO Adam Leonard and crew, 2018 stank of trouble. Early last year, the cryptocurrency market found itself the reluctant host to a 500-pound grizzly bear which made itself at home and has (largely) refused budge ever since.

"You could say it's setting back the security token industry in Europe," Leonard told Coindesk. As bullish sentiment faded, "Most of the ICOs we contracted with killed their ICO or pushed it back into 2019."

With revenue apparently sagging and "a consortium behind £9 million of contracted and committed ICO token purchases" evaporating into thin air, seemingly solid foundations began to crumble. BlockEx's own ICO sale (for native token DAXT) also failed to generate the expected funding (final estimates rest around the $5.5 million mark) due to admirably close adherence to AML/KYC protocols and get-out clauses for "skittish" investors and the exchange wobbled into 2019 like Hogmanay drunk.

This annus horribilis is alluded to several times in the company's official yearly report which puts a brave face on, "a difficult rollercoaster of a year" whilst adding that, "The future now looks brighter" with new funding in the pipeline set to rejuvenate the stalling project.

So, what's the state of the business today?

Well, that's the 5.5 million dollar question... When pressed for comment, BlockEx's Head of Marketing responded by saying; "I'm afraid we have to decline your interview/Q&A at this stage... We had actually prepared responses to all of your questions, but we are in the middle of closing a new round of funding, so subject to confidentiality clauses, and have been asked not to communicate anything publicly at this point. I'm sure you can appreciate the confidentiality of these things. Once again apologies as we would have liked to help you with your article and talk openly about where we are."

The questions that BlockEx were unable to address included:

- Are customer funds safe and is the platform secure in the short term?
- How much funding is required to safeguard the future of BlockEx and how soon is it needed?
- What lessons have you learned from the difficulties you've had in past few months? What changes to your revenue model have you had to make?
- How operationally functional is BlockEx right now? Are staff being paid in-full and on time?
- What message would you like to send to our readers and to BlockEx users?

One imagines that these questions will still need answering after the exchange closes its newest round of funding and, at such a time, perhaps they will be more willing to comment. ◆**TFT**

FINTECH

More than £7.6bn was invested in UK FinTech companies since 2014

The average deal size has grown from £4.6m five years ago to £12.3m in 2018

More than £7.6bn was raised by FinTech companies in the UK over the last five years, across a total of 1,123 transactions. Investment grew nearly 3.5x from £685.3m in 2014 to almost £2.4bn in 2018, with deal activity increasing from 175 transactions to 208 during the period.

Just under 46.1% of the funding raised in 2017 was invested in deals valued at £50m and above, which was the largest proportion of deals in this size range since 2014. Transferwise raised £212.6m in a Series E round in Q4 2017, funded by investors such as Institutional Venture Partners, Merian Global Investors, Andreessen Horowitz, Virgin Group and Sapphire Ventures. This was the largest UK FinTech deal in 2017 with the remittances specialist using the investment for growth in Asia.

FinTech investment dipped slightly by 11.9% between 2017 and 2018 with investment in deals valued above £50m falling from £1.2bn to £911m during the period. This drop was possibly precipitated by the uncertainty caused by Britain's exit from the European Union. However, Brexit seems to have had no impact on smaller FinTech transactions with investment in deals valued below £50m little changed between 2017 and 2018.

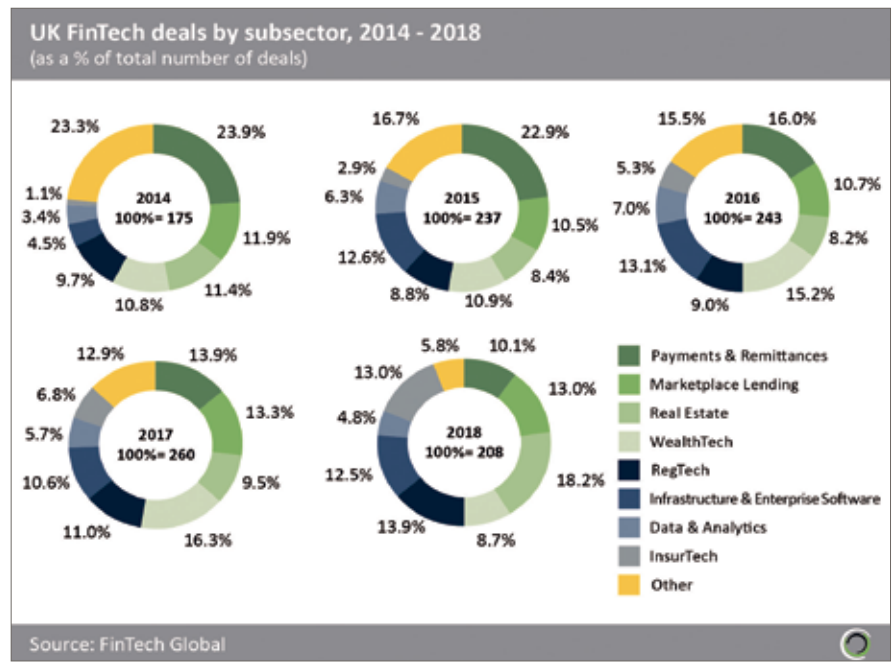
The proportion of deals involving InsurTech companies grew to one in eight transactions in 2018

The UK FinTech landscape has been very diverse in the last five years and a wide variety of subsectors in the FinTech ecosystem are attracting a healthy share of deals.

The InsurTech subsector has grown from relative obscurity over the last five years. In 2014, companies in this subsector attracted just 1.1% of deals, comapred with one in eight transactions last year. Tractable, a developer of artificial intelligence for accident and, disaster recovery, raised a $25m Series B round in Q3 2018 which was the largest InsurTech deal in the UK that year. Investment came from investors such as Insight Venture Partners, Ignition Partners and Zetta Venture Partners taking Tractable's total funding to $35m.

The Marketplace Lending industry has become more prominent since the global financial crisis when banks adopted a more risk-averse strategy to consumer and small business lending and the subsector's share of deal activity increased from 10.5% in 2015 to 13% in 2018. Marketplace lenders have been able to counter this lending shortage with the aid of data-driven models, increasingly high consumer adoption rates and less regulatory scrutiny compared with banks. The sector can offer new opportunities to institutional investors with benefits typically including a steady deal flow, as well as shorter maturity terms and higher yields compared to traditional fixed income assets.

WealthTech companies have also increased their share of UK FinTech deals, from 10.8% in 2014 to 18.3% in 2018, as solution providers attempt to disintermediate the retail investing landscape and challenger banks continue to grow their 'millennial' customer base.



The data for this article is sourced from the UK FinTech Investment Review 2019. More in-depth research, data and analytics on FinTech investments and companies in the UK is available in the report. Download it for FREE at www.UKFinTechReview.com

SM&CR: THE BUCK STOPS HERE

2019 brings with it another raft of regulatory changes for the UK Funds industry as well as the wider financial services industry. **STUART ALEXANDER**, *CEO Gemini Investment Limited explains the ramifications of SM&CR on senior management conduct*

STUART ALEXANDER,
CEO Gemini
Investment Ltd.

The Senior Management & Certification Regime (SM&CR) tells senior management positions to 'behave' and to act 'professionally' at all times with 'integrity' and 'responsibility' not just for ourselves but for the people who report into us. However, what is interesting is the accountability and evidencing now required. In essence, this is replacing the Approved Persons Regime (APR).

For those in the funds business who straddle the UK and Ireland, there is a certain amount of déjà vu. For the last nine months in Ireland, under the direction of the Central Bank of Ireland, we have been working under the rules of CP86 that went live in June 2018. Under CP86, fund boards have to assign responsibility to designated persons with functions such as Distribution, Capital and Financial Management, Regulatory Compliance and Investment Management etc. The accountability of these 'Designated Persons' and subsequent functions, gives the Irish funds industry an edge over many areas. It's all about accountability for individuals and ensuring the protection of shareholders.

So, what does the SM&CR mean?

Ultimately reassurance - the investment company is conducting itself in a manner fit and proper and there are individual(s) they can point the finger at if things go wrong.

The SM&CR isn't really that onerous once you understand the requirements. In fact, companies should already be applying it in one way or another - it's just bringing everything together under one ruling which is:

- To reduce harm to consumers and strengthen market integrity by creating a system that: encourages staff to take personal responsibility for their actions.
- Improve conduct at all levels.
- Ensure companies and staff clearly understand, and can demonstrate, who does what;
- Focus regulatory approval on fewer senior individuals in a company than under the current APR.
- Requirement to assess the fitness and propriety of specific individuals who could harm your organisation, its customers or the market.

So, what's different from the current APR?

- The current APR will disappear and be replaced by the Senior Managers Regime for the highest- ranking management, but for the most part by the Certification Regime (which will apply to at least as many people as the APR, and probably more);
- Senior Managers will be identified, and they will have clearer individual responsibilities and accountability than previously;
- Companies will take on the responsibility for the certification (and assessing suitability, fitness and propriety) of certain individuals from the FCA;
- There will be a new Duty of Responsibility for Senior Managers, making them more accountable for regulatory contraventions in the part of the business for which they are responsible; and
- New 'simple' code of conduct rules will apply to almost everyone in the company.

Senior Managers Regime

The most senior people in a company will be approved by the FCA, with companies also having a responsibility to ensure they are suitable (fit and proper) for their role (with a review at least once a year).

It will require the company's senior managers to be allocated Senior Management Functions (SMF) and to clearly allocate their roles and responsibilities through a document called a 'Statement of Responsibilities' (also known as a SOR).

As an SMF, an individual will need to ensure they take reasonable steps to prevent regulatory breaches for the areas which they are responsible for. Senior Managers will be required to have:

- a Statement of Responsibilities – mapping what they are responsible and accountable for;
- a Duty of Responsibility – meaning if something goes wrong in an area they are responsible for, the FCA will consider if they took "reasonable steps" to stop it from occurring; and
- Prescribed Responsibilities – responsibilities that the FCA will require companies to allocate to their Senior Managers.

Certification Regime

The Certification Regime puts the onus on a company, (rather than the Regulator), to identify staff who could cause significant harm to a company or its clients. It will also require the company to 'certify,' on an annual basis, that these staff continue to be 'fit and proper' to perform their certified roles.

Conduct Rules

The Conduct Rules are a set of new rules, which will apply to all 'Conduct Staff'. Conduct Staff is almost all employees within a company whose role is specific to the financial services industry. These rules will be:

- you must act with integrity;
- you must act with due skill, care and diligence;
- you must be open and cooperative with the FCA, the PRA and other regulators;
- you must pay due regard to the interests of customers and treat them fairly;
- you must observe proper standards of market conduct.

There is however, another layer of conduct rules applying to Senior Managers:

- you must take reasonable steps to ensure the business of the company for which you are responsible is controlled effectively;
- you must take reasonable steps to ensure the business of the company for which you are responsible complies with the relevant requirements and standards of the regulatory system;
- you must take reasonable steps to ensure any delegation of your responsibilities is to an appropriate person and you oversee this effectively;
- you must disclose appropriately any information of which the FCA or PRA would reasonably expect notice.

All Senior Managers and Certification Staff must be identified and trained by 9 December 2019. The Conduct Rules will apply to them from that date. However, as with most new legislation from the FCA they have given a 12-month transitional period in which to complete the certification process for existing Certified Staff and to train other staff on the Conduct Rules. This process must be completed by 9 December 2020 from when the Conduct Rules will apply to other Conduct Rules staff.

Public Directory

The FCA has also launched a consultation (CP18/19) on a new Directory to help clients and companies check the status and history of individuals working in financial services offering accessible 'transparency' - something our industry talks about all the time. The proposed directory will include:

- those who hold Senior Manager positions requiring FCA approval;
- those whose roles require companies to certify that they are fit and proper under the Certification Regime;
- non-Senior Manager Function (SMF) Directors; and
- sole traders and appointed representatives where they are undertaking business requiring qualification in their capacity as an individual.

Currently, many of these individuals do not appear in the FCA's Financial Services Register (FS Register) which has been a cause for concern by both the financial services industry and consumer groups. The enhanced directory will plug this gap. The FCA plans to upgrade the FS Register providing better access to the full record of information on authorised companies and the individuals it has approved. In particular, it intends to make the common search functionality clearer and simpler, showing both suspensions and applications for entry.

The deadline for this piece of regulatory change may seem initially daunting, but for those of us that have applied the rules of the CBI with CP86 and Designated Persons and Functions, SM&CR it should be a 'walk in the park' and something to be welcomed by all, especially clients and those of us who take overall Corporate Governance seriously.

So, why all this FCA chat in a Fintech newspaper? Well, there is a strong possibility some of the digital assets being launched and any regulated company offering Crypto exchanges or custody etc could well be caught by SM&CR. How? That's another story. ◆**TFT**

HOW IS MONEY GOING TO BE RAISED USING DIGITAL SECURITIES? HIGH VALUE ASSETS & REGULATED ROLES

JEFFREY SWEENEY,
Chairman and CEO, US Capital Global

The shift from ICOs to STOs is underway. But it's not just about adapting the remaining successful cryptocurrency platforms to digital securities. To be successful, the digital security industry needs to provide validated high value assets and embrace the ecosystem of financial professional roles and regulations. Jeffrey Sweeney, Chairman & CEO, US Capital Global explains

EVOLVING FROM ICOs TO STOs

There was a brief surge in the ICO market place, but that has been short lived and is under multiple attacks as we write this. The regulators as well as a general investor revolt will show this to be a very short-lived exercise in fraudulent, worthless securities offered illegally to the investing public. Most reputable platforms avoided this scam.

This rise of cryptocurrencies has proven the value of the digital marketplace. The numerous successful crypto exchanges have validated and demonstrated the scaling of digital assets and transactions in a regulated environment. This experience has proven the key issues of:

- Validity of a digital marketplace where people generally don't get ripped off
- Ability for investor identification via digital KYC and AML
- Safety of regulated custodianship and account management of digital assets

Some remaining issues involve a few or all of the following:

- Suitability check for the investment by a give investor
- Trusted platforms to find High Value Investments
- High Value assets themselves to select from
- Standardised Due diligence and Valuations of those investments
- Standardised investment agreements

While the cryptocurrency digital markets have identified a technology platform that works, that early crypto market appears to have hit a wall in terms of overall market value and numerical investor interests. With attention shifting to digital securities and STOs, we now move to a new phase of using these blockchain platforms for broad access to fractional interest in digital securities, but what type of securities?

A SHIFT TO HIGH VALUE ASSETS

A current and sustainable trend is for popular cryptocurrency platforms to begin offering equity in assets via STOs. They are doing this to complement their cryptocurrency offerings and transactions to their cryptocurrency investors. There are billions of dollars of value held or transacted on these sites and those investors are prime candidates for selling equities to diversify their cryptocurrency portfolio. These investors are early adopters and financial risk takers and ideal candidates to consider diversifying into properly offered digital securities in valuable companies and assets.

As happens in the public markets, investors like to mix their assets and change that mix depending on market conditions. As markets in one asset decline they often shift to more stable assets that are less volatile or not correlated with the broader market. This is anticipated to happen in the digital market place where investors will shift assets from cryptocurrencies to STOs of different asset classes. And traditional issuers will seek the efficiency and liquidity of digital markets. Now is the time to provide those asset classes.

WHAT IS VALUATION, AND THE ROLE OF INVESTMENT PROFESSIONALS?

The valuation of enterprises is grouped into three general approaches, 1 Asset Based (book value/replacement cost/liquidation value of assets), 2 Income Based (capitalisation/discounting of earnings and cash flows, or 3 Market Based (comparable public or private transactions and prior sales in subject). Each of these methods has associated evidentiary documentation and related benchmarking. But this traditional science of valuation only takes us back to high net worth investors, paying for evaluation of this evidence. Not to mention the theoretical challenge of standardising all of this evidence into the digital ledger/blockchain. What about the broader investor market?

Even the most sophisticated and high-net-worth investors rely on an ecosystem of financial professionals, broker/dealer, financial advisor, valuation accountants, KYC services, transfer agents, custodians, lawyers etc. and, as these professionals are licensed and regulated, they may provide various forms of third-party representation, due diligence, attestations and warranties. Investing always involves some risk. But the true and accurate nature of this risk is better understood through commonly accepted mechanisms of valuation and financial professional validation.

For the full promise of digital securities, the underlying platforms must accommodate and make visible to the investor, these valuation measurements and representations, through a combination of standardised on-chain and off-chain indicators.

Evolving blockchain market technology to digital securities is about an underlying shift in the type of security this digital investor wants or is willing to hold. Currently there is a shortage of high value, easy to identify assets in the digital market. It is of course problematic for early stage, angel round investments to document recognisable value, so when we talk about 'high value assets', we are talking about later stage, growth and expansion investment opportunities. Another asset class noticeably absent is the appreciating asset such as marquee Real Estate. There are certainly anecdotal offerings in the marketplace but there is still a real general absence of these valuable assets. Instead, the conversation is currently dominated by failed ICO's and startups. This is rapidly changing, however. To attract high value assets the platforms must not just provide the technical functions of digital ledgers, but also must incorporate the asset valuation and validation standards of traditional capital markets.

SECURITIES REGULATIONS & DIGITAL SECURITIES MARKETS

Selling securities is and will always be a matter of keen interest to regulators. Selling securities on a digital platform may be easier and faster than traditional methods but all the issues of interest to the regulators remain unaffected. Digital securities show promise of making the job of the regulators more effective, but there is little to no chance any regulations will not be enforced.

Some of the remaining issues identified above are regulatory issues. The trusted and high value cryptocurrency platforms I am in communication with are cognizant of these regulatory requirements for offering Securities (STOs) on their platforms. In several cases these companies are at billion-dollar valuations. They have no intention of risking their reputation and treasure associating their brands with regulatory risk. Smart Companies with digital distribution platforms are embracing the traditional and regulated behaviors of the public markets.

In their business model they want to collect commissions on the securities sales they market, and they must be a Broker to do this legally. So they themselves are becoming Broker Dealers and have regulated and licensed platforms. But they also want to push the risk of valuation and due diligence onto the "listing broker". So they are requiring licensed Broker Dealers to provide due diligence and valuation work on issuers before they will consider allowing them on their platforms. The key nature of this ecosystem is the platforms are requiring a "broker of record" or" listing broker" before they will consider placing an offering on their platform. This way they have their offerings screened professionally, before taking on the reputational and regulatory risk of an un-vetted offering.

Investor suitability is another matter that is little understood. Not only does an investor need to be "sophisticated" or "accredited", but the investment must be suitable to his age and investment portfolio. The platforms do not want to be responsible for this and can push it off appropriately to the listing brokers and other investment professionals. We are currently involved in some of the first STOs being launched on the largest crypto issuance and exchange platforms. This gives us deep insight into the thinking at these levels.

THE FUTURE – AN INTEGRATED DIGITAL MARKET

Beyond documenting and attracting high value assets into the emerging digital securities markets, we will also need to grow the interoperability of those platforms. In today's emerging digital securities markets, an issuer is generally restricted to secondary offerings only executed via the same platform as the primary issuance. This is an attractive capability and business for the issuing platform, but a narrow effective market for the issuer and a fragmented market for investors and advisors. In this worst case scenario, offering the security on a different secondary market, will require completely recoding the smart contract token. Standardised practices will result in reduced friction to platform interoperability and thereby greater opportunity for issuers and investors.

This won't happen overnight, and it won't happen without collective effort. While standardisation will result in lower on-boarding costs for platforms, the platform providers are generally not yet highly incented to promote industry standardisation. Current platforms easily support the fundamental offering and transaction elements. How many shares, at what price, with any specified trading restrictions, KYC/AML, etc. But for real 'success', we need asset value specifications to be built into digital securities specifications and for those specifications to support market interoperability. This will come from greater participation and integration of the traditional capital markets ecosystem of broker dealers, KYC / AML services, custodians, transfer agents and existing secondary markets... the obvious focus for the emergence of digital security industry practices.

SO WHO FIXES THE VALUATION ISSUE?

Technically the fintech blockchain platforms are ready, but to actually satisfy the goal of broad access to high value asset issuance and secondary markets, we also need standardised on-chain recording of asset valuation and representations. This can't be done solely by the technical market platforms and blockchain programmers. The ecosystem of financial professionals involved in capital markets needs to participate in developing increased / tailored standardisation in these area, and in the large documentation issues of subscription agreements, and term sheets, etc. for digital securities private placements issuance and secondary trading.

Ultimately this will require specific industry self -regulation around digital securities, similar to FINRA practices for traditional broker dealers. And the fintech platforms – token specifications and issuers, support systems (e.g., KYC/AML), transaction services (e.g., custodians, transfer agents), and markets (primary and secondary) need to interoperate with standard APIs. ◆**TFT**

Fintech Fast Five

In the **FINTECH FAST FIVE**, *we ask industry insiders five pressing questions facing the sector. In the firing line this month are Cybertonica and InstaRem*

SERGEY VELTS, CTO & Co-Founder, Cybertonica

What fintech will have the biggest impact in 2019, and why?

SERGEY VELTS, CTO and Co-Founder of Cybertonica: The impact of fintech innovations are often determined by changes in regulation and infrastructure readiness for new business models. I expect 2019 to be the year of PSD2, NFC payments and Open APIs. Many startups try to work around existing limitations doing parsing/crawling of other sites, Open APIs and PSD2 will change it.

OLAF HOFMANN, Chief Product Officer and Co-Founder of Cybertonica: PSD2 and open banking - there will we be a huge wave of applications that use the open banking API to provide specific functionality that a large organisation can't provide profitably enough. Though with this new wave of emerging products providing financial services, there will be fraud and misconduct on the increase.

How can you encourage the mass adoption of fintech?

SERGEY VELTS: From my point of view fintech does not have its own internal value. Just as banking is not valuable itself, it's just a tool/infrastructure for real economy and it should serve people/companies' needs. At the same time, people need time to get used to new services and technologies, finance is about trust. At least that's true for older people; new generation adopts new services faster. Can we make fintech even faster? It's already very fast. Five years ago, people still visited branches, had cards without chips. Today we have virtual cards in Apple Pay.

OLAF HOFMANN: I don't think there is any encouragement required considering that nearly everyone is part of the financial system one or the other way. What will change is the way we interact with the financial system. A child born in 2018 will grow up with voice-controlled appliances, touch screens and driverless cars - for them the idea that they require to set rules around their investments, or not having information available in real-time on any device is just unthinkable. Is this required to happen at all in 2019? No, but we will see the early stages of AI/ML investment advisors instead of robot advisors that take care of personal investments pro-actively to maximise gains while minimising risk based on the person's behaviour and predicted future behaviour.

Are legacy institutions agile enough to keep pace with changing demands / innovations?

SERGEY VELTS: They are not but they have market power and money to acquire successful startups and integrate them into their business to foster their digital transformation.

Is personal finance going to be 100% digitised and, if so, when?

SERGEY VELTS: It's hard to predict. There is a trend that some people, especially when we talk about big money, do not trust digital services because of security/confidentiality issues.

OLAF HOFMANN: This is already happening, though as not everyone is comfortable without seeing a branch or a person, this will take time and will shift gradually. In later stages, it will become a premium feature to be able to visit a branch and discuss financial matters.

How can companies and institutions encourage financial inclusion and education?

OLAF HOFMANN: Is financial inclusion and education necessary? With the increasing digitalisation and optimisation of financial advice and services these will ultimately become a commodity. It will lead to the democratisation of the financial world.

PRAJIT NANU, CEO, InstaReM

What fintech will have the biggest impact in 2019, and why?

We're at a really exciting tipping point in fintech at the moment and 2019 is set to be another big year. Digital payments are going to have a huge impact on both businesses and consumers. We expect to see a significant uptick in digital payments - both domestically as well as internationally.

From an international payments perspective, we're already seeing how businesses can now make multi- currency payments easily in a single transfer, streamlining payment processes and allowing businesses around the world to collaborate with each other more freely. We've introduced this feature to our platform at InstaReM and we're looking to add other features that will help better payment processes across the world in 2019.

For the consumer, the choices of who, where and how they will transfer money will improve in 2019. As the competition gets greater in this market, it won't be a surprise if you'll be able to send money from Singapore to a friend in the US via a simple text message – and that money to be in their account in a matter of seconds.

How can you encourage the mass adoption of fintech?

The use of fintech is growing year-on-year, but to further encourage the mass adoption of it, partnerships are a must. While fintech offer a great promise for efficient delivery of financial services, let's face it, they do not enjoy the kind of trust and the reach that the banks do. Fintechs need to partner with banks and other financial service providers. This will help bring fintech solutions more into the mainstream. Banks, too, will benefit from fintech's innovative and scalable solutions. It has to be a win-win proposition.

At InstaReM, we now power the payments for three of the top ten banks in Southeast Asia. This has helped our technology be adopted at scale. Networking is also important for fintechs - we've become a Ripple partner which has enabled us to spread our fintech solution creating a payment corridor between Southeast Asia and Latin America.

If all fintech providers focused on increasing partnerships and networks, then we'll soon see mass adoption of financial technology across the globe.

Are legacy institutions agile enough to keep pace with changing demands/ innovations?

In short, no but that's not to say they can't be. Those tied down to legacy systems need to partner and work alongside fintech companies that are already digitally native.

Demands have never been higher in the financial industry. People want a simple, user-friendly solution to transfer money, to access their current accounts, to provide their loans. It needs to be mobile first, fast, agile, flexible and fair - Legacy institutions can't be all this and innovate at a fast enough pace.

By partnering with fintech providers, these institutions can concentrate on offering amazing customer service whilst the product building can be done in the back-end on a third party, tech-led system.

How can companies and institutions encourage financial inclusion and education?

We strongly believe fintech is becoming an enabler of financial inclusion, and the trend is likely to get more pronounced, going forward. Being in fintech, we're in a privileged position where we can have a positive impact on financial inclusion and education.

In the Southeast Asian region where we were founded, many people are still unbanked and without access to financial services.

Only 27% of Southeast Asia's 600 million population had a bank account in 2016, according to KPMG. This means that approximately 162 million people are deprived of the opportunities that one gets with an access to banking. They often end up relying on informal channels for their financial needs.

Banks have probably not been able to reach out to a substantial population due to the logistical constraints. But the rising penetration of internet-enabled mobile devices offers a great opportunity for the unbanked to get an access to the formal banking. Internet, in a sense, is a great leveler and fintech offers a universal platform to deliver financial (and many other) services to everyone almost democratically.

Fintech firms are making the most of this opportunity with innovative and efficient digital platforms/solutions, thus taking basic banking –services like lending, payments, remittances etc. – to the underserved and underbanked segments. ◆**TFT**

Pension planning spurs robo-advisory

Nearly ten years into the great robo-advice experiment, the industry is still unprofitable and name recognition from the general public for the service and technology is still low to non-existent. **DANIEL TAMMAS-HASTINGS**, *Managing Director, RiskSave Technologies explains how new regulatory stipulates such as pensions auto-enrolment will boost the WealthTech market across the spectrum for fund managers and retail investors alike*

It may not feel like this if you are ensconced in the fintech ecosystem, but to the man on the street, nutmeg is something that Jamie uses to spice up a salad. This despite the robo-advisors having a clear value proposition and receiving years of regulatory support. But there are several reasons to suspect this lack of awareness may be about to change. Clearly there is a great deal of institutional interest, with BlackRock taking a stake in Scalable Capital, believed to be the fastest growing 'robo' in Europe last year and news that Goldman Sachs are to take a stake in Nutmeg. Not just a spice, but the original and largest UK player in digital investment advice.

So what is the fuss about? As we move into a new fintech year, we are seeing more and more diversification within the existing wealth platforms and many start-ups broadening their product suite by adding financial advice and SIPP (Self-Invested Personal Pension) products. With this in mind, it looks to be a particularly exciting time for WealthTech. Coming into 2019, most of the large UK Banks have been experimenting with robo-advice and the distribution and branding power of the retail banks could go a long way towards establishing trust and recognition in the industry. This will help both incumbents and the challengers gain trust in their service.

DANIEL TAMMAS-HASTINGS, Managing Director, RiskSave Technologies

With barely 1% of the public using a robo-advice account, the industry has a long way to go and clearly the potential is huge. There is a broad consensus among experts that the majority of individuals will use a digital platform for their investment needs in the long-term. But with UK regulations, particularly auto-enrollment, creating more savers, the turning point maybe near, possibly this institutional money is coming to take advantage of that. The sector's likely rapid growth could be what has spurred Goldman's recent investment.

Previously, we had a marketplace where robo-advisors typically only offered a general savings or ISA product, and although account sizes varied from provider to provider the average account size was significantly less than the average pension. Typical account sizes for the major players are difficult to obtain as for commercial reasons the platforms rarely share them, but consultant estimates vary from around £50,000 for Scalable Capital to just hundreds of pounds for apps focused on younger savers such as MoneyBox. However, the average UK pension pot is approximately £100,000. Making Pensions and SIPPs potentially a much more interesting and lucrative market. As a result of this, all the major players now offer a SIPP or are planning one for 2019. With auto-enrollment in a personal pension creating a legal necessity for long-term saving and legacy players entering the market, developing a pension's proposition should be the main driver of growth for the sector moving forward, and take the industry to profitable maturity. ◆**TFT**

SMARTSTREAM TECHNOLOGIES: Taking a consultant's approach

TFT's Katia Lang and Charley Brooke Barnett sat down with **NADEEM SHAMIM**, *Strategic Advisor Cash and Liquidity Management at SmartStream Technologies, to discuss all things Brexit, regulation, and liquidity management.*

TFT: How do you see the regulatory climate changing in the UK in light of Brexit?

Nadeem: Quite frankly, we don't know what Brexit will look like. The only comment I have on that is that the number of Basel III and regulations that PRA is following around liquidity and banking, are based on CRD IV, and that's a heavily EU based regulation. So potentially, we don't know what it would be. Impactful, but difficult to say.

The challenge is London has been a hub for many financial institutions, whether they're UK based or further afield outside of Europe, to be the hub for services to be provided throughout Europe. So passporting is going to be a challenge. At the moment, we can be based outside of the UK and serve Europe. As you are aware, banks are already looking at setting up subsidiaries. Not only a branch, but a subsidiary, in Dublin, Amsterdam, Paris to name a few, you name it, and vice versa. European banks are looking to set up subsidiaries here as well, because they know this is still a financial centre. They may not need to be in the UK to trade with Europe, but they need the knowledge and the liquidity of the London market to trade in a broader sense. I think passporting would be a challenge around it.

In terms of liquidity management, you have to start managing liquidity across more than one entity. Let's say you've got two entities, one in Paris, and one in London, managed by two different regulators. But at the same time with PRA, if it's a British company's subsidiary in France, PRA wants to regulate both of those, but the French central bank will say I only focus on the French one. There's a potential for a clash of regulation, especially if they start diverging. So there's a bigger challenge. On the back of that, the oversight and reporting from more than one entity will be cumbersome and costly, so you don't know what solution to put in place.

TFT: What are the biggest concerns for your clients when it comes to not only Brexit, but also modernising?

Nadeem: There is the cost of managing a bigger and broader balance sheet. Think about two balance sheets as opposed to one. Not just from a technology and Brexit point of view. Ability to use internal funds effectively.

The cost of borrowing of the new entity: if you set up a new entity, the credit rating may take a while. It may not necessarily have the balance sheet to borrow locally or the strength locally as well. The internal systems that are created using those legacy systems may not be flexible enough to respond to different regulatory requirements and reporting requirements. Tier 1 banks can do all that relatively effectively across multiple entities because they're used to it. Smaller banks will have to open a second entity, they're not used to it, it's all going to be manual, so it's going to be pretty tough I think going forward.

TFT: What are the next steps for banks to become more efficient when it comes to meeting regulators' demands?

Nadeem: Work with the likes of us, because you need to be able to automate the regulatory reporting challenge. Currently many banks, even Tier 1 banks, although they have some automation, a lot of it is still manually processed. I was speaking to a Tier 1 bank and they said, yes we can get all the information from our banks and our internal systems, but as soon as there's a late requirement, it completely throws our liquidity management. This is a Tier 1 bank saying this - I could not believe it. As you go down the tiering of banks, they can certainly do the forecasting on intraday based on internal flows but they cannot reconcile against the actual flows. They can do that at the beginning of the day, but that's it, that's where it ends, and they just have the internal flows coming in and that's the requirement. But you never know when an unexpected payment has come in that you didn't know about and that has an impact on your overall liquidity. Or a payment somebody forgot to tell you has gone out, that you didn't know about. So that still remains a problem, especially if you don't have integrated systems.

What is interesting right now, where we can help in meeting regulatory requirements, is with that automated proposition you can manage the intraday liquidity in a more active way. A proper system will actually allow you to have visibility on it and monitor it more effectively. So it becomes a more dynamic view of the flows. I think the things that banks could do is install a flexible system that gathers the information. In order to actively manage intraday liquidity, they end up needing larger buffers with their banks and correspondent banks. They cannot necessarily handle late payments. Front office will close their books around 2 o'clock when the liquidity is still pretty efficient. So the banks need to be a bit more dynamic around it.

I was talking about having systems which are flexible to gather information, which means if it's an integrated solution, then any changes in liquidity would automatically get uploaded into the front office cash managers' dashboards. They would see an alert pop up to say, here's a late payment or late request that's come through. You need to act on it, as opposed to forget about it.

NADEEM SHAMIM,
Strategic Advisor Cash and Liquidity Management,
SmartStream Technologies

But also with Brexit changing regulations, what if you need to suddenly start looking at the data in a different way? If you don't have the ability to gather data efficiently, then you don't have the ability to respond to requirements effectively either. Thinking ahead, I suggest using AI and machine learning to get the data to provide you with the information required.

TFT: What more can be done by solution providers to bring banks in-line with current guidelines?

Nadeem: SmartStream provides tools to help you meet the guidelines, we don't bring the bank to the guidelines. The reason why we think we're in a good position to do that is because we talk to regulators ourselves. Then on top of that, because we are dealing with multiple clients, we can see different solutions. If you look at a large global bank, they will have some parts of the process that are very similar to other organisations. But then there is a large proportion that provide bespoke solutions, which are not easily transferable. However, we can take different ideas from different organisations and see how their system is being used and create a best proposition for a Tier 2 & Tier 3 client. It's like being in a consultant position, having the ability to see multiple clients and then suggest best practice, 'XYZ.' So this is where we can develop our solutions in a more coherent way.

TFT: How are you working on blockchain?

Nadeem: Yes, we have already integrated with Ripple. If you're making payments through a Ripple platform, or trade finance through Ripple platform, or any blockchain platform, that has an impact on the accounts. Whether they are cryptocurrency accounts or whether they are a bank accounts. Cash flow is generated at the end of it and that has an impact on liquidity. It's effectively such that instead of taking a swift message, you take a message from blockchain and then put the information on the dashboard and show them where the liquidity is and how it's being managed. So absolutely it's been straight forward and we're ready for it. We've done a proof of concept, which was successful. As soon as our customers want to put that in live, we will do it.

In terms of blockchain, it requires the entire ecosystem to be responding and you've seen in the news, yes, they are making payments but they're peer-to-peer payments between one and two banks. They're not talking about their own money either, they're talking about for example a client who's done a blockchain payment or they've issued a letter of credit on the blockchain. Has that integrated with the payment system? No, it has not been very clear, so I think there are multiple elements.

If you look at the simple movement of goods from one part of the world to the other under trade finance, there is the actual physical element of the good itself that needs to go on a letter of credit that then becomes a smart contract. Then, it has to have triggers in place. The warehouse receipt has to be on blockchain, i.e. where the goods are stored and need to be on blockchain, and then the tax authorities need to be on blockchain and it links in with the banks. You can see there's lots of integration needed. ◆**TFT**

GENEVIEVE LEVEILLE:
LEADING THE CHARGE IN AGRITECH

Blockchain is making inroads into the agricultural sector, with **GENEVIEVE LEVEILLE,** *Founder and CEO AgriLedger taking the industry to new heights. Katia Lang, CEO and Zoya Malik, managing Editor TFT spoke to Leveille to ask her about her tech career path that has led her to developing digital solutions in agritech*

TFT: Genevieve, what is AgriLedger's remit?

GL: Our platform uses blockchain technology to create a link between producers of agricultural products and the end-user. We use the Corda platform which is based on, by their own admission, helping create a "frictionless" environment that, in turn, enables businesses to transact directly with each other. AgriLedger is designed to create an information-rich flow of data between farmers and consumers, enabling greater control for every vital cog in that supply chain; traders, transporters, customs officials, wholesalers and retailers. By instituting a clear, immutable and traceable record, every component in the supply chain benefits.

More than this, the platform creates a QR code for each product which helps identify everything from the exact location where the fruit or vegetable was grown through all the steps in getting it to the supermarket shelf and even the environmental impact of each step. This aids the consumer in making purchasing decisions, the farmer in better organising their output, transporters and traders in making cost-effective commercial choices, governments and regulators in collecting revenue and enforcing legislation, financial institutions in terms of their exposure and wholesalers/retailers in meeting customer needs.

TFT:How did you come up with this idea?

GL: I was working with IdenTrust Inc. as a global RM when I was asked to go to South Africa to meet the CIO of Barclays who was considering a blockchain technology project. In the process, I met Jed McCaleb co-founder Stellar and guys from R3 and AstraZeneca and the whole idea was to create a neo-bank using blockchain for the transactions and utilising the seller network to create less friction. But the takeaway for me was the financial inclusion that they were going to create. My role was really to bring in the identity management part and, therefore, I ended up doing a lot of work on blockchain solutions.

Whilst this was very fresh in my mind, I got a call from a company called Cryptsy; I got a CEO role when, in reality, they should have had me doing business development. There was a disconnect between the European office where I was based, pulling in one direction, and the large Indian stakeholders pulling in another. I felt they should be looking at finding solutions for social issues whereas they wanted to look at banking and finance. During a visit to a hackathon in 2015, I met some programmers, whom I can proudly call "my team," and we discovered we were on the same page in terms of finding a blockchain-based platform for the agriculture industry, which could have positive social and financial benefits. A few weeks of hard work later, AgriLedger was born. I offered it to Cryptsy but there was almost zero traction, so we went it alone.

> **I look at business objectives and straight through processes, helping to define better ways of doing things and then speaking to stakeholders to agree on spending the money to make that happen.**

TFT: Of what significance will blockchain be for the farming industry?

GL: Premised on a unique and managed identifier for each participant, AgriLedger actually creates cost benefits for everyone. For example, deployed well it gives farmers the ability to be much more precise about the net benefit of their produce and thus a stronger, verifiable case for potential financing. As a result, financial services companies benefit, as much as the farmer. And this capability extends to everyone involved in the chain whether their interest is in trading, logistics or sales. Our research indicates that up to 50% of the income available can be lost in the industry as a result of poor information flow.

There are some amazing examples of how well this platform could potentially work. In 2018, there was an E coli outbreak on the East Coast of the United States that was traced to romaine lettuce being sold at a Walmart outlet. The FDA and the CDC recommended that supermarkets remove romaine lettuce from their shelves and then took 5 or 6 days to identify the contamination to a small farm outside Santa Barbara, California. During that time, supermarkets across the country removed all varieties of lettuce from their shelves which led to a loss of millions of dollars and impacted every link in the supply-chain. With AgriLedger in place, that batch of lettuce would have been traced back to the farm and the precise harvest in a matter of seconds; that's the beauty of blockchain. The remedy would have been a "surgical" removal of only the contaminated product, rather than the wholesale panic that actually occurred.

TFT: So, what was your journey leading up to AgriLedger?

GL: I have always been a technologist with a focus on business i.e. I look at business objectives and straight through processes, helping to define better ways of doing things and then speaking to stakeholders to agree on spending the money to make that happen. Throughout my career, I've been at what one would call the forefront of technology use in a practical/commercial environment. In 1991, I started in healthcare at Sloane Kettering where I worked on a system to get a diagnosis on cells, have that analysis sent electronically up to the desk, whilst also inviting the patient to have surgery to deal with the problem and then output the billing for that. I also worked on a system, in cooperation with Sony, on the digitisation of medical imaging and the transmission, over the internet, of diagnoses. Don't forget this was 1991 and we also worked out how to link research fellows via the Net so that they could share information about the human genome and what amino acids they were looking at. So, really breaking the forefront of technology.

I moved on to MTV Network, looking at creating a content management platform and then setting up a sales force to have a shared email database, a precursor to Hubspot. I met someone who pointed me to a position at Chase Manhattan Bank and I became a TSR, Techno Service Rep. Initially I installed work stations at the bank that allowed customers to do their cash management online and, eventually, rolled this out to clients such as BMW, IBM and energy companies. This was the time when I realised that installing these solutions and training the client's staff wasn't enough; that we had to find a way to offer a "fuller" solution.

From 2000, HP hired me to digitise their treasury work stations, they had a payments Wall Street System but it wasn't effective because people were doing the cash management off this system and this would create a month-end log jam of transactions. HP sent me on a BPO project with DHL, where they wanted to move all their finance centres from France and Switzerland to one in Poland, so I gained experience in managing a team in a customer-centric environment. I did similar projects i.e. large-scale implementations for Nestle, GE and RBS before finding my way into blockchain.

TFT: Where is your tech development leading?

GL: We're right in the middle of launching the AgriLedger platform in Haiti, in conjunction with the Haitian Government and funded by the World Bank, specifically working on enabling mango, avocado and pineapple farmers. We actually won a tender to do this project and the impact of it will be quite significant. Imagine that, very soon, consumers in the US will be able to identify the exact tree that the fruit in their hands has come from. But, so much more importantly, are the other commercial and social ramifications.

GENEVIEVE LEVEILLE, Founder and CEO AgriLedger

The Haitian farmers will get a more equitable price for their output and will be better able to plan production. The middlemen or traders, who traditionally make substantial profits because of the immense risks created by uncertainties around deliveries, availability of transport, time to market etc. will be able to substantially lower their risk profile; this will allow them to make stronger profits even with trimmed revenues. The Government is taking a 1% levy on all exports and this will be a concise revenue stream because of the transparency in the system. That robustness in the platform also addresses issues of development, food safety and food security which is so important from the World Bank's point of view. Similarly, wholesalers and retailers will have a precise overview on each item sold for quality control and customer satisfaction; thus avoiding revenue leakage and loss of consumer confidence caused by incidents like the lettuce debacle that I mentioned earlier.

Ultimately, we'd like to implement AgriLedger solutions across multiple agricultural products globally. The resultant socioeconomic benefits can impact so many aspects of modern life including reducing degradation of the environment, alleviation of poverty and a movement towards sustainability and gender equality. ◆**TFT**

Is the real world ready for tokenisation?

What does it mean to 'tokenise' a property? The cutting-edge topic of the moment is whether or not real estate investing can be revolutionised using blockchain technology. This means representing an investment in a property as a digital security 'token' - rather than as a traditional security - and keeping track of ownership using a blockchain as the secure global ledger of record. Security Token Offerings (STOs) are intended to increase liquidity by breaking down real-world assets such as real estate or art into smaller fractions and therefore opening up opportunities to a much wider pool of potential investors. **HELEN DISNEY** *Reports*

Helen Disney is a Founding Partner of Dots Ventures, a firm that advises businesses on how to harness blockchain technology and tokenisation to add efficiency and liquidity to their business models.

At the recent Security Tokens Realised conference held in London in January 2019, Dots Ventures hosted a high-level industry roundtable to discuss practical issues surrounding implementation. A group of industry experts and investors met to discuss the financial innovation and liquidity that tokenisation could bring to the property market.

The roundtable opened with a case study from MIRIS, a Norwegian company which began as a residential sustainable development firm and has completely transformed its business model using blockchain for its internal operations as well as implementing tokenisation of its entire property portfolio of 26 sites across Scandinavia. MIRIS is now pioneering at the cutting edge of creating smart cities and communities and using its blockchain platform – MIRIS X – to revolutionise property investing. In addition to tokenising their own portfolio of properties, they are planning a white label solution so that other developers can list properties on the MIRIS X platform, which is built on top of the Ethereum blockchain.

One of MIRIS's flagship projects, the SVART hotel which is being built in the Arctic Circle as the world's first energy positive hotel will all be run on the blockchain with the aspiration to have no invoices or paperwork – everything will be automated and run on smart contracts.

MIRIS and a few other notable blockchain property projects – such as a luxury student residence in South Carolina called The Hub and a $30 million Manhattan condo being tokenised by Propellr and Fluidity - are at the forefront of real estate tokenisation. Yet, we are still at the very beginning of this phenomenon and there are not yet any real estate tokenisation projects that have been made widely available to traditional investors. So which elements of the traditional property investing process are most likely to be disintermediated?

Land registry is a clear use case for blockchain and is already being implemented or explored by a number of countries including the UK, Sweden and Georgia. This will eliminate a lot of legacy systems and paperwork and give better access to data related to the asset such as a property's title history or easements. It could also assist in the due diligence process and allow for better decision-making around property investments.

Legally, however, question marks remain about how fractionised ownership will be treated, as the concept does not yet exist in UK property law and UK shares cannot yet be represented as digital securities. Could fractionalised ownership simply be wrapped up in a Special Purpose Vehicle (SPV) or Real Estate Investment Trust (REIT)? Maybe it would not be too much of a leap from having electronic share certificates to having a token represented on an immutable blockchain?

From a technical perspective, questions arise around how legal ownership would be recorded and the security of the data. What happens if the property owner loses their private key to access ownership of the asset? Is it efficient to store property data on a blockchain? Law firms and security token exchanges are currently exploring the use of Orphan Special Purpose Vehicles where the banks are legal owners of the vehicle and the investors become beneficial owners of the instruments. This may be an easier place to start while the industry is still finding its feet.

Going back to the question of disintermediation, perhaps none of the traditional players in the property investing process will be eliminated but instead they will simply be made much more efficient. Is operational efficiency a more likely benefit than greater liquidity? One key question regarding liquidity is trust, especially trust in valuations – how will we get investors to trust in this new process of tokenisation which is still a very new idea for most traditional investors in property markets?

More experienced blockchain investors see two benefits to real estate tokenisation – efficiency savings and also liquidity, in the sense of tapping into undeployed capital in the global economy. The key questions for them are what is being kept on the blockchain and what is 'off chain', where is the target market for tokenised properties, and how fungible is the token invested in the property? How can this idea go beyond the early adopters and move into the mainstream?

The benefits of liquidity may also be overstated – while you can create the technical platforms you still need humans to make a market. There is currently still an issue around creation of primary and secondary markets for security tokens and futures contracts will not guarantee demand if there is no liquidity. There is also a need for multiple security token exchanges and regulated broker-dealers interested in primary issuances. And many will naturally look to blue-chip names such as investment banks to instil trust and expand the market.

What is next in terms of how we can take real estate tokenisation further? Better investor education will certainly be one of the keys to future adoption. Institutional investors are a long way from entrusting value transfer onto a public blockchain. Trust may be increased by the arrival of more regulated venues and regulated custodians. There is also a need to be able to replicate a trade in a property token, since the prospect is much less interesting if this is a one-off deal.

The discussion at Security Tokens Realised concluded that real estate tokenisation is still in its infancy but the growth of interest in this technology – and the prospects for capitalising on this enormous investment opportunity - means the trend is only likely to gather pace. ◆**TFT**

Tech Circus: Delivering UX by design

User Experience design as an industry is taking the world by storm; investment in nurturing this talent for differentiation is critical for the BFS industry's survival. **LUKE REED**, *Founder & Managing Director of Tech Circus describes to Zoya Malik, managing editor TFT, UX demands coming from retail and business consumers and how these traditional institutions must respond to threats posed by challenger banks and retail giants that are not only stealing their customers, but that deliver UX so much better*

Zoya: What are Tech Circus's objectives and the excitement surrounding FinTech Design Summit?

Luke: Tech Circus is an Events and Education company running around 70 meetups annually throughout Europe and host five conferences in London and New York. We are the first platform where industry leaders in fintech can talk about their products from a design perspective. Business leaders, digital leaders, design leaders and designers exchange ideas that can create powerful user-centric products, enjoy networking, doing business and getting straight to the heart of a niche target audience.

Zoya: What can you tell us about the state of UX design for the banking and finance industry in the UK and globally?

Luke: The rise of digital has revolutionised the finance sector. Consumers are becoming more impatient than ever, they want financial services to be on demand, smooth and easy to use. Digital user experience design has never been more important. Going back a few years, banks and FS companies ignored this and left huge gaps in the market for challenger banks to enter with well-designed, customer-friendly digital products that won over a huge audience, mostly due to their great user experience. This was the turning point in the design-lead revolution within banking and finance. Now the legacy banks are playing catch up. When Monzo created its "card freeze" system years ago, the banks copied them so that their customers could have a far easier service than phoning in to block their card - this is just one example of where design changed the entire service level. After seeing millions of customers leave, the legacy banks (and other FS companies) began to realise why they needed to bring design to the front of the business. They are now digitally transforming more radically than before, by bringing in the top talent from Silicon Valley to create their online products, whilst investing heavily in teams. They are also poaching key players from within the industry; Starling Bank's co-founder Megan Caywood recently got snapped up by Barclays, Dan Makoski was headhunted from Walmart in the USA. There is a war on design talent and those who get the best minds in the industry, will create superior products and win customers. The UK is leading this field, however America is catching up, so we have decided to create a conference there too. Design is taking over, whether the banks like it not; they are going to have to become more creative if they want to keep their customers.

LUKE REED,
Founder & Managing Director of Tech Circus

Zoya: What are the areas in which banking and finance needs greater investment into UX?

Luke: I would suggest that fintech's which do not invest in user experience do not deserve to be in business - if you don't have a digital platform that meets your user needs you cannot expect to be taken seriously in this market.

Banks and finance need to invest in the user experience on every digital product they create; if the product is not user-friendly, then everyone will jump ship onto the next thing. More and more digital challengers are coming into the market and people will be spoilt for choice. Consumer expectations to have a fast and easy to use service are rising. You only need to look at Amazon to see how the physical shops have been disrupted by great online user and customer experience. We are seeing a trend now where banks and FS services are closing branches and going online just like the shops, the difficulty is that banks are not traditionally digital, so they must transform from being a Blockbuster into a Netflix within a short space of time. User Experience is not visible, it's the feeling someone gets when using the product, which is often linked to the design of the product. Netflix is very user-friendly and easy to use, most banks up until recently were not, but they are embracing change and becoming more user-centric day-by-day. Think iPhone vs Nokia - was Apple's technology that much better to topple the world's largest phone provider, who had been doing it for years? No, but they had Don Norman at Apple, who coined the term user experience. This is why they have become the leader in many tech fields. Expect the banks with the best user experience to be the most used in the future – it's already happening with the likes of Monzo and Starling, but this is just the start.

Zoya: How does the banking and finance industry need to compete in terms of UX against digital giants especially for retail, payments and money transfer?

Luke: I personally think there will be some huge changes in finance and a lot of the larger institutions will have to buy up the disruptive fintechs in order to maintain a prime position in the market. It's essentially a question of build or buy? I believe they'll try to build their own product and buy up anything that threatens them. The one thing they will not be able to buy is the likes of Amazon, Google, Alibaba etc, who are all currently creating their own payment systems. The next year will be very interesting to see where it all goes, I expect most of these systems will end up being the finance equivalent to Google Plus - no one will adopt them. Banks are institutions and people are very wary about where they keep their money, there will always be a need to invest money where it feels most safe.

Zoya: What is the scope for fintech startups into the UX industry? What are the new trends for them to peg their USPs?

Luke: From a design perspective, I feel anticipatory design will set start-ups apart from the rest, meaning creating delightful user experiences by understanding user needs and eliminating needless choices. A lot of other industries use anticipatory design, going back to my Netflix example: they know what films you want to watch next by analysing your past behaviour. I predict FS companies will be using more and more anticipatory design and psychological principles in the design of their products.

Zoya: How will UX for blockchain and cryptocurrency develop? What should be priorities for a UX designer?

Luke: I am a big fan of blockchain and cryptocurrency as an investment eco system. I think the investment created from coin offerings is a great example of a smooth, simple to use, user journey. I have tried to find designers from blockchain companies to speak about the design of the products that they have created, and realised they are virtually non-existent. It's sure to be a big thing in the future, however at the moment it doesn't seem to be the focus. I am sure this will change in the coming years and when it does, UX designers will be all over blockchain.

Zoya: What is lacking in the education of UX designers? What more is needed at secondary and tertiary levels?

Luke: The UX industry suffers from a supply and demand issue, there are too many jobs and not enough experienced people to do them. Companies such as Red Academy and GA do a great job in training people via vocational bootcamps. The biggest issue seems to be that UX teams tend to be quite small, and having the time and effort to train someone is difficult. This has created a lack of junior roles in the market. We need graduate schemes where juniors can learn and grow into a role. Until more of these schemes are put into place, there will be a huge hole in the market with not enough experienced professionals to fill the vacant roles. It's good news for the experienced designers though; due to this demand User Experience is one of the best paid roles in Tech.

Zoya: Can you point to new and up and coming fintech startups that are leading the charge for UX for the banking and finance and related industries?

Luke: Other than the obvious challenger banks who are revolutionising the banking world, I am seriously impressed with Fiminize - who I have asked to come and speak at the fintech Design Summit. These guys have created a community of investors, who they give investment tips to and then offer the chance to invest, and it's really successful. Another thing I really respect is that even as a small company, they have an in-house design team who are creating their product. Most new fintech's raise money and then get an agency to create the product. This is how you end up with the same product as everyone else, but just with a different user interface and brand name.

You can find all the meet-ups and conferences at www.techcircus.io

◆**TFT**

Paul is Chairman & Founder of European payments community, Vendorcom; Mentor at fintech accelerator, Level 39; and Member of the UK Payments Systems Regulator Panel. Paul provided the secretariat for All Party Parliamentary Group on Payment Systems in the last session of the UK Parliament and is European Evangelist for the World Wide Web Consortium (W3C).

Seven-year sweet spot for innovation

I detect a sense of realism emerging in the payments and financial technology ecosystem. Yes, much of the hype remains but, with macroeconomic and regulatory pressures besieging the sector, more moderate, balanced and informed viewpoints are beginning to prevail in learning how to pay. TFT columnist **PAUL RODGERS** *gives us his latest view on the payments landscape*

Central to learning how to pay is the realisation that the adoption of innovation across all sectors is broadly generational. In saying this, I don't mean generation X, Y, or 'millennial'; rather, that it takes broadly a generation for any innovative technology to reach its peak level of adoption. Added to this, is the peculiar dynamic that pertains to the adoption of payment methods, namely that we learn how to pay at around the time we leave home, head off to university, or start our first job. Before that stage, our understanding of how payments are made is entirely conditioned by our experience at home and in the family. Essentially our parents control how we pay! Like many things, when we head out into the brave new world, we begin to explore and establish new ways of doing things that are more relevant to how we wish to live our own lives. We are probably at our most open to evaluate new ideas and approaches than at any other stage in our lives and it is from around the age of 17, that we see new payment methods being taken up.

The seven-year sweet-spot

At this very formative period of life many things are changing – our exposure to new technology, encountering new people, having to stand on our own two feet. We're putting the basic building blocks of life in place – home, work, relationships, etc, and it's no coincidence that we are prepared to adopt what seems to be the most novel, innovative and future focused approaches.

For most people, however, this focus on innovation does not last forever. By the time we reach the age of around 25, the familiarity of what we have centred our lives on, is what provides convenience. Later in life, for some new emerging technology to purport to have the 'benefit' of convenience is rather incongruous because it necessitates change! For this reason, innovative technology businesses need to target an adoption sweet-spot of around 7 to 8 years if they are to be successful.

For most populations, a seven-year slice will represent around 10 to 12%. Talk of innovative technologies being adopted by 40, 50 or even 60% of the population are, quite simply, unrealistic. Businesses, and whole sectors should evaluate whether their business model allows them to be profitable on such a market share. Perhaps this goes some way to explain why so many of the over-claiming neo-fintech businesses of the 20teens are now struggling to get follow-on rounds of funding.

Regulation as a catalyst

Whilst I broadly identify the seven-year sweet-spot as a target for innovative businesses, I am aware that, in a few situations, there may be exceptions where innovation can reach a much broader demographic. Such situations are, however, generally well outside the control of individual businesses.

One major area where the seven-year sweet-spot rule might be subverted is where major demographic or regulatory change happens. One example of this in the payment area is the adoption of chip & PIN where, with strong government motivation, the international card schemes rolled out what remains the most widespread technological, cultural and structural change in consumer payments since the early 18th century. Whilst business might decry legislative and regulatory change, without it there is rarely the opportunity to change whole demographics and therefore the overall addressable size of the market is curtailed.

I see few other exceptions to the seven-year sweet-spot but hope we will see some discussion and debate on how we can create more exceptional catalysts for market-wide adoption or delivering a more coherent message to those in the sweet-spot. ◆**TFT**

Gold Mining: Assets on the chain

Founded in 2016, CommerceBlock has a long history in the Bitcoin ecosystem. The company provides a highly flexible and scalable open-source environment for companies to tokenise their real-world assets such as precious metals and art. TFT's Katia Lang met its founder, **NICHOLAS GREGORY** *to get the full story...*

KATIA LANG
CEO

Katia: Imagine I would like to buy gold, how does CommerceBlock work?

Nicholas: There are many ways you can buy gold right now. You can go to a gold dealer and they'll give you a piece of gold; you might then worry about being mugged and having it stolen off you, or you losing it. Or you could go to a website but you have to log in and you don't technically own it.

We're a technology service provider and can offer a solution. CommerceBlock builds a blockchain which sits on top of Bitcoin which would have a mapping of one token to one piece of gold. So you'd be able to go to a crypto exchange, like Bitfinex, and buy a token of gold for Bitcoin and you get gold sent to a private key. Bitcoin has two keys: public and private, which unlocks the Bitcoin. Now you have gold in your public key so that gold is yours, you don't need a username and password, all you need is your private key. You can go to where that private blockchain is, show them your private key and you'd be redeemed the amount of gold.

A lot of people are using blockchain to solve these issues of centralised systems - the question is how do you make it decentralised? The more decentralised you make it, the fewer intermediaries. Traditionally, if I want to buy gold or an exchange-traded fund (ETF), I have to go via a broker, there's a whole financial system I have to go through. Whereas over blockchain, essentially the gold miner can mine the gold, refine it, put it in a vault, and then onto the blockchain. Anyone can trade it and it can be traded on any crypto exchange in the world.

There are a lot of regulatory hurdles. Our job is 30% technology, 70% dealing with the regulators, so we can't just issue a cryptographic piece of precious metal. We'd have to ensure Know Your Customer (KYC) and Anti-Money Laundering (AML) checks, but it still removes intermediaries.

NICHOLAS GREGORY,
CEO and Founder, CommerceBlock

Katia: Tell me more about anti-money laundering and how it works?

Nicholas: In Bitcoin, you have a public address and a private key, so we could create a public address right now because it's a private blockchain or permission blockchain. Its public as anybody can see it but to have an address that works, you have to go through a KYC procedure. You put in your passport details and we work with a KYC vendor which would say you passed and then we give you an address that says you're okay. The system would never know who you are, it just knows that you're legal. There is a link between the address and the vendor so you still have your privacy and anonymity but if you are a nefarious actor, you will flag up. The key aspect is that the person who runs the private, permission blockchain, doesn't have access to your private details - they just know that your public key has passed KYC. If we work with a well-known vendor like Onfido, they would approve and we'd trust them.

Katia: Tell me about the journey and how it all came about.

Nicholas: I'm an ex-banker and technologist, originally starting with Merrill Lynch and then I moved to New York in 2012. I got into Bitcoin around this time, and once you get into Bitcoin, everything looks like blockbuster video and really you want to be working with Netflix. Bitcoin was so revolutionary. I liked the concept and culture. I started going to Bitcoin meet-ups and before I knew it most of my friends were involved in it.

In New York, they have the BitLicense, which makes it very hard to do anything in Bitcoin without going to jail. But where heavy regulation comes in, opportunity shows up and I worked with people I met in meet-ups, building over the counter (OTC) software. The legality around it is obscure but nobody stops you writing software. I think for some of the protocols we built from that, ended up becoming CommerceBlock.

I moved back to London from New York in 2016, and at that point, Bitcoin was becoming more proven and institutions were talking about it. In the early days of the internet, the idea of someone putting their credit card details into a website, like Amazon, was unheard of, but before we knew it, it took over the world. It's hard to say if Bitcoin will be a currency we can use in the pub but I think it will be a reserve asset. Its ten years old, every year it gets older it's becoming more accepted. 2017 saw a crazy rise, but a lot of good things came out of that. Big institutions are now talking about it; you have corporates like Goldman Sachs investing in a few companies and more are trying to get regulated. The movement hasn't stopped.

Katia: What are your thoughts on tokenisation of real-world assets including metals, land, and property?

Nicholas: There are a lot of companies working on security token offerings (STOs). Their approach has basically been to use blockchain. If you're using blockchain as a replacement for a database, I think it's a joke. Databases are fast and very efficient. I worked at banks that have huge budgets for technology but the issue is the human element. If you're basically just saying let's get a piece of land and put it on a blockchain but you still need a username and password to log on to the system, you've just used the blockchain buzzword to get more sales and VC input.

'Decentralised' is another overblown word. When you have a more transparent system with fewer intermediaries it's good because it provides you with secondary markets. For example, we worked with some art dealers who want to tokenise their art, as they have people around the world, like in Asia, who would love to own a piece of well-known art. They'd never be able to afford it, but it makes them happy. If we do something using blockchain principles with Bitcoin to secure it then no one can tamper with it, and we can trust it.

Katia: What is the link between the real world and the virtual world?

Nicholas: With a blockchain, every time there's a transaction, it's recorded on a public ledger. For example, with a gold blockchain, you can download it and have a ledger which checks all transactions. If ever your transactions get mutated or messed with then you know there's an issue. The whole point of a blockchain is that anyone can download it and verify their own transactions. If I go to goldmoney.com, I don't know what's in their database, only what's on their website. With a blockchain, I can download it and hire security to check that public ledger. Bitcoin is a ledger with an array of people around the world checking it and technology cryptographically verifying it. Therefore it's impossible to change.

Blockchain gives you access. If it's a blockchain you can verify and track its history. Yes, you always have to trust the gold is in the vault, but there's only one layer of trust. With the financial system, I couldn't even tell you the number of layers of trust that have to exist. It's a mess; for me it's all about reducing all these layers, as no one trusts the financial system anymore.

> **I believe Bitcoin will be a reserve asset in a few years' time. The genie is out the bottle. I can't predict the future but things like Brexit could accelerate or decelerate the process**

Katia: What do you think the future holds for crypto assets?

Nicholas: I believe Bitcoin will be a reserve asset in a few years' time. The genie is out the bottle. I can't predict the future but things like Brexit could accelerate or decelerate the process but I think it will accelerate it. If Brexit is a mess, the city will have to look for new and innovative ways of making money. London could be the place where everyone securitises and tokenises their assets. I'm hoping it will be a positive thing for fintech. Crypto is not dying, Bitcoin has been dead 110 times and it keeps coming back. In 2017, you had the ICO hype, which represented everything bad and good in crypto. But more people now know about crypto than ever before, which is a positive. ◆**TFT**

Seven Trends and Tech to Watch

FLAVIA ALZETTA, *CEO Contis gives us the highlights of top fintech trends to watch in 2019 that will contribute to savings and liquidity in the market*

Flavia Alzetta is the CEO of Contis. With 25 years' leadership experience across financial services, payments, leisure, technology and consumer goods, Flavia has a proven track record of managing complex enterprises and delivering high growth in global organisations.

It looks like 2019 could be another ground-breaking year in fintech.

Open Banking will, of course, be grabbing most of the headlines, as deadlines for banks to get up to speed come and go. But the change won't stop there.

The fintech industry constantly evolves, regardless of legislation - and this year will be no different.

We expect a whole host of new innovators to spring up - many will, of course, be grasping first-mover advantage on all the new banking APIs that'll be made available, while others will be operating independently of these sweeping changes.

Making sense of it all is never easy. To help you out, we've outlined the seven top trends that we think will hit the fintech industry in coming months.

INDUSTRY-LED BLOCKCHAIN

Most of us are only familiar with the term blockchain in the context of cryptocurrency. However, the technology is useful for plenty of things outside of working out how much your latest investment in ethereum is worth. There are now a whole host of new companies using it to streamline other sectors.

For example, the real-estate industry has long been renowned for its use of third parties as intermediaries for buying and selling. However, blockchain developments in this area are quickly removing the need for a middle man. The new technology could be set to disrupt the industry, and provide new efficiency and transparency.

Photo by David McBee from Pexels

CORPORATE ON-BOARDING APPS

Banking for businesses has generally been a complex and time-consuming process. However, the latest trend in the industry has seen fintechs combine with established banks to help them reduce the time it takes to on-board new corporate customers.

Fintechs have combined quicker, sleeker technology with a streamlined verification process.

The best of these companies are using Artificial Intelligence combined with new practices in data-sharing, which allow both consumers and businesses to be onboarded far quicker than they would be on high-street bank legacy systems.

BIOMETRIC TECHNOLOGY

The world of fintech is nothing if not innovative. But as creatives and technologists look to expand the abilities of their software, the new systems bring with them an increased risk of malware, viruses and hackers.

However, as the bad actors have become more prevalent, so have the technologies designed to stop them.

Biometrics is an area that has a lot of room to grow. Face and fingerprint recognition is already making secure verification more reliable - but iris scanning and voice recognition might not be far off.

The ways they are used could also multiply, as more and more companies come to market with new and better ways of verifying customers accurately.

Who knows - one day it could well be possible to make a purchase just by thinking about it. Great news for the doughnut industry...

MICRO-LENDING

Micro-loans have become a popular method of crowd-funding for businesses that have been declined by high-street banks or lenders. They operate under the same principles of peer-to-peer collaboration that fintech has become famed for, working in collaboration with dedicated specialists in order to enhance SMEs' chances of success. They can be used for things like filling gaps in finance for larger stock orders by micro-businesses, or plugging cash-flow gaps for smaller businesses looking to ramp up operations.

The mobile revolution has meant fintechs are at the forefront of micro-loans. Modern micro-lenders generally operate online-only, thereby reducing overheads.

Lower start-up costs have also allowed for the replacement of expensive sales agents with carefully crafted advertising through social media, while the application processes can typically be replaced with a user-friendly app.

This in turn, creates more competitive products for a fraction of the original fee. All this means an industry previously burdened with a reputation for high interest rates has reaped the rewards of open banking and progressive technology.

REGULATIONS ADVISORY APPS (REGTECH)

Many businesses worldwide have struggled to implement the regulations applied by GDPR. More specifically, banks and financial institutions have struggled to adapt to the increase in availability of customer data and how it is being used by competitors.

The emergence of regulation technology or RegTech, demonstrates how big the opportunity in this area has become, as firms are thriving off supplying the tech businesses need to handle the swathe of new regulatory and compliance laws.

Compliance with these regulations has moved business away from those within traditionally larger corporations, to smaller start-ups dedicated to turning over every rock in order to comply and thrive under the new regulations.

SAVINGS TOOLS

For many, saving can be tough. However, new ideas are bringing changes to the process of saving money. For instance, there are apps that allow consumers to regularly contribute to a savings account in order to better their credit score.

It is the same principle that allows people to regularly contribute to a holiday deposit service that uses their savings to automate the process of booking a holiday, and informs them of the details of their holiday in advance, to ensure there are minimal problems with employers.

This advancement allows for consumers to build much healthier savings habits.

CONNECTED CLOUD SERVICES AND DATA LENDING

For many years, lenders used the FICO scoring system as their rationale for approving loans. However, many now consider this outdated. A FICO score is a type of credit score created by the Fair Isaac Corporation, a data analytics company based in San Francisco. Lenders use borrowers' FICO scores along with other details to assess risk and determine whether to extend credit.

However, the evolution of companies in the data lending space has meant credit scores are slowly becoming defined by spending patterns and repayment history. Connected Cloud Services could be a huge feature of the landscape in coming months and years. ◆**TFT**

12 March, 2019

Blockchain International Scientific Conference, London

The World's First 'Scholars in Blockchain" International Scientific Conference (#ISC2019) on 12 March 2019 will bring the world's most innovative scholars, thought-leaders and trailblazers in the Blockchain space to educate, inform, excite and inspire attendees.

13 March, 2019

TOKEN2049, Hong Kong

TOKEN2049 organises the premier digital asset event of Asia in Hong Kong, where we explore in-depth the growing crypto ecosystem. The event will shine a light on the global developments of this new asset class, while taking a unique and widening perspective on the token industry and its opportunities.

15 March, 2019

Blockpass Seminar – Security Tokens, Hong Kong

The arrival of security tokens represents a huge opportunity for investors as well as enormous potential for operational efficiencies in capital markets and provides for innovation in other sector verticals too.

18 March, 2019

AltFi Summit 201, London

The UK's leading and best-loved fintech and alternative finance conference will focus on two key developments: the continued rise of alternative credit both as an asset class and key component of financing for the real economy, as well as the ongoing digitisation of the banking and investment market through Open Banking.

19 - 20 March, 2019

Advanced Analytics & Intelligent Automation for Insurance, London

Advanced Analytics & Intelligent Automation for Insurance, takes place on 19-20 March 2019, presenting an opportunity to meet customer experience demands of the future by delivering faster quotes, process claims quicker and provide truly actionable insights; but also deliver unparalleled performance, business growth whilst managing risk and complying with regulation.

19 -21 March, 2019

Money 2020 Asia, Singapore

Money20/20 Asia unites APAC's payments, FinTech, and financial services community to build a simpler, faster and fairer future for money. With leaders from Asia's giants, to the rising superstars, challengers and trailblazing start-ups attending, experience, be inspired and join this global platform driving change and disruption across the marketplace.

asia.money2020.com

27 – 28 March, 2019

Fraud and Financial Crime USA, New York

Evolution of fraud, financial crime & AML threats, and management in practice. You are invited to attend the highly anticipated Fraud and Financial Crime USA Congress. Across two days network and learn from like-minded industry professionals as they cover some of the most current and fundamental topics including global regulatory alignment, intelligence, cyber-risk, risk assessment, beneficial ownership, cryptocurrency, biometrics and authentication, banking marijuana, sanctions and much more.

27 March, 2019

TechNOVA: AI in Financial Services, London

TechNOVA: AI in Financial Services will gather together the greatest minds across banking, insurance, and capital markets to expand understandings of AI, and build practical knowledge on how to develop real, implementable systems.

marketforcelive.com/technova/events/ai-financial-services

29 - 30 April, 2019

Innovate Finance Global Summit 2019, London

FGS is more than just a conference, it's a community. We've been the UK membership body for FinTech for just over 4 years now and we've seen how FinTech has grown to be one of the most exciting and vibrant sectors globally.

www.innovatefinance.com

To see the full list of upcoming events in London and around the world, visit **thefintechtimes.com/fintech-events/**

Five Books To Get Ahead: The Wisdom of Others

By **JAKE COURAGE,** co-founder of the edtech company 42courses.com and avid reader, author & car fanatic

Eleanor Roosevelt once said, "Learn from the mistakes of others. You can't live long enough to make them all yourself."

It is a strange paradox that you can't learn everything about life in one lifetime. Even the keenest of students will leave some books unread and many questions unanswered.

So where should you focus your attention?

One approach is to study the lives of successful people. You can apply the lessons they learned to your own life.

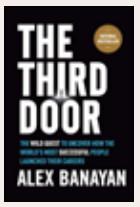
A simple way to achieve this is to read one of the 'interview' books below. The wisdom of the world's greatest minds revealed in a series of questions we would never get to ask ourselves.

Tribe Of Mentors

by Tim Ferris

In Tribe of Mentors, Tim Ferris has assembled a brilliant set of questions for his interviewees. They include everything from 'What is one of the best or most worthwhile investments you've ever made?' to my favourite, 'If you could have a gigantic billboard anywhere with anything on it, what would it say and why?'

Whilst the book is worth it for the list of interviewees alone, it's true value lies in the different responses from the diverse set of people answering them. His 'guests' include the historian Yuval Noah Harari, Ray Dalio, the billionaire hedge fund manager and Arianna Huffington, who founded The Huffington Post. It is broken down into easily digestible chapters and you will be kept busy with your highlighter. Tim's other book in a similar vein, Tools of Titans, is also highly recommended.



The Third Door: The Wild Quest To Discover How the World's Most Successful People Launched Their Careers

by Alex Banyan

This book tells the true story of an ambitious 18 year old who tracked down successful people to uncover how they launched their careers. With no prior connections, the author managed to arrange interviews with people such as Bill Gates, Lady Gaga and Warren Buffett. It's an extraordinary achievement and Banyan credits his success with the ability to hustle. As the title of the book suggests, there are conventional ways to get where you want to get to and then there's the 'third door.'

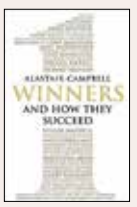
If I Could Tell You Just One Thing: Encounters with Remarkable People and Their Most Valuable Advice

by Richard Reed

Richard Reed is one of the co-founders of the smoothie company, Innocent. His achievements in business opened the doors to many inspirational figures.

In each interview, he tries to uncover their greatest piece of advice. What's the one thing that Simon Cowell would pass on? What does Bill Clinton think is the most valuable thing to know? What does the Dalai Lama consider to be his number one priority?

Some of the most valuable insights come from the lesser known people in the book. For example, Esther Perel gives fantastic advice on understanding the dynamics of relationships and how to fix them when things go wrong.



Winners: And How They Succeed

by Alastair Campbell

Alastair Campbell famously worked as Tony Blair's spin doctor during his two terms as Prime Minister. Like Reed above, this has given him access to high profile people and his list doesn't disappoint. Notable interviewees include Anna Wintour, Jose Mourinho and Nelson Mandela. What's different about this book is that it includes not just interviews but also what he has learnt about strategy during his career. He does a great job of explaining this subject and it's an unexpected bonus. Overall, it's a well-written book with plenty of valuable and actionable insights.

Seeking Wisdom: From Darwin to Munger

by Peter Bevelin

This book sets out to examine the minds of some of history's most accomplished people. It is split into four parts, each with a different focus.

It's not an 'interview' book in the strictest sense, more a gathering of written wisdom but it is perhaps the most valuable of all the books. Part one is essentially an overview of evolutionary psychology - what influences our thinking. Part two is about the psychology of misjudgment - how we make mistakes in our thinking. Part three discusses the mathematics of misjudgments - probably a little too technical for some. The final part sets out guidelines for how to think better. There is so much good material in here that it pays to take your time digesting it. This is the type of book you keep, take plenty of notes from and revisit often.

Can't wait for the books to arrive? Try a master class in Fintech, Behavioural Economics, Problem Solving, Sleep, Social Media and many more. Head to the website and click on a course title. The Fintech Times readers get 25% off with the code '**FintechTimes25**'. Have you enjoyed other books on AI? Please get in touch via **jake@42courses.com**