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THE 50 MOST INFLUENTIAL FINTECHS 2018 - US EDITION

Celebrating the brightest and most influential FinTech companies - Stateside

The Financial Technologist

Q2 ·· 2018

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25

THE TOP 25 FINTECH INNOVATORS

Meet the men and women who are the influence behind the most innovative industry in the world

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TOBY BABB, CEO,
THE HARRINGTON STARR GROUP

Welcome to the biggest and best issue of The Financial Technologist ever released.

Harrington Starr's financial technology news, commentary, insight and features.

> "Elsewhere, since our last publication, we have seen the Brexit bandwagon continue to roll. As yet the UK looks set to face it head on and thrive in the uncertainty."

In this magazine, we publish our listing of the 50 Most Influential FinTech Companies in the USA. Alongside that we announce 25 individuals we believe are driving growth and innovation in UK FinTech, add interviews on our @womenoffintech campaign, an update on salaries in the change and transformation sector, bring our Harrington Starr Tech Consulting feature "ask a consultant" to life and have a host of features on everything from crypto to the cloud!

Our US Listing of the 50 most Influential FinTechs is a particularly fascinating read for me. As we celebrate the end of our 2nd year in New York, we reflect on a huge level of growth for the business in the States. Much of this has been down to the seismic levels of innovation and expansion in US FinTech. We have been fortunate to work with some outstanding brands and individuals in recent years and the quality of company has been astonishing. Whilst investment in FinTech in 2017 was down by 18% worldwide from 2016 levels, it actually grew to $7bn in the US, a growth level of 21% according to a study from Innovate Finance.

As with our January listing in the UK, we see certain characteristics that stand out when we look for trends in what makes these companies special.

Firstly, they almost exclusively command a niche. They specialise in areas that are seeing genuine growth and opportunity. Blockchain, regulation and compliance feature regularly but we see significant advance in new tech and AI. The companies are all well backed with solid foundations for growth. They have excellent leadership groups and service the real issues that face the Financial Services sector. They are built to last with clear strategy, strong brand identity and genuinely innovative thinking.

Congratulations to all of those who are listed and we look forward to welcoming many of you to our first networking event in the New York office in July. For more information about this invitation only event and your opportunity to network with New York's finest fintechs, please contact our US General Manager, Rob Grant.

Also listed in this issue is our listing of the top 25 FinTech Innovators. They have been heavily involved in and responsible for some of the most innovative and successful brands currently in the sector. Many of them share their secrets on how they have thrived at a time of massive change in the industry. In analysing the common characteristics of those listed, many of the traits of the companies mentioned above come to the floor. These innovators are looking at the genuine pain points of the industry and creating cultures in their companies where iterative improvement is the norm. They are bold, passionate and fearless and universally show the entrepreneurial spark that has allowed them to collectively create some truly disruptive technology breakthroughs in the sector.

We will be investigating the "culture of innovation" at our FinTech Influencers meeting on May 24th. This invitation only event is a trimesterly meet up of over 100 of the leading names in the sector put together by Harrington Starr in partnership with The Realization Group. Research by the TRG team has shown a true struggle for companies in the space to embed a culture of innovation in their organisations. Why do legacy technologies continue to prevail and how can attitudes to FinTech change in the banks? Is a change of approach required in the relationship between disruptor and incumbent? We'll be learning from many of the listed innovators about how they have adopted a genuine culture of innovation and be joined by a star-studded panel including Johana Pugh of Finastra, Kim Johanssen of TreoTrade, Simon Hornibrook of Nomura, Kate Simmons of Lloyds and Victoria Hernandex of Rising Tide Europe to set the agenda for change. Keep an eye on the Harrington Starr website for a full write up of the content.

Elsewhere, since our last publication, we have seen the Brexit bandwagon continue to roll. As yet the UK looks set to face it head on and thrive in the uncertainty. Last year saw a 153% increase in fintech investment rising to a total of $1.8bn. More than 60,000 people are employed in the space in the UK and Philip Hammond has suggested that the UK generates nearly £7 billion a year from the sector. With the chancellor committed to stimulating growth and providing a stable platform for growth, London remains a hugely attractive hub for ➤

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"It's been an amazing start to 2018 for Harrington Starr. US headcount has already grown by 50%. Our sister brand North Starr has launched in the USA with feet on the ground coming soon in San Francisco."

FinTech's to grow and thrive. We have an economy and government prepared to back UK growth and create a strong environment to stimulate fast growth. Long may this continue.

The Harrington Starr team have been well represented at events across the globe so far in 2018. We've been at the FIX EMEA Trading Conference in London, the FIX meeting in New York and of course TradeTech in Paris. The dominant themes have been regulation, the aftershock of MiFID II and how to thrive in the new trading arena, efficiency, better decisions, AI, Blockchain and new technology. No great surprises but a complex web of opportunities, issues and icebergs to navigate. It is another fascinating time in the Fintech story with regulation completely changing the face of the industry. For many there will be exceptional opportunities to adopt and use technology to gain exceptional trading advantage.

Harrington Starr news

It's been an amazing start to 2018 for Harrington Starr. We have grown Global headcount by over 35%. US headcount has already grown by 50%. Our sister brand North Starr has launched in the USA with feet on the ground coming soon in San Francisco. We have held events with over 350 attendees from the financial technology space, launched the new website as a destination for FinTech news and interviews and had over 15,000 views of FinTech Focus TV, our dedicated YouTube channel bringing you interviews and insight from the sector's most innovative names. ➤

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On top of this, we are thrilled to have been shortlisted at the Oscars of the industry, the Recruiter Awards, for three categories including Agency of the Year and Best Banking and Finance Agency. I was personally, hugely honoured to have won Agency Recruitment Leader of the Year, something that could simply never have been achieved without the excellent support of an amazing team. Even better was to come when we were recently announced as finalists in a magnificent seven categories at the global Recruiter Awards. On June 21st we'll find out if we have won Best Candidate Attraction Through Social Media, Best In-House Training, Best Specialist Recruitment Business, Best Client Service, Best Small Recruitment Business, Best Employer Brand and a huge congratulations to Hari Sopal, who is up for best Temporary Consultant. Keep your fingers crossed for us!

So, exciting times for the industry and exciting times for the Harrington Starr Group. Enjoy the read and I'd love to hear your feedback. We want to make this magazine as valuable as possible for all who read it. If you have thoughts on features that you want to see or indeed to be included in the next issue, please get in touch.

Toby

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Trading reimagined

How digitisation is reshaping the commodity trading industry

By Cyrus Dadachanji
Partner, CTRM Practice,
Infosys Consulting

The Commodity Trading industry is on the cusp of transformation – and Digitisation is at the heart of the change.

The Commodity trading industry is no stranger to change. From the birth of the independent trader in the 1990's, to more recent changes wrought by the wholesale departure of the investment banks from the commodity trading scene, industry participants have long had to adjust to shifts in the trading landscape.

Recent changes have seen the large independent traders acquire assets in a bid to move from pure-play financial traders to asset-backed traders, rivalling the once sole preserve of the industry majors. In addition to core trading participants, the Utilities industry too transformed. From traditional thermal energy consumers to renewable power generators having to change the merit order of the generation stack, the vertically integrated utilities are sophisticated trading organizations in their own right, and have had significant impact on the energy markets.

Now, the commodity trading industry is once again looking at a sea-change; this time not through a restructuring of industry participants, but through the application of new technologies.

The impact of technology is nothing new – the industry has long embraced the analytical >

possibilities for better optimization of physical assets such as power plants, gas storage and refineries. And the potential for digitisation has also been talked about for some time is also nothing new.

However, the transformative potential offered by digitisation is likely to be of an entirely different order of magnitude, with applicability to almost every point of the trading and logistics value chain.

Digitisation

Digitisation may be viewed as a combination of three key technology areas: Artificial Intelligence (AI), Machine Learning (ML), and Robotic Process Automation (RPA). A combination of these technologies can be applied to multiple points in the trading value chain, from pre-deal analytics through to contract settlement, as well as to numerous activities within the Logistics value chain.

AI and the predictive analytical technologies will see greatest usage in Front/Middle office and Logistics activities, while RPA is likely to find greater usage in the Middle and Back office functions.

In order to assess where Digital technologies may best be applied, we start by identifying "pain points" across the Commodity Trading and Risk Management value chain – those areas where excessive manual interventions remain, where a plethora of data sources and/or systems are used, and those where current analytical methods are insufficient to gain necessary insights.

Pain points in the commodity trading lifecycle

FRONT OFFICE

- Excessive market data
- Cumbersome deal entry
- Logistics optimisation

MIDDLE OFFICE

- Trade book integrity and fraud detection
- Data intensive and highly manual risk processes

BACK OFFICE

- Middle office/ financial accounts reconcilliation
- Manual processing of invoices

Although point solutions may be developed to address specific issues, there will naturally be linkage between these solutions. In particular, digital solutions around data entry will naturally morph into wider solutions for operational risk, fraud detection and regulatory compliance.

We foresee companies using advanced analytical techniques such as AI in a number of key areas. Examples include:

1) In Logistics and Shipping optimization, the base use case for advanced analytics is to manage fleet voyages, taking into account weather patterns, port data and freight market intelligence. But this quickly extends to overlaying advanced analytics on large quantities of shipping and voyage data to develop a forward view of inventory levels of a specific commodity at a chosen port, giving traders additional market signals to make better trading decisions. Further, analytics can be used to identify correlations between ship and voyage data, and price movements on relevant marketplaces such as the Baltic Exchange.

2) In the risk space, advanced analyticsmay be used for both Credit and Market Risk Management. Taking credit risk as an example, analytics can be used to analyse large quantities of internal and external data of varying types. On the one hand, "formal" data such as from rating agencies, exchanges and investment bank analysis, all of which is publically available and readily importable; on the other, a variety of other, less easily visible data sources such as websites, magazines, social media platforms, etc., also publicly available, but more difficult to access and to interpret. And lastly, the information available from conversations on messaging platforms etc., which is yet harder to access. AI is able to access all these sources, filter and extract the relevant information, and recognize patterns of company failure.

3) For complex networks such as gas pipelines, advanced analytics will be used to optimize and balance the entire portfolio, including long and short positions, new transaction opportunities, and pipeline flow alternatives to provide higher value solutions.

In addition to still-maturing concepts such as AI, Robotic Process Automation already exists in implementable form, and is being considered for numerous middle and back office processes including demurrage claim management, invoicing, contract management, reporting and margining. Already in wider use in financial services institutions, the commodity trading industry is now also likely to see significant efficiency gains in coming years.

Source: Infosys Consulting analysis

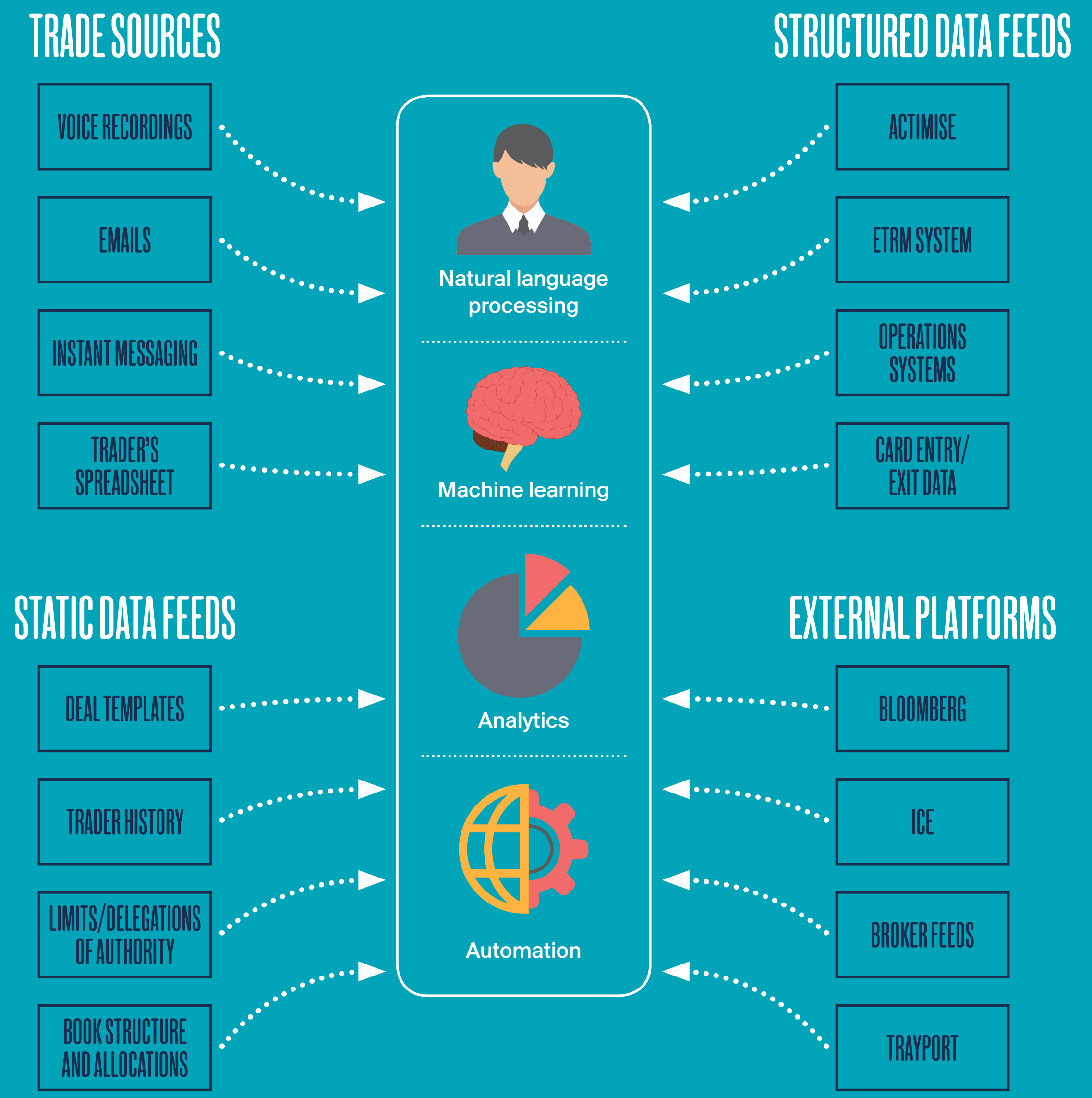
As well as the application of AI to enhance revenue generation, and of RPA to increase efficiency, trading companies are also looking at the potential to use advanced analytical tools to help them in their compliance efforts. In particular the use of AI to identify unusual trading patterns and potential market abuse is gaining ground.

Digital "workbenches" aimed at specific trading company personas (e.g., Operators, Risk Managers) bring together data from disparate sources, both internal and external, allowing for a single view of pertinent information. Customizable advanced analytics are then applied to give traders, schedulers and others the information they need to make better decisions.

"Despite violent agreement that advanced analytics and Digitisation is here to stay, and will have a game-changing impact on the industry, the pace of adoption has been slow. Trading company CIOs have "Innovation" budget, but often lack a clear spending vision."

To illustrate, take Operational Risk as an example. The issues facing the industry are clear and present:

- Companies are rarely able to point to a holistic view of the state of play in respect to operational errors
- P/L is not kept up-to-date, with a back-log of deals and deal-entry reconciliation required
- Uncoordinated controls reduce effectiveness – controls failures remain commonplace
- Companies face significant financial fines and reputational damage for non-compliance of regulations
- Genuine errors go unnoticed for longer



Operational risk, compliance and regulatory reporting is increasingly high on commodity trading firms' agendas, but organizations currently must rely on multiple tools such as trade reporting and voice recording, typically with each approach acting in a stand-alone manner.

Digitisation solutions such as the one illustrated above provide a holistic approach to Operational Risk. Data can be collated from multiple sources including IMs, Voice Recordings, Spreadsheets, ETRM systems, HR data, Office entry / exit, providing real time analytical capability allowing stakeholders to interrogate datasets.

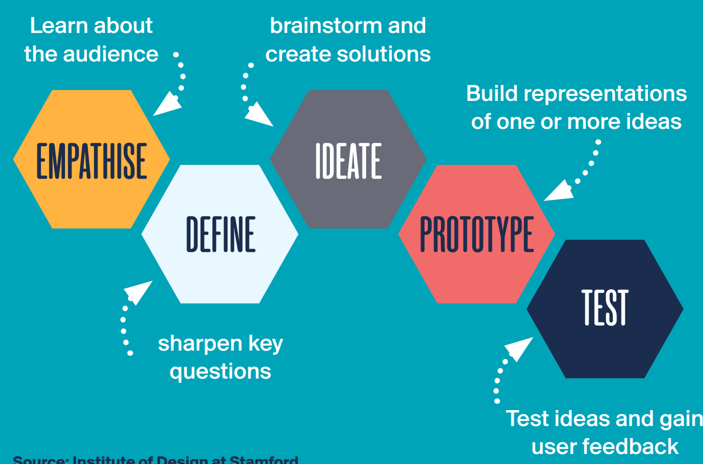
Automated alerts can be generated for suspicious activities, behaviour anomalies, and operational errors. The system will keep updated a list of trades it predicts has been executed, and the list may be updated based on machine reading of telephonic and electronic communications and monitoring of user-spreadsheets and / or blotters. The system is then able to compare its own list vs. the company's ETRM system to highlight potential errors.

Why the slow take up, and how should companies approach implementation?

Despite violent agreement that advanced analytics and Digitisation is here to stay, and will have a game-changing impact on the industry, the pace of adoption has been slow. Trading company CIOs have "Innovation" budget, but often lack a clear spending vision.

Often the difficulty is due to starting with a "chosen" AI technology platform, then asking how it can be utilized. Yet this misses the point that companies' primary aim should be to improve their business and solve business problems, not simply aiming to use the latest gadget. A man with a hammer always sees the nail as part of the solution… Critical to successful implementation of any Digitisation strategy is to approach the topic from the business viewpoint, and not from the technology side.
The starting point for a successful AI journey in ETRM is to identify the correct problem to solve. Companies often look internally at their own processes and operations. Instead, companies should apply Design Thinking, focusing on outside-in thinking and empathizing with the various "persona" in the commodity trading value chain.

There are numerous benefits of taking a design thinking approach, but in particular the lack of common understanding of the role of AI in the ETRM industry makes the approach all the more powerful. Further, although Innovation budgets more often than not sit with CIOs and IT departments, value will be judged by, often more cynical, business functions.



Source: Institute of Design at Stamford
http://www.beingguided.com/blog/design-thinking

Design Thinking helps companies to find the "right" problem, often not the problem initially envisaged. Focus can then shift to identifying the solution which will address the core problem, and to finding the data which is required power the solution.
Following data mapping, execution can be planned in the form of a Proof of Concept (POC). Such POC should use agile methodologies in which algorithms can be iteratively trained, tested and tuned.
More importantly even the POC is the Proof of Value (POV). i.e., even if the technology is proven to work, does it add value to the organization? A rapid fast fail POC/POV allows companies to test the technology, assess business benefits, and make decisions around wider implementation. >

More information and insights into achieving success with AI can be found at xxx: "Achieving Repeatable Success with AI".

> "A man with a hammer always sees the nail as part of the solution."

> **Impact on the structure of the CTRM Industry**

Thus far changes in the commodity trading industry have been driven by traders seeking higher margin returns by broadening their portfolios, gaining access to physical assets, integrating their trading, origination and operations arms, increasing their trading sophistication, and increasing their coverage of the value chain, and taking advantage of scale. Thus the commodity trading industry is dominated by a relatively few, very large, global and sophisticated players.

Digitisation will change this.

Smaller, more nimble, digital players, able to extract information from vast reservoirs of data, will be the new entrants to the commodity trading market. Fewer people will be required, and the human factor will be to enhance and improve the algorithms that machines use to make trading decisions. Middle and Back Offices will be entirely transformed into much leaner and more efficient operations.

As more asset information becomes available to all, new, smaller entrants will find they have the information they need to be able to make trading decisions without the cost and operational risk of owning those assets. The asset-backed trading strategy advantage held by large trading companies through control of physical assets will be neutered.

The existing large, global commodity traders will need to change, and will likely need to lead the change in order to remain competitive. The changes will also benefit the global players – digitisation will result in far smaller margins from vanilla trading, and more revenue will need to come from emerging markets and non-standard transactions.

These changes will impact all traded commodities, from energy to metals and agricultural products, though given the relative maturity of the oil and energy markets, these are likely to feel the changes the most.

Some market participants will adapt and others will fall by the wayside. The coming change in the commodity trading industry has the potential to be a truly seismic shift.

ABOUT THE AUTHOR

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Cyrus has over 25 years' experience in the Commodity Trading and Risk Management industry. He has held senior positions in trading and in risk within industry, as well as leadership positions in management consulting.
Cyrus is currently a Partner at Infosys Consulting where he leads the CTRM practice, bringing technology and business solutions to the commodity trading industry.

Financial innovation 101

Large financial institutions need impetus from both senior management and individual businesses to successfully embed a culture of innovation

By Colin Slight Managing Director, The Realization Group

To an outsider, the capital markets sector might look to be blazing a trail of innovation in 2018. With thousands of plucky, energetic FinTechs threatening to uproot the very foundations of the financial system with artificial intelligence, distributed ledgers and other advanced technologies, this is clearly a sector where the appetite for disruption is thriving.

Yet paradoxically, many of the largest organisations – be they banks, custodians, investment firms or market infrastructures – still struggle to embed a culture of innovation into their businesses. There may be no shortage of opportunities to disrupt, but bringing about change in functions that cling to legacy infrastructure and processes doesn't happen overnight.

One of two distinct approaches is often pursued. In the first, the impetus comes from on-high – senior managers look to create structures and incentives to engender innovation across the business, often with the creation of a dedicated officer or department to push the cause. In the second approach, pockets of innovation may develop in particular areas that have the necessary budget, personnel and resources to support that progress.

The second approach, which might be labelled 'bottom-up' rather than 'top-down', tends to be more common, because certain areas are inevitably more ripe for innovation than others. Front-office functions such as trading and portfolio management, for example, are fast-moving, high-value businesses that can easily benefit from greater automation and efficiency. In contrast, middle and back-office functions may be hampered by legacy infrastructure and tighter budgets, making it much harder to innovate.

A culture of innovation can only be properly and consistently implemented across large organisations through a combination of the top-down and bottom-up approaches. The impetus to review traditional processes and test new technologies has to come from the business level, but it must also be enabled and encouraged from on high.

Once this balance has been correctly struck, innovation should gradually become more entrenched within large organisations. But transforming a culture of innovation into a framework where new ideas can be duly considered, tested and implemented is fraught with further changes in culture and mindset.

One difficulty is that financial institutions typically rely on a wealth of metrics to benchmark the success of any new initiative, be it measuring return-on-investment (ROI) at the outset, or setting and monitoring key performance indicators (KPI).

But standard ROI and KPI measures may not transfer well to ambitious new technologies, so alternative metrics may be needed to assess factors other than pure financial return. Improvements to risk, controls and client experience, for example, are all valid metrics that could be used to benchmark the success of any new system.

Internal issues within large organisations may also hamper progress towards financial innovation. Without a clean and reliable data set that can be relied upon, an institution will struggle to install new systems as it will be unable to draw easily on the data it needs. Digitised and efficient processes must also be in place as a pre-requisite for successful innovation.

Ultimately it is still early days in this cycle of innovation, and just because large financial institutions have not so far led the field does not mean they cannot in time benefit from the latest advances in technology. The priority must be to ensure that the pressure to innovate comes from both the management and business level.

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Paying US-based broker-dealers for research is not without challenges for UK-based asset managers

By Melissa Umans, Director of Business Development, Commcise

The Challenge

In Europe, MiFID II requires buy-side firms to pay for research either as a direct payment from their P&L or from a ring-fenced Research Payment Account (RPA). For a US-based broker dealer to accept payments in hard dollars or through MiFID-governed research payment accounts from MiFID-affected clients, under the Investment Advisers Act of 1940 (Advisers Act) the U.S. Securities and Exchange Commission (SEC) effectively states that the recipient must be a Registered Investment Advisor (RIA). RIAs can receive compensation based on the performance of their advice only under prescribed circumstances, and they cannot engage in excessive trading or profit from market activity resulting in their advice to clients. In addition, they must act in the best interest of their clients at all times and take into consideration each client's financial position and sophistication.

Growing concerns that investors could potentially lose access to valuable research led the SEC to issue three related no-action letters in October 2017. The letters are intended to provide a path for market participants to comply with the research requirements of MiFID II in a manner consistent with US federal securities laws:

- No-action relief to SIFMA
- No-action relief to ICI
- No-action relief to SIFMA AMG

This relief is only temporary, permitting broker-dealers to receive payments in cash or through MiFID-governed RPAs from "MiFID-affected clients", without being considered an investment adviser, for a period of 30 months from the MiFID II implementation date of January 3, 2018. A larger controversy now exists in interpreting what is captured under the term "MiFID affected?".

Additional relief was provided under the Division of Investment Management, permitting investment advisors to continue to aggregate client orders for the buying and selling of securities, where clients may pay different amounts for research due to MiFID II requirements, but all clients will continue to receive the same average price for the security and execution costs.

From the Division of Trading and Markets, relief was provided to allow money managers to operate within the safe harbour of 28 (e), provided the money manager makes payments for research alongside payments for execution to an executing broker-dealer, using client assets through an RPA that conforms to the requirements for RPAs, as explained within the MiFID II guidelines.

US buy and sell-side firms have adopted different approaches to this issue:

Bundled or Full-Service trading

A significant portion of US equity trades are still typically executed at a full-service rate. A full-service trade is executed at a "bundled" rate that includes compensation for the execution of the specific trade and a contribution towards the research services provided to the asset manager by the executing broker. By getting paid for their research product alongside a trade, brokers avoid being in breach of any SEC guidelines. MiFID II regulations that went live on Jan 3, 2018 prevent European asset managers from engaging in this form of bundled trading;

Commission Sharing Agreement (CSA)

We believe about 40% of all US equity trades are executed within a CSA framework. A CSA ensures that both buy-side and sell-side firms are explicitly unbundling every trade into execution and research. CSAs provide greater transparency than bundled trading and additionally allow asset managers to control how much they pay each research provider for research services. Following a formal research evaluation, or broker vote process, many buy-side firms often choose to allocate funds from their CSA program to the executing broker for its research product. In this scenario, the asset manager instructs the CSA administrator to retain an allocation from the CSA pool which is directed to that broker's research desk. This method allows payment for research, without the broker needing to be registered as an Investment Advisor;

Registered Investment Advisor

Some sell-side firms have chosen to register as an RIA with the SEC. Bank of America Merrill Lynch was the first larger name to take this approach, filing just before the regulator issued the no-action letters. It is possible that others will follow suit to ensure there is no issue when accepting hard dollar payments for research, particularly after the 30-month period when the no-action relief expires. Registering as an RIA means the broker must explicitly separate its execution and research businesses into two separate legal entities with very separate P&Ls.

This issue affects both the buy and the sell-side. Given the complexity of paying for US research out of P&L, CSA adoption has continued to grow in the US. Whichever strategy sell-side firms adopt, US brokers are focused on servicing their European clients and ensuring they can get paid for their product as efficiently as possible. Regardless of the approach taken, Commcise can help both buy-side and sell-side firms through this entire challenge by providing systems dedicated to bringing transparency to all parties. Our functionality enables firms to collaborate in the task of tracking and evaluating research and any associated research payments.

When dark pools go dark

By Ollie Cadman, Head of Business Operations Vela

Trading volume is rapidly shifting from dark pools to block trading venues under MiFID II, so market participants need technology to access multiple platforms.

It is less than three months since the recast Markets in Financial Instruments Directive (MiFID II) came into effect and European markets are already changing. New block trading venues that had been slowly ramping up in recent years have now been fully unleashed, gaining traction as dark trading is curbed under the MiFID II regime.

Double Volume Caps

The double volume cap (DVC), which was initially delayed due to a lack of data, is a critical measure in reducing trading on previously popular dark pools across Europe. It imposes limits on the usage of the Reference Price (RPW) and Negotiated Transaction (NTW) pre-trade transparency waivers. A venue cap of 4% means that particular dark pool must suspend use of these waivers for six months, with a EU-wide cap of 8% meaning a market wide suspension of use of these waivers.

When the European Securities and Markets Authority (ESMA) published data earlier this month kickstarting the DVC regime on March 12[1], it made clear that a large number of instruments would be initially affected by the cap – a total of 27 instruments for which dark trading went beyond 4% on a single trading venue in the past year and 1360 for which it went above 8% across all venues.

Rethinking Execution Strategies

The message from ESMA is clear: it may have been late implementing the DVC for unavoidable reasons, but it remains fully committed to the regime and dark pool trading is naturally therefore set for further decline. Market participants that had previously relied on dark pools to transact large orders with minimal impact will need to rethink their execution strategies. They will now need to be able to access a broad spectrum of venues to ensure they have ready access to liquidity.

Even before the DVC came into effect in March, however, 2018 had seen a surge of volume on those newer block trading venues that offer a transparent, MiFID-compliant alternative to dark pools. Turquoise Plato Block Discovery, for example, broke new boundaries with a record daily value of €575 million traded on January 11, while Cboe Europe Periodic Auctions Book saw average daily notional volume rise by 885% in January to €296 million.

But accessing multiple trading venues and determining which venue suits a particular order or strategy comes at a cost. Smaller entities may not have the resources needed to connect and manage interfaces with more than a small handful of execution platforms and systematic internalisers.

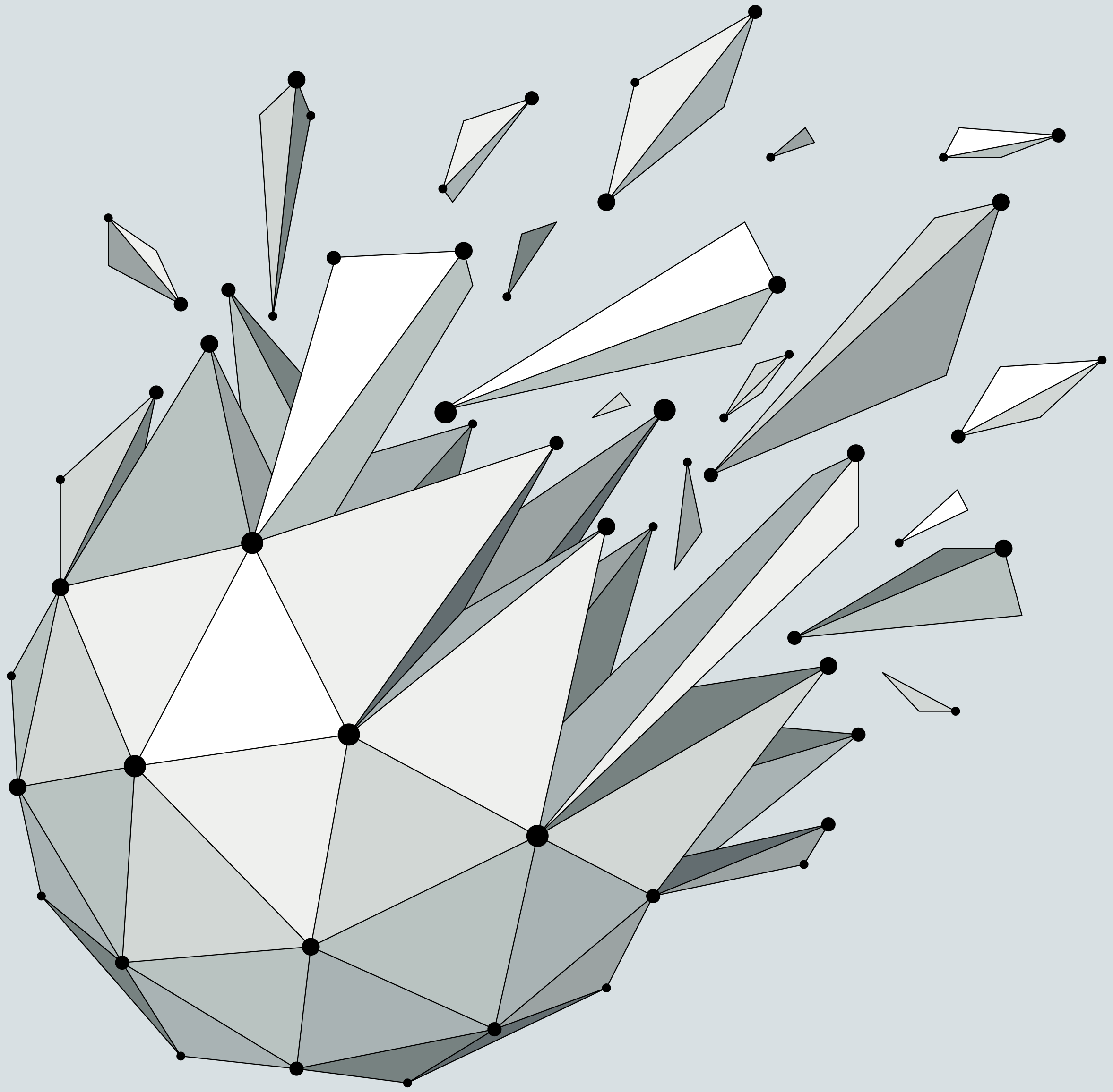
The Way Forward

At Vela, we provide both market data and market access solutions that can help firms in this important transition. Our feed handlers provide access to market data from a broad range of exchanges and platforms so that firms can get the data they need in real-time to manage their execution decisions. Meanwhile the Vela Market Access Gateway provides low-latency access to more than 110 trading venues with integrated pre-trade risks controls.

The curbs on dark trading under MiFID II may be unpopular in some parts of the industry, but it is simply part of the new status quo and market participants need to adapt their trading practices to remain competitive. Understanding and connecting to alternative trading venues that will minimise market impact in a lit environment is going to be key to success in this new era for European trading.

Effective data management in a fragmented market

By Breige Tinnelly, AQMetrics



Our recent conversations with compliance and risk managers at investment management firms have highlighted a common pain point, which is how to put in place the right kind of technology platform to cater for both existing and future regulations. While their focus has naturally been on the most pressing compliance concerns ushered in under MiFID II, AIFMD and SEC Modernization (to name but a few) the reality is that a piecemeal approach to compliance is unsuitable for the fragmented regulatory changes that the industry now faces. And fragmentation exists on a number of levels, not only in the various rule changes at both the national and European levels, but also in the diverse approach market participants are taking when it comes to interpreting and implementing the various regulations.

One of the main problems we're hearing is that investment firms need to focus on managing their day-to-day market risk and credit risk, but are now also being pushed by their investors to demonstrate they are effectively managing their operational risk as well. This is of course in addition to the increased regulatory requirements for transparency and increased oversight, with a number of significant changes scheduled for the first few months of 2018 alone. And we know from our close engagement with the market that the regulatory reporting demands of MiFID II alone already has many firms swamped.

Nimbler responses

The solution? Instead of adopting a quick change that is only effective in the short-to-medium term, investment managers need to be able to take a step back and adopt a long-term, holistic approach to the complex challenge of fragmented regulations and the need for greater risk control. That is where 'as a Service' technology, such as AQMetrics, comes into its own, by enabling firms to use the same 'golden source' of data, but for a variety of different purposes.

Beyond the piecemeal approach – a single 'as a Service' technology platform

At AQMetrics, our Data Management as a Service technology is created with one strategic goal in mind – to provide a single golden source of data that can be used for both our Risk as a Service and Regulatory Reporting as a Service technology. By handling a wide range of complex data across the board from a centralised hub – regardless of the size or type of firm – and adopting a standardised data management model, AQMetrics empowers organisations to respond to gain risk insights and regulatory change with greater agility, across multiple business functions. AQMetrics Risk as a Service technology, includes risk analytics such as VaR, the Greeks and Stress Testing, coupled with dashboards, alerts, workflow and audit functionality. We've also got Regulatory Reporting as a Service technology on our software platform and as an Approved Reporting Mechanism (ARM) under the Central Bank of Ireland, AQMetrics is a regulated entity, entrusted by some of the largest investment managers in the market to process all of their trade data for regulatory reporting.

We believe this holistic approach to 'as a Service' technology is the only effective way to truly tackle fragmented regulations and market changes head-on, regardless of what is coming down the road.

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Winning business through the new by navigating liquidity landscape

By Robin Mess, CEO, big xyt

MiFID II offers a fresh start for business relationships in capital markets. By reframing the way in which dealers and trading venues seek to manage and match client trades it is implicitly changing where buy-side firms choose to route and execute their orders.

A new framework

The new directive, and its sister regulation MiFIR, have established a new regulatory framework for trading venues by categorising any trading mechanism as either a regulated market (RM), multilateral trading facility (MTF), organised trading facility (OTF) or systematic internaliser (SI). This framework determines how each category can process trades, who may interact with those orders, how much pre-trade disclosure of orders is permitted, and how – and to whom – transactions are reported afterwards.

Although a great deal of work had been conducted up to the 3 January 2018 deadline, preparations have since been thrown off somewhat by last minute changes to the rules. A cap on the volume of trading conducted in the dark was expected in January, but delayed by the European Securities and Markets Authority (ESMA) for three months, reportedly because ESMA had seen reports on just 2% of the expected amount of securities. The necessity to use legal entity identifiers (LEIs) for all trades was also pushed back.

Effectively finding liquidity

These delays may have bought firms time if they were unprepared, but they also impact the expected ways that orders will need to be worked. Opportunities are therefore now arising for firms to more effectively find liquidity for their clients by accurately tracking where orders are being routed. Mapping volume and liquidity in such a fluid environment can deliver real returns, which best execution reporting – another key element of MiFID II – will validate. Firms that can provide a confident picture of the market to their clients therefore can cement relationships and gain a real competitive advantage over brokers and service providers that cannot offer such certainty.

Additionally, when the aforementioned dark pool caps do come into force, pre-trade order disclosure on a trading venue will be subject to further change, depending on factors such as trading volumes and order sizes. As a result, execution decision-making will be tested constantly, so the ability to provide quantitative and qualitative evidence to support that decision-making will win the confidence of clients.

For all of the preparation time, dealers and venues still have a real opportunity to prove themselves in this new landscape, but any false steps in navigating this terrain could have serious consequences for firms. It is therefore incumbent upon them to have the necessary tools in place to assess the quality of available liquidity and where that liquidity is to be found.

Certainty

To compete, trading desks need to be able to map the liquidity picture on a continuous basis. However, putting that picture together is not easy. Data must be sourced, assessed, cleaned and presented in such a way that allows the trader to make sense of it.

That will require that firms either invest in proprietary research and development to build their own tools, or engage with best-of-breed providers who are able to support service provision straight away.

Following the spirit of the new rules will require firms to support their clients with a transparent and easily understood decision-making process for order execution. The benefits of getting this right are clear. By becoming the 'go-to' firm for well-supported routing and execution, a broker or venue can build its relationship for reliability.

And in a period of disruption, certainty wins business.

The challenges of managing market data

By Bernardo Santiago, Co-Founder & CEO, S4 Market Data

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The market data needs for the financial services industry is at an all-time high. With constant expansion, it's becoming an increasingly critical component of the business, touching nearly every aspect of it. At the same time, these same financial institutions are seeking to bring market data costs down. Along with personnel, real estate and IT, market data spend is among the top expenses for financial services firms. However, many times it's the least understood and ends up being the expense of which no one wants to take ownership. For those firms looking to treat market data as a strategic asset, the implementation of a market data management program is key.

Those individuals tasked with providing structure to a market data program face an ever-growing list of challenges. How many data vendors do we currently use? With so many data vendors and data sources which ones should we choose? With so many market data agreements and the constantly changing market data policies, how do we know if we're properly licensed? Are we licensed for products that are underutilized or not used at all? Are the platforms currently in place best suited to meet our current strategy? How can we optimize our market data consumption across the enterprise to reduce costs? These are some of the questions that financial institutions are faced with when it comes to market data management. In order for a market data management program to be successful, it must provide the following services:

Vendor Management
Be aware of what the data requires, which applications use it, how it's licensed and what other vendors can provide that same solutions. If a vendor has no reason to fear the possibility of being displaced, you will have little to no leverage to negotiate on price or usage rights.

Demand Management
All data sources and subscribers must be identified and a cost approval process must be implemented. This will confirm the business has full transparency as it pertains to their market data spend and the impact on their budget when they decide to onboard a new service or renew an existing one.

Contractual Compliance
Find out what audit exposure you have as a firm and remediate any compliance breaches. Understand how your firm's contracted capabilities compare with the actual data usage. Determine the best course of action to minimize future exposure.

Optimization
Review and implement market data industry best practices. Align the market data strategy with the strategic initiatives of the business and technology teams.

> "With so many market data agreements and the constantly changing market data policies, how do we know if we're properly licensed?"

ABOUT S4 MARKET DATA

S4 Market Data is the leading boutique consulting firm for the Financial Information Services Industry in Miami, with a special focus on market data vendor management. For more information, visit s4marketdata.com

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MiFID II is here, but the regulators have only just got started

By Shiran Weitzman, CEO, Shield FC

MiFID II may have come a little too quickly for some companies.

Its scope, the slow pace of its formulation and the myriad interpretations of its applications and implications meant much of the EU's financial services industry had to rush through changes to comply with it.

Many firms struggled to meet the January 3 deadline despite hundreds of City workers spending the Christmas break – their holiday leave cancelled – rushing to put processes in place in time for the 3 January deadline. That so many companies were ready in time is an achievement in itself, given that a significant portion of MiFID II's new rules were still being formalized as recently as July.

The race against time appears to have been particularly challenging with regards to implementing MiFID II's wide-ranging rules on record-keeping of electronic data communications. By necessity, companies have done what they could to ensure their archival processes meet the new demands of transparency, accuracy and easy retrieval.

Where a firm has had to take a more tactical approach to compliance, many have found themselves with a patchwork of voice, e-mail, and data recording platforms, with a minimum level of interoperability. On this basis, it's likely that many companies only just managed to cross the compliance line with setups that could be impractical to change, expensive to maintain and that could potentially expose companies to future regulatory breaches at a time when watchdogs wield tough punitive powers.

In this upcoming series of blogs, we will explore how firms can take an increasingly strategic approach to the organisation of record-keeping processes for electronic data communications. Benefiting from a unified approach to data capture, analysis and storage which could both meet best practice standards and ensure accuracy, reliability and efficiency delivering sustained compliance in a fast-changing regulatory environment. We'll examine how a holistic platform can streamline front- and back-office interactions, how it can prepare companies for the next regulatory upheaval – the General Data Protection Regulation (GDPR) in Spring – and what impact it will have on compliance.

"The race against time appears to have been particularly challenging with regards to implementing MiFID II's wide-ranging rules on record-keeping of electronic data communications."

Also, we will show how an interoperable solution can aid in combating market abuse and in meeting new benchmark regulations, as well as help drive companies forward with improved data management.

We will discuss ways that the fragmented, stop-gap systems put together to meet MiFID's deadline can be vastly improved with pioneering solutions that link record-keeping and data-management platforms. We know for certain that MiFID II is not finished yet. EY estimates the new rules won't be fully implemented for another six months. We also know that this is just the start of a sea-change in the regulatory environment that has been welling since the financial crash of 2008; there are a lot more reforms to come.

Even MiFID-compliant companies are not in the clear. The data capture and archival systems they've installed may be sufficient right now, but it's anyone's guess how relevant they will be in six months, or even a year.

Now is the time to review those processes and to ensure they are more than adequate so that the next tide of regulations doesn't become overwhelming. Now it is time to think Strategic.

Back office warned to "Mind the Gap"

The post-trade landscape is in desperate need of transformation; the technology that underpins it has reached a critical point in terms of cost, capacity and complexity. It is fraught with risk.

By Paul Fermor – UK Solutions Director for Software AG

Consequently, banks and infrastructure providers need to initiate transformation – either without impacting legacy technology, or with a view towards wholesale replacement. In other words, they need to "mind the gap."

This is what was generally agreed at The Realization Group and Software AG's recent industry round table, where leading subject matter experts in clearing, settlement and post-trade operations came together to discuss the subject of innovation in post-trade.

Transformation needed

In summarizing the problem that faced the industry, one participant noted that, in the absence of acquisition targets for the front office, and with investment banks' returns on equity currently resting below 6%, the key for most firms today is to reduce costs. On that basis, innovative new technologies are something of a sideshow in the back office, he argued.

Other participants felt that technologies such as artificial intelligence (AI) and robotic process automation (RPA) can help buy a firm breathing space through the creation of scale without incurring significant cost, by reducing (sometimes by an order of magnitude) the number of people needed to work on a task. This can then open up new opportunities for a firm to commercialize and sell that process as a service.

Barriers to entry for FinTech

Several participants representing technology start-ups noted frustration with the capacity of banks to engage with new ideas and technologies, because the procurement cycle is often slower than the obsolescence cycle. Onboarding was seen as a painful and lengthy process, sometimes taking so long that start-ups can run out of funding before the process completes.

Risk aversion – a post-2008 necessity, participants all agreed – is also making it difficult to get new ideas through the door. One speaker made the case for internal sponsorship to drive change forward, citing the example of working directly with the chief operating officer and the head of architecture in their own organization.

Another barrier to entry for FinTech start-ups, noted one observer, is that their size and funding limits their ability to solve front-to-back challenges; they can generally only address specific point problems. Creating a utility that could offer an outsourced model to the back office might offer a "way in" for FinTechs, by solving one problem for many firms at once.

Even technology providers that are able to successfully provide a solution to a major challenge within a financial institution – whether large or small – often face barriers after tailoring it to a specific firm's requirements, because they do not have a product that they can go on to resell, limiting the replicability of their investment. Greater standardization among Fintechs – along the lines of the FIX protocol, for example – might help to address this issue and increase the potential for onboarding.

Drivers for change

It was suggested that Brexit may provide an impetus for firms to start afresh instead of physically moving operations from one geography to another. One speaker noted that planning does not cost money, so there is a need to uncouple the strategy from the budget request. Then areas that need changing can be sequentially targeted in order to support the strategy.

That does require an articulation of the return on investment (ROI) on each part of the process however, requiring that data be available to describe those parts; data which is often absent due to the complexity of operations.

There are also macro-level dynamics which will have a bearing upon the back office. Passive investment and the use of synthetic products that lack physical settlement create different pressures such as real-time margining. The move to distributed ledgers could potentially allow real-time settlement and remove the need for reconciliation processes.

Moving forward

As one speaker put it, what the industry needs in order to consolidate action is a "bad guy," i.e. a villain to fight against in the back-office space. This villain could be the lack of standards (however there doesn't seem to be agreement on the "good guy" standard that should be formed to fight it). Utilities that could solve all of the agreed challenges – with points that are disagreed upon being handled at a later stage – would be one way forward.

Equally, some of the core infrastructures, such as central securities depositories, were cited as needing to take the lead in driving change, or risk becoming the "bad guy" themselves. SWIFT had succeeded in becoming a standardized framework; however some observed it allowed firms to customize messages to such an extent that it allowed the creation of inefficiency.

It was concluded that firms need to "mind the gap" on several levels when bringing in new technology and bringing together solutions.

One recommendation is to engage with partners who can ease the process of integration, working with start-ups who can overcome legacy hurdles and established firms who can integrate. Another is to bridge divisions within the industry to cooperate where possible.

Finally, they need to be aware that, as their peers and non-banks widen the gap in service capability, they themselves may fall behind and suffer significant losses as well as rising costs.

Private equity CRM drives fund raising and deal flow

The investor relations and the investment teams

Many General Partners (GPs) are investing in technology in their portfolio companies. Many are also investing in technology for use within their own firms. Using technology to streamline investor relations and deal flow can add significant value. With these points in mind, what are the key adoption drivers and benefits, and what are the key features to evaluate?

Key Adoption Drivers

There are a number of reasons why GPs adopt CRM and deal management software. A proportion of start-ups buy a CRM immediately they receive funding approval. For those that delay, the trigger point may be the kick-off of a fund raising event. The trigger might also be an increase in the volume or complexity of potential deals being tracked. All these situations imply a challenge in terms of scaling the GPs business and also a growing awareness of the limitations of tools such as MS Excel.

By Alan Underdown – Satuit Technologies

Who Goes First: Investor Relations or Investment Team?

Private Equity CRM systems can be implemented for fund raising, deal management or both. When both are required, which goes first often depends on which team experiences the greater pain points from their current processes. A CRM evaluation involving joined up thinking and buy-in from both teams is recommended even if one team isn't yet ready to implement their part of the software. It may be desirable or necessary to segregate fund raising or deal data within the CRM and this can easily be managed within the technology. However, it is also the case that contact, business or activity data is often common to both teams and that there are benefits to having one single and shared source of that data. GPs that address this data management challenge are most likely to succeed in terms of being efficient, scalable and able to communicate effectively with stakeholder groups. Conversely, separate data silos create inefficiencies that can be difficult and expensive to resolve.

Basic CRM & Deal Management

At the core of a good CRM is the ability to hold details of business entities and contacts, and the complex relationships between them. In additional to current and prospective investors and portfolio companies, relationships typically include third parties such as lawyers, due diligence partners, referral partners and potential management candidates. Relationship mapping such as this should both ease CRM navigation and facilitate intelligent reporting.

A CRM should also allow activities (i.e. appointments, tasks, phone calls, emails etc.) to be stored against each business entity and for task and follow-up workflow to be initiated. Storing activities isn't just a matter of corporate memory. It is about teams having the correct information to hand to be organised and professional when interacting with outside organisations, and having the correct follow-ups in place to ensure nothing is forgotten.

GPs are information intensive and investment teams in particular receive large volumes of information by email. The ability to add email and documentation is absolutely key in terms of saving time. A CRM should therefore have a good email add-in tool and an integrated Document Management System (DMS).

Business trips have a cost in terms of time and money and need to be planned. A CRM should therefore be fully featured to assist with trip planning and the software should be fully mobile. Common workflows might involve planning and researching a trip using geo-mapping tools, retrieving data and documents via a mobile device, and after an appointment being able to rapidly add notes using voice-to-text recognition.

The ability to search for and make intelligent use of the data is obviously important and particularly so as investors, regulators, auditors and other interested parties increase their expectations in this regard. It should therefore be possible to interrogate the data using a variety of tools including search, reporting and dashboards.

Finally, and this is a topic in its own right, the CRM will need to be able to manage fund raising, management of actual or prospective investment deals, or both depending on the GPs business model. Both processes are typically supported by an integrated mass email management tool.

Edge Capabilities

Beyond core CRM, many GPs are increasing their investment in edge CRM capabilities as a means to increase their return on investment (ROI). Recent research by Nucleus suggests that edge capabilities deliver 4.2 times the ROI of core CRM. GPs should therefore consider a providers completeness of product offering to avoid a costly switch to another provider at a later date. Providers now provide additional products, modules or tools that are often designed to assist with the communication and sharing of information. Typical examples include functionality in relation to capital call distributions, investor portals, client report automation or talent management to track potential managers that might work within portfolio companies.

Conclusion

Progressive General Partners GPs are increasingly investing in their own technology including for investor relations and deal management. Benefits accrue from implementing one system even if some data is segregated between teams. Core CRM and deal management software functions deliver ROI in their own right. However, this can be increased, often as the GP grows, by adding edge capabilities.

Seven further considerations when purchasing a private equity CRM

- **How closely does the out-of-the-box set-up resemble your GP requirements?**
- **Is the CRM intuitive and easy to use?**
- **Does the CRM provider meet your customer support expectations?**
- **What provisions does the CRM provider make for implementation and training?**
- **How robust are the CRM provider's security arrangements?**
- **When your business changes and evolves, how easily can the system be configured?**
- **Is the providers' product range complete enough to accommodate your needs both now and in the future?**

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PSD2, how is the banking revolution progressing?

By Steffano Vaccino - Yapily

Every day we come across new articles highlighting how Open Banking or the Payment Services Directive 2 will fundamentally revolutionise and transform the retail banking landscape for customers, providing opportunities for new entrants to emerge, while creating challenges for incumbent service providers. But how is this revolution evolving?

This long-awaited directive aims to put the ownership of banking data, back in the hands of individual consumers and promote competition across the retail banking space through innovation. It disintegrates the monopoly banks have long held over clients' financial data, allowing customers to easily share this data with third parties.

For consumers and businesses, this means access to faster, simpler and better financial services. But how?

According to UK Finance, in 2017 mortgage lending swelled to £256.1bn in total with 1.2m property transactions executed. At present, the end to end customer journey to obtain a mortgage from application, decision and settlement is still very much a painstakingly long and manual process, typically taking close to 4-8 weeks to complete.

However, in a PSD2 world, users will be able to apply and obtain a mortgage online in just a few clicks. Lenders will easily access user data and seamlessly conduct their on boarding, KYC, AML and credit scoring, resulting in decisions / offers being made in a matter of minutes.

At present, there is no hassle-free and bank authorised channel for securely exchanging data from all your banks to a single platform in order to get a holistic view of a user's entire finances. Also consumers do not have reliable, personalised financial advice, tailored specifically to their circumstances. In a post PSD2 world, consumers will be able to view all their balances across banks and credit cards in one consolidated place. This would allow users to be better placed to plan their personal finances through innovative financial applications and receive tailored products and advice based on their specific financial needs.

According to Roland Berger, there are 112 billion non-cash transactions which take place every year across Europe, of which 52 billion are card transactions which accounts for 2.6 trillion Euros. When looking at a typical card transaction between a card holder and a retail merchant, behind the scenes there are multiple parties involved such as a bank, acquirer, card issuer, payment processor, payment gateway and about 300 odd third-party service providers who profit by taking a cut in each transaction. In a post PSD2 world, consumers will pay less for goods because merchants will be able to initiate payments via API directly to banks eliminating the need for multiple third parties to be involved, therefore reducing the overall costs to the consumer.

These three examples are just the start of how this new directive will facilitate new opportunities across the retail banking sector. So what is this directive?

The Payment Service Directive 2 ("PSD2") is a European directive that became effective in January 2018 and is affecting all 510 million people living in the European Union. The directive was translated into local law in each member state, which means that not only will banks within these jurisdictions have the ability to decide how they technically implement this, but there will be differences in the interpretation of the directive which will likely lead to a fragmented approach on the adoption and implementation of the regulation across the EU.

PSD2 is very often referred to as "Open Banking" and often confused with the Open Banking Implementation Entity ("OBIE"). OBIE is an entity mandated by the Competition and Market Authority in the UK to create PSD2 APIs (Application Programmable Interfaces, the way computers communicate) standards for 9 of the biggest retail banks in the UK ("CMA9" banks). However, these standards can be implemented differently across these 9 banks, and all the remaining 290 UK banks and 5000 European banks have no obligation to follow a similar approach. In other words, for a service provider it will be very challenging and expensive to integrate and maintain the connectivity with multiple financial institutions.

In order for banks to be compliant with the regulation, they must offer Application Programmable Interfaces ("APIs" – the way computers communicate) to share users' data, products information and accept payment initiation in an automated fashion. This means all client information which banks possess (i.e. name, surname, address, phone, email, balance, all the transactions, standing order, salary, mortgage, cards, saving account etc.), should be made available to third parties, via API. Banks must also allow service providers to initiate payments via API, which would reduce the overall cost burden on the consumer. In addition, banking products must be available via API would empower customers to make the right choice relevant to them.

These regulatory changes are of an unprecedented magnitude. While regulators have been proactive in ensuring that banks meet the deadline (13th of Jan 2018), there have been limited APIs being made publically available.

In the UK, the number of "API-live" banks are extremely low but after few months of "managed rollout" (i.e. further testing) the pace is quickly accelerating to a level where now is the opportune time for service providers to start seriously thinking about how to leverage on the changing regulatory landscape to their competitive advantage.

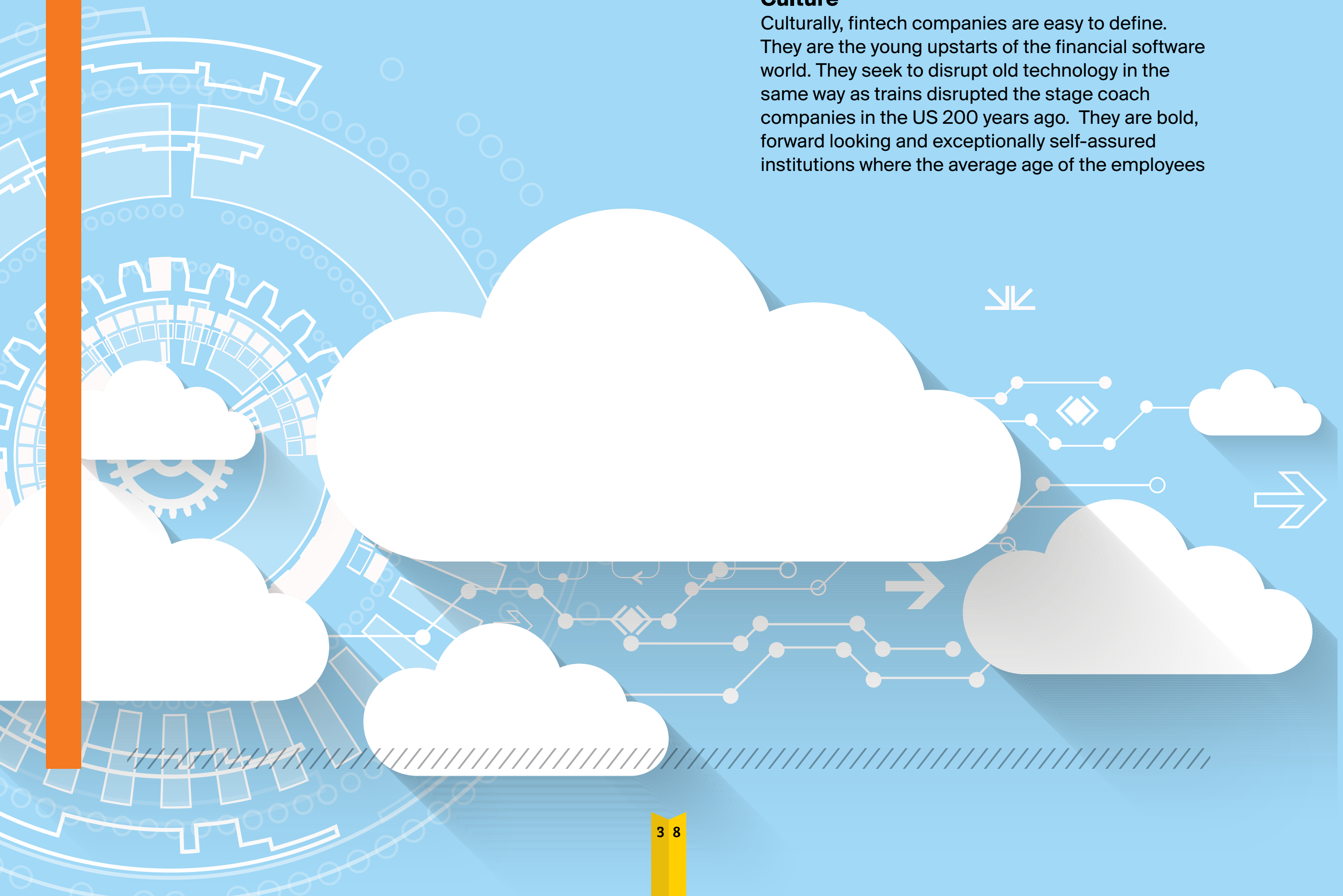
Talking in tech terms, we are now in the "beta phase" of the Open Banking revolution.

Yapily was founded to help service providers and ultimately consumers to benefit from the directive. By enabling service providers to easily connect with banks via one simple API, we foster the growth of a new financial ecosystem. Rather than having to spend significant amount of time, and cost building the technology in house, service providers can seamlessly connect and communicate with banks instantaneously using Yapily. As a pure technical enabler, Yapily will never sit in between our clients and their end customer. We see ourselves as a trusted partner with the intention of helping service providers navigate through this new and exciting world and to provide real technical solutions.

If you want to know more visit us at www.yapily.com or write us at hello@yapily.com.

Exploring the Three C's of cloud technology

By Karl Wyborn, Managing Director, Global Head of Sales, CloudMargin



What do you think of when you hear the term 'cloud technology'? For many, at least the non-technologists amongst us, it might conjure up images of storing data somewhere outside of your – or your company's – computers. The cloud may also be associated with being lower cost; perhaps even more agile. The good news is you'd be right. In simplified terms, the public cloud is the use of a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

The problem I have with this definition however is that it really only scrapes the surface of what cloud technology is about. It doesn't explain why cloud technology is becoming so dominant and why fintech companies, blockchain excepted, are virtually all cloud based. In the post below, I'll try to bridge the gap between definition and reality.

When trying to draw a distinction between the reality of cloud solutions from the, somewhat banal, definition of cloud technology, I rely on, what I call, 'The Three C's: Culture, Code and Competition.'

Culture

Culturally, fintech companies are easy to define. They are the young upstarts of the financial software world. They seek to disrupt old technology in the same way as trains disrupted the stage coach companies in the US 200 years ago. They are bold, forward looking and exceptionally self-assured institutions where the average age of the employees is but a small fraction of their more established peers. (Anecdotally, our head of engineering pointed out to me recently that I'm 'older than his dad'…not a great start to my week!). Some of these companies will succeed outrageously. Others will fail. All will move heaven and earth to achieve their goals.

Code

Code is a more unseen concept, but largely, it represents the inherent advantage that fintech companies have over legacy software systems. Code can be further broken down into coding language and structure.

Each year new languages emerge. They are designed specifically to be able to exploit the latest developments in computer science. Many locally installed or 'enterprise' solutions still available today are written in languages developed in the 60s and 70s. Graduates of today's computer science or engineering programs aren't learning these old languages and consider them no longer fit to achieve the complex technological demands of today.

The importance of the code as a differentiator, however, goes beyond the language in which it's written. The structure, or architecture, of code has changed also. Circa 2011-2012, software developers began using the term 'micro service' to define a specific structure to their code. This new approach was a means of breaking large code bases into smaller, independent, and loosely coupled components; where each component is responsible for a highly defined and discrete task. This is in contrast to older technology that relies on a single body of code (a 'monolith') that controls everything.

To better understand this, take the 'honey' analogy: Microservices is a honeycomb where the internal divisions are clear and not everything can or does 'touch' everything else. Compare that to a jar of honey where there are no internal divisions, no cells if you like, where everything may 'touch' everything else.

Microservices architecture allows users to easily scale their work (and cost) up or down with activity, trust a far more versatile and reliable system, and see improvements through a vastly accelerated speed of development. That's why today the microservices approach is firmly established as the underlying architecture for public cloud solutions.

Today especially, I believe it's nearly impossible to overstate the importance of the code as a means to deliver unique benefits to the users. We work in a fast-moving environment where markets and regulators are changing the rules of the game weekly. Platforms which were once fit for purpose are no longer able to keep up with the pace of change. This leads to the dissatisfaction inherent to so many users of older technology. Modern fintech solutions are uniquely placed to avoid these pitfalls and provide a better and lower cost solution for the market.

Competition

This takes us neatly to my final 'C', Competition. Sometimes my CEO and I think about what we would do if we ran an enterprise software company instead of a cloud-based fintech firm in this space. Most of the companies have been around for decades and therefore see revenues far greater than ours does at this point. But we always conclude that there is no other place to be than CloudMargin. The reason is simple.

To be ready for the future, you must be in the cloud. However, the monolithic task of turning an older enterprise solution into an agile, fintech solution with a clear future, quite simply might be more easily achieved by throwing away the old code and business model and starting again.

Generally, investors and shareholders react negatively to that sort of destruction of value! A common compromise is the 'polish the turd' approach, meaning take your geriatric code base and give it a smart new UI. However, similar to dropping a mini engine into a Ferrari, this fools only a few.

Being 'in the cloud' represents the starting point of a raft of advantages with which older technologies simply cannot compete.

That's why it's so exciting to be at CloudMargin, a fintech firm that was born in the cloud, and is built with an eye on the future while rapidly adapting to what is thrown the way of our clients today.

And as always, we will continue to integrate new features seamlessly whilst avoiding lengthy and costly upgrade cycles. We will continue to provide solutions that don't incur the costs of locally installed hardware or the recruitment of systems administrators. Solutions which scale automatically and even, in our case at least, 'self-heal' when problems are encountered. All thanks to the cloud.

Curiosity is in our DNA

By Liza Braaw, Cinnober

Since the inception 20 years ago, Cinnober has become a key supplier of software solutions to the world's major exchanges and clearinghouses. Founded by four former employees with experience in developing trading systems at OMX (now Nasdaq, Inc.) and the major Swedish bank SEB, they wanted to build a flexible and fast platform for financial transactions.

From trading- to clearing solutions

The company's early technology was focused largely on providing trading systems for exchanges, which gradually evolved into solutions for processing major transaction volumes and market data, as well as multi-asset class trading.

During the financial crisis in 2008, it became obvious that the financial industry needed to improve transparency and risk management to avoid future meltdowns. The system support for post-trade processes had not kept up with the rapid developments in the trading space; clearing technology was typically based on antiquated solutions that required a high degree of manual work.

As a response, Cinnober developed a clearing solution that handles risk in real time, regardless of asset class or whether trading is conducted on a regulated exchange, any other type of trading venue or over the counter (OTC).

Being the first to offer a real-time solution to clearinghouses, Cinnober rapidly became the industry leader in this domain. The company's award-winning* clearing solution runs on some of the world's most prominent clearinghouses, including Brazilian B3, the Japan Stock Exchange Group (JPX), London Metal Exchange (LME Clear) and the Dubai Gold and Commodities Exchange (DGCX). The solution has also been chosen by the Johannesburg Stock Exchange (JSE).

Expanding the core business offering

In recent years, the company has invested in new business areas, leveraging its competence and technology towards new customer segments. Through acquisitions and the launch of new services and solutions, Cinnober has widened its target group significantly. The Cinnober Group has increased its presence in London with the three subsidiaries Simplitium, Minium, and Irisium, offering powerful technical solutions and services to banks and brokers.

Simplitium- trade reporting and transparency

The financial service transparency specialist Simplitium helps trading venues, such as banks and brokers, meet their transparency- and reporting obligations under European regulation MiFID II. TRADEcho, delivered in partnership with the London Stock Exchange Group, offers OTC reporting services that are in line with the extended regulatory requirements imposed by MiFID II, that came into effect in January 3, 2018.

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Minium – client clearing

The solution provided by Minium is based on Cinnober's technology for exchanges and clearinghouses, and will enable banks and brokers to offer modern and efficient real-time post-trade services to their customers. This includes a complete overview of their risk exposure to different markets in real-time. Minium's multi-asset technology can handle all asset classes traded on exchanges as well as over-the-counter to provide operational and capital efficiencies.

Irisium – trade surveillance

This business area offers trade surveillance and analytical services to banks, brokerages, exchanges and regulators. The offered solution enables customers to take control over their regulatory and operational risk across multiple asset classes on a single platform. Clients are offered 360-degree trade surveillance – enabling customers to identify and analyse combinations of disparate data, for example, from social media, voice communication and behavioural patterns which increases the likelihood of identifying real attempts to manipulate the market.

In March 2018 the leading cryptocurrency exchange by volume, Bitfinex, decided to integrate the Irisium Surveillance platform to improve market integrity and visibility.

Agile methodology brings customers onboard

Cinnober's success is not solely built on its award-winning solutions, but also on the delivery model with its guiding principles, certifying project transparency and flexibility throughout the whole project.

Since the start, Cinnober has applied the agile software development methodology Scrum to facilitate high productivity in complex projects. This enables deliveries of mission-critical solutions on time, in full and on budget.

According to this method, projects are split up in multiple so-called development "sprints", each resulting in testable deliveries. By having the customer onboard during the entire development process Cinnober develops an understanding of the customer's problems and future challenges, and can facilitate their journey with the right technical solution.

This approach also benefits the customers through transparency and continuous dialogue that confirms that everyone is moving in the right direction, and unanticipated surprises are prevented.

Active employer with a diverse mindset

Even though Cinnober has its roots in Sweden – one of the world's most innovative FinTech clusters, it is represented by some 40 nationalities, and believes that diversity is a key success factor of the company. According to Cinnober's own employees the company is characterised by an international flavour, co-workers who love programming, and variation in every task.

During 2017, students rated Cinnober as one of the top 100 employers in Sweden, according to a poll of 21,000 Swedish university and college students. The survey was conducted by Universum, a prominent global leader in employer branding and Cinnober was included on the list for the fourth consecutive year.

For many years, Cinnober has offered internships in which outstanding university students in their final year are given the opportunity to combine their studies with part-time work at the company. This has further improved opportunities to recruit talent straight from college and universities.

Being able to attract, develop and retain talent is essential for a company built on knowledge, which is why Cinnober wants to offer all employees an innovative workplace where new ideas and a curious mind is highly valued. In addition to offering opportunities to work closely with customers on the development of world-leading technological solutions, an effective delegation of responsibilities and short decision paths create a high level of commitment among Cinnober's approximately 350 employees.

* Financial News Awards for Excellence 2015 and 2016.

ABOUT CINNOBAR

Cinnober is an independent provider of financial technology and the customers include many of the world's largest exchanges and clearinghouses, as well as banks and brokerages. The Group's solutions facilitate trading, promote greater transparency and create fairer and more efficient markets. Recently, Cinnober took the strategic decision to diversify its traditional exchange and real-time clearing technology business portfolio.

Sonovate - changing how people are paid

By Richard Prime, co-founder and CEO, Sonovate

Sonovate set out in 2012 to make finance and back-office better for recruitment agencies. Fast forward to 2018 and we're changing how businesses of all shapes and sizes access finance and support to manage their freelance workforce.

This is a brief summary of what we've experienced growing a business from two people in one room to 100 employees across two offices.

The Gap in the Market

Globally, the staffing industry generated $428bn (USD) in revenue worldwide in 2016, with the US, Japan and the UK occupying the top three spots. 89% of the revenue was generated from contract placements. For UK recruitment agencies, contract is incredibly attractive, but without access to funding to generate cashflow and a back-office function capable of meeting demand, it's difficult for agencies to make the most of their potential.

In 2015, research conducted by commercial law firm EMW estimated that recruitment businesses waited 56 days, on average, to be paid for their services, compared to the UK average of 21 days. Adecco's 2017 annual report cited 52 'Days Sales Outstanding', illustrating how debtor days are not confined to recruitment SMEs. The difference, however, is that whilst Adecco can absorb lengthier debtor days, cashflow is much more acute for smaller agencies.

Recruitment agencies have long been at the forefront of tech adoption, seeking competitive advantage by the speed in which they can leverage networks (LinkedIn), simplify actions (Bullhorn) and streamline their advertising reach (Broadbean). The pace of tech development is mirrored by recruitment industry growth. Since 1990, the industry has averaged 20% YoY growth. However, comparing five year periods (e.g. 2013/17 vs. 2008/12), the growth is 198%.

The confluence of digitalisation and lack of innovation in the finance sector enabled Sonovate to gain a foothold in 2012 and begin to market our service to UK recruitment agencies engaged in contract activity. Our message was simple - we release 100% profit from unpaid invoices, minus our one fee, and manage all the back-office administration on behalf of the agency. The responsibility for the agency is to simply add a placement into their account.

Assessing the Competition

Between 2009 and 2011, the Asset Based Finance Association (ABFA) reported a 45% increase in factoring and invoice discounting. Invoice financing was pushed heavily by the banks in preference to overdrafts, the traditional short-term funding arrangement, with the aim of propping up weakened balance sheets.

At the same time, investment in fintech was rising, and has continued to do so, increasing from (USD) $928m in 2008 to $122bn in 2017. At the heart of this growth is a changing public mood and rapid digitalisation.

We examined the financial landscape for recruitment SMEs and found a familiar pattern repeated from financier to financier; an array of fees, charges, restrictions and regulations. Generic tech platforms, inconsistent service and no appetite to innovate

Invoice finance needed to change.

Our Offering

We created stripped back finance wrapped in bespoke technology for one industry. Simplifying the complexity of the 'finance machine' enabled us to communicate our offering with clarity and reduce the amount of processes required by all parties.

This agile approach supported by aggressive marketing enabled us to grow 300% YoY between 2012 and 2015. Agencies of all sizes, from large-scaled double digit turnover agencies to 90% of recruitment startups - a number we continue to achieve year-on-year, joined Sonovate.

Growing Pains

Growing Sonovate at breakneck speed placed huge strain across the whole business from people to process to our infrastructure. Our startup mindset (one we still retain) led to overextending ourselves, and as many startups will experience - this always hits you at some point.

So what did we do?

- Examined every aspect of our business and put in place new processes.
- Reached-out to our customers with a new service definition and transitioned it over a period of time.
- Split tech into three distinct teams, all working together to one unified objective.
- Worked with our biggest customers to help bring new products to market.
- Defined Sonovate's roadmap and what defines ultimate success.

The Future

As Sonovate has evolved, so to has the way we work. Freelancing is no longer considered a risky way to make a living. There are approximately 1.2m active contractors at any one time in the UK alone, and the contract market currently accounts for 88% of the UK's £32.2bn recruitment industry.

From on-demand platforms such as Deliveroo, Handy and Uber letting people get money for 'gigs' either in their spare time or as their main source of income; to specialist consultants and professionals carving out their own niche. The Internet is letting more and more people strike out on their own and become 'independent workers'.

As part of defining 'who we are', we sought specialist advice. As part of a rebrand, in April 2018, Sonovate repositioned where sit in the market, shifting from providing finance and back office to recruitment agencies to a wider audience.

Positioned around our vision of "Simpler pay for the new working world", our objective is to be the easiest way to get paid as an independent worker or contractor-based business. Predictable pay for individuals, flexibility for agencies, and access to a bigger pool of specialist talent for the wider economy.

Serving new audiences and markets create need for a host of new products including; US funding, daily payrolls, CRM and accounts package integration, and a funding product designed for businesses who want to retain some back office flexibility.

SONOVATE IN NUMBERS

Founded in 2012 by Damon Chapple and Richard Prime

Funded over £500m invoices to business throughout the UK

Recognised as the 5th fastest growing private company in Britain

Received £20m in VC investment

THE TOP 25 FINTECH INNOVATORS

Meet the 25 individuals responsible for some of the most innovative businesses in the market today. These are the people who have led the way in some of the most volatile and rapidly expanding industries in the world, at the forefront of the biggest "age" since the turn of the information age at the turn of the last century.

You can hear from some of the innovators themselves in our FinTech Focus section later in the magazine.

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THE TOP 25 FINTECH INNOVATORS

STEFANO VACCINO
YAPILY

Prior to founding Yapily, Stefano was Chief Product Officer and member of the executive team both at Algomi and Red Deer. Stefano also co-founded the award-winning design company Oltre Design. He spent many years in Goldman Sachs where he was Executive Director. In 2015 Business Insider listed him as one of the eight most important Goldman Sachs alumni who left to lead Fintech start-ups. Stefano holds a B Eng in Information Engineering and a Master Degree in Electrical Engineering with a specialization in Nanotechnology. During his academic path he studied at Politecnico di Torino (Italy), INPG (France), EPFL (Switzerland) and Massachusetts Institute of Technology (USA).

YAPILY

OBI NWOSU
COINFLOOR

Obi is the CEO and co-founder of Coinfloor, the longest established group of cryptocurrency exchanges for institutional or sophisticated investors and traders, founded in 2013. Obi oversees Coinfloor's commercial and product strategy and leads a team of financial institution and cryptocurrency experts. Under Obi's leadership, Coinfloor's market share has grown over 5 times and the firm now handles the majority of GBP exchange volume.

Prior to joining Coinfloor, Obi was the founder and CEO of Supalocal, a software technology company who developed and took to market a number of next-generation queue management technologies. Prior to Supalocal, Obi held C-suite positions at e-Bookers.com, QXL.com and WeeWorld, where he oversaw the creation and development of a virtual currency, used by its 30 million users.

Obi earned a BSc in Computer Science from University College London. He is a regular commentator on Blockchain technology, Bitcoin and cryptocurrency at industry events and within the the national and international press.

coinfloor

FABIO KUHN
VORTEXA

Fabio Kuhn is the Co-Founder and CEO of Vortexa, the leading artificial intelligence company focused on global energy markets. Prior to Vortexa, Mr Kuhn was the Head of BP's global front-office technology programme and innovation group.

Before joining BP, Mr Kuhn had various technology leadership roles at Uniper (formerly known as E.ON Energy Trading) in Dusseldorf, Germany. He was also a Quant Trader in a Statistical Arbitrage hedge fund based in San Francisco and worked at the NASA Ames Research Centre in Moffett Field, California. While in college, Mr Kuhn started a successful Internet access company, which he was fortunate to sell just before the dotcom crash.

Mr Kuhn has a Master of Liberal Arts in Extension Studies (Information Management Systems) from Harvard University, a graduate certificate in Quantitative Methods in Finance and Risk Management from Stanford University, an MBA in Finance and Strategy from Purdue University and a Bachelor in Business Administration from UNIFACS.

VORTEXA

MACK GILL
TORSTONE

Mack is COO & Board Director of Torstone Technology, a leading global provider of securities and derivatives post-trade processing technology. Previously Mack was CEO of MillenniumIT, a subsidiary of London Stock Exchange Group (LSEG). Earlier Mack was President of SunGard Technology Services & SunGard Consulting Services, where he scaled the business to over 5,000 employees.

Mack has been identified as one of the top trading technology leaders in the financial services industry by Institutional Investor magazine; was chosen as a member of the World Economic Forum's Young Global Leaders; and is a board member of the International Association for Quantitative Finance (IAQF).

TORSTONE
SIMPLIFYING POST-TRADE

LEE CAMPBELL
CUBELOGIC

Lee has over twenty years of experience in the architecture, development, sales and project management of software in risk management. Lee has a strong background in the finance and energy sectors and a proven track-record of technology innovation. Lee co-founded CubeLogic in 2009 and now leads a team of industry and technology experts using advanced BI technology to provide credit, risk, liquidity and regulatory compliance solutions to the financial, energy and commodities sectors. Since taking over as CEO in September 2016 CubeLogic has experienced a significant increase in new clients across different industry sectors, along with a doubling of both revenue and staff. Some of the world's biggest companies are now using CubeLogic software across North America, Europe and Asia.

CubeLogic

ADI BEN-ARI
APPLIED BLOCKCHAIN

Founder & CEO at Applied Blockchain, a team of blockchain smart contract application experts and developers based at Level39 in Canary Wharf, Adi is also known for his public speaking, discussing blockchain to corporates (board level), advisory and development of real world technical solutions.

He is also acting CTO and advisor to a number of early stage blockchain startups including: Cygnetise (blockchain signatory lists), APPII (blockchain certified education & work experience), Nuggets (consumer data privacy), BABB (blockchain based banking for the underbanked), Lexco (smart contracts for legal contracts).

appliedblockchain

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THE TOP 25 FINTECH INNOVATORS

MALCOLM MURPHY
INFOBLOX

CHARLIE HENDERSON
FEEDSTOCK

FeedStock's integrated software solves a complex regulatory challenge while making users more agile, efficient and competitive. Using state-of-the-art AI and machine learning techniques, FeedStock's system automatically tracks research consumption and manages inducements, as required by MiFID II. Since its inception, the company has evolved considerably and now provides information analytics with applications beyond compliance. The high-quality data generated is used by our clients to scrutinise process and understand expenditures, simultaneously streamlining workflow and driving cost efficiencies.

CHRIS BRANDON
STORAGEOS

CEO and Co-Founder of StorageOS. StorageOS transforms commodity server-based disk or cloud based storage into enterprise-class storage to run persistent workloads in containers. Purpose-built, StorageOS is simple, extensible, and suitable for a broad set of enterprise use cases. StorageOS is infrastructure and orchestration independent and fully integrates with Docker, Docker Swarm and Kubernetes. Learn more at www.storageos.com.

STEVE HARRISON
CENTURYLINK

MARK HICKIN
MARSHALL WACE

JAMES DOYLE
SIGHTCALL

IAN HOLMES
SERNOVA

Ian is the Chief Technology Officer of Sernova Financial, a firm providing a cloud-based service, specialising in post-trade clearing of OTC derivatives. Prior to joining the company, he was responsible for Calypso development and projects at BlueCrest Capital Management. His expertise lies within Trading Systems management, having more than 20 years of experience.

PETER SIMMONS
CLOUDATTRIBUTION

CloudAttribution Ltd provides equity, multi-asset and fixed income performance and attribution using an innovative web reporting approach. We focus on data quality and avoid complexity to ensure that the results are quick to interpret and act upon.

FEDERICO DE GIORGIS
VIDRIO FINANCIAL

ROBERT SAMS
CLEARMATICS

ROSS HERITAGE
ACURIS

THE TOP 25 FINTECH INNOVATORS

BERNARDO SANTIAGO
S4 MARKET DATA

Bernardo Santiago recently co-founded S4 Market Data. Having worked on market data teams for some of the largest investment firms in the United States, Bernardo brings over 15 years of expertise in the market data vendor management. The Miami-based consultancy, currently situated in the Brickell area, assists financial firms lacking in house market data expertise.

As the CEO of S4, Bernardo's goal is to service the market data management needs of small to medium sized firms. Many of these organizations lack the market data staff or resources that S4 can offer. Offering month-to-month services, Bernardo and his co-founder can appeal to companies that are weary of long term contracts but lack the expertise and experience S4 can offer. As a customer of S4, a client can receive assistance with reducing overhead costs and mitigating data compliance risk.

S4 MARKET DATA

MATTHEW SUMMERS
MERRILL CORPORATION

A product management and strategy specialist with a passion for problem solving and technology that improves lives. Over 10 years product experience in both start-ups and large multinational corporations.

MERRILL CORPORATION

NIKOLAOS WAKEM
TRADETEQ

tradeteq

RICHARD PRIME
SONOVATE

Richard has nearly two decades experience within the recruitment industry and in that time there isn't much he hasn't seen. Before setting up Sonovate, he was a Board Member of one of the largest recruitment companies in the world and was responsible for a number of brands across key territories. Building on his encounters with traditional finance providers, Richard has built Sonovate to cater exclusively for the contract market.

sonovate

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VERONICA AUGUSTSSON
CINNOBER

Veronica Augustsson is CEO of the Cinnober Group, the leading independent provider of solutions for demanding trading and clearing venues - including clients such as ASX, B3, Japan Exchange Group, LME and Euronext. Cinnober is now broadening its offering through the establishment of subsidiaries with technology offerings within reporting services, client clearing and market surveillance. Augustsson is a strong spokesperson for technical agility and quality. Her career at Cinnober began as a programmer and holds a master's degree in computer engineering from the Royal Institute of Technology (KTH), where she has previously been awarded Alumna of the Year.

Cinnober®

BEN BROWN
GOUSTO

KATHRYN HARRIS
LLOYDS

LLOYDS BANKING GROUP

MATT SMITH
STEEL EYE

Matt Smith is CEO of SteelEye, a fast-growing data analytics firm. After two decades as a manager, technologist and business partner, Matt is now focused on helping firms use technology and their data to gain a competitive edge and solve complex regulatory needs.

Matt has spent his career in technology management and, prior to his role at SteelEye, he was CIO for a global, $100bn trading company, where he was responsible for regulatory technology and the deployment of big data, trading and analytics platforms. He then spent time at a world-leading financial technology firm where he held a senior role in delivering financial regulation and compliance solutions.

SteelEye

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Following our flagship feature from the Q1 Edition, we wanted to recognise the incredible work happening across the pond in the US as well.

The 50 most influential fintech companies 2018

US Edition

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The 50 most influential FinTech Companies 2018 - US edition

Abacus Group	Acuris	Adaptive Financial Consulting	AQMetrics	BoardEx
Currency Cloud	Cyndyx	Dataminr	Duco	Eagle Investments
Gresham	Indata Services	Info Reach	Investment Metrics	Jump Trading
NetScout	NEX	Nirvana Solutions	Ocean Tomo	Payability
S4 Market Data	Spot Trading	SS&C	Starcompliance	Sunlight Financial

Clearstructure	Clearwater Analytics	CloudMargin	Coresite	CrossBorder Solutions
Envestnet	Eze castle	FastMatch	Fonetic	GreenKey
Lab49	LearnVest	MetricStream	Moody's	Nasdaq
Pico Trading	Quantconnect	Quincy Data	Real Time Risk Systems	RiskVal
TradingScreen	TrueEx	Volante	Xceptor	Xignite

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FINTECH FOCUS

HEAR FROM SOME OF INDIVIDUALS RECOGNISED FOR THEIR INNOVATION AND INFLUENCE AS WELL AS SOME OTHER LEADING NAMES FROM ACROSS THE INDUSTRY

1

ETIENNE AMIC
Founding Partner Of Commoditech Ventures (Ctv)

With a bit of focus and clever algorithms, we developed "robots" that were able to trade the portfolio automatically.

How did you go from energy trader to "commoditech" venture capitalist?
I have been trading commodities for over 20 years. When you talk to most commodity traders about technology, they think of the IT guy in the back room who fixes their computer or network. I had two experiences that really opened my eyes to the profound impact technology was having – is having – on the industry.

The first happened when I was running the European Energy trading desk at J.P. Morgan (from 2010 onwards); we had acquired a very small business initiative called Direct Market Access (DMA) from RBS Sempra. Through an electronic platform, J.P.Morgan would provide hedge fund (HF) clients the ability to access high voltage power grids and high pressure pipelines and allow them to trade physical gas and electricity on this infrastructure. We were acting as an electronic broker in this instance, not as a principal. The technology itself was not particularly sexy but using it to build a prime brokerage operation at scale in energy was a new idea. The clients loved it: within 2-3 years the business grew from no revenue to a very significant number for our global business. As we invested in this idea, the team of sales people who served the bank's HF clients had to be repurposed from selling transactions to offering a software solution empowering our clients. It struck me how some of the employees managed to make the transition easily and some simply could not.

The second technology disruption I was directly involved in came in 2015 when I was managing the London office at Mercuria. We had a team of around 10 short-term power traders selling the highly variable output of a portfolio of 4 GW of wind and solar assets in Germany. The traders would take "shifts" around the clock managing imbalances between the day-ahead hourly electricity price, which was the reference on which we bought the energy, and the intra-day power prices, which we received when we sold the energy by blocks of 15 minutes. We had all the risk in between. Our goal was to preserve our (small) margin by updating our weather models frequently and trading the revised output accordingly. It was a resource-intensive effort requiring speed – much more suited to algorithms than human labour. With a bit of focus and clever algorithms, we developed "robots" that were able to trade the portfolio automatically. Today, renewables management has become even more algorithmic than it was in 2015 and all sorts of assets are next in line for a full automation of their commercial dispatch. This is only the start of a very large movement, which will be accelerated by the Internet of Things (IoT).

These two experiences have really shaped my perception of how technology has suddenly moved front and centre to the commodity business itself. It's abundantly clear that clients want more market transparency, more control over the management of their assets and they want the corresponding software tools provided as a service. When this new reality struck me, I decided to leave my comfortable corporate existence and start two commodities technology companies: Enalgo and Vortexa.

Why did you start CommodiTech Ventures?
Like many good things, it wasn't by design. About a year or so into building Vortexa and Enalgo, we started witnessing an explosion of commodities-focused technology start-ups, from data analytics following oil fundamentals to aspiring metals marketplaces. We were also receiving inbound calls from the ambitious founders of some of these companies saying they weren't just looking for money—what they needed most was "strategic capital": investors who truly understand the commodities markets and can help open doors, forge partnerships and advise on the relevance of their technology offerings. With all due respect, your typical VC simply does not understand how the physical commodities markets operate, or even their relative sizes. We quickly realized that a unique opportunity existed to provide early stage capital to the burgeoning commoditech industry – "smart money" underpinned by market expertise and an extensive industry network.

It just made a lot of sense. As the great John Doerr said: "If you can't invent the future, the next best thing is to fund it."

How exactly do you define "commoditech" and how big is the opportunity?
In its simplest form, "Commoditech" is where technology – particularly sensors and algorithms – intersects with the commodity trading industry. At CTV we broadly classify the 'technology' into three main verticals:

1) Data and Analytics;
2) Trade Digitization, including digitization of trade finance; and
3) Platforms.

On the industry side, we consider the entire commodity complex to be in scope, from crude oil and refined products, to power, gas, freight, metals and concentrates, ores and agricultural commodities – even container shipping! Some initiatives can cross these dividing lines: for instance, there is a push to enrich commodity units with their production feedstock encoded as digital assets in a blockchain. The goal is to increase traceability and distinguish between the sustainable and the non-sustainable units in a trustworthy manner. Recording methane leakage and the amounts of chemicals used for fracking in the production of US natural gas is one such initiative; it allows to separate the cleanly produced gas from the rest of the pack – and to sell to utilities which are under shareholder pressure to only buy the former.

There is a common misperception in money circles, at least today, that commoditech may be too small to qualify as an investible asset in its own right. However, when you consider that the underlying commodity industry produces $5 trillion of goods, is global in nature and impacts essentially every aspect of our modern life, you start to appreciate the enormity of the opportunity. There is also a whole secondary industry serving commodity supply chains which is itself on its own path to disruption. Whilst CTV is still in its infancy, we already have over 100 promising start-ups on our radar and we come across new companies every day. We are confident we could invest safely $150 to $200 million today and that number will be closer to $1 billion in 2-3 years, just extrapolating from the growth of companies raising funds. Commoditech is just becoming accepted as a concept describing a rapidly emerging industry but there is very little doubt in our minds that it will become mainstream relatively quickly – much like fintech or healthtech.

Q:What challenges does the industry face?
The greatest obstacle facing the industry today is cultural. Ours is a conservative industry, reticent to change and wary of doing things differently. It is somewhat understandable when you think about how much more efficient and competitive the industry has become over the past two decades – why change when things are working? But in today's world of Amazon, Uber and AirBnB, tradition counts for very little. A large gap has opened between our experience as consumers and as commodity traders; we see entire swathes of the industry open to full-scale disruption. There is also a generational shift underway: the younger generation does not like making bids and offers via phone, recording trade details on a piece of paper or analysing supply and demand in Excel based on outdated information; they understand that building a service company can be

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as fulfilling and lucrative as being a trader. Excited by the opportunity, or frustrated by the status quo, they often end up being the founders of the start-ups themselves.

On the other hand, it's interesting to see how the commodities industry could learn from financial services—specifically, that of the large banks finally embracing fintech start-ups and seeking to collaborate, as opposed to compete, with these younger, more nimble companies. It's already pretty clear that technology is going to turn the commodities industry upside down, so it behoves incumbents to start thinking differently, all the more so because they are much less protected by regulation than the banks are. As Andy Grove famously wrote: "Only the paranoid survive".

Q: How does CTV help overcome these issues?

We do this in three primary ways. Firstly, we provide early stage capital to companies where conventional sources of VC may not be available, perhaps because your average Silicon Valley VC views the physical commodities sector as a black box. Breaking into the world of physical commodity trading can be daunting for a tech founder—we want them to view us as long-term, independent strategic partners.

Secondly, we keep our industry partners informed of the latest digital trends and emerging technologies impacting their business and shaping the industry. Technology is not the enemy, complacency is. CTV's team, its investors and advisors, have built up relationships for many years. One of our objectives is to help shape and influence the industry's mindset towards technology. We are not outsiders seeking to "disrupt" or "revolutionize" the industry—quite the contrary in fact. Our goal is to effect positive (and necessary) change.

Thirdly, we foster collaboration between commoditech start-ups and established industry players through formal strategic partnerships, beta testing trials, or informal introductions.

How do you differentiate yourself from competitors?

To be honest, a lot of people tell us CTV is the first of its kind. That said, we consider ourselves unique in the following respects:

First, we are not generalist venture capitalists. We are commodities experts first with diverse functional backgrounds—trading, sales, technology, operations and investments. We have better visibility into what products and technologies will gain traction in the industry. We can also check their progress easily from the clients' perspective.

Second, we take a very hands-on role in what we do. We do not adopt a "spray and pray" approach, nor are we passive financial investors. Providing capital is just the first step. Given our own experience, not only in the industry but also in successfully building our own start-ups, we work closely with founders on everything from defining strategy to developing sales pipelines to choosing the right industry experts.

Third, we put our money where our mouth is. A large proportion of our LPs are former colleagues. They have invested in CTV because they trust us personally and because we have put a significant amount of our own wealth in CTV. The first question we ask when evaluating an investment is, "would I put my own money into this company at that valuation?"

Where do you see the most exciting investment opportunities?

At this point, we see the most activity coming from the "Data & Analytics" space given the proliferation of new technologies from satellite imagery to machine learning to AI, which are now finding their application points across commodity supply chains. Companies involved in those chains are also collecting more data themselves and the new phenomenon is that they are now open to selling them; that fuels an arms race to collect all these new streams on the cloud with the view of processing them as fast as possible. That said, this is arguably the most competitive segment from both an investor and a business perspective as the barriers to entry are lowest. The "Trade Digitization" segment is definitely the most mature of the three verticals, but we are seeing quite a number of start-ups emerging in the cloud-based ETRM/CTRM space: they offer attractive alternatives to historical solutions, which have been expensive and notoriously difficult to configure. In the "Platform" space, a number of exciting candidates across metals, gas & power and oil & refined products have appeared; here the focus is on estimating the pace of widespread market adoption as this is by far the largest determinant of value for these companies.

FINTECH FOCUS

2

KEVIN LUPOWITZ
Chief Technology Officer, trueEX

What can you tell us about your business?

trueEX is a global, electronic, CFTC-regulated exchange for interest rate swaps. It was the first exchange approved by the CFTC as a Designated Contract Market (DCM) for swaps. Its SEF provides request-for-quote (RFQ) trading protocols and a proprietary portfolio terminations and compactions (PTC) system for the efficient trade management of existing positions through direct connectivity to multiple clearing houses.

trueEX is currently the only SEF executing bilateral swaps and the only SEF able to generate new risk among Mexican Peso and Brazilian Real interest rate swaps. With access to 28 currencies, trueEX clients around the world can electronically execute and instantly process cleared and non-cleared swaps more efficiently than ever.

trueEX's unique direct-to-clearing-house connection with CME and LCH ensures precise trade recognition, accurate netting, and clearing certainty; and its direct API connection to the CCPs allows buy-side clients and FCMs to allocate directly with the clearing house. Allocations can also be executed in bulk instead of one at a time with instant clearing status for reconciliation.

trueEX has been recognized as one of the industry's most innovative companies over the last few years, earning industry awards and accolades that include the Risk Awards, GlobalCapital Derivatives Awards and Markets Choice Awards. trueEX has also been featured on the Forbes Fintech 50 and Institutional Investor Tech 40 rankings of the most innovative fintech companies. The Company is headquartered in New York, with offices in London and Singapore.

What has been your journey to current position?

I have spent much of my career in financial services where I have been lucky to work at some great visionary firms who have pushed the envelope on market structure and innovation.

I began my career as a software developer for Merrin Financial, one of the first electronic order management system vendors for large buyside firms in the equity and money market space. Here I learned about disrupting current trading and market norms, and how to change the status quo on how things are done. At the time, paper tickets were how everything was recorded, and getting people to use an electronic order management and account allocation system was the future.

From there I joined Heine Securities Corp, the investment adviser to Mutual Series Fund, where I helped automate many manual functions, built automated FX hedge reports against open positions, and ultimately helped integrate the order management systems with those of Franklin Templeton post acquisition. I spent the next few years working in the message-oriented middleware space at the time when the SWIFT protocol was the gold standard and FIX was in its early days.

In 2000, I joined Liquidnet as a founding member and as the head of application development. In just over a year, we built the first buyside-to-buyside anonymous block negotiation and crossing system. I soon moved into the CIO and Global Head of Technology role, as we expanded to 40 markets globally. During this time, we introduced algorithmic and pre/post trade analysis, and effectively changed the market

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structure for institutional equity trading.

In 2011, I joined Fxall as CIO, intrigued to see if what could be accomplished in the equity space could also be done in FX. In under a year, we introduced Agile, which helped stabilized operations, reduced costs significantly, and provided a predictable and efficient software delivery cycle.

I joined trueEX in November 2017, excited again for the possibilities to help innovate and provide great solutions to a global marketplace that is undergoing amazing transformation and growth.

What interested you in this space?
There are still a lot of manual process in the rates and fixed income space. While there are some very good solutions available, there are still a variety of ways in which technology can alleviate the barriers traders are facing. As we look at the innovation that has been adopted across other asset classes such as equities, it's easy to see the opportunities that exist in this space.

Where do you see the opportunity for you in the UK and European market?
As we grow our footprint in the UK and European markets, we are not only exposing these markets to more high-touch automated solutions using our platform, but we are opening opportunities to many emerging market currencies and customized products that have not otherwise been serviced by electronic trading solutions.

The European markets particularly have been inundated with regulatory mandates in the last 12 months, which means that there is great opportunity to provide premium fintech services in those markets to enhance efficiency and drive down costs.

What are some of the major challenges facing the industry that your company overcomes?
trueEX supports the desire of the industry to move to a more automated model for sourcing best execution. We provide connectivity to counterparties that are just a click away that might not otherwise get a trade due to the limitations of the manual efforts involved. We support currencies and complex products that are otherwise beyond the reach of existing automated solutions. We provide all this with data validation, credit checks, automated STP, and direct integration with CCPs to assure successful execution and clearing of all trades.

How does your company differentiate itself from its competitors?
One of the best things about working with an organization that isn't based on legacy processes and infrastructure is that it allows for nimbleness. My desire is to continue to cultivate an organization that can learn about new opportunities and provide world-class solutions to the market in very little time. By incorporating best practices in Agile development and coupling that with an architecture that allows for rapid time to market, we can support the growth of our clients and rapidly respond to changes in the marketplace.

What makes your company an employer of choice?
trueEX is an innovative firm that has a deep passion for creating solutions that our clients love to use while making them more efficient. We have a culture and a work environment that is conducive to individual impact as well as team collaboration. We celebrate successes, and make sure that every misstep is an opportunity for learning. We are a team of driven professionals who love what we do, and the company for which we work.

What areas of financial services do you see as most ripe for disruption by technology?
I think that any task that is currently a manual process is ripe for technology innovation. This covers trade execution, position management (compaction and terminations), market intelligence, and trade analytics.

What do you think the financial services sector will look like in five years' time?
I believe that with the increasing adoption of technology innovations, there is a race towards lower latency, and with that we'll see higher utilization of visualization tools to get important information quickly. I'd imagine there will be more trust in smart order routing technology to handle the vanilla trades so that experts can focus on the more differentiated execution work. I see traders and portfolio managers becoming more untethered from their desks and utilize mobile tools to perform most of their duties.

3

TONY ANTENUCCI
Vice President of Global Business Development for Banking, Financial Services and Insurance, Intelenet

What can you tell us about Intelenet?
Backed by The Blackstone Group, a leading Global Private Equity player, Intelenet Global Services has a portfolio of clients that includes multiple Fortune 500 companies. Intelenet® Global Services is a 55,000 people organization with 70+ global delivery centers across the Americas, UK, Europe, Middle East, Philippines and India. We are currently supporting 100+ clients in over 25+ languages, 24/7/365.

Intelenet® provides innovative, cutting-edge solutions supporting customers across Contact Center, Back-office, F&A, HRO, IT and security & compliance; for Banking and Financial Institutions, Healthcare, Travel and Hospitality, Telecom, Retail, Manufacturing, Logistics and Utilities & Energy verticals. Intelenet® Global Service's range of integrated BPM services deliver transformational benefits to clients through reduced costs, ongoing productivity improvements, and process re-engineering (Technology, Analytics and Process consulting – TAP).

Intelenet Global Services won an award, in 2017 by BBC knowledge, for its top notch operational excellence and quality. The Times Group has named Intelenet amongst the Top 8 Dream Companies to work for.

What are some of the major challenges facing the industry with regards to fraud that Intelenet overcomes?
As you can imagine, Fraud is one of our main concentrations. Intelenet also has a bouquet of tools that have been indigenously been developed to cater to specific needs to ease the customer/colleague journeys and streamline various task. This is true with regards to fraud as well. The examples below represent activity for one of the

> The Times Group has named Intelenet amongst the Top eight Dream Companies to work for.

largest global banks.

Influx: A portal to manage documentation digitally. The tool helps track on-time feedbacks, agent review sessions and other one-one activities.

RSA fraud Intelligence: A system that is designed to deliver robotics by mining for high risk accounts from RSA to help reduce fraud losses proactively

Fraud Assist: Created to help reduce fraud losses by providing insight via detection of patterns, spot trends and correlation in visual context.

Fraud Savings of $8.93mn in 2016 via both Fraud Assist and RSA Fraud Intelligence tools alone.

Fraud Intelligence QoD : Fraud Quality of Decision is a Web based Robotics application that integrates with customer

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> level transaction information to immediately help identify Fraud accounts.

Fraud Portal: A web based knowledge repository that provides users instant access to identified Fraud scams and keeps them abreast of new/existing Fraud trends

Fusion 360: Robotics Process Automation solution that integrates data from multiple sources and presents all that information to the agent on a unified screen.

Redux: A tool created to capture granular level and attribute wise data. The tool captures micro level data like attributes, top errors, call center agent scores, team leader level performance on quality, etc. It gives us a dashboard view of performance metrics related to quality and ensures adherence to the required transaction monitoring procedures. It also helps to target specific areas that are low scoring to act upon, which improves the overall behavior metric.

Servicing Edge: A Robotics platform that extracts data from multiple applications and screens in the banking CRM, based on set business rules determined by the financial institution. Risk Mitigation Benefits:

Deployment of Influx across Card Operations creating a paperless environment, getting rid of the process of any risk arising because of a paper based environment.

Redux tool used to monitor calls which captures micro level data like attributes, top errors. agent scores, team leader level performance on quality, etc. It gives us a dashboard view of performance metrics related to quality and ensures adherence to the required transaction monitoring procedures

> "Our rigorous execution focus drives high quality operational delivery at "Best In Class" cost efficiency."

Routine creation of a dedicated Internal Risk and Compliance team which acts as a first line of Defense. The team clears desk audits, records management checks, hygiene checks, File audits, etc. They also support various audits performed by other Internal/External teams. They conduct independent reviews on Billing/ contracts/incentives etc. to ensure that the process is compliant and audit ready at all times.

How does Intelenet differentiate itself from its competitors?

There are four key differentiators that separate IGS from its competitors and they are:

Flexibility and Responsiveness: Driven by a non-bureaucratic culture, our clients have easy access at all times to senior management, right up to our CEO.

Investment in TAP (technology, analytics and process consulting): – Our TAP capabilities are used to drive favourable business outcomes for our clients; usually in growth, profitability, customer experience/loyalty, compliance and risk controls.

Rigorous Execution Focus: Our rigorous execution focus drives high quality operational delivery at "Best In Class" cost efficiency.

Long Term Value Creation: IGS is not bound by quarterly earning pressures. We are willing to cannibalize our short term revenues, for long term relationship and joint value creation with our clients.

Where do you see the future of the market heading?

AI, Robotics, Data (big and small) Analytics and Technology will lead the way. And disruption will continue.

For instance, AI has been evolving at an ever quickening pace over the last few years, much the same way as computing speeds have increased exponentially over time. You can see the results all around you, starting with your smart phone. We started by accessing it via password, then fingerprint and now facial recognition software.

Machine learning is evolving at an even quicker pace and financial institutions are one of the first adaptors. Why, because they routinely work with vast amounts of data and numbers on a daily basis. Why have the number crunching process done "manually" when a machine can do it faster, with significantly fewer errors and less "human" intervention.

• As an example: It wasn't long before statisticians at Wall Street got in the game and realized that applying machine learning programs (AI models) to investment trading applications, they could effectively crunch millions upon millions of data points, in real time, and capture information that current statistical models couldn't. That information correlated to subtle changes in the market's dollar track and what stock should be gone after today.

• The newer 'Deep Learning" tools currently being developed and coming on-line now, are tools that take the AI information trends even further, into the statistically predictive range on the outcome of any given stocks ability to perform on any given day.

In the example given above, I believe we will ultimately see a "stock trader" who is a hybrid trader...more tech savvy than stock savvy.

This is not to say that all banking interactions of the future will be handled by bots. There will always be the need for a human contact. However, I believe that the human contacts will be used to answer the more complex or complicated questions arising from the financial institutions customers. For instance, Citi Bank has recently heavily invested in upgrading its contact center environment to accommodate those anticipated needs, in conjunction with embracing advanced technology platforms.

Where do you see the opportunity for you in the UK and European market?

Short answer: IGS is already considered an innovator and market leader, by those who know us, in the UK/European marketplace. We continue to grow essentially by word of mouth, as more organizations become aware of our unique solutions, tools and process innovation.

What areas of financial services do you see as most ripe for disruption by technology?

Currently, the largest segment of disruption is in the Mortgage process space. I can see those same drivers being extended across all areas of a bank/financial institution that rely on repetitive procedures to accomplish a task. Such as credit card services, loan application, claims processing, fraud identification, insurance services, etc.

What do you think the financial services sector will look like in five years' time?

• Disruption/evolution will continue to increase at an ever quickening pace. Driven not only by technology, but by generational demographics as well.

• As more millennials come into their money making years, bringing along their "technology savvy ways", financial institutions will need to keep up.

• As mentioned above, there will always be a need for a human in the chain, at least for now, to cater to the needs of the "older generations" and to answer the more complex questions.

• Increasing move to multi-skilled/cross skilled agents who can deal with multiple products and areas. The reason for this is two-fold. Firstly, a move towards more of the simple transactional activity done online (e.g. password reset via two factor authentication of mobile/email) as well as improvements in systems to route to the right person based on product profile and propensity of customer to call on certain topics.

• Branch re-design – smaller footprints, more automated in store capability. Branches often renamed digital service centres. A number of banks now in UK and Australia have the ability for you to conduct video conference links with mortgages and investment advisors so that even for face to face complex activities it can be done virtually face to face. Also branch closures too. Cash is also being replaced by apps and this used to be a major driver for people to go to an ATM and a branch with ATMs. No longer ...this is a rapid change currently happening in the UK, Nordics, Netherlands and Australia.

• In my opinion, those institutions who do not have a plan to incorporate AI/robotics/ automation at their core are doomed to fail.

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MACK GILL
COO – Torstone Technology

What can you tell us about your business?
Torstone Technology is a fast-growing global provider of cross-asset securities and derivatives post-trade processing technology. Our modern, cloud-based Inferno platform provides middle- and back-office processing for seventeen sell-side firms around the world. Originally built by KBC Bank to support its own global trading business, Inferno became an independent company in 2012, and Torstone was created. Today, we are offering financial firms a new modern technology option as they look to digitize their post-trade operations.

What interested you in this space?
In financial markets technology, most of the attention historically has focused on the front office. Banks and brokers have overlooked and under-invested in post-trade operations for decades. The majority of post-trade workflow in global markets is running on legacy technology, with ossified systems that are often 30+ years old, which makes them challenging and expensive to operate and upgrade. But this is changing fast. We're reaching a tipping point in the industry, where sell-side institutions need to modernize and digitize their middle- and back-office to prepare them for future competition, regulation and changes in market infrastructure.

What lessons did you learn in your previous role?
Prior to Torstone I spent four years running MillenniumIT, the software arm of the London Stock Exchange Group. Working with exchanges, CCPs and CSDs around the world, I saw that the market infrastructure for post-trade was moving away from traditional batch processing towards new real-time platforms, bringing the ability for venues to manage intra-day cross-asset risk with real-time risk margin and collateral management. On top of that, seeing widespread investment in new DLT projects by exchange groups made it clear that global market infrastructure was entering a new phase of innovation. All this innovation means sell-side market participants need to invest in technology platforms that are flexible enough to adapt and support accelerating market evolution as well as potential disruptive change. It was clear to me that in the next five years, we'll see enormous opportunities for new post-trade technology in the sell-side industry.

What are some of the major challenges facing the industry that your company overcomes?
Today's modern software tools and infrastructure are a true upgrade over what most banks and brokers experience when managing their legacy environments. It's like driving a Tesla versus a 1995 Ford Fiesta. Torstone's Inferno platform is Cloud-hosted on AWS, with the ability to scale as needed with best-in-class security. By supporting and automating a firm's entire middle- and back-office operations across all asset classes, Inferno provides firm-wide data management capability, which is so critical in today's markets. Inferno is developed and supported by an agile DevOps team, with continuous monthly release cycles and real-time updates, so business isn't held back by the software... with Inferno "change the bank" is the same as "run the bank," given its flexibility and openness. With full open APIs, a micro-services architecture, and support for true real-time STP, Inferno simplifies and future-proofs the complexities of post-trade operations.

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DAVID J CSIKI
President, INDATA

What can you tell us about your business?
Our company, INDATA, is a leading provider of AI-based software, technology and services for buy-side firms. Our software offerings include portfolio modelling, order management (OMS), compliance, portfolio accounting and front-to back office solutions. Regarding technology, our software is delivered via our iPM Epic, the industry's first investment technology platform specifically designed for the era of big data and iPM Cloud, which is our private cloud solution. We also offer a full range of outsourcing services to clients.

What has been your journey to current position?
I started with another financial technology vendor on the buy-side straight out of graduate school with a focus on marketing. When I came across INDATA, I was impressed by the firm's software products and technology approach and thought I could make a significant contribution to the company.

What interested you in this space?
I received a Master's degree in Public and International Affairs and became interested in finance during graduate school. A visit to the NYSE trading floor during this time really solidified my desire to become a part of the financial technology industry due to the exciting, fast-paced and global nature of financial services.

How have you settled into the business?
It has been very rewarding for me to watch the growth of our business over the years and the fact that technology is always changing, which keeps things interesting. In our space, innovation and risk taking go hand-in-hand and when this is combined with hard work and perseverance, great new products and services can be created and individual contributions can make a big difference, which is very gratifying to our employees.

What lessons did you learn in your previous role?
How marketing and sales go hand-in-hand. Great products need great salespeople to sell them.

Where do you see the opportunity for you in the UK and European market?
There are significant opportunities in the UK and European markets currently, and both of these markets are very receptive to new technologies. For example, we have seen significant growth of our cloud and big data technology solutions and many of our clients in the region have been early adopters and have benefitted from them. We expect the same for AI and machine learning, having just launched our iPM Portfolio Architect AI™ solution. The emergence of AI is the most exciting technological development within our industry at present and it is also the biggest opportunity.

What are some of the major challenges facing the industry that your company overcomes?
A major challenge facing the industry is the process of gathering and centralising the data itself in order to deliver meaningful ROI on technology projects. Specifically, the efforts required to gather data from disparate sources and produce meaningful and actionable business intelligence quickly and accurately. Big data technology is a great help in aggregating data from multiple systems – trading systems, accounting systems, market data providers and so on. It is also be a great help in ensuring that all

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> the data ends up in a useable format for dashboard visualizations and BI (Business Intelligence) reports. We work in partnership with our clients to do this and focus on the tech and the data science behind it so our clients do not have to. The end result is an accurate and useable enterprise data set, which is the foundation for any successful project.

How does your company differentiate itself from its competitors?
We are innovators and are typically first to market with new technologies when we feel that they will provide meaningful benefit. Our cloud, big data and AI products are all examples of this. INDATA clients are benefitting from these technologies first, whilst our competitors are typically not able to move as quickly.

Where do you see the future of the market heading?
AI and machine learning will exist side by side with the key people within an investment management firm, whether they are front, middle or back office. Individuals will be able to improve their own productivity so that they can focus on the things that they do best whether it involves investment decision-making, compliance, trading, operations, marketing or client servicing.

What do you feel are the biggest obstacles facing the industry?
There is a tendency for large providers in our space to stifle innovation or co-opt new technologies for themselves without providing meaningful benefit to the consumer/end user or customer as whole. There are numerous examples of this historically within the industry.

> A major challenge facing the industry is the process of gathering and centralising the data itself in order to deliver meaningful ROI on technology projects.

How do you plan to overcome those obstacles?
By continuing to innovate and by focusing on clients. At the end of the day, this is still very much a people business and clients appreciate that you are innovating, continuing to provide even greater value over time, and also providing personalised service that evolves with their business needs as well as industry and regulatory developments.

What makes your company an employer of choice?
INDATA offers the innovative environment of a technology start-up, but with the financial security of an established provider. We are also a meritocracy; individual contributions matter.

What are your plans for 2018 and beyond?
We are excited to have launched our Architect AI solution and we plan on continuing to roll it out to clients and also targeting different segments of our industry as well as other markets.

What areas of financial services do you see as most ripe for disruption by technology?
Now is definitely the time for innovators. Technology provides scale as well as competitive advantage for early adopters. AI has the potential to level the playing field so that middle-tier as well as smaller investment management firms can now have the same capabilities or better than their larger competitors.

What do you think the financial services sector will look like in five years' time?
In five to ten years, not only will financial services become even more personalised by technologies like AI, the software used by financial services firms will also be fully tailored to meet the needs of the individual end users in the organization. On-demand, on-command will be the new paradigm. Software will learn how you want to use it, rather than you learning how to use the software.

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DEBBIE GAMBLE
VP Digital products and platforms, Interac

What can you tell us about your business?
Interac Corp. is one of Canada's leading payments brands, operating an economical, world-class debit payments system with broad-based acceptance, reliability, security and efficiency. Our system is chosen an average of 16 million times daily to pay and exchange money. But we're more than a payment network – we're an innovator, delivering new solutions that help Canadians use their own money to pay, where and when they want, with traditional debit, electronic money transfer, online and mobile payment solutions.

As Vice-President of Digital Products and Platforms at Interac Corp., I lead the team responsible for the company's digital transactions solution offerings. Our goal is to solve payments pain points, while answering our business and consumers' need for speed, security, and control in their transactions. The best way to showcase our ideas is to collaborate within our own company, and externally with partners from innovation hubs like Communitech to financial institutions to tech giants like Google and Samsung. We're in a unique position of being the connector between banks, merchants, FinTechs and mobile devices, which is a really exciting and unique place to be right now.

What has been your journey to current position?
I've had the privilege of working with some of the world's largest payments and digital transaction companies over my 30-year career in the industry, as a banker, co-founding a start-up and spending time consulting. Early on, I gained valuable insight into what goes into rolling technology out internationally. I witnessed the development of ideas from a variety of perspectives – from innovators, technology providers, clients, businesses, and some of the largest banks in the world. This helped to shape my view on "the art of possible," how to morph big ideas into product realities and the importance of collaboration, which are now foundational elements of how I approach work.
I joined the Interac team in 2014, and can tell you we never sit still. We're always looking at ways to improve our products. This industry moves fast and you need a team that can keep up. For us that can mean working quickly to bring new e & m commerce products to market; or working to expand our Interac e-Transfer offering to meet the growing needs of Canadians. Canadians are champions of new technology and it's our job to bring them easy-to-use and secure products that help them pay with their own money, however, whenever and wherever they want.

What interested you in this space?
Payments is changing by the minute, I've had the privilege of growing up with the digital economy throughout my career – ranging from early iterations of cryptocurrency to the evolution of mobile commerce, electronic cash and contactless payments. I am particularly intrigued by the potential for AI and machine learning to disrupt, and as financial institutions put more focus on how technology can help them streamline the customer experience, the impact these advancements can have on everyday life.

How have you settled into the business?
I've settled very well, and that is thanks to my amazing, entrepreneurial team. Since I joined this team in 2016, we've launched new services like Interac e-Transfer enhancements Request Money >

and Autodeposit. We also launched the Interac Token Service Provider service, which enables Interac Debit on participating mobile wallets, and we're exploring applications in digital identity and authentication. Just last month, we onboarded our first merchant for Interac Debit in-app payments, and we're looking forward to providing access to our APIs through a bank sponsored model to the developer community.

What lessons did you learn in your previous role?
I have worked with some amazing people in my career and the one thing that continues to inspire me is the power of an aligned team. With a common purpose and passion a team can overcome huge challenges and achieve great things.

Also, in 2001, I co-founded Dexit with Renah Persofsky, an entrepreneur and incredibly savvy business women. She always used to say "you have to get a 'no' before you get to a 'yes.'" That message of strength and perseverance really resonated with me at the time and continues to motivate me today.

What are some of the major challenges facing the industry that your company overcomes?
When it comes to payments, Interac is focused on innovating to provide solutions for the challenges facing the industry. The API economy, for example, is enabling a whole bunch of new experiences – and that includes payments. Real-time 'push' payments have incredible potential to impact workflows, especially when amplified by the API economy. We're focused on

> "Interac is in a great position to bring folks with different backgrounds to the forefront of the conversation"

helping businesses improve straight-through processing and exploring new use-cases to optimize and tailor solutions to directly address the pain points felt within the business community.

Where do you see the future of the market heading?
The digitization of everything is transforming an entire world of applications, experiences and infrastructure – and that's having a fundamental impact on payments, both directly and indirectly. Looking ahead, this sparks two central areas of focus: real-time push payment technology and the digitization of the customer payment experience.

What do you feel are the biggest obstacles facing the industry?
One of the opportunities I see for our industry is diversity. The more we reflect the communities we serve, the better we'll be able to understand the real challenges they face. With a variety of backgrounds and perspectives around the table, we're better able to identify pain points and use-cases and innovate solutions that directly align to them.

How do you plan to overcome those obstacles?
Having learned a lot from both successes and failures, I try to make a point of bringing knowledge to the table as much as I can. Interac is in a great position to bring folks with different backgrounds to the forefront of the conversation – we have some incredible talent here and I'm very excited for what the future holds for our industry.

What makes your company an employer of choice?
Interac is a great place to work if you're scrappy, entrepreneurial, and accountable. We are a small, lean, smart team. Everyone punches way above their weight class which opens tremendous career opportunities. We strive to make sure our employees feel heard, valued and supported, which has helped foster a strong culture of collaboration.

The payments landscape is in flux, driven by rapid technology changes. Consumers and businesses alike are looking for new – and faster – ways to pay. This embrace of technology is embedded in our societal culture, and our payment networks need to reflect that. As Interac, we have a duty to ensure we're innovating to reflect these changes and I'm fortunate to work in an organization where this is a priority.

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JAMES McVEIGH
CEO and Founder, Cyndx

What can you tell us about your business?
Cyndx is a data-driven fintech platform focused on helping companies identify meaningful business opportunities. Our proprietary predictive analytics engine powers everything we do and leverages advanced identification technology to analyze structured and unstructured data in order to make it easier for the right investors and companies to find each other. This approach creates more precise, actionable results for our clients. Thus, we make the process of identifying growth opportunities simple, efficient and intelligent for companies, advisors and investors.

What has been your journey to current position?
My journey began with a 20+ year career as a leader in TMT investment banking for one of the major global financial institutions. My entry into investment banking started at Salomon Brothers and continued into senior management positions at DLJ, Credit Suisse, and BofA Merill Lynch. Having led the cable and Internet practices at these firms, I was constantly working with pioneering entrepreneurs in both the media and tech space. This experience helped me to identify and design systems and platforms that would allow investment bankers to better serve their clients by utilizing technology to help identify potential financial and strategic partners.

What interested you in this space?
I felt that the private "growth equity" segment of the capital markets was neglected by the large financial institutions. I strongly believed that the globalization of capital combined with companies' desire to stay private longer has resulted in an opportunity to create technology that will drive the future of investment banking. The larger financial institutions are not inclined to engage with companies looking to raise a Series A, B or C round, given small fees and the limited likelihood of success using traditional methods. Moreover, the traditional capital raising process followed by the larger financial institutions relies heavily on a relatively small number of established relationships instead of finding the best fit for the company. We recognized the ability to provide curated investor lists as means of disruption and democratization of the investment banking process, so we have developed our own platform using unstructured data and our proprietary predictive analytics engine.

How have you settled into the business?
When Cyndx was founded in 2013, we started with a small group of four individuals with strong backgrounds in financial services and technology. Since then, the company has expanded to provide its technology and services globally and now has 40+ employees with offices in New York City and Los Angeles. We plan to open offices in Europe and several other major US cities in 2018. We currently offer three revolutionary products—Cyndx Raiser, Cyndx Owner and Cyndx Finder—for entrepreneurs, companies, advisors and investors.

What lessons did you learn in your previous role?
The lessons we brought from our previous roles include:

- **Listen very carefully to your clients' needs**
- **Design products that are flexible and that can work across verticals, investor types and geographies**
- **Only offer what you know you can deliver**

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Where do you see the opportunity for you in the UK and European market?
The capital and M&A markets are increasingly global in nature, especially for high-growth technology businesses, so we knew that our products had to be designed with multiple capital markets in mind. While capital raising and M&A identification processes in the UK and Europe are not very different from those in the US, the platform design needed to incorporate regional nuances to be effective. Our algorithms are designed in such a way that our platform helps clients across the globe looking to raise capital or make strategic investments or acquisitions in sectors ranging from Media to Foodtech to Real Estate and in regions ranging from the US to Europe and beyond. Therefore, we see a huge opportunity the UK and European markets.

What are some of the major challenges facing the industry that your company overcomes?
Access to qualitative and relevant private company and investor data is the biggest challenge faced by the industry today. Most investors do not have access to information about private companies that they need to make appropriate investment decisions. Most companies also face challenges identifying and curating all of the information related to potential investors. Data available today via third-party data providers maybe helpful in terms of quantitative information, but we strongly believe that qualitative data drives better decision making. That is why we have a dedicated team of data scientists who have developed cutting edge natural-language processing (NLP) and machine learning (ML) algorithms to facilitate the extraction and recommendation of qualitative data to our clients.

Although the core value proposition of the company is driven by actionable intelligence provided by corporate and investor data, we are also very focused on transparency, ease of use and security for our customers. We have designed platforms that are intuitive and easy to use, while also very secure. We believe this results in the best experience for our clients when it comes to either raising capital or conducting strategic transactions via our platforms. We have invested heavily in product design and built innovative product features to better supplement our clients' capital raising or M&A efforts. For example, the Cyndx Raiser platform provides a highly integrated end-to-end solution combining investor identification, CRM tools to manage investor engagement and a data room to share diligence documents with prospective investors. There is currently no other platform in the market today that combines these three core aspects as effectively as ours.

Where do you see the future of the market heading?
Technology is driving decision making in the financial services sector, and we believe that the trend will only accelerate as more banks and institutions invest heavily in this space. We believe that ultimately, this technology will provide greater transparency and control over the process for the companies seeking capital. This will allow companies to have more direct interactions with prospective investors, resulting in better matching of investors with companies.

We also believe that the introduction of automation in the investment banking sector using AI and NLP software will drive down operating costs thereby allowing the intermediaries to significantly increase their ROI. The use of technology will increase the global transfer of private capital, which we expect to result in more liquidity and higher valuations for companies.

What do you feel are the biggest obstacles facing the industry?
The biggest obstacles facing the industry are data availability and accuracy and the inconsistent reporting requirements for private companies across the globe. Once there is more consistent and more robust financial disclosure, it will allow for better financial tools that will allow investors to make better decisions. This is why Cyndx invests so much sourcing data and curating the data we use compared to the incumbents in our space. Another big challenge is delivering solutions that increase ROI and productivity within areas of financial services that haven't adopted technology like others.

How do you plan to overcome those obstacles?
Instead of the traditional approach to offered by data aggregators, in which customers rely heavily on structured supervised databases to search for results, Cyndx uses a new way of capturing and synthesizing data. Our unsupervised unstructured approach feeds our algorithms with much richer and more accurate data sets. We are eliminating the human bias in defining how companies are categorized, and consequently, we return a much more precise and relevant result. This provides our customers with access to better data to facilitate their investment analysis and can result in better decisions in less time.

> **The biggest obstacles facing the industry are data availability and accuracy and the inconsistent reporting requirements for private companies across the globe. Once there is more consistent and more robust financial disclosure, it will allow for better financial tools that will allow investors to make better decisions.**

What makes your company an employer of choice?
Our company welcomes people from diverse backgrounds and interests. All of our employees are excited about the company's mission to disrupt the traditional capital raising process and provide more power, insights and transparency to our clients. All of our employees are fully aligned when it comes to achieving the company's goals. However, it is equally important for us to help our employees achieve their personal development goals as well; we strongly believe that personal growth reflects positively on their professional contributions. We empower our employees with the necessary resources and flexibility to create new and innovative solutions to best serve our clients.

What are your plans for 2018 and beyond?
We have grown organically over the last 4 years and we plan to continue invest heavily in marketing and R&D on our product offerings in 2018. We also plan to significantly grow our sales and customer support teams both in the US and in Europe during the later part of this year. We are also negotiating a number of distribution partnerships to accelerate our growth throughout the rest of the world.

What areas of financial services do you see as most ripe for disruption by technology?
We believe traditional relationship-driven investment banking is ripe for disruption. Interestingly, most of the disruption from technology in the financial services space has been focused on trading, lending and wealth management. However, the investment banking processes have remained relatively the same, and investment banks have been notoriously slow at adopting new technology. This is ironic because most banker pitch to their clients the need to invest in transformative technologies as a pillar strategy. Traditional investment banking largely depends on legacy processes for identifying growth opportunities and/or prospective investors for their clients. Our platform has the potential to enhance the advice that traditional bankers bring to their clients by dramatically expanding the potential opportunity sets from which they can choose to bring to their clients.

What do you think the financial services sector will look like in five years' time?
With the potential widespread implementation of newer technologies like ours or smart contracts (using distributed ledger technologies) across different verticals within the financial services sector, clients will become much smarter and more discerning. Smaller companies will get greater access to capital and become more attractive to potential acquirers. Cross-border transactions will become faster and cheaper to execute. There will also likely be more automation in the private capital markets sector as investments in AI grow.

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MATT SMITH
CEO, SteelEye

What can you tell us about your business?
SteelEye is a London-based company, founded in 2017, specialising in aggregating, transforming and analysing data (both structured and unstructured) for regulatory compliance and business insight. We are also the only technology provider that provides record keeping, transaction reporting, best execution, event reconstruction & surveillance in one comprehensive solution.

Describe your journey to current position
I spent almost two decades in technology management, recently as the CIO for a global, $100bn trading company where I was responsible for regulatory technology and the deployment of big data, trading and analytics platforms. More recently, I spent time at a major financial technology firm delivering regulatory compliance solutions.

What interested you in this space?
I became acutely aware of unmet needs, especially among small and mid-sized financial firms, as radical change started to sweep through the regulatory system globally and I had the opportunity to re-connect with former colleagues to devised a solution which leveraged a distinctive approach to data.

The tide of regulatory change sweeping across all financial centres will undoubtedly lead in time to improved transparency and to fairer, more efficient markets. But meanwhile, in order to comply with onerous new obligations, the burden of consolidating and reporting vast amounts of data represents a complex and expensive challenge for the firms affected, especially those SMEs on the buy-side who previously relied on their banks and brokers to keep records.

How have you settled into the business?
I was ready for an entrepreneurial challenge and settled in quickly and well. We have a great team of diverse skills and backgrounds at SteelEye, united by a shared passion for data. Our fast growth trajectory has been challenging and we already have a staff of 21, with six more in Bangalore and plenty more expansion planned.

What lessons did you learn in your previous role?
The main learning I brought with me was to be customer-centric, and to focus on devising answers to your clients' challenges. In a smaller firm, it's easier to be flexible and agile in trying new ways to deal with their problems. As a team, we constantly challenge what we're doing and keep trying to improve what we do and how we do it.

Where do you see the opportunity for you in the UK and European market?
The UK, and London specifically, is a hub of innovation in the fintech space, with a fabulous supply of talent and capital available, as well as a slew of users eager to test innovative products. The need for improved data solutions, especially in the regtech space, are shared right across Europe, so we are seeing strong interest all over Europe, as MiFID II and other regulations are gradually rolled out across the Continent.

Furthermore we see Europe as setting the gold standard for financial markets regulation. In time we will be well positioned to help firms globally as their domestic regulators introduce similar regimes.

What are some of the major challenges facing the industry that your company overcomes?
Bringing together vast quantities of data from disparate systems in order to comply with complex new record-keeping and reporting requirements is challenging for organisations of every size but especially so for smaller firms, which rarely have the resources to build new technology solutions in-house. At SteelEye, we developed a software platform which enables clients to meet several key regulatory goals from one system, using innovative technology which is cloud-based, scalable and affordable even for small firms. This will enable them to harness valuable commercial and operation insight from the regulatory data.

How does your company differentiate itself from its competitors?
A key differentiator is SteelEye's ability to consolidate structured data (such as trades and orders) with unstructured data, such as communications (phone calls, emails and messaging records), and to combine that with a client's CRM and market reference data too. We also enable clients to store their data in a geography of their choice – many European firms don't like exporting their data to other geolocations. In addition, we have open APIs, allowing clients to view and analyse their consolidated data for all manner of incremental business insight, as well as enabling them to build tools and applications on their data.

Where do you see the future of the market heading?
In our space, data – and smart analysis of it - is at the heart of the re-imagining of the whole financial sector which is still in its infancy. It's so exciting! Within regtech, I expect a big shift from static to dynamic surveillance as regulators work to detect and deter market abuse across more and more asset classes. We are building sophisticated tools, applying artificial intelligence and deep-learning techniques, to help our clients perform behavioural and transactional surveillance. The industry, having been hit by billions in fines and reputational damage, is keen to apply technology smartly to reduce the cost and complexity of regulatory compliance and to promptly detect bad behaviour.

What do you feel are the biggest obstacles facing the industry?
Despite regulatory pressure and the expensive fines levied on the industry, inertia is still an inhibitor of rapid change, with many institutions prone to tinkering with the deckchairs when a more radical response might be preferable. Big organisations can be slow to change and incumbent suppliers of advice and technology help to defend the status quo. The old maxim about "No-one was ever fired for buying IBM" still often applies, with no disrespect to Big Blue! Uneven enforcement of rules also sends mixed messages: long-lasting MiFID II exemptions were granted at the eleventh hour to Europe's biggest futures exchanges and 18 EU countries have yet to promulgate the MiFID II Directive into national law.

Also, uncertainty about post-Brexit policy and regulatory technical standards leaves the industry in limbo resulting in investment decisions, commitments to new technology and product developments being delayed.

What makes your company an employer of choice?
Team SteelEye thrives on diversity and is strengthened by it. We want our people to grow and encourage them to develop their own ideas and skills. While we work hard, we are committed to a sensible work-life balance and I hope we have a fun culture in the firm. These days, it takes more than share options to attract, motivate and retain top talent!

What are your plans for 2018 and beyond?
SteelEye is still a very young business and a new fund-raise will see us scale up across the board, help us to serve more customers across Europe, to develop our products further, as I mentioned above, and to expand our footprint geographically when the time is right.

What areas of financial services do you see as most ripe for disruption by technology?
The whole landscape of the financial services industry is changing at a fast pace, with regulation as the driver and technology as facilitator. Data is at the heart of this project but I would say that, wouldn't I! I think that, as in most industries, financial services firms now realise that data flows like a lifeblood throughout their organisations and will start looking for new and better ways to amalgamate data and gain insight for operational efficiency and improved customer service. At SteelEye, our mission is not just to facilitate smart regulatory compliance but to help our clients make their data work harder for them – hence our motto: "Don't just comply, compete".

What do you think the financial services sector will look like in five years' time?
Different! A cohort of firms of every size and in every niche will likely transform themselves more rapidly than the crowd, become much more competitive and innovative and move ahead strongly. Some of these are likely to be from outside the industry, perhaps including some household names from the tech world. But strong incumbents with forward-looking management will still be around and making a good living.

STARR INSIGHTS

Established company or start-up? Where should you look for your next sales role?

By Antonio Ciarleglio

When searching for a new sales role, one of the biggest questions many will face is whether you should consider a new role with an established company or start-up? No doubt you will probably be aware of some of the basic differences between both; large traditional companies have fixed office hours, whereas start-ups tend to be flexible, large companies offer benefits; medical, dental, pension, etc. Start-ups offer free lunch, in some cases free travel, working from home, free concierge services, office pets and games during downtimes; table tennis, table football, darts, etc.

When considering the above, what is not often talked about or taken into serious consideration is whether a corporate role is better that a start-up job for your career in the longer term. A start-up may offer flexible hours and the option of working from home at the beginning, will it however, give you the prospect of moving into a senior management position in the future, participate in the decision-making process for future growth of the business, or benefit from stock options? On the other hand, a role in a large organisation may be the perfect place to receive structured training, but will it offer you the environment and creative thinking skills you need to potentially start-up your own business in a few years?

Having worked in large organisations and several start-ups, I have been exposed to the advantages and disadvantages of both. If you are undecided about which option to take, take a few minutes to consider the following questions to help you make maximise your talent and career potential, both in the short term and in the future.

Your Dream Job. What is it? Are You Still Deciding?

When I worked at a start-up, I had to wear many hats and cover a lot of roles. I managed a sales team, created training manuals, designed corporate and product brochures, answered the phone, interviewed potential employees, cold called, pitched to prospects and closed deals. And that was only at the beginning! We had a small team of twenty people and we were all expected to roll up our sleeves and pitch in wherever needed. At the time it was a great challenge, and enjoyable, as I was not certain what I was looking for in a long term career.

When I moved, I moved to a large corporate organisation. I was more confident in my capabilities and what I really enjoyed doing, I was able to focus on my role and without having to wear several hats!

Overall, in larger organisations, positions will tend to have narrower roles. If you are a sales manager, you will be responsible for managing a sales team and driving revenues, if you are a sales specialist, you will be responsible for selling and increasing revenues. If you know the role you want or the direction you want your career to develop, a large corporate environment will help you grow and develop those skills, without the distractions of wearing too many hats and having other responsibilities which will distract you from your core role.

Alternatively, a sales specialist role with a start-up can help you further develop your entrepreneurial skills, gain insight into multiple positions and how to manage a business, and work in a flat management structure alongside the Founders and CEO. You may also decide that a start-up is exactly what you are looking for in your career, a dynamic job in a highly energetic environment, with a many different responsibilities.

> **"When I worked at a start-up, I had to wear many hats and cover a lot of roles. I managed a sales team, created training manuals, designed corporate and product brochures, answered the phone, interviewed potential employees, cold called, pitched to prospects and closed deals. And that was only at the beginning!"**

Support. What Type Do You Need to Reach Your Career Aspirations?

In my early career, I did not quite know what I wanted to do and what I was doing, and when I landed my first leadership role, I felt very insecure and lacked confidence. It was in a start-up under a CEO who did not have much more experience than I did. My mentoring came from management books, sporting and political heroes and great achievers. I did not have a company mentor.

When I entered a corporate position, I suddenly found more resources at my disposal, co-workers had a wealth of knowledge and experience, my Sales Director was inspirational and had several years of experience and took me under his wing, mentoring me and bringing out the best in me. The company also provided training guides and product manuals both hard copy and online.

Here is where the big difference needs to be seriously considered. What do you need personally to succeed? If you are entrepreneurial, thrive in taking risks, take initiative to get the resources you need, and are comfortable learning from trial and error, you may not need the resources in a corporate position of the support of an in-house mentor to reach your career goals.

If however, you prefer vault of knowledge and experience close at hand, and to advance your career to a position within a specific timeframe, you might feel that an established company will best suit your talents and personality. It will all depend on how you work, learn and which environment will help you perform to your very best.

Influence. What Kind Do You Need? How Quickly?

When I first entered an established company, I was very naïve. I knew I was entering the company at the bottom of the career ladder and I did not expect to get so frustrated so quickly my lack of influence and input into the business. The reality was that I really had no say when it came to decisions that were made about me, the team I worked with or our sales objective and strategy. This move happened after I had left a very good position at a start-up, where I had authority, influence and visibility into business decisions which affected my role and the sales team.

Generally speaking you are going to have to accept that you will have less influence in an established company than you will have in a start-up or smaller company. If you should have a Sales Leadership or a Senior C-level Sales position as your career objective, it will possibly take you much longer to achieve your career aspirations.

Alternatively, you will gain much more insight into how a start-up company operates on a daily basis, and accelerate your sales career, combined with the ability to have your opinions heard and influence the business sales objectives and strategy. Moving up the ladder however could look a lot different. If the position above you is the MD or CEO, they may not open up for some time or ever. You will have to expand your role accordingly in other ways, making the route to your eventual career goal, less straight ward to achieve.

Environment. What Will Help You to Succeed?

To summarise, you must consider all the elements which will be essential to help you perform at your best and achieve your goals. Will you work better with; a constantly changing, "creative thinking", "outside of the box" distributive start-up environment, or an established organisation where you can work to a structured process with proven sales methodology toward your career goals? Both environments are very different and neither is better than the other. The decision to consider a role with an established company or start-up, will depend on your personality, work style, talents and your individual career goals. These will help you decide which environment you will better fit into, bring the best out of you, and achieve your career ambition. Consulting your family and friends, and a respected recruitment consultant, will also help you make the right choice!

If you have any questions or would like to comment, I will be happy to chat. I would also welcome your thoughts at: antonio.ciarleglio@harringtonstarr.com
or visit: www.harringtonstarr.com

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STARR INSIGHTS

Has there ever been more variety of Java Development roles?

By Tom Kemp

In the six and a half years I've been recruiting in the Java development space, I've seen many different markets. I've seen markets where Java developers couldn't fail to get a job and I've seen them where there were only a handful of roles available. I've seen hundreds of start-ups appear, hoover up talent and then disappear just as quickly. I've seen Investment Banks hire 250 people and then make 500 redundant the following year. However, I don't feel like I've ever seen a market quite as buoyant as this one and not just because of the numbers of roles available but because of the sheer variety of them.

It used to be that the most interesting projects were limited to a very small number of companies whilst more established firms just plodded along making small, incremental changes to the technology they worked with. However, that has now been turned on its head by some of the larger developments in the technology space and the opportunities that has created.

Starting with the Investment Banks, for those who do still see them as desirable places to work, the passing of the MiFID II deadline has opened up money and resources for many new projects. Firms like Goldmans, JP Morgan and Barclays have hundreds of open headcount across their divisions and are trying to adapt their recruitment to compete with smaller, more nimble firms.

Switching to the complete opposite side, we've seen an increase in the number of start-ups, particularly in the Blockchain and Crypto currency space, who are recruiting again. This is offering developers the chance to build something from scratch, learn new protocols and often they are given equity to share in the success of the firm.

Then finishing with everything in between including Trading firms, Exchanges, Index Companies, Brokerages, Hedge Funds, Retail trading platforms and Peer to Peer lenders. There is a common theme amongst them that their technology needs to improve and be updated. Projects going on at the moment include reengineering of platforms, reductions in latency, moving to the cloud, new trading systems and building in-house platforms to replace vendor platforms.

> "If you want to build a new system or reduce the latency of an existing one, the likelihood is that you'll be able to do that. So now that bonus season is out of the way, don't miss out on this opportunity to really see how much better your job could be."

So, whether you want to work for a company of 4,000, 400 or 4 the likelihood is that there is a firm like that recruiting right now. If you want to build a new system or reduce the latency of an existing one, the likelihood is that you'll be able to do that. So now that bonus season is out of the way, don't miss out on this opportunity to really see how much better your job could be.

Hi, I'm Gav

Ehab's the name

Ask a consultant

By Gav Patel and Ehab Roufail

Have you ever wanted to ask a technical consultant a question?

Ask a Consultant allows you to do just that.

Send your questions to
askaconsultant@harringtonstarrtech.com

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What is a Task board in Agile?

A task/Kanban board is a dash board which shows progress of the project. It can be electronic and use software like Jira or TFS or a physical board with cards.

The normal swimlanes a board has are:
- **To do:** Tasks that can be worked on – but not started or put back as not currently being worked on
- **In progress:** Tasks that are being worked on currently
- **Done:** Completed tasks

Additional sections can be added depending on how you work, with extras such as:
- **In Development**
- **Peer review**
- **In Test**

What is the difference between Epics, User stories & Tasks?

Epic: A group of related user stories is called an Epic. This is normally a large feature set which needs to be broken down, as the work required cannot be completed, tested and marked as done within the sprint.

User Stories: User Stories defines the actual business requirement. Generally created by Business owner. They can either be in the form of "as a...." or a BBD approach with "given, when, then".

Task: To accomplish the business requirements development team create tasks. These are the smallest items, and possibly something that needs to happen but not tied.

We suggest transforming your tasks to deliverable end to end thin slice stories so they become the smallest part possible so as to ensure they can be marked as "Done" within the Iteration or Sprint while delivering value to the customer.

What is Bitcoin?

There's a lot of talk currently about Bitcoin, and many of you have emailed in asking us to explain what it is.

Bitcoin is the original crypto currency. Bitcoin was born out of the financial crisis by a person who goes by the name of Satoshi Nakamoto. This person hasn't come forward yet, so no one knows who he or she is. Him and a group created an electronic payment system based on mathematical proof.

The idea was to create a currency independent of central authority, transferable electronically and with low transactions fees.

Once mined, they use distributed ledger technology which is a log of where each coin has been and who currently owns it. When its transferred the ledger is distributed and gets verified across multiple computers to acknowledge the transfer, thus everyone in the network has a log of its movement.

There are currently roughly 16million bitcoins in existence, and more can be mined, at roughly one new one every ten minutes. One 21million will be available to be mined, there will be no more available after this around 2040. A single bitcoin is divisible into a million pieces. As Bitcoin gains more acceptance, people have used it to buy everything from Coffee to House Sales, and many companies accept it as a form of payment, from Wordpress, overstock, subway, Microsoft, Expedia and whole foods to name a few.

At the time of posting its value is around $15,000 per coin with a market cap of $267bn, it will soon be traded on the futures markets.

Many banks have called it a fraud, a pyramid scheme and a vehicle used by criminals. Time will tell as whether is succeeds as a widely adopted currency for everyday use. There are another 1,400 other alternative currencies, which we'll talk about in a later post

Women of FinTech

@WOMENOFFINTECH are featuring the men in the industry who support equality but are actively encouraging it. Here we speak to 6 such men and question their thoughts, views and experiences on the matter...

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Women of FinTech

The Panel

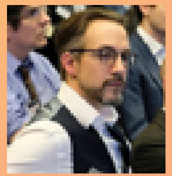
John McGrath
Chief Revenue Officer, BidFX

Nicholas Bone
Founder, EquiChain

Justin Lyon
CEO, Simudyne

Jason Henrichs
Founder, FinTech Forge

Simon Paris
Deputy CEO, Finastra



Alexander Ball
Managing Fintech Consultant, ING

@womenoffintech: What does equality mean to you?
Simon Paris: The American rapper Macklemore wrote:

"[We] might not be the same.
But that's not important.
No freedom 'til we're equal.
Damn right I support it"

We may be different but damn right we're equal!

Alexander Ball: Equality to me, simply means that we are all equal as human beings - regardless of age, race, colour, creed, gender or religion

John McGrath: To me means equality is a simple concept and should be a natural state of play in society, both as a whole or within a workplace.

Nicholas Bone: Equality is about making sure that everyone gets a voice and is treated fairly and with respect.

Justin Lyon: Equality is a very important value that we bring to the table at work from our home and our own personal lives. I have three small daughters and I always tell them they can be and do whatever they want. But I am also mindful of the fact that the external world that I am preparing them for is flawed and sadly, they might face obstacles simply because of their gender. In the workplace, we are a relatively small team but we have two female software engineers and female directors and advisors on our board. I can't even call hiring talented people that just so happen to be women as diversity. It sounds like some box ticking exercise that companies do to look good. But I realise that the female members of our team add value because they have probably had to work twice as hard to get to where they are because of gender based discrimination that permeates our society.

@womenoffintech: Do you think equality is something that needs to proactively enforced or something that will naturally happen over time?

Simon Paris: Equality is a basic right inscribed in so many constitutions. It requires our defence and enforcement. Equality in the workplace is no different. It makes you reflect on President Roosevelt's insight that the "price of freedom is eternal vigilance", and that rings true here.

Alexander Ball: I believe that equality needs to be proactively enforced, and re-enforced, because as a white male in Western Europe its easy to fall back into a societal comfort zone, where inequality doesn't always directly impact me. Tony Benn passed on his wisdom with "the fight for equality is never over"

John McGrath: I think this is a very good question and my view is that as long as each and every person employs the correct attitudes and treats everyone on an equal footing it should naturally balance out over time.

@womenoffintech: Have you seen much change in the gender landscape of Finance / FinTech over the years?
Alexander Ball: Absolutely! I studied computer science at university 20 years ago and always remember counting 2 women from a class of 200. As a topic it wasn't that desirable... unless you were a geek. Nowadays, tech is cool, and the attractiveness has dramatically changed.

Justin Lyon: So we are a tech company and our industry is notorious for being male dominated. Again, I think it all starts during the early years, as a father of three young, bright and vivacious girls, I see how super smart they are. Their analytical skills and emotional connectedness baffle me. These are the future custodians of our knowledge based, pro science world (because that's how I envision the future to be). Why are we continuing to allow gender stereotypes to dictate our views and actions when it comes to girls in society and women at the workplace? Why is it that when we think of a software engineer, the first thing that springs to mind is a guy?? That has to change.

Simon Paris: Yes, the gender landscape of the industry and Fintech is improving. But imagine what could be achieved if the landscape was already as diverse as society. The problem is not the change, it is the speed of, and the commitment to, that change.

John McGrath: Unfortunately the landscape has not changed as much as it should have in the past 20 years. It is still a pre-dominantly male based workforce within Financial services and Fintech but I do believe that change is beginning to pick up pace.

@womenoffintech: What are your reasons for supporting equality?
Alexander Ball: I have a Mum, a sister, a wife, two daughters, female friends and relations. If I put myself in any of their shoes, would I accept it? No. So why should it be accepted in society.

Jason Henrichs: Moral imperative aside, diversity yields greater outcomes. Academic research shows that diversity produced greater returns from an investment perspective. Without the academic rigor, I see as an angel investor and advisor that teams that value diversity do a better job of listening. Teams that listen do a better job at being responsive. Teams that are responsive rather than bullheadedly pursuing an idea have a greater chance of building products that the market values enough that they will pay for them.

John McGrath: There are 2 reasons we are highly supportive of equality in the workspace.
1) In purely economic terms it gives us a competitive advantage
2) It is important for Fintech firms such as ours to lead by example in this industry.

Nicholas Bone: Why wouldn't you support equality? So much of what the fintech sector is trying to achieve requires creativity, imagination and diverse opinion. Quite often, all of that needs to be achieved between a handful of people in a typical start-up. Hence, everyone needs to be empowered, every opinion listened to. Why would you want to limit the potential range of opinion, or not tap into the

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widest possible range of experiences and diverse backgrounds from your employees? For me diversity is a 'no brainer' from a business perspective. 58% of UK fintechs consider attracting qualified or suitable talent the biggest challenge when building their company. With this war for talent and an ageing population it makes business sense to tap into the other 50% of the workforce.

Justin Lyon: My reasons for supporting equality are simply that, as a company, we say that navigating your way in the 21st century requires a new set of tools. We have applied that to the financial services sector and say that banks can no longer make important decisions without test driving them in a safe artificial environment, which is why we offer them the technology that is necessary for them to build a simulation of their systems and test their assumptions so they can see likely consequences. This gives them foresight and allows them to make their decisions not according to inadequate models or gut feeling. You can't navigate your way using a compass when we now have a GPS. That's why we can't successfully launch into our future without questioning our assumptions and how we view the world. Gender inequality is real or else we wouldn't have a wage gap between what men and women earn. This has to be challenged because it is as outdated as a compass.

Simon Paris: From a professional perspective, the more we embrace these goals the better our decision making, our culture, our attractiveness as an employer and the way we understand our market because of the way we reflect our market. From a personal perspective, these goals are the foundation of a healthy society – and of the prospects for my daughter and sons alike.

@womenoffintech: There is a lot of talk about equality, but what do we need to actually DO in order to put words into action?
Simon Paris: Awareness precedes consideration which in turn precedes decision to act. Where "gender blindness" might be holding back equality, awareness (through data) of diversity of age, gender, ethnicity, creed or religion and also cognitive capability puts in stark relief the current state of enterprises.

Justin Lyon: Also, we have to have a more flexible working environment where female workers who happen to be mothers and have children are not forced out of work by our unforgiving work schedules. We can access all our work material from anywhere in the world at all times - not always a good thing but this is where the flip side is flexibility. So companies have to have certain policies in place to make provisions for that. Today's young workforce is motivated not only by material reward. It's a generational shift and we see that in our office. They want to do something meaningful with their lives and make a difference rather than just doing a standard job that gets you to the weekend. Today's enlightened young men and women should want to work in a company because of how cool it is and that is down to its values, which includes gender equality. This doesn't mean we have to drop the ball on our work ethic. They are not mutually exclusive. It just means we acknowledge the fact that the people that work for us are humans with rich lives and many meaningful connections. Superior and affordable childcare is a problem in this country and lots of developed countries. Why is that? Women in general are not given the support they need to have families and also be a part of the workforce so they constantly feel they are dropping the ball. It is viewed as a binary thing. Men are also not encouraged by their employer to take an active role in child rearing as well as by society as a whole and by employers. This requires a mind or paradigm shift.

Alexander Ball: Educate, campaign, support, influence, change. As a parent responsibility falls on my shoulders to teach my girls. Show them role models. Encourage them to participate in STEM subjects. To break barriers and stereotypes.

Jason Henrichs: It's easy to get on the Twitter bandwagon or voice support around the water cooler. That doesn't effect much change however. I think there are three things men can do to make an impact.

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a. Open yourself to feedback. In a post-Weinstein era, it is easy to self-justify "well I don't do that." The reality is that everyone does things that inadvertently reinforce status quos, stereotypes and social awkwardness. When it comes to Gender Equality, I think men need to step up and start asking women to give them feedback. What do I do that makes it hard to succeed on my team (regardless of gender but give me your perspective as a female)? Do you see any habits or actions I take that make others uncomfortable? What can I do to be more approachable if something does happen? I've learned amazing things about myself by asking these questions. I love getting feedback as a tool towards self improvement, but my wife can attest my instant response to explain WHY I did something isn't helpful to generating a dialogue. It takes conscious effort to be vulnerable and really listen.

b. Question why you do somethings the way you do / actively incorporate feedback. It took me 35+ years to realize I am a white male and that being a white male colored my perspective despite all of my efforts to be egalitarian. Once I excepted that it is OK that I am a white male but that doesn't forgive me from uncovering my unintended biases, things got much more productive. I started taking the feedback I received, coming up with next steps and then creating accountability partners. One of my favorite examples is that I won't speak at events that aren't committed to diversity; a female conference organizer was recently stunned that I said I wouldn't be a host unless the fixed the diversity across the entire event. She explained time frames and availability. I explained that I've publicly committed to this because I believe it is important and there a many amazing women to speak on fintech so not having representation because of lack of qualification or availability is a fallow excuse. I committed to it and I'm not dealing with the Twitter barrage of me with a bunch of white dudes on stage.

c. Hold others accountable. I wrote a piece for Code Like a Girl called "It's a Man's Job" because I believe unless the root cause (men) acknowledge and address the issue, it cannot be solved. The most highlighted phrase of the article is this: An unimpacted party, particularly of the same sex, making the observation is both more likely to be productively received and minimizes the potential residual awkwardness. I can tell you from personal experience that telling another guy "that's not cool" can range from awkward to flat out heated. However, I can say the results are remarkable. I can't speak for all those that I've held accountability talks with, but I can speak to the impact its had on me. Friends and co-workers are much more likely to hold me accountable and it makes a huge difference. You don't join Weight Watchers because you think the food is going to be better. You join because people committed to you and your goal will help you get there faster.

@womenoffintech: Have you made any changes at your workplace to promote equality? If so, to what success?
Simon Paris: We have started with awareness, and are building on that with programs, training and leadership commitment. It is something we are

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taking seriously and we are taking steps in the right direction along three main focus areas of culture, opportunity and community.

Most recently we have started to build the foundations for a program of change for women at Finastra. This is broadly shaping our inclusion agenda but more specifically will create pathways and possibilities for women to grow into management and leadership positions within our organisation.

Alexander Ball: ING is a shining example. In the world of wholesale banking, we have senior female leaders from group level, within innovation and country level in the UK.

The gender split is slightly in favour of men, but as mentioned, giving each person a voice and empowering them, regardless of gender or ethnicity, really enables us to provide the most considered solution to our clients and make our company a great place to work.

John McGrath: BidFX has been the most diverse and equal workplace I have worked at. Upon joining it was a breath of fresh air to see the diversity of the workforce and the ideas being generated. I immediately saw the benefits of being at a new Fintech firm with a vibrant culture and workforce and we will continue this model as it ultimately benefits our clients (through product development) and our employees (through sales and increased market share).

@womenoffintech: Have you got an example of where equality has directly benefited your team?
Nicholas Bone: We are really lucky at EquiChain. We have offices in London, Abu Dhabi and Hong Kong and staff from Australia, Austria, China, England, Germany, India, the Philippines and Switzerland. It's an amazing mix of talent, with each person bringing a unique background and set of experiences to our culture and how we approach a particular project. The gender split is slightly in favour of men, but as mentioned, giving each person a voice and empowering them, regardless of gender or ethnicity, really enables us to provide the most considered solution to our clients and make our company a great place to work.

Simon Paris: We have committed and passionate women within Finastra who have created strong communities that focus on empowering women, in our Bangalore office for example, and we support this approach globally. In fact, Veena Rao, our Head of Product for Lending won a Women in Leadership award from Jain University last year because of her dedication and leadership as a strong female role model in Engineering.

@womenoffintech: I have been to a lot of events recently to promote women in FinTech and at each there have only been a handful of men attending. Why do you think men don't attend such events and what could be done to entice them in the future?
Alexander Ball: It all comes down to the marketing. Tell the men they are welcome and I'm sure they will

A few things make a big difference. Ensuring this isn't a hostile / take it out on the men session is critical. Just as Gender Equality is promoting the female voice in male dominated sectors, giving voice to men in this female centric dialogue is important.

come. I wonder if it would be just a handful of men if the event was titled: "humans in fintech"

Jason Henrichs: A few things make a big difference. Ensuring this isn't a hostile / take it out on the men session is critical. Just as Gender Equality is promoting the female voice in male dominated sectors, giving voice to men in this female centric dialogue is important. I left the board of a large female in entrepreneurship organization because I was sick of hearing that "a man shouldn't be part of our group." If we aren't up to dialogue, on both sides, we can't make change. Which leads me to my next point. Men are very much outcome oriented. Groups need a path towards changing outcomes not just discussing and building empathy. I don't think most groups intentionally shirk this, it is just that creating change is hard. Inviting women and men into that iterative dialogue can be productive but it always needs to be held up to the standard of what have learned and how do we apply it.

Simon Paris: I was one of a few men at a 'women in payments' event in Toronto, Canada, last year. Men represented perhaps 10% of the audience. I didn't feel uncomfortable, awkward or excluded – but it did put into perspective how much of my professional life is the other way around, with a vast majority of men in attendance at various events and conferences. It was food for thought, and hearing some of the stories around challenges women face at this event was both mind and eye opening.

@womenoffintech: Have you worked under female management before and if so, how did it compare?
Alexander Ball: I have worked for women before and the thing which stands out is that the dialogue is different when we communicate. Much less about ego and more about understanding and collaboration. Listening. Recognising roles and playing to each other's strengths.

Nicholas Bone: I have been fortunate enough to have great managers in my career, both male and female. Equally, I've had awful managers of both gender. Incompetence is not limited to gender. Nor is ability.

Simon Paris: Sadly I haven't.

@womenoffintech: Do you think women need to be managed differently to men?
Alexander Ball: It comes down more to individual personality traits and character, rather than gender.

Simon Paris: I think management style can and must be adjusted for multiple factors so as to increase effectiveness. From understanding of Myers–Briggs Type Indicators to situational leadership, insight profiles and intrinsic motivators, these are all relevant to determine an effective working or leadership style. Gender, age, creed and other factors can be similarly relevant to an effective management style.

Nicholas Bone: Management's role is get the best out of all employees. This isn't a gender thing, it's about understanding every individual and managing them accordingly, via a number of management proficiencies. The skill of a manager is to recognise what motivates every individual and lead accordingly.

You can follow the campaign on twitter or Instagram at @womenofFinTech

To support the campaign or nominate someone to be featured please email gemma.young@harringtonstarr.com

A PERSONAL INVITATION TO A PANEL DISCUSSION

FinTech Influencers: Culture and Innovation

The Realization Group and Harrington Starr would like to invite you to join the second in a series of FinTech Influencers events to be held during 2018.

Recent research suggests that very few large enterprises within the capital markets space - whether investment firms, banks, custodians or others - have managed to embed a culture of innovation within their organisations.

- There are many reasons cited for this ongoing situation, but what is the real story?
- Why do legacy technologies continue to prevail?
- How much of the challenge is down to the banks versus FinTech suppliers?
- Is a change of approach required from both sides?
- What can banks and investment firms do differently to benefit from real innovation?
- How can FinTech suppliers overcome the challenges?
- What can we learn from those that have adopted an innovation culture?

This event will seek to address these questions, and more, hosted by Mike O'Hara from The Realization Group with panellists:

- **Johanna Pugh,** Global Head Solution Consulting at Finastra
- **Kate Simmons**, Head of Innovation Culture and FinTech Collaboration at Lloyds Banking Group.
- **Kim Johanssen,** Director at TreoTrade
- **Simon Hornibrook,** Global Head of Client Lifecycle Management and Operations Innovation at Nomura
- **Victoria Hernandez,** Investment Committee at Rising Tide Europe

We will discuss the challenges both buy-side and sell-side investment firms continue to face around embracing innovation, and investigate how those challenges can be overcome.

Be part of the conversation.

Please register by clicking on the link below or contact us for more information:
https://www.eventbrite.com/e/fintech-influencers-culture-and-innovation-registration-45434242041?aff=HarringtonStarr

When:
Thursday 24 May
5.30 - 8.30pm

Where:
Lloyds Banking Group, The Atrium, The Pentagon, 48 Chiswell Street, London EC1Y 4XX

Join us:
5.30 pm Registration & drinks

6 - 7.30 pm Discussion

7.30 - 8.30 pm Food, drinks & networking

Harrington Starr salary guide

A salary and rate guide for the Financial Services Business Transformation Guide

Change and Transformation at Harrington Starr

Harrington Starr was established in 2010 with the vision to be the number one supplier of technology and sales staff to the world's leading financial services companies through partnering, understanding and delivering to the needs of all of our clients and candidates. Our five core values of Positivity, Excellence, Execution, Espirit de Corp and Kaizen live both internally and externally ensuring we consistently over exceed our customer's expectations.

Our areas of expertise include:

- DIVESTMENT
- SEPARATION & INTEGRATION
- BUSINESS IMPROVEMENT TRANSFORMATION & STRATEGY
- TARGET OPERATING MODEL
- REVIEW & DESIGN

- PROCESS
- SYSTEM DESIGN & RE-ENGINEERING
- DIGITAL
- MOBILE
- PAYMENTS & PAYMENTS PLATFORM INTEGRATION
- REGULATORY & COMPLIANCE

- ENTERPRISE DATA MANAGEMENT
- DATA STRATEGY AND GOVERNANCE
- BUSINESS ANALYSIS & PROJECT
- MANAGEMENT
- PMO
- ARCHITECTURE

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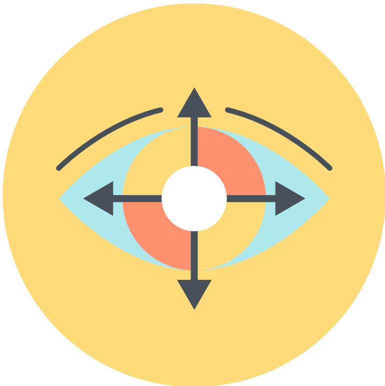
What we do in Business Change & Transformation

Harrington Starr's Business Change & Transformation Team are experts in supplying top Change professionals both in Temporary and Permanent positions tasked with helping companies deliver, shape and re-develop projects, programmes and organisations. We cover everything from teams to more strategic hires, from entry through to Board Level members for every stage in the project life cycle, including from inception to post-delivery support.
Our Change Teams deliver across a diverse range of businesses including, Risk, Finance, Compliance and Operational Change within both the Buy and Sell side, Wealth/Asset/Investment Management, Insurance, Card and Payments, Rating Agencies, Exchanges, Brokerages, Vendors and Consultancies.



Market Overview in Change in Financial Services

2017 was a year in which regulation was the primary concern in the Financial Services space. Whether it was understanding and delivering MiFID II in time for 3rd January or beginning initial scoping preparations for Brexit or PSD2 and Open APIs in Retail Banking or Solvency II and EIOPA in the Insurance space or even PRIPPs in the Investment Management area all across the Financial Services space regulation drove organisations to change their processes, the way they hold their data and to bring transparency or competition.

At the same time companies were trying to introduce new technologies and incorporate digital distribution and mobile platforms. Security and Data which have been the big drivers in recent years continued to be a priority for all organisations but taking advantage of Data Scientists, Robots and AI will be the skills organisations will be looking to take advantage of going forwards.

Mergers and Acquisitions were rife and continue to be a characteristic of the market particularly in the Investment Management space as external pressures such as passive investments, and regulations that increase the costs of research squeeze profit margins bring new challenges to the market.

While Banking as we know it faces threats from all angles as disruptive technologies and the Fintech sector opens the door to disruption across the end to end investment banking value chain. Cryptocurrencies & Blockchain bring opportunities as well as threats as clients choose to conduct business with other market participants and the adoption of new technologies require substantial expenditures in order to adapt to evolving industry standards and consumer preferences.

Change starts with Change and 2018 promises to bring new challenges along with it. The Brexit deadline draws closer, GDPR effects everyone in the industry and the Change Management function of all organisations will be tasked with building sustainable business in the digital age, setting the right culture for driving customer-centric transformation, delivering leadership and framework change as well as implementing and measuring change among other goals.

Here at Harrington Starr we are committed to working with our clients as partners embracing diversity and inclusion at the heart of everything we do while providing a first-class service. We truly understand Change Management and the organisations we work with.

Business transformation roles

Programme/Project	Permanent Lower	Permanent Upper	Contract Lower	Contract Upper
Programme Director	£110,000	£145,000	£900	£1,500
Programme Manager	£90,000	£120,000	£575	£900
Senior Project Manager	£70,000	£90,000	£500	£700
Project Manager	£40,000	£75,000	£400	£550
Junior Project Manager	£30,000	£40,000	£250	£400

Analysis	Permanent Lower	Permanent Upper	Contract Lower	Contract Upper
Senior Business Analyst	£75,000	£95,000	£550	£750
Business Analyst	£55,000	£75,000	£400	£550
Junior Business Analyst	£40,000	£55,000	£250	£400

PMO	Permanent Lower	Permanent Upper	Contract Lower	Contract Upper
Senior PMO Manager	£70,000	£85,000	£500	£600
PMO Manager/Lead PMO	£50,000	£70,000	£400	£500
PMO Planner	£50,000	£60,000	£400	£500
PMO Analyst/Co-ordinator	£40,000	£50,000	£300	£400
PMO Support	£30,000	£40,000	£200	£300

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IF YOU'VE GOT ANY QUESTIONS PLEASE GET IN TOUCH WITH OUR BUSINESS TRANSFORMATION

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About Harrington Starr

Imagine if you had a Recruitment partner whose purpose was to help you grow.

Imagine if you had a Recruitment partner that believed better people made by better clients, better candidates and better people.

Imagine if you had a Recruitment partner that cared as much about putting the right people into the right businesses, as they did about investing back into the community they belonged.

You can!

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In 2010 we launched Harrington Starr and over the past seven years we have become the Global Leaders in Financial Services and Commodities Technology recruitment, insight, events & consultancy. Delivering high quality opportunities for professionals on a permanent, retained, contract, and interim basis, to over 800 partners within the sector.

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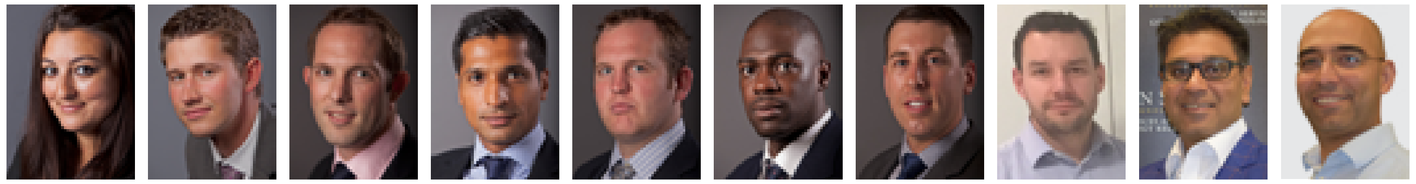

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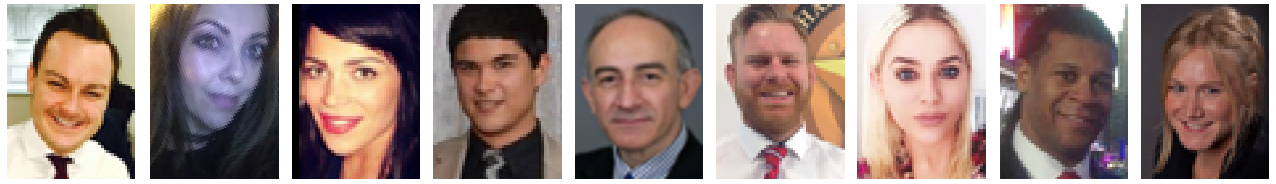

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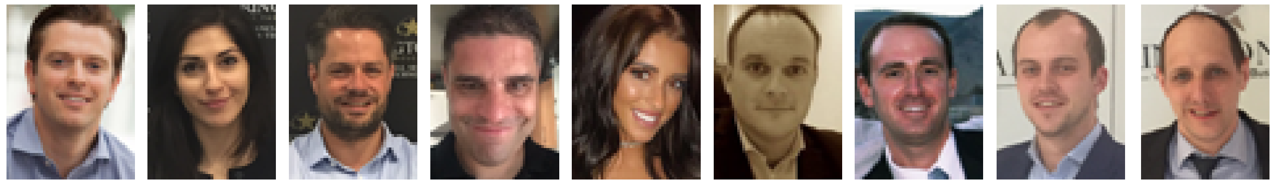

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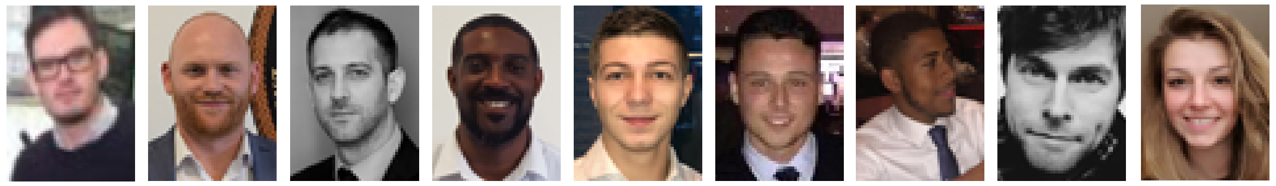

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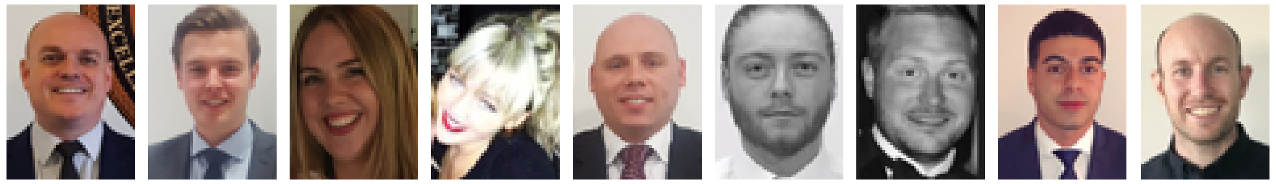

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