

Exchange data audits are deeply unpopular among client firms. They are time-consuming, burdensome, can uncover costly non-compliance issues, and can sour the exchange–client relationship. TMX Group wants to change that.

Page 22

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Into the Future

One of the questions I get asked most often has absolutely nothing to do with the topic of fintechs: Why are you called *WatersTechnology* when y'all don't write about anything having to do with technology that purifies water?

Well, *WatersTechnology*—which for more than two decades was simply known as *Waters* magazine—was founded in 1993 by Dennis Waters and edited by David Rivers. As Dennis would later say, “Rivers and Waters—the serendipity of the liquid connection was a never-ending source of comment.” Dennis would later sell the publication, and David tragically lost his life in the terrorist attacks of September 11, 2001. (I never met David, but I hear only high praise and love when I speak to people who knew him.) Those two men laid the groundwork for what you are reading today.

As I mentioned in the opening address for the Buy-Side Technology Awards (see page 27), while we do like to write about cutting-edge technologies—if not bleeding-edge—at the end of the day, it's absolutely vital to understand the business and regulatory needs of a bank or asset manager. And sometimes when you write about financial technology, technology has nothing to do with anything.

Take, for example, what TMX Group is trying to do up in Canada. As my colleague Max Bowie explains in this month's cover story (see page 22), the exchange operator is looking to revolutionize the way that it conducts data audits with users, which are time-consuming and burdensome, to say the least. As data become ever more important—and as exchanges want to make sure they're getting properly paid for their services—it will be interesting to see if the TMX's bold plan spreads to the US and Europe. As it stands now, though, there aren't any additional takers, despite the largely positive feedback from trading participants.

This is all to say that while the technology is important, it's the everyday governance, business planning, team building, and, yes, auditing, that make a business hum—or end up turning off the lights.

Finally, I should note that we still cover the cool technology, because we're a bunch of nerds here at *Waters*. One need only look at Jo Wright's examination of the API economy (see page 14) or Reb Natale's deep-dive into voice-capture technology (see page 72) for proof. Hopefully we're building on the legacy that Dennis and David created more than 25 years ago. [wt](http://waterstechnology.com)

Anthony Malakian
Editor-in-Chief

waterstechnology

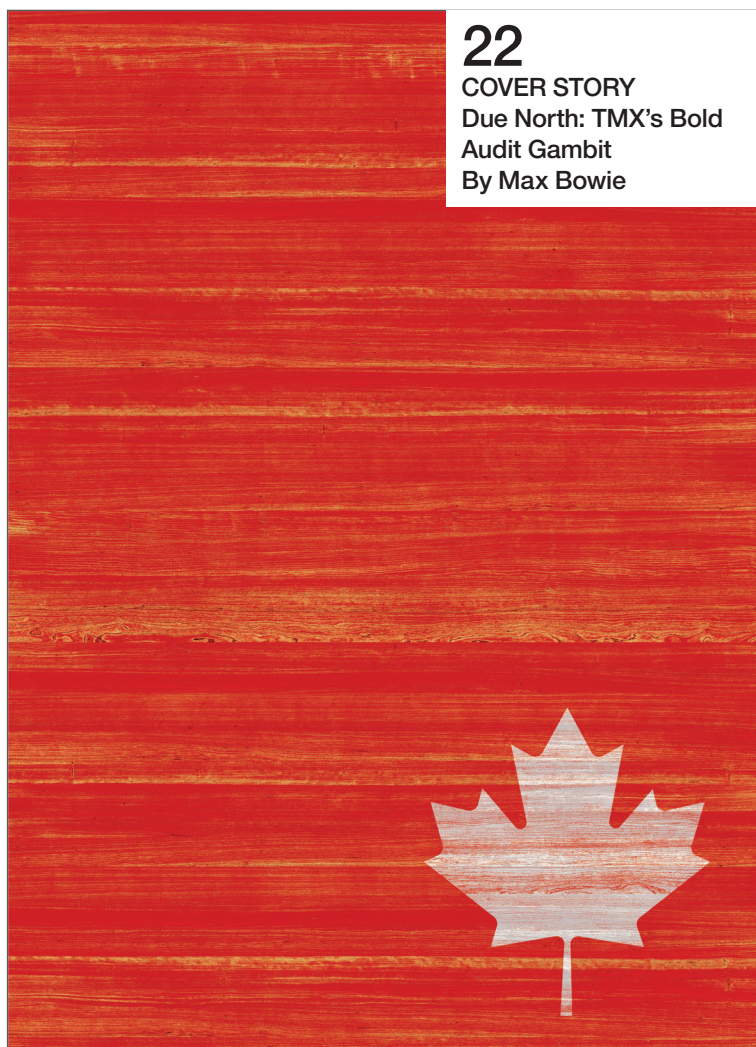
Contents

- 1 **Editor's Letter**
- 4 **New Perspectives**
- 12 **Open Outcry**
- 13 **News Desk**

- 14 **The API Economy's Existential Crisis**
Has the so-called 'API economy' been over-hyped, or is there value in recalibrating an open API strategy? By Jo Wright, with additional reporting by Hamad Ali
- 18 **The Rise of the Algo Wheel**
As the buy side becomes increasingly data-driven and systematic in their approach to best execution, some are looking to algo wheels to optimize trading and automate the compliance process. Yet, fine-tuning the broker-routing software has proven challenging. By Josephine Gallagher
- 22 **COVER STORY: Due North: TMX's Bold Audit Gambit**
Exchange data audits are deeply unpopular among client firms. They are time-consuming, burdensome, can uncover costly non-compliance issues, and can sour the exchange-client relationship. TMX Group wants to change that. Max Bowie talks to the exchange and financial firms about its new approach.
- 27 **2019 BST Awards Winners**
This year's BST Awards ceremony was held on November 1 in London. Cloud, machine learning and natural language processing featured prominently among the categories this year, and they are all tied together by data governance, security, reliability and scalability.

22

COVER STORY
Due North: TMX's Bold
Audit Gambit
By Max Bowie



14

The API Economy's
Existential Crisis
By Jo Wright



72 Listen Up

Voice is arguably one of the most interesting—yet largely untapped—alternative datasets in existence today. Rebecca Natale explores how new technologies are allowing firms to capture what people say and quickly turn that information into actionable insights.

76 Bad Clocks Block FX Best-Ex

To get a good deal in fast-moving foreign exchange markets, buy-side firms need to know the time. Some of them don't. By Luke Clancy

80 Rise of the Robo-Raters

Specialist firms are touting services for monitoring third parties amid tougher rules on outsourcing risk. By Costas Mourselas

84 Max Bowie: Bloomberg LP's Fate Lies in Hands of Democratic Voters

85 Jo Wright: Crypto Identity Crisis

87 Human Capital



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News. Webcasts. Video. Audio. Special Reports.
Get it all at waterstechnology.com



27

2019 Buy-Side
Technology
Awards
Winners



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Awards 2019



Banks Team Up for ‘Ion Replacement’

A consortium is weighing building fixed-income software in a potential threat to Ion, the dominant vendor.
By [Duncan Wood](#)



A group of European and UK banks is considering building its own fixed-income trading software, in a move that could allow members to cut ties with the market's biggest vendor, Ion Group.

The project, dubbed Cohesion, is in its early days but pitches were invited from potential builders of the technology this summer. The banks are now understood to be weighing whether to commit further time and money to the work.

"All banks need to be more efficient, so when you have a player that's as dominant as Ion it's a worry for everyone. It's in the industry's interest to have more competition," says an e-commerce specialist at one bank, who is familiar with the project.

The number and identity of the banks in the group is not certain. At

least one bank that was part of the original group is understood to have dropped out; other banks have been invited to join.

Three sources with knowledge of the project independently name four banks—BBVA, HSBC, ING and Lloyds Banking—but could not confirm that all of them are actively involved. Those sources say a total of five banks are currently part of Cohesion. A fourth source claims there are six banks involved.

Spokespeople for all four of the named banks declined to comment for the record. One cast the consortium as "a working group" which is "exploring solutions", rather than seeking to replace Ion's fixed-income software, MarketView.

That is a fair description of the project's origins, says one of those involved.

“A group of banks came together to discuss ways that electronic trading could be done more cheaply. One idea was to build everything ourselves and own the software—and a variant of that continues.”

Bank e-commerce specialist

“A group of banks came together to discuss ways that electronic trading could be done more cheaply. One idea was to build everything ourselves and own the software—and a variant of that continues,” says an e-commerce specialist at a second bank.

He says the plan is “to create a complete e-trading capability—buying rather than building some smaller components—and then stitch them

together to create something comprehensive that could fill the space of a major bank's existing infrastructure."

Many of the banks involved are "Ion banks", he adds—and multiple sources described the project as a way to replace MarketView, or reduce the banks' reliance on a system that is said to be in use at almost every bank with a fixed income trading business.

Consulting firm GreySpark Partners is managing the project and ran the request-for-proposal process, in which as many as 10 firms are said to have pitched.

GreySpark's managing partner, Frederic Ponzio, declined to comment on the identities of the banks, but didn't deny the existence of the project or the firm's own involvement. In an email, Ponzio said GreySpark "runs multiple RFPs for banks or groups of banks every year. This year was no exception."

The project is sensitive because Ion is one of the biggest vendors to bank trading rooms at a time when the industry is under pressure to cut costs—particularly in fixed income.

Sources with knowledge of the project estimate the largest dealers are estimated to spend \$10 million to \$12 million per year licensing Ion's software. Estimates of the costs faced by smaller dealers, like those said to comprise the bulk of the Cohesion group, range from \$2 million to \$3 million per year.

Those costs have contributed to friction between Ion and its customers, which *Risk.net* reported on in January. As well as trader screens, pricing and risk analytics, Ion packages can also include the so-called messaging bus—used to ship data and orders between different systems—and connectivity to scores of trading venues around the world. Those connections make it difficult for any bank to cut ties with Ion, undermining their negotiating position when renewing contracts that typically run for three years or more.

It also poses a number of challenges to the Cohesion banks. Some observers doubt the project's chances of success.

“There is no point holding a gun to someone's head if you don't have any bullets.”

A second e-commerce source

One sticking point is that the banks all have existing contracts with Ion that expire at different points, meaning some would probably not be able to avoid renewing if Cohesion is taken further.

"Cohesion may not go ahead. The banks all have different build deadlines to hit before their contracts renew and they will then be locked in for another three-to-five years. So, they'll be wondering whether to contribute to the funding if the results won't be available in time for their own renewal. They could just sit back, let everyone else pay for it and then buy it off the shelf when a later renewal comes around," says a third source with knowledge of the project.

But a smaller consortium would struggle to muster the financial wherewithal for such a major project, observes the first e-commerce source: "You need to balance the need for critical mass in terms of funding with the need to avoid it becoming unwieldy. You don't want to try to corral a large group. More than 15 banks would be too large. But if it's less than five, then the burden of building it would be too great."

It's hard to say how big that burden might be.

Two sources with knowledge of the project offer quite different estimates of the time required—the first suggests somewhere between three and five years, while the second says it could be completed in two to three years "if you really put your mind to it, and had enough financial capital."

The size of the required financial backing is also hard to estimate. As a rule of thumb, the second e-commerce source says it might cost 10 times the annual license fee to build the software from scratch—"clearly, it would help to mutualize those costs," he says—but he warns that, once built, the software would need further work on testing and maintenance.

Other bank consortia have succeeded in creating software in the fixed-income space—for example, Neptune, the bond trading utility. Last month, a group of nine major banks announced the creation of a platform, DirectBooks, to streamline securities issuance. These ventures were not going head-to-head with an existing, established service, however.

What Cohesion has in its favour is a conviction that current spending on incumbent vendors—not just Ion—is unsustainable.

"All the banks share a belief that this is a common problem and something they all want to fix," says a fourth source with knowledge of the project.

"Something needs to happen," says the second e-commerce source. "Especially in fixed income, banks just can't sustain the costs they used to. People really need to innovate, and come up with something cool, or force incumbent vendors to reduce prices."

This hints at another possibility for participating banks. Cohesion could end up being a device to strengthen their hands in renewal negotiations, but a fifth source notes the project would need to be credible before it could be used as a deterrent.

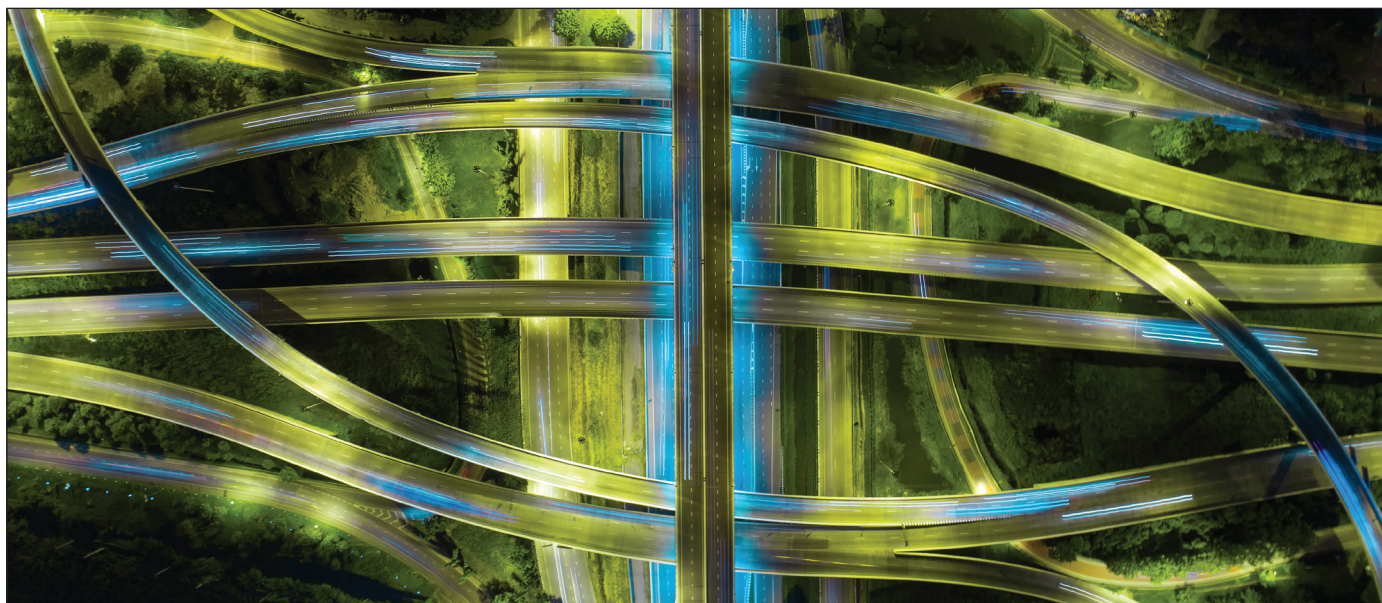
"There is no point holding a gun to someone's head if you don't have any bullets," he says. **WT**



Ion's offices overlooking St. Paul's Cathedral in London

Broadridge CEO Tim Gokey Maps Out **Technology Path**

Gokey discusses Broadridge's aim to be a one-stop shop for users and how the company sees emerging technologies as its future. By [Emilia David](#)



Broadridge Financial Solutions wants to create a simplified structure for its clients by offering more mutualized solutions, its CEO tells *WatersTechnology*.

Tim Gokey, CEO of Broadridge, says the old way of trying to merge innovative technologies with legacy infrastructure needs to evolve. His vision is for Broadridge to be a one-stop shop for pre- and post-trade solutions.

Gokey—who began his role as CEO in January—says companies have created complex frameworks by buying technology either by asset class or region, thus creating a state of fragmentation where costs for banks and asset managers can balloon.

“In capital markets, the way people have grown up is by procuring technology by asset class or by region, so they have ended up with a pretty complex

framework in which they have a lot of applications—with a technology team around each of those. Their operating environment is very complex,” Gokey says. “They began to make decisions globally because, say, the CFO is in Singapore and the head of operations is in London, so how do they simplify and improve that environment?”

In order to simplify these structures Gokey says, Broadridge wants to create more solutions like its Global Post-Trade Management platform, where clients can do all post-trade activities in one place. He wants to take advantage of all the information that flows into their systems and creating products around it.

One-stop is the way the industry is heading—one need only look at consolidation in the order and execution management space, or in the analytics

space. The biggest players—including Broadridge, Bloomberg, FactSet, SS&C, FIS and others—have been active in the M&A space as they build out their suites of solutions. And there are also efforts underway in the desktop application interoperability space—such as OpenFin’s FDC3 efforts, ChartIQ’s Finsemble, or Glue42—which aim to create a best-of-breed cocktail of SaaS-delivered solutions via a single browser. For either strategy, the key is to have a single environment to improve workflows, cut down on data and tech costs, and make users more productive by not having to bounce around to find different information or tools.

Much of Broadridge’s plan to become a one-stop shop leverages its network of clients, so Gokey plans to continue pushing Broadridge toward

exploring more emerging technologies that rely on a large dataset and a community to work well—throwing money at bespoke projects that lack broad appeal is not the best way forward.

Gokey says Broadridge looks to the “ABCDs” of innovation—artificial intelligence (AI), blockchain, the cloud, and ongoing digitization—to bring about many of these benefits of mutualization. He says these technologies, along with APIs and microservices, are fundamental to many of the products the company is building.

“We like to do industry solutions. I view that as mutualization and network value. Mutualization is at the core of what we do,” Gokey says. “[As an example], one of the real challenges over the years has been that the liquidity in corporate bonds has gone down. With all the data flowing through our platform, can we work with our clients to help them locate counterparties at first bilaterally, but eventually the whole ecosystem?”

Emerging Technologies

To help this, Broadridge is working on an AI-powered solution for clients to find and identify counterparties. The project is in the very early stages, but it is something Gokey says will definitely rely on the network effect Broadridge has created. While it’s unclear yet how the platform will work, he says the company is “investing real money into it,” but anything more concrete might come out next year.

Broadridge already uses some sort of AI in some of its offerings. It uses machine learning and robotic process automation for its pre- and post-trade solutions, including automating trading allocations for the middle office. It also uses natural-language processing for its managed service platform.

Gokey is also a proponent of blockchain, which thrives on a strong network, though he says Broadridge’s role in blockchain is more of a connector of parties. While blockchain projects



Tim Gokey
Broadridge
Financial
Solutions

around the industry have largely gone quiet in the past years as companies tinker with use cases and try to figure out which ones can be pushed into production, Broadridge is working with distributed ledger technology provider Digital Asset Holdings for several of its projects, including its proxy voting creation, which is one blockchain use case that has shown early promise.

The blockchain proxy voting proof of concept, which Broadridge conducted with Northern Trust, Banco Santander, and JP Morgan, was completed in 2017. Broadridge and Banco Santander announced that they executed the first investor vote using blockchain in 2018. Broadridge executed proxy voting using blockchain technology in Japan in January.

The company also has a blockchain pilot program around repurchase agreements with Digital Asset. The project is meant to provide a single source of truth around repo trades and reduce custody and transaction costs. So far, the platform was able to process repo transactions for 19 primary dealers.

Despite these projects, however, Gokey says Broadridge won’t be a creator of blockchain technology, but will use it to enhance its network value.

“On blockchain, we have invested in Digital Asset Holdings, but we’re not going to be a fundamental creator of new blockchain technologies. What we’re going to do is harness blockchain. When you think about it, to get the real benefits of distributed ledger technology, you need a network of people on it. We’re really looking at where are the places we can bring that network and therefore add value though proxy in the governance space, both global proxy and North American proxy, and fixed income,” he says.

Shadow Financial

One aspect of blockchain that interests Broadridge is exploring how it can provide services around crypto assets. The company acquired post-trade cryptocurrency and derivatives solutions

provider Shadow Financial Systems in early October. Gokey says the rationale behind buying Shadow is not to make a judgment on the viability of crypto assets, but to be able to provide customers who are interested in the space the ability to do post-trade activities.

“There are two things about Shadow that were interesting to us—they serve an interesting set of clients that we haven’t served as much, so getting access to those clients is certainly something that is interesting to us,” he says. “They have some capabilities and IP that we think will be beneficial either to continue being served on the Shadow platform or to bring into our own core platform. We don’t need to make a call on where crypto is going to go, but we definitely have some clients who want to pursue that, so being able to assist them and have capabilities around that are certainly a plus.”

Some institutional investors are interested in entering the crypto asset space but many are worried about the infrastructure-related issues it presents. Most post-trade activities in crypto, such as clearing and custody, tend to be carried out by the exchanges themselves.

Digitization

Perhaps surrounding all of Broadridge’s plans is the idea of digitization, as it continues to be a big part of the company’s technology roadmap to help with its mutualization efforts.

Much of the work it does around digitization has to do with communications, especially in providing brokerage customers with more channels to get information. It is also looking to ensure its communications are relevant and actionable, not the dense information that brokers usually have to send.

Gokey points out that further digitization, particularly in regulatory communications, is something the whole industry has to work on. And as more of the industry eyes streamlining costs, he hopes mutualized, technology-enabled solutions power more of the Broadridge’s growth. [WT](#)

Asset Managers Likely Overestimating Their **Alt Data Capabilities**

UBS Asset Management's CDO & Element22's founder look at some of the challenges facing the alt data space. By [Rebecca Natale](#)



The hardships faced by the buy side these days are no secret—there's the rise of passive investing, tightening margins and rising costs. And it's also no secret that in order to find new sources of alpha, buy-side firms are increasingly looking to incorporate alternative datasets into their investment processes. Nevertheless, asset managers are still struggling with how to tap value from these products.

A year after data and analytics advisory firm Element22 released a white paper benchmarking the state of some of the largest asset managers in their journeys to use alt data and advanced analytics operationally, a second benchmark study by the company, sponsored by UBS Asset Management, has taken a broader look at the asset management

space. Compared to last year's sample size of 20 funds, 59 asset managers, representing over 20% of global AuM, were surveyed. Forty—or 68%—of those were calculated to be in the first two stages of their journey—either the planning phase or trialing early proofs of concept. The remaining 19 were classified as being either in the middle of the road or as breaking new ground.

What is clear from the study, says Predrag Dizdarevic, founding partner of Element22, is that many—if not three-quarters of the firms surveyed—were likely overestimating where they are on their alt-data journey. You can ask a person a qualitative question about how advanced they think they are, but what the quantitative questions showed—how many sources of alt data do they use, for how long, which other

“Our view is you need the data, but not all the data all the time for all the investments.”

Suvrat Bansal, UBS Asset Management

advanced technologies are they investing in, what types of machine learning do they use, and how much money are they investing in the program—is that they are likely not as far ahead as they might think.

“We had some questions on where they think they are in extracting the most value out of the use of these new technologies and the alt data sources, and their replies to those qualitative questions have been pretty aggressive,” Dizdarevic says.

When early-stage firms first dip their toes into the water, they can become overenthusiastic in thinking they'll hit the gold mine fast, without realizing the amount of work that needs to be done to achieve sustainable value generation, he reasons. And despite smaller firms investing large percentages of their budgets into these areas, the numbers, in reality, probably aren't as high as they'll need to be.

"I think that realization will be coming later on," Dizdarevic says.

Sell-Side Lessons

The alt data space is a crowded and noisy one, and new providers pop up as fast as others fall. Suvrat Bansal, chief data officer and head of innovation at UBS Asset Management, says his firm had a huge advantage in being able to draw upon the lessons already learned in incorporating alt data on the bank side into UBS Asset Management's Quantitative Evidence and Data Science (QED) unit.

"What we learned from that sell-side experience is these things have some level of timing to them. ...We learned from it that no alternative dataset is useful all the time," Bansal says. In other words, it's a delicate balancing act where firms need to be able to adjust and try new things on the fly.

Recalling alt data's countless hype cycles, he laughs. "It's the 'here-we-go-again' [moment]. We know for sure in traditional asset management, it's near impossible to use one source or, collectively, all sources. ...There's something within there, but our view is you need the data, but not all the data all the time for all the investments," Bansal says.

There was a time when an individual dataset could equate to alpha, but those days are more or less gone, says Dizdarevic. Firms need to figure out how best to combine different datasets—say, satellite data, credit card information and mobile phone usage—to come up with unique insights. This isn't necessarily a new



“It's no longer your traditional systems. It's no longer your traditional databases. It's no longer your traditional coders. It's a continuous blend of tech and portfolio management and research happening right in front of us.”

Suvrat Bansal, UBS Asset Management

phenomenon, but for firms that are still new to the alt data space, they may experience a period of disillusionment that, as he noted before, there isn't an untapped individual gold mine dataset still waiting to be found.

Winds of Change

Abilities to re-think, change course, and decipher what will or won't work are mission critical to the process for all firms, both Dizdarevic and Bansal say. For UBS, having to make adjustments came very early on. In one instance, the QED team ultimately had to weigh product generalization versus personalization when it came to natural language processing (NLP).

The general usefulness of NLP products could only be achieved if they

addressed industry-common issues—researchers are overburdened, it's hard to get insights, and transcripts are endless, Bansal says. But on a personalized level, the tasks at hand are how to engage people one-on-one through tailored use cases for idea generation, but the target has to be clearly defined.

Additionally, while some initial projects might seem fairly straightforward at the start, firms need to be aware that there are usually additional investments that need to be made beyond the data, Bansal says.

"We underestimated, a bit, the capabilities on the infrastructure and data sides, which need to support these kinds of developments. You can today say, 'I'm doing X, and I want to start producing two products on NLP,' and that may require some local development with NLP models," Bansal says. "But then it comes time to ask, 'Are we ready with containers and cloud to run these loads?' and you realize, wow—that's not going to be two weeks!"

The winds of change in the asset management space are at the same time both intellectually exciting and tense. Beyond showing performance and returns, asset managers know they'll have to personalize their services to align with individual clients, but that's an incredibly difficult problem to scale, adds Bansal.

"It was one thing to enable one type of business...but that does not work for you anymore. If you want to drive unique capabilities, you need to combine those capabilities. You can't just operate [by] optimizing each one. And I think that translates into the bigger problem," Bansal says. "It's no longer your traditional systems. It's no longer your traditional databases. It's no longer your traditional coders. It's a continuous blend of tech and portfolio management and research happening right in front of us. I think for us, it's not so much about losing sleep as much as [it's about] how much can I get done in a day? It's about, can you prepare enough to get there?" **WT**

Nasdaq's Lessons in Machine Learning Yield **New Surveillance Tool**

The offering, which took more than a year to build, combines deep, transfer and human-in-the-loop learning to find patterns. By [Rebecca Natale](#)

Nasdaq has announced the launch of AI-powered market surveillance tools for finding patterns of abusive behavior. Underpinning the new technology are subsets of machine learning (ML): deep learning, for analyzing extremely complex relationships and understanding hidden insights within massive data sets; transfer learning, which involves training new models based on older ones to allow scale and save time; and human-in-the-loop learning, which requires human interaction to weed out noise from signal.

Currently, the tool covers only US equities, but the stock exchange has already run some trials on fixed income and with other exchanges, which have shown promise, Tony Sio, head of marketplace regulatory technology at Nasdaq, says. The project had been in the works for more than a year and was born from the company's initial forays into machine learning, which were focused on alert scoring in the Nordics.

"We had very positive results; we had a lot of learnings, and we deployed that," Sio says. "Based on that experience, we felt we could do a lot more. So after that, we really pushed the deep learning project against the low-level data coming from our trading system to detect patterns of abuse."

But those first explorations into machine and deep learning bumped into another project. A separate team was working on how to create a visual picture of spoofing, and the missing ingredient also lay somewhere in machine learning.

"We called it the signature of spoofing," Sio says. "We showed it to a lot different people, and people said,



'Yes, I look at this picture, and I see it.' That coincided with some of the ML technologies out there, which are really about taking visual patterns and being able to find them in the data. It's two separate initiatives starting to overlap."

The teams distilled all the data—which was extracted from Nasdaq's trade engine—down to a single chart

“If we could reduce something like spoofing to a signal, and the shape of the signal will have some consistency across many different asset classes, it made us very hopeful that techniques like transfer learning would be very successful for looking at these different patterns from US equities to, for example, a commodities market.” **Tony Sio, Nasdaq**

with a few different signals, such as ones indicating trading behavior and the volume of the order book at different price sets. They showed the charting method to surveillance professionals down the line of asset classes—equities, commodities, futures and more. What they found was the signal looked similar across all of them.

"If we could reduce something like spoofing to a signal, and the shape of the signal will have some consistency across many different asset classes, it made us very hopeful that techniques like transfer learning would be very successful for looking at these different patterns from US equities to, for example, a commodities market," Sio says.

Human-in-the-loop training adds another methodical layer to surveil-

lance. By using examples from the 750,000+ alerts that Nasdaq's US surveillance team sifts through per year, the human and machine-powered model goes beyond just deciding whether an alert is interesting or not. It can decide, for example, that an alert is of interest, but only for a certain time frame, or that a certain day brought interesting activity, but only in the afternoon.

But it's the transfer learning that is core to the project's mission. For Sio, ensuring market integrity must be a collaborative effort. He sees opportunities for Nasdaq's surveillance technology customers, other exchanges, and, particularly, smaller marketplaces.

"One really interesting concept is that of transferring those learnings from one marketplace to another and potentially back again. That's hugely powerful," he says. "One of the things we heard from smaller marketplaces is that they have less examples of many of these abusive behaviors. It's just quite a lot more work for them to train models using the small examples they have."

Along the way, Sio says he and the teams learned some vitally important things. Perhaps the key one, though, was they had to make sure they had the interaction with users onboard, and a way to imbue the machine-learning tools with the nuanced ways the surveillance team thinks, such as their abilities to predict when certain behaviors are more or less likely.

"The problem in surveillance is one where you're trying to find needles in the haystack," he says. "There are billions of messages coming in every day. There are patterns and the patterns look different or change... and you're just trying to find those behaviors." **wt**

Deutsche Bank Introduces WeChat for FX Trades on Symphony

The bank is looking to extend this feature to other asset classes in the future. By [Wei-Shen Wong](#)

Deutsche Bank is focusing on making pre-and post-trade information queries more accessible to its clients, particularly for foreign exchange (FX) trades.

The bank recently introduced WeChat—a messaging platform commonly used in Mainland China—on its Symphony platform that allows corporate and institutional clients to complete multiple steps in the FX trade process, Chris Bezuidenhout, chief information officer for the investment and corporate bank at DB Asia Pacific, says.

“It’s opening up the option to somebody who may prefer to use WeChat, and use that as a primary mechanism. From our perspective, we use Symphony, and that’s the formal interaction point for our trading staff, our sales teams, and so on,” he says.

Previously, interactions with clients would be conducted via email or a call, or they would have to onboard themselves onto Symphony’s platform to do that interaction.

Clients will be able to use WeChat to support pre-trade services, such as FX rate transparency, including obtaining the Chinese renminbi exchange rate for conversion into other currencies and documentation process flows, while meeting all compliance and regulatory standards.

Bezuidenhout emphasizes that DB’s focus currently is on pre- and post-trade requests and information sharing. The bank is also looking at other use cases, and sees this functionality as eminently usable across the full suite of products it trades, he adds.

“When I say ‘ease of doing business,’ it’s not just a sound bite. It’s to try and improve the way that we interact with our clients when it comes to pricing



WeChat is a popular communication channel in China

ing requests or requests for information, or checking in on trade status where these particular queries are related to facts on the trade itself or market color. These are the types of interactions that typically happen on email or via call where we can ultimately move that to a channel like Symphony and then WeChat,” he says.

On the pre-trade side, these could be anything relating to a request for market color, information relating to pricing, and availability in trade confirmations. On the post-trade side, a lot of focus will be on the documentation and sharing of information.

“Typically, when you think about the interactions you have, it will be an ops person or sales support person, or ultimately the trader from either counterparty that is interacting with each other multiple times to provide information, or confirmation, or a status update,” Bezuidenhout says. “We’re looking to move all of that onto this channel. There are a number of other steps we believe we can automate as well, once it’s on the channel.”

One example of that is in documentation. Bezuidenhout says DB is looking

to template some of the interactions it has. “Even on the request-for-quote process, there are a lot of things that we can do to try and standardize the interaction and do basic screen scraping where information requests come in. We scrape that, and we’ll push it through to some of the execution platforms directly. So we don’t have to copy and paste information from one screen to the other,” he says.

Ultimately, the aim is to build bots in Symphony and automate the responsiveness of how it responds to clients. DB has already developed a bot that automates parts of the over-the-counter trade workflow.

“We see this as a really good step to make it as easy as possible for us to interact with our Chinese clients in particular, on a channel that they prefer, as opposed to something that we have to mandate from a regulatory and compliance purpose, or something that’s slightly more inefficient, like email,” he says.

The function is already live, and DB is in the process of onboarding interested clients. Bezuidenhout explains that the process is like a “friend request” on social media. “We send a push notification to a client that says we would like to connect, and they would receive that on their WeChat app. There are a couple of steps to go through to onboard, then you’ve got a new contact you’d be interacting with. They would essentially communicate via WeChat if they prefer, and we would receive those messages internally on Symphony, which means we retain all the information security and compliance protocols that we need when it comes to interacting with our clients,” he says. [wt](#)

OPEN OUTCRY

What the key figures in fintech are saying this month

“From my perspective, I want an accurate report. If I try to hose someone, they won’t let me back in next time. I try to get it right and treat the subscribers like clients. If I find legitimate mistakes, they might be mad at us, but ultimately, they’re not writing me a check; they’re paying back the exchange.” **An exchange auditor**

» see page 22 for full feature...



“The days of clients relying on banks to tell them how things perform are, broadly speaking, long gone. Because of best execution requirements



that our clients have to their end investors, they typically need to have a pretty robust, independent process for evaluating broker performance.” **A head of execution services at a tier-1 bank**

» see page 18 for full feature...

“Some of the cyber risk ratings apply a very good layer of analysis to the data they gather ... But the data analysis of some providers can be of low quality, so can’t be used as a decision point in a risk assessment.”

Charles Forde, group head of operational risk, Allied Irish Bank



» see page 80 for full feature...

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“The problem with thinking of voice as just trade surveillance is ... that’s a very narrow view of how fraud gets done and how bad behavior gets done. It’s not realistic to say that trade surveillance is the only use case for NLP, and I’m not sure that it’s even the best one. I think that voice as an interface to drive automation, and voice as a source of data and analytics to drive revenue are far bigger priorities right now.” **Anthony Tassone, founder and CEO of GreenKey Technologies**

» see page 72 for full feature...

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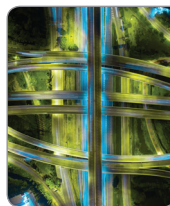


“We are very much a quant organization, so we invest a lot in research. If we want to access this research, we can organize that through a standard API call. This was a transition for the organization because we are

moving from an application-based architecture towards a service-oriented architecture. This takes time, it is a process, but it is the direction we are moving in.” **Fabrice Silberzan, COO, BNP Paribas Asset Management**

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“In capital markets, the way people have grown up is by procuring technology by asset class or by region, so they have ended up with a pretty complex framework in which they have a lot of applications—with a technology team around each of those. Their operating environment is very complex. They began to make decisions globally because, say, the CFO is in Singapore and the head of operations is in London, so how do they simplify and improve that environment?” **Tim Gokey, CEO, Broadridge**

» see page 6 for full feature...

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“TMX is being very creative. They’re trying to protect market share, secure revenues, and be nice about how they do it. ...This is amazing for us, and if we could do this with US exchanges, it would be awesome.” **Richard Tardif, expert advisor for markets technology, Desjardins Securities**

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“Many OMS offerings are legacy systems that were built in a time when millisecond granularity wasn’t something that was even considered.” **Jay Hinton, senior product manager, Charles River**

» see page 76 for full feature...



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“All banks need to be more efficient, so when you have a player that’s as dominant as I’m it’s a worry for everyone. It’s in the industry’s interest to have more competition.” **An e-commerce specialist at a bank**

» see page 4 for full feature...



NEWSDESK

WatersTechnology's roundup of headlines that hit the wire this month from around the industry

Apteo Preps Alt Data Platform Expansion



Shanif Dhanani,
Apteo

New York-based startup alternative data analytics platform Apteo is planning to expand its data library and operations, after raising \$1 million in funding from new and existing investors.

The funding round was led by Ripple Ventures, which invested \$500,000, and included Entrepreneur Roundtable Accelerator, an existing investor that has invested a further \$200,000 in this round, as well as KPB Capital, CFV Ventures, Gavin Ezekowitz, an early-stage fintech investor and advisor who serves as managing partner of family office Belz Family and Associates, and other individual investors.

Shanif Dhanani, CEO of Apteo, says the vendor will use the funding to enhance its data library with new datasets. So far, the platform carries more than 2 million datasets, largely sourced from governments, federal and municipal bodies, and international organizations, focusing on areas such as statistics, weather, transport, science and finance.

Qontigo to Release Index Building Platforms



Custom ESG
indices

Qontigo, a new company formed from the merger of Axioma and Deutsche Börse's Stoxx and Dax, will roll out new indices and index-building platforms in the next year.

The company is focusing on creating a factor investing suite that will feature a set of factor indices and a platform it calls iStudio that allows clients to create and backtest custom indices including creating custom environmental, social, and governance indices. These will be built upon Axioma's analytics.

Sebastian Ceria, founder of Axioma and CEO of Qontigo, says the company will leverage the data analytics expertise of Axioma and combine it with the Stoxx and Dax indices.

"[We'll] start building products together that we were not able to before because we are more fully integrated together in data and analytics," Ceria says. "We have the basics, with cross-selling, with our complementary client bases, and with our more comprehensive offering. Finally, we will leverage the skillsets that each have built. We're more of a software company; they're more of an operations/content production company."

Activ Eyes Path to 'Future-Proof' Data Platforms



Addressing legacy
platforms

Data vendor and low-latency data technology provider Activ Financial has released a set of data integration tools, dubbed Enterprise Data Integration Suite (EDIS), in response to what it says is increasing concern among financial firms over the long-term viability of legacy data platforms.

"EDIS is a set of components designed to integrate with internal and third-party feeds and data platforms, and is aimed at people with exposure to incumbent platforms like [Refinitiv's] TREP data platform, and recognizes that people are concerned about the technology roadmap and cost ... and offers a path toward an alternative, based on Activ's underpinning technology," says Activ COO Jim Bomer.

EDIS is vendor-neutral, multi-tenant, includes symbology cross-referencing to support other vendors' data formats, and runs on Activ's Activ One Platform (AOP) messaging middleware, to provide a bridge between different technology platforms and data sources that can also cache, conflate and delay data, connect to Activ's global distribution network, and handle on-demand calculations.

Limeglass Gets Funding from JP Morgan

JP Morgan has made an undisclosed investment in Limeglass. The London-based vendor specializes in financial research technology, using a blend of natural language processing and machine learning, combined with a proprietary cross-asset and macro taxonomy to tag each paragraph in a report in context.

ExtractAlpha Launches Alt Data Analytics Tool

ExtractAlpha is rolling out a new alternative data analytics offering for portfolio managers. Dubbed Insight, it will help users to see their exposure to alt data-driven factors and manage risk. The tool can visualize a portfolio's overall exposure and drill down into any stock to assess its exposure to ExtractAlpha's alt data factors and predictive models.

Trumid, Citi Partner for Credit Market Trading

Electronic corporate bonds trading platform provider Trumid Financial is partnering with Citigroup to create tools that they hope will provide added liquidity and connectivity to fixed income institutional clients. Citi is backing Trumid through its Spread Products Investment Technologies program, which lies within the Citi Markets FinTech Investments unit.

Jefferies and Integral Launch New FX Offering

Investment banking firm Jefferies is teaming with FX specialist Integral to launch a service geared toward buy-side firms that will allow them to connect and trade with the FX market. The centrally cleared venue, dubbed TrueFX, provides direct access to FX liquidity via a single point of credit intermediation and technology integration.

The API Economy's Existential Crisis



Has the so-called 'API economy' been over-hyped, or is there value in recalibrating an open API strategy? By [Jo Wright](#), with additional reporting by [Hamad Ali](#)

Consulting firm Gartner said earlier this year that public, web-based application programming interfaces (APIs) have fallen into what it terms the “trough of disillusionment”—the point on the hype cycle where the excitement around a particular trend or technology has worn thin and investment falls off. Gartner’s pessimism, however, doesn’t seem to have rubbed off on many in the capital markets, as asset managers, banks, data vendors, and service providers have been eager over the last year to communicate that they are packaging their offerings with APIs and partnering with API-first fintech firms.

The buzz around what has been dubbed the API economy—the so-called ecosystems of integrated business systems and services that web-based APIs have facilitated—promises seamless connectivity and competitive edge. The apparently limitless prospects for innovative partnerships has created anxiety in financial services as technologists scramble to understand how they need to recalibrate their API strategies to take advantage. This anxiety was evident, for example, at Sibos in London earlier this year,

where delegates packed sessions on open banking and building payments ecosystems.

Virginie O’Shea, research director at Aite Group, says she will include the “API economy” in a report predicting trends for 2020. But she adds that she is bemused by the hype and skeptical of the “ecosystem” nomenclature.

“APIs have been around for a long time, so [the hype] is a bit odd. I think the reason there is a lot of PR around APIs at the moment is that people are trying to push data services,” she says.

“A lot of large financial institutions, a lot of the market infrastructure, a lot of the vendors, are trying to provide access via API to other services. This is about APIs acting as a gateway to other services for clients.”

‘Cambrian Explosion’

As O’Shea says, APIs are not a new concept. They are, after all, just sets of software protocols or tools establishing how different systems can interact and talk to each other. The first APIs are 50 years old or 20 years old or 15 years old, depending on who you ask. And APIs are everywhere, whether as private APIs that connect developers to their company’s back-end servers, or as open, public APIs that integrate one service with another party’s service to provide a specific experience for a user.

The last few years have seen what has been called a “Cambrian explosion” of public APIs available over encrypted web connections. An IBM report quotes estimates that 1 million APIs will be in use before the end of this decade, compared to 20,000 at the end of 2015. Halfway through this year, the API directory Programmable Web says APIs registered on its site passed the 22,000 mark, after a 30% increase in registered APIs over the last four years.

This explosion has been enabled in part by the modernization of API development with the release of developer toolkits and frameworks like Swagger, wider adoption of architectural formats like REST, and standards like OpenAPI.

But there have also been economic imperatives. Open APIs have transformed everyday life, often imperceptibly, as tech firms push out services integrated with other services. Classic examples include ridesharing apps that use Maps through Google’s API to help drivers find riders, or food delivery apps that incorporate payment services like Venmo or PayPal so users can split costs.

In financial services, retail banks have led API innovation as they look to entice online banking customers. Spain’s CaixaBank, for example, lets users book hotels through their online banking app, for which they can earn cash-back rewards.



“It’s about being able to provide access to fintechs or vendors you don’t want to buy but do want to partner with, and to be seen as bleeding edge if you are a bank or a service provider. So that’s where the idea of API strategies are coming from—it’s this idea of being a hub or what people are calling an ecosystem provider.”

Virginie O’Shea, Aite Group

In Europe especially, regulation and government initiatives have pushed API adoption in the retail space. In 2015, the European Parliament adopted the revised Payment Services Directive (PSD II), which is intended partly to open up the EU payments market by requiring banks to allow third-party access to their customers’ information, which is being done via APIs.

These conditions are having a knock-on effect with capital markets firms by driving down the cost of APIs, driving up their availability, and putting pressure on firms to show that they can keep up.

“It’s about being able to provide access to fintechs or vendors you don’t want to buy but do want to partner with, and to be seen as bleeding-edge if you are a bank or a service provider,” says O’Shea. “So that’s where the idea of API strategies is coming from—it’s this idea of being a hub or what people are calling an ecosystem provider.”

Internal to External

The most successful API strategies come from firms that grow API usage internally before externalizing it to customers to connect them with data or services.

For Saxo Bank, such a strategy resulted in an overhaul of the services it offers to wholesale clients. Saxo has a trading platform, SaxoTraderGo, which, prior to 2011, users accessed via apps on their devices. There were apps for iPhone, Android, BlackBerry, and so on, plus a downloaded desktop app. These apps connected to the traders’ back offices and their own systems and



to Saxo’s systems, which proved complicated to manage.

Saxo’s head of fintech, Chris Truce, says that in 2011, the bank completed development of a new web-based trading platform. It decided to develop a middleware layer for internal use—OpenAPI—that connected the platform to the bank.

“So everything the bank did—taking deposits, transactions across multiple asset classes, even corporate actions—were made available in this middleware layer and that one API would feed each app. This allowed us to make changes and updates seamlessly to features on our trading platform, web or mobile applications using the OpenAPI,” Truce says.

If the bank wanted to make a change to something in the app, it could do so once and that change would be replicated in all the apps, whether on mobile or desktop.

At first, OpenAPI was just for Saxo’s internal developers to use. “We decided to extend this facility to our partners in 2013, who had already been using our trading platform on a white-label basis since 2011, to better integrate trading solutions to their own offering for retail banks and/or wealth management clients,” Truce says.

Using this externalized version of OpenAPI, developers at the bank’s partners could develop their own custom apps for their own clients.

“After we externalized our OpenAPI and made it accessible to our partners’ developers, this cascaded into what is now the centerpiece of Saxo’s wholesale offering, the broad OpenAPI that allows

any institution to natively integrate a stockbroking solution or some kind of capital markets or wealth management solution directly into the apps they already have,” Truce says.

Like Saxo Bank, BNP Paribas Asset Management wanted to extend API-driven efficiencies from the internal environment of the firm to improve the experience of their partners. The firm wants to leverage research from BNP Paribas Securities Services and provide that to its own partners via APIs, says COO Fabrice Silberzan.

Internally, the firm uses large trading applications like Aladdin, and builds its own APIs around it. The firm can integrate its own research with Aladdin through its API, for instance.

“We are very much a quant organization, so we invest a lot in research. If we want to access this research, we can organize that through a standard API call,” Silberzan says. “This was a transition for the organization because we



Pere Nebot
CaixaBank

are moving from an application-based architecture toward a service-oriented architecture. This takes time, it is a process, but it is the direction we are moving in.”

The next step for the firm is providing APIs to the outside world, which it already does with some partners, such as distributors. “We are looking to work with our own asset servicers. We are looking to BNP Paribas Securities Services to use and consume their data, leveraging the API for a seamless process,” says Silberzan.

BNP began giving distributors access to its APIs about two years ago.

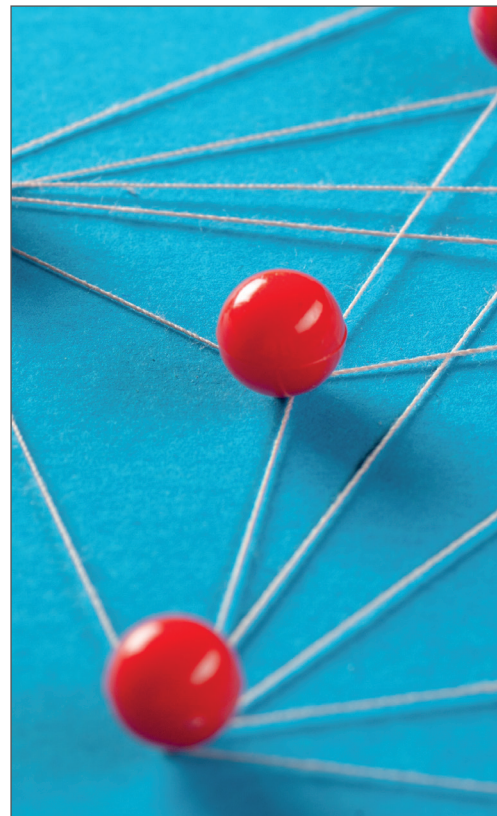
“Our partners can query some information in our system without having to replicate in their own environments a lot of the processing we are already doing. What we are offering is the capacity to directly access information in a controlled manner,” Silberzan says.

Pere Nebot, CIO of CaixaBank, says the API economy has meant that integration with other companies is vastly faster and more efficient. Protocols and security rules, which once had to be agreed upon beforehand and separately with each customer or partner, are now embedded within the API protocols.

CaixaBank considers both the technical side and the business side of its API strategy. “One is technical, which is part of my role. We have to be able to transform our legacy systems into API-based systems to increase the availability and the speed of connectivity between all our systems,” Nebot says.

On the business side, Caixa’s objective—to deliver the best experience to customers—remains the same. But there is a big difference in the pace at which it happens, dictated by what Nebot calls the much faster “rhythm” of the APIs.

Since 2007, Caixa has conceived of its operations in three separated layers—one for customer experiences, a service layer, and the bank’s back end. Isolating these layers from one another has meant that the bank can sidestep a big problem for many firms—the fact that legacy systems do not integrate with APIs—and allow the bank to provide API access to customers in the first layer.



The API economy has changed what vendors can offer, too. Tom McHugh is a co-founder of Finbourne, which has an open, cloud-based investment data platform called Lusid that it is marketing to buy-side firms of all sizes.

McHugh says Finbourne wants to operate Lusid in a way that is open API-first and developer-friendly, “so that people find a lot of constructs that are difficult right now much easier to access.” Lusid has published APIs that allow in-house solutions to interface with portfolios, holdings and transactions.

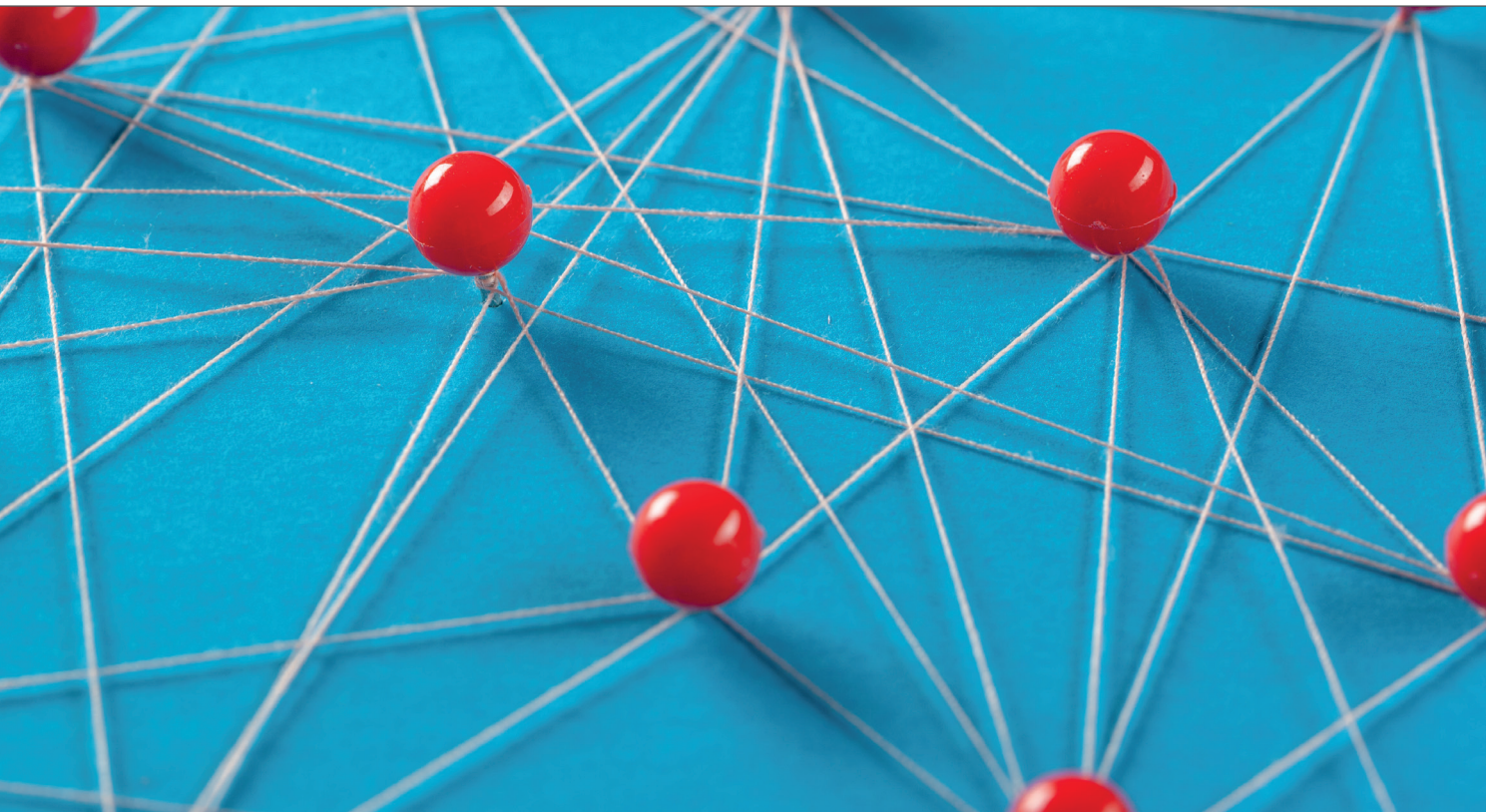
“What we are offering is basically an API-first data platform that stores and knows how to account for and deal with all the financial constructs you have as an asset manager—orders, executions, allocations, transactions, benchmarks, holdings, performance measurement and so on,” says McHugh. “We offer a backbone that allows you to use software development kits and an API to manage the data you need to operate your business.”

Finbourne has partnered with Refinitiv to offer the data giant’s capabilities—



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“After we externalized our OpenAPI and made it accessible to our partners’ developers, this cascaded into what is now the centerpiece of Saxo’s wholesale offering, the broad OpenAPI that allows any institution to natively integrate a stockbroking solution or some kind of capital markets or wealth management solution directly into the apps they already have.” **Chris Truce, Saxo**



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“We are very much a quant organization, so we invest a lot in research. If we want to access this research, we can organize that through a standard API call. This was a transition for the organization because we are moving from an application-based architecture toward a service-oriented architecture. This takes time, it is a process, but it is the direction we are moving in.”

Fabrice Silberzan, BNP Paribas Asset Management

like portfolio analytics and execution management—to Lusid clients via APIs.

Barren Landscape

It appears that the API economy has some substance to it—or at least that financial firms are looking to find ways of integrating new services to improve their offerings. But there are concerns holding back the true scaling of the API economy, analysts say. Gartner’s Mark O’Neil wrote earlier this year that the consultancy predicts that by 2021, 25% of organizations with public APIs will have discontinued or rebooted their public API strategy due to a lack of uptake and because of security concerns.

Aite’s O’Shea agrees that API security standards are low. Alissa Knight, a senior analyst in Aite’s cybersecurity practice—recently conducted an exercise during which she hacked the APIs of 30 banks within eight minutes each.

Additionally, O’Shea says, while seamless integration sounds great, it also means that clients can disconnect from you just as easily and connect to a competitor instead. For this reason, many firms are cautious about putting in standardized APIs.

And then there is the issue that legacy systems can’t connect to APIs, a potential issue for many large financial firms.

“They can’t consume data and push out the data that is required. So this is where you see extract, transform, load (ETL) bots being put in place—to try and transform data to push it to an external API. And that is not the best idea: You have to keep fixing the bots because they keep going wrong,” O’Shea says.

Being API-first is not necessarily a pleasant place to be; one developer calls it an “unforgiving, barren landscape.” It can often mean exposing IP to a critical, competitive world. And firms struggle to retrofit APIs into their offerings without it having made it first integral to their internal processes.

“[API ecosystems] are not really an ecosystem; it’s just a plug-in to other services,” O’Shea says. “Everyone has APIs, but they might not have RESTful APIs, they might not have the most modern APIs. That is what people are investing in to try and grant more secure access and make it easier to connect to an API strategy. But it’s not rocket science—it’s quite a basic thing that companies should have been offering anyway.” **WT**

The Rise of the Algo Wheel

As the buy side becomes increasingly data-driven and systematic in their approach to best execution, some are looking to algo wheels to optimize trading and automate the compliance process. Yet, fine-tuning the broker-routing software has proven challenging. By Josephine Gallagher



Buy-side firms are evolving the techniques they use to select and validate broker-dealers and their algorithms to improve execution performance while providing evidence of their effectiveness. As a result, an increasing number of asset managers and quantitative funds are looking to algo wheels to automate the routing process and determine where is best to send their easier-to-execute orders, thus allowing traders to focus on more complex trades for execution.

One of the key drivers for using algo wheels or developing technologies for broker routing is regulation. Over the last two years, buy-side

firms have taken on greater responsibility for best execution, where they are mandated to justify their broker selection more transparently. A top example of this is the RTS 28 requirement under Europe's Mifid II overhaul, where investment firms must publish and report their best execution practices.

But regulation isn't the only driver. Others include cost pressures, the need to improve efficiency and to optimize execution strategies, all while managing an increasing number of complex sell-side algorithms. These factors have all

contributed to the growing investment in independent technologies that can analyze the performance of a broker's algorithms and then use that data to train its algo wheel.

"The days of clients relying on banks to tell them how things perform are, broadly speaking, long gone," a head of execution services at a tier-1 bank says. "Because of best-execution requirements that our clients have to their end investors, they typically need to have a pretty robust, independent process for evaluating broker performance."

According to a report published by Greenwich Associates in April 2019, less than a quarter of buy-side traders in Europe use algo wheels, but that number is rapidly growing, particularly as traders look to shift meaningful amounts of their trading from traditional high-touch trades to algorithmic trading.

Others believe many of the advancements and uptake in broker-routing technologies have also been helped along by cloud computing and the availability of data. Today, buy-side firms are more data-driven and systematic in their approach to execution.

Yet algo wheels and broker-routing technologies are very much at the early stages of development for buy-side firms and much of the activity is still taking place behind closed doors. Many are reluctant to discuss the mechanics of their algo wheel development as they continue to fine-tune their mathematical models. Additionally, a growing number of third-party vendors—such as FlexTrade, ITG and Itiviti—are offering algo wheel services. Vendors tend to couple these services with other broker-performance analytics, such as transaction-cost analysis (TCA).

This move toward more sophisticated broker analysis means there is increasing pressure on sell-side firms to prove their worth and stand out in an already competitive market. One example of this is UBS. Over the last two years, the Swiss bank has been building out its algo validation team focused on strengthening its algo inventory and reducing the risk of flawed models.

“Since brokers algos are continuously reviewed for performance, and there are now more sophisticated, systematic means to do so, pressure on the sell side has increased to ensure their algorithms are increasingly optimised so that they capture as much flow as possible,” says Alex Brown, head of product for principal trading at Itiviti.

But, as the algo wheels and broker-routing technologies continue to evolve, a variety of challenges are beginning to emerge. For this piece, *Waters Technology* spoke to several tier-1 banks, vendors and buy-side experts to gain a deeper understanding of some of the lead concerns in this space.

“The days of clients relying on banks to tell them how things perform are, broadly speaking, long gone. Because of best-execution requirements that our clients have to their end investors, they typically need to have a pretty robust, independent process for evaluating broker performance.”

Tier-1 bank executive

Not an Exact Science

An algo wheel is a piece of software that uses a performance-weighted model of broker-routing. It is a measurement tool that can be built into an execution management system (EMS) or order management system (OMS) to help determine the most optimal broker or sell-side algorithm at any given time. It uses decision-making logic, meaning that it automates order-routing flow according to a set of rules and mathematical models. Using quantitative data such as TCA reports, raw trade data and other real-time market data factors, the algo wheel ranks an interchangeable list of brokers based on the inputted logic—considering metrics such as market cap, spread capture, percentage average volume (ADV), volatility and time of day.

Once the process is completed, the algo wheel generates a report explaining and justifying the reasons for selecting the broker algo. It provides a best execution audit trail making it valuable for complying with buy-side execution requirements.

Algo wheels can also be divided into two categories: a tactical algo wheel and a performance-based algo wheel. A tactical algo wheel follows a defined set of if/then instructions, whereas a performance-based algo can adapt to real-time data and market conditions, modifying routing strategies accordingly throughout the day.

The challenges, however, come down to the technical engineering of the algo wheel. According to the bank head of execution services, there are many moving parts to consider when building models for execution analysis.

“The problem with execution analysis is that it can be more of an art than a science,” says the source. “Arriving at statistically meaningful conclusions on trading performance of your brokers is difficult—the datasets are often too small to be statistically significant, and if you extend the time horizon, you can end up mixing performance in different market environments.”

In many cases, buy-side firms require several months’ worth of data on a broker’s algo performance to sufficiently draw a conclusion, but often the results can be skewed by changing market conditions and outliers. So, for example: Broker A trades an order on a day with optimal market conditions, whereas Broker B trades the same order on a volatile day. This example inaccurately reflects the brokers’ overall performance because it only looks at a single day. When building algo wheels, firms need to consider multiple complex factors that can influence the result of the execution analysis, including uncontrollable market conditions, benchmarks, order-routing objectives, statistical interpretation and slippage calculations.

According to one former head of trading at a tier-1 bank, many algo wheels being developed are flawed because of the complexity of trying to create mathematical instructions for each outlier.

They add: “If the slippage numbers are valid, the routing algo will work perfectly well, but because most slippage calculations are flawed because they include market noise—typically an order of magnitude larger than the actual slippage—the routing algo will be working off bad data.”

Other considerations point to the type of data used to inform the algo wheels or execution analysis. For example, there are those who believe that some TCA reports include data that is biased or data that only shows a fraction of a broker’s algo performance. The former head of trading explains that TCA reports are based on distorted calculations, as a lot of market noise is captured in the process.

In some cases, buy-side firms are now requesting raw data from agency brokers to produce more accurate reflections of execution performance, adds Paris Pennesi, head of quant



Alex Brown
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“Some buy-side participants only want the granular raw data of the execution, so they ingest that raw data themselves or give this data to a third-party company that evaluates it and makes the evaluation of the performance about our algo and others.” **Paris Pennesi, HSBC**

strategies for foreign exchange and commodities for HSBC’s eRisk unit. “Some buy-side participants only want the granular raw data of the execution, so they ingest that raw data themselves or give this data to a third-party company that evaluates it and makes the evaluation of the performance about our algo and others,” he says.

To add to the complexity, subjectivity and customization requirements also

play a role. Each buy-side trader will have different order types, specifications, trading techniques, and interpretations of factors, such as outliers, execution success and benchmarks—and translating those into a performance-measurement tool can be incredibly difficult.

“I don’t think it is an exact science and clearly whatever your results are, they do determine how your automated algo wheel will allocate those orders,”

the head of execution services says. “So, I think it is important for clients to be aware that it is not perfect and there are subjective factors that need to be brought into the equation.”

According to one execution services specialist who is based in Europe, it is also at a major disadvantage to the US from a data perspective. The reason is that there is no consolidated tape or holistic view of a European best bid and offer (EBBO) in the EU, firms are having to construct their own tape or gain access to the data through multiple sources—in which case the prices may be inconsistently calculated across other firms or vendors.

“Comparing apples with oranges becomes a little bit difficult at times,” they say.



Best Execution

Historically, much of the pressure of best execution has largely been on sell-side firms. But that changed in January 2018 with the implementation of Mifid II and its RTS 28 requirements, in which buy-side firms are mandated to evidence best execution. The obligations require investment firms to categorize the top five execution venues and entities they use across all asset classes, as well as publish and report their execution policy to regulators in a machine-readable format.

The point of the regulation was to provide a new level of accountability and transparency to the buy side. In its design, however, RTS 28 did not envisage the uptake of automated broker-routing or algo wheels—where

some believe that buy-side firms are effectively offloading their best execution responsibilities to the sell side as brokers look to be ranked favorably in their models. There is also growing concern about the complexity of building an algo wheel and offering best-execution reports to investors and regulators that can be easily understood and consumed.

“It is too complex for the buy side to do it right; it will be even more complex for the regulator to figure out if it is right or not,” says the former head of trading.

With the pressure buy-side firms face to ensure quality execution and justify each decision, leaving that up to an automated algo can cause a few hurdles of its own. One example, in particular,



Paris Pennesi
HSBC

is if there is a loss in tech talent, traders or knowledge within the firm, which are used to program the machine’s routing orders. Other future consideration are the application of machine learning to make for more intelligent broker routing. Where that fits into the equation of explainability and best-execution reports has yet to be seen.

It is unclear if algo wheels or execution analysis systems will become more scrutinized in the future by regulators, at least in the EU. As much of Mifid execution regulation is principles-based, regulators may accept execution policies and reports that incorporate algo wheels as part of their best execution practices and regulatory reports. But the whims of regulators have been known to change. [WT](#)

Due North: TMX's Bold Audit Gambit

Exchange data audits are deeply unpopular among client firms. They are time-consuming, burdensome, can uncover costly non-compliance issues, and can sour the exchange–client relationship. TMX Group wants to change that. **Max Bowie** talks to the exchange and financial firms about its new approach.

I“love data audits,” ...said no one—ever. The process by which exchanges audit subscribers to ensure they are in compliance with the exchanges’ data licenses is at best intrusive and inconvenient, time- and resource-consuming, and, frankly, insulting to those who make best efforts to ensure they report and pay for data correctly. At worst, it can be a costly fishing exercise, involving back payments and penalties if auditors discover any transgression.

In short, audits have been a bone of contention between exchanges and their end-user clients for years. Exchanges rightly want to protect their intellectual property and their investment in data, and ensure that subscribers are accurately reporting and paying for what they use. For the most part, client firms want the same thing—at least, they don’t want to be at risk of fines—but complain about the workload associated with performing audits, and that some exchanges treat minor accidental infringements in a draconian manner.

But this could be set to change, if the industry follows the lead of Canadian exchange TMX Group, which has introduced a new approach to audits—likened to a twice-annual visit to the dental hygienist, rather than a root canal—that is garnering positive responses from end-user firms.

Under the initiative—originally known as Zero Admin, and now called Datalinx Xpress—firms submit to an initial audit, and agree to fix any compliance problems that it uncovers without penalty, after which they never have to

go through a full audit again, but instead meet with the exchange twice a year to agree and certify any changes.

“An audit is a multi-month process involving third parties. It can be a burden. The Datalinx Xpress program can be done in an afternoon,” says Sarah Ryerson, president of TMX Datalinx, the exchange’s data business. “As part of the onboarding, a client sends us an entitlement report, and we balance it against their Exhibit A, and they are either cleared, or if any problems are identified, they fix them. It turns what was an adversarial process into one that’s much more partnership-driven, client-driven, and collaborative.”

Audit Assault

Compare this description to how exchanges traditionally approached audits: They decide how many audits they can perform in a year—perhaps between five and 15 for a small exchange, or between 50 and 75 for a large exchange—and select target organizations. These might be selected randomly, or by region, or based on something that makes the exchange suspicious that a firm might be under-reporting its data usage. So, for example, if a firm has reported exactly the same number of accesses

month after month, year-on-year, or if a firm does not have a derived data or non-display license that allows it to use the exchange’s data in non-display applications, an audit can be triggered by the exchange.

One reason audits are unpopular is because the same firm could find itself subject to audits by four or five exchanges in the same year, says an exchange audit expert. “And each of those is a lot of work, especially for exchanges with a large number of data products,” the expert says.

Though in total, an audit may take three months or more, most of this is scheduling, back-and-forth communications, and number-crunching. The time spent on-site can be only a few days per client, which can be made more efficient by sending the client written usage questionnaires to complete beforehand—though this adds to the end-user’s workload. Once on-site, the auditor has the client run spot-check reports, tests the entitlements system that generates the reports, and tracks every person accessing each exchange data product, along with when each access started and ended. Then they provide their report to the exchange and client to agree on anything that needs to be fixed, and to negotiate any settlements. But even if no transgressions are discovered, the continuous audit process can still cost firms indirectly by tying up market data professionals and taking them away from their day jobs.

Another reason audits can be contentious is the way auditors—often independent third-party contractors,

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since most exchanges don't have sufficient resources in-house to handle all the audits required—are compensated. In some cases, exchanges pay a flat fee; in others, they pay a commission-like structure, based on the amount of recoverable revenue discovered—essentially incentivizing an auditor to find as many instances of under-reporting as possible, which end-users complain can include gray areas that can create contentious arguments with the exchange.

“From my perspective, I want an accurate report,” the audit expert says. “If I try to hose someone, they won't let me back in next time. I try to get it right and treat the subscribers like clients. If I find legitimate mistakes, they might be mad at us, but ultimately, they're not writing me a check; they're paying back the exchange.”

Follow the Money

The reason exchanges are so diligent about tracking who uses their data, and how much of it, is that although most infringements are minor and accidental errors—such as giving a demanding trader access to a dataset but not permissioning them properly in the firm's entitlements system, or putting data on a website that can be seen by thousands of external clients without a redistribution license—others can be much more serious and deliberate.

“If I find mistakes—and they *are* usually *mistakes*—it's because unless they are only dealing with a couple of exchange data products, managing them can be very complicated,” says the audit expert. “If you're a big shop, staying on top of around eight exchanges and 100 specialist vendors is a lot to manage.”

However, he also describes some opposite scenarios—often originating from China—where a subsidiary in the same building as its holding company might literally drill a hole in the partitioning wall and run a cable to siphon market data from its parent without reporting it to the source exchanges. In another

“From my perspective, I want an accurate report. If I try to hose someone, they won't let me back in next time. I try to get it right and treat the subscribers like clients. If I find legitimate mistakes, they might be mad at us, but ultimately, they're not writing me a check; they're paying back the exchange.” **Audit expert**

scenario, a firm might pay for a handful of legitimate terminals, each displaying a different market, then set up a video camera in front of each and broadcast the content illegally to hundreds of positions on a trading floor.

If discovered, these kinds of instances can cause an exchange to cut off service, while even unintentional infringements can result in millions of dollars in fines, depending on the amount and longevity of under-reporting. For example, in 2005, Citigroup was fined £6.4 million by the London Stock Exchange for using LSE and FTSE data in algorithmic trading models that were unwittingly proliferated throughout the bank. Though an unwitting error, the usage was much broader than what Citi reported.

That aside, most firms now have systems and policies in place to minimize the risk of unlicensed data usage or under-reporting. But in some cases, in such complex environments, data usage slips through the cracks. Hence, any initiative that offers an element of forgiveness for minor infringements, or makes the audit process less adversarial, is bound to attract attention.

Clean Slate

One of the key incentives of Datalinx Xpress is that once a firm completes the initial audit, its data usage and management is tracked via a series of “true-ups”—conversations that assess what a firm is using, and what it needs, rather than repeated lengthy audits—and crucially, promises no more audits in the future. Another is that the starting point effectively wipes the slate clean and promises “no surprises” once firms pass the semi-annual checkup.

“Once we recognize that everything is in order, clients get a clearance letter saying that we cannot act retroactively,” Ryerson says.

One firm raving about TMX's new approach is Desjardins Securities (Disnat), the discount brokerage business of Desjardins Group, one of Canada's top 10 financial institutions. After recently undertaking a project to certify its professional and non-professional data usage with the exchange (see last month's *Waters Technology*), Disnat was keen to prove its compliance credentials in other areas, and was one of the first firms approached by TMX to take part in the new initiative.

“As part of Datalinx Xpress, we had to do an audit—map everything we use, get documents, and provide usage reports of streaming and snapshot data users and external displays,” says Richard Tardif, expert advisor for markets technology at Disnat. “Part of that certification audit was proving that the invoice coming from the exchange match up with the data. Then, having done this exercise ... every six months, we meet, make sure everything is accurate, and move on.”

Tardif adds that the initiative should bring TMX closer to its clients and improve exchange-client relations. “Datalinx Xpress allows us to have a very transparent business relationship with the exchange. Both parties fully understand what is being used, and the governance around it ... and if we have questions, we pick up the phone,” he says. “This is amazing for us ... and if we could do this with US exchanges, it would be awesome.”

Disnat isn't the only firm saying this: A market data manager at a major invest-



Sarah Ryerson
TMX Datalinx

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“If you're a big shop, staying on top of around eight exchanges and 100 specialist vendors is a lot to manage.”

ment bank, calls the move a “great step forward,” and says there may even be more room for improvement, praising not just the end results, but also the process itself.

“We sent TMX the audit files like normal, and they came back with a few queries within a week, then said we were all set. The message was ‘We’re not looking backwards; just fix it going forward,’” the data manager says. “I would encourage other exchanges to adopt similar or other innovative methods to help the industry move from a reliance on audits as a compliance tool to more forward and proactive ideas and methods to reduce and eliminate the time and resources consumed by audits, while at the same time protecting their interests for compliant use.”

Lightening the Load

Until now, audits have not only often been adversarial and “feel like a revenue-generator for exchanges,” the data manager says, but also contentious because exchanges and end-users often interpret policies differently. “I’ve seen these issues come down to a comma, and whether you read a policy as being able to do A and B with the data, or if you can only do A or B.” Instead, TMX worked hard to make the process less of a burden for the firm and to take the workload off the bank.

“We found this process to be very helpful in confirming the handshake that what we are using is in agreement with the exchange’s terms of use,” he says. “The TMX team was very helpful in pre-filling and updating the Exhibit templates based on our usage, which translated into reducing the time and overhead burden on our end.”

A data compliance executive at a US bank echoes this reduction in audit-related work as a key incentive.

“People who haven’t implemented it might be worried that because it’s more frequent, that means it’s more work ... but it’s so much easier to have our reporting team just run a report twice a year. It’s probably 1% of the effort that goes into



“Datalinx Xpress allows us to have a very transparent business relationship with the exchange. This is amazing for us ... and if we could do this with US exchanges, it would be awesome.” **Richard Tardif, Desjardins**

an audit,” the compliance executive says. “When we do an audit, it’s a pain—you have to put NDAs in place, you have to state what the auditor is and isn’t allowed to do, and provide information on all the applications consuming data. Now, once we’ve submitted the initial report so they can figure out where we stand, the only time we’ll need to update anything is when we add a new application.”

That said, the reduction in work only cuts down a fraction of the time spent on audits because other exchanges still audit in the traditional, time-consuming manner, the executive warns, adding that if other exchanges would adopt a similar approach, it would make life much easier overall.

Another benefit is that the more frequent “true-ups” reduce the risk of non-compliance spreading. “In the worst-case scenario, you can only be out of whack for a couple of months,”

the compliance executive says, “so if you find out that someone is not doing something correctly, you’re not looking at fines dating back years. [As a result], when they first showed us the proposal, we said, ‘This is fantastic! When can we sign up?’”

What makes TMX’s new approach all the more remarkable is the about-face from how the exchange has been vilified in the past for its aggressive audit tactics. While Ryerson—who joined TMX in 2018 from Google, where she was industry head for financial services—says she can’t comment on activities prior to her tenure, she says this change has come from the top, and covers all of the group’s activities. That said, she also notes that Datalinx Xpress was already in the works when she arrived, crediting director of commercial management Dave Hill as being the architect of the program.

“This is another leg of TMX’s client-first transformation, and fits squarely with our commitment to better serve clients. I’ve been in this role for a just over year, and the number one piece of feedback I would hear from clients was how we could be easier to work with,” she says. When it comes to measuring the success of the initiative, Ryerson says she looks at the number of clients participating.



Tom Davin
FISD



“When we do an audit, it’s a pain—you have to put NDAs in place, you have to state what the auditor is and isn’t allowed to do, and provide information on all the applications consuming data. Now, once we’ve submitted the initial report so they can figure out where we stand, the only time we’ll need to update anything is when we add a new application.” **Compliance executive**

“Close to 40% of eligible clients are now participating ... and we hope those numbers will climb through the remainder of 2019 and 2020,” she says. “There has been no material impact on revenue—and that’s not the goal; the goal is to improve client relations. The ultimate measure of success will be client satisfaction.”

Following Suit?

Nasdaq is rumored to be exploring a similar approach to audits, though the exchange declined to comment for this article, and Ryerson says Hill has received inquiries from other exchanges expressing interest in following in TMX’s footsteps.

“We’re proud of the program, and think it would be great to see broader adoption,” she says.

However, others—particularly those in near-monopoly positions with a sticky client base—seem content to continue with the status quo for now. One consultant says that when he proposed a more progressive model to one major exchange, the operator responded that it felt there was more money to be made from audits, and it wasn’t willing to give up the income.

The question at the heart of change is this: Do exchanges want compliance, or do they want to be able to recoup windfalls from audits? In theory—whether the client pays correctly upfront, or whether unpaid fees are collected later—the numbers should be a wash, except that recouping unpaid revenues via audits comes

at a cost: the auditors’ fees, plus the harder-to-quantify cost of souring a client relationship. And if clients truly ever achieve full compliance (or close to it), then the need for audits goes away—along with any revenue recoveries. So if that’s the aim, then audits will ultimately become obsolete, and exchanges will sooner or later have to change the way they approach data license compliance anyway.

And while end users want to see more exchanges moving in the same direction, it may take time as other exchanges scrutinize the impact on TMX’s data revenues. “I think it will take a year or two of this working. Other exchanges will want to see the effect of these changes,” the data compliance executive says.

“I think TMX is going about this the right way. I’ve talked to banks and the buy-side about this, and they are all giving this an ‘A’ for effort,” says Tom Davin, managing director of data industry association FISD, who previously ran market data at Nasdaq. And for any exchange holding back from change because of potential lost recoveries, Davin notes that a less adversarial and closer approach can actually strengthen an exchange’s revenue streams by making data usage more compliant and therefore more consistent.

While it may take some time for the impact of TMX’s new approach to be fully realized on the exchange’s balance sheet, the bottom line is that the positive feedback it is already getting is priceless. **wt**

> What's Old Is New

This year's BST Awards ceremony was held on November 1 in London. Cloud, machine learning and natural language processing featured prominently among the categories this year, and they are all tied together by data governance, security, reliability and scalability.

Sometimes I think we're hitting an inflection point when it comes to data and analytics, and then I talk to my dad. The man started building databases in the 1970s for an insurance company. Here's the weird thing: While there's an ever-growing field of alternative data sources and new ways of managing that data—you'll read a lot about cloud, machine learning and natural language processing over the coming pages—the fundamental problems that firms face when extracting value from the data remain largely the same: the need for proper data governance, security, reliability and scalability. Exacerbating the issue is the fact that in the financial services, regulatory demands tend to be greater than in other sectors. It's not an original story.

What I think differentiates many of the winners in this year's Buy-Side Technology Awards from their competi-

tors is the understanding that you can have magnificently architected, cutting-edge technology, but if you can't solve for those fundamental challenges, your deep-learning algorithm will never run inside a bank or institutional asset manager.

Congratulations to all of our winners in this year's Awards, which were announced on November 1 at a luncheon in London. And a special nod to Quantifi and Numerix, which, respectively, won the best overall product and best overall technology provider categories. [Wt](#)

Anthony Malakian
Editor-in-Chief

Winners' Circle

Best overall buy-side product, 2019 Quantifi	Page 30	Best buy-side performance measurement and attribution product StatPro	Page 51
Best buy-side AI platform or tool TruValue Labs	Page 31	Best buy-side portfolio analysis tool Style Analytics	Page 52
Best overall buy-side technology provider, 2019 Numerix	Page 32	Best buy-side pricing/valuation service Quantifi	Page 53
Best buy-side algorithmic/DMA product or service Dash Financial Technologies	Page 34	Best buy-side reconciliation platform/service SmartStream Technologies	Page 54
Best buy-side collateral management tool CloudMargin	Page 35	Best buy-side risk management initiative over the last 12 months Axioma	Page 57
Best buy-side compliance product—KYC SIX	Page 36	Best buy-side risk management product Numerix	Page 58
Best buy-side compliance product—regulatory reporting Bloomberg	Page 37	Best buy-side TCA tool Tradeweb Markets	Page 59
Best buy-side compliance product—trading Verint	Page 38	Best cloud provider to the buy side BT	Page 60
Best buy-side corporate actions platform FIS	Page 39	Best data provider to the buy side FactSet	Page 61
Best buy-side client reporting platform SimCorp	Page 40	Best implementation at a buy-side firm Numerix	Page 62
Best buy-side CRM platform Tier1 Financial Solutions	Page 42	Best integrated back-office platform FIS	Page 63
Best buy-side data analytics tool FactSet	Page 43	Best integrated front-office platform Charles River	Page 64
Best buy-side data management product IHS Markit	Page 44	Best integrated middle-office platform Quantifi	Page 65
Best buy-side EMS SS&C Eze	Page 45	Best portfolio accounting platform Eagle Investment Systems	Page 66
Best buy-side execution venue MarketAxess Open Trading	Page 46	Best outsourcing provider to the buy side Eze Castle Integration	Page 67
Best buy-side IBOR platform SimCorp	Page 47	Best low-latency trading network Avelacom	Page 68
Best buy-side market surveillance tool/platform Nasdaq	Page 48	Best use of the Agile methodology by a technology vendor JP Morgan Wealth Management	Page 70
Best buy-side newcomer (vendor or product) Finbourne Technology	Page 49		
Best buy-side OMS SS&C Eze	Page 50		



Buy-Side Technology Awards 2019

Waters honored the winners at a ceremony on November 1 in London.







Best overall buy-side product, 2019

Quantifi

The first of two categories decided by the *WatersTechnology* editors, announced on the afternoon of the BST Awards luncheon in London on November 1, went to Quantifi, thanks to its multi-asset, front-to-back-office Portfolio Management Solution (PMS). The Paris-based risk, analytics and trading technology specialist also won the best integrated middle-office platform (page 65) and the best buy-side pricing/valuation service (page 53) categories in this year's awards.

According to Rohan Douglas, founder and CEO of Quantifi, the firm has noticed a growing trend among buy-side firms looking for client-centric solutions that can support them and adapt to their investment strategies and processes, as opposed to the other way round. "Firms that adopt solutions-centric software like Quantifi are able to implement faster, reduce risk, reduce costs, and more rapidly take advantage of market opportunities," he says. "By selecting Quantifi, our clients are able to focus on their core skillsets of delivering enhanced returns for their clients and investors."

Douglas explains that the cloud is a key focus for Quantifi right now as capital markets firms of all description look to migrate part or all of their applications and processes to the cloud. To that end, the firm's cloud-based PMS provides clients with an environment that optimizes operations for greater flexibility and agility, while also allowing processing scalability to accommodate their various needs.

Quantifi's cloud strategy is also at the heart of its overall business plan going forward, with one of the industry's largest providers playing a prominent role. "With Microsoft Azure, we can offer cloud capabilities to firms that have traditionally used on-premises implementations," Douglas says. "We have successfully migrated a number of clients to our cloud solution with no disruption to their existing processes. Azure is also a key enabler for our Microservices architecture," he says.

By winning this category, Quantifi joins an elite group of past recipients, including Advise Technologies (2012); LCH. Clearent (2013); Vermilion Software (2014); Algomi (2015); Commcise (2016); Thasos Group (2017) and Nasdaq (2018).

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The firm's cloud-based PMS provides clients with an environment that optimizes operations for greater flexibility and agility, while also allowing processing scalability to accommodate their various needs.

Best buy-side AI platform or tool

Truvalue Labs

For many reasons, capital markets firms are increasingly turning to artificial intelligence (AI) to find new insights or automate manual processes. The problem is that it's easy to get lost because the field of AI is wide and varied. This year's winner of the best AI platform category, Truvalue Labs, has chosen to drill into the world of environmental, social and governance (ESG).


ESG investing has evolved rapidly in recent years, and so has the way asset managers analyze and assign value to ESG factors, says Hendrik Bartel, CEO and co-founder of Truvalue Labs. "Traditional ESG ratings are increasingly viewed as inadequate, since company-reported data is subject to greenwashing and annual ratings are not timely enough for investment decision-making," he says.

Truvalue looks to provide analysts with information to assess stakeholder views and independent reports of corporate ESG behavior in order to make informed ESG judgments. The key is discerning meaningful, material and potentially predictive information from the enormous volumes of unstructured data that exists in the ESG world. "Just as researchers embraced the internet in the era of information abundance, they must now embrace the defining technologies of our current era of superabundance: AI, machine learning and natural language processing," Bartel says. "Given the sheer volume of unstructured data, these technologies are the only effective way to ascertain signals embedded in unstructured data to gain deeper insights into sustainable investments."

Earlier this year, Truvalue introduced its new SASB Codified Edition Platform, as well as the expansion of company coverage to more than 16,000 public and private companies globally; the addition of six new languages; expansion of fixed-income coverage to include the major global fixed-income benchmarks; and the release of its Truvalue AI engine, which allows for the rapid implementation of any investment framework, whether ESG-specific, such as Sustainability Accounting Standards Board (SASB), or proprietary client-defined categories.

The two previous winners of this category were Nasdaq (2018) and Indus Valley Partners (2017).

—AM



Truvalue looks to provide analysts with information to assess stakeholder views and independent reports of corporate ESG behavior in order to make informed ESG judgments.



Best overall buy-side technology provider, 2019

Numerix

New York-based Numerix made a little bit of history this year by winning the final category of the 2019 BST Awards, becoming the first recipient of the best overall provider categories in the BST and SST Awards in the same year. “I wasn’t aware that we are the first winner of these two unique awards in the same year, and so I’m blown away by that,” says Steven O’Hanlon, CEO of Numerix.

Onewest Asset Management is responsible for delivering much of the firm’s buy-side success, the origins of which can be traced back to TFG Financial Systems’ TFG Complete platform, which Numerix acquired in March 2017. Naturally, the platform has undergone a number of technology and functionality enhancements over and above its obvious rebranding. “When we acquired TFG, we didn’t want to only focus on the global macro hedge fund market—we wanted to broaden our horizons and cover all hedge funds, including [traditional] asset managers,” O’Hanlon explains. “In order to do that, we needed to leverage technology in a more profound way. For a start, we needed to include APIs that would enable our clients to have more access into the product than they might have had when we acquired it. So we built out all the APIs, including a Python API, which is very adaptable to the way the buy-side community works.”

According to O’Hanlon, Numerix also added its analytics libraries to what is now an AWS-hosted, Microservices-based platform, which has significantly broadened its buy-side appeal. “It now supports multi-asset class capabilities, which steps us up to beyond where we were with just global macro hedge funds,” he says. “We can now approach any company on the buy side and offer them full front-to-back-office risk capabilities.”

Last year TriOptima won this category, joining past winners FactSet, UBS Delta, Advent Software, Charles River Development, Eze Software, Fidessa, Algorithmics and RIMES Technologies as recipients of this award.

—VA



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numerix

INTELLIGENT FRONT TO RISK



Buy-Side Technology
Awards Winner 2019
Best buy-side risk management product
Numerix



Sell-Side Technology
Awards Winner 2019
Best Sell-Side Technology
Provider, 2019
Numerix



Buy-Side Technology
Awards Winner 2019
Best buy-side risk management product
Numerix



Sell-Side Technology
Awards Winner 2019
Best Sell-Side OTC Trading
Initiative
Numerix



waters
Rankings Winner 2019
Best Credit Risk Solution Provider
Numerix



Sell-Side Technology
Awards Winner 2019
Best Sell-Side Credit
Risk Product
Numerix

The key to success in trading lies in the ability to transform to a new market paradigm.

The foundation of that success is a trading and risk technology platform that aligns your desk, risk and operations - front to risk. Business alignment creates knowledge, and knowledge creates a competitive advantage. True success cannot be achieved without *Oneview*.

To learn more about Numerix Oneview visit www.numerix.com



Best buy-side algorithmic/DMA product or service

Dash Financial Technologies

For the second year in a row, Dash Financial has emerged top in the best buy-side algorithmic/DMA product or service category in the annual BST Awards, thanks to its Dash Sensor suite. The offering is a multi-asset routing solution that is fully customizable to each client's algorithmic strategies, and supports benchmark and liquidity capture for US options and equities. The premise of the suite is to allow traders to control the behavior of their orders once they are executed, especially where they are routed.

Chicago-based Dash recently released a dark liquidity aggregation algorithm that provides traders with transparency, performance and control when they route orders to off-exchange liquidity pools. Called Sensor Dark, it is part of Dash's larger Sensor suite and is designed to source dark liquidity from independent venues, broker pools and hidden exchange liquidity pools across the US equities markets. Users are still able to customize these algorithms to meet their specific strategies and they can be connected to Dash's visualization and analytics platform, Dash 360.

Dash places great importance on customizability, ensuring that its clients can tailor the algorithms and strategies within Sensor so that they reflect their specific needs. Users can fine-tune their strategies to cover specific firms, traders or even securities. To measure the impact of the change in the algorithm, Sensor can be connected to the Dash360 platform. Changes to algorithms can also be made in real time, something Dash claims most other platforms cannot support, given that they typically need to wait at least overnight in order to do so.

Part of Dash's service is to leverage its expertise for clients who might want more guidance when it comes to the creation of their algorithms within the Sensor system, although ultimately clients decide how to customize their strategies. The company has also been adding new features to all of the platforms it offers, not just the Sensor Suite, but also to the Dash 360 platform.

—ED



Dash recently released a dark liquidity aggregation algorithm that provides traders with transparency, performance and control when they route orders to off-exchange liquidity pools.

Best buy-side collateral management tool

CloudMargin

After a brief hiatus, CloudMargin is once again the winner of the best collateral management tool category. The vendor has won this award four of the last five years, with TriOptima winning in 2018.

When it comes to collateral management, the need for straight-through processing (STP) is abundant. Take, for example, the Uncleared Margin Rules (UMR), which are set to go into force under the European Market Infrastructure Regulation (EMIR). Some 1,000 firms are struggling with how best to comply, which involves smart decision-making, standardized approaches, and prudent operational risk management to meet these and other evolving requirements, says CloudMargin CEO Stuart Connolly, who joined the firm from TriOptima in June.

“Technology continues to present challenges of fragmentation, constant change and silos that often impede efficiency,” he says. “Cost challenges remain a concern, with the need to fund initial margin, compete effectively and limit drag on the portfolios. In order to achieve STP, clients must ensure efficiency of their teams, address pressure for headcount management and, again, overcome silo barriers.”

As the company’s name hints, its offering is cloud-based. Most notable for CloudMargin is the partnerships it’s building in the industry. For example, in July it announced a strategic partnership with AcadiaSoft that will allow AcadiaSoft to white-label the CloudMargin platform, thus establishing an end-to-end solution addressing all agreement, risk and collateral management needs in one place.

“CollateralManager, powered by CloudMargin, will be AcadiaSoft’s next-generation solution, integrated into AcadiaSoft’s new AcadiaPlus platform, giving cost-efficient, easy access to both of our firms’ award-winning solutions via a single sign-on to one platform,” Connolly says. “We believe this collaboration between two firms that traditionally competed is transformational for the industry.”

Also this year, CloudMargin announced that it had signed Deutsche Bank, which is working with the vendor “to transform its collateral management program and embrace the cloud.”

—AM



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Best buy-side compliance product—KYC

SIX

For the fourth straight year, the best compliance product trophy will be passed on to a different vendor, with SIX winning this year. Indus Valley Partners, Charles River Development and Fidessa won the previous three years, respectively.

Know-your-customer (KYC) and anti-money laundering (AML) requirements are becoming more complex and the global sanctions regime is constantly evolving. It can be a challenging landscape to traverse, but slowdowns in the onboarding process can mean a loss of money and increased reputational risk, paid for in the form of hefty fines. With new rules and regulations popping up, SIX is working to keep a strong focus on the monitoring of these rules and beneficiary ownership structures in order to provide the right data and alleviate the compliance burden for customers.

Take, for example, US sanctions mandates regarding China and the US. It's become increasingly difficult to know whether you're in safe territory or about to step on a sanctions landmine, potentially leading to large fines, reputational damage, and even loss of licenses to transact. To answer the challenge, SIX developed an automated solution, dubbed Sanctioned Securities Monitoring Service (SSMS). It provides customers with an easy-to-digest daily list of issuers and securities linked to the domiciles, companies and individuals sanctioned by the UN, EU, US, UK, Australia, Canada, Switzerland, Singapore and the Hong Kong Sanctions Regime. The list eliminates the need to source, scrub and map data while minimizing the risk of large fines and reputational damage. In July, SIX launched an offshoot of SSMS that is focused on identifying securities connected to Marijuana Related Business (MRB), and has already identified and listed over 100,000 connected securities.

This year SIX also partnered with SimCorp to deliver global sanctions data directly into the Compliance Module of the SimCorp Dimension platform, streamlining efforts to source, validate and align sanctions data with existing portfolio data.

—AM



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SIX is working to keep a strong focus on the monitoring of these rules and beneficiary ownership structures in order to provide the right data and alleviate the compliance burden for customers.

Best buy-side compliance product—regulatory reporting

Bloomberg

Buy-side firms are under increasing pressure to keep up with a growing list of regulatory requirements. Over the last 12 months, Bloomberg has made significant strides to extend its suite of regulatory products, including building out the functionality of its regulatory reporting hub (RHUB), an initiative that secured it the best buy-side compliance product category (regulatory reporting) at this year's BST Awards.

RHUB is a trade and transaction reporting platform that offers clients integrated, end-to-end reporting covering support, data enrichment and validation, reconciliation and remediation services. It was initially deployed to assist firms with their Mifid II obligations, although it has been extended to support Securities Financing Transaction Regulation reports, while subsequent versions will support European Market Infrastructure Regulation (EMIR), Australian Securities and Investments Commission, Monetary Authority of Singapore and Investment Industry Regulatory Organization of Canada compliance.

RHUB is integrated into clients' workflows and accepts data from multiple Bloomberg and third-party venues using APIs. It also reports to a variety of destinations, including Bloomberg's approved publication arrangement and approved reporting mechanism (ARM) services, as well as other third-party ARMs, trade repositories and regulators.

In August 2019, Bloomberg acquired RegTek Solutions to broaden its reporting coverage. For clients not using RHUB, the RegTek platform provides an independent control framework for monitoring and maximizing the quality of reports. It uses a rules engine to help firms identify and remediate errors and omissions to ensure accurate reporting. Over the next few months, Bloomberg will integrate RegTek's reconciliation capabilities into RHUB to enable clients to benefit from two-way (for EMIR) or three-way reconciliation (for Mifid II), depending on their reporting requirements. Beyond that, the firm will continue to merge the two platforms and broaden its reporting coverage.

"What we are trying to do in the next 18 to 24 months is have all 10 jurisdictions available in our hub for end-to-end reporting and to include other regulations, such as FinFrag," says Alejandro Perez, business manager for post-trade solutions at Bloomberg.

—JG



RHUB is integrated into clients' workflows and accepts data from multiple Bloomberg and third-party venues using APIs.



Best buy-side compliance product—trading

Verint

As compliance becomes more challenging, this category has been split in three segments: regulatory reporting, know-your-customer (KYC) and trading, the latter of which was won by Verint.

The world of trading is expanding—in many different ways—as are regulatory requirements. And so, too, must compliance solutions expand their capabilities, as trading desks, back-office operations and mobile devices need to be able to capture and monitor interaction data, says Phil Fry, vice president of financial compliance product strategy at Verint. At the same time, compliance costs are rising dramatically.

“A lot of expenses are driven by the increased number of staff needed for testing, monitoring, and other oversight responsibilities,” he says. “But there is growing realization that continuing to throw additional resources at the compliance conundrum—and focusing solely on reactive measures once a compliance event occurs—is not a sustainable strategy.”

To help firms better handle their compliance needs, Verint has introduced advanced speech transcription and analytics capabilities for the trading industry. The platform can work together with various transcription engines that specialize in taking inputs from trading turrets, mobile, and enterprise voice streams to identify key information about quotes and trades, he says.

“It is uniquely designed to interpret the ‘tribal languages’ and complex, jargon-heavy conversations of the trading floor,” Fry says.

The service includes transcription and trade-specific insights that are categorized, as well as metadata to help compliance teams verify transactions, identify anomalies and reconstruct the sequence of a trade.

Verint is also among the first vendors to work with Microsoft to develop compliance recording for Microsoft Teams based on its Calling API. “We aim to empower businesses with reliable compliance capture capabilities to help them reap the benefits of digital collaboration, whether they use Skype for Business or migrate to the Teams platform,” Fry says.

The vendor is also working on building out support for Symphony.



To help firms better handle their compliance needs, Verint has introduced advanced speech transcription and analytics capabilities for the trading industry.

—AM

Best buy-side corporate actions platform

FIS

Corporate actions processing is often a complex and disjointed process, and firms' balance sheets rely on their ability to make sense of them. FIS wins this year's best corporate actions platform category, one of its two wins in this year's Buy-Side Technology Awards.

The XSP platform for corporate actions is a hosted, SaaS-based solution that supports more than 30 market data vendor feeds, and users benefit from a host of workflows and robotic process automation-powered technology.

Andrew Bateman, executive vice president of capital market solutions at FIS, cites reconciling disparate data sources as one of the main challenges facing the firm's buy-side clients. FIS offers its users the option of sorting through the data themselves or outsourcing parts or all of that burden to FIS by way of its Business Process as a Service (BPaaS). "Typically, our clients are notified of corporate actions events from various sources, such as their custodians or data vendors," he says. "They are faced with the task of matching like announcements together and sorting through the noise to identify the cleanest version of the truth."

In a typical corporate actions process, once clients figure out what the event is about, they must then identify which account holders it impacts and notify them before alerting their custodian. Some custodians require elections to be entered manually via their own portal, Bateman says, although XSP's Swift messaging capabilities further automate this process. Over the last year, FIS has rolled out a new Corporate Actions Risk module that helps quantify and manage firms' market exposure. The module was built by the XSPertise team with FIS' newly-acquired partner, BaseVenture.

Bateman says the developers and product teams are constantly reviewing ways to minimize clicks and simplify clients' day-to-day use of the system, adding that he's proud of the platform's active user base, which influences certain aspects of FIS' quarterly software releases. Not only does it give clients direct input on features, but the arrangement allows them to get to market faster.

—RN



The XSP platform for corporate actions is a hosted, SaaS-based solution that supports more than 30 market data vendor feeds, and users benefit from a host of workflows and robotic process automation-powered technology.



Best buy-side client reporting platform

SimCorp Coric

SimCorp wins this year's best buy-side client reporting platform category after losing out to FactSet's Vermillion Reporting Suite in last year's Buy-Side Technology Awards. Product manager Ian Rees says one of the strengths of the Coric platform is the scalability it offers buy-side firms in terms of adding additional clients or acquired firms to the platform. He says a lot of the other client reporting systems on the market generate reports on the same server where the application is running, which means that users are always limited by the single server they are working with. "Coric actually works across distributed servers, so that rather than having just one server managing all of your reporting processes, it actually farms off the report generation to other servers, which handle the generation of the individual reports before sending them back to the main server for the workflow and generation side of the process," he says.

Rees stresses the importance and flexibility of Coric's data management capabilities, which can interface with clients' various data sources and create models across those different sources without necessarily requiring them to transfer all of their data into a data mart or data warehouse.

Looking ahead, Rees says SimCorp is set to introduce a new digital portal for Coric in 2020, which alongside other features will provide feedback within the application so that users can understand which content is being consumed the most, and use that to feed into the client servicing process. "Another thing we are doing is focusing on usability and simplifying the application of the [client servicing] process, so that it is much cleaner and easier for users to do things, to try and take as much work out of the process as possible, and get people to the outcome that they need a lot sooner," he says.

—HA



“One of the strengths of the Coric platform is the scalability it offers buy-side firms in terms of adding additional clients or acquired firms to the platform.”



Buy-Side Technology
Awards Winner 2019

Best buy-side client reporting platform
SimCorp

SIMCORP CORIC

CLIENT COMMUNICATIONS AND REPORTING

SET NEW STANDARDS FOR
CLIENT SERVICE OFFERING AND
SHARPEN YOUR COMPETITIVE **EDGE**
CLIENT REPORTING, SALES ENABLEMENT
AND NEXT-GENERATION PORTAL



Best buy-side CRM platform

Tier1 Financial Solutions

Toronto- and New York-based Tier1 Financial Solutions follows up its success in this category in last year's BST Awards by winning it again, thanks to its Tier1 CRM platform.

Much of the firm's buy-side appeal can be attributed to regulatory changes introduced in the wake of Mifid II, which, according to Doug Christensen, vice president of strategy at Tier1 Financial Solutions, is driving asset managers to exert more control around their engagement with their various sell-side providers. "That means creating much more transparency, using technology to track their interactions and to manage more of their services in-house as they think about the cost implications resulting from regulatory changes," he explains.

According to Christensen, the sell side is also undergoing something of a transformation, particularly in the small- and mid-cap research market, resulting in buy-side firms managing services in-house that traditionally would have been sourced from the sell side. "That's having a dual impact," he says. "It saves them money, but it also preserves the value of that service by bringing the resources in-house to support their portfolio managers."

Tier1 has a pair of buy-side-focused offerings specifically designed to allow firms to manage their communications around corporate access, event management and client engagement as efficiently and transparently as possible. "We have a full suite of tools that allow the buy side to manage their engagement with their providers—we have a CRM platform, but we also have an event calendar that allows them to manage and originate all of their corporate access events in-house," Christensen says. "We give them the ability to still consume from the sell side without that interaction going away altogether. They are reducing their reliance on the sell side, but they are increasingly creating their own conferences and events with the corporates to support their portfolio managers. That is our differentiator—they can do it in real time, as opposed to once a quarter, post-event or post interaction," he says.

—VA



Tier1 has a pair of buy-side-focused offerings specifically designed to allow firms to manage their communications around corporate access, event management and client engagement as efficiently and transparently as possible.

Best buy-side data analytics tool

FactSet

In a category whose past winners are as diverse as each winning company's definition of analytics, collecting this award more than once represents an achievement. FactSet won this category in 2017, and its repeat this year emphasizes the growing importance of analytics to the buy side, especially around risk—and not just managing it, but exploiting it.

"Historically, we think of analytics as traditional portfolio- or security-level characteristics. But now, the question is, how do you combine analytics with more data and new content, ranging from structured and unstructured alternative data available through Open:FactSet to third-party data and models that can now be integrated with FactSet's content and analytics via its open API," says Rob Robie, executive vice president of analytics and trading at FactSet. "We see clients leveraging analytics in traditional and new ways. So we've invested heavily in risk capabilities for wealth, asset management clients, and asset owners around how they construct portfolios."

The vendor has beefed up its multi-asset class risk model, and has expanded its coverage, and now offers different versions—both linear and Monte Carlo models—to cater to clients' different risk needs. FactSet plans to expand its risk capabilities further, adding fat-tail and regional versions, and incorporating third-party models.

Earlier this year, the firm also rolled out its portfolio management platform, which allows portfolio managers to simultaneously manage their portfolios, asset allocation, and risk in one place.

According to Robie, one reason for the increased importance of risk models is that FactSet anticipates a shift in the dynamics of client portfolios over the next 12 months to incorporate more private company and debt investments, driven by the search for greater returns and because the number of publicly traded companies is lower than in the past. But these more opaque markets carry greater risk, and therefore require specialist tools, creating demand for data on private assets and the tools to analyze these in familiar ways, alongside "traditional" and public market data on an investor's other holdings.

—MB



FactSet has beefed up its multi-asset class risk model, and has expanded its coverage, and now offers different versions—both linear and Monte Carlo models—to cater to clients' different risk needs.



Best buy-side data management provider

IHS Markit

When it comes to data management, consistency is as important as accuracy. And you don't get much more consistent than winning a category eight years in a row, as IHS Markit has. But consistency doesn't mean that the vendor is becoming complacent.

Over the past 12 months, IHS Markit has rolled out three key enhancements to its Markit EDM platform, including standardizing some of its core entity models and interfaces to accelerate implementation times for clients, and "packaging up" capabilities so that clients can start using them more quickly; modernizing its user interface and applications to provide a richer client experience; and expanding the platform to support other datasets, including energy and alternative data.

As increased investment in alternative assets in the search for higher returns drives greater adoption of alternative datasets that don't traditionally exist in data models and aren't traditionally supported by data management platforms, Andrew Eisen, global head of EDM at IHS Markit, says he expects to incorporate more alternative datasets—automotive and maritime datasets, for example—into the firm's EDM platform, where the data can be mapped to issuers and obligations to provide a more holistic view of data.

In addition, IHS Markit continues to modernize the platform in other ways, including moving to a cloud-native architecture, rather than just using the cloud to offer managed services. Using software built specifically to run in the cloud enables clients to do things cheaper and faster, and to immediately take advantage of new features from cloud operators.

Eisen notes a shift from firms focusing solely on compliance and cost-related projects to focusing on data management as a growth enabler. "Buy-side and sell-side clients alike are exploring ways to remain relevant to clients...and it all comes back to 'How can we do more with our data?' So data quality—and being able to trust your data—is a keystone to being able to provide more insight and value to clients and their customers," he says.

—MB



IHS Markit continues to modernize the platform in other ways, including moving to a cloud-native architecture, rather than just using the cloud to offer managed services.

Best buy-side EMS

SS&C Eze

Buy-side firms are being squeezed by cost pressures and lower margins, which have led to trading desks shrinking. In light of this, traders are expected to do more with fewer resources, resulting in desks looking to augment their human capital with automated trading processes. This is an area of focus for SS&C Eze and its Eze EMS platform, which wins the best buy-side EMS category in this year's BST Awards in London.

Andrew Pheifer, director, product management at SS&C Eze, says clients are looking to set up rules-based frameworks that automate “easy-to-work” orders so that traders can focus on more complex trades. “Each firm wants something slightly different, but the ultimate goal is the same: to free up traders to concentrate exclusively on the highest value-producing activities,” he says. To that end, Eze EMS will feature improved rules-based order routing functionality during 2020.

In the last 12 months, the firm has enhanced Eze EMS' trade execution capabilities with the introduction of Algo Wheel. Orders from Eze OMS are automatically staged to Eze EMS and can be routed to market via the wheel, which rotates among broker algos based on pre-set parameters. Algo Wheel works on single- and multi-leg orders such as equity pairs, allowing traders to focus on strategies that will achieve best execution, while the wheel determines who to trade with. There is no need for recertification with brokers, and the wheel can be configured within minutes. “With the Algo Wheel, less distraction about who to trade with means traders can be more focused on what really drives performance: the choice of execution strategy to implement,” Pheifer says.

According to Pheifer, more than a decade has gone by with little to no innovation in pairs trading algos, although he adds that there has been a resurgence in new or improved multi-leg order execution strategies. Since the start of the year, Eze EMS has rolled out more than a dozen multi-leg broker algo updates.

—WSW



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Algo Wheel works on single- and multi-leg orders such as equity pairs, allowing traders to focus on strategies that will achieve best execution, while the wheel determines who to trade with.



Best buy-side execution venue

MarketAxess Open Trading

After Liquidnet won the best execution venue for six years running, it's now MarketAxess establishing itself as the dominate player in the space, winning the category for the second year in a row.

It's no secret that institutional investors and dealers are increasingly demanding trading tools that allow them to work more efficiently while achieving transaction cost savings. The aim of MarketAxess' all-to-all Open Trading marketplace is to connect investors and dealers by using technology to find liquidity, all while driving down transaction costs, says Richard Schiffman, head of Open Trading at MarketAxess. According to Schiffman, in the third quarter of 2019, liquidity takers saved an estimated \$61 million in transaction costs, while liquidity providers saved an estimated \$50 million.

"Our automated trading tools, backed by our artificial intelligence-powered pricing data, is also helping improve efficiency," he says. "Over \$22 billion in volume was conducted via our Auto-X tool in the third quarter of 2019, up 156% year-over-year. On the dealer side, the use of algorithms is also experiencing growth, with approximately 2.3 million algo responses in the third quarter, a 61% increase year over year."

As an extension of Open Trading, MarketAxess recently launched Live Markets, a live order-book trading model for newly issued and actively traded corporate bonds. "It's clear that different trading styles are required for more liquid and newly issued corporate bonds," Schiffman says. "This, coupled with the growing adoption of automated trading strategies, underscores the need for a protocol that offers live, order-driven liquidity for both investors and dealers. We're encouraged by the early activity in this new protocol among a pilot group of clients and dealers."

Additionally, Live Markets allows participants to leave live resting orders for corporate bonds. "Once we see even more traction with the pilot launch of US investment grade bonds, we intend to expand Live Markets in 2020 to include other credit products," he says.

Finally, earlier this year MarketAxess acquired LiquidityEdge, thus allowing the vendor to introduce US Treasury trading.

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The aim of MarketAxess' all-to-all Open Trading marketplace is to connect investors and dealers by using technology to find liquidity, all while driving down transaction costs.

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Best buy-side IBOR platform

SimCorp

While its competitors might focus on multiple disparate systems supporting different asset classes, SimCorp Dimension is a single, integrated, multi-asset class portfolio management platform. This goes some way to setting Dimension apart from other portfolio management platforms in what is an intensely competitive market, according to Mark Baker, product portfolio manager at SimCorp. He says the Danish buy-side specialist has also differentiated itself through its core books and records system, which has helped land the firm the best buy-side IBOR title in these awards for the sixth consecutive year.

Baker says that having everything in a single platform reduces integration costs and risks, while delivering improved time to market. “We support all asset classes on one platform, and we are able to expose that data in real time across the platform, so we don’t really have loose integration or file-based integration—we have real integration across our platform,” he says.

According to Baker, SimCorp is investing in the product to support customers in reducing their costs and associated risks. A key challenge currently facing the firm’s clients is the onslaught of regulatory changes such as the Securities Financing Transactions Regulation (SFTR). Under SFTR, a large number of SimCorp’s customers will be subject to uncleared margin rules, requiring them to exchange initial margin on their bilateral derivatives book with counterparties. “We continue to work with the regulators to understand their legal opinions, which are based on their decision-making,” Baker explains. “And then we are looking at how we will enhance the product, or what data elements we need to take out of the product to submit to the relevant trade repositories.”

The company is focusing on improved support for its managed cloud-based platform, as well as a more outcome-based offering, which Baker says is a combination of product and service, to deliver a defined outcome to customers.

—HA



“While its competitors might focus on multiple disparate systems supporting different asset classes, SimCorp Dimension is a single, integrated, multi-asset class portfolio management platform.”



Best buy-side market surveillance tool/platform

Nasdaq

For the third time in four years—and second year in a row—Nasdaq has been voted as having the best market surveillance platform.

Underpinning its nomination was the Nasdaq Buy-Side Compliance platform, which is designed to help asset managers and hedge funds comply with global regulatory requirements such as the Markets Abuse Regulation (MAR), Mifid II, Senior Managers Regime, and Securities and Exchange Commission (SEC) mandates. It builds models to represent the activities of portfolio managers and funds. From there, it can identify unusual patterns of behavior and alert the appropriate compliance professional or team to suspicious or abnormal trading activities. By analyzing patterns, it's more effective than a rules-based program, and as a result, false-positive rates are reduced, thus freeing up compliance teams to focus on actual issues.

Nasdaq is one of the top exchanges using artificial intelligence (AI) for surveillance purposes, but it's expanding its presence in the space. At the beginning of November, Nasdaq announced the launch of its new AI-powered market surveillance tools for finding patterns of abusive behavior. Underpinning the new technology are subsets of machine learning (ML): deep learning, for analyzing extremely complex relationships and understanding hidden insights within massive datasets; transfer learning, which involves training new models based on older ones to allow scale and save time; and human-in-the-loop learning, which requires human interaction to weed out noise from signal, especially where it's not cut and dried.

"The problem in surveillance is one where you're trying to find needles in the haystack," Tony Sio, head of marketplace regulatory technology at Nasdaq, told *WatersTechnology* at the time of the announcement. "There are billions of messages coming in every day. There are patterns and the patterns look different or change over time, and you're just trying to find those behaviors."

—AM



Underpinning its nomination was the Nasdaq Buy-Side Compliance platform, which is designed to help asset managers and hedge funds comply with global regulatory requirements.

Best buy-side newcomer (vendor or product)

Finbourne Technology

This category is perennially one of the more exciting to watch, as it offers a glimpse into the future. This year, it's Finbourne touting the promise of tomorrow.

At the center of the vendor's offering is Lusid, an open API-first investment platform geared toward the buy side. Lusid helps users to automate repetitive, non-value adding activities so they can focus on more complex investment strategies. It provides the ability to cut and view investment data in multiple ways, and allows for customization.

Thomas McHugh, Finbourne's co-CEO, says asset owners want access to their own data to consolidate across managers and run their own analysis. With that heavy reliance on data to unearth insights previously not available, they also need the ability to process increasing amounts of data without having to bring in a flotilla of data scientists.

"Following significant investment, we launched Lusid," McHugh says. "We've created software development kits in multiple programming languages, built hundreds of API end-points and had millions of API calls. We've been busy gathering feedback, understanding usage and really getting our heads around how customers are using our APIs and functionality."

Over the summer, the vendor opened its Early Access Program, which comes with Exchange Data International (EDI) market data integrated as part of a free 90-day trial. This allows users to test and evaluate Lusid without the need to source, license, load and operate data feeds for static security data, prices and corporate actions. The platform enables clients to pull in data from multiple sources, get a single view of their positions, identify discrepancies and investigate differences in their data, and analyze their holdings by factors like trading strategy. "Because of our API-first approach, the system can also be quickly adopted by developers in their language of choice and, of course, deliver value immediately," McHugh says.

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The platform enables clients to pull in data from multiple sources, get a single view of their positions, identify discrepancies and investigate differences in their data, and analyze their holdings by factors like trading strategy.



Best buy-side OMS

SS&C Eze

Today's asset managers need to navigate complex environments. They are increasingly being challenged by regulatory obligations in the US and Europe, along with the expansion of electronic trading across fixed-income and derivatives markets, all of which is taking place against a backdrop of rising cost pressures.

Asset managers are therefore becoming more innovative and efficient in their operations, using automation, artificial intelligence and cloud-based technologies. SS&C Eze's order management system, Eze OMS, stands out in this category by optimizing users' workflows across the enterprise. Notably, the Boston-based firm also won the best EMS category in this year's BST Awards.

According to Frank Orzechowski, managing director, product management at SS&C Eze, the platform is updated every six weeks to meet clients' current needs. In the past year, the firm has refined Eze OMS' functionality to address regulatory changes in the wake of Mifid II. It also focused on building smoother and faster rules-based workflows to address the increasing number of separately managed accounts deployed across its client base.

Additionally, SS&C Eze has worked on allocations, position-checking and pre-trade compliance workflows, which are integrated with its EMS platform and liquidity access capabilities.

Looking ahead, Eze OMS will continue to feature incremental releases based on clients' needs. More generally, its product roadmap is concentrated on regulatory compliance, scaling performance and capacity, ongoing workflow improvements, and more seamless asset class coverage. Its primary focus is to enable the next wave of trade-routing automation.

Orzechowski says that as Eze OMS has scaled its systems to handle greater data quantities, it has also sought to simplify and streamline how that data is visualized and processed by users.

One way it has done this is by building out rules-based workflows, as a means of driving configurability over customizability. "Not only are these solutions easier to deploy and support, but they offer the flexibility and adaptability demanded by our clients to meet the evolving operational challenges of today's asset managers," he says.

—WSW



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SS&C Eze's order management system, Eze OMS, stands out in this category by optimizing users' workflows across the enterprise.

Best buy-side performance measurement and attribution product

StatPro

For the second straight year, StatPro has been named as having the best performance measurement and attribution product. But while there's stability in StatPro's offering, it's a time of great change for the vendor. On October 29, Pittsburgh-based Confluence Technologies, a US-based provider of automation software for investment managers, acquired StatPro for £161.1 million (more than \$207 million) in cash.

Negative rates and the success of passive strategies are compressing margins for traditional investment strategies. As a result, buy-side firms are forced to be more innovative, venturing into new investment processes or proving with greater evidence the added value provided by their insights and strategies. The breadth of analyses required to support these growing needs is expanding, along with the need for integrating analytics into a single digital platform to become more efficient and reduce cost of ownership, which led Confluence to snap up StatPro.

StatPro Revolution, the company's flagship, cloud-based platform, provides fixed-income attribution, configurable dashboards, and it is expanding its performance book of record, such as by allowing multiple periodic sets of results to be calculated and exported in bulk at the very earliest points within the performance measurement process.

StatPro has worked to build out its capabilities around processing large volumes of data to prepare daily extract/distribution reports of performance information to various internal and external stakeholders. On the fixed-income attribution side, the vendor has worked to expand its offering for the usage of multiple data sources for risk analytics and yield-curve data. The vendor has also added a new fixed-income attribution model that allows interest-rate bets to be split from spread allocation bets, while also providing the user with the choice of two new spread allocation methods for the decomposition of spread effects.

Backed by private equity firm TA Associates, Confluence will take London Stock Exchange-listed StatPro private.

—AM



“StatPro Revolution, the company's flagship, cloud-based platform, provides fixed-income attribution, configurable dashboards, and it is expanding its performance book of record.”



Best buy-side portfolio analysis tool

Style Analytics

For the second straight year it's Style Analytics taking home the best portfolio analysis tool award.

As more data becomes available—or at least becomes easier and cheaper to corral—analytics tools are increasingly important for asset managers, asset owners and consultants. The managers want to differentiate their funds from their competitors, while asset owners and consultants want to evaluate managers against each other to determine which ones fit best with their mandates, says Damian Handzy, chief commercial officer for Style. “Additionally, fee pressures make this manager differentiation even more important for all parties, especially with the growth of passive investing,” he says.

As an example of the uniqueness of Style Analytics’ offering, it provides fully transparent factor analysis on each environmental, social and governance (ESG) portfolio, showing how each portfolio compares to a custom peer group in terms of individual factors like book-to-price (a value factor) and return-on-equity (a quality factor). “We’ve just launched a full suite of ESG factor analyses that presents ESG and fundamental factors side-by-side for a full view of how a portfolio is positioned,” Handzy says. “So their challenges are differentiation, fee pressure, ESG investing, and manager selection. We help with all of those topics.”

Most recently, Style added eVestment holdings data to complement the Morningstar holdings data in Style’s Peer Insight product, which allows users to create custom peer groups and then evaluate individual funds to those peer groups and to other funds. Individual managers use the tool to identify close competitors and differentiating characteristics of their own funds, while asset owners and consultants use the same tool to evaluate funds for investment consideration. “Clients now have access to all the funds monitored by both eVestment and Morningstar,” Handzy says.

The vendor has also partnered with Sustainalytics to offer a full suite of ESG capabilities, including guideline monitoring, ESG risk profiling, and rebalancing what-if analysis on ESG and factor exposures.

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As an example of the uniqueness of Style Analytics’ offering, it provides fully transparent factor analysis on each ESG portfolio, showing how each portfolio compares to a custom peer group in terms of individual factors.

Best buy-side pricing/valuation service

Quantifi

Quantifi takes this year's award for the best buy-side pricing/valuation service, besting last year's winner, TriOptima. Quantifi's valuation service—which covers multiple assets, including fixed income, foreign exchange, credit, equities and commodities—provides valuations built on best practices as well as the flexibility for clients to set limits within the embedded models. The platform covers illiquid instruments and markets and ensures consistency from the front to the back office.

Rohan Douglas, the firm's CEO and founder, says demand has been strong for services like Quantifi's in order to cover a wider array of assets as the buy side has been hit with fee pressures and stronger competition in the market. "One of the things we did was restructure how we support our clients and focus on improving our connection to understand their needs," Douglas says. "We want to preempt what is coming for them, so we've really increased the number of assets we have."

According to Douglas, Quantifi has seen increased interest broadly across the fixed-income market, including fixed-income exchange-traded funds where the firm is seeing a lot of growth.

Quantifi's pricing and valuation service can be accessed through a simple API so that clients can register models and data. The offering is modular, reflecting Quantifi's strategy where it wants to provide scalable offerings to its range of clients. This includes making the platform and its real-time information available through the cloud, making it easier for clients to scale up or down.

Douglas notes that Quantifi is also looking at additional opportunities to use technology, including more use-cases involving data as more assets and markets would need to be covered. "What we're looking to do on the pricing and valuation side is to add more assets. We're doing a lot with technology, to bring cloud, artificial intelligence and big data to our clients, but we really want to add coverage for more of the assets they want to enter," he says.

—ED



Quantifi's valuation service—which covers multiple assets, including fixed income, foreign exchange, credit, equities and commodities—provides valuations built on best practices as well as the flexibility for clients to set limits within the embedded models.



Best buy-side reconciliation platform/service

SmartStream Technologies

After a five-year hiatus, SmartStream Technologies has reclaimed the reconciliations throne at this year's Buy-Side Technology Awards. It marks the fifth win in this category for the software and managed services specialist.

At the heart of SmartStream's offering is its TLM Reconciliations Premium platform, which aims to automate as much of the reconciliations process as possible in order to provide greater operational control and meet the growing number of regulations that firms are now facing. It combines artificial intelligence (AI) with a new user interface that allows for detailed reporting. As a result, trend analysis can be carried out in order to improve operational outcomes, better match rates, and to identify common exception patterns down to attribution levels. This allows non-technical business personnel, who have only limited training, to be able to customize the dashboard to fit their needs.

That is what the company won for, but SmartStream's product offering is evolving as new tools and technologies become available. Most interesting is the release of SmartStream AIR, the firm's cloud-native, AI-enabled reconciliations platform. AIR, which was unveiled at this year's Sibos conference in London, is designed to allow users to manage their reconciliation needs on an ad hoc basis, while simultaneously significantly reducing reconciliations processing and configuration times.

In early November, Andreas Burner, chief innovation officer for blockchain and AI at SmartStream, told *WatersTechnology* that after working heavily on AIR for the past 18 months, "this is the birth of all our AI and machine-learning products."

Through it, users can drop their records into the platform, which runs its machine-learning and NLP algorithms on these large datasets to reconcile discrepancies within those files. "The demos show that you can do it within three or four seconds, even though you might have 25,000 records," he said. "We have tested it on 500,000 records and it's super-fast."

—AM



“At the heart of SmartStream's offering is its TLM Reconciliations Premium offering, which aims to automate as much of the reconciliations process as possible in order to provide greater operational control and meet the growing number of regulations that firms are now facing.”

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Winners' Circle: SmartStream Technologies

Addressing Clients' Pain Points and Minimizing Costs

SmartStream Technologies won the best buy-side reconciliation platform category at this year's BST Awards, thanks to its TLM Reconciliations Premium offering. **Victor Anderson** speaks to SmartStream's Robin Hasson about his clients' most acute pain points right now, how SmartStream is helping them manage their fixed operating costs, and what they can expect in terms of new functionality over the next 12 months.



Robin Hasson

Q TLM Reconciliations Premium has enjoyed considerable success across all of *WatersTechnology's* awards over the years. What separates it from other similar offerings in what is a highly competitive market?

Robin Hasson, product manager, TLM Reconciliations

Premium: If you look at the evolution of TLM Reconciliations Premium, a significant moment was when we shifted from delivering discrete domain processing and became a flexible architecture for any flavor of reconciliation. We established a standardized reconciliations process across cash, positions, futures, static, etc., with best practice domain features, integrated workflow, exception management and a high-quality user interface.

Being able to customize and refine workflows and tailor the user experience are critical in solving edge-case but important issues, particularly when used for diverse needs. Most importantly for our clients, this enabled the creation of a utility model to service the wider organization.

Q What are your clients' biggest pain points right now with respect to reconciliations?

Hasson: Clear pressure points surround cost, managing increasing volumes and improving the time-to-market for new reconciliations. This can be challenging in a world of increasing volumes and increased scrutiny. We utilize hosting technologies and services to reduce total cost of ownership, incorporating internal or external clouds to remove high-cost infrastructure.

Looking at volumes, a significant impact is in the growing use of digital payments mechanisms and the need to reconcile that data closer to the point of payment. Additionally, clients are increasingly looking for a single platform to centralize all reconciliations—retiring internal, vendor and spreadsheet reconciliations. This creates two pinch points: the time-to-market to migrate and build new reconciliations, and the ability to manage the increase in volumes this creates. Migrating from multiple vendor and internal reconciliations systems to a single, consolidated platform can also drive up volumes significantly.

Q With respect to managing clients' fixed operating costs, how are you helping to address those issues?

Hasson: The three most valuable cost-reduction strategies are hosted infrastructure, managed services, and increased automation. We have a range of deployment models to suit clients beyond the traditional

on-premises model. We offer a fully hosted cloud infrastructure, and varying levels of managed business process outsourcing (BPO) to manage, monitor, reconcile and even investigate exceptions if required. This move to a service model can return significant benefits without compromising quality or accuracy.

Looking at increasing automation, we are using artificial intelligence (AI) and machine learning (ML) in a number of ways, one of which is to automatically improve data quality as it loads into the system. Fixing data-quality issues using ML can drive up automation significantly as it removes the need to perform manual matching, which is a time-consuming and costly process.

Q What new functionality has been folded into the platform over the last 12 months?

Hasson: We have made many technical enhancements. In terms of infrastructure, we have moved forward with how we deliver our systems through cloud deployments, and we now use Docker, the container technology. That's an important step change in how simple it is to deliver and deploy the solution, and is a frequent request across our client base. A range of AI features were released this year, and more are being rolled out in the coming months to continue the innovation they bring. A major theme for the last 12 months has been on business enablement, allowing users without IT expertise to set reconciliations. Using SmartRecs, a user can define and validate the reconciliation they require without needing to engage IT until it is working as required. And if the business needs a one-off reconciliation, they can build it without IT being involved at all.

Q What's on the workbench for the foreseeable future?

Hasson: First and foremost, we'll continue to focus on what is most important to our clients: improving performance, reducing deployment times, minimizing time-to-market and empowering the business. We are heavily invested in innovating with the latest technologies, in particular for high-value AI and machine learning features, and we plan to further improve the user experience. We are increasing our integration points into the system by way of publishing APIs so that it is simpler and quicker to integrate with other systems, allowing them to manage and extract data, whether it is for user and account management or access to operational data—balances, exceptions and trades. We'll also continue to invest in new business modules such as Digital Payments Control to deliver the controls and oversight our clients need. [wt](#)

Best buy-side risk management initiative over the last 12 months

Axioma


Effective risk management is critical to the buy side and vendors in this space are under increasing pressure to deliver broader risk coverage and analytics. Over the last 12 months, Axioma has done just that. Thanks to its efforts to develop Axioma Risk, its cloud-based, multi-asset class risk management platform, it has scooped the title for the best buy-side risk management initiative over the last 12 months at this year's BST Awards in London.

This year, Axioma has continued to build out its asset class coverage, replacing its granular risk model and enhancing its fixed-income risk models, underpinned by its proprietary methodology for fixed-income returns across both developed and emerging markets. The methodology involves rigorous research capabilities and incorporates granular, company-specific data in order to produce accurate fixed-income curves—including credit spread curves and duration times spread—that isolate data signals while minimizing data noise.

According to Ian Lumb, head of risk solutions at Axioma, flexibility and the quality of the technology are Axioma Risk's core differentiators in such a competitive market. The firm has invested extensively in its technology through its efforts to become early cloud adopters, building its systems to be interoperable, and delivering risk analytics through web browsers, APIs or via overnight batch reports.

Axioma is currently developing and testing its new fixed-income factor model, which it intends to launch before the end of this year. Over the coming months, the firm will also expand its US securities coverage, including collateralized mortgage obligations (CMOs), and broaden its provision to offer data around US municipal debt securities. Additionally, Axioma aims to focus on enhancing its user experience and the delivery of risk analytics through partnerships with firms like OpenFin. "This enables risk to be part of the desktop interactively so that it doesn't have to be separate to your workflow—it can just be another part of your ecosystem," Lumb says.

—JG



This year, Axioma has continued to build out its asset class coverage, replacing its granular risk model and enhancing its fixed-income risk models, underpinned by its proprietary methodology for fixed-income returns across both developed and emerging markets.



Best buy-side risk management product

Numerix

Numerix keeps cleaning up at *WatersTechnology's* awards. The New York-based firm won three categories in this year's SST Awards in April, including best overall technology provider. Oneview Asset Management (OVAM), a cross-asset, real-time risk and portfolio management platform, continues that trend by emerging top in this year's best buy-side risk management product category. Numerix takes back the title from last year's winner, Axioma, continuing the tussle between the two firms: Numerix won the category in 2017, while Axioma won it in 2016.

Cloud-based OVAM, also responsible for Numerix's win in the best implementation category (page 62), provides portfolio risk management support across a range of assets. Its secret sauce is its ability to overlay models on illiquid instruments in order to extrapolate their prices and present them on an intra-day basis, similar to more liquid products.

According to Martin Toyer, Numerix's CTO, clients need to be able to assess the risk of a portfolio that might comprise very different instruments, or be managed by single portfolio managers in particular regions. Portfolio management is becoming even more important with developments in regulation and market practices, such as the move to Value at Risk (VaR) margining. "Once you start thinking about your risk management in terms of portfolio risk management, and you start saying that VaR is a crude tool and that you want to look at different subsets of a portfolio, but apply stress-tests and other scenarios, it really isn't particular to a single asset class," Toyer explains. "It's about saying: I want to see these risk measures over multiple positions. Risk managers need to change the scenarios and subsets of portfolios to suit current market conditions."

In 2019, Numerix integrated OVAM with a wider range of sell-side pricing models and added additional support for structured products and crypto markets. It will continue decoupling products from the main Oneview solution to suit clients' needs, and will add new risk measures, VaR models and stress-testing scenarios in the coming months.

—JW



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Cloud-based OVAM, also responsible for Numerix's win in the best implementation category, provides portfolio risk management support across a range of assets.

Best buy-side TCA tool

Tradeweb Markets

For the third straight year, Tradeweb takes home the transaction cost analysis (TCA) crown. This win ties Tradeweb with ITG (2012–2014) for the most consecutive wins in the TCA category.

There are two main challenges firms face when it comes to TCA, especially in the fixed-income space. First, there's a dearth of high-quality data, and second, it's difficult to make sense of what does exist. More than 40 products are traded on Tradeweb Markets each day, and on average, its platform handles \$630 billion in notional value per day. This allows Tradeweb to answer those aforementioned challenges by providing composite data across platforms and liquidity providers. The key motto for the company is that when it comes to TCA, "one size absolutely won't fit all," says Brian McElligott, head of data strategy for the company.

While Tradeweb's TCA covers all the asset classes that are traded on the platform, perhaps it is best to look at credit, where Tradeweb was something of a TCA pioneer. Its Ai-Price component provides advanced referencing pricing for more than 18,000 US corporate bonds. It is updated every 30 seconds. It's that scale and speed that allows Tradeweb's platform to more accurately gauge credit trading costs, and identify executions it can improve. The company is also rolling out a new tool that provides a US credit liquidity score, which allows users to review their costs by level of liquidity. The offering will be rolled out in Europe "soon."

Tradeweb is also making inroads into better measuring market impact. According to the company, Tradeweb TCA is now able to retrieve and compare data at different points in time—for example: previous close, start of day, start of inquiry, execution time, close, as well as FTSE gilt close, when applicable.

"We're working hard with clients to further this development, which is a key part of our approach: It's much easier to create things that are truly useful if you collaborate," McElligott says.

—AM



It's that scale and speed that allows Tradeweb's platform to more accurately gauge credit trading costs, and identify executions it can improve.



Best cloud provider to the buy side

BT

It's a cliché to say that buy-side firms have become voracious consumers of data. A cliché it may be, but providing this data is a winning strategy for firms that can provide easy, cost-effective connectivity to that data, which is why BT Radianz Cloud wins this category in this year's BST Awards. With this win, BT Radianz ends Eze Castle Integration's four-year winning streak.

Yousaf Hafeez, head of business development for financial solutions at BT Radianz—a private cloud that connects to over 160 exchanges and alternative venues, and over 3,300 providers of applications, services and market data—says the company is positioned to slake the buy side's data thirst. "We are trying to give the buy side access to more and more content, which they need to help them achieve that elusive alpha," he says. "And we are doing this by giving them access to more liquidity venues and more data—whether that be real-time, historical or alternative data."

This year, Radianz added multicast feeds from the Mexican Stock Exchange and the London Metal Exchange; historical data from vendor Activ Financial; and crypto feeds from the Vela platform, in response to interest from buy-side firms. The company also connected to a number of new venues, including APEX, a derivatives exchange in Singapore; crypto assets exchange Gemini; and currency exchange LMAX Digital.

In January, BT announced that it was the first international telecoms company to be licensed to operate in China. For Radianz, this means expanding its existing network of buy-side firms. "That means a lot more liquidity from these firms looking to access data or access venues," Hafeez explains.

He adds that the needs of firms in China are surprisingly similar to those of firms in the west. "It doesn't matter where you are in the world—the appetite to consume data is staggering," Hafeez says. "The more data you can give them that is of value to them, the more they will consume."

—JW



Providing this data is a winning strategy for firms that can provide easy, cost-effective connectivity to that data, which is why BT Radianz Cloud wins this category in this year's BST Awards.

Best data provider to the buy side

FactSet

FactSet has long impressed industry analysts with its ability to deliver consistent growth, and this year—reflecting the vendor's increasing importance to buy-side professionals—it wins the best data provider to the buy side category, stealing the award from regular winner, RIMES Technologies.

Delivering a best-in-class data service isn't just about doing one thing well—it's about providing the right mix of proprietary and third-party content from statistical and economic data to alternative datasets—and being able to tie them together in a way that creates value for clients. So, in addition to curating and mapping content from different sources into a seamless experience, FactSet has opened up its API to allow others to develop applications and models directly within FactSet's environment.

"We recognize that clients need different tools and different ways to tie information together," says Rob Robie, executive vice president of analytics and trading at FactSet.

But what makes a provider the best in its field isn't just its technology or content; what makes a company stand out is its service and support, and how it listens to and communicates with its clients. "We really listen to our clients... and as their needs expand, we want to make sure we can continue to support their requirements, so that we can stay alongside or get ahead of those needs," Robie says.

There's another aspect to being the best—and that's how a company handles its greatest asset: its people. "As technology, analytics and data continue to evolve, we want to offer the best choices to our clients. But we also want to offer our employees excitement," Robie says. "With everybody getting into the data and analytics space, you want to attract the best and brightest. And when people see what FactSet is doing, they want to get involved. As a company, we get excited to be part of a team trying to solve clients' problems... and it's rewarding to see the response from clients."

—MB



In addition to curating and mapping content from different sources into a seamless experience, FactSet has opened up its API to allow others to develop applications and models directly within FactSet's environment.



Best implementation at a buy-side firm

Numerix

In last year's BST Awards, this category was split into two—trading and risk, and data and operations. The award for the best trading and risk implementation went to FlexTrade for its development of an order management system with Boston-based Quantopian. This year, it is Numerix in the winners' circle, thanks to the implementation of its Oneview Asset Management offering at Ensemble Capital.

Founded by former JP Morgan traders, Ensemble Capital is an absolute return global artificial intelligence (AI) fund, based in Singapore. The fund trades in the macro space, using deep learning and deep reinforcement learning strategies that are not dependent on broader market conditions.

The fund is new, having been launched in 2018, and says it is the first Asian hedge fund to apply AI and deep learning techniques to the foreign-exchange market.

Ensemble announced in April that it had selected OVAM for real-time risk and portfolio management. Numerix's team deployed the software-as-a-service solution on Amazon Web Services with Monetary Authority of Singapore security compliance. OVAM also provides Ensemble Capital with portfolio accounting and cash management support. It connects the fund to its execution platforms and its prime brokers and fund administrators, and provides API integration to market data providers and trading venues. Numerix's Singapore team handled most of the implementation work, according to Martin Toyer, Numerix's CTO.

"We have a few similar clients—similar in terms of their usage of OVAM, at least, and in terms of their asset class use. So I think we were a good fit for them, as we were tried and tested with similar clients," he says. "They are quite driven in terms of how much they use the APIs. They are almost hands-off, and they extract data a lot—they need to be able to view it and get their analytics to touch the data that is within our product. So that has been useful for them."

—JW



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This year, it is Numerix in the winners' circle, thanks to the implementation of its Oneview Asset Management offering at Ensemble Capital.

Best integrated back-office platform

FIS

Andrew Bateman, executive vice president of capital markets solutions at FIS, boils down his clients' business challenges into four categories: increasing complexity, integration, automation and going digital. Addressing those challenges is FIS' Investment Operations Suite, which covers 85,000 portfolios and 1,000 fund groups, and wins the best integrated back-office platform category in this year's BST Awards. "Asset managers are looking for other ways to generate returns consistently for their clients," Bateman explains. "What they've turned to is generating more multi-class portfolios. Instead of having straight equities and bonds, they pull in more illiquid asset classes like private equity and real estate. And while they have been really successful in helping smooth out the potential ups and downs that can come with straight equity or bond portfolios, they come with more complexity."

That's where automation and integration can assist: Over the past year, FIS has invested in APIs and web-based integration across its suite, allowing users to focus on their data needs rather than complex implementation projects. For connectivity between tools, InvestOne, FIS' accounting platform, has recently been integrated with other specialist engines, including the firm's private equity and derivatives platforms. Bringing that all together is the workflow solution—incorporating robotic process automation technology and fine-tuned over the last year—which automates functions including pricing, calculating net-asset values (NAVs) and generating reports.

There have also been upgrades to the solution's digital technology. New dashboards, interactive charts and customizable settings can be accessed via a new digital portal, which sits across all of FIS' tools. "Clients want to see things in the dashboard and want to be able to click on a bar chart and have it change, and drill down into different data specifics," Bateman says. "That may be external clients, and even internally, there's a performance or risk department that wants to be able to slice and dice data. There are multiple use-cases for how people interact with the data—we want to give them a solution that covers all those use-cases."

—RN



“Over the past year, FIS has invested in APIs and web-based integration across its suite, allowing users to focus on their data needs rather than complex implementation projects.”



Best integrated front-office platform

Charles River

While Charles River has been distinguished in these awards previously as having the best integrated front-office platform—winning in 2012 and 2016—this marks the first time it is taking home the honor since State Street acquired the vendor last year. But that was the big reason why the Boston-based bank was so keen to buy its neighbor: The Charles River Investment Management Solution offers a robust set of front-office tools that connect with one another, and with its middle- and back-office functions.

Margin compression continues to erode profits for global asset managers, increasing the pace of mergers and acquisitions across the industry, says Gavin Lavelle, managing director for sales in EMEA. As firms tie together systems, they often grapple with legacy technology, multiple point solutions and redundant support staff. Furthermore, regulatory changes continue to pressure asset managers, either by forcing firms to upgrade their technology or hiring specialists in order to bring their systems into compliance. Finally, the need to offer innovative, low-fee product offerings presents an additional challenge for firms seeking to differentiate and grow assets under management in an increasingly passive investment landscape.

With this in mind, the vendor has looked to bolster its offering since the acquisition for portfolio and risk analytics, multi-asset trading, collateral management and compliance services. It is also expanding its third-party vendor ecosystem—partnering with the likes of Axioma, MSCI, Tradeweb and MarketAxess—to enable clients to select the applications, data, analytics and liquidity venues that best support the unique demands of their investment process and product mix.

“By offering our clients a complete yet highly extensible investment management platform, Charles River hopes to help investment firms attain operational efficiency, keep pace with ever-changing regulations, and support their ability to offer new and differentiated investment products to their investors,” Lavelle says.

Eze Software won this award in 2015, 2017 and 2018, while Bloomberg took home the title in 2013 and 2014.

—AM



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The Charles River Investment Management Solution offers a robust set of front-office tools that connect with one another, and with its middle- and back-office functions.

Best integrated middle-office platform

Quantifi

Quantifi wins the best integrated middle-office platform category in this year's BST Awards, a new category for 2019. It also emerged top in the best buy-side pricing/valuation service (page 53) and product of the year (page 30) categories.

Quantifi's middle-office platform is part of the firm's front-to-back-office portfolio management system, featuring trade capture, real-time position management and profit and loss functionality. Users can also manage their regulatory reporting, risk management and market valuations functions via the single dashboard.

Rohan Douglas, CEO and founder of Quantifi, says a major focus for the firm is exploring new technologies in order to reduce costs and increase efficiencies for its clients. "Generally, the approach is to allow clients to do more for less and allow them to leverage their employees as much as possible, so we're adding artificial intelligence (AI) capabilities and software automation, designed not to replace employees but to allow them to do a lot more work," he explains. "To be clear, the AI project is still really early days in production. It's a project where we're partnering with some of the larger software companies like Microsoft and Intel. We're looking at different ways of leveraging AI to achieve that goal and provide a system that's easy to use and monitor, so that it can pick up problems in advance and help diagnose them."

Douglas adds that clients want to do more with a single system and so part of what drives the firm's innovation focuses on providing that experience. According to Douglas, Quantifi is in the process of expanding its instrument coverage and automating certain middle-office tasks in order to meet that demand.

Another area of focus for the platform is to provide insight into complex portfolios, especially as interest across the buy side in fixed income and credit has risen. Douglas says that's the reason why the platform was made to be scalable and customizable, as buy-side firms adjust the assets in their portfolios in order to generate more alpha.

—ED



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Users can also manage their regulatory reporting, risk management and market valuations functions via the single dashboard.



Best portfolio accounting platform

Eagle Investment Systems

At the end of the day, a portfolio is only as good as its performance. And the need for a good portfolio accounting platform that can accurately calculate, track and attribute performance, and provide the necessary insight and transparency around that performance, is critical. One provider of just that, Eagle Investment Systems, a subsidiary of BNY Mellon, wins the best portfolio accounting platform category in this year's BST Awards, thanks to its Eagle Accounting platform, unseating SimCorp, winner of this category in 2017 and 2018.

Eagle's clients are currently being challenged by increasing regulations and fee pressures while trying to grow their assets under management, shifting investment preferences, and greater demand for transparency from stakeholders, according to Dan Cavanaugh, head of EMEA for BNY Mellon Data and Analytics Solutions. Eagle Accounting, along with BNY Mellon Data and Analytics Solutions, helps firms to maximize their technology investments by supporting their needs across multiple business lines and geographies. At the heart of the platform is an offering that's scalable and data-centric by design.

"The latest advances in the BNY Mellon Eagle V17 software release reflect a close collaboration with clients to extend our accounting capabilities with an added focus on the insurance and fund accounting capabilities, while also continuing to expand our derivatives coverage," Cavanaugh explains. He adds that Eagle's and BNY Mellon's research and development teams are continuing to develop innovative cloud solutions, which will support increased demand for alternative instruments, derivatives, and more illiquid assets. "In the spirit of efficiency and having one view of their data, it's important that our clients continue to access these investments on one platform," Cavanaugh says. "Our clients can better participate and plan for future operational needs, gain more efficiency as needs and demands change, and better predict how to deploy resources."

—RN



Eagle Accounting, along with BNY Mellon Data and Analytics Solutions, helps firms to maximize their technology investments by supporting their needs across multiple business lines and geographies.



Best outsourcing provider to the buy side

Eze Castle Integration

Eze Castle Integration wins the best outsourcing provider category in this year's BST Awards on the back of its flexible offering to clients that have different cloud needs. "What we wanted our solution to be at this point is very flexible in terms of public cloud, private cloud, or a mix of both," says Steve Schoener, CTO of New York-based Eze Castle Integration. "We wanted it to be as flexible as possible and then layer best-of-breed technology on top of that, especially from a security perspective," he says.

Data security is a big concern for buy-side firms that have already moved to the cloud, especially in public cloud environments and Office 365. "The reality is that if a client does not set up things like conditional access and multifactor authentication, they will basically be hacked," Schoener says. "They are much bigger targets than on-premise and private cloud providers. The public cloud is very safe, and it can be set up very securely, but it can also be set up completely insecurely."

If a problem occurs with Microsoft Azure, Eze Castle Integration's team works with Microsoft to troubleshoot it. "Windows can break, servers can break, applications can break," Schoener says. "It's a little more complicated in that you can't see the underlying infrastructure, so sometimes troubleshooting on the public cloud is more complex because there is lots of information at your fingertips. What I would add on the monitoring side and what is actually very nice on the Microsoft side, is that we are able to monitor and manage across all the clients that we support."

In terms of future cloud-related innovations, Schoener says, right now firms that migrate are not utilizing some of the additional features they get access to like workflow automation. In the coming years, more clients will start looking to the cloud in order to optimize their workflows, versus simply migrating over and continuing to use them as they had on-premises, Schoener predicts.

—HA



Eze Castle Integration wins the best outsourcing provider category in this year's BST Awards on the back of its flexible offering to clients that have different cloud needs.

Best low-latency trading network

Avelacom

Avelacom supersedes three-time winner Itiviti as winner of the best low-latency trading network category at this year's BST Awards. As buy-side firms look to deploy more global trading strategies and seek new investment opportunities across the financial services industry, they are also facing increased regulatory pressures. Aleksey Larichev, CEO at Avelacom, says this means that technology is not just part of standing out from the crowd, but is also a necessity to achieve best execution.

"Clients require multi-asset class, broker-neutral solutions on a global scale, but they also need to be cost-efficient. They need flexibility to scale up and down or migrate, especially when exploring new markets in Asia, South Africa and Latin America," he says.

Avelacom is connected to more than 80 liquidity sources and offers low latencies and 99.9% uptime to its clients. It has points-of-presence (PoPs) in all major datacenters, and is also connected to AWS, Alibaba and Azure clouds. Its connections to Alibaba and AWS across Tokyo, Singapore, Hong Kong and Seoul enable it to provide multi-cloud connectivity, and in turn allow clients fast access to major crypto exchanges. "We help achieve sub-millisecond speed of market data and order execution across both derivatives exchanges and crypto markets," Larichev adds.

In the past year, Avelacom deployed virtual PoPs for Moscow Exchange (MOEX) to facilitate connectivity for clients from Asia and the Middle East. Traders from Hong Kong, Singapore, Shanghai and Mumbai can access MOEX's markets without building additional infrastructure.

Larichev says Avelacom is set to deploy servers featuring the Precision Time Protocol, required by institutions to comply with Mifid II regulations. "These servers are in high demand across major trading hubs in Europe, North America, and Australia," he says.


Looking ahead, Avelacom plans to expand its product portfolio by adding services to facilitate market data. "We are also working on developing a platform that would be a single source for multi-asset market data from global exchanges," he adds.

—WSW



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Avelacom's connections to Alibaba and AWS across Tokyo, Singapore, Hong Kong and Seoul enable it to provide multi-cloud connectivity, and in turn allow clients fast access to major crypto exchanges.

A complex network diagram with numerous nodes and connecting lines, rendered in a light blue color against a dark blue background, serving as a background for the top half of the image.

#1

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Best use of the Agile methodology

JP Morgan Wealth Management

JP Morgan Wealth Management's (WM's) efforts to provide value quicker and reduce delivery times for the development of the mobile version of its Connect Advisor platform has secured its win in the best use of the Agile methodology category at this year's BST Awards. The Connect desktop platform comprises sales, management, performance reporting, and brokerage trading and client services.

JP Morgan's WM arm utilized Pivotal Labs, a software development service provided by San Francisco-based Pivotal Software, to help build the mobile application and offer training on cloud-native Agile development and how to use technologies such as Apple's iOS.

The development group comprised 10 people: five from JP Morgan's IT team and five from Pivotal Labs. All members worked together in Pivotal Labs' "Silicon Alley" offices for four out of the seven months of the project cycle, immersing themselves in Agile practices. Individuals were assigned to one of the three focus groups: design, product management, and engineering. The design group shared prototypes and held meetings with users every three weeks to establish trust in the product and promote client feedback. The lean-product management group used both quantitative prioritization exercises (for example OptimalSort) and qualitative interviews to achieve a prioritized backlog and make adjustments to the project roadmap when necessary. The engineering team learned extreme programming techniques and built a continuous delivery pipeline that allowed it to respond quickly to customer requirements and include practices such as automated testing and faster code deployment.

"When we do product engineering, we want to be disciplined and [be able] to leverage user research to start off our development cycles," says Navi Sirisena, head of CRM technology at JP Morgan WM. "Additionally, we want to be able to deliver continuously with high velocity and high quality."

At the end of the project cycle, the collaboration with Pivotal Labs enabled JP Morgan WM to achieve 20 software releases within seven months.

—JG



The engineering team learned extreme programming techniques and built a continuous delivery pipeline that allowed it to respond quickly to customer requirements and include practices such as automated testing and faster code deployment.

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Listen Up



Voice is arguably one of the most interesting—yet largely untapped—alternative datasets in existence today. **Rebecca Natale** explores how new technologies are allowing firms to capture what people say and quickly turn that information into actionable insights.

In advance of launching the Disney+ streaming service, the Walt Disney Company quarterly earnings call on November 7 was heavily anticipated. As expected, earnings fell but managed to beat analyst expectations, though revenue was below consensus estimates. Prattle, an alternative data provider that was recently bought by Liquidnet, scored the sentiment of the earnings call as slightly above average, landing in the 55th percentile compared to all prior earnings calls from Disney.

Prattle's score was driven by positive comments in the prepared remarks by CFO Christine McCarthy.

"We expect the continued investment in our DTC services, specifically Disney+, which will launch in just a few days, and the consolidation of Hulu to drive an adverse impact on the year-over-year change in segment operating

income of our direct-to-consumer businesses of approximately \$850 million," she said. The comment encouraged analysts to focus on the prospect of the new Disney+ business line, and explained away any negative accounting as transient.

Prattle observed the Q&A portion of the call was also slightly positive. Despite missing the revenue target and barely beating earnings, Disney's stock rose 5% at the market open on November 8.

5%

Prattle observed the Q&A portion of the call was also slightly positive. Despite missing the revenue target and barely beating earnings, Disney's stock rose 5% at the market open on November 8.

The effect of words can extend well beyond the room—or in this case, phone line—in which they are spoken. An executive's language can tell a trader or analyst more than what meets the ear. In business and trading, what is said is proving to be valuable information—and firms are leveraging technology, such as natural-language processing (NLP), to capture hidden meanings, find alpha, and augment tedious tasks.

The most natural use for the analysis of such communications has been compliance and surveillance and, closely related to that, trade reconstruction, a post-trade process that involves gathering all the phone, text and system records from one trade, usually for the purpose of handing over to a regulator.



These hinge on a firm's ability to stitch together vast amounts of structured and unstructured data to produce one result, says Danielle Tierney, a senior compliance and surveillance advisor at Greenwich Associates. For the use of voice in actual investment and trading, that need holds true—and the technology that can intertwine the two has several use cases.

Finding a Fit

"The first thing that comes to mind is earnings conference calls," Tierney says. "If you had a system with the technological ability to apply natural-language analysis to those calls, then that's something else entirely. A lot of surveillance algorithms for natural-language analysis detect tone [and] things like that. And

internally, it could be useful for being able to search your own firm's prior investment decisions."

Since the financial crisis in 2008, banks and asset managers have been working to diversify their portfolios through multi-asset trading, she adds, contributing to a boom in trade and, especially, quote data. In the thick of it, firms want to leave no stone unturned when it comes to finding alpha—even if to gain just a percentage point over their peers.

That's exactly where Anthony Tassone, founder and CEO of GreenKey Technologies, finds an opportune chance to play ball.

"The problem with thinking of voice as just trade surveillance is ... that's a very narrow view of how fraud gets

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"What to do you do with it once you have it? Is it now a record that you need to keep? Are there any GDPR issues to think about? Some firms are questioning if they're even allowed to use this compliance data for this purpose. Or is it really business data that we're free to use?"

Steve LoGalbo, NICE Actimize

done and how bad behavior gets done," he says. "It's not realistic to say that trade surveillance is the only use case for NLP, and I'm not sure that it's even the best one. I think that voice as an interface to drive automation, and voice as a source of data and analytics to drive revenue are far bigger priorities right now."

Right now, GreenKey is busy analyzing audio files for users. A common request is for the vendor to take about six months of audio across different desks, such as fixed income, credit or emerging market bonds, and analyze those calls and conversations. After that, the hope is that firms can understand what quotes occurred versus what trades, and why certain quotes do or don't turn into trades.

"Did they not have enough size and a better offer? Did they not have the product that the customer was asking for? Was the response time too slow?" Tassone says. And shifting demographics on trading desks don't make those questions any easier to answer. The number of seats at trading desks has shrunk in recent years; veterans in the space retire or are let go; the rise of chat bots, which continue to get more sophisticated, has created more data to sift through.

After chat bots, Tassone says voice assistants—like Apple's Siri or Amazon's Alexa, but which can't understand and speak technical trading jargon—are not that far behind. "Really, what they're building are the future little market-makers and baby traders of the future," he says.

Voice as Alternative Data

Before tapping into voice, text had to be conquered first.



Danielle Tierney
Greenwich
Associates



“The problem with thinking of voice as just trade surveillance is ... that’s a very narrow view of how fraud gets done and how bad behavior gets done. It’s not realistic to say that trade surveillance is the only use case for NLP, and I’m not sure that it’s even the best one. I think that voice as an interface to drive automation, and voice as a source of data and analytics to drive revenue are far bigger priorities right now.” Anthony Tassone, GreenKey Technologies

Liquidnet is currently in the process of building out a new business unit targeted at long-term investors, dubbed Investment Analytics, which is the culmination of its last three acquisitions: OTAS, RSRCHXchange, and Prattle.

Adam Sussman, head of market structure and liquidity partnerships at Liquidnet, is one of those heading up the initiative, and on his mind is automation. He adds that NLP-based technologies stand to play a role in automating not just execution, but—someday—the whole investment strategy, though first machines will have to wrangle with shorter investment timeframes.

“There are a lot of variables and a lot of unknown things that machines are just not good at handling,” Sussman says. “But what this type of automation can do is help focus the analysts and portfolio managers on companies and datasets where something significant has happened.”

As an example, he offers the corpus of regulatory reports that each company must file with the SEC each quarter, and the volume of literature published about how to decode their hidden meanings. “It takes people years to read through them. ... So one of the things we’re working on is how do we leverage natural language processing to help point analysts and portfolio managers to those documents where opportunities are most likely to appear.”

It would still be the analyst’s and manager’s jobs to then go read them, and decide whether or not a document was helpful, but as of right now, Sussman says there isn’t really a technology that helps them find the diamonds in the rough.

For furthering its capabilities in NLP and NLP’s cousin, natural-language generation (NLG), Liquidnet will turn to Prattle, whose flagship analytics platform

measures sentiment and predicts market impact using NLP on unstructured data, such as company earnings calls and company filings.

Prattle’s process is mathematical, and works by looking at the words and phrases used by a company’s executives and then tracking how the stock price moves from quarter to quarter. Then the company removes all other factors that might have led to price fluctuation, boiling it right down to the directly impactful language.

“It’s really about the patterns of the words and how they map to the price in the past,” Sussman says.

For example, a CEO can serve for any number of years, but their time in their role always comes to an end, and in their place appears a new person. “A frequent question to us is, how does that impact [the company]?” What studies have shown is that the person adapts to the role; the person doesn’t change the role. These companies have investor relationship officers, who are the ones that guide the language that the company uses to communicate out to the investor public. And even if we switch from CEO A to CEO B, CEO B gets trained to use the same language as CEO A.”

Behind the Scenes

Though there is a certain science to, for example, analyzing an earnings call and determining value in it, transcription can be trickier, particularly in real-time. Before a company can even apply NLP, the model has to first transcribe a conversation into something readable. But that ingestion and interpretation requires a lot of man hours, not only to understand what’s said at face value, but also the nuanced, technical nature of trading jargon.

NICE Actimize, founded in 1999, is another firm using its expertise in sur-

veillance and compliance technology to generate business insights for managers and supervisors to better understand the conversations their employees are having with clients. Steve LoGalbo, director of communications surveillance product management at NICE Actimize, says his company’s models require a boatload of data—and luckily, they have it.

“Having this experience in compliance has enabled us to really teach these models how to understand the financial services lingo and how to understand the different trading desks we’re monitoring conversations for,” LoGalbo says. “There are a lot of similar-sounding words, right? ‘USD’ is a simple example. If somebody says ‘USD’ in an FX conversation, you want the model to output US dollar, not the word ‘you’ and then ‘SD’ or something. Same as if you hear ‘FX’—[a] model might output ‘effects,’ but it’s actually the acronym.”

Then they have to teach the NLP model how to understand relevant information, LoGalbo says, such as company names, products, asset classes or currencies. And given that trading and finance is a global business, there’s another layer to account for: different languages.

NICE Actimize is expanding its presence in Asia-Pacific at the moment, and the company is increasingly having to train its models with languages other than English or common European ones. They have some experience with Japanese, for example, but notice a rising demand for Cantonese.

“There’s a lot of mixed English and Chinese in those conversations,” LoGalbo says. “Building a new language model requires getting audio files from a diverse set of speakers, genders, dialects and accents. Then you have to physically transcribe those calls to map the sound to the words. Just to give you an idea, it takes two working days to transcribe one hour of recording.”

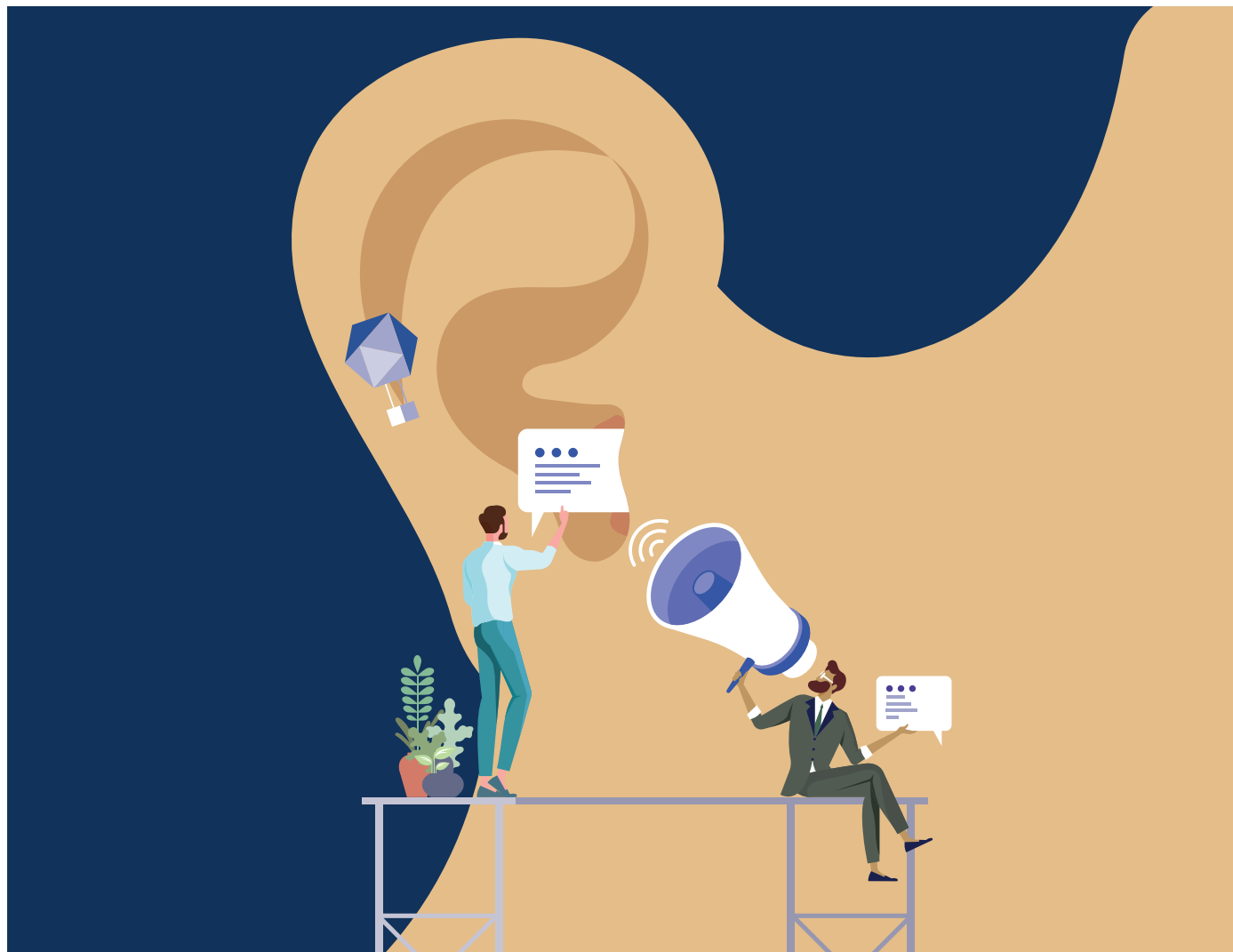
To have a highly-effective model, they need 30 hours to even get to the baseline. The process takes up to a couple months just to transcribe all the audio that allows for a good acoustic and transcription model. Next they go to work on building an NLP capability that knows the entities of interest they want to monitor for.



Anthony Tassone
GreenKey
Technologies



Adam Sussman
Liquidnet



Prime Prospects

Primarily, the compliance data NICE Actimize gathers consists of firms' phone and chat logs, but they're working on a solution with clients that would capture and analyze the conversations that take place in a firm's office. In addition to compliance, an opportunity could be even more operational alpha and better business insights, particularly for more non-regulated entities.

"For regulated users, we already have all of this data. Then there's the non-regulated users, who are also having conversations and have data that isn't necessarily being captured," LoGalbo says. "Maybe a meeting room conversation is an example. So do you mic those meeting rooms, and can you actually capture that data and store it? Then what to do with it once you

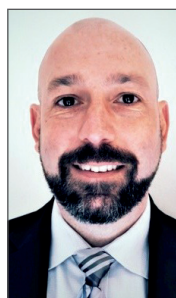
have it? Is it now a record that you need to keep? Are there any GDPR issues to think about? Some firms are questioning if they're even allowed to use this compliance data for this purpose. Or is it really business data that we're free to use?"

While there's opportunity, it may be a double-edged sword. "If you're analyzing the full conversation, and you happen to be storing some results of that analytics, which happen to be a regulatory problem or compliance issue you weren't looking at, and it turns up somewhere—we have to be a bit careful about what we're storing and listening for," he says.

Adoption of voice surveillance technology still has a fair way to go on both the buy and sell sides. According to a chart published in July by consultancy

and research firm Opimas, the majority of both still rely on spot checking done by a human—98% of full-service global investment banks and 75% of hedge funds, with that figure decreasing with assets under management. After interviews with more than 140 compliance teams, they concluded that advanced analytics for surveillance, including automated voice-to-text, voice biometrics, emotion detection and auto-language detection, all hover between 0% and 20%.

But these numbers might be prime to increase due to regulatory needs and more willingness to turn to technology to drive automation. Should more firms move further into the surveillance tech realm, they may find that their own voices and communications—and unlocking them—are more of an asset than they think. [wt](#)



Steve LoGalbo
NICE Actimize

Bad Clocks Block FX Best-Ex



To get a good deal in fast-moving foreign exchange markets, buy-side firms need to know the time. Some of them don't.

By **Luke Clancy**

Flavor Flav, the hype man for hip-hop superstars Public Enemy, famously wore a large clock around his neck, so he knew what time it was.

He would not have been a success in modern foreign exchange markets, where participants increasingly need to care not just about hours, minutes and seconds, but also milliseconds and even microseconds. Unfortunately, in the form of clunky order-management systems (OMSs), observers claim some buy-side firms are still using the equivalent of Flav's clock.

"We often see trade data coming from the OMS that only captures, for whatever reason, one-second intervals in its timestamps. There are 1,000 milliseconds in a second. A lot happens in a millisecond," says Andy Woolmer, chief execu-

tive of New Change FX, a provider of transaction cost analysis (TCA).

A more insidious problem is the use of the wrong timestamps, of which there are 26 in the market's standard messaging protocol, FIX—each one capturing a different, tiny event in the life of a trade.

These dual dangers of OMSs that only recognize yawning epochs and misunderstood stamps mean some investors still don't know what time it is. That makes it difficult—or impossible—to be certain they are getting a good outcome, and being treated fairly, when trading.

Ensuring best execution is a regulatory requirement for asset managers under Europe's second Markets in Financial

Instruments Directive (Mifid II). Within FX, it applies to over-the-counter derivatives as well as for foreign exchange services that are ancillary to trades in assets covered by Mifid II best execution rules. That means best execution rules also apply for an FX spot provided for a client in connection with a derivatives order.

Stephan von Massenbach, director of FX consultant Modular FX Services, says buy-side firms should measure time precisely to avoid being taken advantage of: "A lot of FX market activity happens at the market microstructure level, which is measured in milliseconds. Clients need to ensure they have access to trade and

market data with a time resolution suitable for analysis of execution quality.”

A Brief History of Timestamps

An OMS—such as BlackRock’s Aladdin or Bloomberg’s Asset & Investment Manager—is an internal system that connects portfolio managers with a firm’s traders. Traditionally, those traders will rely on a separate bit of kit, the execution management system (EMS), to connect with venues and counterparties, and actually send orders to the outside world.

For regulatory reporting purposes, venues are mandated by Mifid II to record trades to the millisecond or better. Participants in those venues have their own granularity obligations, which depend on the type of activity they engage in—for voice and request-for-quote trading that is common in fixed-income markets, timestamps should be a second or better, while high-frequency algorithmic trading has to be reported in microseconds. Everything else is held to a millisecond standard.

Popular OMSs and EMSs match their timestamps to these obligations. When a trade passes through Bloomberg’s AIM, for example, timestamps are captured in seconds. It can then be routed on to Bloomberg’s accompanying equity or fixed-income EMSs—which are understood to capture timestamps at the granularity required by Mifid II. This is likely to be in seconds for most fixed-income trading.

Aladdin also typically displays execution times in front-end applications by rounding to the second. In Aladdin’s case, the time is not rounded if the OMS receives executions back from EMSs that record times in milliseconds.

BlackRock and Bloomberg declined to provide an official comment for this article.

Jay Hinton, senior product manager at order- and execution-management systems provider Charles River, is aware some OMSs may round timestamps up to the nearest second, but states it is not an issue for his firm’s offerings, as all of the orders in its multi-asset system have millisecond-level timestamps.

He says: “Many OMS offerings are legacy systems that were built in a time



“We often see trade data coming from the OMS that only captures, for whatever reason, one-second intervals in its timestamps. There are 1,000 milliseconds in a second. A lot happens in a millisecond.”
Andy Woolmer, New Change FX

when millisecond granularity wasn’t something that was even considered. It’s a problem for a lot of systems. We’ve done a fair bit of work to make sure it’s not a problem for us.”

FIX Trading Community—the body that governs the messaging standard—recognizes the problem.

Hanno Klein, senior standards adviser at consultant FIXdom and co-chair of FIX’s global technical committee, says: “It may be an idea for a working group to come together to resolve the issue between different EMS and OMS timestamp granularities. There may be a need to standardize on a common granularity and define rules for how to round timestamps for consistent reporting.”

That need is driven partly by best execution policies—often defined as an attempt to transact at the most favorable possible price—and partly by a lingering

distrust of FX dealers on the buy side, caused when several large dealers in the spot market were involved in frontrunning scandals.

The scandals focused continuing attention on dealer behavior during the milliseconds-long ‘last look’ window, which opens once a client order has been received. Some banks use that period to pre-hedge incoming client trades—indistinguishable from frontrunning in some cases—or to reject trades if the market moves in a client’s favor prior to execution.

Principle 36 of the FX Global Code of Conduct, written following the scandals, states that market participants should apply “sufficiently granular and consistent timestamping”.

Here’s how that information could be used: first, says Xavier Porterfield, head of research at New Change FX, buy-side firms would be able to keep tabs on what happens to their orders when they click on a price in their EMS and an order message is sent to the market-maker.

In sequence, the market-maker would receive the order and open a ‘hold window’, at the end of which it would check to see whether and how far the market price had moved away from the original quote. If any move was within the dealer’s tolerance, then the order would be accepted and a confirmation returned to the client; if not, a reject message would be sent instead.

The longer the hold window, the greater the chance of the market moving and the order being rejected. Some dealers state they apply holds of different lengths to different clients, depending on their experience with that client. Others will reject trades if the market moves against them, but execute if it moves against the client. Unless the messages are timestamped to the millisecond, it becomes impossible for a client to know how they were treated.

“Does the hold window open 100 milliseconds, 200 milliseconds or 300 milliseconds after the order has left the client’s EMS? This lack of granularity creates optionality in FX pricing and the payoff is asymmetric,” Porterfield says.

There are other TCA use cases, too. A buy-side firm could compare the price at which its order was filled with the



market mid-price at the time its order was submitted, for example. Or it could look for evidence of market impact—the possibility that an order might be handled clumsily or pre-hedged, causing prices to move against the client.

All of this analysis would be obscured if an investor was working in whole seconds—or distorted if it was using the wrong timestamps.

Stamp Collecting

The latter problem arises from the plethora of stamps available. There are around 3,000 tags—data fields that describe an element of a trade—in the FIX protocol, of which 26 are timestamps.

Separate timestamps exist, for example, to capture the time of execution, broker receipt, desk receipt if a trade is passed between different desks, order-book entry time, or when a transaction is first published to the market, submitted for confirmation or sent to clearing.

Tag 60, the transaction time, is probably best suited for TCA, although

“If we deliver messages to the API that feeds the OMS, from then on it’s obviously out of our control. The capability of the OMSs is what they are, and we deliver in the best and most precise format. What the OMSs are capable of doing we cannot influence.” **Carlo Kölzer, 360T**

other tags may inadvertently get used. Tag 52, for example, is the ‘last sent’ time, which is updated whenever it is passed between an OMS and EMS. Tag 122, meanwhile, represents the original sending time of a trade.

Because tag 52 is often changed as it is passed between systems, New Change FX’s Woolmer says clients using this tag for TCA can end up with a timestamp that lags the actual execution time.

FIXdom’s Klein acknowledges the issue. He says timestamps such as tag 52 and 122 are part of the standard header of a Fix message—sed for communication on a technical level between Fix engines—and not intended for reflect-

ing “business events”. Instead, he says, tag 60, the transaction time, is the key timestamp for the purpose of establishing a business event such as the time of execution, and is expressed in the body of a message.

“I’m pretty sure that sending time tag 52 is being used in the industry to pass information as part of the application level of trades, but that is not the intention of it,” says Klein. “I’m also pretty sure that all the timestamps provided back and forth between counterparties would benefit from defining where they are taken. For example, is a timestamp taken when a trade hits an exchange gateway or when it hits a matching engine?”



Carlo Kölzer
360T

“It may be an idea for a working group to come together to resolve the issue between different EMS and OMS timestamp granularities.”
Hanno Klein, FIXdom/Fix

For the Record

Buy-side firms don't have complete control over the process though. Venues, software providers, counterparties and even custodians have a part to play.

Beverley Doherty, global head of FX Connect, says the venue offers a timestamp report to clients, although “we didn't add everything to the straight-through-processing export because some OMSs can't consume it all”.

360T group chief executive Carlo Kölzer, says his platform has “really ultra-precision measurement of timestamping and at what stage the message is”.

As with FX Connect's Doherty, he warns precise data can be trashed by a crude OMS: “If we deliver messages to the API that feeds the OMS, from then on it's obviously out of our control. The capability of the OMSs is what they are, and we deliver in the best and most precise format. What the OMSs are capable of doing we cannot influence.”

At Quod Financial, chief technology officer Mickael Rouillere, whose multi-asset platform caters to liquidity takers on the buy side, says the timestamps it generates are to the microsecond—or millionth of a second.

But he agrees not all counterparties can be relied on to timestamp with the same granularity or even use the correct FIX tag: “When you're dealing with TCA, you want to have the timestamp of the creation of the actual transaction. But sometimes it is actually very difficult to understand which one's which. There are different timestamps in the FIX messages, but you can't always guarantee that the sender of these FIX messages has been using the right tag.”

Rouillere says the buy side is increasingly becoming aware of the need for more accurate timestamps: “Hedge funds and quantitative funds are asking the most.”

Modular's von Massenbach has seen timestamps taken from clients' own risk or position-keeping systems that are out of sync with the market and make TCA difficult. He recommends getting execution logs direct from an EMS, adding that such systems might not make all the information readily available.

He says: “You might get the confirmation time rather than the actual execution time, and the only way to access the correct information is by a dedicated request. The difference could be as much as half a second, if not a second or two. And if it's then sent back to the OMS and rounded to the nearest second it introduces a lot of noise into your analysis. That makes life difficult.”

“I think the message is that clients that do TCA need to be especially careful when they look at their data source and its suitability for TCA,” von Massenbach sums up.

Issues with using the correct timestamps are said by TCA experts to be more common among smaller asset managers.

Take It to the Bank

New Change FX's Woolmer adds that asset managers may need to address the issue, not only with their OMS providers but also with third parties such as custodians, if they are given responsibility for collecting data on behalf of asset managers.

He adds: “If an asset manager doesn't know when a transaction took place on their behalf in the market, then that gap can be costly, especially when we're talking about algos. That means they could be using venues that have high market impact and may do things in the last look window they wouldn't want.”

This year, *Waters Technology's* sister site *Risk.net* analysed disclosures from the top 50 liquidity providers, including non-banks, on their last look policies. It found that while most firms adhere to the FX Global Code, a quarter have no public disclosures on their last look practices, nor would they share them. More than half refused to publicly state or confirm their approach to hold times.

So, what can buy-side firms do?

Going direct to the source for timestamp data is the route advised by Tradefedr. It is building an industry-wide data utility that relies on banks and trading platforms making their data available for independent analysis, hoping to optimize interaction between FX market participants.

Balraj Bassi, co-founder of the analytics start-up, says: “I think they should take the timestamp from the banks. If I'm trading with a bank, I need to be talking to the bank directly. How old is the quote I'm trading on? If it's very old I need to go to talk to my platform provider and ask ‘why am I trading on old prices from banks?’”

“The next thing I want to know is how long the bank held it for. So there's two things you can get from banks: the quote age and the hold time. The other thing on the buy side, which their platform should have, is a response time of when I sent it and when I got a receipt back. All three, in my opinion, are important,” he says. **wt**

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Rise of the Robo-Raters

Specialist firms are touting services for monitoring third parties amid tougher rules on outsourcing risk. By [Costas Mourselas](#).



If you want to reduce the risk posed by third parties to your organization, you hire another third party to police them.

This concept may not be intuitive, but cyber risk rating companies such as BitSight, RiskRecon and SecurityScorecard have made it central to their business proposition.

These companies are trying to offer an alternative to the staple methods of third-party risk management, where banks vet vendors using questionnaires, lengthy audits and site visits. Instead, the rating companies scrape the internet for any data that can help paint a picture

of a third party's cyber security defenses and their vulnerability to cyber crooks.

Financial institutions are weighing up the service as they struggle to manage the risk posed by an intricate network of third parties. Many of those third parties themselves outsource to external vendors, creating a complex web of vendor relationships for banks to monitor.

"It's risk management once removed, and it's a problem the whole industry faces," says Richard Downing, head of

vendor risk management at Deutsche Bank in London.

Banks hoping for a magic bullet from cyber risk rating companies may be disappointed, though. There are questions over whether the ratings provide a sufficiently comprehensive measure of vendor risk. Some believe ratings can only ever complement, not replace, banks' own internal vetting processes.

Regulators are well aware of the problem. The US Federal Reserve is



“Some of the cyber risk ratings apply a very good layer of analysis to the data they gather ... But the data analysis of some providers can be of low quality, so can't be used as a decision point in a risk assessment.”
Charles Forde, Allied Irish Bank

focusing on vendor risk management as one of its supervisory priorities for the country's largest banks, while the European Banking Authority (EBA) has released stringent guidelines on outsourcing arrangements. The European Securities and Markets Authority plans to release its own outsourcing guidelines for financial firms not under the purview of the EBA next year.

The specter of data loss is one of the biggest fears for risk managers, judging by *Risk.net*'s annual Top 10 op risks survey, which in 2019 placed data compromise in the top slot for the first time. As well as the costs from reputational damage and customer remediation, data loss can also attract swingeing fines under Europe's sweeping General Data Protection Regulation (GDPR) laws.

Know the Score

Cyber risk rating providers employ big data techniques to gauge the cyber security capabilities of firms, scraping the internet for information that can provide clues as to a company's resilience against hacks, outages and other threats. The data is aggregated and run through an automated program, which scores the data along preset parameters. These scores are weighted to produce a security rating. SecurityScorecard has a 100-point system and gives out grades on a scale of A to F, with a report card that highlights what actions can be taken to improve the grade. BitSight offers a rating on a scale from 250 to 900 points, similar to a credit score, and Risk Recon provides a score anywhere from zero to 10.

Broadly, these services monitor whether a firm's systems are properly

patched, the health of domain name systems (DNS), the security of a company's network and other factors. Patching, or updating, the software used by companies is a basic but important way to avoid cyber breaches, experts say, as hackers can exploit temporary holes in security in unpatched software. DNS is the decentralized way in which entities are labelled on the internet, and companies must make sure to monitor their own DNS designations to avoid malicious activity—for example, attackers being able to affect internet traffic or impersonate a company's email address.

However, these services can go beyond just monitoring the perimeter of companies' security infrastructure. SecurityScorecard also eavesdrops on web chatter about companies to determine whether data has been leaked or if hackers are planning to launch a cyber attack on a target.

Similarly, BitSight boasts of having access to one of the largest cyber sinkhole infrastructures in the world, after acquiring a Portuguese cyber analytics firm in 2014. The sinkhole is a huge dragnet that intercepts fake URLs. Often, this type of malicious traffic emanates from groups of infected computers referred to as botnets. By accessing these botnets, BitSight, SecurityScorecard and other firms can track communications sent by the computers and obtain a worldwide view of the ebb and flow of infections. This can provide some important intelligence on the vulnerability of different firms to potential cyber attacks.

“Access to this sinkhole lets us know

when malicious links are clicked, as our sinkhole intercepts the message sent back to the hacker,” says Jake Olcott, vice-president in communications at BitSight.

SecurityScorecard also says it uses cyber sinkholes to aid monitoring. The company's vice-president of international operations, Matthew McKenna, says automation is important in enabling cyber rating firms to increase the range of vendors they cover. He claims the firm scores 1.1 million companies.

RiskRecon was unable to respond to requests for comment.

The breadth of coverage offered by rating providers may be a draw for multinational companies that need to set variable levels of risk tolerance depending on region or market.

“Take a firm with an asset management business in the US and a wealth management business in Singapore,” says Charles Forde, group head of operational risk at Allied Irish Bank. “You will likely have a different risk appetite for vendors in these different regions so you can tailor your findings to each business. A score might be acceptable for one business but not another. That flexibility is useful.”

Cyber rating firms operate under a subscriber payment model. This sets them apart from their credit rating agency cousins, which use an ‘issuer pays’ model—a structure that some claim introduces perverse incentives into the rating process.

“Our business is similar to that of a conventional credit rating agency, but there are some fundamental differences,” says Olcott. “In the financial ratings market, organizations pay to be rated, which can lead to a significant conflict of interest. For us, any organization can pay to get on the platform and see the ratings of hundreds of thousands of firms.”

Fast Response

Proponents of cyber ratings claim the service offers a quick and easy snapshot of a vendor's vulnerabilities compared with the traditional vetting procedure involving questionnaires and audits.

“These utilities become very cost-effective because while an audit or questionnaire of a vendor can take a



The European Banking Authority has issued guidelines on managing outsourcing risk

minimum [of] four to six weeks, these cyber risk rating services give you an answer immediately,” says Amit Lakhani, global head of IT and third-party risks for corporate and institutional banking at BNP Paribas in London.

Financial institutions have the option to outsource the questionnaire process using an external monitoring services such as KY3P from IHS Markit or the TruSight utility from large American banks.

Allied Irish Bank’s Forde proposes an alternative approach to screening new vendor relationships using cyber risk ratings instead of questionnaires. Banks could request and affirm basic information that would normally be included within a vetting questionnaire, as minimum contract standards with vendors. The kind of information could include whether a vendor has a chief information security officer who sets policies, or what are the processes for data encryption. For more technical details normally requested in a questionnaire, the cyber rating firms can come into play, providing up-to-date information on cyber security policies.

“Cyber risk rating services offer an instant response on technical vulnerabilities, issues with patching and encryption, among other risks,” says Forde. “This approach also extends to discovery and monitoring more deeply into the supply chain, covering fourth parties.”

Gaining a detailed picture of the supplier relationships among vendors is hard for a large institution that might have hundreds of individual outsourcing arrangements. Cyber rating firms are starting to offer analysis of the chains of connection among vendors, to show third and fourth parties.

“If your supplier is subcontracting to another supplier, then these rating agencies can provide you with a view of the number of fourth parties your supplier has,” says BNP Paribas’s Lakhani. “It is very helpful to see if all your fourth parties are converging to certain cloud service providers such as Amazon Web Services [AWS] or Microsoft’s Azure platform. This could change your view of risk if it is determined that many of your third parties would suffer if any of these services were to go down tomorrow.

He adds: “As an organization, this helps because the EBA is very interested in seeing where risk concentrations exist.”

New guidelines from the EBA, released in February, provide detailed principles on how to manage outsourcing risk from third parties. Banks must maintain a comprehensive register of outsourcing relationships and closely scrutinize vendors based on their “criticality” to the functioning of the business. The rules go beyond the scope of the outsourcing guidelines released by the Committee of European Banking Supervisors in 2006, ramping up the compliance burden with regard to third and fourth parties, banks report.

As regulators finesse their guidelines for the management of third-party risk, their expectations for how firms tackle cyber risk are also taking shape. US regulators initially favored a tough approach that would compel financial institutions to introduce a two-hour return to operations following a cyber attack. The proposal was shelved after industry criticism, but the Fed is pushing ahead with an initiative to set common standards for classifying and modelling cyber risk.

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In Europe, the GDPR rules over data privacy introduced last year have forced all companies that handle personal data to overhaul how they use and store that information.

“Regulations are tightening in respect to third-party risk monitoring and assurance,” says McKenna from SecurityScorecard. “As an example, GDPR requires organizations to continuously monitor and understand third-party risk related to data privacy.”

The EBA’s focus on concentration risk is designed to ensure firms are not becoming overly dependent on the functioning of certain key entities. Cloud services such as Azure and AWS are under particular scrutiny by regulators, as banks and financial market utilities such as clearing houses outsource important functions to them.

Deutsche Börse, one of the world’s largest exchange groups, recently signed a deal with Microsoft, acknowledging that the deal allowed it to place services into the cloud that were “typically considered essential” for firms’ core businesses. The Options Clearing Corporation has started a multi-year project to modernise business processes, including using the public cloud.

Cyber risk ratings could offer a way of sourcing information about fourth parties as companies adapt to the stringent new guidelines. It is unclear if firms will be able to negotiate rights of access to information on fourth parties, as required by the guidelines, according to Deutsche Bank’s Downing: “It’s something the industry is working on with vendors.”

“It is quite difficult to ask for third parties to grant us audit and access rights for fourth parties,” he adds. “It is still being debated as to what exactly the EBA guidelines mandate when it comes to fourth-party risk management.”

Data Crunch

Third-party risk has a broader scope than the outsourcing of tech services. Large financial firms connect with many service providers that are not bound by outsourcing contracts and may be reluctant to divulge vital information.

William Moran, chief risk officer for technology at Bank of America, recently

“[Financial market utilities] either won’t participate at all or they won’t let you do an on-site [inspection], or they basically cherry-pick which questions they want to answer.”

William Moran, Bank of America

said important financial market utilities such as central counterparties often would not answer questions about their cyber security arrangements.

“They either won’t participate at all—that is, they won’t answer your questions—or they won’t let you do an on-site [inspection], or they basically cherry-pick which questions they want to answer,” he said at the Risk USA conference in New York in November.

Regulators that usually have privileged access to company information “don’t tend to be very responsive about what they’re doing in terms of cyber,” he added.

“I think the notion of having single, independent groups trying to evaluate vendors for things like cyber is good,” he said.

While the principle of cyber ratings may sound persuasive, successful application of the concept is a different matter. For rating firms that track hundreds of thousands of companies continuously, providing a consistent level of analysis on the data scraped from the internet is crucial. Some suggest the ratings firms are not always successful in this regard.

“The level of much of the detail provided by these services is quite good,” says Forde of Allied Irish Bank. “I think the challenge is you can’t use all these services in the same way. Some of the cyber risk ratings apply a very good layer of analysis to the data they gather, providing accurate conclusions. But the data analysis of some providers can be of low quality, so can’t be used as a decision point in a risk assessment.”

James Tedman, a partner at ACA Aponix, an operational risk advisory firm in London, agrees that the concept of cyber risk ratings is valid but that

there will always be gaps in the coverage these kind of firms offer.

“An ‘outside-in’ approach is a useful complement to questionnaires in assessing and monitoring vendor risk,” he says. “However, you can only get to a subset of risk by using these cyber risk monitoring services.”

Mix and Match

Tedman adds that a real-time service based on data will not offer insight into more qualitative factors such as the level of staff awareness of cyber issues in a firm, or how susceptible the company is to a fourth party with access to the network.

“These are the sort of risks that cannot be captured from the outside, and require on-site risk assessments or questionnaires,” he says.

In other words, firms would be foolish to rely solely on external ratings for a complete picture of third-party cyber risk. Banks may need to devise internal processes to complement the information gleaned from ratings. Deutsche Bank is doing so with its protective intelligence unit that looks through news items to determine threat levels from vendors. The bank is working to better link this function with what it calls a “vendor criticality matrix,” which tabulates the systemic importance of third parties to the firm.

“There is a broader industry push to both use third-party services that help bank monitor vendors, but also to develop internal systems that follow news items about those vendors,” says Downing.

Third-party risk encompasses much more than a cyber risk rating can cover. Take, for example, the reputational risk that may affect a firm if it uses a vendor with poor working conditions. In other areas of tech, such as manufacturing, companies have faced public criticism over employment practices – Taiwanese firm Foxconn a prominent example.

To get a complete view of vendors, firms will have to employ a mix of oversight strategies, of which cyber risk rating firms are one element. The machines are not quite ready to take over yet. [wt](#)

Additional reporting by Tom Osborn

Bloomberg LP's Fate Lies in Hands of Democratic Voters

With Bloomberg founder Michael Bloomberg considering a run for president, Max ponders the possible outcomes if the data giant goes up for sale.



The news that Michael Bloomberg, founder of data giant Bloomberg LP, is exploring a run for the 2020 Democratic presidential nomination has prompted nervous speculation within the vendor that the company may be for sale.

On Friday, November 8, the vendor's management committee emailed its 20,000 staff confirming that Bloomberg had decided to explore a presidential run. The memo—seen in full by *Waters Technology*—reassures employees that if Bloomberg pursues a bid, the company remains in the safe hands of its management committee: chairman Peter Grauer, co-founder Tom Secunda, CFO Patti Roskill, global head of financial products JP Zammitt, global head of engineering Vlad Kliatchko, and CEO of Bloomberg Philanthropies Patti Harris.

Contrary to reports implying that the company would expand its management committee in the event of Bloomberg's departure, the memo refers to "an expanded management committee," which refers to the additions of Roskill, Zammitt and Kliatchko in 2018 and Harris earlier this year.

The memo may have simply been an effort at full transparency, but may also have been designed to quell rumors that the company is preparing to be acquired.

Bloomberg has certainly spoken publicly about selling before, and also about cheating the taxman by liquidating and donating his fortune to philanthropic causes before he dies. Ultimately, this may depend on how much of his \$50+ billion net worth is tied up in the company versus being immediately available to fund an election campaign.

Waters Technology has heard that all or part of the company may be up for grabs. And while some pooh-poo the idea of a sale, the buzz from within Bloomberg is throwing out names like Microsoft, Intercontinental Exchange, BlackRock and Berkshire Hathaway as potential suitors. Of these, Microsoft probably doesn't have the stomach for this kind of financial markets play, or for the scale

that could potentially influence an election with positive stories about them (or negative stories about other candidates).

Lending support to this idea is the fact that Bloomberg has been adding third-party news sources to its terminal, including news from Dow Jones earlier this year. Yes, Bloomberg is always adding new sources, but Dow Jones news is a competing source from a major rival. And, says one source, "Their appetite for third-party news seems to be far greater than ever. You used to have to pay to be on Bloomberg. ... Now they're buying news."

This could be a signal that the vendor is acquiring independent news to replace its own news services on the terminal—perhaps because it's planning to sell that business line, or perhaps slim it down and replace in-house journalists with cheaper third-party news. If Bloomberg were to sell its news business, it could lease back the content—much as Refinitiv leases back (formerly in-house) Reuters news—which would fulfill a political need for independence, and would also deliver a guaranteed revenue stream to make the business more attractive to any buyer, since the business has always been a loss-leader to support terminal sales.

Of course, this may all be a moot point: Bloomberg has time to weigh his decision while preparing for a run—though media polls so far have been underwhelming, with the public skeptical about two 70-something billionaires fighting for the presidency. If he decides not to run, Bloomberg may simply leave Bloomberg LP intact and remain at the helm for the foreseeable future. **wt**

Bloomberg has time to weigh his decision while preparing for a run—though media polls so far have been underwhelming.

of technological transformation required to integrate Bloomberg, while ICE has just absorbed Interactive Data, and may face competition hurdles. BlackRock has its own Aladdin platform and is working with the ostensibly anti-Bloomberg Symphony, so buying Bloomberg would seem counterintuitive to that investment. Berkshire Hathaway, or another large private equity firm, might be a safe pair of hands that would keep Bloomberg intact and not break it up or involve it in unwieldy integration projects. Indeed, Grauer is familiar with private equity, having until recently held a board role at Blackstone Group—part of the consortium of investors that acquired data rival Thomson Reuters, then spun out its Financial & Risk unit as Refinitiv.

The rumor—that Bloomberg might spin off its proprietary news division—has some heft to it, not least because it would be a conflict of interest for a presidential candidate owning a media organization

Crypto Identity Crisis



Jo Wright says two recent cases have left industry participants worried that regulators are ruling by enforcement.

At first blush, there appears to be little in common between the Commodity Futures Trading Commission's enforcement case against developer Jitesh Thakkar, which I wrote about in last month's column, and the Securities and Exchange Commission's (SEC) enforcement case against coin issuer Telegram. The first action concerns regulators holding developers accountable for crimes committed with their software; the second hinges on legal definitions of securities.

But these recent actions both tell a similar story: how regulators are relying on legacy legal frameworks, while stirring up fears among industry participants of "regulation by enforcement".

Telegram owns a messaging app called Messenger, apparently beloved of the cryptocurrency community. In mid-November, lawyers for the firm's founders, brothers Pavel and Nikolai Dukov, hit back at the SEC after it got an emergency restraining order preventing Telegram's token issuance.

The SEC sought the restraining order in October to prevent what it says was the illegal issuance of digital asset securities. The agency says Telegram had not filed registration and disclosures with it before attempting to issue its Grams tokens.

Telegram had first raised funds on Grams in 2018—some \$1.7 billion, mostly from US investors. But the tokens did not yet exist: the company was supposed to issue the actual assets for these early investors in October, plus a few million more, when the SEC put the kibosh on that.

The proceeds of the Grams sales were meant to fund the creation of a blockchain called the Telegram Open Network (TON). The plan was to integrate it with Messenger so users could send millions of transactions per second on a blockchain. It was basically a competitor to Ethereum's smart contracts, but it aimed to be scalable to an extent that blockchains currently are not.

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The SEC's case against Telegram hinges on the definition of a crypto-asset as a security rather than a currency.

The SEC's case against Telegram hinges on the definition of a crypto-asset as a security rather than a currency. As the SEC says in its complaint, "Grams are not a currency because, among other things, there are not any products or services that can be purchased with Grams. Rather, there is an expectation on the part of investors that they will profit if Telegram builds out the functionalities it has promised."

In this sense, Grams are rather like stocks, which you would buy hoping that over time you will get a return on your investment. And they are therefore not like buying euros at a bureau de change on your holiday in Paris, where you don't expect to make a profit but do expect to be able to pay for your dinner.

The litmus test of whether a transaction is a security, and therefore falls under securities regulation, is the Howey Test. It goes like this: if a transaction is an investment for profit among

a group of people, and the profit is paid out by a third party, then it is a security.

So you can see why the SEC might insist that Grams are a security and should have been registered as such. But Telegram's lawyers say its fundraising efforts fall under a valid exemption from securities laws. They say that when investors bought Grams in the first funding round in 2018, these counted as investment contracts. But because Grams were to be released on a completed blockchain—the TON—in 2019, they would no longer count as such.

Telegram also says it made numerous, voluntary attempts to engage with the SEC in several ways for months, but the agency never provided clear, definitive guidance nor told the company not to launch the TON.

And to be fair to Telegram, SEC chairman Jay Clayton himself has said that a digital asset might be offered initially as a security but later become designated as something else if the conditions of its sale change.

As in the Thakkar case, it will be interesting for neutral observers to see how this case plays out. But for market participants, their fears can't be better expressed than by Telegram's lawyers, who say the SEC "has engaged in improper 'regulation by enforcement' in this nascent area of the law, failed to provide clear guidance and fair notice of its views as to what conduct constitutes a violation of the federal securities laws, and has now adopted an *ad hoc* legal position that is contrary to judicial precedent and the publicly expressed views of its own high-ranking officials." **wt**

The Alt Data Deal



Wei-Shen Wong wonders whether asset managers really understand what they mean when they talk about alternative data.

The term ‘alternative data’ is bandied about quite loosely, giving the impression that asset managers are actively digging around for alternative sources of information that could translate into higher returns.

But asset managers are increasingly discovering that understanding and implementing alternative data is not as easy as it seems. There is no plugin or direct stream that churns out new insights to the buy side at the push of a button.

Suvrat Bansal, chief data officer and head of innovation at UBS Asset Management, points out that alternative data, if appropriately applied, can provide unique insights into economies, sectors, and companies far beyond financial and market information.

The issue is that alt data comes from a wide range of sources, including mobile phone activity, credit and debit card transaction data, social media activity, GPS tracking, and satellite imagery, to name just a few.

In an article in this issue, Rebecca Natale highlights how asset managers could be overestimating their alt data capabilities. They are dealing with rising cost pressures, thinning profit margins, and perhaps even a deviation in investment volumes as their clients shift their attention to passive investments.

This is why incorporating alt data into asset managers’ investment processes is important, as it leads to potential new sources of alpha. Again, this process is easier said than done.

UBS Asset Management sponsored a study conducted by data and analytics

advisory firm Element22, to benchmark where some of the largest asset managers are in their alt data journeys.

The results showed that a majority—some 68% of the 59 asset managers surveyed—were still only in the planning phase or in early trials of their proofs of concept. Element22 classified the remaining asset managers as being in the middle of their alt data journeys.

What Predrag Dizdarevic, founding partner of Element22, made clear from the study is that many firms were likely overestimating their grasp of alt

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There is no plugin or direct stream that churns out new insights to the buy side at the push of a button.

data. Their qualitative responses to how advanced they were in their programs were quite positive. But when it came to quantitative questions about how many sources of alt data they use, how long they used them for, or which other advanced technologies they are investing in, and how much money they’ve invested in the programs, their answers painted quite a different picture.

“We had some questions on where they think they are in extracting the most value out of the use of these new technologies and the alt data sources, and their replies to those qualitative questions have been pretty aggressive,” Dizdarevic said.

A key takeaway is also that no alt data is useful all the time. UBS’s Bansal says firms need to be able to adjust and

try new things as they arise. “We know for sure in traditional asset management; it’s near impossible to use one source or, collectively, all sources. There’s something within there, but our view is you need the data, but not all the data all the time for all the investments,” he says.

Rules of Engagement

One of the most important aspects that firms often overlook when implementing alt data programs is the engagement model. Alt data won’t produce the intended results unless the firm transforms its research process through those insights. Bansal says it’s necessary to create an engagement model that mandates and incentivizes the producer of such insights, as well as the research teams interested in evaluating them as part of their specific research efforts.

Forming dedicated teams in the research division that focus on insights produced through alt data, NLP, and AI capabilities will promote ideation and the application of insights into the traditional research method.

Having an engagement model is just one aspect of what firms should consider before implementing alt data practices. Other factors that need to be thought through include evaluating existing internal data that can be used before going on an alt data shopping spree and skillsets required to extract unique trends and insights, among others.

So, asset managers need to develop a well-thought-out plan if want to truly benefit from the insights these new sources of data can bring. Either that, or drown in the sea of alt data. **wt**

Human Capital



Refinitiv Exec Joins Qontigo

Financial intelligence provider Qontigo, part of Deutsche Börse Group, has hired Stephan Flagel as global head of indices and benchmarks, with responsibility for overseeing the company's index business and expanding the footprints of newly acquired Axioma and Stoxx.

Flagel joins from Refinitiv, where he served in the same role. He replaces Steffen Hermanns, who is retiring in 2020, and reports to chief business officer Holger Wohlenberg.

Barrow to Lead Benchmarks and Indexes at Refinitiv

Refinitiv has promoted Shirley Barrow to global head of benchmarks and indexes. As part of the Investment and Advisory (I&A) proposition leadership team, she will manage Refinitiv's Benchmarks & Index business, including WM/Reuters.

Barrow joined Refinitiv in 2016. Prior to that, she was managing director at State Street, where she was responsible for the development and growth of WM/Reuters. She has 20 years of experience in financial services, having held several leadership



Barry Gill



Michael Johnson

positions at Bankers Trust, Deutsche Bank and State Street.

Barrow reports to I&A managing director Pradeep Menon.

UBS AM Promotes Gill

UBS Asset Management has named Barry Gill head of investments. He will oversee roughly \$710 billion in assets under management across both traditional and alternative asset classes.

Gill, who is a UBS veteran of 25 years, having served in both the investment bank's equities unit and the asset manager's O'Connor hedge fund, was previously head of active equities. He replaces Suni Harford, who was recently made president of UBS Asset Management. Ian McIntosh will take over as head of active equities.

Liquidnet Hires New CTO

Liquidnet has appointed Patrick Strobel as chief technology officer (CTO). Strobel will oversee the company's technology strategy and align its tech offerings following this year's acquisitions of Prattle and RSRCHXchange, which, along with OTAS, will fall under a new unit called Investment Analytics next year.

For the past two years, Strobel was Liquidnet's head of technology for EMEA. Prior to that, he spent 15 years in technology roles at Deutsche Bank and JP Morgan.

Strobel reports to Rob Laible, chief operating officer at Liquidnet.

MarketAxess Gains Gwin for Data Sales

MarketAxess has hired Ryan Gwin as head of data sales for the Americas.

Gwin was previously head of data sales at Tradeweb, prior to which he was an account manager

at TheMarkets.com, and an account manager at Bloomberg Tradebook.

He reports to Kat Tatochenko, who joined MarketAxess last month from Bloomberg as global head of data.

Trading Tech Bolsters C-Suite

Trading Technologies (TT), a global provider of trading software, infrastructure and data solutions, has hired Russ Cotton as chief operating officer (COO) and Craig Mohan as chief growth officer.

Cotton joins from Intercontinental Exchange (ICE), where he was most recently vice president of operations, having worked in operations roles at ICE over the past 17 years.

Mohan most recently served as CME Group's managing director of market technology and data services.

Bishop Takes CIO Role at DTCC

The Depository Trust & Clearing Corporation (DTCC) has appointed Lynn Bishop as chief information officer. She will be responsible for the ongoing development and testing of all the technology that supports DTCC's post-trade infrastructure, communications networks, processing and messaging systems, and IT applications underlying DTCC's products and services.

Bishop has worked at the DTCC for nearly 15 years, most recently as chief development officer. She will join the firm's management committee and reports to CEO Michael Bodson.

Crestbridge Hires Johnson as Head of Fund Services

Crestbridge, a provider of solutions for global administration, management, and corporate governance, has hired Michael Johnson as group head of funds services. Johnson will shape the



Patrick Strobel



firm's overall funds proposition and support managers across asset classes. He replaces Michael Newton, who has taken on the newly created role of head of client delivery.

Johnson joins from Intertrust, where he was head of fund services in the Channel Islands.

OSTC Brings AI Expert on Board

OSTC, a global derivatives trading and education business, has hired Rose Luckin, professor of Learner Centered Design at the University College of London's (UCL) Knowledge Lab, as an independent non-executive board member. She currently leads the team of UCL data scientists that are helping OSTC apply AI and other smart technologies to the human capital areas of its business.

Luckin replaces Donna Whitehead, who is leaving the board following her appointment as deputy vice-chancellor of London Metropolitan University.

Outset Global Hires Rapavy as CFO, COO and CCO

Outset Global, a provider of execution services and outsourced trading to asset managers, has hired Bill Rapavy as chief financial officer (CFO), chief operating officer (COO) and chief compliance officer (CCO).

Rapavy was most recently CFO/COO/CCO at Outpoint Capital Management, an equity hedge fund manager, for more than 10 years. He reports to co-founders Raymond McCabe and Adam Bandeen.

Stream Data Centers Appoints VP of Network and Cloud

Stream Data Centers, a provider of datacenter solutions, has hired Chad Rodriguez as vice president of network and cloud. Rodriguez joins from Consolidated Communications, where he held roles in business development, carrier services and sales engineering. Prior to that, he was a customer service engineer at Cyan Inc.

CLS NABS CITI'S HRVATIN FOR CHIEF RISK OFFICER

Deborah Hrvatin has joined CLS, an FX settlement, processing and data solutions provider, as chief risk officer. She also becomes a member of the executive management committee. She is responsible for CLS's risk management framework and for building an enhanced culture of risk identification, challenge and mitigation.

Hrvatin previously worked for Citigroup, where she was global head of operational risk management for the institutional clients. Prior to joining Citigroup in 2017, she spent 22 years at Deutsche Bank, where she held several leadership roles including head of operational risk for the Americas and chief operating officer



Deborah Hrvatin

for the Global Securitization Group. She began her career in financial services as a commissioned bank examiner with the Federal Reserve Bank of New York. Hrvatin is based in New York.



Christine Ciriani

GAM Appoints Rafferty COO

Swiss asset manager GAM has named Steve Rafferty chief operating officer (COO). He will oversee GAM's day-to-day global business and ensure it meets its strategic goals.

Rafferty formerly worked at BlackRock for 16 years, most recently as global COO for the fixed-income division. He reports to group CEO Peter Sanderson.



Jason Bonds

Mediant Taps Tate as Ops Head

Mediant, a New York-based provider of investor communications solutions, has hired Gussie Tate as head of operations. Tate will oversee Mediant's operations and manage service delivery while ensuring compliance with regulatory and service standards.

She joins from First Citizens Investor Services, where she was a senior brokerage operations manager.

Chainalysis Adds Three in Business Development

Chainalysis, a blockchain analysis and crypto asset research firm, has appointed three business development leaders to manage growing demand for its cryptocurrency investigation and compliance software: Jason Bonds as chief revenue officer, Chris Manouse as public sector vice president, and Debra Brown as vice president of the Americas.

Bonds joins after more than 11 years at Ping Identity, most

recently as general manager of the PingIntelligence business. Brown also joins from Ping Identity, where she was director of East enterprise. Manouse arrives from cloud content management company Box, where he was a senior director.

Brown and Manouse report to Bonds.

Baton Picks Up Knight for EMEA

Baton Systems, a provider of distributed ledger-based post-trade solutions for capital markets, has hired Alex Knight as head of EMEA. He is tasked with building the adoption of its payment infrastructure in Europe by banks and clearinghouses.

Knight brings 18 years of experience at Citi, where he held various leadership positions in the UK, Asia, and Australia, playing a key role in the development of Citi's foreign exchange prime brokerage businesses.

Finantix Names Ciriani CCO

Finantix, a technology provider to the wealth management, insurance, and banking industries, has appointed board member Christine Ciriani as chief commercial officer. She will oversee all business development, marketing, and finance activities globally, while partnering with client delivery, R&D and product development.

She joins from Motive Partners, where she led investment in and management of Finantix as part of the Motive Partners' portfolio.

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2019-2020 events

November 1, London



December 3, New York



December 2-3, New York



March 6, 2020, London



April 12, 2020, London



April 2020, Hong Kong



May 18-19, 2020, New York



May 19, 2020, New York



June 23, 2020, London



July 2020, Tokyo



September 2020, London



October 2020, Singapore



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