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The New Era of Investment Research

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Last Call for Mifid II

HEADING TO THE CLOUD

Andrew Powers' IT strategy drives Polen Capital's meteoric growth

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The Consequence of Connections

Connections, it seems, pretty much trump everything else, both in life in general and across the capital markets. It's only when humans feel isolated due to a lack of connectivity—which in extreme cases can manifest in a variety of dissociation disorders where subjects crave connections to things (like reality) and other people, but for one reason or another cannot establish them—that the importance of making and maintaining connections really hits home.

Connections give rise to the establishment of communities, the viability of which are determined largely by the level of buy-in from their members, and in that sense, our industry is no different from any other. Technology, while critical to the normal functioning of most capital markets communities, is largely inconsequential to their members in terms of exactly how it works, as long as it does what it's supposed to. It's a bit like the engines on a passenger airliner. Are they important to the general well-being of the passengers? Yes. But do passengers care whether they are made by Rolls Royce, Pratt & Whitney or General Electric? Are they interested in their fan blade design and how much thrust each engine produces during climb out? Of course not. Those issues are inconsequential, as long as the engines do what they are supposed to and the aircraft gets them to their destination safely. I recently had the opportunity to reconnect with Lee Olesky, co-founder and CEO of Tradeweb, after about 15 years of no contact. We first met in 2001 or 2002 when he was based in the UK, but that was it in terms of contact, until a week ago when we got together in Infopro Digital's studio in London to look back at the seminal moments over the past two decades that the fixed-income trading platform has been in existence as a kind of celebration of the firm's 20th birthday. One of the striking features of that conversation is the value Tradeweb places on what Olesky refers to as its "network." According to Olesky, the premise upon which the business was founded and which has served it so well over the years is simple: It brings together buyers and sellers of similar products in a safe, ordered and transparent environment so that they can transact their business. In that sense, it's not unlike Amazon, he says, except it caters to the global fixed-income trading community. The crucial element of the firm's business model is not its underlying technology, but the community that thrives as a result of it. Sure, the technology pulls everyone together, irrespective of their location, language and time zone, but it is the community and their buy-in that breathes life into the platform and renders it viable. So, as much as our industry is driven by technology, it's even more so driven by communities using that technology to go about their business. And that, to my mind, will never change. W

Victor Anderson
Editor-in-Chief

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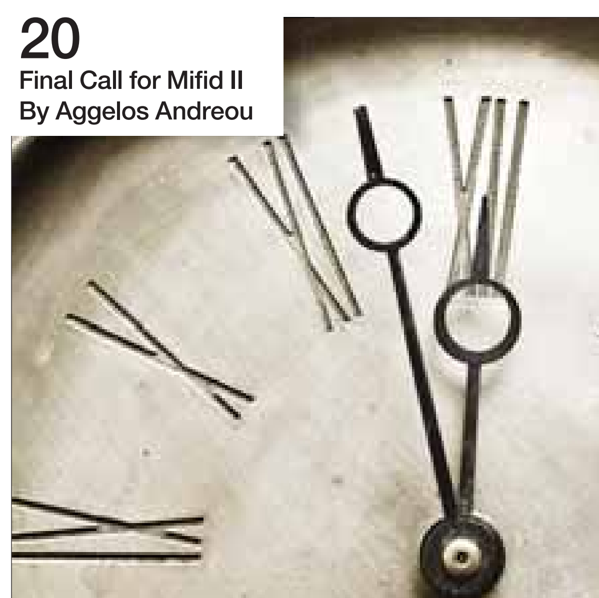

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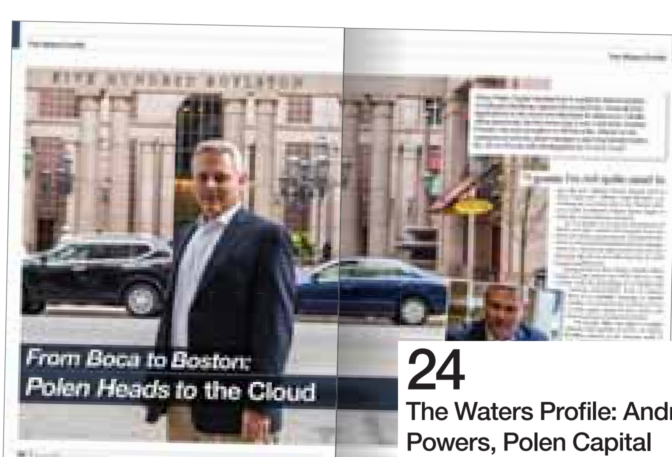

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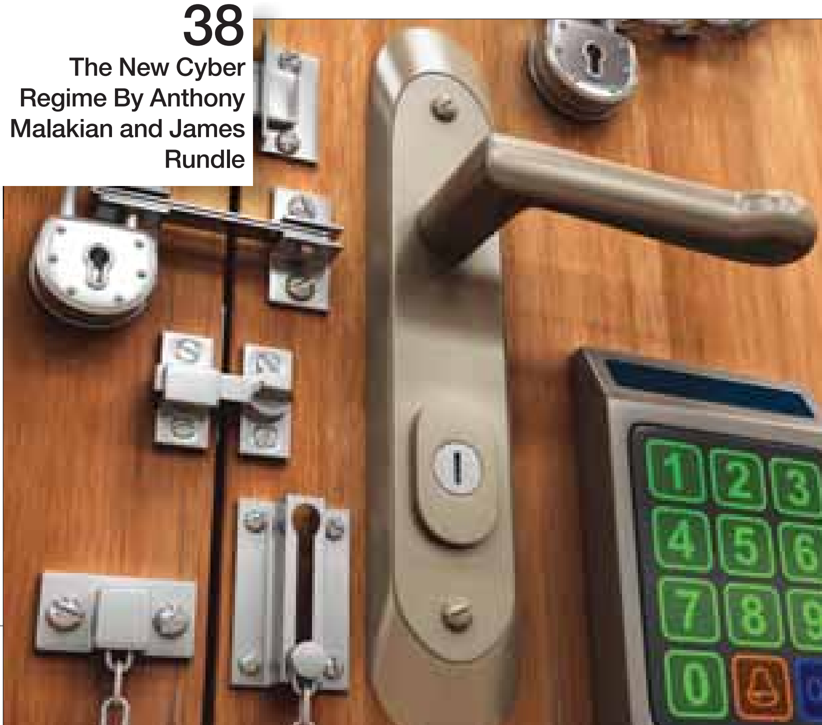

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European Exchanges Emerge as Biggest Mifid II Winners

Three exchanges talk to Aggelos Andreou about how they see incoming European regulations as a tool for expanding or securing their client base—and view compliance as the necessary step for European markets to operate in a safe investing environment.

The Markets in Financial Instruments Directive (Mifid) took effect in 2007, just months before the global financial crisis began. Back then, it was merely a first attempt by the European Commission to harmonize regulations between laws imposed by the European Union's separate national authorities. Mifid's revision (Mifid II), however, took into account the radical changes the global markets have undergone. Hence, its design proved to be a lot harder to codify than Brussels had initially thought.

Christoph Boschan
Wiener Börse

The primary goal of both the Commission and the European Securities and Markets Authority (Esma) was to transform European markets into an open, transparent and safe environment for global investors. This goal, however, meant that it had to further regulate market participants that were already heavily regulated. Christoph Boschan, Wiener Börse's CEO, told *Waters* in an interview published in August this year, that when revising Mifid II, the regulators overlooked the fact that national exchanges had remained operational and accessible during the course of the crisis. "They were a safe haven for the market infrastructure," he said. "It is one of the biggest ironies in the financial markets that those who contributed the most to the market stability have suffered the most from regulation."

Despite this sense of "unfairness" that most national stock markets and private exchanges seem to share, they realized while building their compliance strategies that Mifid II could prove exceptionally beneficial for their business operations.

Lens of Opportunity

In that sense, Bats Europe has spent a significant amount of time, money and energy rolling out the necessary new software to meet its regulatory requirements. At the same time, the firm also worked hard to provide compliance solutions for its clients. "We also looked at Mifid II through the lens of opportunity and assessed what we could do from a business development perspective to bring new products and services to market, to help participants comply with some of the changes the new regulation will bring," says Mark Hemsley, CEO of Bats Europe.

According to Hemsley, the company rolled out some critical tools for the market during Bats' own preparation. The result was an array of solutions for both buy-side and sell-side firms.

"Some of these new offerings include our new block trading platform, Bats LIS, and our Periodic Auctions book, both of which provide market participants with new ways to trade in larger size, which we think is important given that dark pools will be capped and the broker crossing networks will be closed," he says. "We've also expanded the capabilities of our trade reporting facility to offer an assisted reporting service for buy-side firms that need to comply with new reporting obligations under Mifid II."

Spain's primary stock exchange, Bolsas y Mercados Españoles (BME), followed the same route and transformed the demands of the regulation into leverage for growth, expanding its operations and offering new services for its trading members. "Information is the key element of Mifid II, and in order for our clients to be able to meet the management of such large amounts of data, we were intrigued to create solutions for them in the fields of transaction reporting and recordkeeping," says Beatriz Alonso, equities markets director at BME. "In the end, we were able to become information providers for the post-trade industry."

Even for smaller national exchanges like the Athens Stock Exchange, the new regulatory landscape is a much anticipated and long-awaited reality that promises to favor fair business practices. Pantelis Lamprou, director of strategic communication and markets analysis, says that because of Athex's size, it is not only a strategic move to be aligned with Mifid II, but also a national and business target. "Greece needs money for investments to our country, and this money has to be brought from other countries," he explains. "To do that, we need to become attractive in terms of quality of services and valuation, but also in terms of quality of the investing environment. Foreign investors need to feel secure, to feel that the environment is safe, transparent and recognizable. Mifid II offers exactly that." W

THE BOTTOM LINE

- Despite its complexity and the subsequent shock it brought to the European stock markets, Mifid II has proven to be the main driver behind European exchanges' business growth.
- Most of the exchanges started building new compliance solutions and expanded their offerings to their buy-side and sell-side members.
- Small exchanges see it as a way of attracting more foreign investors, since Mifid II offers a safe and transparent environment in the trading community.

Esma Gains Sweeping New Powers in Commission Review

MEP Markus Ferber tells *Waters* that this change 'must not mean that the ESAs can do what they want to just because they get more money,' and that the ESG provisions are 'a non-starter.' By James Rundle and Aggelos Andreou

Europe's financial watchdogs will have new weapons in their arsenal and must prioritize fintech by taking account of technological innovation in their actions moving forward, under new proposals from the EU's executive branch. However, some lawmakers have suggested that they may be challenged.

The European Securities and Markets Authority (Esma) has received the greatest share of new capabilities under the proposal from the European Commission (EC). According to documents released on September 20, Esma will have the ability to directly supervise certain investment funds that carry the EU name, approve certain EU prospectuses and all non-EU prospectuses drawn up under EU rules.

The European Supervisory Authorities (ESAs) is the collective name for Esma, the European Banking Authority (EBA), and the European Investment and Occupational Pensions Authority (Eiopa). All will be required to promote sustainable finance by considering environmental, social and governance (ESG) factors in their decision-making, as well as prioritizing fintech by promoting innovation and cybersecurity.

"Financial markets are changing fast," said Valdis Dombrovskis, vice president of the European Commission, in a press conference on September 20. "We are seeing renewed cross-border integration, new opportunities in fintech and a boom in sustainable and green finance. The EU needs to act as one player so that we can stay ahead of the curve."

Esma will also authorize and directly supervise so-called "critical benchmarks" in the EU, which includes reference rates such as the European Interbank Offered Rate, and it will be responsible for endorsing non-EU benchmarks for use within the Union. By far the biggest change, however, comes in terms of market abuse. Under the proposals, Esma will have the ability to take a direct role in coordinating market-abuse investigations between national regulators. It will be empowered to act directly and recommend that national regulators initiate an investigation in cases where it has well-founded suspicions that market activity is abusive or fraudulent, and has cross-border implications. "Esma welcomes these proposals and will now await the outcome of the co-legislative process, but stands ready to contribute if required," says an Esma spokesperson, who declined to answer specific questions about the proposals.

More Money, More Problems

Currently, the ESAs are funded by a combination of EU budgets and money from the national regulators of European nations, at a mix of 40 percent and 60 percent, respectively. Esma and the other ESAs will now be funded entirely by the EU budget, and by industry fees across all sectors, which will be apportioned according to the size of the firm and its activities. National regulator contributions will fall to zero.

While the news was welcomed by the ESAs, not all were convinced. Some members of the European Parliament (MEPs) stressed that the supervisors should not be handed powers without sufficient oversight. Markus Ferber, a German MEP and the vice-chair of the powerful Economic and Monetary Affairs Committee, tells *Waters* that while the proposals for a change in funding "point to the right direction," this change "must not mean that the ESAs can do what they want to just because they get more money."

Valdis Dombrovskis
European Commission

Ferber also suggested that the Parliament would not allow ESG considerations to form a basis for regulatory decisions moving forward. "The ESAs need a very clear mandate," he says. "Attempts to include environmental or social considerations into the ESAs mandate are definitely a non-starter as this would only distract from the key objective of establishing financial stability. Direct supervision powers should only be introduced in areas where there is a clear European dimension and a definite benefit of European supervision. As the ESAs now receive more powers we will also have to think about how to increase the legislator's scrutiny powers to make sure they actually stick to their mandate." W

THE BOTTOM LINE

- The three European regulatory agencies for the financial system have been given expanded powers, in particular, the markets supervisor, Esma.
- Under the proposed rules, Esma will have the ability to act directly in suspected market-abuse cases, as well as supervise critical benchmarks.
- The agencies will also be forced to consider not only technological innovation in all actions, but also environmental, social and governance (ESG) concerns.
- However, lawmakers had a cool reaction to this, saying that it was not their core mission of ensuring financial stability.

Blockchain Not Yet Ready for T+0

T+2 in the US began on September 5, and the industry is already considering a move to a shorter settlement cycle. Technologies like blockchain are being eyed as a means to possibly reach near-real-time speeds—but it requires a longer period to mature before it is fit for use. By Emilia David

Moving the settlement cycle from T+3 to T+2 in the US has entailed some upgrades to current technology, but to reach T+1, the industry has to go through a much larger technology transformation. Blockchain, as a technology that immediately connects counterparties across a secure network, seems to have all the prerequisites to support the move to T+1—but experts say the technology is still under development, and many believe other processes need to be streamlined before it can be deployed.

The technology promises better communication and record-sharing with counterparties, offers a golden record of transactions, and most importantly cuts down on the number of processes it takes to settle any trade. This capability means the tedious checking and rechecking of transaction data can be done within a few hours, whereas it currently takes several days to settle transactions, in large part due to the fact that many firms prefer to process transactions in batches at the end of the trading day. Individual processing is not usually done because it's normally easier to go through a large batch of trades instead of one at a time.

But blockchain is not convincing enough for everyone—at least, not yet. Settlement experts say there are still critical aspects of settlement that would need to be changed before any further shortening of the cycle, particularly to T+0. Carol Penhale, managing director of professional services at vendor Broadridge Financial Solutions, says blockchain will only work to shorten settlement cycles if the industry moves from the batch processing mentality and becomes more comfortable with the technology. "There are a lot of things that have to happen simultaneously beyond the technology of blockchain," Penhale says. "There are elements in settlement, process flows have to change, and there has to be an agreement over determining the responsible parties. And, at the end of the day, the industry really has to have a comfort level with using blockchain."

Graeme McEvoy
Morgan Stanley

Enriched data, Penhale adds, enables the accelerated time cycle to settle on a more compressed schedule, as well as provides the type of granularity needed for analytics. Another issue that has to be resolved is moving clients who are more reliant on paper documents to a more digital environment, especially as blockchain—and most other disruptive technologies—are not paper-based.

The Next T

It is not just the technology being able to do what it promises that will bring about T+0—all the other processes around settlement must also be capable of meeting near-real-time settlement. Graeme McEvoy, a managing director at Morgan Stanley, says blockchain might support T+0, but the underlying processes around settlement still need to evolve alongside it. "Blockchain might work but the infrastructure around settlement is still not there," McEvoy says. "Blockchain can allow for faster sharing of information, but it's the infrastructure that needs to catch up."

Ultimately, moving to T+0 using blockchain may be hampered by the inability of people to fully monitor the process. Regulators and back-office personnel are often not on hand at all hours of the day to monitor and reconcile transactions. With the increasingly global nature of trading, a constant wave of trades will need to be reconciled and settled. Blockchain can move the trade with all the data around it intact, but it still needs to be subject to oversight.

This level of acceptance from the regulatory side will be critical, say those who find blockchain's potential intriguing—and there are supporters in high places. Pinar Kip, who leads global strategic operations at State Street, says distributed-ledger technology could allow the industry to move ahead to almost immediate settlement.

She adds that there is already talk about moving to T+1 after T+2, especially now that firms are having conversations to see if investing in new technologies like blockchain are worthwhile projects. State Street, for instance, is already experimenting with straight-through processing that will allow the firm to quickly move to shorter cycles. Kip says, however, that the industry must better understand how the technology works before launching anything on the distributed-ledger model for a T+1 or T+0 cycle.

"Given how technology is changing so fast, it will be interesting to see if we actually end up moving to T+1 or if technologies like distributed ledger will mature in a way that we may skip T+1," Kip says. "It will also be interesting to see if the regulators become comfortable enough that we might move to T+0 directly using that technology, so time will tell which path we take." W

THE BOTTOM LINE

- Blockchain could be a viable technology to move to T+0 as it offers faster communication between parties and an immutable data record.
- Other processes, including a move away from batch processing, though, will have to transform as well.

Malaysian Investors Turn to Analytics for Alpha Generation

Malaysia is a tough nut to crack for investment managers. Still, one vendor believes analytics provides the key to success—and it seems to be convincing Malaysian investors, too. By Wei-Shen Wong

HedgeSPA, a predictive investment analytics platform provider, is seeing growing demand from firms based in Malaysia, driven by the increased probability of meeting target returns using analytics. The company, founded in 2011 by former BlackRock managing director Bernard Lee, is working on pilot implementations at Malaysian firms. It also has received commitments from ultra-high-net-worth Malaysian investors interested in its index products.

The vendor provides the capabilities of a core investment platform via the cloud as a software-as-a-service (SaaS) solution. It uses artificial intelligence and big data to simulate all possible combinations of fundamental and economic factors from all available sources. "We then merge them with state-of-the-art techniques taken from systematic managers such as tail-risk-enhanced drawdown control, and the machine can learn and correct its own predictions errors," Lee says, adding that this process results in portfolios with steady upside and superior draw-down characteristics, allowing institutional investors with analytical tools to construct and rebalance portfolios for volatile post-crisis markets.

Users of the platform will be able to set parameters and then get summaries of performance metrics against portfolio benchmarks, best case and worst case scenarios, top asset class and asset recommendations, and top environmental, social and governance (ESG) concerns with the portfolio, among others. Lee says HedgeSPA has also been approached for other customized solutions such as asset-liability management on large balance sheets.

The Machines

Danny Wong, CEO of fund manager Areca Capital, sees the trend moving toward using more artificial intelligence (AI) to help with analytics, given the vast number of the stocks on offer for trading in the region. "Just on Bursa Malaysia alone, there are about 900 counters. If you venture overseas there are even more. So I think the trend is moving toward AI to analyze a list of stocks, for example, before the actual human touch," he says.

Areca uses two third-party vendors to help with this process. Once there is a narrowed down list of stocks with certain criteria, such as dividend yield, then the fund managers will look into secondary research from respective brokerage houses and conduct qualitative analysis on individual stocks before selecting them.

However, another fund manager of an international full-service asset management group with operations in Malaysia says he does not use analytics to help with generating more alpha. "We are not using any analytics here, though I am sure at the group level we might be. We focus on the fundamentals here," he says.

Separately, restrictions by regulators on trading the ringgit make it extremely challenging to apply standard techniques and asset classes to meet those goals, Lee adds. In August this year, Malaysia's central bank—Bank Negara—lashed out at the Singapore Exchange and the Intercontinental Exchange after they introduced ringgit futures on their exchanges. In a statement, Bank Negara said the ringgit is a non-internationalized currency and thus the offshore trading of the ringgit is against the country's policy. However, central bank governor Muhammad Ibrahim later said the statement only applies to market players in Malaysia.

These restrictions impose a burden on large asset managers, pension funds or insurers that have to produce certain target returns. "For a Malaysian institution that has to meet similar challenges while keeping most if not all of their assets in ringgit, they will need all the help available, including the best analytics tools," says Lee. "As any private banker will tell you, getting 6 to 8 percent of absolute return per year without using leverage is a non-trivial challenge, even for global investors with full access to multi-asset class investments, including bonds, global equities, commodities, and alternatives."

Areca Capital's Wong says this does not really pose a challenge for the fund manager because it is a local company. He adds that under the country's regulations for its fund-management industry, 50 percent of a company's assets must be in Malaysia and the other 50 percent is allowed to be managed offshore. "Most of our investments are local and we are able to diversify a little. Prior to the capital control, it was open. Then they restricted it to 30 percent of offshore assets and now this has been increased to 50 percent," he says. W

THE BOTTOM LINE

- Demand for HedgeSPA's technology is being driven by the increased probability of meeting target returns using analytics, according to the vendor.
- With this trend, more firms are likely to turn to artificial intelligence to help gain value from large datasets.

Impacts on Technology Beyond Mifid II

With the compliance deadline for the second Markets in Financial Instruments Directive fast approaching, Ullink looks beyond the immediate impacts that the new regulation will have on trading technology, and examines how the future of technology will be shaped by such a significant regulatory change

In a series of articles published this year in *Waters' Sell-Side Technology*, Ullink examined the impacts of the second Markets in Financial Instruments Directive (Mifid II) on sell-side connectivity and trading technology. The purpose of these articles was to identify the direct and immediate consequences of this new regulation on existing technologies such as Financial Information eXchange engines, smart order routers and order management systems. Ullink highlighted the significance of extended data requirements, changes to business logic and completely new workflows—around pre-trade transparency, for example—which must be supported by upgrading existing technologies to achieve Mifid II compliance.

Mifid II has driven much of the technology agenda for the past two years—especially in Europe—and with implementation just around the corner, firms are focused on short-term tactical enhancements to systems rather than broad, strategic platform changes. In this article, Ullink casts an eye beyond Jan. 3, 2018, considering the long-term drivers of changes to technology on the sell side—factors that will direct sell-side technology spending in the coming years. Some of these drivers, such as an increasing focus on automation, have been in place long before Mifid II, but are accelerated as a result of the new regulatory landscape.

Cross-Asset Order Management System

Since the financial crisis there has been a breakdown in separate product-aligned technology silos on the sell side, with firms moving to a more consolidated technology base. The driver for this is primarily cost, but reducing the complexity of technology stacks and the associated technology risk is also a factor. Consequently, the sell-side order management system (OMS) has been extended to cover multiple asset classes, servicing more lines of business from a single platform. This is made apparent in a recent report by Greyspark Partners,[1] which shows how four of the six sell-side OMS vendors surveyed have expanded asset class coverage over the past two years.

While this trend towards cross-asset class OMS support was in place prior to Mifid II, the sell side has lagged behind the buy side on this front. Most of the convergence has been around exchange-traded products (ETPs), including cash equities and listed derivatives. Over-the-counter (OTC) products and exotics—particularly in the fixed-income, currencies and commodities segment—have largely remained within the purview of specialized systems that support the different pricing and bilateral trading models employed.

The push to drive OTC products to regulated markets was started by Dodd-Frank in the US and continued in Europe under the European Market Infrastructure Regulation (EMIR), with a focus on the huge interest rate and credit default swap market. Mifid II contributes further by extending the universe of product types subject to pre-trade and post-trade transparency rules around best execution, quote publication and trade and transaction reporting, among others. Uniform treatment of these product types from a regulatory point of view will further drive development of common, cross-asset class capability in technologies such as the OMS.

While this homogenization will translate to the OMS, the impact on the execution management system (EMS) is less clear. For different types of products, alternative market models, order types, pricing conventions and screen display requirements will persist. Smaller sell-side firms that wish to provide a full service to their institutional client base will increasingly rely on market memberships and algorithms, as well as other execution capabilities of larger firms—and will be less concerned with deploying their own rich EMS capabilities. As such, the OMS and EMS may begin to diverge—reversing the trend of convergence seen in recent years.

The Emergence of the Automated Middle Office

Cross-asset focus extends beyond the OMS and into the middle office. The imposition of transaction reporting requirements for OTC and exchange-traded derivative products under Emir is extended to other asset classes by Mifid II. Firms must maintain a holistic view of their exposure to detect risk derived from their underlying firm-wide positions. Without this consolidated cross-asset view, it is impossible for firms to meet their capital provisioning obligations and maximise the efficiency of capital deployment. This focuses attention on the middle office as a 'convergence layer', where a near real-time view of firm-wide risk and exposure can be generated.

The importance of the converging role of the middle office is increased when one considers data capture and reporting cross-asset class. As the earliest point post-trade that a consolidated picture of trading activity can be produced, trade reporting will naturally move to the middle office. Similarly, trade surveillance and compliance processes—such as those mandated under European Market Abuse Regulation—will naturally gravitate to the middle office to provide the data required for their effective operation in real time.

In tandem with consolidation, pressure is increasing on the middle office to automate post-trade workflows to the greatest possible extent. Shortening settlement windows—such as the recent move to T+2 for cash instruments in the US—will further emphasise the need for same-day affirmation, where trades must be confirmed then affirmed on the day the trade is executed. Failed trades are not only subject to costly settlement delays, but also imply position adjustment and extra collateral requirements.

An additional driver of automation in the middle office is the rise of 'low-touch' trading, driven by the buy side looking for more efficient and cheaper execution, across asset class and brokers looking to handle larger volumes of lower margin flow. This larger volume of flow translates to higher volumes of booking and allocation activity in the middle office, particularly for exchange-traded derivative products where higher numbers of smaller fills are common. As well as straight-through booking and confirmation, automated aggregation of fills will become a must-have requirement to reducing clearing and settlement costs.

High Touch? Low Touch? No Touch?

The rebalancing of high-touch to low-touch trading flows is a trend established with the electronification of trading in the 1990s. Since then, waves of regulation in different geographies have introduced strong requirements for pre-trade risk controls and best execution. Mifid II adds more requirements to pre-trade compliance, kill switches and the like, but the increasing weight of regulation shows no sign of reversing the trend towards low-touch or 'electronic' trading.

In a recent investors' presentation,[2] JP Morgan Chase & Co. highlighted a 31 percent increase in low-touch revenues in its cash equities division between 2014 and 2016—driven by a multi-year investment program in its electronic trading platform. There are similar trends in other firms across all electronically traded products, with many smaller and regional brokers establishing new 'electronic desks' to offer low-touch trading capabilities to their clients. Looking forward, it is possible to envision the electronic trading desk becoming the dominant style of trading for a growing universe of ETPs.

The nature of low-touch trading is itself in transition. What Mifid II refers to as 'direct electronic access' encompasses a range of trading mechanisms from sponsored market access to automated order routing. The term 'direct strategy access' (DSA) is also becoming more common. It refers to the use of sell-side execution algorithms to trade high volumes of client orders, but with rich analytics and trader controls for monitoring and intervention—similar to those found in a high-touch OMS. With such DSA desks already in existence today, the terms high-, low- and zero-touch may soon become anachronisms.

Managed Connectivity Services

As with the rise of low-touch trading, the trend of outsourcing both the provision and management of technology has been in place for many years. One effect of far-reaching regulation such as Mifid II is that it highlights the eternal 'build-versus-buy' debate, which weighs the cost of maintaining proprietary technology against the moving target of regulatory compliance. Nowhere is this more apparent for the sell side than in the connectivity space, which encompasses data flows with clients, exchanges and regulatory reporting venues.

The need to upgrade and re-certify connections to trading counterparties and exchanges is a consequence of Mifid II—as is the raft of new connections required of venues operating under an approved publication arrangement for trade reporting. This emphasis on connectivity will accelerate the trend towards outsourcing these capabilities to vendor-managed services, allowing for economies of scale as vendors amortize the costs of maintaining and operating tens—if not hundreds—of external connections on behalf of each sell-side firm.

Outsourcing is not, however, a means to fully delegate responsibility to managed connectivity service (MCS) providers. As sell-side firms carry ultimate responsibility for regulatory compliance, management and control is of paramount importance. This requires MCS vendors to provide their sell-side customers with the tools to make the data needed to provide assurance of compliance visible, and the means of managing the customer relationship throughout the onboarding process and beyond.

Conclusion

Ullink has looked beyond the immediate impact of Mifid II on technologies—and technology providers—that support the business of trading. There is no doubt that this business will be profoundly affected by the new regulations and the resulting structural market changes. However, some trends—such as automation and the need for cost efficiencies—predate Mifid II, and will remain major drivers of innovation in our industry for many years to come. W

1 *Greyspark Partners 2017,* Buyer's Guide: Sellside Cash Equities OMS and EMS, *http://bit.ly/2feMnv1*

2 *Daniel Pinto, JP Morgan Chase & Co. 2017,* Corporate & Investment Bank, *http://bit.ly/2wazRDu*

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The Game is On

The Buy-Side Tale

The deadline for Europe's Benchmarks Regulation is fast approaching, but the asset management industry is looking for more guidance and information from the regulator to ensure compliance from January 2018. Tine Thoresen reports

When releasing a new record it must be a complete disappointment to go live on the same date as the hottest singer in town, and end up in the shadow of a better-known artist. That is how it must feel for the Benchmarks Regulation (BMR) in 2017, the year everyone is talking about the Markets in Financial Instruments Directive (Mifid) II.

The BMR was published in the *Official Journal of the European Union* in June last year, and will apply from Jan. 1, 2018. Although it has perhaps not received as much attention as Mifid II, the BMR sets out to address problems of integrity raised in the much-publicized Libor scandal, when banks were accused of rigging the important benchmark.

To avoid future manipulation of benchmarks, the BMR introduces a regime designed to improve quality and control of benchmarks, and protect consumers and investors. Andrew Barnett, chief data officer, Legal & General Investment Management, says: "The regulation is a direct reaction to the Libor fixing scandal", and the firm has had the BMR on the agenda for several years now.

Under the new European Union (EU) regulation, stakeholders will be divided into administrators, contributors and users. Benchmark administrators—providers that calculate indices—will have to apply for authorization, as well as meet new requirements for governance and control. At the RIMES Regulatory Seminar, *Preparing for the EU Benchmarks Regulation*, held in London in June, Will Dibble, partner, CMS London, said one of the questions the firm has had from clients is: 'How do we make sure our index stays out of scope of the BMR?'

To prepare for the BMR, firms have had to identify which category they fall into, and the way to do this was discussed at the RIMES event. Bruno Piers de Raveschoot, chief operating officer of the regulatory division at RIMES Technologies, advised firms to list all the benchmarks used and to determine where those benchmarks are used to establish if the firm will become an administrator, contributor or user under the new regulation. "It sounds trivial, but it's not that easy because a lot of firms are using benchmarks and they don't know what they're using them for," he says, "they need a specialist tool such as the one we provide."

Firms that have the provision of a benchmark or are collecting the data for a benchmark would fall under the administrator category, which Piers de Raveschoot explains would be an administrative burden. The challenge for firms that fall into this category is that administrators, among others, might need to establish a new entity, keep a record of all conversations with suppliers for three years, and ensure oversight to avoid any conflict of interest with the firm itself. "It's a very, very, very cumbersome process," he says.

For asset management firms that fall under the user category, the main preparations focus on obtaining a complete overview of existing usage. De Raveschoot explains that benchmark users must ensure the supplier of the benchmark is a registered benchmark administrator under the EU, and that they have applied for and received authority to do that. In addition, he says users must make sure the benchmark is administered by the administrator, and need a robust plan to change to a substitute benchmark if necessary. Those are Articles 28 and 29 of the BMR

In addition to defining the roles, the new regulation also divides benchmarks into three categories—critical, significant and non-significant. For critical benchmarks a college of national supervisors, including the European Securities and Markets Authority (ESMA), will be set up to take key decisions.

ESMA published the details firms needed for implementing the BMR in a final report with the draft regulatory technical standards (RTS) and implementing technical standards on March 30. Firms had not received essential guidance on how to interpret the regulation until then. In addition, the market is still awaiting local regulators such as the UK Financial Conduct Authority (FCA) to complete the consultation period. FCA is consulting on proposed changes to its handbook to accompany the application of the BMR and, according to the FCA, it will replace some existing UK regulation on specified benchmarks. The FCA "must therefore remove some rules from the handbook, and ensure other rules and guidance are made compatible with the BMR." In addition, the FCA has announced it proposes to have some domestic rules on benchmark administrators in areas not covered by the BMR.

Timing is one of the challenges that have been highlighted by market participants, as the deadline is fast approaching and guidance is still fairly new—in some cases clarification is yet to be published. At the RIMES BMR event in London, speakers said the combination of the complexity of the BMR and the short time frame firms have to prepare has made this regulation particularly challenging for the market.

For asset managers, however, the years since talks about new EU benchmarks regulation began in 2013 have meant the use of indices and benchmarks have been in the spotlight. Naomi Clarke, a data management expert with a background in different asset management firms, says it has been a case of looking at benchmark usage. "The regulation has given us an impetus to look at benchmarks and indices across the board," she says, adding that she thinks the number of benchmarks used could decrease as firms review usage and costs are under scrutiny.

Benchmark usage on the buy side will also vary widely depending on the investment strategies adopted. Barnett says Legal & General has a large passive business, enabling clients to gain direct exposure to indices, and therefore needed to assess its role in the provision, contribution and use of benchmarks going forward, following the announcement of the new regulation. The firm has been discussing with benchmark outsource providers the role of benchmark calculation, benchmark administration and benchmark contribution as necessary to meet the new regulatory requirements. This is where the BMR differs from Mifid II, explains Barnett, as it is possible to leverage external providers to become BMR-compliant, whereas with Mifid II the majority of the work needs to be done internally.

One of the vendors aiming to help firms with their BMR compliance is RIMES, which has announced plans to offer various BMR services. The first offering is designed to help firms build, enrich and maintain an inventory of benchmarks and gain better control of benchmarks to meet the new regulation. Piers de Raveschoot says RIMES will provide the technology to create the inventory allowing firms to identify affected indices or benchmarks, and which ones they will be considered administrator, contributor or user for. The service provides a clear picture of the risk exposure of the firm to the BMR. The system will run a number of on-going checks, for example, establish if the benchmark is administered and registered in Europe, and if the firm has a plan B. To offer this service, Piers de Raveschoot says RIMES is contacting benchmark administrators to source compliance information.

> "It sounds trivial, but it's not that easy because a lot of firms are using benchmarks and they don't know what they're using them for"
> **Bruno Piers de Raveschoot, RIMES Technologies**

The Register

To comply with the new regulation, the onus is on benchmark users to ensure they only use registered benchmarks in new transactions from 2018, and in all products from the end of a two-year transition period. After the go-live date of the BMR, ESMA will create a register with names of authorized European benchmark administrators and individual benchmarks registered by third countries. The ESMA register will help firms assess if a benchmark is BMR-compliant, but users still need to identify whether a European benchmark is managed by an authorized provider, since the register will not include the name of the European benchmarks. "If you find the name, it means all the benchmarks the administrator provides can be used," says Michele Mazzoni, policy officer, ESMA, explaining that, for third countries, the register will have the name of every benchmark.

Market participants expect the register to be expanded upon by external providers, as there is scope for vendors to provide additional benchmarking data to add more value to users. Before vendor services can be offered and firms can change their pre-execution validation engine, however, there is still a need for information on which benchmark administrators will be compliant. "It's a Catch-22," says Clarke, adding that, although firms are now reviewing the benchmarks, nothing is definite until the names of the authorized benchmark administrators have been confirmed.

According to ESMA, the register will be made available during the transition period, but cannot be expected in January 2018. An executive from the Information Provider User Group (IPUG) in the UK says there is concern there is no published information yet on the ESMA website that lists the specific benchmarks and names of authorized benchmark providers. "Even if the benchmarks contracts are listed in the inventory and reconciled with the middle-office teams as part of this BMR project, the delay from ESMA to release its standard application programming interface (API) is making it very difficult for benchmark users to finalize preparations as no one has any information on this list until ESMA launches it," he says.

In fact, it is not only the detailed benchmark and benchmark-provider classification register that is needed, but also the ESMA-issued API that will make it possible for benchmark users to download the data on a daily basis and integrate it into their trading workflows. "We need to have the ability to integrate and download the information into our pre-trade execution system," says the IPUG executive, adding: "The portfolio managers and structurers need a tool that automatically checks the ESMA benchmark list updated daily." As firms rely on automated trading systems, he explains, it is not sufficient to have a web-based look-up tool or manual processes to identify a BMR-approved benchmark prior to issuing a fund or quoting to a client, especially when in competition for a deal.

The Cost Dilemma

Making changes to the pre-trade process, however, is only one of the costs firms are likely to have to swallow as part of the regulation. Asset management firms have also, in some cases, been presented with higher index fees, and the increased cost of doing business is a concern for low-margin products.

The new regulation puts a larger overhead on benchmark administrators, resulting in changes to the index provider market and challenges for banks that used to offer the data at no additional cost. Several banks have sold index businesses to exchanges or data vendors, demonstrating that some banks have wanted to get out of the index business following the Libor scandal and the tightening of regulation.

Benchmark users have already started to see the impact, with providers announcing they will charge more for index administration. "It becomes an expensive activity to add that 30% surcharge to what you [asset management firms] are doing, and seems counterproductive where regulation has clear objectives to benefit the investor," explains Barnett. The question then becomes whether to review alternative benchmarks gaining similar exposures. Consideration will focus on both index and asset manager brand strength, coupled with the complexity of the exposure especially where the retail market is concerned.

Tackling Third-Country Readiness

The expectation from some asset management firms appears to be that their index providers are compliant, but the question is whether the BMR is on the agenda for third-country administrators too. ESMA's Mazzoni says they are "fairly convinced the European ones are up to speed," but there is "less awareness in third countries, especially in small jurisdictions." ESMA has been in direct or indirect contact with a small number of emerging economies, but European stakeholders have been the priority for the regulator. "As awareness of asset managers increases, then they will start asking [third-country benchmark providers] questions and the process will be triggered," he says. In the meantime, there is a risk of European asset managers using benchmarks in emerging countries where authorities may not be aware of the European regulation. "That's where there is room for improvement," says Mazzoni.

In fact, IPUG also suggests more needs to be done here. The European IPUG groups representing Swiss, French, Dutch, Belgian, Scandinavian, UK and German user firms have teamed up with other associations such as the European Fund and Asset Management Association, the French Asset Management Association (Association Française de la Gestion Financière) and the German Investment Funds Association, and estimated there are around 250 benchmark providers in the world that the firms use. Around 80 of these are government benchmarks exempt from the BMR, meaning there are around 170 benchmark providers that market participants would like to see on the BMR register.

The IPUG executive says educating providers about the BMR is the problem. Many of the providers were yet to hear about the BMR regulation when contacted in the first quarter of 2017, he says. Even after the publication of the RTS on March 30, 2017, the providers could not fathom that users would have issues remaining compliant as of January 2018 because no information has so far been uploaded, hampering the issuance of any new financial product referencing their benchmarks as a result. "They don't have the pressure from the buy side yet," he says, highlighting the reality that firms will not be able to use them anymore and could stop using—or even cancel—contracts under the BMR remit if the situation does not change.

The challenges firms are facing with educating third-country benchmark providers has been one of the hot topics in the lead-up to the BMR. For buy-side firms, Mazzoni says: "I think the most difficult area [of the regulation] is if they use third-country benchmarks." ESMA assumes there could be hundreds of single, third-country benchmarks that will be BMR-compliant, but this is just an estimate and it is too early to gain an indication of the true number because of the uniqueness of the new regulation. "There is no [other] regulation like this across the globe," he says, and explains that it is "not straightforward to understand what indices are in its scope."

Another challenge in the use of third-country benchmarks is the timeline. In fact, the differences between the timeline of implementation for third-country benchmarks versus European benchmarks is one of the topics ESMA has been most questioned about recently. Article 51 provides for transition of provision, and ESMA has "received a number of questions from different stakeholders about how this will actually work."

European and third-country administrators and users want to understand how to use benchmarks lawfully in 2018 and 2019, and question whether the transition period will apply to third-country or European benchmarks. ESMA has recently provided clarification on the transition period, and may be providing more guidance in the future. During the transition period, benchmark users can continue with the indices already used in Europe before Jan. 1, 2018, while, for benchmarks created after that date, firms could look at the ESMA Q&A to gain more clarity. "The aim of the two-year transition period is to avoid market disruption," says Mazzoni.

Still, the deadline for using BMR-approved benchmarks for issuance of new products is fast approaching, and it is no surprise that benchmark users who will be liable for ensuring they use the BMR-approved benchmarks want to know who they are. The IPUG executive stresses that firms will not want to be in breach of the regulation and would have to stop using a benchmark until it has been listed on the register as BMR-approved.

While waiting for the information on approved benchmark administrators, asset managers still working on internal preparations are also expected to spend the coming months identifying benchmarks used and speaking to administrators.

The game is on, and it seems as if now is the time for the asset management industry to pick up the phone and start calling around. The January 2018 BMR deadline still stands, and the world needs to know what is happening in Europe. W

PAYING IT FORWARD:

The New Era of Investment Research

Under the revised Markets in Financial Instruments Directive, payments for investment research can no longer be bundled together with execution fees, and the implications for both the buy side and the sell side are not to be underestimated. John Brazier examines what this change means for the industry as a new breed of research providers comes to the fore, and the role technology will play in the emergence of this new market model.

The driving force behind the revised Markets in Financial Instruments Directive (Mifid II), which comes into force in a little under three months' time, has always focused on increasing market transparency and investor protection. However, the reality of implementing and maintaining compliance with such a broad directive has left many market participants on both sides of the Street scrambling to get their houses in order.

Arguably the most complex element of the new trading rules are those separating payments for investment research from execution fees, which were historically bundled together and acted as an inducement for asset managers to trade with specific sell-side providers. Mifid II means that the buy side must now be far more selective of the research it consumes, while the sell side must rethink its traditional waterfront research coverage model.

"This is a fundamental paradigm shift for both the buy side and the sell side," says John Dwyer, senior analyst at consultancy firm Celent. "There has never been this need to charge for this enormous sea of research that has been produced, and frankly, nobody on the buy side has ever had to record how much research they received in a given time series, how much they read and genuinely look at, and how much they use. I don't think it can be understated how much of an impact this will be."

“We’ve found that in the small-to-midsize end of the buy-side universe, they are a little slow in terms of integrating a solution to be ready for Mifid II implementation in January, and are still in the process of working through how they want to do this. I wouldn’t understate that as an issue.” **John Dwyer, Celent**

Choices

One of the most pressing issues for the buy side when it comes to laying down a strategy for the upcoming changes is how to pay for investment research. Asset managers that plan to continue using client money to pay for research must implement a specific research payment account (RPA) to do so, funded exclusively by fees charged when obtaining external investment research on behalf of their clients. “This is going to require a level of data and systems and governance internally that hasn’t been required before,” says Dwyer. “We’ve found that in the small-to-midsize end of the buy-side universe, they are a little slow in terms of integrating a solution to be ready for Mifid II implementation in January, and are still in the process of working through how they want to do this. I wouldn’t understate that as an issue.”

It is little wonder then that the majority of buy-side firms have now chosen to absorb the cost of paying for investment research themselves. With the largest buy-side firms in the market, including BlackRock, JPMorgan Asset Management and Vangard, all opting for this route, it will become harder for other firms to justify passing the expense on to clients without the necessary systems in place to evidence clear returns.

Whatever option an asset management firm plumps for, there is a clear need to reassess both the quantity and quality of research being consumed, and how that research is then valued. Like so many other areas of the investment process, the answer lies in the potential of technology to both increase the value of research and ensure Mifid II compliance.

“What technology brings to the table is clarity—how much are people going to use different products and when are they going to use those products versus others?” asks Charlie Henderson, managing director at research analytics vendor FeedStock. “This sort of transparency, and, in turn, accountability, of value will certainly improve the sell side, which has been under immense cost pressures over the last 10 years, partly because there has been a lack of understanding on the sell side as to what exactly they are getting paid for.”

Under Threat

The emergence of independent research providers as a go-to source of more focused, bespoke research is expected to have significant impact on the research departments of numerous brokerage houses and investment banks that have, until now, been able to turn on the research taps and push it out to the buy side indiscriminately. While the true level of impact won’t be measurable until several months after the implementation of Mifid II, the warning signs for entrenched sell-side research providers are there to see. A report titled *A Brave Call*, published in June this year by consultancy firm Quinlan & Associates, estimates that some investment bank research departments could face potential losses of up to $240 million by 2020 as a direct result of the new regulation. “I spent a long time in investment banking and worked with a lot of analysts with enormous overlap of the research that was produced among the different banks,” says Dwyer. “It was done because there were various motives for publishing research. A lot had to do with positioning for corporate mandates or IPOs, or giving credibility to sales teams. There will only be a small number of large banks that have the brand, credibility and financial wherewithal to maintain ‘waterfront’ research coverage, and I use that in quotation marks because I think that is going to change or be diluted in terms of what it means.”

Charlie Henderson
FeedStock

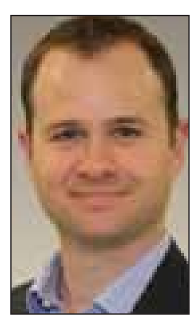
It’s unlikely that bulge-bracket investment banks will be significantly impacted by the new regulations, and will therefore maintain their supply of research to the buy side. However, the importance of dedicated research will surely increase. Smaller banks and brokers that have relied on the waterfront research model may find themselves in a more precarious position once Mifid II comes into effect. “There is definitely room in the marketplace for smaller, niche

players rather than just the big ones, and if buy-side firms do decide just to go for a few of the bigger guys, they are limiting their exposure to different opinions and that's what the sell side has always been there for," says Feedstock's Henderson.

New Values

London-based independent research provider StockViews is one such example of the new breed of firms coming to market to challenge the sell-side incumbents. Tom Beevers, CEO of the company, says one of the main drivers behind the company's formation was his personal experiences during his tenure as a portfolio manager at BNY Mellon subsidiary, Newton Investment Management. "The key driver was a frustration with the existing quality of sell-side research and the fact that much of it at the moment is maintenance-style research," he explains. "A lot of it came from my own personal frustration with the industry. Particularly with Mifid II coming up, much of the sell side is quite ill-prepared for the imminent changes regarding the way research is valued and procured."

In September, StockViews launched an equity research platform focusing on around 70 London-based buy-side firms ahead of the Mifid II go-live date. The platform connects independent research analysts with asset managers, with an emphasis on quality and bespoke research designed to drive alpha generation. "What we are trying to do is move away from a coverage-type model where the sector analyst perhaps covers between 10 and 15 ideas within their sector," says Beevers. "We're moving toward an opportunity-led model, so we are only going to initiate on an idea where there is a particularly strong opportunity."



Tom Beevers
StockViews

Analyst compensation is directly linked to levels of alpha generated from their ideas through the StockViews platform, creating a transparent view of all analyst performance data that is designed to provide portfolio managers with a far deeper level of insight into how researchers can improve alpha generation.

"This is going to be one of the areas that will evolve, because when you are talking about research ideas and something that is going to drive the alpha generation of a fund, it's not like other areas of ecommerce," says Celent's Dwyer. "The value of input is quite subjective, but there is also information decay with time, so the longer an investment research idea is in the public domain and the broader its dispersion, the lower the value of that particular idea."

Feedback Loop

The ability to provide consistent, transparent feedback to research providers was a key consideration for Principal Global Investors (PGI), an Iowa-based group of asset management firms that has implemented a dual solution to the investment research problem, comprising ITG's RPA system and the One Access platform for research valuation from Visible Alpha.

Jennifer Sadiq
PGI

Jennifer Sadiq, director of equities at PGI, says the firm made a strategic decision to evaluate how technologies related to investment research evolved over the previous three years before opting for a solution that would provide Mifid II compliance coverage and improve the firm's research evaluation capabilities. "We realized that not only did we want to have a better handle on the broker evaluation process, but we also wanted to account for the research we consumed at a much more granular level and be able to recognize the value of that consumption point, as well as entering it into the administration piece of actually directing credits and accounting for them," she explains.

The combination of the ITG and Visible Alpha solutions will replace PGI's existing broker evaluation system, which has been in place for the best part of a decade and was developed in-house. Sadiq explains that research consumption was previously reviewed on a biannual basis, which in turn would help guide how PGI was allocating commission credits for research across those firms that provided research as a bundled service offering. "Where we needed improvement was being able to provide that level of transparency to our research partners," she says. "To some of them it can be like a fire hose they just turn on and hope that pieces stick. Sifting through it all can be very challenging."

The core of the issue for PGI was the desire to maintain its investment process, alongside compliance within the new regulatory landscape. It's a common challenge among buy-side firms that have teams set up across the globe where one approach might not be suitable across the board. Sadiq says the ability to measure it at a "more granular level didn't come to market until very recently," probably in direct response to Mifid II. "I think we are already at the point where we are very efficient in our research relationships and it's not a result of Mifid II, but rather it is something we have worked on intensely over the past five or six years," she says. "People have asked if this will change the number of research relationships or the number of execution relationships. It probably will on the fringes, but we already feel pretty efficient about what we do."

Future Potential

Aside from existing solutions and new vendor partnerships coming to market in time for Mifid II's introduction, there are also emerging technologies that hold the potential to enhance the processes around investment research production and consumption. StockViews is actively working toward integrating artificial intelligence (AI) elements into its equity research platform, although Beevers says this is a long-term objective for the firm, as it seeks to effectively replace traditional junior analyst roles with AI-based technology for routine tasks such as fact-checking, data collection or basic analysis. "We think it is important to use AI to supplement or support the work the analysts do," he says. "Our ethos has always been to combine human intellect with AI, because there are some things that humans are very good at in terms of making subjective judgements across a range of disciplines, and then there are jobs that AI is much better at, which tend to be quite narrow-frame tasks."

Celent's Dwyer also highlights the increasing importance of alternative data within the investment research process, which can include environmental, social, and governance (ESG) and also mobile location datasets, and that it has already "seduced some" on the buy side. "We're going through a period right now where the next 12 to 18 months will be about validation of the alpha that can come from these new data sources," he says. "There are some very smart, well-funded hedge funds and quant funds out there that say they have been doing this for a long time, which is probably true. I think we're going to see much more data go into the overall capital allocation process and much more focus on that from a validation perspective in the next 12 to 18 months. However, just because you've got data doesn't mean that it is useful or that it leads to an improved investment decision." W

SALIENT POINTS

- Mifid II's unbundling of payments for investment research and execution means asset managers are now likely to significantly reduce the quantity of research they are consuming as well as the number of research providers they utilize, placing a far greater emphasis on research quality going forward.
- As a result, a new wave of independent research providers has come to market seeking to undermine banks and brokerages, shunning traditional research models in favor of a more bespoke approach or using platforms to connect portfolio managers with independent analysts best-placed to fulfil buy-side requirements.
- New technologies are also facilitating the move toward independent researchers, as AI and alternative data continue to improve both the quality and granularity of investment.

FINAL CALL FOR MIFID II

National and privately owned stock exchanges across Europe, the heart and mind of the bloc's financial marketplace, are gearing up for January 3, 2018, when Mifid II finally comes into force. Even though they are accustomed to tight regulations, their compliance struggle has been anything but trivial. Five European exchanges talk to Aggelos Andreou about the changes they had to effect in the run-up to the start of next year, and the challenges they have faced over the last few years.

In July this year, Austria's national exchange, Wiener Börse, launched its new trading system as part of its Mifid II compliance strategy. Bought from its Bavarian ally, Deutsche Börse, the so-called T7 system is specifically designed to offer all the necessary tools to both the exchange and its trading members in order to meet the requirements of the upcoming regulatory "tsunami."

While most market participants have spent a lot of time speculating about how January 3 will affect both the buy side and the sell side, Europe's exchanges have been working relentlessly on their own compliance responsibilities. The singularity with them is played out on two levels. First, exchanges as lit pools have historically been the most regulated part of the market, and second, in the European context, they still represent and promote their local economies and public policies. Meanwhile, the global private exchanges operating in Europe have set the competitive standard the continent needed, but at the same time, they have taken the complexity of the European marketplace to a whole new level.

The Journey

The introduction of a convoluted regulation like Mifid II to the already complex marketplace that is Europe has inevitably created inequalities among regional markets. Every exchange has had to design its own strategy, based on its means and resources. Anders Brodin, deputy CEO and head of marketplaces at

Oslo Børs, says Norway's national exchange was able to cope with Mifid II's regulatory requirements because of its collaboration with the London Stock Exchange (LSEG) and the subsequent sharing of costs and technology. The reality is, he adds, that for any small and medium exchange, the burden is heavy. "If we weren't partnering with LSEG it would be very expensive to implement Mifid II," he says. "It is true that the big firms are the ones that will benefit most from Mifid II as they not only have the resources to fulfill requirements, but also to form beneficial alliances with smaller exchanges ahead of the regulation."

> "It was very intense from the beginning since this regulation has many parts; we had to add new functionality that agrees with the rules to ensure that we do the necessary updates to what we already have in place." **Beatriz Alonso, Bolsas y Mercados Españoles**

Most exchanges started their compliance journey by modifying or adopting technology in early 2016. In Madrid, Mifid II is perceived as the most difficult piece of regulation to date, due to its complexity. Beatriz Alonso, equities markets director at Bolsas y Mercados Españoles (BME), says the firm started working on Mifid II compliance two years ago. "Over the course of these two years, our primary concern has been not only to upgrade our internal technical team but also our clients' [technology] because our changes impact our trading members as well," she says. "It was very intense from the beginning since this regulation has many parts; we had to add new functionality that agrees with the rules to ensure that we do the necessary updates to what we already have in place."

Oslo Børs experienced a similar challenge. The exchange started designing its compliance strategy in early 2016. "It turned out that Mifid II was way more complicated than we initially thought," Brodin explains. He says Oslo Børs' project kicked off without its architects knowing exactly how detailed the regulation would ultimately be. "The regulatory technical standards (RTS) were not in place," he says. "We have consumed a lot of time waiting for the final edit of the regulation, while many of the texts in the Directive were not easy to understand—the wording was blurry or incomprehensive."

Eventually, the exchange resolved that it had to make a number of significant changes, which it did within the course of a year. "We had to take into account investor IDs in transactions and we also had to build completely new functionality from scratch. For example, we had to create a new system internally for record keeping for all transactions and orders," he says. "We also had to set up an infrastructure for sending information to the European Securities and Markets Authority (Esma)—we built an interface that sends daily reference data to the regulators."

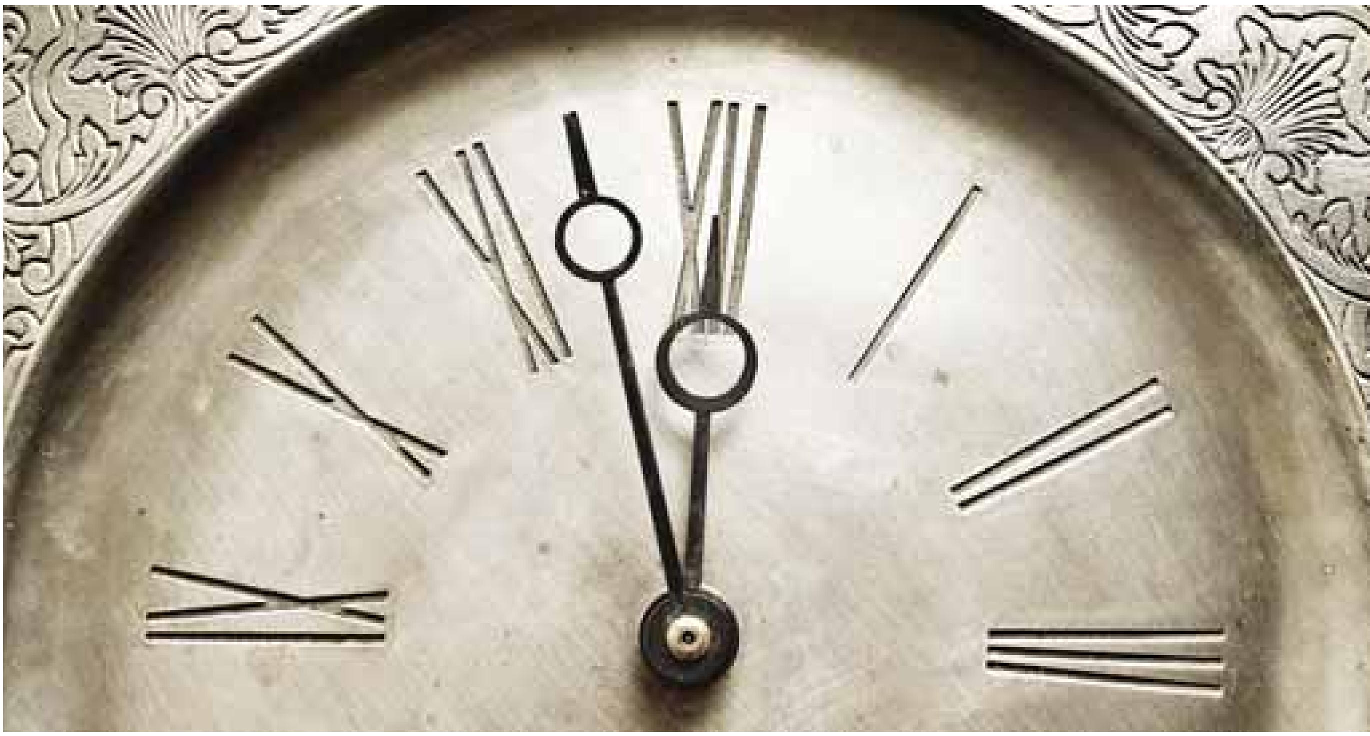
Frankfurt's previous experience with its national regulations proved to be critical to the exchange's Mifid II journey, which started long before the Directive was codified by its European regulators. Michael Krogmann, member of the Frankfurt Stock Exchange's management board, says the exchange was loosely preparing for the new dispensation since the beginning of the Mifid review in 2010. "We started engaging in discussions with Esma and regional regulators in 2010, as well as other market participants," he says.

Luckily for the German market, a significant part of the European regulation was already on the country's statute books, making Mifid II compliance a relatively easy task. "In Germany, the high-frequency trading (HFT) law came into effect in 2013," Krogmann says. "We had to implement all the requirements that now have to be applied on a European level, such as algo flagging and the registration of certain HFT firms, so that part of Mifid II was almost done in our systems and processes."

Phased Compliance

Euronext Amsterdam designed a comprehensive roadmap before proceeding to what it calls its "phased Mifid II strategy," which involved establishing a working group to ensure compliance for the firm itself and its clients. The Dutch branch of the pan-European exchange headquartered in Amsterdam set up a website where it stored technical and regulatory documentation relating to Mifid II and held events to help market participants understand the true extent of Mifid II compliance.

Lee Hodgkinson, head of markets and global sales at Euronext Amsterdam and CEO of Euronext London, explains that the group has dubbed the strategy a "rolling compliance approach," which



he says consists of several stages that periodically produce new or updated compliance technologies for the exchange and its clients. "In August, we concluded the rollout of our enhanced market data gateway, for both cash markets and derivatives. Those technology releases already incorporate requirements for Mifid II as well as deliver vastly improved latency and stability enhancements," he explains. "The next phase will include Mifid II changes for order entry and gateways for the cash and derivatives markets; then we will roll out our reporting services toward the end of the year, while we will be issuing new rulebooks for consultation and new legal agreements on liquidity provision."

Michael Krogmann
Frankfurt Stock Exchange

Bats Europe more or less followed the same strategy, which it had to undertake in order to differentiate its offering from CBOE, its US parent company. Bats Europe has so far completed three of the four major software releases it has built in preparation for Mifid II. Mark Hemsley, CEO of Bats Europe, says the two were initially completed in 2016. "We rolled out two new market data feeds to meet the data disaggregation and transparency requirements set forth in Mifid II," he says. "We completed our third software release in July 2017, which was our most significant release to date and included all of the major changes needed for Mifid II compliance."

The final release is scheduled for October 27, which, according to Hemsley, incorporates additional trade-flagging capabilities and the ability for third-party firms to supply transaction reporting information to Bats.

Final Call

We're only a few months from "judgement day" and Europe's exchanges for the most part feel ready for the Mifid II ride. At this point, most are in the final stages of testing their new or updated platforms with their members as they gear up for January 3. "For the time being, we are busy testing all the different aspects of both our trading platforms and the affiliated systems," Oslo Børs' Brodin confirms. "This will last until the end of November when we go live with the new version and switch to Mifid II functionality in January."

Madrid and Frankfurt are at similar stages, and both will end their simulation periods in early December, while Amsterdam has a few loose ends to tie up before it can declare itself ready. "We've got to complete the rollout of market data components and cash updates to our trading platform, and we have the derivative updates," Hodgkinson says. "We're pretty much on track to deliver that program, and largely we will be done by November with a couple of things remaining, but by December we will be done entirely."

All of the above-mentioned exchanges, however, share a similar concern: the almost inevitable misinterpretation of certain aspects of Mifid II that will force them to make a new round of changes from January onward. "Maybe beyond January, what we'll have to do is fine-tune, because this is a regulation that is still developing every day," Alonso says. "Changes will be unavoidable, but we hope it won't cause us any problems for the modifications we have already done."

Lee Hodgkinson
Euronext

Looking Back

Now that most projects are almost complete, the exchanges are looking back and totting up their wins and losses. It has been a long and arduous journey for all of them on many levels, ranging from particular articles to the implementation nightmare Mifid II was as a whole. Bats Europe found RTS 24, or the order record-keeping requirement, to be particularly challenging, as it requires venues to record considerable amounts of data emanating from the trading process. "The challenge was how to capture and store sensitive data in a way that provides our participants and their clients with peace of mind and doesn't damage the efficiency of the order execution process," explains Hemsley. "We developed a standardized manner in which investment firms supply required data to our venues in a way that was low-impact and secure. This solution captures short-form IDs on orders and supplements them with a mapping file containing the underlying data, which can be provided at another time."

According to the BME, data management in general and equal access have been the most demanding aspects of Mifid II. "This is something we are quite used to doing as we already manage large quantities of information, but the change is that this information has to be stored and processed in a way that will help both the markets and the regulators to achieve transparency, liquidity, and safety," says BME's Alonso. "Also, everyone who gets access to the market has to do it under the same conditions with the guarantee that the system will function properly and without interruptions or other technical problems, so that's also a responsibility we need to continue to address."

Mark Hemsley
Bats Europe

For Frankfurt, the main issue was its clients' requirements, which left the exchange scratching its head as to what solutions it could offer them to make their lives easier. "A lot of requirements that investment firms are facing but are not directly connected to the trading venues are quite hard to integrate," Frankfurt Stock Exchange's Krogmann says. "Fortunately, our close contact with all relevant market participants allowed us to manage the whole process smoothly."

It turns out, though, that the biggest challenge relating to Mifid II compliance is the mentality it brings to the market. While the original Mifid regulation was predominantly about cash equities, the revised Directive covers significantly more markets, asset classes and instruments. Hodgkinson says a regulatory implementation of such breadth and magnitude will naturally introduce a number of challenges. "The broad scope was a challenge and also the time constraints, with some guidance from the regulators arriving late or being unclear," he says. "We dealt with that by being inclusive every step of the way, over-communicating and keeping a dialogue with our regulators and liaising with Esma and everyone else in between."

Chaos?

Even before the 2008 financial crisis, the exchanges that perform such a vital role in the normal functioning of the capital markets were the most regulated part of the industry. And even with their regulatory experience, the exchanges cannot hide the fact that they anticipate January 3 next year to be something of a Groundhog Day.

"It will be chaos, I am telling you," Oslo Børs' Brodin predicts. "We will have a lot of administrative burden to look into; we will have a lot of new procedures, so we have to be cautious. And if we have misunderstood something, we will have to change it right away."

Hodgkinson says this is a typical reaction of the exchange business over the years. "We tend to overestimate change in the short term and underestimate it in the long term," he says. In fact, he says, the exact opposite is likely to happen, as the market will transform for the better over the long term. "What I believe is that in the short and medium term there won't be any material change, but over the long run we will see business migrating toward lit, transparent, regulated markets with centralized clearing," he adds. W

SALIENT POINTS

- Many European exchanges, such as Weiner Börse and Deutsche Börse, had to replace their trading platforms entirely, starting their compliance strategy from scratch.
- The volumes of data and its management is one of the biggest challenges all European exchanges have faced, especially with regard to the record-keeping requirements.
- The lack of information and guidance from Esma was the most frustrating aspect of Mifid II that European exchanges had to contend with, as no one is 100 percent sure that they have interpreted parts of the regulation correctly.
- The biggest Mifid II-related concern is that from January 3, European exchanges might be forced to undertake technical changes, a prospect that many believe is inevitable.

From Boca to Boston: Polen Heads to the Cloud

When Polen Capital decided that it wanted to reduce dozens of software interfaces, expand its product mix, move all of its applications to the cloud and decrease its reliance on middle-office personnel, the firm know that it was a tall order. Andrew Powers, the man brought in to fill that order, reflects on his background and the asset manager's year-long transformation. By James Rundle with photographs by Timothy Fadek

"I guess I'm not quite used to

cities like this," Andrew Powers, director of IT at Polen Capital and a lifelong South Floridian says, watching the cars scream past as the Tuesday afternoon traffic by Boston's Copley Square begins to swell, like a rush of blood to the head.

He is in Boston to oversee the development of Polen's new office, which will eventually house the firm's new small-cap growth team. The launch is the latest in a string of new funds from the asset manager, which has experienced rapid growth over the past few years, and, like its new office location, has itself become something new.

Headquartered in Boca Raton, Florida, Polen Capital has been around since 1979, and was, until recently, under the stewardship of its founder and namesake, David Polen. It has an unusual focus in its portfolio, investing in limited numbers of companies that it deems to be of a certain quality against its strict criteria, and then remaining as a long-term investor.

Andrew Powers, Polen Capital

For decades, Polen was happy to manage relatively small quantities of money—$1 billion, $2 billion, small fry in the voracious world of asset management. That began to change with the appointment of Stan Moss as COO in 2003, who would later become the firm's CEO in 2012.

Moss, while still retaining the firm's investment philosophy, began to diversify the product mix, opening it up to retail money and creating a blend of that sector with institutional mandates and individual wealth management, while launching a number of domestic and international growth strategies.

The results have paid off. From assets under management of around $2 billion in 2003, Polen grew to around $4 billion by 2014. Now, in 2017, it manages $15 billion. Such growth in a short period of time doesn't just result in a ballooning balance sheet, however. It also necessitates change at a technological and an operational level. Moss

“The mandate from the CEO, his vision again in terms of being best practice and best-of-breed, is to have pervasive business intelligence and business analytics throughout the firm. The shortcut way to describe it is that I’m trying to democratize data access in the firm.”

had a clear vision of what that would mean for the business. “The firm had been experiencing tremendous growth over the past several years, and we were outgrowing our existing portfolio accounting and order management systems, and we were also launching products that our existing systems weren’t capable of handling in the most efficient way,” he recalls. “With that, we started evaluating technological solutions. We wanted to be cloud-based, for certain, to be on a single system, as opposed to dual, and to be at the leading edge of technology.”

For that, Moss needed Andrew Powers.

DOS and dBase

Born in Tampa, Florida, Powers doesn’t have the background typical of a technologist. Whereas most IT directors on both the buy side and the sell side majored in computer science or engineering, he earned his undergraduate degree in finance at the University of Miami. Still, the signs of interest were there from an early stage. In the course of attaining his degree, Powers undertook an internship at Citi International Private Bank. But far from making coffee or sitting in on advisory meetings, his time at the bank was steeped in technology, elbow-deep in the guts of the firm’s data that tracked customer interactions. Powers built a database in Lotus to track this information, and later, an application in dBase. That could have been the end of it, though. At this point, the usual career track for Miami finance grads was to go straight from graduation into bank management training programs. But Powers was entering the workforce at a bad time. A downturn in the economy during 1990 meant that many of these banks were consolidating their operations, shutting down, or cutting back where they could—and part of these cuts affected the traditional route from gown to suit.

Powers talked to his business fraternity’s faculty advisor, Dr. Lewis Tamares, who instead had an alternative proposition: Powers knew Lotus and he knew dBase, so why not teach this to the university’s thousands of administrative staff, PhD students, professors and others?

Seeing that this gave him an opportunity to not only work during a down market, but also to pursue his master’s degree in business information systems, he accepted. “So he offered me the job, I took it, and we had a training program where we taught Word Perfect, Lotus, dBase, all these DOS applications,” he says. “But my first PC I got with the job came with Windows 3.0. My boss told me to figure it out and then teach a class on it. So my claim to fame is that I taught 8,000 administrative employees of the University of Miami how to use a mouse.”

First Brush

It wasn’t until his wedding day that his first real brush with the industry came. Powers’ father had been a broker for Merrill Lynch, becoming one of the first to work in the firm’s new Tampa office during 1962, and later going on to become co-chairman of the board of Merrill Lynch Australia. During that time, the senior Powers came to know a man named Tom Hansberger.

Hansberger was in the beginning stages of his next project, after his firm, Templeton, Galbraith and Hansberger, was sold to Franklin Investments in 1992, forming what would become the mutual funds giant Franklin Templeton Investments. Through his father, Hansberger knew that Powers was fast becoming a technology expert, and while attending his wedding in 1994, he passed him his business card, telling him to call him when he was back from his honeymoon.

Powers promptly forgot about the encounter, and that could have been that. Luckily, Hansberger did not. Toward the end of the postgraduate degree, he called Powers with a job offer. “I was hired in February 1996 as the IT and computer guy. I was the eighth employee—we had an ops guy, a finance guy, a couple of research guys; there were just a few of us,” he says. “But Tom did have the relationships in Russia, India and China for the multinational Templeton clone he was starting, and those offices came online in that first year. By the end of the year we had 36 people and $2 billion in assets under management.”

It was a time that Powers describes as “frantic,” with new hires, institutional mandates coming in one after the other, and the concomitant due diligence checks that each client performed. But Powers stuck it out, embarking on a career at the firm that would see him remain at the top as the managing director of IT for over 18 years, even after Hansberger retired and his company became a wholly owned subsidiary of Natixis Global Asset Management.

It was around 2014 that a colleague at the firm told Powers that he should look into a role that he had just interviewed for, at a small investment manager in Boca Raton called Polen Capital. Powers was hesitant at first—he was a technology guy, and this role was for an operations manager. Why would he want to do that? His friend told him to read the job description, which seemed to be focused far more on systems than middle-office tasks. At the interviews, he was immediately taken with the firm's culture.

"When you talk to Stan [Moss], and Dan [Davidowitz], the head of what they call the focus, or the large-cap growth team, there's this consistency and clarity of who they are, what they are, where they are, and what they want to do," he says. "My joke is that it's like an MBA textbook. Everything they're saying is super best-practice, proper approach, and it's very appealing, that vision they have for the firm and the way they look at the world."

That vision, he recalls them saying, was to become a name-brand asset manager. But to do that, they needed Powers to execute a radical change in how the firm used technology.

To the Cloud

Even before he hired Powers, Moss knew he had a problem. The firm's mix of clients—the retail, the high-net-worth investors, and the institutional side looked great from a risk perspective, and on the firm's balance sheet. But that mix was challenging from a technology perspective. "We searched the marketplace for single systems and solutions that could handle our book of business, which is somewhat unique in terms of technological access points due to the balance between institutional, high-net-worth, and retail that we have," Moss says. "There are a lot of interfaces required owing to the variety of platforms and custodians that Polen connects to—some are institutional-based, some are intermediary platform-based, but there are not very many that can handle both."

Indeed, the technology landscape at Polen was beginning to look like a forest. The new strategy had introduced a boom to the firm such as it had never experienced before, but it also meant that it needed connections to order management systems (OMSs), portfolio accounting systems, wrap platforms, wirehouses, managed fund accounts, and more. There were dozens of systems and dozens of interfaces to contend with.

To solve part of the problem, Moss turned to an old contact in the form of Bryan Dori, the CEO of Archer. Polen had previously worked with the vendor and outsourcing provider in 2007, when Moss, as COO, had selected it to launch the firm's strategy onto various wrap platforms. Archer could provide Polen with access to best-in-class technology, which would significantly reduce the number of systems it had to manage. But more than that, it could alleviate the burden of having to engage in the laborious task of post-trade processing, an area that is hardly the bread and butter of small investment firms. "That was, I think, the genesis of what they were trying to establish—to shrink their technology footprint and to focus on what was really important to them, which was servicing their clients and gathering assets, and outsourcing what didn't add a tremendous amount of value, which was technology infrastructure and operations," says Dori.

Benefits

The extended partnership with Philadelphia-based Archer and the move to the cloud had further benefits, which were rooted in more practical concerns. As a work location, Boca Raton might be pleasant, but it's in a hurricane zone, meaning Polen has a more pressing need than others to ensure its employees are able to work remotely. It's also not exactly a hotbed of talent for middle- and back-office personnel, areas that Polen needed, but wasn't particularly enthusiastic about keeping in-house.

But it still required a steering hand. Powers was brought on to manage this implementation, coordinating between Polen, Archer, and a consultant, Meradia Group, that had been employed to advise on the project. "When I was hired, the mission was to get everything onto one platform, whether that was Archer, or something better," Powers explains. "When I came on, that's what we did—we hired a third-party consultant, evaluated what was out there, and decided that nobody could handle that retail wrap space as well as Archer."

Part of the complexity of the operation stemmed from the fact that this wasn't just a simple migration to the cloud. There was 30 years of historical data to backload, as well as moving to Archer's platforms, plus the fact that Polen was outsourcing much of its middle office.

In addition to this, Polen had decided to replace a core part of its trading technology—its order management system—with Charles River. One of the main reasons for deciding on Charles River was compliance and the rules engine built into the firm's investment management system. Polen hadn't utilized an automated system before in this regard—checking compliance with account restrictions had been a manual task, which naturally inhibited what kind of account structures it could reasonably take on. "In our OMS, we have thousands of accounts, and those accounts have a variety of restrictions," says Moss. "Charles River is the leading technology in this area, and that implementation has helped us efficiently handle our existing restrictions—even those that we wouldn't have been able to handle in the past. Now we can take on an account that has more complicated restrictions, whereas in the past, maybe we could not."

The proof of the benefits can literally be measured in numbers. Powers says that the firm now has over 4,200 accounts on Archer, which it never would have been able to onboard before the Charles River implementation, while keeping the same attention to detail. In the nearly three years he's been at Polen, the firm has never had a material trade error, Powers says.

ANDREW POWERS
FUNDAMENTAL DATA

Name: Andrew Powers

Title: Director of IT at Polen Capital

Age: 49

Hobbies and interests: Family, travel, and reading about history and technology

Football and Baseball Teams: Miami Hurricanes, Miami Dolphins and Miami Marlins

Favorite Film: *Star Wars*

Favorite Book: *Gravity's Rainbow* by Thomas Pynchon

Favorite Record: *New Day Rising* by Husker Du

Top of the Bucket List: A visit to the wine country in South Africa

Getting Ahead

The implementation took, by varying accounts, between nine months and a year-and-a-half to complete. But by the end, Powers had executed it "flawlessly," according to Moss. Indeed, this would prove to be portentous in several ways—shortly after *Waters* conducted the interviews for this article, Hurricane Irma made landfall in South Florida on September 10 as a Category 4 storm, and caused widespread devastation throughout the state. While Polen's premises did not suffer any damage, many of its employees were left without power for days afterward and downed power lines throughout Boca Raton created enormous difficulties and hazards for residents.

The establishment of the firm's Boston office, too, has been relatively painless. There are no mainframes to install or cool, no infrastructural nightmares to manage—it's just network connections.

But this isn't the end of Powers' efforts—he's now turning his attention to another complex area of buy-side technology: data management. "My initiative for this year has revolved around a data warehouse," he says. "The mandate from the CEO, his vision again in terms of being best practice and best-of-breed, is to have pervasive business intelligence and business analytics throughout the firm. The shortcut way to describe it is that I'm trying to democratize data access in the firm."

As opposed to the cloud migration and everything else that went with it, this project is being managed strictly in-house, he says. Any enterprise data management strategy, in his words, needs to be a bit "DIY," but he sees the potential as exciting. "I'm a big believer in the idea that the more of these tools you can put into people's hands, with clean and structured data, the more you'll be surprised with what they'll come up with," he says.

It's another example of Polen Capital being perhaps more forward-thinking than other similar buy-side firms. Data management and governance exercises are, after all, often the preserve of the asset-management kingpins, rather than $15 billion shops. But for Powers, that doesn't matter. "From what I understand, it's typically something firms go through when they get a little bit larger than we are, but everyone I've talked to at the larger firms says that the sooner you do it, the better," he says.

Given Polen's recent growth rate, that might end up being a prescient move. W

Technology Takes Aim at Post-Trade Black Holes

Regulatory reform and a convergence of new technologies, chief among them blockchain, is prompting a revision of how post-trade activities work. But as James Rundle reports, solutions are still some way off.

In March 2014, as Microsoft prepared to end support for its aging Windows XP operating system (OS) the following month, automated teller machine (ATM) manufacturers began to warn that 95 percent of US units still operated on the platform. The financial industry was roundly pilloried in the media for using an old and soon-to-be-retired program to handle everyday financial transactions—XP was released in 2001. But in the capital markets, particularly in the post-trade space, some of the processes and technologies in place today have their origins even further back.

Some believe that the entire structure of the post-trade market across all asset classes is overdue for change. As the industry begins to move past a period of frantic rulemaking and explores new technologies that simply weren't around when workflows were first devised, this may be an opportune time to do that, they argue. It might even be time to say goodbye to some parts of it entirely—particularly those that make little sense in the modern world.

"When you buy IBM on the NYSE, do you need to then go into the NYSE platform and press a button to affirm that you bought this trade? Today that's the process. It takes 10 manual steps to affirm a

trade on the incumbent platform," says Zohar Hod, CEO of truePTS, and former head of NYSE owner, the Intercontinental Exchange's, data services business.

Others are even more direct in their criticism.

"We've patched and taped this system together so many times over the past 30 years that nobody really knows how much it's been costing us—and if it's costing us, then it's costing our clients," says a New York-based technology director at a US investment manager.

Keith Tippell
Droit Financial Technologies

Blame Game

Some, but not all, of the blame can be laid at the feet of regulatory reform, and the reaction of banks to that on a global basis. Sent reeling after the financial crisis and the subsequent regulatory response, compliance-related activities became a driver of technology development at banks. Indeed, consultancy Protiviti found in its *2016 IT Technology Trends Survey* that compliance technology spend accounted for around 12 percent of the total IT budget on average at financial services firms that responded. This has resulted in patchwork implementations designed to address specific rules—for instance, the revised Markets in Financial Instruments Directive (Mifid II), derivatives reporting under the European Market Infrastructure Regulation (EMIR), or the electronic trading mandates in the Dodd–Frank Act that gave birth to swap execution facilities (SEFs). These projects are rarely complementary, and have a tendency to add complexity to sprawling internal and external processes.

"You often see institutions building tactical solutions—maybe one department does something, another does something else, the team focused on US regulations does something for Dodd–Frank and then the Mifid team does their own thing," says Keith Tippell, head of sales and business development for Europe at Droit Financial Technologies. "They're completely distinct in their efforts, which means logically, you can't be optimal."

But the problem runs deeper than just the past few years. Much of the workflow for post-trade processes, particularly in derivatives markets, was designed long before mechanisms such as central clearing were widespread, or common communication protocols such as FIX and Financial Products Markup Language (FpML) were fully developed.

As such, many of the operations required to push a trade through its post-execution lifecycle remain highly manual. This isn't just inconvenient—in some cases, it's distinctly problematic. "When SwapsWire was first built in the late 1990s, for instance, it was built for confirmations," says truePTS' Hod. "On that same pipe, since then, three or four different mandates such as Mifid or Dodd–Frank have passed, reporting requirements have increased, the timing of those requirements has shortened, and yet you still have a 10-step manual process to affirm a trade."

With all of these issues, and an increasing resource burden on the part of financial institutions, something has shifted in the market's attitude. In September 2016, the International Swaps and Derivatives Association (Isda) published a whitepaper titled *The Future of Derivatives Processing and Market Infrastructure*, which is scathing in its assessment of how trade processing is currently conducted in financial markets. "The complexity inherent in the new derivatives ecosystem is now putting derivatives participants under considerable strain," the report states, adding that "this now needs to be addressed."

Black Holes

Trade reporting has emerged as a key area where, market participants believe, the correct application of technology could be broadened to other areas of post-trade processes that are currently siloed. It's fair to say that global reporting regimes, a key pillar of the 2009 G20 agreement that kick-started the reform of derivatives markets, haven't been as successful as hoped. The distinct lack of quality in trade reports has been a constant thorn in the side of regulators, some of which have begun to fine participants and trade repositories for perceived failings, notably in May 2016, when the European Securities and Markets Authority (Esma) fined the Depository Trust and Clearing Commission (DTCC) €64,000 ($75,000) for failing to provide timely access to data in its European trade repository.

> "When SwapsWire was first built in the late 1990s, for instance, it was built for confirmations. On that same pipe, since then, three or four different mandates such as Mifid or Dodd–Frank have passed, reporting requirements have increased, the timing of those requirements has shortened, and yet you still have a 10-step manual process to affirm a trade." **Zohar Hod, truePTS**

"Reporting, especially in Europe, has been a black hole for the longest time," says a London-based data manager at a UK bank. "It's one of those things spawned by regulation that sucks in time, money and people, but from which precious little light emerges."

Steps have been taken to improve this of late, however. In February 2017, the Committee on Payments and Markets Infrastructures (CPMI) and the International Organization of Securities Commissions (Iosco) issued long-awaited guidance on the construction of unique trade identifiers, a key aspect of reporting that many have blamed for low matching rates between each side of a trade due to unclear rules about their generation. Esma, the direct regulator of European trade repositories, which handle around 400 million reports per week, also highlighted improvements in data quality as one of the core objectives in its 2017 work program. Mifid II and the Market Abuse Regulation (MAR) further increase trade reporting responsibilities and incorporate identifiers into reports, and some see the benefits this could bring to post-trade processes in the middle and back offices by streamlining currently fragmented and siloed activities, many of which often consume the same data in different ways. "We're working with our colleagues in the surveillance department to automate that capability off the back of the trades that users are reporting," says Mark Husler, CEO of the London Stock Exchange Group-owned reporting platform UnaVista. "If you think about the data attributes that firms are reporting across asset classes—derivatives, equities, bonds and so on—and our capabilities in this area, we're effectively developing a platform that enables users to not just send the data to regulators in order to comply, but actually use the application as a surveillance system."

The firm plans to use this first to assist with MAR compliance in Europe, and then offer it to North American clients later in 2017. Other technology firms have noticed this void, and are attempting to step into it. Nex Group, for example, formed from the post-trade and electronic markets businesses of inter-dealer broker Icap in 2016, is basing much of its strategy on linking together various parts of the trade lifecycle, from pre- to post-trade, across business lines that used to operate separately. But in terms of technologies that have the potential to shake up the post-trade space, few have received as much attention as distributed-ledger technology (DLT) and its predecessor, blockchain.

Biggest Investor

The financial services industry has been one of DLT's biggest investors—consultancy KPMG estimated in June 2017 that over $1 billion has been invested into blockchain firms and projects by banks, asset managers and others globally. As a single, purportedly inviolable, golden record of transactions, regulators and insiders have all cited the transformative potential of DLT. In particular, the technology is seen as likely having the biggest impact on post-trade activities such as settlement, where real-time settling of trades could be a possibility, through to reconciliations, the need for which could be drastically shrunk in a market based on the technology. "DLT will essentially eliminate the need for reconciliation as there will need to be consensus or validation of the trade at the time of execution. Billions of dollars in post-trade processing costs could be eliminated," said Terry Roche, head of fintech research at Tabb Group, in a July 2017 research note.

A report, *Banking on Blockchain: A Value Analysis for Investment Banks*, published by Accenture and McLagan in January 2017, highlights the potential for reforming market structure through DLT, and estimates that by 2025, the implementation and adoption of mature blockchain systems could save the industry around $12 billion annually through the removal of current inefficiencies and legacy systems.

"Everyone and their dog are looking at blockchain," says the New York-based technology director. "I don't think we'll all be moving to a distributed-ledger-based market in the next five years, but it's encouraging that people are starting to think about this from a structural perspective. It starts the conversation."

Mark Husler
UnaVista

While still largely in its infancy through industry consortia and in-house pilot schemes, some applications of blockchain in post-trade processing are starting to take shape. In January 2017, the DTCC announced that it would be embarking on a project to "re-platform" its Trade Information Warehouse utility to use DLT. The utility, which processes 98 percent of trade lifecycle events for the global credit derivatives market, will be moved to a blockchain-based platform developed by IBM, distributed-ledger consortium R3 and vendor Axoni. The DTCC has also partnered with another major financial services-focused blockchain group, Digital Asset Holdings, to explore ways in which US treasury, agency and agency mortgage-backed repo transactions can be cleared and settled through a single platform.

There may even be applications in areas such as trade, transaction and client reporting for buy-side firms, particularly if blockchain adoption becomes widespread and regulators are able to access those systems. However, experts caution that this will require the industry to fully embrace a digital future and abandon its continued reliance on manual processes and physical documents. "In terms of trade processing, if we grow up about dematerialization and actually do it, then we get the benefit of eliminating a number of components in the post-trade process," says Ian Hunt, a consultant who works with fund managers such as M&G Investments on projects that handle record-keeping and DLT. "For regulators and clients there are also benefits—if we have a blockchain and we can give permissioned access to that blockchain to the regulator, then instead of us having to write extracts and reports specifically for them, they can go and get what they want from the ledger. And because it's immutable, we can't manipulate it, perpetrate fraud, or mislead them."

Gray Area

The incorporation of new technology also comes with challenges. On a purely legal level, developments such as blockchain and the growth in smart contracts—software that can automatically mimic post-trade lifecycle events such as coupon payments and margin calls—exist in a gray area, despite efforts by Isda and others to create legal documents governing their operation. "There is some debate over whether smart contracts actually constitute contracts in a legal sense, and the interpretation differs state-by-state," says Perianne Boring, founder and president of the Chamber of Digital Commerce. "The legal interpretation of blockchain is going to depend heavily on what form it eventually takes and gains popularity with, but it's going to be a tremendous effort to get these changes through Congress, and through the states' legislatures."

There are also regulatory concerns around the potential impact this technology could have on financial stability. In February 2017, CPMI released an "analytical framework" discussing the application of DLT, in which it highlighted certain legal questions around settlement finality, but also queried whether the widespread use of smart contracts could introduce pro-cyclical effects, thanks to the automation of post-trade processes that are currently governed by humans. "DLT could also have negative implications. For example, in a possible future configuration with many automated contract tools, macroeconomic conditions could automatically trigger margin calls across financial market infrastructures, leading to severe liquidity demand across the financial system and creating a systemic event," the report states. The CPMI called for more research into understanding how these tools and technologies would be correlated.

There is also work needed to change the mindset of an industry long used to the way things work. "People keep on asking me, 'Zohar, what are you doing to help us make better reconciliations?' And my answer is: I should reduce the need for reconciliations, not help you do better reconciliations," says truePTS' Hod.

However, despite positive moves in this area, changes appear to be a long way off. The Isda report cites a general lack of sophistication among the industry in some areas, perhaps most damningly that "some firms and infrastructures still rely on fax for some of their business communication and instruction."

But the trade body has put its money where its mouth is. Following the publication of its 2016 whitepaper, it announced that it would work on defining processes and procedures in trading to a standard, machine-readable format, known as the common domain model, or CDM. "The system as it stands is creaky, over-complicated and outdated, increasing cost and compliance burdens for all market participants," says Scott O'Malia, CEO of Isda and a former commissioner at the US Commodity Futures Trading Commission. "New technologies can alleviate many of these problems, but first we need a reform of current standards and practices."

"For regulators and clients there are also benefits—if we have a blockchain and we can give permissioned access to that blockchain to the regulator, then instead of us having to write extracts and reports specifically for them, they can go and get what they want from the ledger." **Ian Hunt, Consultant**

No Small Feat

In practice, this is no small feat. Each institution, by nature of the absence of such standardization in the past, has its own way of doing things that often does not mirror practices at its contemporaries. Market participants are also not known for their ability to agree on what should be fairly basic common elements to trading, even in relatively homogenous markets such as the US—the years-long wrangle over the legal entity identifier, and the 20 years it took to shorten the settlement cycle in equities to two days from three, are just two examples of this inertia. "It sounds simple, but it's a huge task," says O'Malia. "Getting everyone to agree on a set of definitions, and encouraging widespread adoption, will be challenging."

Blockchain will become a part of that change, experts say, although it will not provide the fuel for the entire process. What people are looking at now, 10 years after one of the worst financial crises in living memory began, is how the very structure of the capital markets may need to be torn down and rebuilt to meet the expectations, requirements and rigors of the modern age. "That will require global effort and coordination on a scale we haven't seen before," says a London-based senior technologist at a European bank. "But there's no doubt that it has to change. My view is that it will happen a little at a time, here and there, until we wake up one morning and realize that the world we live in now isn't the same as the one we did 20 or 30 years ago. That's how fundamental change occurs in markets—just look at how electronic trading is still being discussed like it's this new thing, even though Nasdaq launched in 1971."

Accomplishing this will also require a shift in the mindset of how the industry views technology, moving from its current perspective of it being something that simply augments existing processes through to one where it forms the foundation of them. Or, as the Isda report states: "The answer is not just about speed and the replacement of existing processes with faster solutions. It is about reviewing and possibly re-engineering the whole post-trade process." W

SALIENT POINTS

- As regulation moves from formation to implementation, market participants are beginning to examine how post-trade processes need to be reformed.
- New technology is proving to be key to this, in particular how the data from trade reporting can be used more widely, both internally and externally.
- Distributed- ledger technology also provides a glimpse of how post-trade workflows may change.
- However, any significant change is likely to be years off, given legal uncertainty around developing technology and regulatory concerns.
- Industry associations are actively examining this topic, and forming workgroups to determine the best path forward.

GDPR: The Next Big Regulation

While all the talk pertaining to regulation across the capital markets has centered on Mifid II, GDPR has surprised many financial institutions due to the extent of its reach and the data governance challenges is poses. Anthony Malakian talks with industry participants about the rule's toughest stipulations and how best to prepare for next year's compliance deadline.

All eyes are on January 3, 2018. That, of course, is the day that the second iteration of the Markets in Financial Information Directive (Mifid II) takes effect. It's a behemoth of regulation, a rule that has been causing consternation and colloquy for seven years now.

But from a regulatory perspective, 2018 will be remembered for more than just Mifid II, as it's also when the General Data Protection Rule (GDPR) takes effect. Mention GDPR to people outside of the European Union, and you will likely to get a blank stare. But for those who have had to prepare for its May 25 implementation date, there's just as much—if not more—cause for concern than there is with Mifid II.

"We dealt with Mifid and all the other regulations at JPMorgan Asset Management, but one of the hardest things is GDPR," says Dessa Glasser, former chief data officer of JPMorgan Asset Management, who left the firm in October 2016 to become co-owner of Briter Consulting. "Out of all the regulations—and we looked at this pretty early on—this is the one that scared me the most because it was not as well defined and it was extremely far reaching."

Daniel André Pauly is a partner at law firm Linklaters, and focuses on technology law specifically as it pertains to IT and data privacy. While he's been working with companies of all stripes to prepare for the regulation—and not just capital markets firms—he fears that most are nowhere near ready for May 2018. "They all underestimated the scope of the project. Almost all projects are now behind schedule or have not yet started because they need to find the budget, and they need to figure out who is responsible for the project within the organization. Do they need lawyers and consultants, or only lawyers or only consultants?" he says. "What we're telling our 'protection' clients is that they need to hurry up. It's a major project and those who have already started, they all underline that it is their biggest project in 2017 and 2018—it's massive."

"We dealt with Mifid and all the other regulations at JPMorgan Asset Management, but one of the hardest things is GDPR. Out of all the regulations—and we looked at this pretty early on—this is the one that scared me the most because it was not as well defined and it was extremely far reaching."
Dessa Glasser, Briter Consulting

GDPR is seen as a revolution and an extension of a data security movement that's been unfolding now for several years. There are legal and technological hurdles that firms are having to address, including—but not limited to—the right to be forgotten, data portability, repapering legal contracts, and the idea of a one-stop shop for regulation. *Waters* spoke with several industry participants to discuss these issues and what firms can do to prepare for May 2018.

The New Regime

In 1995, the Data Protection Directive was adopted by the EU to regulate the processing of personal data within the region. For its time, it was a privacy landmark.

Also in 1995, the global internet was in its infancy, email was still called electronic mail, and "social media" meant taking out a classified ad. Two decades ago, information was delivered and consumed vastly differently than it is today. With the litany of data breaches that we've seen in just 2017 alone, it's understandable that the regulators in the US and Europe have taken a more hands-on approach to oversight (*see Cybersecurity feature on page 38*).

In April 2016, the European Parliament approved and adopted GDPR in order to significantly expand the 1995 directive, which lacked teeth. Organizations can now be fined up to 4 percent of their annual global turnover for breaching GDPR or a maximum of €20 million ($24 million), while authorities must be notified of a data breach within 72 hours and they must tell affected individuals "without undue delay."

What has surprised many firms outside of the EU is just how far reaching its tentacles are, as it applies to any company that offers "goods or services to, or monitors the behavior of, EU data subjects. It applies to all companies processing and holding the personal data of subjects residing in the European Union, regardless of the company's location," according to the official website set up by the EU to serve as an FAQ source. Personal data consists of any information that can be used directly or indirectly to identify a person—which is fairly all-encompassing.

One senior executive at a global systemically important bank (GSib) based in the US tells *Waters* that it still hasn't gotten its head around how GDPR ties to BCBS 239—the Basel Committee on Banking Supervision's set of principles for risk data aggregation and reporting—and to the other cybersecurity rules that the bank already has to adhere to. "The big question is around data risk and how the regulators view managing the governance and protection of what GDPR requires, what 239 requires, and what any GSib would normally address from a cyber perspective because they all in some way overlap—so isn't it overkill?" asks the executive. "Do we really need multiple programs to cover these regulations? Can we take an umbrella approach for 'data' as the vertical and allow the regulation to be horizontal so that anytime a new reg pops up we can cover it under the 'data umbrella'? What if our consumer strategy changes and we are subject to more GDPR scope? How should we address it?"

While GDPR is prescriptive, there are still a number of vagaries both in the rule itself—for example, the European Commission, the European Parliament and the European Council all have different interpretations of the rule's data portability section—and it is unclear whether GDPR takes precedence over other laws.

Gone, Not Forgotten

One section of GDPR that has caused the greatest pushback is around the rule's right to erasure—or right to be forgotten—article, which states that the data subject "shall have the right to obtain from the controller the erasure of personal data concerning him or her without undue delay and the controller shall have the obligation to erase personal data without undue delay."

Pauly says that this is challenging because databases are not built for that purpose. "IT systems are simply not prepared for entirely deleting information when it comes to databases," he says. Additionally, there isn't clarity around specific forms of data retention methods, such as how banks have tapes in their archives to back up information. Do they need to monitor and delete those because of the right to be forgotten? "From the letter of the law, it's all included," Pauly says, although he explains that while there are some uncertainties, as long as a firm has legal grounds to retain data, it won't have to delete that information.

Daniel André Pauly
Linklaters

The chief data officer of a GSib bank based in the EU tells *Waters* that there are record retention rules already in place that require financial firms to record and archive client information and, additionally, banking prudential regulations stipulate that institutions hand over information for financial crimes such as money laundering. "Both of those supersede the right to be forgotten," says the CDO.

The Vast Expanse

While financial firms have vastly improved their ability to properly identify, tag, store and retrieve information, there's still a long way to go, Glasser notes. "This whole idea of the right to be forgotten, once that's traveled throughout the organization, that's going to be very, very difficult to enforce," she says. "So the lineage of data is going to be critical to enforce."

She says this rule will force firms to reexamine their data definitions—how they define a client, for example—create clear guidelines for handling and storing data, and improve their overall data governance processes. This has been an ongoing task for banks and asset managers for some time now, but this will force them to kick into a higher gear.

"What this will do is push companies to have traceability and lineage," she says. "The more they can get organized up front and make sure they have the definitions down, the better position they'll be in to do that."

One CDO at a large European bank says the rule is expansive when it comes to identifying what personal data is. According to the rule, personal data consists of any information that can be used directly or indirectly to identify a person. "Obviously, data has become key over the last 10 years. My position didn't even exist at the bank in 2007. But our focus has been on risk and analytics, at making sure we have AML covered, at data governance, but not as much the personal stuff that the EU Parliament is looking for, as I understand it. It really is a nightmare to identify all of that," says the executive.

The data portability section of the rule states that the data subject "shall have the right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided."

Could Prove Costly

Industry participants worry that this piece of the mandate could prove costly from a time and resources perspective. And when handing over that information, they also have to make sure that they aren't breaking laws by handing over other people's information tied to that account or by giving away proprietary information, Pauly says. "Finding that

RIGHTS BESTOWED UPON 'DATA SUBJECTS' AS OUTLINED IN GDPR

- **Breach Notification**
  Under the GDPR, breach notification will become mandatory in all member states where a data breach is likely to "result in a risk for the rights and freedoms of individuals." This must be done within 72 hours of first having become aware of the breach. Data processors will also be required to notify their customers, the controllers "without undue delay" after first becoming aware of a data breach.
- **Right to Access**
  Part of the expanded rights of data subjects outlined by the GDPR is the right for data subjects to obtain from the data controller confirmation as to whether or not personal data concerning them is being processed, where and for what purpose. Further, the controller shall provide a copy of the personal data, free of charge, in an electronic format. This change is a dramatic shift to data transparency and empowerment of data subjects.
- **Right to Be Forgotten**
  Also known as Data Erasure, the right to be forgotten entitles the data subject to have the data controller erase his/her personal data, cease further dissemination of the data, and potentially have third parties halt processing of the data. The conditions for erasure, as outlined in article 17, include the data no longer being relevant to [the] original purposes for processing, or data subjects withdrawing consent. It should also be noted that this right requires controllers to compare subjects' rights to "the public interest in the availability of the data" when considering such requests.
- **Data Portability**
  GDPR introduces data portability—the right for a data subject to receive the personal data concerning them that they have previously provided in a "commonly used and machine-readable format" and have the right to transmit that data to another controller.
- **Privacy by Design**
  Privacy by design as a concept has existed for years now, but is only just becoming part of a legal requirement with the GDPR. At its core, privacy by design calls for the inclusion of data protection from the onset of the designing of systems, rather than an addition. More specifically: "The controller shall implement appropriate technical and organizational measures in an effective way in order to meet the requirements of this Regulation and protect the rights of data subjects." Article 23 calls for controllers to hold and process only the data absolutely necessary for the completion of its duties (data minimization), as well as limit the access to personal data to those needing to act out the processing.

Source: eugdpr.com

data and preparing that data for the handover to the requester is, indeed, a challenge," he says. "They're not supposed to produce data that belongs to other individuals at the same time—this is prohibited. They have to try to avoid any disclosure of trade secrets, which could be included in that data if the data is structured in a certain matter—such as if the data has information about how the bank calculates risk."

The CDO at the aforementioned GSib says the bank has leveraged best practices from the retail side of the institution to help adhere to this piece of the rule, as well as for other sections. "As it pertained to data subjects' rights, we were already very well versed in the retail side of our business because we've been doing that for quite a while," says the CDO. "The challenge was that GDPR drove us to look at the natural person in terms of people within the vendor space and the natural person as our employee, so we had to expand that coverage to see where the data subjects' rights existed above and beyond what we were already fairly well used to within European regulation. We took the learning from the retail and embedded it in a somewhat different set of processes for the wholesale, but we managed to make that work."

Mind the Gap

While banks have looked to scale back on the number of their vendor relationships in recent years, most still employ a flotilla of third parties. So, as with any new rule, companies have had to conduct a gap analysis for GDPR to see where they are deficient in their compliance methods. To do this, firms must first start by identifying the data processing landscape within the institution. Then they must ensure that the data subjects' rights are in order to determine the gaps—either because the firm is missing processes or because the processes need alteration, or they may find that they have inadequate consents or are missing consents.

"For us, the gap analysis was relatively easy within the natural person for retail, a little harder when it came to getting the employee understanding right, and pretty messy when it came to understanding the gap for our vendor side," says the CDO, noting the sheer number of vendors being used to run the bank's various endeavors.

After all that is completed, then comes the triage to ensure that the bank complies by May 25. That means prioritizing what has to be completed by the 25th, and what can be kicked down the line. "That's where you come down to some of the niceties of interpretation," says the source.

The niceties of interpretation, indeed—that's been the standard for most every major regulatory overhaul, from Dodd–Frank to Mifid II and now to GDPR. But this one really does appear to be sneaking up on many financial institutions because of the breadth and scope of its definitions, from who it affects to what constitutes personal data.

For all the talk of Mifid II, GDPR may prove to be a more challenging beast to tame in 2018. W

SALIENT POINTS

- The compliance deadline for GDPR is May 25, just four months after Mifid II's compliance date.
- The rule is sweeping and will affect firms across the globe, not just in the European Union.
- There are many legal and technology hurdles that must be addressed, such as data portability, the right to be forgotten, and data governance demands.
- If they haven't done so already, banks and asset managers will have to conduct a gap analysis to see where they are deficient. A sticking point for many has been in their vendor relationships.

The New Cyber Regime

Sweeping new rules designed to govern cybersecurity practices in New York's financial sector have been introduced by the state regulator, although some firms are finding the requirements to be a tough pill to swallow. By Anthony Malakian and James Rundle

Whether it is hackers releasing episodes of HBO shows *Game of Thrones* and *Curb Your Enthusiasm* early online, the WannaCry ransomware tool being used to shut down the UK's National Health Service, or Equifax's catastrophic breach, it's been a stressful few months for cybersecurity professionals.

As these attacks have become increasingly prevalent and damaging, regulators around the globe are looking to make sure that companies are better prepared, whether in the form of the General Data Protection Rule (GDPR) in Europe or the Cybersecurity Framework released by the US Department of Commerce's National Institute of Standards and Technology (NIST) group.

On August 28, another cybersecurity rule came into effect: the New York State Department of Financial Services' (DFS) Cybersecurity Regulation. As of that day, the 180-day transitional period for the rule—which was released on March 1, 2017—ended. As a result, all regulated entities that are ineligible for a waiver must comply with the various sections of the order.

> "In the cyber space, many organizations are now morphing existing IT people into information security roles, because there is a lack of talent, and also because the timeframe to get someone into place—whether it's morphing somebody or expanding their role—is tight and that seems to be one of the points where organizations are struggling." **Michael Corcione, Cordium**

New Order

Included in the rule is the requirement that regulated entities designate a chief information security officer (CISO), or a third-party service provider, who will be "responsible for overseeing and implementing the covered entity's cybersecurity program and enforcing its cybersecurity policy," according to the DFS.

Michael Corcione, managing director of cybersecurity and data protection services at consultancy Cordium, says this has been a challenge for many firms because the CISO space is a relatively new one in the financial services industry, and there isn't a big talent pool to poach from. "That's probably the one we've seen the biggest challenge around, because there are just not enough people out there, and there aren't enough resources," he says. "In the cyber space, many organizations are now morphing existing IT people into information security roles, because there is a lack of talent, and also because the timeframe to get someone into place—whether it's morphing somebody or expanding their role—is tight and that seems to be one of the points where organizations are struggling."

Regulated firms are also required to set up a cybersecurity program that "shall … protect the confidentiality, integrity and availability of the [firm's] information systems," which includes identifying and assessing internal and external cyber risks, setting up an incident response program, and having appropriate reporting structures put in place.

"This is probably one of the more stringent ones," Corcione says. "Because not only do you have the response plan, but part of that is knowing how you're going to identify events, and when they are, as they have to notify the DFS superintendent within 72 hours. That's one of the policies that firms have had to hammer out and really get well defined."

After that, a written cybersecurity policy has to be put in place that is approved by a senior official or the firm's board of directors. The rule also provides guidelines for penetration testing and vulnerability assessments, access privileges, risk assessments, policies around third-party service providers, encryption, limitations on data retention, and, among other things, multi-factor authentication.

Broad City

The rules are fairly broad and aren't—for the most part—prescriptive. John Humphreys, senior vice president of business development and alliances at Proficio, a managed securities services provider that works with banks and other financial firms, says most of the largest banks should already have processes in place for these stipulations. "Larger enterprises tend to do more than what's on the list, so they're not really worried about it except for the fact that it can be onerous if there's an audit," he says.

One CISO at a tier-one bank tells *Waters* that what's listed in the rules are "industry best practices." Meanwhile, smaller companies are tending to ignore the regulatory requirements or will apply for a waiver. "This doesn't seem to really apply to us," notes one compliance officer at a New York-based broker-dealer, although the executive acknowledged that it isn't 100 percent sure of its regulatory obligations. "We're basically ignoring it because it isn't clear whether it applies to broker-dealers and most people should be taking these steps anyway. We also don't have a relationship with the state regulators. If it was Finra, we'd be very attentive to it."

The deadline to apply for a waiver exempting firms from complying with the regulation was on September 27 as this magazine went to press. Echoing the broker-dealer compliance officer, Janet Himmelreich, head of BT's security, risk and compliance team, says this rule hasn't taken up a lot of bandwidth within the industry. "We have several hundred customers who are affected by the law, but we have observed that there are some organizations that seem either unaware of the regulations, or haven't prioritized it as a focus as yet," Himmelreich says.

Of the reasons she gave as to why this might be, she says it might not be getting much fanfare because the regulation does not have explicitly stated penalties and "many companies may assume that they already have enough security policies and procedures in place to meet the requirements."

The DFS did not respond to repeated requests for comment.

Self-Control

It is important to remember that this rule requires annual self-certification and, as such, means that as long as firms can show that they have plans and processes in place, they should be able to clear any regulatory hurdles, according to Proficio's Humphreys. "Generally what we find is that when it's a self-certification rule the important thing to do is obviously have a security plan," he says. "Am I going to do a security assessment? Then you can show the result of the report. Am I doing vulnerability scanning to see if any of my assets have known vulnerabilities that could be attacked? That's a measurable thing and here's the report. Am I monitoring the security event on a daily basis, looking at them and trying to identify what are threats and what are not? Here's the list that came out of that process and here's the case management report that shows which ones we identified."

Himmelreich says that for firms that are still looking at the rule, the first step is creating a "good gap analysis" program.

"Our experience is that with a self-assessment tool built to meet the law's requirements, a fairly good gap analysis—based on the appetite for risk within each entity—can be done within a few days. This valuable step

KEY DEADLINES OF THE NEW YORK STATE DEPARTMENT OF FINANCIAL SERVICES' CYBERSECURITY REGULATION

- **September 27, 2017** – Initial 30-day period for filing Notices of Exemption under 23 NYCRR 500.19(e) ends. Covered entities that have determined that they qualify for a limited exemption under 23 NYCRR 500.19(a)-(d) as of August 28, 2017, were required to file a Notice of Exemption on or prior to this date.
- **February 15, 2018** – Covered entities are required to submit the first certification under 23 NYCRR 500.17(b) on or prior to this date.
- **March 1, 2018** – One-year transitional period ends. Covered entities are required to be in compliance with the requirements of sections 500.04(b), 500.05, 500.09, 500.12 and 500.14(b) of 23 NYCRR Part 500.
- **September 3, 2018** – 18-month transitional period ends. Covered entities are required to be in compliance with the requirements of sections 500.06, 500.08, 500.13, 500.14(a) and 500.15 of 23 NYCRR Part 500.
- **March 1, 2019** – Two-year transitional period ends. Covered entities are required to be in compliance with the requirements of 23 NYCRR 500.11.

(Source: NYDFS)

will assist in determining just how much concern there really should be," she says.

But it's also important to note that because the rule is not prescriptive—and lacks clarity around penalties for non-compliance, as stated before—that has created uneasiness amongst others.

"These rules are broad when they should be specific, and oddly specific about things like multi-factor authentication when they should be broad," notes a former federal law enforcement official, who now works with tier-one banks on their cybersecurity measures. "There's also very little in here about what penalties a business could face if it reports an incident and the DFS finds that its programs were not comprehensive enough. You don't have to have an MBA to see the incentive to keep as much as you can quiet as possible here, although the DFS has covered itself by linking the reporting obligation to when you'd have to report to the Securities and Exchange Commission (SEC), the Commodity Futures Trading Commission (CFTC), or others."

Sign of the Times

On or prior to February 15, 2018, regulated firms will be required to submit their first certification under the rule. As far as capital markets firms are concerned, the DFS only supervises New York State charters or licensees such as banks, insurance companies, trusts, budget planners, check cashers, credit unions, money transmitters, licensed lenders and mortgage brokers that do business in New York. What that means is that many SEC-registered investment advisors will not be subject to comply with this rule. But, as one hedge fund CISO tells *Waters*, this is yet another sign as to the direction that cyber regulation is heading.

"This is a harbinger and gives us some insight on where we could see legislation going, as a mix of these rules will lead to 'best practices' going forward," notes the CISO.

> "Our experience is that with a self-assessment tool built to meet the law's requirements, a fairly good gap analysis—based on the appetite for risk within each entity—can be done within a few days. This valuable step will assist in determining just how much concern there really should be."
> **Janet Himmelreich, BT**

The rules also have particular import for global firms that simply operate in the state, and which in the past may have been happy to rely on their international cybersecurity resources. Under the terms of the regulation, this status quo can no longer be maintained.

"The challenges we've seen with a couple of clients are when the global CISOs are in another office," says Cordium's Corcione. "So maybe New York is a branch office, with their global CISO and head of risk in Asia—what the local office then has to do, because the NYDFS requirements are more stringent than their global policies, is also adopt local policies in line with those requirements. NYDFS also wants to see that there is a responsible person in the local branch, and where firms thought that having someone abroad would be sufficient, it's not really practical, especially when you're talking about incident response."

And, as the New York-based cybersecurity specialist notes, these rules don't do much to actually prevent attacks from happening; rather, agreeing with the CISO, they create a document for best practices moving forward that can be built upon. "A lot of this isn't going to do much to stop a determined active attack or any kind of advanced persistent threat, like a nation-state or a similar threat agent," says the source. "Most of the bigger players already have a response plan in place that goes beyond this, with blue team/red team simulations, tabletop exercises, dedicated staff and cyber ops platforms. But it does have an air of best practice to it that smaller players may find useful—it's the cyber equivalent of making sure your front and back doors are locked while you're upstairs." W

SALIENT POINTS

- Time is up for financial services firms struggling to comply with cybersecurity rules being brought into force in New York, with the regulation's transitional period ending on August 28.
- Some firms have elevated IT staff to the role of information security chiefs, but this can introduce problems, such as conflicts of interest and a lack of risk management nous.
- While the requirements themselves are hardly revolutionary in terms of planning for cybersecurity, there are particular aspects that firms should be aware of, such as the need for local competent persons in charge of cybersecurity, reporting incidents to a superintendent, tracking activity, and certifying compliance on an annual basis.

John Brazier

Putting a Price on the Future of Sell-Side Research

As asset managers on the buy side finally make public their strategies for investment research under Mifid II, the sell side has been quiet—a little too quiet, says John.

One of the first things you're taught on any writing course worth its salt is: "Write what you know about. And if you don't know about it, research the hell out of it first." The importance of quality research should never be underestimated and capital markets trading is no exception. Shoddy research leads to poor decision making, while quality leads to alpha.

So here comes Mifid II to ensure no one takes for granted the pivotal role that investment research plays in the process. No more deluges of research pouring across the street to be indiscriminately gorged on by asset managers, with payments for execution and research tangled together.

Mifid II's objective to introduce greater transparency should achieve its goal in this segment of the trading process: make asset managers record and pay for the research they consume and then monitor how it has informed their trading decisions. Almost all major asset managers have declared that they will absorb payments for research into their own P&L, rather than pass the cost on to their clients, even if some did have to make a U-turn on their initial decision and follow the rest of the market.

By comparison, the silence emanating from the sell side when it comes to investment research has been almost deafening—and for good reason.

All Quiet on the Sell Side

It's perhaps a little unsurprising that there were no banks or brokers willing to speak to me for this month's feature on page 16. What was even less surprising was how many people seemed quite willing to put the boot in when it came to criticizing just how some of these sell-side institutions had been operating when it comes to investment research.

Then there's the tricky subject of how to actually price the research, something that both the sell side and the buy side have never had to contend with in the past. There has been no end of news articles in the financial press about how banks are expected to charge for their research post-January 2018, with numbers that fluctuate wildly, even up to the $1 million mark for annual "all-you-can-eat" access.

> "This issue does smack a little bit of complacency from the sell side that will soon suffer a rude awakening.

At the start of August, the European Commission's financial stability team, Fisma, waded into the discussion by stating that it was concerned over how some institutions were reducing research prices as inducements for asset managers to continue trading with them.

Think about that for a second. Let's say Bank X, one with a good reputation as a research provider, values its research at $10,000. What do Banks Y and Z do? Charge more and run the risk of their clients moving to Bank X? No, they undercut Bank X and win over their clients for themselves.

It's a tricky position and one that is undermined further by the traditional waterfront coverage model that had previously served the sell side well enough but is now being outshone by a wave of independent research providers looking to give the buy side exactly what they want, in terms of both research quality and quantity under Mifid II. So what can these sell-side institutions do? The obvious answer would be to cut back on the sales teams pushing research out to market and instead take a leaf out of their competitor's book. Every conversation I've had on the subject of investment research recently has all had one element in common: quality of research.

Those bulge-bracket banks that have the financial clout to make significant changes to their research practices probably won't be too worried, assured that their brand name alone will act as enough of an inducement for the buy side to trade with them. Smaller institutions won't have that luxury and should be concerned.

While it isn't perhaps a straightforward exercise for a bank or broker to realign their research departments, there does need to be greater emphasis on what portfolio managers actually need and more detailed feedback from the buy side can facilitate that.

Ultimately, this issue does smack a little bit of complacency from the sell side that will soon suffer a rude awakening, if it hasn't already. The new breed of independent research providers won't all be successful, but with the right mix of technology and focus, they will provide sell-side incumbents with a serious headache that isn't going to go away any time soon. W

Should the sell side speak up?
For more information and readers' feedback please join the discussion at **waterstechnology.com/buy-side-technology**

Three Months to Midnight

Time is running out for buy-side firms to get their houses in order, ahead of a wholesale revamp of Europe's trading rulebook, James says.

Will the buy side be ready?
For more information and readers' feedback please join the discussion
waterstechnology.com/sell-side-technology

There's something about deadlines that most people don't understand—it is a date or a time by which something has to happen. Anything else is merely a guideline, and the clue is in the name. That so many buy-side firms can't seem to make the distinction is sobering, to say the least.

The problem becomes more acute with the revised Markets in Financial Instruments Directive (Mifid II). The scale and the frequency with which regulators are warning that time is running out shouldn't just be setting alarm bells ringing—compliance departments should be flashing red like the bridge of the Enterprise when it's under attack, and all hands should be at battle stations.

Yet that's not the case. Even now, some shops are sleepily awaking to the realization that Mifid II is coming, and it's coming soon—January 3, 2018. So, why has everyone left it to the last minute? I believe there are three primary reasons, sprinkled with a dash of human nature, in that most people tend to leave things to the last minute.

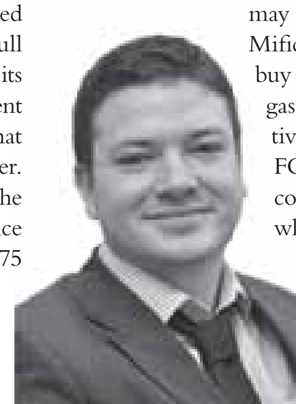
Where the Blame Lies

The first reason for this, and where much—but not all—of the blame lies, is with the European Parliament, Commission and Council, along with the European Securities and Markets Authority (Esma). Mifid II is a far-ranging and sweeping file to work on, touching nearly all asset classes and all aspects of the trading process to some extent, but last-minute wrangling between the Parliament and Commission over key aspects of the technical standards has confounded the industry. It's also given it an excuse not to work on Mifid II or spend money where it can reasonably argue that it hasn't a clue where to target resources.

The second reason is commentary from regulators such as the Financial Conduct Authority (FCA). The UK regulator has been one of the most vocal proponents of the industry being more prepared for Mifid II, but has tempered this in nearly every speech by saying it won't crack down hard on those making a genuine effort. As such, several people I've spoken to have said they are making efforts, but expect forbearance to such a degree that January 3 isn't really a "hard" deadline as such.

> **"The fire of Mifid II is approaching, and yet the buy side seems to be dousing itself in gasoline.**

This is a dangerous assumption to make. While the FCA has indeed been saying that it won't bring the full force of the regulatory weapons at its disposal to those who aren't 100 percent compliant on day one, it hasn't said that there will not be repercussions, either. Furthermore, it hasn't defined the quantum by which it deems compliance levels to be acceptable—50 percent? 75 percent? 90 percent? There may be a few firms that will be in for a rude awakening come next year, and there will be little sympathy, I suspect, for those who cry foul.



The third is the lack of engagement by the buy side on the topic of Mifid II, whether it's the smaller shops that are still subject to its rules in Europe but seem to be existing in some kind of fantasy world where the original Mifid was never revised, or US firms that will be forced to, at the very least, understand the requirements of Mifid II, and possibly even comply with elements themselves that go beyond the mere unbundling of research and execution costs. That many still seem deliberately unaware of basic provisions within the rules is frightening.

The Bulletin of the Atomic Scientists, a scientific journal, operates the famous Doomsday Clock, which gauges how close the world is to nuclear catastrophe. It is currently set at two-and-a-half minutes to midnight, meaning that it's likely the fire is coming. A similar clock, sent to most industry journalists by Tradeweb, sits on my desk, counting down to January 3, 2018.

It's currently at three months to midnight, but in industry terms, that may as well be minutes. The fire of Mifid II is approaching, and yet the buy side seems to be dousing itself in gasoline. As Mark Steward, executive director of enforcement for the FCA said in a speech at an industry conference on September 20, firms who have not done so, "need to take action now." **W**

Emilia David

On the Fence About Fintech Regulations

As the debate around regulation of financial technology continues, Emilia finds that choosing a side to support has becomes even harder.

Regulation has always been a hot topic, but lately it seems to be the only thing anyone talks about. *Waters* has been covering developments around this topic since it was founded more than 20 years ago—after all, this publication focuses on all technologies that capital markets firms use to support their operations. And so, by way of conversations with people in the industry, I thought I might be able to form an opinion on the matter. But I really can't pick a side.

Emerging technologies like artificial intelligence and blockchain represent a whole new realm for many regulatory agencies. As these innovations change the way the financial industry functions, agencies like the Securities and Exchange Commission (SEC) must figure out how to fold these technologies into current policies—many of which were designed and implemented decades before the current wave of innovation. It's been interesting to hear ideas about how to ensure that certain risks associated with developing, adopting and implementing new technologies are adequately mitigated.

Collaboration

Recently, I had the chance to listen to Beth Knickerbocker, chief innovation officer of the Office of the Comptroller of the Currency (OCC), speak about this very topic at an industry conference. She said the OCC is actively trying to work with fintech firms to understand emerging technologies and how these could be applied to the industry. "Regulation is not going anywhere and we have to act in a safe and sound manner," Knickerbocker said, pointing out that the financial industry has a direct impact on the world's economy.

Last year, the OCC announced that it would consider chartering financial technology companies as special-purpose national banks. The SEC also offered to work with firms while the Commodity Futures Trading Commission (CFTC) launched its own fintech initiative—LabCFTC—which includes an office that can guide new startups through its policies. Indeed, the CFTC's approach to fintech, spearheaded by Chairman J. Christopher Giancarlo, is well-regarded in the wider industry.

But there are recurrent problems. Regulators, particularly the CFTC, prefer it when technologists practice what it calls "responsible innovation," one of those terms crafted by career lawyers, and honestly, I'm not sure what it means. I'm not the only one.

Fintech firms often say they're in favor of regulation, but that enthusiasm only stretches to the point where they're told "no." The favored protest to enhanced oversight, as many people have told me, is that innovation is hard to achieve when there are many rules governing it. Building something from scratch means having the courage to fail many times, and being able to tap into a larger world of ideas without getting bogged down by practicality.

On the one hand, these development concerns are valid. After all, it is hard to bring something back to Earth when it was built to go beyond it. But I also believe that innovation can happen if developers are forced to think inside the box as well, to see how they can work out a problem from within the confines of a regulated entity.

On the other hand, the rules for an entire industry can't just change because someone is convinced their product needs them to, and the financial markets are not a videogame—as per Knickerbocker's point, they have an impact on everyone's lives. Regulations are important to protect people and investors, and to ensure stable markets. Fintech is not without its share of predators, as recent SEC and CFTC enforcement actions around digital currencies have shown.

I don't know if regulatory agencies can realistically design, let alone enforce, any rules they come up with around financial technology. But I am a firm believer in sunlight being the best disinfectant.

Regulation may be uncomfortable, and at times prohibitive, but what I do know for sure is that there is a need to continue having this discussion, so that all the issues are brought to light. It can only make the industry, the regulators and the new technologies that much better. Just don't ask me to pick a side. W

> "The rules for an entire industry can't just change because someone is convinced their product needs them to.

Regulation vs. innovation?
For more information and readers' feedback please join the discussion at **waterstechnology.com/buy-side-technology**

Greece's Deus Ex Machina Play

During his recent trip home to Athens, Aggelos talked to Hellenic Exchanges, the country's national exchange, about the firm's trading platform and the impact of Mifid II. Contrary to what he expected to hear, Greece sees the new regulation not as an additional financial burden, but as an opportunity to attract foreign investors.

Is Mifid II a boost for Greece?
For more information and readers' feedback please join the discussion
waterstechnology.com/sell-side-technology

My meeting with Pantelis Lamprou, director of strategic communication and markets analysis at the Athens Stock Exchange, was scheduled for the first day of my back-to-home summer vacation. It turned out to be hot morning, quite unbearable for someone who had just arrived home from the North.

As a Greek and as a journalist, I was expecting to hear Lamprou confirm once again that the death spiral Greece fell into in 2009 still defines the local financial services industry, poisoning business choices and mentalities.

Instead, I saw eagerness and hope for what Mifid II might be able to bring to the Greek market, plus a number of interesting facts about the Athens Stock Exchange. For example, Athex is a technology provider to a number of exchanges in the Balkans. It turns out that my country's national exchange has developed its own trading technologies and systems over the years, which it sells and/or operates in a number of countries, including Romania and Cyprus. I also learned that as part of its compliance strategy, Athex built new functionality covering transaction and trade reporting, competing with major European vendors and exchanges in an effort to expand its client base. The firm feels quite confident when it comes to modifying systems for regulatory compliance. "We have the technical know-how in terms of how to deal with change quickly," Lamprou told me. "For example, the European Market Infrastructure Regulation (EMIR) required fundamental changes to our systems, and we did all of it ourselves."

Bearing the Cost

The primary question, however, is how is Greece, with all its financial problems, going to bear the cost of compliance, which the majority of market participants in Europe have experienced as a significant burden? "From Mifid I to the Central Securities Depositories Regulation (CSDR) and EMIR, we are always 100 percent aligned and are ready as early as possible. We survived each one of the regulations, and nothing extreme happened. Athex has been around for almost 140 years, and we are still up and running," Lamprou said.

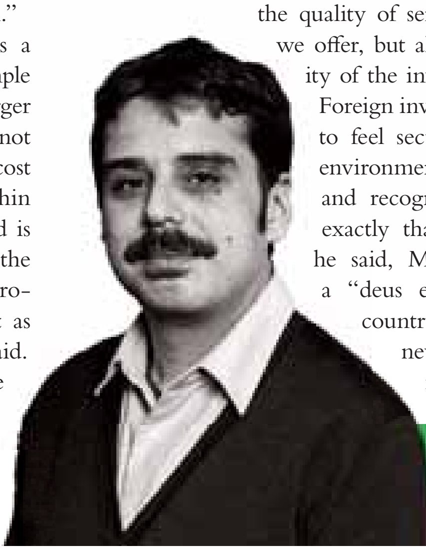
He believes Europe has overreacted when it comes to Mifid II, although that happens every time a new regulation is introduced. "The whole 'buzz' around Mifid II is the same as every other regulatory implementation, such as EMIR or the market abuse directive," he said. "There is always the fear of something new. Every firm wants to resist—it's a typical survival reaction."

Nevertheless, he said Athex is a small exchange and offers a simple marketplace, so many issues that larger markets have with Mifid II might not apply. He also says the regulatory cost has always been calculated within the total costs of the exchange and is deemed insignificant compared to the benefits that this change might introduce. "I don't see regulatory cost as our major burden right now," he said. "On the contrary, if regulations are able to attract foreign investments in the stock exchange up to five times higher than today, then the regulatory cost would mean nothing."

Lamprou says Mifid II, and regulations in general, provide investors what they seek in a marketplace. "If we want to approach investors, we need to be aligned with what they want—and that is a Mifid II environment," he said. "For us, it is a crucial national and business target to be compliant."

> "Mifid II can become a "deus ex machina" in the country's effort to escape its never-ending financial malady.

He explained why the country's national exchange has been investing so much in Mifid II. "Greece has €200 billion in loans to the banks and €120 billion in deposits. We need money for investments in the country, and this money has to be brought in from other countries," he said. "To do that, we need to be attractive in terms of the quality of services and valuations we offer, but also in terms of quality of the investing environment. Foreign investors need to be able to feel secure, to feel that the environment is safe, transparent and recognizable. Mifid offers exactly that." In other words, he said, Mifid II can become a "deus ex machina" in the country's effort to escape its never-ending financial malady. W



Human Capital

AlphaSense Hires Sales Head in New York


Todd Rudley

San Francisco-based financial search technology provider AlphaSense has hired Kiva Kolstein as chief revenue officer, responsible for all revenue-generating activities across the vendor.

Kolstein most recently held the same role at B2B commerce platform Handshake, prior to which he was chief growth officer and a vice president of sales at marketing workflow platform Percolate, and was senior vice president and global head of new business development for corporate markets at expert network Gerson Lehrman Group. Before that, he served as director of national accounts at security systems vendor Kastle Systems, an associate at real estate broker Cushman & Wakefield, vice president of client development at microwave networking component manufacturer Communications & Power Industries (CPI), and general manager of network provider Global Crossing.


Kiva Kolstein

Based in New York, where the vendor currently has 26 staff and is recruiting additional sales executives, Kolstein reports to AlphaSense CEO and co-founder Jack Kokko.

Xceptor Hires Former IHS Markit Exec Rudley

Business process and data management platform vendor Xceptor has hired Todd Rudley as sales director for North America, responsible for managing existing clients and increasing sales with financial institutions in the US and Canada. The vendor opened a New York office in April.

Prior to joining Xceptor, Rudley was director of enterprise data management at IHS Markit, responsible for new business sales to wealth management and capital markets clients. Before that, he was global head of VistaOne Solutions, responsible for the sales, pre-sales, account management and professional services teams globally. VistaOne was acquired by IHS Markit in 2015.

McLoughlin to Lead BGC Financial in the Americas

Sean McLoughlin has been appointed CEO of interdealer broker BGC Financial's Americas business. McLoughlin will take over the role from Louis Scotto, who will stay with BGC Partners to oversee "special projects," according to BGC president Shaun Lynn. Most recently, McLoughlin was the director of new business development for North America at BGC, having joined the broker in 2012. He was responsible for building out the firm's commodity and equity brokerage business lines and the Mint brokerage business in the US. Prior to his time at BGC, he was one of the co-founders and the CEO of Ticonderoga Securities, an agency broker with floor staff at the New York Stock Exchange. Earlier in his career he also served as the CEO for North America for broker Collins Stewart, acquired by Canaccord Genuity Group in 2012.

Index Provider Solactive Appoints Vollmuth as CRO

Frankfurt-based index provider Solactive has hired Christian Vollmuth as its chief risk officer, responsible for legal, compliance and regulatory affairs. Vollmuth will also join Solactive CEO Steffen Scheuble and COO Christian Grabbe on the vendor's management board.

Prior to joining Solactive, Vollmuth spent seven years at the German Derivatives Association (Deutscher Derivate Verband, DDV), serving as managing director and head of the Association's Berlin office. His responsibilities included overseeing all legal aspects and regulatory issues concerning the structured products industry in Germany and Europe.

Kaizen Hires Former DTCC Specialist for New Role

Regulatory reporting assurance company Kaizen Reporting has hired James Mooney as a regulatory consultant based in London. Mooney was previously client service manager at the Depository Trust & Clearing Corp. (DTCC).

Kaizen founder and CEO Dario Crispini says the appointment will support the company's client base of tier-1 and tier-2 banks, fund managers and brokers. According to Kaizen, the new role reflects demand for quality assurance services that address the increasing complexities of regulations such as Mifid II and EMIR II.

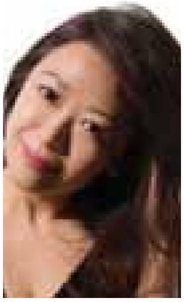
Euroclear Names Eliet as New Regulatory Head

Post-trade services provider Euroclear has hired Guillaume Eliet as its new head of regulatory, compliance and public affairs. Euroclear created this new division to strengthen and provide a holistic policy strategy across the group. Eliet will report to Lieve Mostrey, CEO of the Euroclear group, and Inge Boets, chair of the audit committee.

A lawyer by profession, Eliet was previously engaged at the French Stock Market Authority, the Autorité des Marchés Financiers (AMF), where he was deputy general secretary, in charge of regulation policy and the international affairs division. Prior to that, he was the head of the asset management directorate at the AMF in Paris.

Symphony Promotes Chan, Ucak to Head Asia Business

Secure messaging provider Symphony Communication Services has appointed Queenie Chan and Sarp Ucak as heads of North and South Asia, respectively.



Queenie Chan

Hong Kong-based Chan will be responsible for growing Symphony's presence in major markets in the region, including Hong Kong, China, Japan, Korea and Taiwan, while Singapore-based Ucak is responsible for growing its community in Singapore, India and Australia.

Chan was most recently head of account management for Asia-Pacific at the vendor, which she joined at the start of 2016 after four years at Barclays Capital as director and head of institutional corporate marketing and corporate access for Asia (excluding Japan), prior to which she was an associate in Goldman Sachs' Asia equities business, including institutional sales research product marketing, and corporate access, and was a marketing executive at CLSA.

Ucak joined Symphony as head of sales at the start of this year, prior to which he spent four years at Turkish securities trading firm Yapi Kredi Yatirim, where he was head of institutional sales and trading. Before that, he served as a senior vice president of equity sales and sales trading at Citibank, and as a vice president of equity sales and sales trading at Merrill Lynch. Both report to Derek DiPerna, Symphony's New York-based global head of sales.

ICE Taps Williams and Bowler for Senior Roles

Intercontinental Exchange (ICE) has appointed Stuart Williams and former Goldman Sachs managing director Timothy Bowler as presidents of different divisions following the retirement of senior officials.

Williams will take over as president of ICE Futures Europe following David Peniket's retirement, while Bowler will assume the role of president of ICE Benchmark Administration (IBA). Bowler will succeed Finbarr Hutcheson who takes over from Paul Swann, who is also retiring. Both started their new roles at the start of October.

ICE chairman and CEO Jeffrey Sprecher said the appointments of Williams and Bowler allow the exchange to build on their vast experience in the market. Williams was previously COO and director of corporate development at ICE. Prior to his tenure at the exchange, he worked at the London

Broadridge Names Santangelo President of International Sales

Bob Santangelo

New York-based financial technology vendor Broadridge Financial Solutions has appointed Bob Santangelo to head up its international sales as president of that division.

Santangelo joined Wilco International, a subsidiary of ADP, which would later become Broadridge, in 1992, where he held a number of positions within the global sales and marketing department.

Lately, he has been responsible for Broadridge's global bank and broker-dealer distribution channel as a senior vice president of sales based in New York, including oversight of global sales management, business development, and strategic client initiatives.


Michele Shepard

International Financial Futures and Options Exchange (Liffe) where he helped transition Liffe's integration to ICE.

Bowler was with Goldman Sachs prior to joining ICE and was a managing director in the bank's financial institutions group. He also had roles at the US Treasury, including serving as a counselor to then Secretary Jacob Lew.

Fenergo Shepherds in Revenue Chief, Announces 100 New Roles

Dublin-based client lifecycle management software solutions provider Fenergo, has hired Michele Shepard as chief revenue officer and Greg Watson as managing director of sales and strategy, along with the creation of 100 new roles.

Shepard steps into the newly created CRO role after two decades managing complex global organizations through stages of rapid growth and profitability. She will oversee all facets of revenue generation and strategy at Fenergo.

Shepard was previously CRO at Vertafore, a technology provider for the US insurance industry, where she was critical to value creation, culminating in the company's successful sale to Vista Equity Partners and Bain Capital for $2.7 billion. Prior to Vertafore, she held various management and executive-level positions during a 12-year tenure at Gartner, leading the company's global financial services sales organization.

Watson will provide strategic direction to Fenergo's global sales business. He previously spent seven years at HSBC in a variety of roles, most recently as managing director and global head of the client management group for the global banking and markets division.

The company's creation of 100 positions follows its announcement in April of 200 new roles. This brings the total number of Fenergo employees to 600, which Murphy says will help the company satisfy "demand and growth in the global market across multiple segments of the banking sector, including corporate, institutional, commercial and private banking."

Gill Moves from London Stock Exchange's MillenniumIT to Torstone

John Mackay "Mack" Gill, CEO of MillenniumIT, has joined post-trade vendor Torstone Technology in a senior role after departing the exchange-owned vendor earlier this year. Gill left MillenniumIT, the technology arm of the London Stock Exchange Group (LSEG), in April 2017. A spokesperson for the LSEG and Gill himself confirmed the departure.

Gill's departure comes after the LSEG appointed Chris Corrado, an ex-MSCI and UBS executive, as its CIO and COO in 2015. Corrado replaced longtime technology head Antoine Shagoury.

Under Corrado's direction, the LSEG is undertaking a broad reorganization of its technology operations. Gill, who was formerly based in Sri Lanka at MillenniumIT's headquarters, has moved to London in order to assume the COO role at Torstone Technology, and will also join the firm's board.

Prior to his time at the LSEG, Gill was the president of SunGard Technology Services, now FIS, where he spent just under 20 years. He also serves as a board member of the International Association for Quantitative Finance.

Gill's move is not the first link between the LSEG and Torstone. In January, the LSEG announced that Torstone would connect its Inferno platform to its Approved Reporting Mechanism, UnaVista, in order to allow users to comply with new transaction reporting requirements under the Markets in Financial Instruments Regulation (Mifir). W


Mack Gill