waters 25
trading technologies for financial-market professionals

The Women's Issue

Where Do Women Stand in Tech?

PROP SHOPS EYE CRYPTOCURRENCIES

Collaboration and the Utility Business Model

THE GLUE THAT BONDS UBS

COO Bea Martin outlines tech's crucial role at UBS

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Better Late Than Never

Waters and WatersTechnology came to the gender-equality party late. Of that there is little doubt. One just has to scour the financial services industry for women-centric awards programs and you'll find more than you can shake a stick at. But the important thing is that we're finally here and we're doing something just a little bit different: Whereas other programs tend to concentrate on the capital markets generally, the Women in Technology and Data Awards focus on the outstanding contributions women have made in the technology and data realms over the years. It's taken us 25 years to get here—yes, *Waters* celebrates its 25th year in existence in September this year—but judging by the interest in these awards and the outstanding list of this year's winners (*see page 25*), it's clear that they were long overdue. As they say, better late than never.

While I'd like to think that our industry is progressive, open-minded and fair, the truth is that from a gender-equality perspective, it isn't. Not yet anyway. Yes, it has come a long way in a relatively short space of time, and there are large numbers of women in executive positions across our industry—this month's cover story on Bea Martin, COO of UBS Investment Bank in London, is a case in point—but there is still quite some way to go, as illustrated by the women in technology feature on page 8.

In years to come, people looking back at how our industry used to operate might well ask the question: How did it continue as it did for so long? The thought that in this day and age salaries, bonuses, promotions and recognition might be determined by one's gender is unthinkable, and yet it continues.

To be clear, the launch of the "women's awards" had nothing to do with the Harvey Weinstein revelations at the back end of last year, and the Time's Up movement in early January this year, closely followed by the Carrie Gracie incident where the BBC's China editor resigned due to an equal pay dispute with the Corporation. On the contrary, we had been mulling the launch for quite some time and the three issues cited above were more coincidences than catalysts.

I'm happy to say that one way or another we took that leap and we're now the proud owners of an awards program that aims to right some of the injustices of the past by recognizing our industry's outstanding women and the contributions they have made and are continuing to make to their respective organizations. After this year's unqualified success, I have little doubt that they will become an annual highlight, and I'm equally certain that this year's winners will be as proud as I am that their involvement in the inaugural awards will be reflected on their CVs. **W**

Victor Anderson
Editor-in-Chief

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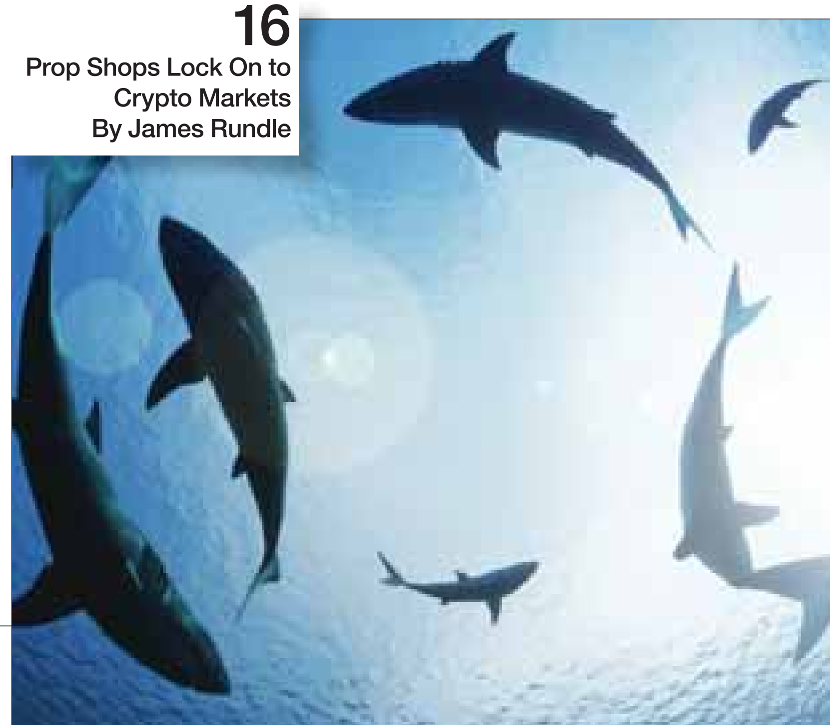

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CFTC Commissioners Lash Out at EC Clearing Proposals

The push to expand oversight of US CCPs is a 'clear breach' of 2016 equivalence deal, CFTC commissioner Brian Quintenz says. By James Rundle

US regulators have reacted angrily to an effort by European officials to rework a 2016 equivalence agreement on the regulation of central counterparties (CCPs).

The European Commission (EC) issued a proposal last June that would extend the authority of the European Central Bank and European Securities and Markets Authority (Esma) over any CCP that is deemed to be systemically important to the EU due to the amount of euro-denominated business it clears.

The move is part of the EC's broader policy response to Brexit and was initially assumed to be targeted purely at London-based LCH, which clears the vast majority of euro-denominated interest rate derivatives. However, the Commodity Futures Trading Commission (CFTC) has since been informed that the EC proposal would also affect US clearinghouses that are covered by the 2016 equivalence agreement.

CFTC commissioner Brian Quintenz delivered a blistering attack on the EU's position—which he called "a clear breach of our [equivalence] agreement"—at the Futures Industry Association's annual conference in Boca Raton on March 14.

"The EC's proposal is unacceptable to the CFTC. It is unacceptable to the United States Treasury Department. It is unacceptable to senior United States senators. And it is unacceptable to the White House, itself," Quintenz said. "The entire United States government is steadfast in its opposition to the EC's proposal."

Those sentiments were echoed by CFTC chairman Christopher

Brian Quintenz
CFTC

Giancarlo in his keynote address at the same conference on March 14. Given the uncertainty of the future relationship between the UK and the EU, "embracing deference and cooperation between Europe and the United States is the only sensible path forward," Giancarlo said.

Rostin Behnam, a Democratic commissioner at the CFTC, joined his Republican colleagues in condemning the EC proposal. "I have heard repeatedly that a sovereign nation has the right to amend its rules and the right to renegotiate agreements," he said in a speech at the FIA conference on March 13. "I agree, however, our CCPs will not be collateral damage in the ongoing Brexit battle between the UK and the EU."

Within the CFTC, concerns about the EC's proposals have been brewing for some time. Giancarlo is said to have raised the issue during his visit to the European Parliament in early 2018, where he received a positive reception. However, when CFTC officials asked their EC counterparts about the intent of the proposal and whether the 2016 equivalence agreement would stand, they were told bluntly that it would not, according to people familiar with those meetings.

Spokespeople for the EC, however, denied that the agreement would be cancelled.

THE BOTTOM LINE

- US regulators are furious over what they see as "unacceptable" demands by the EU to more directly oversee clearinghouses located in New York, Chicago and elsewhere, but the EU says the US is overreacting.

"The Commission continues to attach great importance to regulatory cooperation with the United States. Our legislative proposals are not targeted at individual third countries but are designed to protect financial stability while maintaining international convergence," says Vanessa Mock, a spokesperson for the EC. "In this case, the rules have in many respects been based on the US model for supervising third-country CCPs, so they should hopefully lead to rather more than less convergence and deference. We hope to continue building on our good cooperation with the US in future."

The standoff has also sharpened fears that the EU is prepared to renege on other agreements in response to political developments, according to sources familiar with the CFTC's thinking.

Any abrogation of the equivalence deal, which took years and several rotations of senior regulators on both sides to negotiate, could destabilize the cleared swaps market. Without equivalence agreements, CCPs in either jurisdiction could be subject to dramatically different requirements, which regulators have warned could result in the Balkanization of the global derivatives market.

"I have not wavered from my belief that cross-border deference provides an avenue for growth, resilience, and efficiency in our financial markets. I wonder if our EU counterparts could say the same," Quintenz concluded. "Today the EC can state clearly its proposed legislation is not an abrogation of the 2016 equivalence agreement and we can move forward from this unfortunate episode." W

ASX Considers Blockchain for Fixed-Income Platform

The exchange sees it as a logical development opportunity to make business easier for its customers.

By Wei-Shen Wong

The Australian Securities Exchange (ASX) is considering replacing Austraclear, its fixed-income clearing and settlement platform, with a blockchain-enabled platform, similar to what it is currently doing with its equity platform.

ASX is working with Digital Asset Holdings (DAH) to develop the platform that will replace the Clearing House Equity Subregister System (Chess), based on distributed-ledger technology (DLT). Speaking at the Depository Trust and Clearing Corp.'s (DTCC's) Fintech Symposium in New York on March 22, Blythe Masters, CEO at DAH, said ASX has talked about its aspiration to similarly replace Austraclear with the platform.

"We'll see what the timeline is for that and whether the decision is finally taken—it's certainly an aspiration they have, and it's certainly logical," she said. "When you think about Austraclear, which is the fixed-income equivalent of Chess, to have both of those on compatible technologies is obviously something good for them for efficiency, but also for customers, most of whom are customers of both the cash equities and the fixed-income structure."

Austraclear processes approximately A$2 trillion ($1.5 trillion) of fixed income assets in Australia and state government bonds while the Chess system holds A$2 trillion ($1.5 trillion) of equities. Revenue for the fixed-income platform in the first half of the financial year that ended on December 31, 2017, was 2.9 percent higher at A$25.6 million ($19.78 million) than the same period a year ago.

Photo courtesy DTCC

Blythe Masters
Digital Asset Holdings

Total transactions in the period stood at 758,000 versus 738,000 in the previous year. Average daily settlement volume on the Austraclear platform also grew to 5,919, up 3.4 percent from 5,724 in the first half of 2017.

A spokesperson for ASX says the exchange has yet not made any definitive statement on a decision to move forward with replacing Austraclear with a DLT platform, but says it has discussed this as a possibility in recent months. However, the spokesperson said, ASX remains clear that its focus now is on replacing Chess.

It is currently on track to provide more details on functional scope for day one and the proposed timeframes for delivery by next month. It will then start a period of discussion with customers, taking their feedback on transition arrangements, before finalizing its plans by its financial year end, June 30, 2018, the spokesperson adds.

Deployment Timeline

Although ASX's announcement in December 2017 to go ahead and replace the Chess platform gave the project a green light after a series of successful trials and prototypes, DAH's Masters said this does not mean production has yet started. She said at the New York event that the earliest she would expect the replacement of the Chess platform to be in production is by 2020.

"There is a stakeholder engagement process, change management, integration design, and there will be a user acceptance testing process as is commonplace with such significant infrastructure replacements. Probably as much as another two years of work. They haven't published a formal timeline yet, but it will likely be a 2020 event rather than a 2019 event, by my guess," she said.

However, she added that there will be interim deployments of functionalities before Chess is fully replaced, likely in the form of tactical implementations for specific mechanisms that will pave the way for the larger project. Looking ahead, she noted that the exchange is looking to use the re-architecting of its technology base to a DLT foundation in order to enter a new strategic phase.

"The project is growing in ambition. ASX has spoken about its desire not just to replace the existing functionality they've provided for many years, but to enhance existing and new services that are revenue-generating for them, cross-cutting and potentially revenue-generating for their customers. As such, they see this as an opportunity to become something of a platform provider that is technology enabled, rather than a vertically siloed transaction processor, which is perhaps the way that market infrastructures have been traditionally characterized," Masters said. W

THE BOTTOM LINE

- ASX believes that uniting its equities and fixed-income markets on a common blockchain platform will power the next phase of its development.

Banks and Buy Side Ally for Desktop App Interoperability

Led by OpenFin, FDC3—which includes the likes of RBC, JPMorgan, AllianceBernstein, Citadel and Barclays—aims to create a common language for desktop app interoperability. By Anthony Malakian

A new initiative being formed by some of the largest banks, asset managers and vendors in the capital markets is aiming to bring universal connectivity and standards to all of the financial industry's desktop applications.

Mazy Dar
OpenFin

The Financial Desktop Connectivity and Collaboration Consortium (FDC3) is led by operating system (OS) provider OpenFin and includes over 20 capital markets firms, including major banks and brokers like Barclays, JPMorgan, Morgan Stanley, RBC and TP Icap; asset managers such as AllianceBernstein and Citadel; and vendors including Algomi, ChartIQ, Cloud9, FactSet, Fidessa, GreenKey and OTAS Technologies.

Mazy Dar, CEO of OpenFin, tells *Waters* that the group wants to create the equivalent of the FIX protocol for desktops, which would enable desktop applications to communicate with one another via a common protocol the same way that FIX created a common protocol for server-side communication between systems.

"Just like with a telephone wire, what language are you speaking over that wire? You need a common language for the apps to be able to communicate with one another on the desktop, and we've never had that before," Dar says.

Traders, sales associates and portfolio managers have anywhere from five to 15 apps on their desktop that, for the most part, do not seamlessly communicate with each other. This can create breaks in workflow, errors, lost time and can prevent firms from trying out new tools or integrating new datasets.

Kim Prado, global head of client insight, banking and digital channels technology at RBC Capital Markets, tells *Waters* that the aim of FDC3 is to enhance productivity through desktop interoperability.

"The landscape is constantly changing and the application stack is continually changing," she says. "The sheer number of vendors coming into play means we can't possibly bring in, test and integrate all of their applications into our platform, and certainly not within the desired timeframe. OpenFin has changed this. Its interoperability feature creates an environment where more fintech companies coming on board creates a faster time to market and delivery to our users."

Areas of Development

FDC3 was established in October 2017 and members have been meeting about once every two weeks to get the project off the ground. Thus far the group has focused on three areas of development.

The first is the creation of a common language for sharing context and data between applications. So, if an equities trader is on their trading application and clicks on a ticker, that will invoke a market data or charting app to launch for that specific equity ticker. Before that can happen, it is necessary to describe that equity ticker.

Second, FDC3 is building a protocol for one app to tell another app to start an activity. When a trading app tells a charting app to show the trading app a chart for a particular ticker, that "show-chart" instruction is referred to as an "intent." So the group has to codify the standardized intent that represents the various types of activities that would be shared in a workflow between applications.

And finally, FDC3 is defining a standard for app directories. "If you're on a messaging application, you want to trust the identity of the person on the other side and know who you're talking to," Dar says. OpenFin has implemented the standard and is hosting an app directory that anybody can use free of charge, but they are also allowing any vendor to have their own app directory if they want to have their own app store, and any bank or buy-side firm can implement their own app directory and host those for internal applications, Dar says.

Prado's hope for this initiative is that a seamless app store environment is created so that the bank's employees can pick and choose the apps they want to use.

"My hope is that it sticks. If more fintech companies work with OpenFin we can eventually reach an optimum point where OpenFin has an app store and companies like ours say, 'What chat applications are wrapped in OpenFin? OK, these five—let's try that one,' and download it," she says. "If you think about your iPhone, you work off of apps. That's the environment we're moving toward, where we can provide our sales force with an app store to pick and choose from. More vendors getting on board will create huge benefits." W

UK Strengthens Fintech Strategy with Australia Pact, Crypto Taskforce

The UK's fintech industry receives a major boost as it forms an alliance with Australia and launches a new crypto asset task force. By Josephine Gallagher

The UK government has announced a "Fintech Bridge" agreement with Australia and unveiled the formation of a crypto asset taskforce, as part of a wider drive to bolster the country's fintech sector ahead of its departure from the European Union.

Chancellor of the Exchequer Philip Hammond, and Australian Treasurer Scott Morrison signed the UK–Australia Fintech Bridge agreement, which sets out to establish deeper collaboration between the two fintech hubs. The deal marks a joint effort to explore growth opportunities, enhance regulation, share industry knowledge and reinforce their position as two major global centers of fintech.


Photo courtesy UK Government

Philip Hammond
Chancellor of the Exchequer

As part of this collective effort, the Financial Conduct Authority (FCA) and the Australian Securities and Investments Commission (ASIC) also announced an Enhanced Cooperation Agreement that aims to look at ways of speeding up the licensing process for businesses, improving cooperation on financial innovation, facilitating communication across jurisdictions and examining the possibility of establishing a global sandbox. The partnership also looks at creating a set of industry-wide standards to enable fintech firms to more easily interact with banks.

"Today's UK–Australia Fintech Bridge agreement is our most ambitious to date. It will bring together our regulators, policymakers, and private sectors to build an improved fintech ecosystem to support the growth of our fintech markets. This is underpinned by the most advanced regulatory partnership that the FCA has signed, connecting the UK to a market of 24 million people and ensuring stronger commercial ties with Australia's rapidly growing fintech sector," said Hammond, in a statement announcing the agreement.

Together with the Fintech Bridge announcement, Hammond also unveiled the formation of a cryptocurrency asset taskforce committed to managing the associated risks and harnessing the potential benefits of distributed-ledger technology protocols and digital tokens. This launch acts as one of the UK Government's first initiatives in response to the increasing concerns over digital currencies and persistent calls for regulation. The taskforce brings together most of the UK's major public institutions, including HM Treasury, the Bank of England and the FCA.

"We feel that this measure will not only add additional credibility to the crypto market, but will also allow mainstream institutions, new innovative fintech companies, and potential investors to work together to reap the opportunities that crypto assets and blockchain can bring," says Nauman Annee, CEO of ThinkCoin.

As the spotlight focuses on blockchain technology and crypto assets, many believe that UK's move comes as no surprise, given the value of the industry. Fraser Bell, the COO of low-latency specialist BSO, thinks that this new task force is a crucial step in the right direction for the fintech hub.

"The sheer scale of crypto activity makes the need for a task force like this even more significant. It is not just the electronic market-makers getting in on the act, certain banks and asset managers are also tapping into the crypto craze," says Bell. "The more participants enter the crypto space, the greater the competition, which puts a greater emphasis on ensuring the market risks are fully assessed. But with the estimated value of all cryptocurrencies now above $170 billion and rising, there is no question that this task force needs to promote the liquidity benefits of this maturing market."

The UK is the world's largest fintech market after the US by venture capital investment, according to figures from Innovate Finance, having leapfrogged China after a dramatic reduction in spending there. It was an early adopter of the sector, and the FCA is commonly regarded as the most proactive and forward-thinking regulator in this space on a global scale.

However, Brexit has the potential to seriously damage the industry, thanks to the loss of access to the single market and the loss of freedom of movement—many fintech firms base their headquarters in London while outsourcing their development to eastern European nations, for instance.

As such, the UK has been particularly active in forging international partnerships with foreign regulators of late. In February, the UK signed an agreement with the US Commodity Futures Trading Commission (CFTC), promising transatlantic cooperation and information sharing.

Meanwhile, the European Union has begun an attempt to position itself as the global center for fintech innovation. As part of the Capital Markets Union program, the bloc outlined plans at the beginning of March to promote the use of distributed-ledger technologies, along with "labs" for regulators to get up to speed on developments in emerging technologies. W

THE FIGHT for the Future

This issue of *Waters* is dedicated to honoring the many women in the capital markets who are making an impact in the fields of technology and data. If the industry is to improve workforce and pay equality, it's vital to examine how these women earned their place at the table. We look at the current state of women in tech and get feedback from some of this year's winners as to lessons learned along the way. By Anthony Malakian, Josephine Gallagher, James Rundle and Wei-Shen Wong

When Sallianne Taylor and Debra Walton—the winners of the woman of the year (*see page 66*) and trailblazer (*see page 64*) awards, respectively, in this year's Women in Technology and Data Awards—started their careers three decades ago, the capital markets were dominated by men. While improvements have been made in some areas, when it comes to technology jobs, progress has been painfully slow.

According to the 2018 Women in Tech Index, which looked at gender disparity in 41 countries and is produced by developer-focused job platform Honeypot, women account for 46.7 percent of the overall workforce. That number plummets to 16.2 percent for technology jobs. In the US it is only slightly improved, with women accounting for only 24.6 percent of tech jobs, while in the UK it's also 16.2 percent.

And it must be acknowledged that for all of these figures from above, it only gets worse for women of color. Yes, these numbers are bleak but they're important to understand. If there are fewer women in tech both working as professionals and studying in science, technology, engineering and mathematics (STEM) fields, it's going to be increasingly difficult to find examples of success, which will exacerbate the problem.

Any discussion around the treatment of women in the workplace

> "Look for something that you fear is too hard, rather than something at which you will likely do well but that won't challenge you. The most valuable lessons that I have learned, and in reality am still working through, is the importance of being comfortable with failure and uncertainty." **Mariya Kurchuk, Pragma Securities**

also cannot ignore the elephant in the room, in terms of workplace harassment. As former Goldman Sachs analyst Bethany McLean expertly laid out in an article published in the March 2018 issue of *Vanity Fair*—"We All Wear All Black Every Day"—Wall Street has yet to have its #MeToo moment when it comes to harassment in the workplace.

This issue of *Waters* aims to both honor the standouts in the fields of technology and data, but to also provide some insights and lessons learned from their careers, and to assess some of the challenges still facing women in the field at present. Here's what our winners had to say.

Embrace the Grind

Technology can be a humbling field. There's so much trial and error involved in all aspects of capital-markets technology—there are outages and breakdowns and hacks; there are long nights and the need to work seven days a week; and there's a sea of requests for improved functionality, but to do it at cost and with fewer resources.

But the figures covering the representation of women in the field, which were hardly stellar to begin with, are worrisome. According to the National Center for Women & Information Technology (NCWIT), the number of women holding jobs in computing occupations is dwindling. In 1991, 36 percent of computing occupations were held by women—an all-time high. That percentage has fallen fairly consistently and sits at about 25 percent today. Furthermore, the percentage of women receiving undergraduate degrees in computer and information sciences majors has steadily fallen since 2000, as have recipients of mathematics and science degrees, while engineering majors have remained flat in that time.

Mariya Kurchuk (*see page 60*) is seven years into her career at Pragma Securities. She holds a PhD in electrical engineering from Columbia University in New York. While she could have played it safe and became an academic in the field or applied her expertise in electrical engineering at an IBM or Lockheed Martin, she was looking for a new challenge out of university and ended up in the capital markets.

Her advice to young women who are still in school is to always actively look for something challenging and out of their comfort zone.

Sallianne Taylor
Bloomberg

"Look for something that you fear is too hard, rather than something at which you will likely do well but that won't challenge you," she says. But if you do that, understand that there will be mistakes learned—in which case, it's key to learn to live, learn and move on.

"The most valuable lessons that I have learned, and in reality am still working through, is the importance of being comfortable with failure and uncertainty," Kurchuk says. "I have learned that I should not wait to get a high level of certainty that something will work to avoid failure, thereby falling into the pitfalls of indecision, but to get just enough information and confidence to deem it worthwhile to try a solution, accept that it might fail a couple of times, learn and adjust. Though it is something I am still learning, I am attuned to it."

Hella Hoffmann (*see page 48*), data scientist at Thomson Reuters, echoes that sentiment. "Importantly, I learned that uncertainty can be an enabler for change and that experimenting, validating and pivoting can be a much more rewarding process than trying to imagine all possible outcomes," she says.

Embrace Aggression

Beyond understanding that mistakes will be made, and that can't be a source of discouragement, one common refrain heard from many of the winners is that women need to be assertive if they want to rise to senior positions.

Jennifer Peve (*see page 54*), who is the co-head of the Depository Trust and Clearing Corp.'s office of fintech strategy, says that it's important to let people see your confidence and don't be afraid to show your knowledge of the industry, product or service that you're working with. Your opinion matters. Accept that, and then make sure that you're asking for what you feel you need.

"Ask for what you want—whether that's a raise, additional resources, training, education around a different product or service," Peve says. "You may not get everything, but if you don't ask, then you don't have a chance. That's been a really important lesson."

It's not just a case of a squeaky wheel getting the oil, either—there is a serious issue with gender disparity in terms of representation, and pay, at the top levels. Digging into the executive branch, according to a study conducted by the research firm Payscale, women in the tech industry only represent 21 percent of executives, compared to 36 percent in other industries. Women executives make 22 percent less than their male counterparts, while a step below that, female directors make 18 percent less than their male colleagues.

Expanding on what Peve says about valuing your opinion, Cristina Mures (*see page 30*), senior consultant at CJC, says that even though this is a male-dominated industry, it's important to know your own strengths and contributions.

"Whilst it's true that this is a male-dominated industry, I have never looked at it as a battle drawn along gender-based lines. I have always believed that no matter what industry you work in, success is gender-neutral," she says. "I believe it is equally important to be accountable for your mistakes as it is your successes."

Additionally, in a male-dominated industry, it's important that women don't segregate themselves from other women, says Dawn Patrick (*see page 50*), COO of Numerix.

"Men have always had their clubs. You know they go and they play golf. You know they have these things, these activities they do together and they have never been a really good vehicle for women," she says. "So it is really important that in every organization that the women in that organization mentor and help to show ways that new workers can develop."

Hella Hoffmann
Thomson Reuters

Embrace the Innovation

While technology can be complex, there are many avenues that can be traversed in the capital markets, being that the field is so vast.

Boryana Racheva-Iotova (*see page 29*) holds an MSc in probability and statistics from Sofia University and a doctor of science degree—a qualification of even higher academic standing than a PhD—in statistics from Ludwig-Maximilian University of Munich. She's currently the director of risk research for FactSet.

> “Whilst it’s true that this is a male-dominated industry, I have never looked at it as a battle drawn along gender-based lines. I have always believed that no matter what industry you work in, success is gender-neutral. I believe it is equally important to be accountable for your mistakes as it is your successes.” **Cristina Mures, CJC**

Like Pragma’s Kurchuk, she could have taken her vast education in a number of directions, but liked the possibilities that finance presented.

“Getting into finance was a practical decision for me—because of my education in probability and statistics I knew that I could do applied science and, in particular, quant finance well,” she says. “My inspiration, however, was not directly related to finance—it always was and continues to be to take something from the world of ideas and make it real, visible.”

And to get younger generations to take up STEM fields, it’s vital to show just how interesting these tech projects can be. The use of the word “vital” is not just hyperbole, either. As more and more jobs require technical backgrounds, the result is that the best jobs of the future will require STEM skills. According to McKinsey Global Institute, 32 percent of the workforce in the US will need to find new jobs due to automation.

Furthermore, a study produced by analytics firm Burning Glass, in conjunction with Oracle Academy, looked at 26 million online job postings from 2015 in the US and found that “half of jobs in the top income quartile ($57,000 or more per year) are in occupations which commonly require coding skills from job applicants.” Sadly, though, the educational organization Girls Who Code notes that in 1995, 37 percent of computer scientists were women. Today, that number is only 24 percent. And fewer than 20 percent of computer science graduates are women.

Boryana Racheva-Iotova
FactSet

That’s why initiatives such as the RBC Teaching Kids to Code program are so important. Kim Prado (*see page 52*), global head of client insight, banking and digital channels technology at RBC Capital Markets, says it’s strategically important for the bank to develop a pipeline to find new talent and to get kids interested in technology.

“One of the biggest appeals of working in technology is the variety and pace of evolution inherent in the sector,” says Prado, whose career features several major projects that she was a part of, especially in the field of data analytics. “I am also committed to ensuring that, as a sector, technology is doing as much as possible to develop a pipeline of new talent. We’ve been running the RBC Teaching Kids to Code initiative for the past several years, while we also spend a lot of time working with various external bodies that go to schools and other professional settings to increase the appeal of technology as a career for women.”

The obstacles facing women in technology are real and pervasive. It’s easy to get discouraged. There will be times when a woman has to do twice as much as a man to succeed, forcing them to adapt, improvise and overcome—and that’s where mentoring becomes most valuable. A study by nonprofit Isaca, which was previously known as the Information Systems Audit and Control Association, asked over 500 women working in technology what the main barriers for advancement were—the two leading responses were lack of mentors (48 percent) and lack of female role models in the field (42 percent).

And sometimes, the key is to forge a path regardless of obstacles, if you can. Emma Margetts (*see page 37*) was a co-founder of Alpha Exchange, acquired by Visible Alpha in 2017, where she’s now the senior project manager. She says she’s been successful because she never focused on the fact that she’s a woman in a male-dominated world; rather, she concentrated on making herself invaluable and an expert in her field.

“My advice for women is to spend your life doing something that you are interested in and that you love regardless of how many men might dominate in the field. One of the ways I think about doing this is holding myself to the standard of excellence and putting in the hours to make a difference in moving my business and my career forward,” Margetts says. “I think women can fall into a trap of waiting their turn or holding back in meetings in the workplace or not speaking up at the table; I think that’s really prevalent and I think that one of the best things that we can do as women is just to speak up and get used to your own voice, and others [get] used to your voice.” **W**

UTILITY BELTS

Despite growth in numbers and participation, utilities continue to face the daunting challenge of slow adoption, constantly changing regulations, and third-party risks. But as the industry becomes more open to collaboration and new technologies, where does this put the business model? By Emilia David

Cooperation is not exactly a strong suit of financial services firms. In an industry that works hard to protect valuable information, collaboration very rarely happens—or at least, is very rarely successful. But in the past few years, more partnerships between firms have sprung up—particularly around common services like utilities—as the industry grapples with new regulations and increasing costs.

From the Depository Trust and Clearing Corp. (DTCC) and Euroclear's Margin Transit Utility, and Omgeo to FIS Derivatives Utility, the SmartStream Reference Data Utility and the various know-your-customer (KYC) services like Swift's KYC project and IHS Markit and Genpact's joint venture, KYC.com, utilities—in various forms—are becoming more of a force in the industry.

Two more are in the process of shifting to a utility model, as well: the Plato Partnership, which puts together analysis and market data, and Project Neptune, now called Neptune Networks, which provides bond market data from the sell side to the buy side.

Utilities have seen growth in recent years, but for every success story, there is a litany of failed projects, or stalled ones, cluttering the landscape and serving as cautionary tales to would-be mutualization enthusiasts.

> "I think growth in the number of utilities is really related to the amount of regulation in the past 10 years, post-crisis. There's so much information that is required that the industry is looking for a structure that benefits them as a whole." **David Ostojitsch, Association for Financial Markets in Europe**

Industry to Third Party

What defines a utility is a question that can have many different answers. Generally, utility projects in the gospel sense are not-for-profit entities offering a service to the financial industry as a whole. Vendors that provide a common service while seeking profit may also claim the title of utility as a way of marketing themselves. They are not typically utility projects, but may fall under the looser utility banner.

Confused yet? The Association for Financial Markets in Europe (AFME) defined utilities in its March 2018 report, *Industry Utilities: A Perspective for Capital Markets*, as made up of three core characters: they create and provision a network, apply a standardized approach, and demonstrate the economies of scale of a commoditized service.

In the past, these have traditionally been managed through multi-bank, or industry-led initiatives. These were not always successful, owing to the previous points about financial institutions often being inherently secretive. As such, Mik Bjorkenstam, global technology post-trade and operational transformation program director at Barclays, sees utility models moving to vendor-owned constructs.

"We are seeing a trend of third-party vendors filling the needs not met by industry-owned utilities. The goal is to leverage vendors for core services that do not provide a competitive advantage," he says. "The challenge is to ensure that the 'cost to achieve' is appropriately considered in the business case."

But not all utilities see great success or acceptance in the industry. Over the years, several attempts to build utilities failed mainly because there was not enough support around the project.

Failed Projects

Project Colin, a utility billed as a margin hub and led by a consortium of banks that included Goldman Sachs, ended in 2015 with parts of it being folded into a joint venture between TriOptima and vendor AcadiaSoft. The whole project was intended to ease the burden of margining rules for non-cleared derivatives. Participating banks were supposed to plug into a central hub, but consortium members realized some vendors already had similar plans, and some members were already even investors in those projects. The plug was pulled shortly thereafter.

Soltra, another project that abandoned plans of becoming a utility, wanted to create a platform to share cyber threats. It was a partnership between the Financial Services Information Sharing and Analysis Center (FS-ISAC) and the DTCC in 2014. By 2016, the platform had been sold to cybersecurity firm NC4.

It's not surprising that some ventures fail, seeing as utilities face many hurdles. Financial institutions may not be fully committed to join the utility either as an investor or as a user. Complex business models, lack of existing standards and the burden of legacy platforms can play a part in the hardship utilities see. External factors can also have an impact on utilities, particularly a high volume of regulatory change, market fragmentation or third-party risk.

However, regulatory change and the need to trim costs have combined to make utilities a popular concept among banks again. Financial companies have had to grapple with rising costs and tighter returns, so building in-house solutions of their own, for relatively common proceses, becomes expensive. With a greater need for information, data and even services, structures that mutualize non-commercial—or at least, non-commercially differentiating—activities in favor of concentrating on those that have a larger benefit become more attractive.

David Ostojitsch, director, technology and operations at AFME, says that much of the drive to move to a utility model comes from increased regulatory pressure in the past decade.

"I think growth in the number of utilities is really related to the amount of regulation in the past 10 years, post-crisis," Ostojitsch says. "There's so much information that is required that the industry is looking for a structure that benefits them as a whole."

He points to the example of KYC as a required activity that could benefit from an industry service like a utility.

"KYC is a really good example because it's the one that's talked about the most," Ostojitsch continues. "It's generally understood that a KYC utility for a jurisdiction or multiple jurisdictions has wide benefits. A lot of different banks have done their due diligence on KYC and realized that the ideal should be something that is beneficial to many different industry participants. I think that's why people keep trying to build utilities, like KYC utilities, because ultimately what a utility provides is so great for the industry."

Activities such as reconciliation, client onboarding and data sharing must be done by all financial institutions but not all have the capacity to build their own solutions or prefer not to engage a single vendor. Bank sources say they would rather not invest a lot of money to solve those issues individually but would prefer to pool resources together instead unless they've already developed their own platform to address challenges.

Grant Wilson, CEO of Neptune Networks, says end-users, both on the sell side and the buy side, are looking at costs involved with employing a single vendor for some services and are more interested in working on shared services, even if these are not going to end up being utilities.

"There's a greater interest in investing in shared infrastructure and reducing costs across the board and obviously a utility structure is the best model to achieve that," Wilson says. "I think the real driver is that market participants, both buy-side and sell-side, are looking at the vendor landscape and the costs of doing their business and seeing that there are a lot of heavy costs in what in reality should just be pass-through."

Wilson adds the fact that most end-users get to have some control over what is shared on utilities also makes the business model attractive.

Mike Bodson
DTCC

Understandably, some utilities—especially, perhaps, those run by vendors—need to gather steam before gaining critical mass among clients. The FIS Derivatives Utilities signed its first client, Barclays, in 2015 and the second, Credit Suisse, in 2016. In January this year, it welcomed its first non-bank client in Wedbush Futures.

DTCC-Euroclear GlobalCollateral executive chairman Mark Jennis says more people are looking to utilities to solve their issues but for the business model to really be successful, some patience is required.

"The interest in utilities has definitely become more critical, given some of the cost challenges, the capital challenges and the like. I think we're starting to see that people are looking at utilities to solve some of that—but it takes time," Jennis says. "But once it starts to coalesce with the community then you get solutions that are just far better than individuals going at it separately."

Jennis adds that getting people to join utilities is "a lot of dialogue, for sure. It's a lot of listening, a lot of hearing about pain points, and a lot of figuring out, strategically and together, where we want to get to." He says working with potential clients also involves identifying what the utility will not be able to solve for banks so they are upfront about the capabilities of the service offering.

These days, the financial services industry has shown greater interest in working together as seen with regulatory projects like the move to a two-day settlement cycle from three days, establishing a sense of community in the process. But one of the greatest contributors in bringing institutions together has been the emergence of technologies like distributed-ledger technology (DLT), and the growing popularity of open-source tools.

Playing Nice

Indeed, many of the primary use cases that have been identified for DLT—examples include reference data management, clearing and settlement of trades, managing post-trade events and organizing KYC processes—are those that tend to be the primary targets of utilities. The idea is to use technology like DLT to create a golden copy, or a master record, of information—either of client data as used in KYC programs or transactions for more efficient post-trade reconciliation and settlement—that all parties with access to the ledger can use.

Ian Downes, managing director, CIB post-trade business development for BBVA, says new technologies should not be seen as a death knell to utilities and may even propel the model forward.

"It's a question we've been thinking about: Can the utilities model be further extended using emerging technologies? We see that new technologies can assist with the rollout of utilities," Downes says. "New technologies help define a new standard approach, which then can help to push along the utility development."

Several people, including some utilities, see these emerging technologies as something that can help utilities achieve their goal. DTCC CEO Mike Bodson, who has long been an advocate of DLT, told attendees last month at the Futures Industry Association (FIA) annual conference in Boca Raton, Florida, that DLT will push the company to transform into something different.

"From where we sit, we were created because you need a golden copy of trade records. We're going to disappear. I keep telling everyone who comes to work for me, where we are now is not where we're going to be in 10 to 15 years," Bodson said during the conference's keynote panel, adding that the likely future role of the utility would be to manage the network that DLT provides.

But it is not just technology that could impact utilities. The dependency on banks working together on activities like clearing has given rise to the importance of collateral management utilities, a good sign for projects like GlobalCollateral. And in a late plot twist, increasing cyber threats have prompted banks and security experts to call on each other in public forums to offer information on cyberattacks that may afflict others, something that Soltra was trying to accomplish, but failed to get quite right.

With financial firms within the industry getting more comfortable with playing nice with each other, it's clear that more collaborative projects will crop up, especially because the need for services with such wide-reaching benefits is not expected to fade anytime soon.

Neptune's Wilson says he believes utilities are flourishing now because the current market environment makes them more attractive than other options.

"If we go back to the heyday of 2006 or 2007, then for-profit will be the model of choice because it's really down to market structure and what the purpose of the service is," Wilson says. "But right now there are so many different things where utilities can come in and so many different pieces of technology they can use, because it's about the shared costs, infrastructure and collaboration that makes utilities the more appealing model in this environment." W

SALIENT POINTS

- Increased regulatory requirements and tighter budgets have made collective services like utilities more attractive to banks.
- There is more willingness to work together in the financial industry, making a difference in how the utility business model could move forward.
- Emerging technologies like blockchain could provide technology to solve collective problems.

Prop Shops Lock On TO CRYPTO MARKETS

Sophisticated trading outfits are getting ahead of their contemporaries and investing heavily in cryptocurrencies, even as the markets evolve. Indeed, for some, that's half of the attraction. By James Rundle

Back in the late 1980s and early 1990s, electronic trading was still very much a frontier science. Securities exchanges, electronic communication networks, and others were popping up left, right and center, but the industry was still feeling its way as it went.

It would be some time before market structure evolved to support the kind of activity seen in equity and futures markets today, and for many in the technologically sophisticated principal trading world, that's pretty much how it feels now with cryptocurrencies.

"There's a lot of discussion about what this space will look like in the future, and how it's going to evolve," the president of one major Chicago-based proprietary trading firm tells *Waters*. "It's been a really exciting space to be involved in—it almost feels like the early days of electronic trading, with all these venues starting up, you're connecting to them, learning how they operate, and it's been a good experience."

After speaking with some of the largest prop shops, tech vendors and exchanges in this space, one thing is certainly clear: While the sell side is still hesitant to fully engage with cryptocurrencies, Chicago's prop community is going full steam ahead. And it doesn't show any sign of slowing down.

"Firms that have been successful in HFT, or in low-latency automated trading in derivatives or equities, have come to enjoy a certain level of determinism and a certain expectation of reliability, and I think a lot of them take that for granted. They're in for a shock when they trade on these crypto exchanges that were never built with them in mind." **Rick Lane, Trading Technologies**

Digging In

Institutional involvement in cryptocurrency markets really began picking up steam in early 2017, as bitcoin began a massive bull run that would see its value peak at around $20,000 per coin in the last days before Christmas. During that period, the US Commodity Futures Trading Commission (CFTC) certified a bitcoin options trading venue and clearinghouse, LedgerX, while two of the largest commodity exchanges—the Chicago Mercantile Group (CME) and Chicago Futures Exchange (CFE)—self-certified the listing of their own bitcoin futures.

The futures, in particular, have proved to be a key moment in the development of bitcoin and other cryptocurrencies into institutional-grade asset classes. The process by which they were listed kicked off a nasty, three-way fight between the exchanges, the futures commission merchants (FCMs) that guarantee clearinghouses, and the CFTC itself, which said it had no authority to either stop the listings or regulate the underlying cash markets that the futures draw their reference prices from.

Four months later, conversations around the self-certification process are still raging, and the CFTC has promised to look into the process. But for these prop firms, which have invested faster and more heavily in their involvement in crypto markets than any other segment of the institutional trading space, it's far less of an issue than it is for FCMs.

While the dealer banks did bring up sensible questions around risk management in clearinghouses that deal with these products, and those should be resolved, ultimately it's not something that keeps them awake at night, according to the prop traders who spoke to *Waters* for this story.

"We're principal trading firms. We like new products, we like innovation," says the CEO of another major Chicago-based principal trading firm. "I'm not speaking about whether it's sensible from a risk standpoint, or whether there are concerns about all of this that should be taken care of. I just like them now—it provides more opportunity for us to engage in new markets."

Actual statistics on institutional involvement in crypto markets are hard to come by, and they vary wildly between cash markets, operated on digital currency exchanges (DCEs) such as GDAX and Kraken, and the futures markets. During the CFTC's Technology Advisory Committee meeting, which was held on February 14, CME president Bryan Durkin broke down the participation rates for the contracts, saying that 27 percent of the product's volume has been attributable to market-makers, with the remainder customer volume. Of that, the buy side represented around 15 percent, proprietary traders around 70 percent, and banks a little over 1 percent.

Institutional engagement is, perhaps unsurprisingly, far higher in futures markets than it is in cash markets, too.

"Looking at the futures, I would guess there's more involvement in the futures from the prop firms than there is in the cash markets, because the prop firms feel more comfortable with futures markets, and it's a lot lower burden to integrate there," says a regulatory expert at yet another Chicago-headquartered principal trading firm, which has aggressively built out its crypto strategy.

In other asset classes, the insertion of sophisticated, institutional prop-trading firms into markets has generally meant a concomitant rise in low-latency, high-turnover strategies. This is not necessarily the case in crypto markets at present, however. Part of this is due to the fact that DCEs simply aren't set up to handle that level of technologically advanced trading. Most were set up in the past few years to handle the growing retail market, even if they're still viewed as being relatively sophisticated when compared to similar segments in equity trading.

"I think there are some inherent speed bumps; there are platform challenges that some of these larger bitcoin exchanges have in terms of reliability, stability, determinism," says Rick Lane, CEO of Trading Technologies. "Firms that have been successful in high-frequency trading (HFT), or in low-latency automated trading in derivatives or equities, have come to enjoy a certain level of determinism and a certain expectation of reliability, and I think a lot of them

take that for granted. They're in for a shock when they trade on these crypto exchanges that were never built with them in mind."

Vendors such as Trading Technologies have been at the forefront of professionalizing the crypto markets, by offering their institutional trading and hedging tools for use on exchanges such as GDAX, widely regarded as being the largest of the DCEs and the one with the highest levels of institutional participants.

Even here, vendors say, the demand from prop trading firms has been tremendous.

"In the course of talking to customers and—most importantly—potential customers, sometimes it's 10 minutes in and sometimes it's 45 minutes in, but they always say: 'This sounds really interesting, can I trade crypto on it?'" says Steve Tumen, a former prop trader and the CEO of Deep Systems, which is planning to release a cross-asset trading platform for digital currencies in April. "It's unbelievable. I expected a little bit of it, but we got a lot."

That echoes the experience of others. Trading Technologies released its bridge to GDAX in early March, just before the Futures Industry Association (FIA) conference in Boca Raton, but CEO Lane says that prop firms had some early access to the tools.

"There was a lot of pent-up demand for this," he says. "Some very large prop-trading firms were actually live on this before [the general release] because they were saying 'give me anything you can.' That group hit the ground running, and love having access to GDAX alongside the future on the same platform, with the same tools that they're used to. But I think we've all been a little bit surprised at how much interest there's been in the second wave, with people signing up and onboarding to the platform just to trade GDAX in some cases."

Still, while algorithmic trading and advanced electronic trading might be making inroads, there are still hurdles to overcome. The DCEs are aware of this, with the largest, such as GDAX, investing heavily in expanding its compliance and oversight procedures, while yet more are taking the prop trading community seriously.

"We started getting into it last summer. We're on eight exchanges, plus LedgerX and we have a couple more in the pipeline. But banking, moving the assets, moving currencies is the challenge," says Chris Hehmeyer, CEO of Hehmeyer Trading, a Chicago-based prop shop.

Prop firms themselves, as well as vendors, are starting to step into the breach. Hehmeyer, for instance, recently opened a commodity pool allowing institutional investors to gain exposure to bitcoin. Meanwhile, firms such as Irisium, formerly Ancoa, are beginning to provide their institutional-grade surveillance platforms to DCEs, in this case, Bitfinex. Still, the gaps between the level of sophistication in established asset classes, and those in the cryptocurrency space, are clear.

"The best one is Gemini, I think, the biggest is GDAX, but it's still not the CME or Nasdaq. Some of the others—wow," says the head of yet another Chicago prop shop. "The thing will go down and nobody answers the phone for six hours. That's a challenge and there are risks in that, but then again, it's new, and it's kind of fun that way."

Growing Pains

In addition to continuing technology issues in the market, there have also been pushes to move futures contracts from a financially settled basis to a physically settled one. While exchanges have been grappling with the process around this—it would require involvement in coin wallet storage, and a host of concerns around cybersecurity—startups such as London-based Coinfloor have begun to announce physically delivered efforts in this area.

As with the self-certification process, prop shops take a slightly different view to the sell side when it comes to physical versus financial settlement. While the CME and CFE are content with their current method of price settlement—CME uses a benchmark rate averaging across the four largest DCEs, while CFE draws its price from the Gemini Exchange—principal traders see weaknesses with the current model that can lessen the utility of futures as a hedging tool.

"You often have crossed markets, sometimes significantly if there are structural reasons why people can't get money in and out of exchanges," says the regulatory expert. "There is a lot of volatility, there are timing issues, there are a lot of different concerns about market manipulation—all of these things mean that it's hard to say, at any one given time, what a bitcoin is worth."

It's the guesswork, he says, that can be inherent in determining a fair-value settlement price that makes it tricky to plump for financial settlement. He points to established commodities, such as corn, pork bellies, oil or gold, that have established physical delivery settlement mechanisms in place as being models for the financial/physical argument.

SALIENT POINTS

- Principal trading firms are going big on cryptocurrency. Vendors say they are being hard pressed to provide tools for firms that want to trade these markets, and want to do so now.
- Curiously, many of the wider market structure arguments around crypto instruments, such as bitcoin futures, appear to matter little to these firms, which are simply interested in the products.
- Prop traders believe that this could be the key to revitalizing a flagging industry, and introduce a new generation to markets.

"That seems to be a more stable mechanism for settling futures trades," he says.

Every market participant spoken to for this article, however, said that these types of discussions were natural during the early stages of an asset class's development. Indeed, some suggested, the future of cryptocurrencies may not even lie on the DCEs as they currently exist.

Some even suggested that, given the technical difficulties that plague DCEs at present, the market may be ripe for established exchange operators to step in. Trading Technologies' Lane says that if he were an established market operator, it would be a "no brainer to strike while the iron is hot."

Likewise, the regulatory expert says that he expects trading to move on to more highly regulated platforms over time, not just as institutional involvement deepens in cryptocurrency trading, but as regulators puzzle out how this new market fits into the established rules.

"Over time, more and more trade is going to go onto regulated exchanges of some form or fashion as the industry matures, and it becomes clear which regulations apply and in which context," he says. "I think, for institutions getting involved in this space, they're going to feel more comfortable being on regulated markets of one form or another, so I think that's another direction the market is likely to move in."

New Frontiers

Overall, a sense of excitement, and—whisper it quietly—fun, is one that shines through when talking to prop traders who are engaged with cryptocurrency markets. Many, like the president of the principal trading firm, say it feels like the late 1990s and early 2000s again, when markets began moving en masse from the pits and the floors to the screen.

Others point to how it may hold the key to revitalizing an industry that has been, for some time now, in decline. Low volatility, capital pressures, regulatory reform and the cost of maintaining infrastructure have been squeezing the principal-trading space for some time, as evidenced by the declining number of companies in the space that have either shut up shop or been absorbed into larger rivals.

"You looked around and there were so few people that were entering the futures markets, compared with years ago," says the CEO. "I think it's really exciting to see how many people around the world are embracing new products, and trading these contracts, and really getting involved with it. To me, there's a groundswell around that, but I think it's a really exciting opportunity for our industry to create and institutionalize the skills we have, the knowledge we have in operating markets to legitimize that."

The effects of crypto, he continues, could be even more far-reaching than simply the expansion of existing institutional players. The educational effect that the cryptocurrency boom has had on the general populace, in terms of its knowledge of markets, is also something remarkable—not least due to the fact that unlikely figures, such as the chairman of the CFTC, Chris Giancarlo, have become rock stars of the fervently active crypto Twitterati.

"You're going to end up, at the end of the day, with a lot of people who are really interested in markets overall. They are going to be a lot more familiar with futures markets. When Chairman Giancarlo made a statement about bitcoin or the regulation of digital assets, the amount of followers [he gained on Twitter], it was just staggering. The people around the world who now have a connection or some affinity with the man who's running the CFTC is really interesting," he says. W

Bea Martin: The Glue That BONDS UBS

Women occupying executive roles in the upper echelons of bulge-bracket capital markets firms are rare, although they do exist. Bea Martin, UBS Investment Bank's COO, is a case in point. She and Victor Anderson discuss her rise through the organization, the aspects of management that women appear more adept at performing than their male counterparts, and her position as the glue that sits between the Swiss bank's front and back offices. Photographs by Jonathan Goldberg

Bea Martin, UBS

We're in the heart of UBS' new London premises, 5 Broadgate, a building that oozes cool sophistication and restraint of which the Bauhaus principals would surely have approved, given its capturing and clear definition of space that its designers, Make Architects, so cleverly construed. It's March 8—International Women's Day—and *Waters* is meeting with Beatriz Martin Jiminez, the COO of UBS Investment Bank. Bea Martin, as she is known, joined the firm in 2012 as chief of staff to president of the Investment Bank, Andrea Orcel, during a period of unprecedented upheaval for the 155-year-old institution.

"When I took the role with Andrea as his chief of staff, I was focused on the separation of the good bank from the bad bank," she recalls. "As his chief of staff, I was very active in helping him with that."

Martin's transition from the firm's chief of staff to its COO role coincided with the metamorphosis that the role had been undergoing for a number of years. "I would say, 10 years ago, half the investment banks on the Street didn't even have a COO, and if they did, it was probably more of an operations person," she says. "The scope of the role has changed over the last five years, and for us it is there to enable the businesses to implement their strategy."

Coal Face

As one might expect, Martin paid her dues at the coal face, starting her career as a graduate trainee at Deutsche Bank in 1996. From 1996 to 2004 she held a number of roles in structuring and trading at the German bank, both in London and in its Frankfurt headquarters. From 2004 to 2009 she was managing director and head of Iberia fixed-income sales, having been promoted from executive director in 2007. Her next move was from Deutsche to Morgan Stanley where she was head of European fixed-income bank solutions and a member of the interest-rate and credit operating committees from 2009 to 2011, before finally joining the UBS ranks in November 2012, the stopes, a distant memory. "I was in front-office roles throughout my career and I came to UBS to be the chief of staff for Andrea just as the bank was about to announce its big restructuring and the acceleration of its strategy," Martin says.

She explains that UBS had long considered what to do with the investment bank—it was, she says, consuming a lot of capital and the returns were sub-optimal when compared with other parts of the business. A cursory glance in the rearview mirror reveals the scale of the losses suffered by large numbers of capital markets firms in the wake of the US subprime mortgage fiasco and ensuing global financial crisis, and in that respect UBS is just another name in a litany of casualties. And then there was the Kweku Adoboli rogue-trading affair in 2011, where the bank incurred losses in the region of $2 billion in its Global Synthetic Equities Trading team. Given that Martin joined UBS 18 months after the Adoboli incident, she clearly had her work cut out for her, but who better to help steady the ship than a battle-hardened veteran with hands-on experience?

The decision was taken by management to reduce the scope of the firm's trading activities, particularly in fixed income. "UBS went through a tough time after the [global financial] crisis and, due to regulation in recent years, fixed income has been one of the sectors where the investment bank and other banks too have been forced to consume more capital and have been exposed to more liquidity and infrastructure costs. Over time, we looked to decide what to do with the fixed-income business and also bravely define what we are not going to do. The implementation of that was fast—it was painful but it was fast. We repositioned the bank to where we knew we could compete. And where we could compete, we wanted to win, but we would also exit those sectors, products and clients where we were not a top player in the market."

Upper Echelons

Inevitably, our conversation meanders its way toward the fact that Martin has risen to the upper echelons of one of the largest investment banks in the world in an industry that is undeniably a white, male-dominated environment. As an example of success in this space, there must have been challenges that needed to be addressed along the way, right?

Martin considers the question and pauses before answering. "As a woman, you have a lot of challenges

anyway when you work in the capital markets—it's been a man's world and that is a fact," she confirms. "As a woman, you see things differently, but for me it hasn't been a great issue. I've never felt that I couldn't do anything during my career because I am a woman. To me, one of the biggest challenges continues to be juggling family and everything outside of work with work. No matter how progressive your husband or partner might be, in reality it is very difficult to let go of all that. In theory, everybody is happy to have a certain infrastructure around those things, but when worse comes to worst, that responsibility is with you [as a woman]. For women, that is an extra burden that men tend not to have in their working life."

Undeniable Differences

Given that the subject had now been broached and that both interviewer and interviewee are (apparently) comfortable with the conversation's bearing, it seems appropriate to quiz Martin on the sometimes subtle yet undeniable behavioral differences between men and women and their management styles, most notably those pertaining to people management. Anecdotal and empirical evidence suggests that women are more comfortable and skillful and therefore more effective when it comes to managing people than their male counterparts, a subject Martin is happy to address. "I'm talking in generalities here, but I do think women are often better at connecting the dots," she explains. "I think women's emotional quotient (EQ) is probably higher [than men's]; they can read people better, and generally, women observe more than men do. They also tend to have more empathy. With a woman leader, it's easier to get everyone's perspective in a room and to be more inclusive because they tend to feel less challenged. So I feel there are a lot of advantages in terms of real returns of having women in senior positions."

"I think we do have a lot of very good women within this organization, but it is also true that we have thought a lot about how to create a framework to ensure that we can identify, develop and retain that talent, explicitly for diversity and for women."

It is no secret that UBS has a number of women in its upper strata—Sabine Keller-Busse, group COO of UBS, and Kathryn Shih, president of UBS Asia-Pacific, are part of the bank's executive committee, and four women sit on the UBS board. Is that purely circumstantial and down to the fact that it just so happens to have a large number of particularly talented women, or does UBS have a formlized mechanism designed to identify women and ensure that it maximizes their potential by fast-tracking them to executive positions? "It is both," Martin confirms. "I think we do have a lot of very good women within this organization, but it is also true that we have thought a lot about how to create a framework to ensure that we can identify, develop and retain that talent, explicitly for diversity and for women."

Banking on Technology

On the technology front, Martin explains that part of her remit requires daily interaction with the Investment Bank's CTO, while the business and technology arms run the budget collaboratively, allocating capital to the firm's various divisions, aligned with the strategies and returns it anticipates it will make based on its technology commitments. "He is in charge of ensuring that we have the right people in the right places, marshalling the programs and doing the development that needs to be done," Martin explains. "And I, together with the business, direct the investment into the places we think we need to. In the last few years we have separated that investment into two buckets: one, the growth strategy of the bank, and two, the regulatory bucket, which has obviously been consuming a lot of time and money."

What will UBS look like in five to 10 years' time, given that the sell side is inexorably moving toward and fully embracing technology to the extent that a number of firms—Goldman Sachs and Saxo Bank for example—already consider themselves first and foremost to be technology firms that offer their clients various financial services as opposed to capital markets firms with a heavy reliance on technology? "I think we are now more reliant on technology than ever before and the business in five years will be very different [to what it looks like now]," Martin believes. "It was very different five years ago. This industry is changing at a huge pace and I do think that we will make use of technology to make those changes. But are we going to be another Google? Personally, I don't think so—I don't think we're going to turn into a pure technology company—but we will be much more technology dependent and we will be much more innovative in terms of what we do with technology than we are now."

Incomplete

Any discussion that centers on technology from a capital markets perspective would be incomplete without mentioning the industry's two hottest topics: blockchain and artificial intelligence (AI). But before Martin dives in, she cites UBS' Neo institutional front-office platform as an achievement the Swiss firm is particularly proud of. Of course, UBS Delta, a portfolio analysis and risk management offering that formed part of the Neo suite, was also a crown jewel before it was unexpectedly sold to London-based buy-side technology provider StatPro in April 2017. Both Neo and Delta are well known to *Waters*—both have won awards, with Neo taking home the best cross-asset trading initiative in the 2016 American Financial Technology Awards, while Delta won the best broker-supplied tool and best overall technology provider to the buy side in the Buy-Side Technology Awards of the same year.

"We have been developing Neo for the past eight years," Martin says. "I think it's a unique way to deliver a lot of banking services to institutional clients. When you look at a lot of the innovation that is happening in the investment bank, much of it is happening within the businesses, and I think that is the right way for it to happen. These guys will experiment and do proofs of concept to see what techniques they can apply, whether it

is big data analytics or AI in order to work smarter and be more productive in the way they do things."

Martin explains that UBS is still experimenting with blockchain and is evaluating possible applications of the technology and how those use-cases might affect the wider industry. That blockchain will shape the capital markets in one way or another is not worth debating—that is a given. But what is less certain and what UBS is focusing on—along with most other capital markets firms right now—is how and when that change might transpire.

According to Martin, UBS has a number of employees working at Level39—in 2015 UBS started what it calls a "path-finding" journey through its UBS Innovation Lab located within the Level39 environment, a Canary Wharf-based fintech ecosystem inhabited by fintech firms and mentors, which acts as an incubator and accelerator for startups—who are experimenting with blockchain and are looking at ways to implement it into the bank's existing processes. "I think the most mature idea for blockchain will be for settlements and the ability to ensure that you can transact and have instantaneous and irrevocable ledger entries," she says. "Counterparty risk will be eliminated and settlement costs will be reduced. If you can do that and you can do smart contracts, for example—things that will be pre-coded to be enforced under certain circumstances—or if you can do, say, smart securities that will support the whole lifecycle, that will be revolutionary."

Artificial Intelligence

And what of the other darling of the capital markets right now: AI? The technology has been knocking around the industry for the best part of two decades, underpinning basic algorithmic and smart-order routing tools that have evolved into an indispensable part of pretty much every capital markets firm's front office. "We've been applying simple AI for many years with algo trading in the front office and any strategy that can learn about what the deviations will be, for example, when you see standard deviations more than what you were predicting, and then adjusting the trading pattern or strategy to reduce the amount of error," Martin explains, adding that the technology per se will not bring about a revolution, but rather how it is applied to firms' existing processes, especially when it comes to deriving value from large, unstructured datasets, an unfeasible proposition just a few years ago.

"If you have enough data and you can mine that data and do something meaningful with it, you can start predicting whether clients will be interested in various products, and which clients will give you a higher rate of success," she says. "Then you can embed that into people's desktops to ensure that they are more productive when they pick up the phone. AI is all about the quality of the data you have, but in my opinion, we are never going to be able to leave those decisions to an algorithm—we will still need a human being to be part of that."

Her Secret Sauce

And a final word from Martin before our scheduled time together is up and she is whisked off with typical Swiss efficiency to another clinical, gleaming wing of this elegant groundscraper to fire up the troops. What is her secret sauce? What does she bring to the role that makes her such an indispensable cog in what is an impressively large wheel? "Being a COO of an investment bank with front-office experience is very valuable, especially as it allows me to understand the business fairly well. My previous role as Andrea's chief of staff gave me a unique insight and perspective into the priorities of the business, and what needs to get done to win in our endeavor. I have a fundamental knowledge of finance and risk management skills so I truly understand what the back office does as well. The role of COO is just that—to be the glue between the front and back office." W

A League of Extraordinary Women

WatersTechnology's inaugural Woman in Technology and Data Awards were held in London on March 9 and featured 24 categories won by extraordinary women from across the capital markets.

The dust has now started to settle in the wake of WatersTechnology's inaugural Women in Technology and Data Awards, which affords me the opportunity to look back at what has been a whirlwind four months and also to acknowledge the significant input from WatersTechnology's outstanding team. The "women's awards" are the culmination of ongoing discussions between Briony Lammas, WatersTechnology's publisher Katie Palisoul, and me about how best to acknowledge the outstanding contribution women have been making to the markets we have been covering for the past 25 years. The tipping point proved to be a 15-minute informal meeting in London where we decided to "pull the trigger" by setting a date and going public with it. All projects have binary yes-no moments and I am relieved to say that thanks to Briony's and Katie's insistence, we grasped the proverbial nettle and made the right choice.

The details pertaining to the categories were finalized in early December while I was in New York for Waters USA and the American Financial Technology Awards, and the following week while I was sitting at my parents' dining room table in Cape Town. And as they, the rest is history.

This year's awards feature a number of extraordinary women with Thomson Reuters' Debra Walton and Bloomberg's Sallianne Taylor winning the two highest-profile categories: the trailblazer (lifetime achievement) and woman of the year awards, respectively.

Write-ups by Anthony Malakian (AM), James Rundle (JR), Jamie Hyman (JH), Emilia David (ED), Wei-Shen Wong (WSW), Josephine Gallagher (JG) and Victor Anderson (VBA). W

Victor Anderson
Editor-in-Chief

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Waters honored the winners at a ceremony on March 9 in London.

Best Company for Diversity and Inclusion

Tata Consultancy Services

The coveted award for the best company for diversity and inclusion at this year's Women in Technology and Data Awards goes to Tata Consultancy Services (TCS), for its commitment to improving diversity within its own organization as well as being an example to other companies in technology and other industries. The company's employees represent 129 nationalities and more than a third of its 400,000 staff members worldwide are female.

Nupur Mallick, UK human resources director at TCS, says the firm is continually looking for ways to increase diversity and encourage inclusion within the industry, as well as ensure the next generation entering the workplace is as diverse as possible.

TCS created its IT Futures program in 2013 to champion this, and has now reached over 200,000 students across the UK. "It is not just about consuming talent, but creating it too, and as technology increasingly shapes society, it is important that the people creating these innovations are from a diverse range of cultures and backgrounds to ensure that society as a whole benefits, not just a select few," she says.

The company's philosophy is simple: If it has a diverse customer base, it should also have a diverse workforce. This approach helps it become more effective at meeting its clients' needs. It understands that diversity comes in many forms, be it gender, race, religion, sexual orientation, age, culture and more, and it has embraced this to create a collaborative work culture while promoting learning and reverse learning to build stronger teams.

One of the challenges it faces is the dearth of women entering the science, technology, engineering and mathematics (STEM) fields. Only 35 percent of girls aged 16 take up STEM subjects compared to 94 percent of boys in the UK. Only 9 percent of women take up a STEM degree and just 17 percent of women in the UK are in the IT industry. This has created a challenge for women who may be interested in STEM subjects but feel there is less of a community for them.

She says TCS and the industry should have approached this issue 20 years ago with its current tenacity. Although great strides are being made, the company is ultimately playing catch-up. "However, we're on the right path now and are coming up with new ways every day to engage our employees, find the latest and greatest talent, and provide a service that is built on the foundation of diversity, inclusion and equality," she says.

TCS is actively employing more women and is investing heavily in training its female staff members at all levels across the organization. "This award means that we're making progress, but demonstrates that there is still work to be done. We're committed to bringing balance to this industry and allowing everyone an equal opportunity to succeed," she says.

—WSW

Adonye Orumbie and Anshoo Kapoor

"The company's philosophy is simple: If it has a diverse customer base, it should also have a diverse workforce. This approach helps it become more effective at meeting its clients' needs.

Risk Professional of the Year

Boryana Racheva-Iotova, FactSet

While finance was always a practical choice for Boryana Racheva-Iotova, director of risk research, FactSet, who holds an MSc in probability and statistics from Sofia University and a Doctor of Science degree in statistics, for which she graduated magna cum laude from Ludwig-Maximilian University of Munich, it wasn't the source of the inspiration that powers her numerous and august achievements. That, she says, is something entirely different: "It always was and continues to be to take something from the world of ideas and make it real, visible. So, I have found a way to apply that in this domain," she says.

This philosophy is evident through her career—as the CEO and founder of Bravo Risk Management Group, later acquired by FinAnalytica, she built Cognity, the first market-ready risk platform that incorporates the modeling of fat-tail events. The system is currently in use at a number of institutions, including the French asset-management giant Natixis.

FinAnalytica was later acquired by BISAM, and Racheva-Iotova worked closely with its then-CEO, Bill Haney, until the firm's recent acquisition in March 2017 by FactSet. There, she currently serves as the firm's director of risk research, and has been published in a range of notable journals, including *The Journal of Portfolio Management* and *Annals of Operational Research*, and has contributed chapters to a number of books on risk management.

With over 15 years' experience, Racheva-Iotova sees distinct challenges ahead in risk management. The shift to passive investing and the proliferation of algorithmic strategies are two key areas, along with the introduction of artificial intelligence and machine learning.

"The market is not fundamentally driven anymore, at least on short- to mid-term horizons. Models need to be augmented to stay representative for this environment," she argues. "On the pure modeling side, complexity rises as well. For example, ideally you need different model characteristics for the different investment horizons on both factors, as well as the probabilistic model side."

Looking further ahead, future projects will focus on integration work between FactSet's native risk solutions and Cognity's capabilities. But on the pure research side, she says, she is "quite interested in exploring bridges between behavioral theory and quant finance."

Through her career, Racheva-Iotova says she has had "invaluable" time with a range of people who have helped shape her career so far, but cites two in particular for special mention. "My father was and continues to be a role model for me with his dedication to knowledge, and my mother, with her truthfulness and devotion," she says.

—JR

"The market is not fundamentally driven anymore, at least on short- to mid-term horizons. Models need to be augmented to stay representative for this environment."

Consultant of the Year

Cristina Mures, CJC Ltd

Cristina Mures, senior consultant at CJC Ltd., wins the consultant of the year category at the inaugural Women in Technology and Data Awards. She says consultants often enter into complex, ambiguous and sometimes unreceptive situations. However, with help from her team, she has been able to assess requirements to ensure the successful implementation of the CJC managed service solution. "I faced this recently when helping onboard a new client with no formal market data processes or established team currently performing the role," she explains. "It was our task to define and document their processes, while investigating the current status of their market data estate."

Since joining CJC's commercial management team in 2012, which manages the firm's end-to-end solution for market data services, Mures has been involved in the creation of innovative methodologies to implement cost-saving initiatives for customers. She achieved a 35 percent saving in market data spend during the fiscal year at one of CJC's clients.

Mures has the ability to optimize a client's market data costs and improve transparency. At one firm, for example, she identified a lack of intelligence around exchange data usage and implemented a strategy to locate and cancel unused data sources. By optimizing the information in the inventory around the terminal real estate, she was able to improve clarity for management on how budgets were being tracked and consumed.

She says she is fortunate to have had a number of people who have influenced and mentored her during her career. "I'm more than grateful to everyone who has helped me along the way, from managers who have seen potential, given me a chance to prove myself and helped me develop core skills, to family members who have always encouraged me and previous colleagues who have become close friends and have been generous with their time, allowing me to validate ideas, exchange views and discuss industry topics."

While the capital markets is a male-dominated industry, Mures has never viewed it as a battle drawn along gender lines. She believes that success is gender-neutral. "Whether you're male or female, you have to be capable and work hard. I can only speak about my own experiences, but I have never felt that being a woman has held me back in my career," she says.

Her advice to others is to be confident but to never pretend to know the answers. "Acknowledge your mistakes and never be ashamed to hold your hand up and ask questions," she says.

Outside of her professional life, Mures is passionate about animals and their welfare. She would one day love the opportunity to work with animals either in a caring capacity or through fundraising for charity.

—WSW

"Since joining CJC's commercial management team in 2012, which manages the firm's end-to-end solution for market data services, Mures has been involved in the creation of innovative methodologies to implement cost-saving initiatives for customers.

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Data Scientist of the Year

Stephanie Clarke
Broadridge Financial Solutions

This year's data scientist of the year award winner, Stephanie Clarke, loves data. But for her, data is not just all about the numbers, but rather what that data means to the world around it. Clarke is the senior vice president of global market intelligence at Broadridge Financial Solutions, a position she has held since 2016. In her role, Clarke says, she saw opportunities for the vendor to tap into, including expanding its coverage of Canada and working with third parties for its environmental, social and governance investing work.

Data has always been an interest of hers since she began her career as an economist. "I've always enjoyed the relationship between the qualitative and the quantitative," Clarke says. "I didn't want to work with pure numbers—I wanted to bring together the numbers and the world."

Before moving to Broadridge, Clarke worked for BlackRock running its market intelligence unit. She has 20 years of experience in the data world, not just by virtue of her stint at BlackRock, but also through research roles she held at Merrill Lynch Investment Managers, Mercury Asset Management and Sanwa Bank where she was an economist. "It was a pivotal moment moving from an asset manager to a vendor working with asset managers," Clarke says. "I was measuring performance indicators there and I found myself expanding how I gather sources and thought I could solve this issue for the industry."

She says she wants to find data that answers questions, something that has become more interesting than when she started in the 1990s. Clarke says back in the day there was a paucity of data with most only concerning performance numbers. These days, the relationship people have with data has changed as there is now an excess of information, which makes finding the right data points a challenge.

Clarke says her journey was helped by people—peers and executives who pushed her to take risks—who supported her, which is something she encourages women starting out in technology and data to emulate.

Broadridge has started a women's leadership group in which Clarke participates that identifies high-potential, ambitious women in the firm who are introduced to an executive sponsor who teaches them to navigate networks. But it is not just learning the corporate ropes that encourages women to stay in the industry, according to Clarke. She points out that programs that support parents—both mothers and fathers—and help them regain their career confidence after being away for a while, engage and help retain talent.

—ED

Clarke says her journey was helped by people—peers and executives who pushed her to take risks—who supported her, which is something she encourages women starting out in technology and data to emulate.

EDM Professional of the Year

Georgia Prothero, Schroders

Sometimes the path to working in technology is not always clear, and Georgia Prothero, this year's winner of the EDM professional of the year award, knows this well. Prothero had no idea that she was destined to work in technology and data within capital markets firms. Graduating with a degree in the arts, it was not until she was looking for jobs that she considered a career in technology. She opted to take the Civil Service test in London in 1983, a decision that would have a significant bearing on her career. "The test turned out to be a day-long affair in a room in Whitehall, where we did a number of IQ-style tests using a pencil and paper," she recalls.

She passed the exam and ended up working in the IT team for the Lord Chancellor's department. There, she was able to work with data modeling and found it interesting enough to explore it further. At age 23, she became one of the youngest higher executive officers in the Civil Service. After three years, Prothero decided to move to the private sector, at a time she recalls as "exciting," and started working at Robert Fleming and Co. From there she moved to Mercury Asset Management as a data modeler before moving on to Merrill Lynch Investment Managers and then to BlackRock where she stayed for 17 years. At BlackRock, she worked with senior management on the data model behind the firm's signature Aladdin platform. Her most recent move was to Schroders in 2013.

As part of the global technology architecture team at Schroders, Prothero is responsible for maintenance of the firm's enterprise and data glossary, which it uses to assign entity ownership to people and is used to develop physical models. She also most recently took on the role of data quality practitioner where she will be devising rules and compiling metrics to identify data quality holes within the firm.

While Prothero does not take part in formal mentorship programs, she has been advising young women in the community, especially because she believes shining a light on successful women in the field is important and that more areas of technology need to be highlighted in classes.

"I don't take part in a formal mentorship program, but I have a number of younger women who know that I am available to talk to them if they need any advice. I think mutual support is a central tenet of any healthy working community," Prothero says.

—ED

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As part of the global technology architecture team at Schroders, Prothero is responsible for maintenance of the firm's enterprise and data glossary, which it uses to assign entity ownership to people and is used to develop physical models.

Winners' Circle: Georgia Prothero and Aouda Bellout, Schroders

Schroders' Data Doyennes

UK-based asset manager Schroders won two categories at this year's Women in Technology and Data Awards: EDM professional of the year and reference data professional of the year, won by Georgia Prothero and Aouda Bellout, respectively. Victor Anderson caught up with them at this year's awards lunch.

Q To what extent does Schroders have a formalized program that seeks to identify talented woman within the business and ensure that it not only retains those women, but also that they are provided with the best opportunities to make an impact to the business?

Georgia Prothero, data architect, Schroders: It's beginning to emerge. Our current CEO, Peter Harrison, is very keen on promoting not just gender diversity but all diversity within Schroders. As part of that, we are introducing a new scheme which will identify top female talent and then make a special effort to nurture that talent so that those women can achieve their full potential.

Q Have you ever had a female mentor or someone—male or female—who has sought to highlight possible gender inequalities and by so doing smooth the way forward for the promotion of women?

Prothero: Over my 35-year career in IT, I have never worked for a female boss and I've never had a female mentor. I think one of the reasons why that is, is because IT is a relatively young industry. When I first started in the industry, there really weren't any older women who I could aspire to be like, and so that really wasn't an option for me.

Aouda Bellout, corporate technology capability lead, Schroders: I have never had the opportunity to have a female mentor, which you might say proves the point about gender inequality within the industry. But on the other hand, I do have a male mentor, Nick Alter, head of technology for Schroders in Luxembourg, and he is why I am here today. Any type of leader, male or female, should understand the importance of equality and that a diverse team creates better results. Embracing differences fosters creativity.

Q To what extent does this win in the inaugural Women in Technology and Data Awards put you in a position where you can mentor young women within Schroders?

Prothero: It's nice to see women getting awards and I hope other women within the organization will aspire to receive awards as well. My current staff is female and obviously I will make every effort to support them in their career choices.

> "It's nice to see women getting awards and I hope other women within the organization will aspire to receive awards as well. My current staff is female and obviously I will make every effort to support them in their career choices." Georgia Prothero, Schroders

Bellout: I would hope that these awards demonstrate that if I can do it, other women can do it as well.

Q Stewart Carmichael, Schroders' CTO, contacted me when we launched these awards, wanting to know more about how to enter etc., illustrating the extent to which promoting women within the business is on his radar. Is that a fair assessment?

Prothero: It's absolutely on Stewart's agenda, but I think the wider issue is that there aren't enough girls at school level wanting to go into careers in technology. But that's just a general problem—trying to find the girls who want to have careers in technology.

Q Is there anything you are particularly excited about with respect to your day-to-day role?

Bellout: In the coming weeks I will be moving to a new role: I asked for a change as I wanted different challenges and so I will be looking at regulatory initiatives. This will be new territory for me, but what I have learned in my current role will allow me to innovate in this new initiative.

Prothero: I am an old data modeler and have been doing that for a long time—and it still gets me excited. At Schroders, I have been given the opportunity to create an enterprise-wide logical data model, which is what I have wanted to be able to do. It has taken off—it has been very successful and I've had tremendous support, both from within technology, but more importantly, from within the business too. I am pleased to have been able to do that piece of work and it is something I expect to be doing for a while now. W

Engineer/Programmer of the Year

Kate Stepp, FactSet

Kate Stepp, recipient of the engineer/programmer of the year category, has always loved computers. What she wasn't sure about was working in finance. A graduate of Carnegie Mellon University's computer science program, Stepp did not consider the financial world her first choice, nor did she even realize that programming was the career for her. "Early on, I always had an interest in math and puzzles and logic, so that drew my interest throughout school," Stepp says. "I was lucky enough in high school to have some programming courses on offer, so I took some advanced placement programs. The funny thing was that I was still going to my guidance counsellors saying that I wasn't sure what I wanted to do in college and they looked at me blankly and said that they were pretty sure that I should pursue computer science."

Stepp is a senior vice president and director of engineering for research solutions at FactSet, a role she stepped into just six months ago. She has been with FactSet for about ten years—practically her whole professional life. She began with the company straight out of college as a software engineer before moving on to lead a small group and finally to her current position where she heads up a team of 150 engineers across three continents. "Coming out of college, I didn't have experience in finance and I didn't know much about FactSet until I interviewed here," she says. "So it was really meeting the people who got me interested, while the company itself has a laid back, collaborative feel that I liked."

While she no longer actively codes, Stepp still has a hand in the strategy and architecture of the products her team develops.

Even though financial technology was not the first sector Stepp thought to enter, she acknowledges that she has grown to love it and emphasizes the wide range of industries programmers can enter with their skills. For Stepp, it's important to expose people to programming to truly see what it can do for them, but more importantly it can be used to reach girls who otherwise wouldn't know that computer programming could be a career option for them. "Women can use technology to advance, but education has to be accessible to them, so it's good to have programs like Girls Who Code," Stepp says.

Mentoring is also important to Stepp, who works with the Student Athlete Mentorship program at her alma mater where she previously played volleyball. She also mentors at the Grace Hopper Celebration of Women in Computing conferences as well as informal sessions at FactSet.

—ED

For Stepp, it's important to expose people to programming to truly see what it can do for them, but more importantly it can be used to reach girls who otherwise wouldn't know that computer programming could be a career option for them.

Startup Professional of the Year

Emma Margetts, Visible Alpha

Emma Margetts, co-founder of Alpha Exchange (now part of Visible Alpha) and winner of this year's startup professional of the year category, is no stranger to hard work and overcoming challenges. By 2016, before the age of 30, she had successfully helped build and launch a research and management platform that delivers insights and analysis to investment professionals. Recognized for her driving force and ability to execute ideas, Margetts along with her co-founders, Scott Winship and Alex Santos, led Alpha Exchange into the exciting year that was 2017. Under her leadership, Alpha Exchange was selected as one of 10 "Techstars" companies as part of Barclays' 2016 accelerator program, and within 12 months it had signed 150 institutional clients. The platform was rolled out across 15 countries worldwide and was announced as the winner of the best financial research and data company in the 2017 FinTech Breakthrough Awards.

Attracting major interest in its first year, the firm was acquired by Visible Alpha, a research and analytics platform and solutions provider, in November 2017. This move saw the amalgamation of two research and investment analysis providers that shared a common client network and vision for the future. With her new remit as senior project manager at Visible Alpha, Margetts plays a crucial role in driving that vision forward. "It all comes down to me, when it comes to client success and product innovation, which are the two things I love deeply," she says. "It's basically making our product kick ass, so our clients have the best possible experience, and how we fit our company into the broader Visible Alpha product fit."

As a young woman growing up in South Africa, Margetts had always set her sights on the capital markets. At 16 she was playing the stock markets and by 20 she had founded The Business Learning Network, an accelerator for female entrepreneurs, in a township near Cape Town.

Being a woman in an industry dominated by men, Margetts attributes much of her success to having confidence in her abilities and refusing to allow stereotypes to stand in the way of achieving her goals. "When I started Alpha Exchange, every pitch, every client's board room and every investor and mentor was male. I made an active choice many years ago never to focus on being one of the women in a field or industry and instead to concentrate on making myself invaluable and an expert in the industry. To me it feels empowering to know that I have not let stereotypes hold me back in any way."

—JG

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As a young woman growing up in South Africa, Margetts had always set her sights on the capital markets. At 16 she was playing the stock markets and by 20 she had founded The Business Learning Network, an accelerator for female entrepreneurs, in a township near Cape Town.

Exchange Professional of the Year

Karen O'Connor, TrueEX

As one of the most senior members of staff for one of the newest swap execution facilities (SEFs), Karen O'Connor, president and COO of trueEx, has been on the ground floor of market structure reform in the US since trueEx's establishment in 2013.

A self-described "numbers person," innovation is something that's followed her career—her first job out of college was working for Edwin Land, the inventor of the Polaroid instant camera—but she describes the fusion of finance and technology as "the perfect marriage" for her.

Indeed, her current work is firmly rooted in that innovative spirit. O'Connor regards distributed-ledger technology (DLT) as being "key to the future development of the global financial infrastructure," and is currently involved in developing a regulated marketplace for cryptocurrency derivatives. That market, trueDigital, was announced on March 12. "This is perfect timing as institutional investors are looking for a regulated and liquid marketplace for these fast-growing and increasingly important digital currencies and commodities," she says.

After graduating from the College of the Holy Cross with a BSc in accounting and finance, her career eventually found her alternately serving as COO of GTE CyberTrust/Baltimore Technologies, then as the co-CEO of eSecLending, a third-party securities-lending service, for over four-and-a-half years.

But whereas most people when asked about influences, mentors or figures who have shaped their career tend to prevaricate, O'Connor is firm: She cites Kevin Landy and Ken Schiciano of TA Associates as "two of the finest individuals I had the honor and privilege to work alongside."

"They helped me as a CEO navigate through the financial crisis and prove what it meant to be a true professional. They were sine qua non—and I would not be who I am today if it was not for them," she says.

While O'Connor is focused on projects in the emerging tech space, not least with DLT and cryptocurrencies, she regards neither as the biggest issue facing the industry at the moment. Instead, data security and scalability rank as the highest risks. "Data security may be one of the biggest issues today," she says. "Data is becoming more and more valuable as innovators learn more ways to monetize data. As evidenced by the recent hack of Equifax, cybercrime is a huge threat. Scalability is another pressing issue as seen in various big-data initiatives. Further, as more commercial systems become more dependent on machine learning, processing power and data accessibility become more critical."

—JR

"Scalability is another pressing issue as seen in various big-data initiatives. Further, as more commercial systems become more dependent on machine learning, processing power and data accessibility become more critical."

Legal/Compliance Professional of the Year

Jennifer Keser, Tradeweb Markets

Jennifer Keser, director of regulation and market structure at Tradeweb Markets, wins the legal/compliance professional of the year category, thanks to her work in preparing the firm, its stakeholders and its clients for the revised Markets in Financial Instruments Directive (Mifid II).

Keser worked closely with business heads, technologists, sales and client support teams, educating them on the impact of the legal and compliance changes to their respective teams. She analyzed, summarized and communicated regulatory guidance through working groups or via company-wide updates.

Keser views financial regulation as a living set of rules, which create evolving challenges that require constant improvements in the electronic infrastructure, governance and culture across the financial services industry. "Over time, it has become evident that some of these elements are easier to control than others. Market operators must strive to stay nimble and proactive, and ensure that they are able to leverage both regulatory and technological change," she says.

The implementation of Mifid II, for example, allowed Tradeweb to reach a new client base and onboard new participants to its platform.

Keser looks up to Anna Westbury, Tradeweb's director for regulation and market structure, and her former boss, Lisa Rabbe. "I admire Anna not only for her extensive knowledge of the industry, but also for her measured approach to problem-solving, a trait that I try to emulate. Similarly, Lisa ingrained in me the importance of watching and listening, particularly when engaging with clients and policymakers. She also taught me not to be afraid to swim against the current, even if I might be the only one doing so," she says.

She continues to focus on providing Tradeweb's clients with insight on regulatory changes affecting their business, as well as contributing toward the firm's evolution and growth. To Keser, the award demonstrates that women and their creative approach to problem-solving are being recognized by the industry. "Studies have shown that women tend to adopt different communication styles to men. This difference may often prove to be beneficial, specifically in my space. Regulatory frameworks in financial services never cease to evolve. They can make allowances for modifications as a result of continued engagement and collaborative dialogue, aimed at addressing the concerns of both policymakers and market participants," she says.

Apart from her work around Mifid II, Keser was also involved in Tradeweb's early work on Brexit contingency planning. This included the establishment of an independent and fully functional regulated entity in Amsterdam, which will serve as the electronic trading hub for the firm's EU-based clients.

—*WSW*

"Over time, it has become evident that some of these elements are easier to control than others. Market operators must strive to stay nimble and proactive, and ensure that they are able to leverage both regulatory and technological change."

Winners' Circle:
Jennifer Keser, Tradeweb Markets

Tradeweb's Madate Maestro

Mifid II highlights the critical role of legal, compliance and regulatory professionals. Jennifer Keser, director of regulation and market structure at Tradeweb and winner of the legal/compliance professional of the year award, was tasked with ensuring a smooth transition to the new regulatory landscape, not just for her firm, but for its clients as well. Interview by Victor Anderson

Q Congratulations on your recent win in the Women in Technology and Data Awards. What does you day-to-day role at Tradeweb entail?

Jennifer Keser, director for regulation and market structure, Tradeweb: First of all, I would like to congratulate all the women nominated in my category, and also thank WatersTechnology for recognizing the efforts of female trailblazers making great strides in the industry. Working for a financial technology firm like Tradeweb comes with a multitude of responsibilities, particularly at a time when the marketplace is undergoing considerable regulatory change. One of my key objectives is to analyze any new rules and their potential impact on Tradeweb and our clients, and then communicate these findings to the business. My role also involves regular engagement with regulators and policy makers in Europe and Asia, and the development of advocacy strategies to address key issues for financial technology firms. Now that Mifid II is live, I can dedicate more time towards identifying opportunities to establish Tradeweb as a market and thought leader from a regulatory and financial policy perspective.

Q To what extent does Tradeweb have a formalized program that identifies talented women within the business and ensures that it retains them and that they are provided with the best opportunity to make an impact to the business?

Keser: Tradeweb's size of approximately 850 employees worldwide enables us to identify talented individuals—regardless of their gender—far more easily compared to larger corporations. Right now, women make up a considerable portion of our staff, with a significant percentage holding director and managing director roles.

In addition, we're very proud of the Tradeweb Women's Network, an initiative that ensures women throughout the organization have the appropriate support and access to all available opportunities. The number of industry awards that Tradeweb women have been nominated for and received in the past few years has highlighted the importance of putting together an internal program that fosters continued professional growth for all female employees.

We are committed to doing this through training, networking, mentoring, recognition and volunteerism. In addition, we're looking to partner with other stakeholders from the financial services community to bring together and strengthen relationships with our female industry peers. As a result, we hope to see women's contributions recognized even more widely.

Q Have you benefited by way of a woman mentor in your career, and if so, now that you are a recipient of one of these awards, does that put you in a position to mentor other women within the organization/industry?

Jennifer Keser

Keser: I was lucky enough to spend the early part of my career working alongside a well-known and respected figure in the industry: Lisa Rabbe, who set up the government affairs practice at Goldman Sachs, always stood her ground despite being one of the very few senior women holding such a role in financial services. Having a female manager was an eye-opening experience, which shaped my professional outlook and defined my career expectations. When the opportunity arose to re-join Lisa at Credit Suisse, where she set up the public policy practice, I jumped at it without a second thought.

Events that promote women's contributions and leadership in their respective sectors help pay it forward, and make it possible for me to serve as a role model for other women, not just in my firm, but in the fintech space in general. Furthermore, as a member of the Tradeweb Women's Network steering committee, I hope to be able to support my colleagues across the organization by listening to their requirements and helping to implement positive changes.

I do believe that things are improving, albeit slowly, and that the number of women working in our industry is increasing. However, the challenge remains that not enough women hold senior roles, which can make it difficult to visualize future career prospects.

Q What's on your radar at present that you are particularly excited about with respect to your day-to-day role?

Keser: With Mifid II/Mifir in their post-implementation phase, my focus has now shifted to addressing much broader policy issues rather than just tackling pressing regulatory challenges. I can now devote more time to recognizing regulatory trends, and identifying potential growth opportunities for the Tradeweb business, which I am really excited about. Moreover, the Brexit deadline is getting closer by the minute, and I feel privileged to be helping my firm navigate this unprecedented political change. Tradeweb has already announced its plans to establish an EU entity in Amsterdam, and I look forward to working closely with the local regulators to ensure our European clients experience a smooth transition. W

Market Data Professional of the Year

Patti Sachs, Citi

Patti Sachs, the first recipient of the market data professional of the year category, believes in setting an example. Sachs, director of market data services and global head of compliance and exchanges for Citi, oversees market data use throughout the firm. She describes her job as educating the organization to meet compliance requirements, while also being transparent.

She says it is not just her experience in technology and data that has influenced her over her long career. "I think that career 'highlights' do not necessarily pertain to one's current career; there are many ways to develop different leadership skills," Sachs says. "Managing large and innovative book fairs to celebrate literacy, for example, has had an impact. Working with then-publishing clients to take over a large bookstore for the day, receiving a percentage of sales revenues benefiting schools, and having noted children's authors appear and read while the kids were spellbound have left a memorable impressions [on me]," she says.

Working with a variety of interests has been a part of Sachs' life even when she was an intellectual property lawyer before she moved into financial services. She was part of the team that worked on the landmark Digital Millennium Copyright Act, a law that helps prevents the unlicensed sharing of copyrighted material on the internet, where she collaborated with representatives from the music industry. She was also able to participate in a project to set up a direct broadcast satellite channel in Japan.

Recently, Sachs was part of the team that established exchange data licensing relationships with Citi globally to better find solutions and meet business demands. She believes in setting examples, a virtue, she says, that can encourage more women to enter the industry.

She works with young men and women who enter the market data industry individually and in corporate mentorship programs. "I have found that in addition to corporate programs or formal mentorships, it is often valuable to lead by example while working with other women just entering the business," Sachs says. "I think that the one-on-one relationships go a long way toward building confidence and developing useful skills."

More than mentorships, Sachs says the key to attracting more women to the industry is demonstrating how fun market data can be. "Market data today is fun, interesting and evolving, and there are plenty of different entrances to the business for women with diverse backgrounds and varied expertise," she says. "Our team at Citi comprises people with many different backgrounds and experiences—we all learn from each other's diverse perspectives."

—ED

"I have found that in addition to corporate programs or formal mentorships, it is often valuable to lead by example while working with other women just entering the business. I think that the one-on-one relationships go a long way toward building confidence and developing useful skills."

Vendor Professional of the Year

Veronica Augustsson, Cinnober Financial Technology

All CEOs of capital markets technology firms are busy people—that goes with the territory. But for Veronica Augustsson, CEO of Stockholm-based Cinnober Financial Technology and winner of the vendor professional of the year award, 2017 was an exceptional year by anyone's standards. With Augustsson at the helm, a position she assumed in September 2012, Cinnober delivered on four fronts during the course of 2017: there were a number of go-lives at stock exchanges and clearinghouses around the world; the firm undertook a share issue to fund a new subsidiary, Minium, which provides real-time, post-trade technology and services to investment banks, launched in October; and in May, Cinnober acquired London-based market surveillance provider Ancoa Software—not bad for 12 months.

"Last year was more than business as usual," Augustsson confirms. "We transformed pretty much during 2017: We prepared for Mifid II, we set up a subsidiary (Minium) to do the clearing for banks, and then we acquired a market surveillance company (Ancoa). We saw an opportunity to leverage the experience we had built up with exchanges and clearinghouses over the last 15 to 20 years and use it in a more scalable market. So it was a hectic year and a big strategic move for us."

Augustsson assumed the reins at Cinnober at the age of 33, having joined the firm as a developer in 2002 before moving into more client-facing roles. "The good thing was that internally, I had worked more or less with everyone in the firm—they knew me and could make up their minds about whether I was capable or not because they could see what I had done. I had also worked with most of the customers. I don't think they looked at me from a gender perspective, but rather in terms of competence."

Augustsson admits that she did have her doubts during her first 12 months in charge, but they receded once she had familiarized herself with the day-to-day practicalities of her remit. "The CEO's role came earlier than I thought and during my first year I was always a bit worried about whether I was missing something. But after a year, I was comfortable with what one cycle looked like and I knew about everything that needed to be done."

—VBA

"We saw an opportunity to leverage the experience we had built up with exchanges and clearinghouses over the last 15 to 20 years and use it in a more scalable market. So it was a hectic year and a big strategic move for us."

Reference Data Professional of the Year

Aouda Bellout, Schroders

Aouda Bellout did not even know that she had been nominated in this category in the 2018 WatersTechnology Women in Technology and Data Awards, so hearing that she has been voted reference data professional of the year was “quite a surprise,” although her selection is no surprise to the data team at Schroders, where Bellout is a corporate technology capability lead. The asset manager is undergoing an operational excellence initiative across its Luxembourg operations, where Bellout is based. A key part of the transformation is optimizing reference data processes, which is where Bellout shines by leading the technology teams developing the platforms. In the past year alone, Bellout delivered a new platform for product master data, led her team through the significant change of adopting a Scaled Agile Framework, and conducted a comprehensive review of how Schroders currently manages fund reference data.

Not bad for an accountant. That is how Bellout’s career started, and when asked about what she was most proud of, her response is her evolution into a technology leader. “I learned a lot about the mutual fund industry in Luxembourg and then managed to become more technical and develop more leadership skills,” she says.

Another pivotal change in her career was in April of 2016, when Peter Harrison was named group CEO of Schroders. Bellout says as the industry has undergone a “digital transformation” over the past few years, Harrison has used the opportunity to focus his firm on diversity, as well. Harrison led a push for more diverse recruitment and Bellout says the momentum has continued with development and innovation labs. “Many things have changed over the last two years,” Bellout says. “Schroders is currently a good place to be in terms of innovation, technical innovation, diversity and leadership. It’s comfortable to be here right now because it’s motivating, challenging, and we are currently trying to evolve in a very good manner.”

She says Schroders’ diversity creates a “synergy” that makes teams “very smart.” And while Bellout is pleased with the current climate at the firm, industry-wide, she’d like to see more women in C-level positions. “Why not a woman as CTO?” she asks.

In the meantime, she plans to use her role at Schroders to “drive more innovation.” Bellout’s work toward that goal has already begun, with a deep commitment to and involvement in creating a global business analyst community where colleagues can network, share information and find new ways of working across the firm to ensure her high standards are reflected in other teams.

—JH

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Rising Star (End-User)

Kari-Anne Clayton, Deutsche Bank

Kari-Anne Clayton, design thinking lead at Deutsche Bank, weaves together design, user experience, data, and business analysis to create efficiency and collaboration, a role for which she has been training her entire working life. Clayton, the 2018 WatersTechnology Women in Technology and Data Awards rising star (end-user), started her career in program management with a focus on Agile, before moving on to transformation programs, providing her with a unique combination of experiences that she says "form a common thread, trying to understand how data and technology play roles and fit into the business."

Clayton says she enjoys the collaborative aspect of her role the most. "Going in, discovering, empathizing with and letting folks understand and know that we are here to listen to them and to help, it's really about doing what's right for the bank and what is going to be the best for everyone involved. It's a holistic approach to innovation and problem-solving and change as a whole," she says.

Clayton doesn't just reserve those skills for her day job. She is actively involved in Deutsche Bank's programs focusing on advancing gender equality in the workplace and enabling differently-abled individuals. "Not every disability is visible," she says, adding that she enjoys the opportunity to be an advocate and "think about solutions for the bank that are accessible to everyone."

She and her team have also piloted some of their design-thinking techniques with school-age children in the community, "bringing them in for a day or two, getting them used to using some of these problem-solving techniques to solve things like why their school lunches are not great and how they might improve ordering efficiency."

These exercises, Claytons says, aren't necessarily about the finance industry, but can be "leveraged across multiple generations, multiple problems and multiple industries. Having that avenue is really interesting," she says.

As a leader in the delivery of Deutsche Bank's design-thinking capability and the subsequent launch of its Acceleration Lab in Canary Wharf, Clayton has made a significant industry impact, positively influencing more than 1,000 individuals across twenty countries and four divisions bank-wide, and she readily talks about her enthusiasm and passion for her work.

"I've had the benefit of working with some amazing leaders who share a similar passion and I think that if I can emulate that for others, naturally, I become a mentor," Clayton says, adding that transparency and a willingness to collaborate are key elements in creating and maximizing the potential of a diverse workforce.

—JH

"Going in, discovering, empathizing with and letting folks understand and know that we are here to listen to them and to help, it's really about doing what's right for the bank and what is going to be the best for everyone involved. It's a holistic approach to innovation and problem-solving and change as a whole."


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Rising Star (Vendor)

Hella Hoffmann, Thomson Reuters

Hella Hoffmann, data scientist at Thomson Reuters Labs, takes home this year's rising star (vendor) award. Despite having only left university in October 2015, Hoffmann, who specializes in graph databases and data cleaning/anomaly detection, possesses the ability to turn to new technical and business areas, immerse herself to an expert level, and deliver significant value for the firm. She is specifically interested in helping content and knowledge professionals work more effectively. To her, it is all about creating smart and transparent systems that allow for proper integration with user workflows. "My current focus on risk content automation was to fully understand user workflows and pain points in order to translate bottlenecks into artificial intelligence (AI)-assisted components that the user can trust and leverage. I love this type of work not only for the intellectual challenge of incorporating human needs into smart system design, but also for creating user satisfaction," she says.

One of her most significant contributions to the firm was on a high-profile project developing new solutions for risk content enrichment and review. Working directly with Alex Cesar, head of risk technology at Thomson Reuters, Hoffmann ran two separate eight-week projects to develop new risk products that reduce false positives, helping clients to tackle financial crime and human trafficking. "I managed to effectively deliver a vision and working prototype within a short timeframe, leading and coordinating an international team of more than a dozen contributors across five different time zones and communicating status and results to senior leadership along the way," she says.

Hoffmann has also mentored PhD students on data science challenges through the Alan Turing Institute, the UK's national data science institute.

The diversity of skills and thoughts in Thomson Reuters Labs inspires her to experiment with new technology and concepts. "That, combined with the willingness of customers and colleagues to share domain knowledge/user needs, has helped me to be more effective in solving important problems," she says.

Hoffmann strongly believes that in order to create effective and innovative solutions, truly diverse teams that can connect advancements in technology to the needs of users on the ground are necessary. "It's great to see female contributions in this domain being championed by this award," she adds.

Although she is a perfectionist by nature, she has learned to be more flexible and to even embrace ambiguity. Uncertainty can be an enabler for change, she says. "So, don't be afraid to try out that crazy idea, as failure is often a requisite for fruitful innovation and personal growth," she says.

—WSW

"I managed to effectively deliver a vision and working prototype within a short timeframe, leading and coordinating an international team of more than a dozen contributors across five different time zones and communicating status and results to senior leadership along the way."

Support Professional of the Year (End-User)

Anitha Iniyavan, RBC Capital Markets

By definition, support professionals are the unsung heroes of data teams, organizing, assisting and linking key team members and smoothing processes to ensure efficient delivery of services. Anitha Iniyavan, the 2018 WatersTechnology Women in Technology and Data Awards support professional of the year (end-user), still finds a way to stand out in her production support analyst role at RBC Capital Markets, by being a champion for tools she believes will make the business better. Specifically, Iniyavan led the implementation of Symphony instant messaging for RBC, ensuring users were organized and trained, plus she played a key role in the development of a chatbot that automates internal room creations.

Although her work on the Symphony implementation was a key driver in her nomination for this award, the program doesn't have much to do with Iniyavan's main role on the global market data operations and engineering team, responsible for designing, installing and supporting market data sourcing products. She simply knew Symphony would be "good for the business" and asked to lead the project.

Iniyaya has been nominated for RBC's 17 in 2017 awards within the bank and is also involved in RBC's newly formed Innovation Guild for Capital Markets, which led to another innovation: a digital suggestion box. Iniyava says the culture in the capital markets is changing toward more diversity, and when asked by RBC's global technology leader "how we can take it to the next level," Iniyava identified an opportunity. Sometimes, she says, employees new to an industry or company can be "hesitant," so she had an idea to "provide an anonymous way of asking people to come forward and present new ideas" in the form of the digital suggestion box, which is currently in its testing phase and is scheduled to go live by the end of the first quarter of this year.

In addition to her work bettering the lives of her co-workers, Iniyava is invested in "creating the next generation" of technology leaders as a volunteer for RBC's Teaching Kids to Code program, which visits classrooms to demonstrate coding basics hands-on with children, and globally, has devoted more than 10,000 hours to this mission.

Inivaya says that while right now it seems as though "every financial firm is dedicating people to hiring more women, there is still a lot more room for women in tech," adding that a commitment to diversity could reap benefits far beyond the business. "If women are more independent, it improves the community. If the community's doing well, the country is going to do well," she says.

—JH

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Support Professional of the Year (Vendor)

Dawn Patrick, Numerix

An average day for Dawn Patrick, CTO and winner of the support professional of the year (vendor) category, entails managing the company's day-to-day operations, driving projects forward and resolving inefficiencies. As someone who prefers to work behind the scenes, this year saw Patrick's hard work and performance in 2017 take center stage. As CTO for over five years, a pivotal part of her role is to work closely and support Numerix CEO Steve O'Hanlon. But last year in particular saw her overcome significant challenges in areas such as human resources, growth disruption, the acquisition of TFG Financial systems, and ISO compliance. "My job is to evaluate whether we are as nimble as possible—when do we have to put process and policy in place, how does that affect the overall operation, and what is the cost basis for any change we are going to engage in? Those are the critical things when you are growing a company and the company is growing relatively fast," Patrick explains.

During Numerix's March 2017 acquisition of TFG Financial Systems, Patrick was responsible for ensuring the smooth transition of personnel, allocating support where necessary, removing inefficiencies, and establishing fluid integration. "TGF is a very small company and they didn't have a lot of the departments that we have. They didn't have quality assurance, they didn't have support, they didn't have documentation, and their developers were engaged in doing all of this work, which was not very productive for them because it's much better for developers to be developing. So one of the first things we had to look at was how could we assist TFG in becoming part of the Numerix culture and taking away those points of operation that really weren't necessary for them to have."

Patrick joined Numerix in 2004 and over the ensuing 14 years has played a crucial role in diversifying the workforce. There were 40 employees when she started with the company, only four of whom were women. Today, in no small part due to her involvement, Numerix's headcount is 330, 48 percent of whom are women and 35 percent of whom do not identify as Caucasian. "Part of moving forward is to make sure that when a person is evaluated for a job at Numerix, they are evaluated on their merits and that we reach out to the largest pool of personnel in order to make any hires, and expand so that we are always looking at who is the best fit," she says.

—JG

"Part of moving forward is to make sure that when a person is evaluated for a job at Numerix, they are evaluated on their merits and that we reach out to the largest pool of personnel in order to make any hires, and expand so that we are always looking at who is the best fit."


numerix
INTELLIGENT FRONT TO RISK

Technology Innovator of the Year (End-User)

Kim Prado, RBC Capital Markets

The financial technology industry has few rock stars, but Kim Prado, global head of client insight, banking and digital channels technology at RBC Capital Markets, is certainly one of them. Having been at the forefront of technology for well over 20 years, she's been responsible for some of the most forward-thinking initiatives at RBC through partnerships with specialist tech firms, including OpenFin, GreenKey Technologies, Kensho and Digital Reasoning.

Indeed, the development and use of emerging technology—in particular, machine learning—has marked her 12-plus years at the Canadian banking giant. Under her leadership, the bank has rolled out its SalesBook order management system, which uses artificial intelligence to match axes and inventory, in order to present trade ideas to salespeople that are customized for clients. Her work on the customer relationship management side, too, has "resulted in RBC realizing a view of our total relationship with each client, increased communication across lines of business, geographies and asset classes and a more unified, comprehensive service delivery to our clients," according to an RBC spokesperson.

It's the rise of fintech, Prado says, that makes this an exciting time to work in her field. "I am excited about the possibilities presented by bringing technology that we increasingly see in our everyday lives, such as voice integration and social media, into our data management approach," she says. "Capturing and cleaning data to ensure we can structure, access and extract it in meaningful ways has limitless potential. Enhancements in technology, such as the normalization of communications methods, are at their most relevant when they can be tied to a tangible, financial benefit."

Earlier in her career, Prado was responsible for developing analytics and models derived from the first Unix-based market data platform, while during her time at a tier-one bank, she was involved in the development of electronic fixed-income trading, with the firm being one of the first dealers to go live on Tradeweb and Bloomberg Bond Trader.

Her work doesn't begin and end with machines, though. She has been deeply involved in the RBC Teaching Kids to Code initiative for several years, and is committed to ensuring that, as a sector, technology is doing as much as possible to develop a pipeline of new talent. "We also spend a lot of time working with various external bodies that go to schools and other professional settings to increase the appeal of technology as a career for women," she says. "Building that pipeline is a clear part of the mandate of everyone on my leadership team."

—JR

"Capturing and cleaning data to ensure we can structure, access and extract it in meaningful ways has limitless potential. Enhancements in technology, such as the normalization of communications methods, are at their most relevant when they can be tied to a tangible, financial benefit."

Technology Innovator of the Year (Vendor)

Jennifer Peve, DTCC

As the co-head of the Depository Trust and Clearing Corp.'s (DTCC's) office of fintech strategy, Jennifer Peve has the broad mandate of ensuring that the DTCC stays ahead of the industry when it comes to fintech. That means having to know about advancements in artificial intelligence (AI) and distributed ledgers, understanding the M&A market, and reading the tea leaves as to where the industry is heading so as to make sure that the company doesn't fall behind the rest of the industry when it comes to innovation. Easy enough, right? "There's a lot of work that goes into monitoring this space," says Peve, the winner of this year's technology innovator of the year award for vendor firms. "You have to understand each of the technology innovations and where they're at on the maturity lifecycle, and how we can leverage those innovations as enablers for business opportunities for each of our businesses. We work very closely with each of the different business heads to validate some of the technology's capabilities and how we might leverage them."

Peve has worked in the capital markets for 25 years, starting her career in 1993 at Basis Petroleum, which was later bought by Valero Energy. It was there, right at the start of her career, that she showed the kind of forward-thinking that would lead her to Cargill Inestor Services, Detica Consulting, CME Group and, finally, the DTCC. Two years into her career at Basis Petroleum, she asked management whether she could lead the creation of a new company to self-clear its proprietary trading at Nymex. They agreed and she became the clearinghouse supervisor for the refiner.

Today, one of her key roles is examining how distributed-ledger technologies will prove disruptive to the DTCC and how the organization will have to evolve. As such, she's helped to oversee the DTCC's efforts to "re-platform" its credit-default swap (CDS) trade information warehouse (TIW) on a distributed ledger. TIW automates the record-keeping, lifecycle events, and payment management for more than $11 trillion of cleared and bilateral credit derivatives. Once the project is complete—which is expected go live in early 2019—it could prove to be one of the largest applications of DLT to go live across the capital markets. "This is one of the most interesting projects that I've had the opportunity to work on in my career," she says. "What I really enjoyed about it is that DTCC embracing this type of technology innovation, which could be disruptive to our business, shows that we're willing to change our business model to help move this forward on behalf of the industry."

—AM

"You have to understand each of the technology innovations and where they're at on the maturity lifecycle, and how we can leverage those innovations as enablers for business opportunities for each of our businesses. We work very closely with each of the different business heads to validate some of the technology's capabilities and how we might leverage them."

Technology Leader of the Year (End-User)

Wendy Redshaw, Deutsche Bank

It is a truth universally acknowledged that leopards cannot change their spots. Wendy Redshaw would like to respectfully disagree. The CIO for collaborative technology solutions at Deutsche Bank, who wins the inaugural award for technology leader of the year (end-user), is instead a subscriber to the idea that it's not the leopard that stops its spots from changing—it's the environment.

Redshaw, who has worked as a consultant and a senior technologist at a who's-who of British and European banks over her career, including stints at Lloyds, Halifax Bank of Scotland, ING, Royal Bank of Scotland and Barclays Capital, has been putting this belief into practice for a while now through establishing what she calls a "virtual startup," which also won her a Silver Stevie Award this year. "I'd create the equivalent of a small startup within the organization, fairly noisily role-modeling the behaviors we are looking to cultivate, being transparent, Working Out Loud, and being open and inclusive," she says. Her experience is that this then becomes infectious among surrounding people and encourages them not only to engage, but to grow as well.

Of course, she has a string of impressive technical achievements to match her proclivity to inculcate excellence in her people. At Deutsche, for instance, she has implemented an Agile methodology, started an artificial intelligence and robotics program, and delivered an open-source web application framework named Kurve.

Even at the start of her career she was marked out as someone special, when a paper she wrote on user experience in 1990 was accepted by an international conference—she was so junior at the time that a board member had to fly out and accompany her to the conference.

But her focus is truly on people, at the end of the day. This isn't just psychobabble—recent scientific work in the field of neuroplasticity has shown that, rather than our ability to learn and change behaviors ceasing around the time of young adulthood, the human brain can form new neural pathways and connections in later life, if stimulated correctly.

She cites the fact that her team comprises Millennials through to those on the verge of retirement, yet it displays a youthful, dynamic mindset, as an example of this ability to continually learn and grow. "They're flourishing and they're living with a growth mindset, with a belief that they can really contribute, collaborate and bring value to people," she says. "It's not about them winning—it's about them, the team and the organization, winning. It's almost virtuous, as the benefits are for everyone—and, in terms of neuroplasticity, now there's some biological explanation for how and why this works."

—*JR*

"I'd create the equivalent of a small startup within the organization, fairly noisily role-modeling the behaviors we are looking to cultivate, being transparent, Working Out Loud, and being open and inclusive."

Technology Leader of the Year (Vendor)

Bethany Baer, IHS Markit

An interesting fact about IHS Markit Digital's CTO, Bethany Baer, is that she's relatively new to finance. Before joining the industry on the insurance side in 2011, her most significant stint was as a vice president in various roles at travel specialist Orbitz. "I started my career in traditional engineering but was drawn to IT early on as an exciting, emerging field," she says. "The experience and technology opportunities that I was able to capitalize on in the online retail space were exactly what the finance services industry needs now."

That experience certainly came in handy at IHS Markit, which she joined in 2016. In the past year, spokespeople for the firm say that she has "completely restructured the way we work." Part of this included a shift from Waterfall to the Agile methodology, which has dramatically reshaped internal structures at the company. "This was my third major, org-wide Agile transformation so I was able to apply a wealth of lessons learned from the previous initiatives," she says. "The largest challenges usually stem from cross-discipline alignment and role definition, and this time was no different."

Over the course of the project, she reorganized nearly 450 staff into cross-functional and aligned delivery teams. She also oversaw another major project during 2017, when IHS Markit moved its entire infrastructure to an outsourced, managed services private cloud.

Baer cites her experience at Orbitz as giving her a thorough background in areas such as personalization, digital marketing, and the use of machine learning, all of which are being brought to bear on IHS Markit's technology in the next year. "Next up for us is to operationalize and broadly distribute the latest innovations we've brought to market in the last year, including our personalization and offsite targeting engine, dynamic video for real-time and/or individual data visualization, and conversational user interface concepts that can move experiences away from traditional navigation mechanisms to question/answer type interactions that allow for typing, tapping, talking or even gesture-based interfaces," she says.

Her focus is also squarely on data, particularly in terms of moving away from traditional data warehouse structures, and into "less relational, data lake-type constructs," she adds. She is cognizant, however, that all of this technology work often encounters a very human problem as a root, and cites this as the biggest challenge for IHS Markit and the industry at present.

"Talent acquisition, retention and development are the most critical challenges facing the industry as demand far outpaces supply of passionate and skilled resources," she says. "As data and analytics need to drive more and more of the system design itself, the skill levels needed continue to rise."

—*JR*

"This was my third major, org-wide Agile transformation so I was able to apply a wealth of lessons learned from the previous initiatives. The largest challenges usually stem from cross-discipline alignment and role definition, and this time was no different."

Trade Execution Professional of the Year

Mariya Kurchuk, Pragma Securities

Mariya Kurchuk spent a decade studying and conducting research in the field of electrical engineering, ultimately earning a PhD in the subject from Columbia University in New York. It's natural to think, therefore, that she'd end up at Boeing, Lockheed Martin or IBM. But having become an expert in the field of electrical engineering, after receiving her doctorate she was seeking a new challenge. While she wasn't necessarily looking to end up working in the capital markets, along came Pragma Securities, the trading-tool provider for banks, brokers and asset managers. "I wanted to try something new and, frankly, something about which I knew very little. It seemed a little adventurous," says Kurchuk, winner of this year's trade execution professional of the year award. "The role at Pragma was not only an invitation to try something different and new, but to keep trying different and new things. Working on many different things simultaneously—research, development, data plant, business analysis, in addition to building a quant team—resonated so well with me."

It's proven to be a beneficial relationship for both Kurchuk and Pragma. After joining the firm in 2011 as a quantitative engineer, she was promoted to director of algorithmic trading in 2014 for Pragma, whose clients trade thousands of orders a day and utilize over 30 distinct algorithms.

Kurchuk and her team played an integral role in the vendor's expansion into algorithmic trading solutions for the foreign-exchange (FX) market, which is something that was both challenging and thrilling. "Though we came into it with experience and expertise in equities trading—an invaluable foundation—the FX market was a completely new and unfamiliar territory with its own rules and peculiar practices," she recalls. "For example, we had to incorporate firm pricing and last-look pricing, which doesn't exist in the other markets we trade in. In addition, since FX is traded 24 hours a day, we also had to think about how liquidity is different, depending on the time of day, and how to adapt the algo trading behavior to that time of day."

The key to the project was applying the team's knowledge of the US equity market, where liquidity is fragmented and there are order-routing issues, and applying the market microstructure nuances of equities to FX. "Over the course of studying the data, trying to understand how the market functions, and client input, we had developed an innovative way of thinking about execution and have designed high-performing trading tools based on our research," she says.

—AM

"The role at Pragma was not only an invitation to try something different and new, but to keep trying different and new things. Working on many different things simultaneously—research, development, data plant, business analysis, in addition to building a quant team—resonated so well with me."

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Vendor Partnership or Alliance Professional of the Year

Wendy Collins, UnaVista (LSEG)

Wendy Collins, managing director, global strategic partnerships at UnaVista, an operating unit of the London Stock Exchange Group (LSEG), wins this year's vendor partnership or alliance professional category, thanks to her contribution to establishing and growing the firm's alliance program. In its first 12 months, the program has grown to include 50 technology, consultancy and data firms, including Avaloq, Charles River, the Depository Trust & Clearing Corp. (DTCC), Eze Software, Finastra, IHS Markit, Message Automation, SIX and Tora. Prior to joining UnaVista in February 2016, she held various leadership roles including positions at Oracle and IBM.

As anyone who has made the transition from other industries to the capital markets will attest, the move is not without its challenges, as Collins explains: "Coming to a new sector—I hadn't worked in the capital markets before—was certainly a challenge in terms of getting to understand the industry. The other challenge was that when I came to UnaVista, there were very few—only two or three—partner engagements, so the fact that I was creating something new was a challenge, particularly because I was looking to understand the sector and the players."

Asked whether the organization has a formal program of identifying talented women and ensuring they are provided every opportunity to contribute to the business, Collins is clear: "The LSEG has a number of initiatives—I think it is one of the best organizations that I have been part of for identifying and supporting women," she says. "It has a women's network where women are able to see leaders and speakers from outside of the LSEG. It has also launched a mentoring program, which at the time was open only to women, although it is now open to men as well, which I think is important because you don't want prejudice one way or the other."

It is no secret that large numbers of alliance programs are headed up by women—not only in the capital markets but across all industries—which begs the question: Are women more adept at establishing and managing business relationship than their male counterparts? "Relationships are important, but at the end of the day the partnerships also have to offer commercial value to both firms," Collins explains. "But I do think that women can be good at building collaboration with external firms and often by nature are more collaborative, although in order to make partnerships successful there has to be a strong commercial element, which is where I think my strength lies, given my experience at IBM."

—VBA

"I do think that women can be good at building collaboration with external firms and often by nature are more collaborative, although in order to make partnerships successful there has to be a strong commercial element, which is where I think my strength lies, given my experience at IBM."

Trailblazer (Lifetime Achievement)

Debra Walton, Thomson Reuters

Debra Walton, global managing director, customer proposition, financial and risk at Thomson Reuters, is the first recipient of one of the two highest-profile awards of the Women in Technology and Data Awards, the other being WatersTechnology's woman of the year award, which goes to Bloomberg's Sallianne Taylor. Walton leads a team of approximately 1,200 and is responsible for setting the strategy and managing the operations of Thomson Reuters' data and intelligent information resources. She is a member of the firm's financial and risk division's executive leadership team and is the executive sponsor of the Thomson Reuters Women's Network.

"We have had a long-standing commitment to diversity—I founded the Women's Network at Thomson Financial back in 2003," Walton says. "Having a women's network and focusing on diversity is something that has been part of our culture for a long time. There are about 80 network affiliates within the firm around the world and they are affiliated into a central leadership team of which I am the executive sponsor."

Walton explains that in 2012, Jim Smith, Thomson Reuters' CEO, created a women's leadership steering group, of which she has been a part for the past five years, aimed at creating a top-down, metrics-driven focus to changing diversity within the firm. "We came up with operational pillars and programs around recruitment, development and then external partnering to drive a shift in our diversity profile," she says.

Speaking from Zurich, Walton, who was instrumental in the acquisition of the Redi execution management system (EMS) and setting up the Symphony Communication Services alliance, confirmed that she will leave Thomson Reuters as part of a deal announced at the end of January this year that will see the financial and risk business transferred to a Blackstone-managed entity, 55 percent of which will be owned by Blackstone with the remainder owned by Thomson Reuters. "This evolution comes at a time when the financial markets are going through tremendous paradigm shifts in technology, regulation and Millennial influence, and we need a different structure to enable us to invest more for the long term and that's what we'll get," she says.

Outside of her Thomson Reuters responsibilities, Walton holds wider community-based engagements; she is a former board member of the Women's Refugee Commission, a non-profit organization serving refugee women and children around the world. She was also on the board of the YWCA of New York City, and is currently an advisory board member of Springboard, a New York-based nonprofit that brings together entrepreneurs, investors and industry experts to help women take their business plans to market or expand their operations.

—VBA

"

Walton leads a team of approximately 1,200 and is responsible for setting the strategy and managing the operations of Thomson Reuters' data and intelligent information resources.

WatersTechnology's Woman of the Year

Sallianne Taylor, Bloomberg

Sallianne Taylor, Bloomberg's head of strategic alliances in the firm's global data group, wins this year's highest-profile award due in no small part to her astonishing 30-year career at the firm. She currently manages Bloomberg's strategic relationships with providers of real-time market data, including 350+ exchanges, clearinghouses and trading venues. "When I started, women in the City were not the norm—it wasn't uncommon, but it was predominantly a male-dominated environment," she recalls. "I have had female and male managers, and I've always felt that every move I've made has been because I've been recognized for what I have done and not because it's been a ticking of the box—it is genuine recognition and that has come from the grass roots."

Taylor has achieved much in her three decades at Bloomberg and is noncommittal when asked to single out a particular highlight. She explains, however, that a career in technology—especially capital markets technology—wasn't an obvious move for her, given that she studied languages at university, underscoring the importance of perseverance and flexibility in order to make the transition. "When I started at Bloomberg, I think it was my languages that got me in," she explains. "But then I voraciously studied and talked to people in the sales and application specialist teams and taught myself the financial markets. If I look back to when I was at school, I never would have imagined myself working in the City, and yet here I am."

In 2014 Taylor was elected to the executive committee of the FISD, part of the SIIA, where she also sits as co-chair of the data vendor group, while in 2016 she became part of Esma's Market Data Working Group. She also represents Bloomberg on the Corporate Working Group of the Sustainable Stock Exchange Initiative, and is working with a number of exchanges to facilitate the reporting of environmental, social and governance factors. Her roles at Bloomberg over the years have been extensive and varied, from playing a part of the original team that established the firm's analytics desk to working in Terminal sales across the French-speaking markets in Europe. She also contributed to the earliest enterprise products in Bloomberg's product suite. "There have been lots of things I've done that have been quite different: When I ran the help desk globally, that involved managing a group of 700 across the globe, which is very different to managing a much smaller team as I do now. So you learn different things along the way. They have all contributed to allow me to develop to such a point now where I really enjoy what I do because it is broad-reaching."

—VBA

"Taylor's roles at Bloomberg over the years have been extensive and varied, from playing a part of the original team that established the firm's analytics desk to working in Terminal sales across the French-speaking markets in Europe.

I Repeat: Bitcoin Mining Is Bad

Anthony once again takes aim at bitcoin mining and explains how the practice has had real-world consequences for residents of Plattsburgh, NY, where he went to college.

Pardon the repetition, but once more I'd like to rant about the perils of cryptocurrency mining. In case you don't know what crypto mining is, a quick explainer follows: In order to "win" a newly minted bitcoin, a very complex math problem has to be solved and that requires a ton of computational power. The surge in crypto popularity means professional mining operations run vast grids of computers, operating 24/7.

How much power is involved? Well, according to *Digiconomist*, as of March 22, bitcoin mining consumes 57.2 terawatt hours (TWh) of energy, and the publication's Bitcoin Energy Consumption Index, which tracks such things, has been rising at a hard 45-degree angle over the last six months.

To put it into context, it requires more energy to mine bitcoins than it does to power Greece, which has the 46th highest energy consumption in the world by country. And a little bit more perspective: Mining for one bitcoin consumes 847 kilowatt hours (kWh); processing 100,000 Visa transactions consumes 169 kWh. And the carbon footprint of bitcoin mining is terrible because, according to *Digiconomist*, "the [bitcoin] network is mostly fueled by coal-fired power plants in China," and produces 415.14 kilograms of carbon dioxide per transaction.

Have I made the point that this is more than just Internet funny money? OK. Well how about a little real-world example of its dangers to actual American taxpayers?

> "It requires more energy to mine bitcoins than it does to power Greece, which has the 46th highest energy consumption in the world.

Bitcoin not worth the damage?
For more information and readers' feedback please join the discussion at **waterstechnology.com**

Home Sweet Home

I graduated from Plattsburgh State University, which resides in a city nestled in the northern part of New York, bordering Vermont and Canada. The Moses-Saunders Power Dam—a hydroelectric dam on the St. Lawrence River—is nearby, and, according to Gizmodo, while the national average cost for electricity is just over 10 cents per kWh, Plattsburgh residents pay 4.5 cents, and industrial operations pay 2 cents per kWh.

But then two bitcoin-mining operations moved in, looking to take advantage of the cheaper energy costs. What resulted, because of the addition of these miners, is that the city hit its allotment of megawatt-hours (mWh) early, thus forcing it to buy energy on the open market.

From Plattsburgh's local paper, *The Press Republican*: "The city gets an allotment of inexpensive hydropower from the New York Power Authority, which allows for MLD to charge low rates. But when MLD goes over its allotment, it must buy more expensive power on the 'spot' market. The mayor said that money can be 50 to 100 times as costly.

The city exceeded its hydro allotment twice this winter, causing residential bills to balloon. And a significantly cold December and January also added to higher bills. … Tom Recny, CFO of Mold Rite, which employs nearly 500 workers in the city, said their bill went up $22,000 last month."

As a result, City of Plattsburgh councilors voted unanimously to impose an 18-month moratorium on any new crypto-mining operations. According to *The Press Republican*, some of the people who attended the council meeting were opposed to the moratorium because they believed that this might turn away other tech companies from coming to Plattsburgh, affecting jobs. But those in opposition should keep this in mind: Coinmint LLC, which is based out of Puerto Rico, operates both mining companies. At the council meeting, Coinmint spokesperson Kyle Carlton said the company employs only about 40 people globally, and he was unsure how many are currently working at the Plattsburgh sites. Forty people globally, but can't say for sure how many people work in the tiny city of Plattsburgh. Right…

People must ask themselves: Is it responsible to be using so much energy to mine a digital currency? Over 500 million households in the US could be powered by the energy it takes to mine bitcoin. Is it wise to invest in firms and portfolios that invest in bitcoin futures and, eventually, listed products? If you care about environment, social and governance (ESG) issues, the answer is no. Do you want to make a buck and worry about the consequences later? If so, be honest with yourself about it. And perhaps put a bit of the profit aside to pay for your power bill next year. W

The EU and US Are Playing a Dangerous Game

Political football doesn't work when crucial elements of the financial-market infrastructure are being kicked around, James says.

Can regulators agree?
For more information and readers' feedback please join the discussion at **waterstechnology.com**

Few things tax the market's patience more than squabbling among regulators—especially when it comes to reforms they put in place barely a few years ago. Back in the halcyon days of 2015, the inability of the European Commission (EC) and the US Commodity Futures Trading Commission (CFTC) to come together resulted in exasperation from market participants, who were set to get the short end of the stick if said regulators couldn't agree on recognizing one another's rulebooks before a hard deadline. A deal was eventually agreed, much to the relief of all involved, but now both the EC and the CFTC appear to be gearing up for a fight once again—their chosen battleground being, of course, the status of clearinghouses.

All of this stems from Brexit. Last summer, the EC unveiled a series of controversial proposals designed, among other things, to make a land grab for London-based LCH, the majority clearer of euro-denominated swaps. Ancillary strategies created to win this modern-day Agincourt have also included empowering the European Central Bank to act as a regulator of choice for central counterparty (CCP) clearinghouses, a flanking attack meant to secure European-level—not national-level—supervision, with a groundswell of support among the EC and the European Parliament making this likely to happen.

But it's the EC's insistence that they have oversight into third-country—European legalese for "foreign"—CCPs that has so ruffled the feathers of CFTC commissioners J Christopher Giancarlo, Rostin Behnam, and most explosively, Brian Quintenz. All came out strongly against the EU's proposals during the recent Futures Industry Association conference in Boca Raton, Florida, with Quintenz suggesting that the White House has the CFTC's back on this one.

> Clearing is not a sensible issue to have a standoff over, and everyone else seems to recognize that.

Privately, senior CFTC staffers tell me have been appalled with the attitude taken by their counterparts in the EC. While most assume—rightly so—that these proposals are meant to target the UK for what amounts to a pretty flimsy set of reasons (but what in reality amount to removing London from its position as the European financial capital), EC officials apparently told CFTC staff that the 2016 agreement would have to be renegotiated.

The Americans are not amused by this turn of events, to say the very least.

But the plot thickens. Even more privately, EU officials with a direct line to Vice President Vladis Dombrovskis, the EU finance minister, tell me that they're baffled by the recent line taken by the US on this. The agreement absolutely stands, they say—in fact, the proposals are patterned in part on how the US conducts its own supervision of CCPs. They're at a loss to explain the CFTC's reaction, which was mocked in a recent European Parliament hearing by EC staff quoting Shakespearean lines about ladies and protesting too much.

Either way, this is not a sensible way in which to conduct transatlantic relationships, particularly when something as crucial as clearing is involved.

I'm not being hyperbolic when I say that the result could be catastrophic. If the market is bifurcated because of punitive capital charges, nobody wins. Maybe a few CFTC commissioners get to raise their political profiles through a spat with the EC, maybe Europe gets to put the boot in to the UK for daring to leave the bloc, but ultimately, few in the market will end up happy.

The problem lies with the entire equivalence process, and its tendency toward exactly this kind of manipulation. Getting the EU to listen on that front is an impossible task, though, and getting the CFTC to stop anything mid-charge is like body-checking a bull during the Pamplona run.

Hopefully, everyone can take it down a notch, talk a bit more calmly, and get this sorted out, minus the posturing. Clearing is not a sensible issue to have a standoff over, and everyone else seems to recognize that. It's about time the supposed adults in the room did the same. W

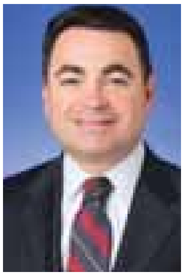
Human Capital

Former MSCI Managed Analytics Head Joins Axioma

Jason Connelly, former global head of analytics managed services at index provider and risk management software vendor MSCI, has joined risk and portfolio management software and regulatory reporting provider Axioma as managing director of business strategy and execution.

In this new role, he will collaborate with the vendor's marketing, specialists and sales teams to build go-to-market strategies and messaging to optimize its communications with clients.

Before his most recent role at MSCI, Connelly was global product manager for analytics at the vendor, a role he previously held at RiskMetrics, which MSCI acquired in 2010.



Warren Breakstone

Prior to that he was a product manager at JPMorgan's Arrakis analytics and online banking infrastructure platform, which RiskMetrics acquired in 2003. Before that, he was a trading and operations manager at Platinum Online International, which acquired the FarSight Financial trading business from DE Shaw, where he was a trader. Based in New York, Connelly reports to Axioma CTO Fabien Couderc.

Jason Connelly

S&P Shuffles Execs Following Divisional Restructure

Data, indexes and ratings provider S&P Global has assigned new roles to a number of senior executives following the implementation of a new organizational structure at the start of this year. The vendor has named Nick Cafferillo as global CTO at S&P Global, responsible for software engineering, product platforms, development, and data science. Cafferillo was previously COO for S&P's Global Market Intelligence (GMI) division, and has spent a decade at the vendor, which he joined in 2008 from Institutional Shareholder Services, where he spent five years, including the role of chief product officer for ISS and for RiskMetrics Group. Before that, he was executive vice president of product management at Thomson Financial.

In addition, S&P has appointed Warren Breakstone chief product officer at S&P GMI. Breakstone was most recently managing director and general manager of the capital markets group within GMI, and in his new role will be responsible for GMI's datafeed and digital distribution platform, and for expanding digital consumption and distribution of data across the vendor. Breakstone joined S&P in 2015 from Thomson Reuters, where he spent a total of 16 years, most recently as senior vice president of operations and technology. Before that, he spent six years at Chase Manhattan Bank with various responsibilities, including brand management and reengineering the bank's wealth management and direct banking platform.

Richard Tufft

The new roles follow S&P's decision to revamp its operating model into four divisions—S&P Global Ratings, S&P GMI, S&P Global Platts (now separate from GMI) and S&P Dow Jones Indices—effective January 1 this year.

Velocimetrics Taps Ex-Goldman Sachs Research COO as Director

UK-based latency and systems performance monitoring vendor Velocimetrics has hired Richard Tufft, former COO of research at Goldman Sachs, as a London-based non-executive director to contribute to the company's positioning and new business initiatives.

Officials say Tufft will develop Velocimetrics' positioning and messaging to ensure its products "speak to" users among bankers, traders and compliance professionals as well as IT staff, and will be a spokesperson for the company as well as being engaged in new business efforts with its other directors.

Tufft spent the past 16 years at Goldman Sachs in a variety of roles, including regional head of equity research for EMEA, a managing director and partner, and he was responsible for overall commercial development of the firm's research department. He joined the bank in 2001 as a marketing analyst from ABN Amro, where he was a research analyst covering the insurance sector, prior to which he held similar roles at Donaldson, Lufkin & Jenrette, and at Datamonitor.

SSGA Promotes MacNevin to Head of Asia-Pacific

State Street Global Advisors (SSGA), the asset management arm of State Street Corp., has appointed James MacNevin as head of its Asia-Pacific business. MacNevin was formerly the asset manager's COO for Asia-Pacific. He takes over from Lochiel Crafter, who is now head of the global institutional group responsible for SSGA's institutional distribution globally. Based in Sydney, MacNevin is responsible for SSGA's business in the Asia-Pacific region and will report directly to Crafter.


James MacNevin

Prior to his role as Asia-Pacific COO, MacNevin was the international head of operations and technology based in London.

RegTek.Solutions Makes Two Senior Sales Hires

Regulatory reporting solutions vendor RegTek.Solutions has bolstered its sales leadership team in North America and Europe. Tom Morris, the company's new London-based head of sales for Europe, joins the business from NEX Group, where he was head of regulatory reporting solutions responsible for the business development of NEX's Mifid II, EMIR and SFTR products. Prior to NEX, Morris led sales and relationship management at MarketAxess (Trax). His 20-year post-trade sales career also includes senior roles at LSE Group, Markit and UBS.

Rob McGowan, RegTek.Solutions' new head of sales for North America, joins the firm from SmartStream Technologies, where he was senior vice president of sales. He also has 20 years of sales experience, including positions at Duco, Infogix and Ericom Software. McGowan will be based in New York. Both report to CEO Brian Lynch.


Tom Morris

Risk Focus Appoints Harding and Hair as Sales Directors

Risk Focus is expanding its senior leadership team with the appointment of two new directors: Don Harding and Kelly Hair. Based in New York, Harding is set to be appointed as the sales director of the firm's financial services division and Hair will be responsible for driving sales in cloud and DevOps.

Risk Focus, formed in 2004, offers consultancy services in areas including regulation, risk and cloud-enabled software.

Rimes Taps Markit's Scott to Head EMEA, Asia Sales

New York-based managed data services provider Rimes Technologies has hired Ewan Scott as head of sales for EMEA and Asia Pacific, a newly created role responsible for accelerating sales growth across Rimes' managed services and regulatory data solutions in those regions.

Scott joins Rimes from IHS Markit, where he spent six years, and was head of sales in EMEA for enterprise data management. He joined Markit via its 2012 acquisition of Cadis Software, where he spent two years in senior sales roles. Before that, he held sales roles at Fiserv and Checkfree, and support roles at middleware vendors Braid and Mercator.

Based in London, Scott reports to Rimes CEO Christian Fauvelais, who says the appointment under-

Ewan Scott

scores Rimes’ commitment to clients in EMEA and Asia, and will help customers in these regions adapt to a “fast-changing regulatory environment,” while helping them integrate the vendor’s data into their operations.

Bruenjes to Head Smartkarma’s New Frankfurt Office

Singapore-based research provider Smartkarma has appointed Tim Bruenjes, head of Continental Europe, to run its newly opened Frankfurt office, part of the vendor’s efforts to expand its research network across Europe.

Bruenjes—whose role includes building a pan-European network of independent research providers as well as serving institutional investors in Europe with Smartkarma’s existing research—joined the vendor in 2016 from Pimco, where he was senior vice president and head of Asia-Pacific equity and derivatives trading, prior to which he spent a decade in various roles at DWS Investments, part of Deutsche Bank’s Asset Management business.

Bruenjes says Smartkarma decided to open the Frankfurt office in response to demand from European firms for Asia-focused research.

QuasarDB Taps Tech Sales Vet Jones for EMEA BizDev

Paris-based database technology provider QuasarDB has hired Peter Jones in London as a business development executive on the vendor’s EMEA sales team, responsible for business development activities in the region.

Jones, who has more than 30 years’ experience in technology sales and product management, is also CEO and owner of business development agency Jaag, through which he also serves as vice president of sales and business development at German distributed cloud technology provider Cloudseeds, and EMEA sales representative at both UK-based trading analytics vendor Packets2Disk and high-performance microprocessor provider Solarflare Communications. Before Solarflare, Jones was a sales and marketing consultant at SMC Networks, marketing business development consultant at Ario Data Networks, and vice president of sales and marketing at Troika Networks (acquired by Qlogic). He reports to QuasarDB COO Jean-Claude Tagger.

Duco Taps Trostinsky to Oversee Hybrid SaaS Software

London-based cloud data engineering platform provider Duco has hired Julian Trostinsky as vice president of global services, overseeing Duco’s Hybrid SaaS self-service reconciliation solution software and the new version of Duco Cube. Trostinsky will also be responsible for expanding Duco’s global services division in order to offer onboarding for customers’ reconciliations, advice on market best practices, and operational transformation and total cost of ownership (TCO) reduction services.

Trostinsky has several years’ experience in reconciliation and data optimization deployments in his previous positions as a project manager at Citi, managing director of reconciliation system services at Bank of New York Mellon, and head of global operations and client services at SmartStream.

Duco launched the newest edition of its Duco Cube Hybrid SaaS solution on March 17 as part of its cloud-based software. The service produces monthly releases and allows clients to internalize their data privately or publicly on Duco’s cloud infrastructure. W

Peter Jones