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The Finance Hive: FX in Focus -

The Path to Automation Utopia

Commentary and advice from EMEA members

Why now: Recent developments have accelerated the importance of FX automation

When the pandemic moved desks from the trading floor to individual living rooms, kitchens and bedrooms globally, the quest for automation quickly moved up the agenda, and these strange times only served to highlight how vital technology has become on the trading desk. Using technology to improve order processes, workflows and execution standards while reducing human error is a huge driver on the buy side, motivating institutions to step-up their pursuit towards a more automated FX flow.

What is abundantly clear from recent meetings in The Finance Hive, is that buy side firms are getting serious about automation, investing heavily to make sure their processes are fully automated, and integrating workflow optimisation solutions within their workflow. From large to small, all buy side firms are at a different stage of their journey, but all are now ensuring they are on the spectrum in order to not get left behind by the competition.

The route to automation is borne out of the necessity to increase efficiencies and enable traders to focus on the true value-add areas of execution. As FX order flow grows on a buy side desk, there are three paths a trading head can take:

1. Hire more traders
2. Invest in developing and building more technology
3. Trade smarter and optimise your FX flow

FX heads are now opting for the latter, which enables them to free up time for traders to focus their time, skills and relationships on more complex transactions, reduces the risk of human error, and speeds up the repeatable areas of execution, thus optimising their flow.

To better understand how buy side leaders are embracing automation across their desks, The Finance Hive and 360T hosted a Digital Boardroom for a select group of head traders and technologists to brainstorm, benchmark and share experiences. This report provides some of the key takeaways from this buy side discussion and focuses on six crucial themes:

1. The motivation behind automation
2. How FX heads define and use automation now
3. Key barriers and how to overcome them
4. Creating a data foundation for automation
5. Critical controls, rules and customisation capabilities
6. How to use automation to improve counterparty selection and performance

> *"You want to recognise and embrace technology to make your workflow as efficient as possible, enabling your traders to focus on areas where they can add significant value to both the trading desk and your end clients. Ultimately, if there is a way to automate your small FX trades and you are comfortable with the rate within your framework, why would you not look to automate these trades? The more material something is, the more high touch it needs to be, so it is crucial to find a way to get through as much of the noise as possible and focus your traders attention on areas where they can add the most value. Any driver for automation is to facilitate a smooth execution in the areas where there is little value add and embrace technology while still keeping the oversight of a trader."*
>
> ***Clark Simpson, Head of Trading, Mondrian Investment Partners***

Discussion moderated by:

360T | DEUTSCHE BÖRSE GROUP

"With the drive for greater transparency, our clients (public funds, blue-chip funds, endowments and foundations) have become much more aware of the link between transparency and automation, with automation now seen as mandatory. With this light on transparency, we have found that the custodial fees for FX and others can be eyewatering, which appear small at first viewing, but when minimum fees apply, they can suddenly get expensive very quickly. Now, the solutions that institutional clients have got are no longer suitable as the drive for greater transparency with pricing and fees continues on an upward trajectory."

Rebecca Venis, Director of Strategic Initiatives, Record Currency Management

"At 360T we partner with buy side firms of all shapes and sizes to help them optimise their workflows and automate parts of their FX trading, and there are consistent factors driving these firms in each case. Everyone is under pressure to handle more FX flows with headcounts and tech budgets that have largely remained static, and automation helps alleviate this by increasing the trading desks' efficiency and productivity. Operational risk is top of mind for many people, especially in a WFH (working from home) environment and implementing rules-based automation for processes and workflows ensures that this is reduced. On top of this, we see that buy side firms are eager to deploy the skill and expertise of their traders more effectively. By automatically executing some of their FX, firms are dramatically reducing the amount of time traders have to spend mindlessly clicking to execute vanilla trades and freeing them up for more valuable tasks. As a result, we see traders at these firms now spending more time working with the PMs in a consultative fashion, drilling down into the data to understand how they can be executing better, focusing on large or complex orders and working on internal projects designed to further boost the trading desk."

Sebastian Hofmann-Werther, Head of EMEA, 360T

Automation and implementation: As defined by Heads of FX

Automation is not a one-size fits all solution, nor it is an all-or nothing proposition, and all buy side firms are at different stages of their automation journey and evolving at their own pace. Whether large or small, some firms are now just starting out by automating smaller, low touch flow of sub $1m and enabling their traders to focus on more high value trades. Others who have a centralised trading desk are using automation to take advantage of liquidity in other financial centres at certain times of the day. And there are those who are much more advanced with automation, using this technology across numerous facets of the execution process, such as broker selection, trading protocol and execution paths, including multiple algos which will decide how to execute, the timing and best price.

The benefits of automation:

- Increased safety
- Increased trading efficiencies
- Increased speed
- Reduced risk
- Reduced human error
- Consistent performance
- Improved trading outcomes
- Improved audit trail

"Often within an FX mandate, there are a high number of trades that are usually quite small, and predominantly but not exclusively these are spot trades. The thought process for us is that in reality, traders cannot really add any value in these areas, so automation makes us much more efficient here and takes away this burden from the traders; this was our thought process for starting our automation journey. After this, we also have trades we do on a day-to-day basis for our hedging or absolute return clients which fall into a similar bracket of small and low touch, where there is no market impact and traders are just clicking for trades and hitting prices. Again, there is no value add here as a human trader and for us we are not using the time of our human traders efficiently if we do not automate across these areas."

James Rockall, Head of Trading, Record Currency Management

Buy side automation Case Study: GIC
GIC started automating in the FX space 2.5 years ago with small steps, and have become one of the most advanced buy side firms with regards to automating their FX flow, with over 60% of their FX trades executed through automation with currency pairs up to $115Bn. GIC currently automate in the below areas:

- Trade path and execution protocol- Algos will decide whether to take the RFQ or the algo route
- RFQ counterparty selection- Their system recommends which counterparties they can ask based on currency basis, size of order, and time of day basis.
- Bank provided algos- They have algo wheels in place based on alpha profile, Portfolio Manager intention, and have different sets of wheels for these criteria. Each algo wheel has different counterparties on different wheels, selected on performance-based weighting.
- Pre-trade algos; These rules are based on limit order, type of order, and comments left by the PM on orders. If the markets look to wide, they may then decide for manual intervention.
- If they want to RFQ and don't have enough answers and cannot trade, it will go back into the system, still goes through an algo, and eventually gets automated.

The next steps for GIC include using algos for bilateral liquidity trading on streams, moving away from a full RFQ, and taking it on themselves on how fast to trade, and how to split an order when trading on the streams.

> *"Automation requires a combined effort from traders for design, coders for the code and the EMS for permitting our intellectual property to work seamlessly in their infrastructure, so some of the biggest challenges were to get all the pods to compromise. Sometimes the design was too complicated or the code was the issue or the platform just wasn't flexible enough and we had to simplify early version of the engine to make it work. Slow and incremental is the only way to achieve the intended results, 'baby steps'."*
>
> ***Nicolas Bader, Senior Multi-Asset Trader, GIC***

Demystifying the top 3 pre-conceived perceptions of automation:

Our buy side working group mentioned the below areas as initial barriers to automation:

1. The perception that you are putting a trader out of a job.
2. Ability to implement automation within current legacy infrastructure.
3. Difficulty in establishing where to start on your automation journey.

"Automated and human trading goes hand in hand"

The fear that automation can take over a trader's job and render human traders obsolete is entirely misinformed. Those who have fully embraced automation did so with the purpose of using this tool as part of a trader's toolkit and have reaped numerous timesaving and efficiency benefits across the desk. Without automation, traders commonly spend a lot of time on low-touch, repetitive trades which takes away their focus from the larger, more complex trades where trader expertise is essential. These low touch-repetitive trades are ripe for automation and will allow your traders to use their knowledge, relationships and skills where they really matter. Over time, traders who have automated tools to assist them have gained trust in the rules and processes, leading to a natural evolution with 'smarter automation', enhancing the human vs. machine relationship, and opening doors to more sophisticated automation across a broader range of FX products. The common fear amongst buy side members now is of being left behind by not incorporating any aspect of automation, meaning their trading desk does not operate as efficiently as competitors.

> *"If you are looking automation, the first step is to think about what percentage of your business lends itself to this, how much time your dealers spend on it, and how much time you want to spend on it. For example, if your FX operation is not part of your tactical or strategic investment decisions, automation adds a tremendous value here."*
>
> ***James Rockall, Head of Trading, Record Currency Management***

"Automation is part of FX and is essential to maintain an edge on the buy side"

While spreadsheets may have been an FX trader go-to in the past, automation combined with digitalisation is changing how the buy side trade FX. The transition from older legacy systems towards automation is a natural evolution of the market that is designed to make the whole trading process much more seamless. Our buy side members have made it clear that, now more than ever, the FX market is open to embracing change and catching up with the pace set by their equity counterparts. Our members were in agreement that they are able to adopt plug and play solutions that sit on top of their current infrastructure through APIs. The benefits that APIs have brought to the buy side has been the ability to automate anything from normal spot trading to FX forwards and swaps, as well as serving as great risk management tools as operational risk and human errors have been eliminated.

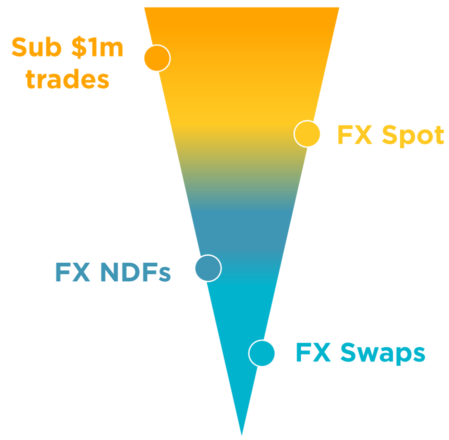
"“Legacy systems are not necessarily designed for automation and it is always a challenge when implementing this kind of agile technology. You want to be able to benefit from the decades of experience with the trading team you have from day 1, as well as being able to acknowledge and appreciate that automation and traders are two separate workflows, therefore you need to evolve with automation to incorporate it as a new feature on the desk that compliments your trader's skillsets. There needs to be a cross benefit that is brought to the firm too. You want both traders and machines to 'cross-pollinate' and set this up to have benefits for both automation and traders and not have one cannibalise the other. This takes a lot of design and understanding from the start to ensure this is not where you end up."

Rebecca Venis, Director of Strategic Initiatives, Record Currency Management

"Start out with your smaller, repetitive trades and work your way up from there"

All members who have already started on the path to automation did so with sub $1m trades in commonly traded G10 currencies, giving traders the confidence and trust in the process by enabling machines to read entire blotters and automating the smaller spot trades mentioned above. As confidence increased, members then turned their automation towards larger trades, and eventually to using sophisticated algo wheels. When starting out with automation, it is natural for most trades from a blotter to come back and be rejected, but as you add more rules and benchmarks based on your confidence, the number of trades coming back to human traders will decrease, and consequently trust in the process increases. With automation at the top end of the FX spectrum moving towards high touch trades, buy side firms are now embracing automation beyond execution, using this to pool liquidity from different sources into one central area as FX markets become more equity like. Automating both liquidity pools and execution avenues means machines are responding to liquidity more appropriately and automation in the high touch area is now becoming a reality.

Trades that lend themselves to automation:



Current buy side levels of automation

"There is not one size fits all solution for everyone. You need a platform that offers enough flexibility that you can make work for your own FX workflow. Some buy side firms have their own IP and rules engine, meaning they don't have to rely on a 3rd party vendor; to me this is the way forward as you are not constrained by one single platform, meaning you only use an outside party for your execution. It is about flexibility and trying to have the best of both worlds."

Clark Simpson, Head of Trading, Mondrian Investment Partners

"Our experience has taught us that every buy side workflow is unique and therefore any automated technology solutions that these firms implement need to be specifically tailored accordingly. We have invested heavily over many years to ensure that we are integrated with all the major OMS providers, as well as working with internal buy side technology teams to develop API links to proprietary in-house systems too. We also spend a huge amount of time working in a consultative role with our clients to really get a deep understanding of what they're trying to achieve by automating their FX process. From there we produce a series of concrete steps that align with those stated goals whilst also requiring a minimal technological and operational lift on their end. Typically, what we find is that buy side firms like to automate one element of their workflow or execution process, take the time to validate the benefits that this has delivered to them, and then progress onwards to tackle another part."

Sebastian Hofmann-Werther, Head of EMEA, 360T

Data: The Foundation of Automation Beyond Spot

Many firms dictate that trades should only be executed automatically at certain times of day, and if they are within a certain threshold of the market mid-point. For spot trades, our members were in complete agreement that there is no lack of data, with access to good quality historic feeds and external data sources. By contrast, obtaining this data for non-spot products has been a much tricker prospect due to the fact these products do not trade as much on electronic platforms and the data is not as widely available.

However, as some buy side firms have already automated the majority of their spot FX trades, they have naturally turned their focus to building a data flow that can enable automation beyond spot. To do this, buy side members gave the advice for those starting out to set a long-term plan for their automation goals, establishing from the outset what products they want to automate beyond spot, thus building a data foundation that can feed their automation goals from the beginning. This involves a combination of obtaining historic data over a long period of time for non-spot trades, as well as partnering with third-party vendors who can provide a reliable non-spot data source, helping the buy side obtain a reliable mid-point in these areas, and confidently auto-execute based on these pre-defined tolerances.

> *"Data really is the fuel for automated trading solutions and, as people often say, it's a matter of quality in, quality out. It's vital that buy side firms need to have the right data embedded in their automated trading solutions for many reasons, including for benchmarking trades, ensuring they achieve best execution, tolerance checks and maintaining a fully accurate and comprehensive audit trail of activity. We're also seeing some of our clients leverage our unique Swaps Data Feed (SDF) in innovative ways. For example, some clients have combined the SDF with the highly bespoke ruleset offered by our EMS to effectively build their own algos for trading non-spot FX products."*
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> ***Sebastian Hofmann-Werther, Head of EMEA, 360T***

TCA is absolutely crucial for benchmarking your automation and turning your data into useful information. Collecting this data and feeding it into your pre-trade cycle will give you much more transparency of markets, but more importantly will ultimately enable buy side firms to automate more FX flow. The more pre-trade data you can obtain - from post trade pricing, currency sizes and broker selection for example - will enable you to create rules and set a benchmark for your automated execution.

Once you have a strong data foundation in place, you need to be able to trust your EMS system to obtain data and be able to feed this into your in-house TCA. All of these systems need to be interlinked and have the ability together all your past performance data for your EMS to use to come up with future recommendations.

> *"Any automation technology must integrate nicely with your own internal OMS. It is important to have a specific front end execution system for FX that plugs into your OMS, as well as a rules engine to test and model trades. Then you want to use an external provider that can offer you that trader mindset when you engage with the market, something that will help you actually execute and something that the trader feels very comfortable with. These are always viewed best when you think of them as a commercial partnership. For example, you need to leverage your partners and ensure you are and getting execution data back, so you can see what the market is trading at, obtain key information and enabling your partners to provide a gateway to trading through this information. Unfortunately, there is currently still a huge data gap in the market and this will be an ongoing work in progress."*
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> ***Clark Simpson, Head of Trading, Mondrian Investment Partners***

> *"With all the information coming in and the way that current mandates are structured with clients, we need programmes set up by our implementation teams to ensure that our OMS prompts our traders to do the trades we want at the right times. Whether going through and OMS or not, this needs to be structured faster, and the format needs to be translated into something that is rationalised and automated through a 3rd party system. With existing mandates, it is a matter of making workflow go down two different routes. For example, setting a filter for every G10 trade under £5m as a first rule, and only then letting it fall into following automation rules within the workflow you are currently using for the rest of your execution, and anything above that threshold goes to a trader. It definitely has changed the way our workflow has been set up."*
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> ***James Rockall, Head of Trading, Record Currency Management***

Controls and rules for automation: Customisation is key

The key to both trust and success with FX automation is the ability to customise to your needs and ensure the controls and rules you have around this can meet the needs of your firm. In addition to this, members discussed the ability to regularly update and adapt your automation is crucial to ensure it keeps up with market developments. The buy side firms in attendance recommended following the rules mentioned here as a base for your automation journey.

> *"There are two key areas. Firstly, you need explicit rules that are set internally by your compliance and risk teams. For example, setting rules that certain accounts only trade with certain counterparties, or rules around spot, forwards, credit controls and collateralisation. Secondly, and much more challenging, you need to have rules set by traders on acceptable spreads, volatility and slippage. The trader mentality and control has always been very difficult to overlay on any asset class when implementing automation, just like straight through processing has been on liquid equity or rates. It is essential that you educate and put the trader mindset at the forefront of your automation projects."*
>
> ***Clark Simpson, Head of Trading, Mondrian Investment Partners***

Starting out with these rules, alongside key 'acceptance rules' which decide whether a trade should be automated or not, will enable you to gain trust and set out your roadmap to more automation in future. With these controls in place, you will then be able to step in with human intervention when needed, customise your automation to meet your needs at any point, and ultimately quantify your automated trades, comparing them with like-for-like human executed trades in the past and measuring performance.

Essential automation rules:

1. Size
2. Currency pair
3. Time of day
4. Available counterparties
5. Liquidity

Key 'acceptance rules' on whether a trade should be automated:

X number of quotes received

X banks involved

> *"Most crucially, we start with our best execution mandates, and limits we initially want set around trades. The other part is making sure the feed from the client and custodian is within the realms of the client mandate we have signed up for, for example spot only; your system needs to be able to tell you when you cannot do something. Something that is less tangible is the visibility element to automation. You need to be able to make sure that order handling is fair and the sizes of trades you are automating is not impacting the market. The traders who are looking at things are adding value probably do not have the visibility of what is going on in the automated trading, so you do need to be careful that you are not conflicting liquidity and making a mess in certain areas. If a client gives you a different currency, if there is value to be added and if it is at a systematic level, you need the capabilities to revise your rules. There are definitely advantages to have revisions to rules and controls so you can develop these in real time with flexibility, ensuring the benefits of automation continue with market developments."*
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> ***James Rockall, Head of Trading, Record Currency Management***

As your business develops and evolves, there will always be new demands for automation. Therefore, constant reviewing of your automation is absolutely essential, alongside a flexible automated process in place that can adapt to constant market changes. To do this, members stressed the importance of either monthly or quarterly checks and updates for your automated trades, including tweaking the rules and controls based on past performance and market changes:

- ✓ Tolerance checks- ensuring you are collecting the data for all FX products (not just spot) to help you reach an accurate mid-point to meet best execution mandates.
- ✓ Benchmarks- ensuring the data you have is creating the right benchmarks for future trades.
- ✓ Algos- customising your parameters for future trades and constantly tweaking and evolving these as you become more sophisticated.
- ✓ Volatile trading days- evaluating your automated trading performance during times of market stress, assessing consistency and performance vs. mid, and making changes based on this.
- ✓ Compliance- ensuring the data you have embedded is accurate to make it easier to meet your compliance goals.

> *"For us at GIC, we have revolved our rules across five key areas. Firstly, we have our own internal requirements, which includes fund setup, counterparty setup, and available credit lines for example. Secondly, we look at PM intentions such as comments on orders or special instructions. After this we then look at market conditions, ensuring that the market is not too volatile, and spreads are in line with historical levels to avoid a higher cost of trading. Next, we then create rules around optimisation, which is based on achieving the best possible outcome through counterparty selections, best route to trade, maximum size and time of day. Finally, we look at trading etiquette, for example assessing reasonable wait times between trades."*
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> ***Nicolas Bader, Senior Multi-Asset Trader, GIC***

Broker selection: Maintaining your relationships

Broker selection through algos is a huge piece of the puzzle and has been proven to provide huge efficiency gains and time-saving benefits to those that have implemented a process for this. Those that have done so have built their broker selection process based on past data and their counterparties' historic performance, which is split by specific currency pairs and limited up to a maximum size. Any trades that come over this size threshold and outside the selected currency pairs will take the high touch route with trader intervention.

> *"Just because you are automating, doesn't mean you are giving less revenue to your partners. We are talking about automating trades where there is little margin for a trader to add value anyway, so you should be focusing on the larger trades in which you are working and getting more value out of your counterparties. Embracing auto execution shouldn't be associated with reducing revenues for any counterparts and getting this across to the sell side is just as important as getting the buy side to fully embrace automation in the first place."*
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> ***Clark Simpson, Head of Trading, Mondrian Investment Partners***

One of the challenges with automation centres around the impact this will have on counterparty relationships, however the common view from members is that automation has in-fact enhanced both the relationship they have with their counterparties, plus the performance of those who they work with. The two most common strategies that have enabled the buy side to enhance their broker relationships with the use of automation include:

1. Ranking your brokers by tiers one, two and three: This means you are still using all your counterparties, and you are giving tier 2 and 3 brokers the opportunity to improve performance over time to 'move up tiers'. Human traders do struggle to beat machine generated lists of providers through RFQ. This is all based on past performance and statistical conclusions.
2. Create a 50/50 split of best performers and a random selection: Selecting 50% of the counterparties based on past performance and hit ratio, and including the other 50% randomly, which enables banks to keep that competitive edge, and encourages banks to improve their service towards you. This means you keep all your counterparties on your panel, and they are all working to improve for you.

"It's funny that one of the most common concerns when we first start talking to firms about automation – that it will nullify the human element on the desk – is always the first one that disappears once they actually start implementing this technology. At 360T we've always seen technology as an enabler, both of human abilities and relationships, and this is certainly the case with automation. The buy side firms we partner with all report that in fact their FX traders love this technology because it frees them up to focus their efforts on the more value-add activity on the desk where they can really make a difference to its overall performance. Equally, these traders find that once they spend less time asking their counterparties for prices on vanilla products, they instead begin having deeper conversations about how they can improve their pricing going forward."

Sebastian Hofmann-Werther, Head of EMEA, 360T

"We have never had any worries about traders thinking automation will take their jobs. Within our team, our traders have fully embraced automation, and have enjoyed automation tools taking over the mundane tasks for them and enabling them to focus on more high-value areas. All in all, automation does not affect our broker relationships, I say this as we still have full visibility of the quotes we have, still use the same TCA, and still offer direct feedback. If we really needed to, we could split out automated trading, but they don't feel the need. With broker relationships, I do not have any concerns. Some systems take everyone's data and provide you with market insights detailing the top bank, 2nd bank, 3rd bank etc. for certain trades across the industry. It is crucial to know that to one buy side firm bank 1 may be excellent, but to another it may be terrible; you should always rely on your own metrics and execution data rather than rely on an accumulation across the whole market."

James Rockall, Head of Trading, Record Currency Management

Executive Summary From 360T

"There seems to be a strong consensus amongst the buy side that greater FX automation is an inevitability and so they don't want to be left behind. As a result, we're seeing the industry conversation start to evolve away from why they should automate and start to focus instead on the practicalities of what, when and how they can automate. A natural part of this conversation involves understanding what unique elements different technology partners can bring to the table. Broadly speaking, we see five key factors that differentiate the various automated trading solutions available to buy side firms today.

The first is customisation; it's important to empower traders by enabling them to configure a wide range of highly bespoke rules which dictate how a trade is handled, and then apply these configurations to individual funds within an underlying account. The second is data; having automated solutions that are feeding off unique data feeds can give buy-side firms the edge over competitors who only have access to highly commoditised data sets.

The third is product coverage; it seems that many vendors are currently offering solutions that are only or predominantly suitable for spot FX trading, however often the biggest pain points in buy side workflows that could be alleviated by greater automation are in forwards and swaps trading. The fourth is compliance and audit capabilities; buy side firms need automated tools that ensure they can never breach their compliance rules and provide a complete audit log across the entire trade lifecycle.

The last, but by no means least, is flexibility and innovation; as trading desks evolve so too do their requirements. Therefore, they need automated solutions that can nimbly respond to these and so should look to partner with providers that are committed to making consistent enhancements to their technology."

Sebastian Hofmann-Werther, Head of EMEA, 360T

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