



Raising the Bar on Real-Time Analytics and Trade Automation with FlexTRADER EMS

Case Study

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“We are fundamental traders with a quantitative edge and utilize highly sophisticated analytical trading systems to provide our clients with best execution. We are incorporating data science to optimize our investment approach,”
- Adam Lund, Head of Trading.

Spheria Asset Management, a fundamental-based investment manager located in Sydney with a bottom-up focus specializing in small and micro-cap companies, saw the need for an execution management system (EMS) to manage vast data flows and utilize better analytical tools to support more informed trading and investment decisions.

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Spheria had an existing EMS that was not flexible or strong enough to integrate with its proprietary valuation models and automate trading workflows. The asset manager wanted to migrate to a high-performance EMS to access the powerful analytic functionality and to take advantage of an open Application Programming Interface (API) framework. This would enable the firm to automate its trading workflow and capture trade data for pre-and-post-trade transaction cost analysis.

The implementation was completed in July of 2018 and Spheria is now managing order flows for \$1.4 billion in assets under management through the FlexTRADER EMS provided by FlexTrade Systems.

At the same time, Spheria has increased its global footprint by launching a new Global Micro-Cap fund. With expansion of its investment universe beyond Australia and New Zealand, Spheria required an EMS with connectivity to international markets in order to electronically access global brokers, exchanges, and dark pools in all regions.

“We are excited to have deployed Flex

TRADER as our EMS,” said Lund. “Given we had been looking to incubate a new Global Micro-Cap fund to extend our product offering, it made sense to partner with a technology-leading trading platform that provided international market access and the analytical trading power to go with it.”

The Need

The role of the buy-side trader has evolved in recent years. Traders are no longer just liquidity and market intelligence communicators. The buy-side trader skill set has broadened in its scope and institutional traders now wear many hats including, market micro-structure expert; algorithm developer; block negotiator; trade analyst/data scientist, amongst others.

Having a quantitative edge with a statistical background is now also becoming an expectation for many funds. Buy-side traders now work closer than ever with portfolio managers to proactively manage liquidity into their portfolios in order to reduce market impact and slippage that detracts from performance returns. Implementation and trade execution are no longer an after-thought for investment managers and is now very much a critical part of the investment process. Standards such as RG97 in Australia and MIFID II in Europe have certainly brought attention to trading costs and are forcing transparency around both implicit and explicit costs of trading. This has driven traders to partner with trading technology experts like FlexTrade to support their own trading evolution and deliver better returns for their clients. “We wanted to build a process that’s repeatable and auditable at every level of the workflow and at every investment decision,” said Lund.

From a technology standpoint, Spheria

required specific features from the EMS:

- Customization flexibility
- Access to algo wheels to reduce latency to market and create smart straight through processing of orders
- APIs to drive trading decisions and capture trade data for further analysis
- Actionable electronic Indications-of-Interest (IOIs)
- Low-latency order routing and executions
- Smart order routing and global connectivity to all major financial markets

Goals: Data & Analytics

Access to clean trading data was crucial for the trading and analytics team and this was made possible via the EMS's well-established open API framework.

By utilizing the EMS's API, Spheria has integrated its incumbent OMS/PMS with portfolio construction tools, pre-and intraday trade analytics as well as a third-party Transaction Cost Analysis (TCA) platform for post-trade analysis.

"The new workflow and system setup enabled us to plug in our own trading models that would drive more automated trading decisions with pre-defined instructions at a level and frequency that humans are physically unable to handle," said Lund. Spheria feeds proprietary data like short-term alpha signals and valuations to the trading blotter via the API. The EMS provides traders with real-time analytics so they are kept informed which ultimately enables better trading decisions.

Tagging Data & Integrations of Proprietary Database: Data Challenges

As part of Spheria's trade analytics process, Spheria utilizes the Flex API to incorporate fundamental data points from its proprietary valuation database into its trading process.

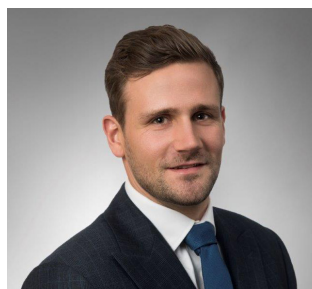
Spheria has its own internal valuation database and it maps fundamental stock values to individual orders that have been staged up to the EMS. Stock factor values include:

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Adam Lund
Head of Trading
Spheria Asset Management

"Actionable electronic IOIs are becoming topical for the buy side, and it is clear that they will become more of a focus in the years ahead as trading desks look to reduce overheads, streamline work flows and automate trade execution negotiations to reduce the inherent risks that come with trading,"



Allister Doeke
Trader
Spheria Asset Management

"By automating our workflow via algo wheels in conjunction with our purpose-built internal IP models to manage smarter execution outcomes, we are more efficient on the desk and better able to navigate the varying micro-structure intricacies that we are faced with."



Gino Rossi
Global Portfolio Manager
Spheria Asset Management

"The system creates full transparency and the automated workflow allows the investment team to focus on portfolio construction, finding the best investments in our vast opportunity set, as opposed to micro-managing execution. With appropriate checks and contingencies, we have total confidence to use FlexTRADER's semi-automated workflow to trade across more than 20 markets."

“We tag orders with fundamental factors from our database of stocks covered by the team of analysts and portfolio managers

Sustainable Growth Rates

Management Scores

Investment Type

Leverage Scores

because this allows the trading team to perform cost profile bucketing downstream in the TCA platform,” explained Lund. The team can then better understand where the true alpha and cost is coming from. The data analysis helps the team answer questions such as:

- Do we need to extend the trade horizon for cyclical points in the cycle?
- Is there more signal in Portfolio Manager 1’s ideas over Portfolio Manager 2’s? What do we do with this information that is evident in the data?
- Do we achieve short, medium, or long-term alpha when trading around fundamental events or does event trading cost the fund performance?
- Are multi-week orders more expensive than day orders?

Objectives: Trade Automation via Algo Wheel

To trade more efficiently, Spheria is automating more of the trade processing through Flex Algo-Wheel, utilizing Python to develop trading models that communicate with the wheel via the API. The Algo Wheel systematically routes orders to the best broker or strategy for a given region, market and/or instrument type.

Orders that are below a certain average daily volume will “pass through the wheel and will be directed to appropriate smart strategies based on pre-defined factors,” said Lund. Larger block type orders will then be prioritized and will require the high-touch attention and pre, real-time, and post-trade analysis (which Flex’s open architecture supports) to form strategy around minimizing market impact and optimizing trade horizon. An alpha signal will be sent to the algo wheel and a strategy, trade horizon profile, and urgency level will be selected depending on the strength of this signal that the trading models give the Algo Wheel.

The Wheel handles the heavy lifting and streamlines the trader workflow for lower priority orders that can be executed systematically, freeing up time for traders to focus on block trading decisions as well as directing resources to value-adding projects.

The Algo Wheel has made it more efficient to trade globally. “FlexTRADER has provided us with worldwide connectivity. Given we trade into global markets now with the launch of the Spheria Global Micro-Cap Fund we are faced with various market micro-structure nuances depending on the market we are executing in. By automating our workflow via algo wheels in conjunction with our purpose-built internal IP models to manage smarter execution outcomes, we are more efficient on the desk and better able to navigate the varying micro-structure intricacies that we are faced with”, said Allister Doecke, Spheria trader.

Custom Algorithms

To safeguard its orders, Spheria is building custom algorithms that execute via the EMS. “We

are building non-scheduled-based algos with order-book and trade-book imbalance logics, dynamic smart order routers (SORs) to obfuscate our signal that is left in the market. Custom algos are part of an effort to reduce any pattern that could be reverse engineered by market participants looking to exploit the same information or extract our alpha.” said Lund. “We have found that the stock market here in Australia is pretty fair when compared to other global markets. However, in other global markets, the market micro-structure makes it more difficult for institutional traders to protect their orders.”

“We had to build our own customized algos to reduce our costs and protect our investment process as our business and FUM (funds under management) has grown exponentially,” said Lund. In general, liquidity is tighter for small and microcaps, fewer analysts follow the companies, and it is difficult to trade the illiquid names

we look at in the lit market given the registers are tighter,” he said. “Therefore, using broker algo suites can often prove difficult, which has resulted in our team having to develop and build our own suite of algos to seek liquidity and lower trading costs,” added Lund.

Advancements in actionable electronic IOIs make it possible to automate responses to these IOI’s and generate orders electronically when liquidity is there. “Actionable electronic IOIs are becoming topical for the buy side, and it is clear that they will become more of a focus in the years ahead as trading desks look to reduce overheads, streamline work flows and automate trade execution negotiations to reduce the inherent risks that come with trading,” said Lund.

Operational Challenge: IOIs

With the electronification of equity markets, buy-side trading desks are inundated with IOIs from brokers across different regions. “Sifting through IOIs, program lists, and transition portfolios to source liquidity was not a good use of intelligent traders’ time and resources, so I knew I had to improve the efficiency of the traders on the desk and FlexTrade has certainly helped me achieve this through automation.” said Lund.

Lund has built an internal liquidity opportunity model that seeks liquidity ideas to take to the fund by filtering material electronic IOIs and matching any potential liquidity opportunities against material variances from the firms target model portfolio. The liquidity trade opportunity algorithm acts like a traffic light system in that factors are given green, amber or red lights depending on pre-defined thresholds. For example, a green light opportunity may be presented by the model if the following criteria is met:

- A material sell IOI is picked up in a name that the Spheria owns in at least one of the strategies
- There is material valuation upside from the Spheria analyst that covers the stock
- The effective cash weight of the strategy would need adequate cash to react to the IOI liquidity opportunity

Example of the pre-defined rules of the model:

Variance		Valuation		Cash		Total
diff in bps	outcome	value in %	outcome	Buy	value in outcome	In aggregate
<20	Red	outdated	Red		>4 Green	Var<10 Red
>20<40	Yellow	>10	Green		>2.5 <4 Yellow	3 reds Red
>40	Green	>-10 <10	Yellow		<2.5 Red	other Yellow
		<-10	Red	Sell	value in outcome	>=3 greens Green
					<4 Green	
					>4 <7.6 Yellow	
					>7.6 Red	

Red results are deemed insignificant and left off above report

The next iteration of the automation is to auto-generate liquidity opportunity orders upon passing the traffic light algorithm and automatically staging these orders up to the EMS. Effectively these orders can then talk electronically to the electronic actionable IOI. Obviously, an authorization step in the workflow would be included, preventing orders from going direct-to-market for risk and compliance purposes, but once approval is granted by permissioned portfolio managers, orders can be executed without potential information and signal leakage through the market.

As a result of automating IOIs, traders will be able to block trade without the manual intervention, which reduces latency to market, minimizes human error and electronically streamlines the whole process, “We have seen immense electrification of market trading in recent times and I would think actionable Electronic IOIs are likely to become more popular in the future. I envisage a market environment whereby smart Algo Wheels and order routers are better utilized to efficiently drive flow to market, especially when reacting to IOIs which should reduce frictional costs and market impact.” said Lund.

Blocks

Spheria is utilizing the EMS to identify block trades that require prioritization throughout the trading session. Outsized volume spikes and liquidity at the touch, abnormal spreads, and price volatility are some of the factors that the priority ranking algorithm can screen for and alert traders to investigate throughout the session.

With hundreds of orders on the pad, it is essential to have a tight framework and order management process to cut through the noise. The priority ranking system provides an exception report which mitigates risk around traders missing liquidity, revisiting price limits, and improving the control traders have on the EMS. By drawing attention to the outliers, “a lot of the noise gets filtered out by the process and traders can better manage the pad to achieve better execution,” said Lund.

Global Access

While Spheria uses the same fundamental analysis methodology to invest in stocks across the globe, it required an EMS that could provide connectivity to brokers, exchanges, and dark pools across regions. Traders utilize all the major dark pools and auto-route orders to certain venues based on predetermined factors. While a lot of its trades are executed on the Australian and New Zealand stock exchanges, with the recently launched Global Micro-Cap fund to invest in the Americas, Europe, and AsiaPac, Spheria uses the EMS to execute orders across all global markets.

“The EMS provides FIX connections that access and plug into brokers in those markets quite seamlessly, so that we’re able to collect the same data and analyze the data in the same way we do locally all while reducing the risks of trading such as placing out orders on an incorrect strategy or over executing.”

Spheria’s new global equity fund provides clients with access to a globally diversified portfolio of real cash flow generative businesses. The Fund is focused on businesses with a market capitalization below US\$2.5 billion and is benchmarked against the Global Microcap Index (Ex-Japan) which has over 4,000 constituents. Gino Rossi, Spheria’s global portfolio manager has embraced the integration with FlexTRADER, “The system creates full transparency and the automated workflow allows the investment team to focus on portfolio construction, finding the best investments in our vast opportunity set, as opposed to micro-managing execution. With appropriate checks and contingencies, we have total confidence to use FlexTRADER’s semi-automated workflow to trade across more than 20 markets.”

Solution

“FlexTrade identified an obvious hole in the Asia Pac EMS / OMS market and took learnings from the US market to build a system that traders can rely on. The market complexities today are difficult enough to navigate and Flex has brought an institutional-grade trading system that assists in simplifying these complexities, providing

institutions with a system to manage their client funds more efficiently. The caliber of clients and quantum of licenses that FlexTrade has signed up is a strong recognition of the powerful technology but also the hardworking individuals that make up the organization of FlexTrade,” said Lund.

“We are pleased to provide Spheria with FlexTRADER. Adam and the team at Spheria have been a great partner for FlexTrade, and continually push for cutting-edge functionality, which improves the overall capabilities of FlexTRADER and their funds’ performance outcome,” said Dan Enstedt, Vice President for FlexTrade’s Sydney-based operations covering Australia and New Zealand.

Lund added: “Since partnering with FlexTrade, we now have the trading and analytic capabilities we need to make more informed trading decisions. FlexTRADER allows us to export bespoke trade and order data downstream to our Transaction Cost Analysis (TCA) platform (via Flex APIs) for further analysis. enabling traders to answer questions such as:

- Do we understand the Portfolio Managers short – long term alpha signal and can we use this signal as a pre-trade bias for trade timing
- What are the trading costs asso-

ciated with fundamental event vs non-event order driven trading? How can we reduce costs in times of greater volatility and wider spreads?

- What are the trading costs of day orders vs multi-day orders? Does our persistence and pattern leakage contribute to greater trading costs?
- What are the trading costs associated with active order generation (PMs/ Traders reacting to IOI liquidity) vs passive order generation (PM origination order flow). “FlexTRADER has also been a key differentiator for us in terms of our execution efficiency when compared to other technology providers in the market and has allowed us to improve our trading workflow through automation using the Flex Algo Wheel. FlexTrade’s flexibility and exceptional technical capabilities in providing local support to our team contributed to our decision to partner with FlexTrade and deploy their EMS above any other technology provider.”

The Result

By implementing an advanced EMS, Spheria was able to marry its bottom-up stock picking and custom valuation metrics with Algo Wheels and other analytical tools to gain a competitive edge. “Having a reliable EMS that gives the trader the analytical tools to make informed investment trading decisions gives traders more confidence to make the right trading decisions,” said Lund.

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About FlexTrade Systems

Trading at one’s best and making the best trades are goals shared equally by traders from the buy-side and sell-side. It also forms a deeply ingrained mantra evident in all the technology and services we provide to our clients. At FlexTrade, our mission is to anticipate and provide our clients with a cutting edge, integrated array of trading solutions. In this way we give them the edge they need to perform optimally on every trade and achieve best execution without compromise.

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