

In today's market, trading has become complex and more automated than ever before. Not only is pre-trade activity and price generation data-driven and automated, so too is risk decomposition and basket transparency. Data accuracy can determine how to trade, what to trade and whether to trade at all.

Exchange Traded Funds (ETFs) have grown rapidly in the last few years in terms of assets, volume and variety, data accuracy is particularly significant for ETFs, which now have more than €650 billion under management in Europe alone.

In Europe there are around sixty ETF providers and nearly nine thousand individual ETF listings across thirteen markets. There is no conformity in data publication (remarkably, in some cases even at provider level). Absorbing, standardising, validating and publishing this data – and in a timely manner – is therefore enormously important.

As a trader it's your responsibility to correctly price, hedge and trade a potentially very large number of ETFs, which are typically complex products. Due to the sheer scale of your operation you will be depending on an automated work-flow where automated computer programs are importing and updating data that is beyond human faculty to manage. Your IT team has built processes that read data directly from ETF issuers, in-house analysts or third-party providers, after which they are collating this data and providing it to the front office. This presents a huge operational challenge, not so much because of technology, but because a minor error at the source can very quickly cause huge trading losses. How do you find a needle in a haystack?

Let's think for a minute about errors and their impact, in particular on the liquidity providers not forgetting of course that errors whether 'suspected or genuine' draw on trading desk resource time, a costly overhead.

ETF composition inaccuracy creates mispricing resulting in real \$ loss

Provision for potential errors arising in trading books raises flags within the internal product control groups, heightens the importance of risk management monitoring and drives greater provision of operational risk capital commitment levels, therefore reducing trading capacity.

With the vast majority of ETFs tracking indices, they are wholly dependent on the accuracy of the index provider's input, let us take a closer look at an example of a typical error. In our example, let's say a client has moderate exposure to an instrument which has an underlying basket, containing a small position weighting in an asset with a rights issue.

And let's say our client has failed to capture a one for one rights issue (@ 20% discount) on a basket component instrument representing 3% basket weighting in an index with a \$100m position. This is what the consequences of the error would look like:

\$100m 3%

position in the index weighting in instrument ABC

Assume that stock is trading at \$100

Rights issue... for every 1 share you hold, you can buy another one at \$80 (through an unlisted right)

On the morning of ex, the right is going to be "worth" 10 derived as follows:

$(\{100 + 80\}/2, \text{ minus the strike of the right @ } 80 = 10)$

Mishandling this corporate action will have a false PnL effect, in the region of the dilution of the stock, if the value of the unlisted rights is not correctly recognised within the firm's books and records, the firm's systems will produce a fake PnL in the region of -\$300k.

Mis-Pricing ~10-100bps

If the event is missed or the increase in the number of shares within the index is mishandled, the index and the ETF will misprice (taking into account divisor changes) anything from 10-100bps.

Smaller errors cause the real problems

Mispricing driven by larger events and thus with larger impact are almost always captured by internal monitoring tools (subject to tolerance breaches and the monitoring process) with simply time lost in pulling all quotes or skewing prices while investigating. The bigger problems tend to be those where pricing is thrown out by 10-25bps and where the tolerances failed to capture pricing anomalies, thus quoting continues, resulting in getting 'hit' at actual \$ cost.

The solution

With competition heating up among market makers and time to market becoming more critical, you need a solution that provides the best way to source, manage and support ETF data so that you can trade most effectively.

The partnership between ULTUMUS and Itiviti combines a scalable and high performance trading platform that suits today's complex markets with the ULTUMUS data sets, which cover all aspects of ETF pricing and reference data. The ETF data set offers the greatest granularity of data and client support.

The partnership sees the Tbricks solution not only allow users to receive fund composition updates in real time but most importantly gives an alarm to the trader when there is any deviation from the expected, by allowing traders to compare several sources of information at the same time, in real time (iNAV benchmarker). It also allows the trader to quickly visualize the effects of different compositions and changes to them before applying them; to see the effect of a change on the valuation of the fund, not only in terms of tracking baskets but also the creation and redemption baskets. It provides protection as well as an opportunity to detect potentially problematic ETFs where competing firms could be exposed to data quality issues.

With Tbricks the trader is in total control of the processing of composition changes with configurable alerts and change validation workflows to ensure the correct updates are applied only when desired. Tbricks provides real-time iNAV calculation using the fund composition. As changes are applied, trading activity using real-time valuation takes advantage of the updated valuation immediately; whether automatically responding to incoming requests for quotes or streaming live quotes to trading venues as market makers.

With ULTUMUS as the primary data provider on Tbricks clients can leverage the most up to date, scalable, timely and reliable ETF data service available on the market today. The ULTUMUS ETF Edge data service is purpose built for ETF trading and covers global ETF compositions and reference data in a single validated feed supported by a globally distributed support and technology team. In addition to its aggregated data feed, which has benchmarked significantly above its competitors in the market on speed and quality, ULTUMUS is also now the primary calculation again for a growing number of ETF issuers in Europe, Asia and the US giving clients the additional benefit of accessing the primary source for a wide range of ETF daily open files.

A fully server-based solution, built for co-location and with native connectivity to 150+ markets around the globe, Tbricks is ideal for ETF trading. From a single Tbricks front-end, you control trading and hedging across all connected markets, bringing scalability and transparency across your business and executions. The Tbricks front-end can be completely customized for visualizing and controlling pricing, quoting, hedging and basket execution to support complex ETFs spanning multiple markets, time zones, and underlying contracts.

Tbricks ships with specialized apps to support ETF pricing, trading, quoting and hedging. These include functionality for a rule-based dynamic derivation of market data for constituent valuation, configurable automation for responding to requests for quotes from venues such as Tradeweb and Bloomberg RFQ and sophisticated market making and hedging logic and multiple options for ETF data, such as ULTUMUS and other third party providers, as well as options to use proprietary sources. Tbricks' app-based architecture allows us to deliver the source code for all Tbricks apps as part of the solution, increasing transparency and reducing dependency on Itiviti for business-critical or confidential changes. Tbricks also provides solutions for many other asset classes and trading styles.



