

# BM&F Bovespa Sets Its Sights on Growth

**BM&F Bovespa, Latin America's largest exchange, has become a Mecca for the international electronic trading community, while at the same time catering to the growing local appetite for algorithmic trading.**

By Dr. Giles Nelson, chief technology strategist, Progress Software

The Brazilian Securities, Commodities & Futures Exchange – known as BM&F Bovespa – has been making headlines ever since it was created by the merger of Brazil's derivatives and stock exchanges in May 2008. But even by its own standards, the last nine months have been particularly active.

The really busy period started in June 2009 when the BM&F closed its 'open-outcry' pits in favour of the all-electronic GTS trading system that had already been introduced by Bovespa, the former equity exchange, back in 2004. The same month, Bovespa joined the global trend toward 'co-location', allowing customers to install servers inside the exchange's data centres, ensuring low-latency connectivity for high-speed automated trades.

These two moves are just part of the BM&F Bovespa's race to embrace the technology necessary for high frequency and algorithmic trading. Brazil's banks and brokerages have been similarly rushing to tool up for algorithmic trading.

But the impact of the exchange's successive technology upgrades has been international as well as local. In October Bank of America Merrill Lynch announced that it would offer algorithmic trading in Brazil, followed closely by UBS in November (UBS had already begun direct market access in Brazil in July 2008). And in November the BM&F Bovespa opened offices in London with Cathryn Lyall – former COO of Exchange Projects at ICAP – as its UK director. It already has offices in Shanghai and New York – all part of the drive to attract foreign retail and institutional investors to trade directly on the exchange.

Looking ahead to the second half of this year there will be at least two main events. First, the BM&F Bovespa and Nasdaq OMX Group will go live with an order routing system that allows broker dealers in the US to send buy and sell orders for stocks traded on the Brazilian exchange, and vice versa. Second, a glut of brokerages are likely to take advantage of co-location on both exchanges, once the Bovespa

**BM&F Bovespa CEO Edemir Pinto's ambition is nothing less than for the exchange group to become the second-biggest in the world by year-end 2011.**

(equities) joins the BM&F (commodities and futures) in offering co-location in August. This was supposed to happen in April – it's understood the exchange is still awaiting formal permission from CVM, Brazil's securities regulator.

Projecting further, in 2011 the Brazilian exchange is expected to go live with the brand new multi-asset electronic trading platform developed with the CME and based on the CME's Globex system. The new trading platform will be operational for derivatives, equities, government and corporate fixed income instruments and a number of over-the-counter trades in derivatives. This platform represents a cementing of the relationship between BM&F Bovespa and the CME, since customers of the two exchanges can already trade directly on both. The plan is to license the new platform to other exchanges.

So what next for the BM&F Bovespa – world exchange domination?

Last year was a record year for the BM&F Bovespa. It boasted a 32% increase in average daily trades for the second half of 2009, compared with the first half of the same year. The FTSE Mondo Visione Index showed the BM&F Bovespa was the best performing exchange in terms of share price in 2009 with a 172% increase in share price over the year (while Nasdaq OMX performed worst, down 20%, out of the 18 publicly listed bourses).

The Brazilian exchange is now the 12th largest in the world in terms of

domestic market capitalisation (according to World Federation of Exchanges statistics, January 2010; see table), although at times last year many reports had it as number three.

CEO of BM&F Bovespa Holding SA Edemir Pinto wants the exchange to grow even bigger. He makes no secret of his ambitious plans for world exchange leadership and was recently quoted in the Financial Times as saying: "By the end of next year [2011], we will be the second biggest exchange group in the world."

BM&F Bovespa's significant efforts to attract overseas institutional and retail investors who capitalise on algorithmic and automated trading strategies – and to encourage them to trade directly on the exchange – have undoubtedly paid off. In January 2010, foreign investors represented 20.02% of traded volume in the BM&F (derivatives and futures) and, for the equity markets, foreign investor participation in traded volume was 31.7% for the fourth quarter of 2009 (according to the exchange's own statistics).

## Brazilian Brokerages; US Technology

The local appetite for automated trading – particularly high-speed, low-latency algorithmic trading – is growing extremely fast in Brazil. The exchange does not release official figures on what fraction of trades is algorithmic, but it's estimated that only about 10% of volume traded on BM&F Bovespa currently represents algorithmic investors, compared to as much as 95% in the US. This figure will surge once co-location is offered for equities as well as for commodities/derivatives.

This is another sense in which an emerging market is playing catch-up. Eight-



## Algo in Brazil

een months is a long time in capital markets. Prior to 2008, there was very little in the way of algorithmic trading in Brazil – these were, after all, the days when the BM&F was still ‘open outcry’. However, in February 2009, Ágora Corretora, one of Brazil’s largest brokerages, announced that it could provide custom algorithmic trading strategies to its (buy-side) clients, using Progress Software’s Apama algorithmic trading platform.

Agora Corretora also deployed the same algorithmic trading platform to support its proprietary trading desk, allowing traders to take advantage of the highly customisable algorithmic models as well as new using co-location at BM&F.

Around the same time, another Brazilian brokerage, Alpes Corretora, deployed the same Apama algorithmic trading platform as Agora Corretora, specifically to develop and deploy execution arbitrage strategies for futures and equities.

Since mid-2008, a total of 18 Brazilian banks and brokerages rushed to make the switch from manual to electronic trading using Apama’s algorithmic trading platform. These also include FinaBank Corretora, Banco Fator and most recently Link Investimentos, which brought in Apama’s algorithmic trading platform in March 2010. And many of these large banks are now offering their buy-side clients the chance to fine-tune their already customised algorithmic trading strategies, as per in Europe and the US. It’s worth noting Apama also has some direct buy-side clients.

Progress Software attributes its success in snapping up such a big chunk of the Brazilian bank and brokerage business to the fact that it’s one of the only capital markets-focused technology providers with an established local presence in São Paulo offering customisable technology.

### Where Next for Brazil’s Banks and Brokerages?

Looking ahead, every Brazilian bank or brokerage that trades electronically will be rushing to take advantage of co-location at Bovespa when it’s offered this year, if only to be able to tell their clients that they are investing in the latest technology. Most have held off co-location at BM&F (available since June 2009),

preferring to wait until both exchanges can offer the facility.

Algorithmic trading will experience another surge when this happens, but we should not lose sight of the technical limitations at the Bovespa in particular, which has a less advanced IT environment than BM&F. Granted, the equities exchange doubled its trading capacity at the beginning of 2009 and doubled it again at the end of 2009. But the roundtrip time between placing an order and executing a trade is still 10-15 milliseconds compared with, say, as little as 1 millisecond for single order transactions on some US and European exchanges.

Additionally, because of certain restrictions around co-location, banks and brokerages can carry out arbitrage within the BM&F Bovespa itself, but not between the Brazilian exchange and other exchanges, such as NYSE or CME – though agreements with Nasdaq OMX and CME Group will rectify this in time.

More significant, perhaps, are the many incidents when the Bovespa and the BM&F ceased trading for hours at a time (most recently in February). These incidents still occur despite the stringent rules that the Bovespa has introduced to offset potential problems of high frequency trading. For example, a brokerage incurs a penalty if it exceeds its expected order volume per minute or if it cancels more than a certain percentage of trades. The number of trades is also reduced by the relative illiquidity of unit stocks on the Bovespa compared to other exchanges, which explains why trades are usually carried out in ‘bundles’ of 100 or 1000 stocks.

It will be interesting to see how the BM&F Bovespa will continue to incentivise both local institutions and international investors. The exchange’s tie-ups with CME Group and Nasdaq OMX will inevitably continue to drive new business growth in Brazil this year and in 2011 and the introduction of co-location at the Bovespa will further boost algorithmic trading both locally and internationally.

As for those who still trade manually (over the phone), they will inevitably be seduced by the prospect of increasing the number of trades they can carry out per day by a factor of one thousand – there is a lot of catch-

### World’s exchanges ranked in terms of domestic market capitalization, January 2010

(Source: World Federation of Exchanges)

Rank	Exchange	Domestic Market Capitalization (USD millions, January 2010)
1	NYSE Euronext (US)	12,224,900.6
2	Tokyo Stock Exchange	3,382,763.5
3	Nasdaq OMX	3,077,668.0
4	NYSE Euronext (Europe)	2,709,181.4
5	London Stock Exchange	2,669,740.9
6	Shanghai Stock Exchange	2,481,554.8
7	Hong Kong Exchanges	2,148,075.4
8	TSX Group (Canada)	1,624,217.1
9	Bombay Stock Exchange	1,283,157.8
10	National Stock Exchange (India)	1,252,537.2
11	BME Spanish Exchanges	1,243,207.4
12	BM&F Bovespa	1,227,035.8
13	Deutsche Boerse	1,199,460.2
14	Australian Stock Exchange	1,177,504.0
15	SIX Swiss Exchange	1,036,284.8
16	Nasdaq OMX Nordic Exchange	843,697.3
17	Shenzhen Stock Exchange	834,224.4
18	Korea Exchange	801,029.6
19	Johannesburg Stock Exchange	756,885.6
20	Micex (Russia)	746,080.1
21	Taiwan Stock Exchange	616,849.2
22	Borsa Italiana	602,777.6
23	Singapore Exchange	463,036.3
24	Mexican Exchange	336,674.0
25	Saudi Stock Market – Tadawul	331,206.3
26	Bursa Malaysia	290,934.7
27	Istanbul Stock Exchange	246,639.8
28	Santiago Stock Exchange	232,909.6
29	Indonesia Stock Exchange	224,887.2
30	Oslo Børs	216,554.6
31	Tel Aviv Stock Exchange	193,685.4
32	Stock Exchange of Thailand	168,689.0
33	Warsaw Stock Exchange	151,441.2
34	Osaka Stock Exchange	149,158.3
35	Colombia Stock Exchange	144,453.1
36	Wiener Boerse	109,395.3
37	Athens Stock Exchange	101,437.3
38	Jasdaq (Japan)	97,866.8
39	Luxembourg Stock Exchange	92,859.9
40	Philippine Stock Exchange	84,501.7
41	Egyptian Exchange	83,832.2
42	Lima Stock Exchange	70,430.7
43	Tehran Stock Exchange	61,637.4
44	Irish Stock Exchange	59,339.1
45	Buenos Aires Stock Exchange	45,739.7
46	New Zealand Exchange	33,845.0
47	Amman Stock Exchange	31,330.9
48	Budapest Stock Exchange	29,989.3
49	Ljubljana Stock Exchange	11,821.5
50	Colombo Stock Exchange	10,215.8
51	Cyprus Stock Exchange	9,364.9
52	Mauritius Stock Exchange	6,937.1
53	Malta Stock Exchange	4,403.7
54	Bermuda Stock Exchange	1,355.8

ing up to do. The next two years look set to be as dramatic as the last two for the BM&F Bovespa. I for one am not entirely ruling out the possibility that the exchange might fulfill Edemir Pinto’s bold prediction of becoming the world’s second largest exchange by the end of 2011. ●



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