

## Pioneering Derivatives in the Middle East-Gulf Region with FINCAD Analytics

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Hussein Zineddine, AVP for Equity Derivatives and Structured Products, Markaz



### COMPANY OVERVIEW

Kuwait Financial Centre ‘Markaz’, established in 1974, is one of the leading asset management and investment banking institutions in the Middle East region. Asset management services offered by the Company include Investment Advisory Services, GCC and International Investments, and Private Equities. Assets under management as of September 30, 2008 exceeded 1.2 billion Kuwaiti Dinars (4.5 billion US dollars).

Markaz has become a pioneering force for the development of derivatives trading in the region. Options trading did not exist in the Middle East Stock Exchanges until 2002, when Markaz proposed a system for options trading to the Kuwait Stock Exchange. In 2005, Markaz launched Forsa Financial Fund, as the first and sole derivatives fund in Kuwait and the Middle East to work as a Market Maker for options trading. Today, Forsa options are traded on a group of 57 listed stocks covering every sector in the Kuwait Stock Exchange with an average volume of 60 million shares and value of 2 million Kuwaiti Dinars per month (7.5 million US dollars). Forsa options are written on maturities of 1, 3, 6, 9, and 12 months for different strikes.

### THE NEED

With the launch of Forsa, Markaz’s mandate was to build a complete options trading platform and maintain technology infrastructure. Markaz decided to build the required infrastructure internally and use third party analytics to implement the required underlying valuation and risk pricing models. Since Markaz’s business focus is not on the development of financial models, it decided early on to partner with a leading provider who specialized in financial models and analytics. As the technology infrastructures had to be deployed in a short timeframe with compliance to the regulatory oversight of the Kuwait Stock Exchange, it made sense for Markaz to outsource the options calculation engine for its trading infrastructure. Markaz needed a cost-effective solution that would enable it to avoid the operational risk of building and maintaining its own pricing algorithms.

Markaz required proven industry standard analytics that were fast, accurate, robust, scalable, and transparent. The solution also needed to be scalable to accommodate trading growth and functionally able to model required transactions within Markaz’s IT environment.

### THE SOLUTION

After researching and testing solutions from a number of leading global financial analytics providers, Hussein Zineddine, AVP for Equity Derivatives and Structured Products at Markaz and his team made the decision to use the FINCAD Analytics library. Zineddine explains, “FINCAD Analytics offered a perfect fit for our requirements and provided interoperability with Microsoft Excel and various software interfaces. We evaluated different vendors and the FINCAD Analytics library was by far the most comprehensive. The math documentation was complete and accurate, the models were robust and very fast for pricing and risk assessment of hundreds of options simultaneously across various strikes and different maturities. To top it off, FINCAD’s client services team was very knowledgeable and responsive to our inquiries.”

## FINCAD ANALYTICS PROVIDE MARKAZ WITH:

- **Calculation Speed:** FINCAD provides the ability to quickly price a high volume of options with varying parameters. With timing as a critical driving force in Market Making, quotes have to be provided instantaneously as rapid movements of underlying equities drive changes in option pricing.
- **Robust Coverage:** FINCAD provides a comprehensive fully-tested pricing library with over 1,600 functions built on robust algorithms.
- **Accuracy:** FINCAD provides highly accurate values—price and risk statistics – that are based on proven and accepted industry standard models. Markaz requires the ability to quickly replicate and benchmark the calculation from an explicit documentation of the implemented mathematical models. Undocumented black box solutions would not be acceptable from a risk management control perspective.
- **Scalability:** FINCAD provides users with the ability to scale their projects in a cost effective manner across a higher number of end users and a changing IT infrastructure that can accommodate a Microsoft Excel environment.

- **Flexibility:** FINCAD provides models that are robust and standard but also flexible. This enables Markaz to conduct various ad hoc analyses across front office trading, middle office risk management, control and back office functions for standard exchange traded options. FINCAD models are also used for various over-the-counter structures across different Islamic and conventional financial instrument conventions.

## THE BENEFITS

Markaz's initiative for the region proved successful and as Markaz's business developed, the group looked to transition away from Excel pricing and integrate FINCAD within its options pricing system. In 2008, Markaz implemented use of FINCAD Analytics Suite for Developers to embed analytics in C++ with a web-based interface that accommodates online trading. Working from the spreadsheet prototypes the C++ integration proved to be efficient and successful.

Zineddine explains, "The analytics library is consistent across FINCAD products and the FINCAD Analytics Suite for Developers interface is very user friendly - it simply required our developers a few hours to generate core code and integrate it within the pricing system. Using the FINCAD Analytics through our

options pricing system proved even faster: Without the speed limitations from the Microsoft Excel environment, FINCAD Analytics now operate even more quickly. Function calls to calculate Greek sensitivities using binomial models are now eight times faster than within Excel."

Today, Kuwait Financial Centre 'Markaz' uses FINCAD Analytics Suite for Developers for its standardized exchange-traded option operations through its web system used in trading execution, risk management, control and back office. FINCAD Analytics for Excel is now used for structured products, after-hours trading and other over-the-counter options trading with institutions. The breadth of coverage continues to provide great value as a solution for ad hoc valuations of various trades of both conventional and Islamic financial structures.

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The logo for FINCAD, with 'FIN' in blue and 'CAD' in red, followed by a registered trademark symbol.