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Best structured products support system

Murex

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Murex's MX.3 platform won this year's best structured product support system for not only exceeding the basic needs of representation and pricing, but also carrying an industry-leading product catalogue and structuring flexibility to serve a broad and diverse range of Asian clients.

A structured product is a market-linked instrument whose performance or value is connected to that of an underlying asset, product or index. Murex's MX.3 platform offers complete solutions front-to-back-to-risk with versatile trade representations and analytics integration flexibilities to cater to the product's broad and complex nature.

"Structured product businesses can become much more successful if they are empowered by systems to capture market opportunities by adding products quickly, increasing profitability by warehousing risk and scaling up volumes by automating operations," says the company. "This is where MX.3 brings unique advantages to its clients."

The company's out-of-the-box catalogue is the largest in the market, comprising more than 350 packaged payoffs, including all regional best-selling structures and local market-specific products.

Coupled with a structured trade builder, its clients can quickly create linear combinations of payoffs and package them as new products. The structuring tool is especially useful for the popular Chinese structured deposit business, enabling clients to continuously roll out variations.

Murex's knowledge of commodity markets also empowers several of its clients to swiftly implement carbon structured notes based on the contango shape of the European Union Emissions Trading Scheme allowance price curve – another instance in which Murex helps customers grasp market opportunities. (EU ETS allowances are climate credits that allow holders to emit a certain amount of greenhouse gases.)

"The breadth of possibilities [that] clients have at their disposal to extend their catalogue – adapted to their own situation and needs – is unmatched on the market," says Murex.

Financial institutions can take advantage of the product catalogue and create their own new products in two robust and flexible ways: a Python-based user payoff language, allowing users to quickly describe and evaluate new features by Murex's analytics; and Flex API, an application programming interface that integrates a user's own proprietary quant libraries and builds specific features.

In today's market environment, one of the critical needs for a system to support structured products is to provide the right analytics – the right mix of pricing accuracy, actionable hedging indicators and at-scale performance to handle increasing volumes.

Murex's MX.3 offers curve calibration, volatility management and GPU-powered state-of-the-art diffusion models to help clients price and manage their structured products. The models include the Libor market model for interest rates and the local stochastic volatility (LSV) model for foreign exchange derivatives, among other analytics.

In addition, Murex provides model validation documents that detail numerical implementation and model behaviour based on up-to-date market data to minimise model risk and validation costs.

Managing structured product portfolios in real time imposes a significant challenge to IT infrastructure because they are computationally intensive. That is where Murex came in to help with its real-time portfolio management (RTPM). It gives traders instantaneous access to already computed results in personalised monitoring dashboards with real-time position updates, live risk matrices and near real-time market data updates.

Clients can also tailor advanced risk measures to their popular structured products with dedicated screens for further analysis on future cashflow projection and early termination probability.

With everything combined in a single front-to-back-to-risk platform, MX.3's users receive consistent trade representation and analytics, including pricing and hedging, sales distribution, post-trade processing, risk control, regulatory reporting, settlement, and accounting.

Having full control of risks and costs with easy scaling up and down has also been a lifesaver for banks to comply with sweeping regulations such as the interbank offered rate (Ibor) transition, Fundamental Review of the Trading Book and uncleared margin rules.

In particular, Murex underwent a significant improvement to help clients cope with Ibor discontinuation, which remains a thorny issue on nonlinear structures. Murex finalised end-to-end transition for structures referencing Ice swap rates and developed transition for Asian FX-implied benchmarks, which are commonly referenced in structured loans.

It also extended its risk-free rate (RFR) nonlinear structures to constant maturity swap (CMS), CMS-spread swaps, range accruals and Tokyo interbank offered rate (Tibor) versus Tokyo overnight average (Tona) reverse floaters. Its payoff script was enhanced to support compounded RFRs.

Meanwhile, Murex added new functionalities to warehouse the risks to better serve the clients using MX.3 for their equity autocallable business – one of the most popular structures in the market.

It implemented a new risk matrices scenarios engine to enable more flexible market data shifts, a new user defined risk measures module to create and compute Greeks and what-if scenarios, a 'smart-over-hedge' to better handle payoff discontinuities, as well as LSV models for equity autocallables to serve as an alternative for pricing.

"Murex continues to be the benchmark for leading solutions in capital markets," says a client at a large South Korean bank. "Its experience in market standard analytics, consistent philosophy and payoff innovation give end-users a feeling of comfort and trust." ■