TECHNOLOGY FOR A NEW RISK AND REGULATORY PARADIGM

New regulations are transforming the capital markets landscape and drastically challenging banks approach to risk management infrastructures, data, and processes. Keeping up with increasingly demanding regulatory compliance obligations, requires financial institutions to develop risk-based business models. In order to stay competitive, these models need to have just-in-time risk management capabilities while being able to optimize management of capital, assets, and liquidity.

In response, Murex proposes the MX.3 Risk and Regulatory Suite, a comprehensive framework that enables financial institutions to build an overall strategy for regulatory compliance and internal risk management.

Using a high-performance risk framework, the suite delivers enterprise solutions that allow banks to control market, credit, and liquidity risk—with a particular focus on FRTB, CVA Capital Charge, SA-CCR, and cleared and bilateral margining. Comprehensive xVA management capabilities are part of the suite, while the enterprise risk control solution covers pre-deal limits control compliance, real-time enterprise exposures aggregation, and limits management.

Whether used as an integrated trading and risk solution, or as a standalone enterprise risk management platform, the suite flexibly adapts to a bank’s infrastructure. It enables banks to meet regulatory deadlines, rapidly anticipate business impact, and more easily adapt to future changes.
KEY BENEFITS

- Meet compliance obligations with pre-packaged solutions that ensure timely delivery of key metrics, at global and local authority level.
- An enterprise solution for regulatory and internal compliance across market, credit, and liquidity risks.
- Consolidated risk reporting across MX.3 unrivalled cross-asset product coverage.
- Real-time 360° dashboards to monitor capital charges, margin levels, valuation adjustments, collateral and funding.
- Pre-deal calculation and limit check of marginal costs such as IM & VM, PFE, xVA, and RWA, making it possible to optimize trading choices.
- Instant drill-down and what-if analysis leveraging MX.3 in-memory aggregation.
- High performance architecture with GPU-enabled valuation engines, smart routing to the fastest risk engine and in-memory analytics.
- Optimize risk infrastructure with a cross asset, cross function, open platform that unifies data repositories, valuation and risk engines.
- Anticipate future regulatory changes leveraging a flexible risk platform.

MX.3 PLATFORM
The cross asset, cross function, open platform

ORGANIZATION
REFERENCE DATA
MARKET DATA
ANALYTICS MODELS
TRADES
OTC Bilateral/OTC cleared/Listed
Cash/Securities/Commodities
GLOBAL ASSET INVENTORY
IBOR
CONNECTIVITY

FX     FX DERIVATIVES     MONEY MARKET     FIXED INCOME     SECURITY FINANCE
INTEREST RATE DERIVATIVES     CREDIT TRADING     EQUITY DERIVATIVES     COMMODITIES

TRADING     INVESTMENT MANAGEMENT     TREASURY
MIDDLE OFFICE     REPORTING     CLIENT MANAGEMENT
MARGIN & COLLATERAL MANAGEMENT
RISK MANAGEMENT
OPERATIONAL RISK
CREDIT RISK     LIMITS MANAGEMENT     MARKET RISK     LIQUIDITY RISK
FINANCE

REGULATORY COMPLIANCE
The MX.3 Risk and Regulatory Suite offers an extensive range of solutions to help ease a bank’s regulatory burden, while complying with the growing number of obligations. Complex, time consuming and costly regulations, including Basel I, II, and III, are transforming banking business models around the world. Murex’s MX.3 Risk and Regulatory Suite aims to simplify, speed up and reduce the total cost of regulatory compliance by leveraging a single consistent platform to answer cross-regulation requirements. It is available as a standalone solution or as part of the MX.3 for Enterprise Risk Management platform.
MX.3 FOR CAPITAL CHARGES: FRTB

Available as an extension of the Market Risk solution* or as a standalone solution for regulatory compliance.

- Secure the regulatory deadline with a prepackaged solution, covering the full calculation chain down to final capital charge for both RSA and IMA.
- High-performance IMA framework designed to simplify regulatory approval, leveraging depth and consistency in trading and risk analytics.
- Backtesting and P&L attribution tool for both Hypothetical and Theoretical P&L.
- Enterprise solution with advanced integration framework for importing positions, sensitivities and P&L vectors.
- Extensive cross-asset product coverage, from vanilla to complex exotics.
- Comprehensive RSA package including curvature and sensitivities, aggregation with FRTB bucketing rules, SA-DRC and residual risk add-on.
- Complete IMA engine covering stressed Expected Shortfall (ES) by risk factor and liquidity horizon, non-modelable risk factors stress tests, and IMA-DRC.

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MX.3 FOR CAPITAL CHARGES:
CVA CHARGE

- Leverage a unique enterprise solution for CVA capital charge reporting and CVA management.
- Compliance with Basel, including the latest CVA capital charge requirements:
  - BA-CVA charge is available in pre-deal with limits checks and optimization facilities.
  - SA-CVA charge is available based on imported or calculated CVA sensitivities, covering all asset classes for vanilla and exotic products.
- Easy integration into existing IT landscape.

MX.3 FOR CAPITAL CHARGES:
COUNTERPARTY RISK CHARGE

Available as an extension of the Credit Risk solution, or as a standalone solution for regulatory compliance and capital optimization.

- SA-CCR and IMM coverage.
- Pre-packaged, cross-product EAD calculation, including mapping facilities for complex products.
- Enterprise-wide solution covering instruments held in MX.3 and other trading systems.
- Real-time and batch SA-CCR, enabling pre- and post-trade risk-informed decision making.
- Supports Basel III requirements including effective EPE, stressed EPE, and margin period of risk adjustment.
- Supports risk control and capital processes impacted by the SA-CCR framework, such as RWA, CVA risk charge, CCP risk charge, monitoring large exposures, and leverage ratio.

MX.3 FOR NON-CLEARED OTC
INITIAL MARGINING

A comprehensive packaged solution to address margin requirements for non-cleared OTC derivatives.

- Enterprise-wide coverage of ISDA SIMM™ and schedule-based methods (including NGR calculations).
- Packaged cross-asset sensitivities calculation and CRIF generation from vanilla to complex exotics.
- Real-time pre-deal analysis of IM exposure.
- Packaged integration with Acadiasoft™ RiskData™Manager for sensitivities and IM upload and reconciliation.
- Route trades to the appropriate legacy or regulatory CSA (covering both IM and VM CSA) whatever the re-papering strategy.
- Easy extension to MX.3 for Collateral Management for margin calls processing.
ENTERPRISE RISK AND COLLATERAL MANAGEMENT SOLUTIONS COVERAGE

Closely intertwined, the impact of regulation has redefined the nature of risk management and collateral management. Risk calculations are now embedded in front-office and collateral processes, while collateral traffic has increased immensely.

MX.3 offers a new model for Enterprise Risk Management and Collateral Management solutions, natively enabling control and optimization at every step of the front-to-back value chain. Whether used as an integrated trading and risk solution or an enterprise risk management platform connected to multiple trading sources, MX.3 instantly delivers a holistic view of risk, without suffering from data simplifications or integration challenges. It enables institutions to optimize internal processes in order to control and manage the total cost of trading.

MX.3 FOR MARKET RISK

- Consolidate market risk from multiple trading systems, sourcing trades, positions, sensitivities, or P&L vectors.
- Delivers all VaR methodologies and metrics for internal and regulatory market risk control (VaR, Expected Shortfall, EWMA VaR, P&L explanations, stress tests, risk matrices).
- Control market risk limits and manage intraday alerts as well as limits operations.

MX.3 FOR CREDIT RISK

- Holistic management of consolidated exposures across trading systems, compliance checks, and centralized limits administration and monitoring.
- Coverage of exposures for counterparty, issuer, country and industry risks.
- Full range of batch and real-time exposure metrics from MTM to simulated or analytical PFE, with accurate modeling of netting and collateral effects.
- Free capital usage thanks to pre-trade delivery of exposure metrics.
- Real world and risk neutral models, calibration and backtesting.
MX.3 FOR XVA MANAGEMENT

- A unique enterprise solution for risk managers, xVA desks, front-office and finance.
- Support of the entire chain, from CVA pricing, hedging and accounting, to CVA risk charge reporting and CVA desk management.
- Comprehensive xVA metrics, including CVA and DVA, FVA, xVA sensitivities and wrong-way risk modeling. Coverage for intraday analysis across asset classes, both vanilla and exotic.
- Pre-deal limit checks and xVA optimization through preferred counterparty selection.
- CVA/FVA risk transfer through incremental xVA fees.
- Coverage for active hedging and CVA desk management.
- What-if scenarios to assess the impact of a renegotiated legal agreement on exposures and CVA.
- Compliance with the latest Basel CVA charge requirements, BA-CVA and SA-CVA.
- Accounting standards coverage, including IFRS 13 marginal CVA allocation.
- Easy integration into existing IT landscape.

MX.3 FOR LIQUIDITY RISK MANAGEMENT

As part of MX.3 for Treasury, the MX.3 Liquidity Risk module calculates near-time liquidity metrics for operational balance sheet management.

- Multi-entity liquidity metrics, such as LCR and NSFR, leveraging strong risk analytics and data consolidation capabilities.
- Internal and regulatory ratios, concentration analysis, and global limits across trading and banking books.
- Cash flow modeling, including advanced behavioral models, liquidity forecasting and integration of the whole balance sheet.
- Steering the balance sheet with global visibility on liquidity and assets across business lines, and timely allocation of liquidity costs in pricing.
MX.3 ENTERPRISE RISK AND REGULATORY SUITE

MX.3 FOR COLLATERAL MANAGEMENT

A single framework for enterprise-wide margining, optimization, regulatory compliance and collateral trading.

- Supports mandatory collateralization of non-cleared OTC trades for both legacy and new agreement terms as specified across jurisdictions and BCBS IOSCO.
- Ability to assign multiple agreements to cater to both IM and VM CSAs, as well as for cross-border purposes.
- Daily variation margin with zero threshold and cross-currency haircut.
- Full support of non-cleared initial margining, including IM managed at tri-party agents.
- Centralized management of bilateral and cleared derivatives, repo and securities lending, with exposures sourced from multiple trading systems.
- Automated collateral processing, including margining, allocation, dispute, substitution, cash and securities settlement, accounting and connectivity to key market infrastructures.
- Real-time enterprise inventory for optimal margin allocation and proactive calls management, based on analytical optimization algorithm.
- Monitoring of concentration limits and wrong-way risk to ensure diversification of collateral.

MX.3 FOR ENTERPRISE RISK CONTROL

- Full access to deal exposure pre-trade impact on all limits (PFE, CVA and settlement) with dynamic drill down of exposure metrics from global position to individual trade level.
- Coverage of the whole range of exposures for market, credit and liquidity risk, across trading, banking and investment books. Trading compliance including black/white lists and concentration risk.
- Centralization of all credit and limit related data for efficient on-line monitoring and reporting.
- Management of the full life cycle of all limit breaches including alert criteria, escalation paths and excess explanation.
- Real-time insight to positions, giving risk managers the ability to take immediate and effective actions, such as limit suspension or hedge trades.
- Optimizes intraday limit usage via temporary limit increase or limit line reallocation across business units and desks.

Global asset inventory
ABOUT MUREX

For more than 30 years, Murex has been providing enterprise-wide, cross-asset financial technology solutions to capital markets players. Its cross-function platform, MX.3, supports trading, treasury, risk and post-trade operations, enabling clients to better meet regulatory requirements, manage enterprise-wide risk, and control IT costs. With more than 45,000 daily users in 65 countries, Murex has clients in many sectors, from banking and asset management to energy and commodities.

Murex is an independent company with over 2,000 employees across 17 countries. Murex is committed to providing cutting-edge technology, superior customer service, and unique product innovation.

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