

# TimeScape™ EDM+ FRTB Data Management Solution

## INDUSTRY CHALLENGES

The Basel Committee's Fundamental Review of the Trading Book (FRTB) will cause 'fundamental' changes to the industry's market risk capital framework, and in turn, prompt a broad set of data management challenges. Those challenges relate to every stage of the data management process; from data acquisition and consolidation, data storage, data derivation and analytics, data distribution and visualisation, through to demonstrating data lineage and process auditability.

Given that the new market risk framework will have a direct impact on capital requirements, and associated trading costs, banks will need to make key strategic

decisions regarding the viability of their trading operations. Accurate data will be a crucial factor, not only in helping guide those strategic decisions but also supporting ongoing trading operations.

Some examples of specific data management challenges include the need to carry out back-testing and P&L attribution (for risk models at an individual desk level); the move from VaR to Expected Shortfall (which is inherently more sensitive to data outliers); and the identification of modellable risk factors (and potential need for data remediation efforts to meet the criteria for modellability).

## THE SOLUTION

TimeScape EDM+ addresses the data management challenges prompted by FRTB.

### *Data Acquisition / Consolidation*

TimeScape EDM+ enables firms to consolidate data from any number of sources - including pricing data and analytics from vendors and internal systems, position data from trading or back-office systems and model outputs from risk engines. All of this data can be aggregated and normalised into a consistent data model. In addition, sources can easily be consolidated for illiquid risk factors to help meet modellability criteria.

### *Data Validation and Cleansing*

FRTB will prompt firms adopting the Internal Models Approach to move from VaR to Expected Shortfall (ES) as a standard measure of risk. Given that ES is more sensitive to data outliers, this means any incorrect data (negative spikes) that creeps into models could result in punitive capital charges. TimeScape EDM+ enables banks to easily configure data validation rules based on adaptive criteria. Whether you are benchmarking your internal model output to the standardised approach, or validating the output of risk models against theoretical trading results – TimeScape EDM+ can quickly flag anomalies for further investigation.

### *Data Storage*

TimeScape EDM+ is built on a scalable, time-aware architecture that offers a choice of database technologies (SQL and NoSQL) to store validated, cleansed data & analytics. The platform also supports a flexible object-oriented data model to map relationships between key datasets (instrument prices, derived data & analytics, model outputs, liquidity horizons, risk classes, risk buckets etc.).

### *Data Derivation / Calculation*

TimeScape EDM+ is adept at all forms of analytical data management. It can easily manage time series analysis and compute derived datasets such as correlations (between risk factors and across buckets), standard deviations and other basic risk metrics (based on historical data). In addition, it offers pre-built interfaces to leading financial analytics platforms such as Numerix and Matlab, popular analytical programming languages such as Python, R and F#, and leading risk management applications. The platform helps banks address the data management challenges posed by FRTB (whether running daily validation and cleansing processes on risk factor data or monthly back-testing and P&L attribution).

## *Data Lineage and Process Auditability*

Given the importance of maintaining data quality under the revised market risk capital framework, establishing clear oversight of data management operations will be crucial. TimeScape EDM+ provides insights into all of the metadata and metrics required for effective data management. It answers questions like “where has a data item come from?”, “which alternative sources were available?”, “which validation checks were run?” and “how long did it take to resolve exceptions?”

## *Data Visualisation*

With increases in the amount of data that needs to be analysed on an ongoing basis, data visualisation tools will be crucial to ensure each stakeholder has access to the information they need. TimeScape EDM+ works with tools like Microsoft PowerBI and Tableau to drive visually intuitive dashboards that help risk personnel and senior managers quickly spot patterns or identify anomalies.

## **CUSTOMER BENEFITS**

With the ability to manage even the most complex datasets, TimeScape EDM+ enables data managers to stay one step ahead of regulatory obligations and business-driven requirements.

### *Agile*

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TimeScape EDM+ is agile at its core. It supports a powerful object-oriented data model that is easily extensible to capture nuances in each asset class or new business logic. It is simple to deploy, with pre-built adapters to integrate data from virtually any source. And it is agile in its distribution options, with the ability to publish data to leading business intelligence tools – including Microsoft Power BI, Excel and Tableau BI, as well as a range of leading risk management systems or proprietary analytical models developed in Numerix, Matlab, R or F#.

### *Business-Ready*

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Timescape EDM+ serves the whole enterprise. It doesn't matter if you're a board-level executive, risk manager or data manager - you get straightforward access to consistent, validated, cleansed data via your choice of interface. Most importantly, TimeScape EDM+ is simple to use and can be configured by business users without any prior programming expertise.

### *Collaborative*

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As a centralised platform that everyone can access, TimeScape EDM+ provides your enterprise with a single version of the truth. It breaks through siloed delivery of IT and data, and supports true enterprise-wide workflows. Even if different teams decide to price the same instrument using slightly different models or data inputs, knowing those differences and having clear insights into data lineage means they can quickly reconcile any discrepancy.

### *Comprehensive*

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TimeScape EDM+ covers all asset classes. It supports a complete range of vendor feeds. It integrates with different business intelligence tools, pricing and risk engines, programming languages and applications. It supports complex objects, data types and analytics. And it supports complex workflows – with adaptive validation rules and exception handling processes that can be prioritized based on factors most important to your business.