



MoVE Model Validation Engine

CC&G Risk Policy Team



CC&G

A EURONEXT COMPANY

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MoVE in a nutshell

A web-based platform to identify and manage risk exposures across different asset classes

Smart risk management environment

Risk managers can integrate a wide set of developed models into an easily configurable tool, which enables autonomous access to DB (no IT support needed)

Robust collateral analytics

The tool is complemented with in-built reliable risk models for CC&G's clearing services, developed according to best practices and including both margin simulations and a suite of VaR models

Flexible architecture

All functionalities can be run via a flexible and customizable user interface

Tailored solutions

The platform can be tailored to client's needs to effectively implement and utilize at best all functionalities, thanks to our analytical and industry expertise



Risk Modelling Functionalities

Portfolio VaR

Includes a vast suite of certified VaR models for multiple asset classes

- Historical VaR / Expected Shortfall
- Parametric VaR
- Monte Carlo VaR

Network analysis

Models wide data sets using network representation theory

- Network construction
- Network effects valuation

Portfolio attribution analysis

Identifies sources of return to serve as strategic risk tool

- Return attribution
- Performance attribution

CC&G margin simulator

Allows to replicate initial, variation and intraday margin calls for actual and simulated portfolios

- Incremental margin
- Multiple asset classes
- What-if analysis

Model validation

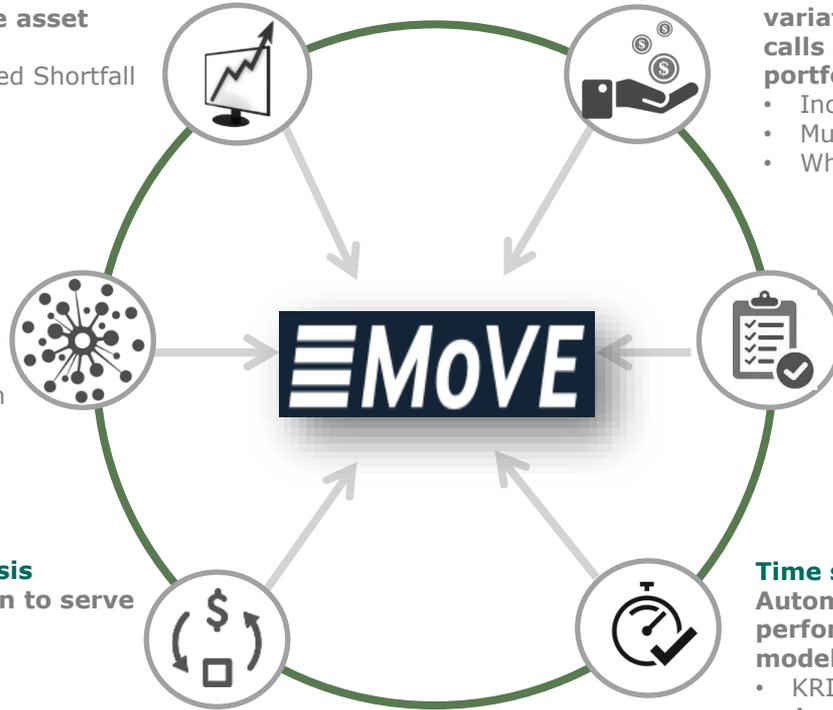
Enables a quantitative validation through automated checks

- Stress test, back test, sensitivity test
- Performance analysis
- Input data quality (freshness, gap, swing analysis)
- Regulatory compliance check

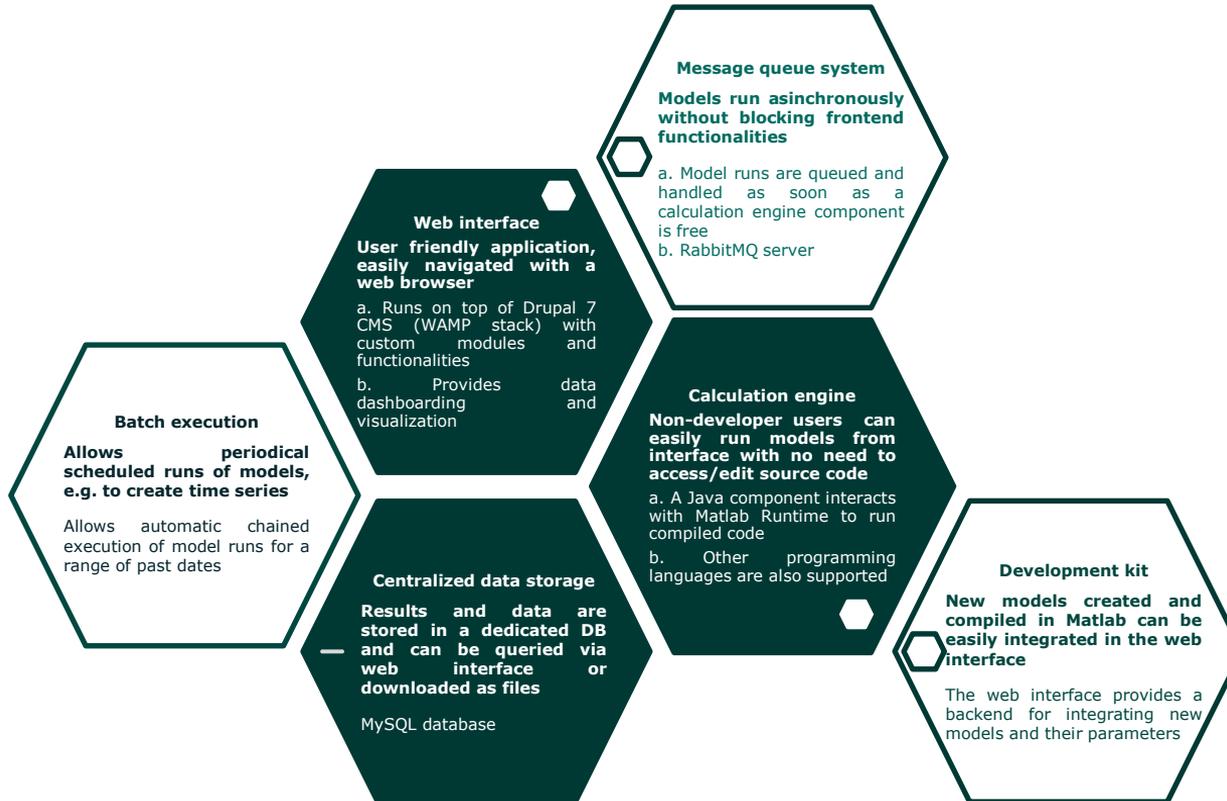
Time series comparison

Automated data storage allows performance analysis between different models over extended time horizons

- KRIs and KPIs
- Anomaly detection

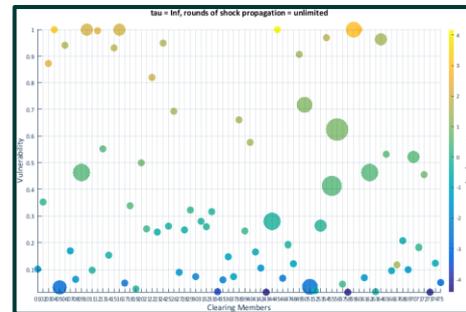
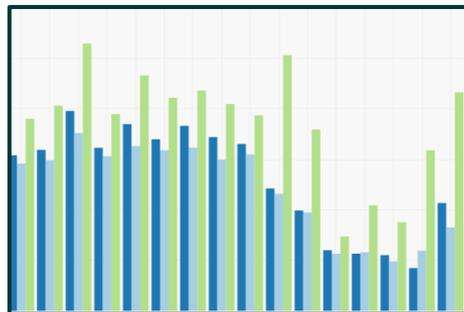
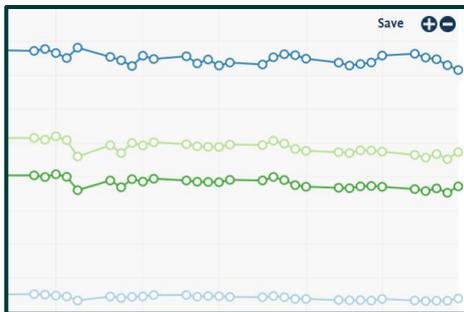


Technical Overview



Reporting

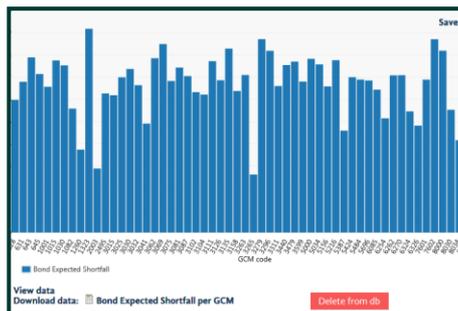
Graphics examples



Online table view

| GCM | NCM | ACCT | SUBACCT | STLGD | VALUE |
|------|------|------|---------|-------|-----------------|
| GCM1 | NCM1 | C | *CMN | NET | 3,574,388.95 € |
| GCM1 | NCM1 | F | *CMN | NET | 17,299,054.08 € |
| GCM2 | NCM2 | C | *CMN | MTA | 4,848,949.88 € |
| GCM2 | NCM2 | C | *CMN | NET | 823,922.87 € |
| GCM2 | NCM3 | F | *CMN | MTA | 83,829.50 € |
| GCM2 | NCM4 | F | *CMN | NET | 882,968.10 € |
| GCM3 | NCM5 | F | *CMN | MTA | 25,919,913.04 € |
| GCM3 | NCM6 | C | *CMN | MTA | 11,167,705.29 € |
| GCM4 | NCM7 | F | *CMN | MTA | 588.04 € |
| GCM4 | NCM8 | C | *CMN | MTA | 14,025.18 € |
| GCM4 | NCM9 | F | *CMN | MTA | 5,917,000.94 € |

Export to Excel



Database access view

Detailed Margins
Margins per GCM
Margin intervals

Analysis date
 Is equal to E.g., 05/03/2018

Asset class
 Fixed income

Model
 Bond Montecarlo

Batch
 - Any -

Run
 - Any -

User
 admin

Value
 Is less than

GCM

HP

LP

CL %



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About CC&G

- CC&G is ENX Italian-based provider of risk management, open access clearing and CCP services to 12 markets, including Borsa Italiana's markets, NEX Group's BrokerTec and Hi-MTF.
- CC&G eliminates counterparty risk by sitting in the middle of a trade as the buyer to every seller and the seller to every buyer, becoming the guarantor for final settlement of the contracts.
- CC&G provides services across a diverse range of asset classes including equities, ETFs, derivatives, close-end funds, fixed income and commodity derivatives.
- CC&G has an interoperability agreement with LCH S.A. for European Bond and Repo markets.

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