



# TEGRA®

Integration platform for  
Risk and Capital Solutions







**TEGRA® is a modular integration platform specialized in risk and capital requirements that uses smart technology to combine internal and external sources with expert-user data parameters, while managing data dynamically for multiple analytical purposes.**

Designed by expert risk technology integration professionals, TEGRA® platform combines a long implementation acumen with innovative technology, providing financial institutions with significant flexibility by standardizing integration of risk or capital calculation engines.

TEGRA® platform provides scalability and extendibility to the end-to-end risk and capital processes supporting the delivery of continuously increasing regulatory requirements.

## **Enhanced ROI**

The innovative design embedded in TEGRA® allows for an accelerated implementation of risk capital software, speeding up the roll-out into the client's production process.

This accelerated implementation translates into reduced costs and effort from the deployment of new technology solutions and the roll-out of new analyses in existing installations.

# Modular Architecture

The architecture of TEGRA® platform has been designed to resolve the typical complexities and requirements around process flows and data flows followed in end-to-end risk and capital calculations.



The core service components of the integration platform are:

## TEGRA Data

This component is an innovation over a traditional transformation and loading process. Through a user interface enables configuration of rules-based enrichment, specific data amendments, tagging, and aggregation parameters, making such information also available throughout the end-to-end process (along with the raw data) for subsequent use in calculations or for uploading to other engines. TEGRA Data also normalizes instrument categorization, allowing pre-defined templates to be easily linked to one or multiple analyses historically, facilitating aggregation, re-runs and auditability.

## TEGRA Wrapper

This component encapsulates the modeling and configuration specific to a particular calculation engine, potentially including pre-selected valuation and risk modeling best practices. The service provided by TEGRA Wrapper normalizes and standardizes the integration approach to risk or pricing engines through an API that allows to send/receive messages triggered on-demand by the user or by the ~~Online batch~~ processes.

## TEGRA Abacus

The Abacus component allows the user to incorporate multiple independent risk and capital aggregation rules and calculation methods over output datasets obtained from third party and/or in-house systems. It also allows for language integration with open-source engines, like R, Julia and QuantLib, as plug-ins.

## TEGRA Board and TEGRA Client

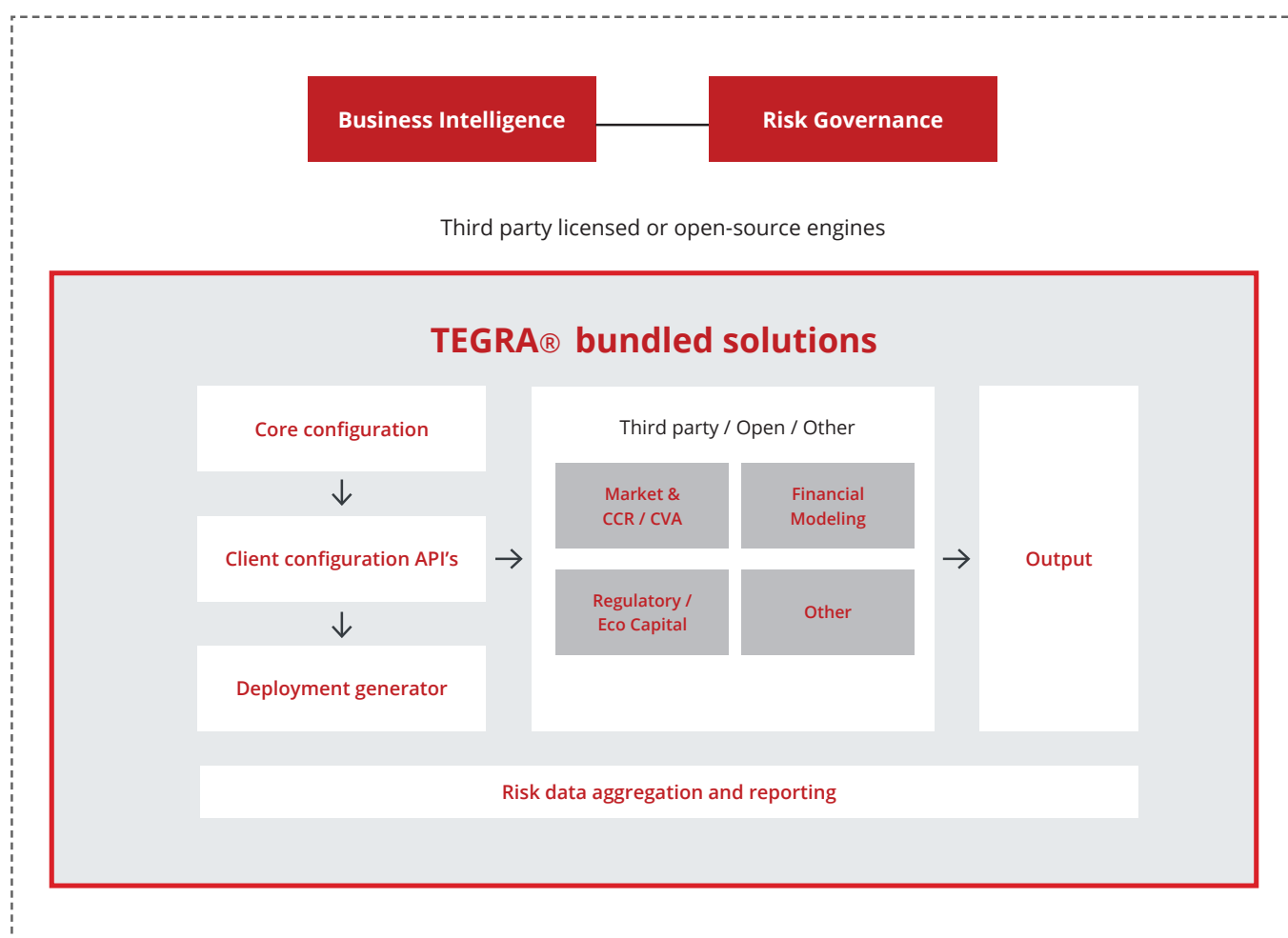
TEGRA® board component provides pre-defined reporting templates for various purposes through web services, from business risk or capital analysis to process performance monitoring, which can be connected to BI tools for further consumption. It contains templates to comply with specific regulations on risk and capital reporting requirements. As an alternative to TEGRA Board, TEGRA Client represents various components, including a client for Excel to give the expert user full flexibility in the creation of specific reports on-demand.

# Innovative Integration

The architecture of TEGRA® comprises multiple components and processes in a multi-layer structure and can be bundled with selected third party software as middle-ware with configuration and deployment tools. Each bundled solution mode is enhanced with an output-builder tool that embeds the relevant regulatory metrics and reporting. Optional extra layers of input and output components can be added or connected to the bundle, like BI tools or Excel. The bundle can also integrate risk governance tools incorporating operational risk and control framework functionality.

Configuration parameters can be generated for various optional pricing engines, risk calculation engines, and scenario generators to produce specific sets of outputs and reports.

TEGRA® is a flexible platform that supports multiple environments. It is scalable, ranging from a single node execution to a large and distributed computing configuration. It is expandable allowing tailored components and plugins to be added to address specific business requirements and it is simple by allowing interaction via Web Browser.



# Risk Management Bundled Solutions

## Risk Management Solutions

TEGRA® bundled solutions have a base configuration, embedding industry best practices that can be adjusted to the institution's specific purposes on risk capital. Available TEGRA® bundled solutions include international standards and specific transpositions into regional requirements for:

### Solvency II

### Basel III Trading Book

### Enterprise-Wide Basel III

TEGRA® bundled solutions enable accelerated integration of third party calculation engines, including licensed and open-source engines, with companies' in-house engines and data sources, delivering a mechanism for the client to properly manage its risk production process while ensuring achievement of effective risk data aggregation and risk reporting.

#### TEGRA® Solvency II

This solution includes metrics and quantitative analysis for risk and capital under Solvency II standards, including statutory and a basic internal model definition for specific products under key business lines. Regional tailoring is available for specific Solvency II type regulations for certain countries.

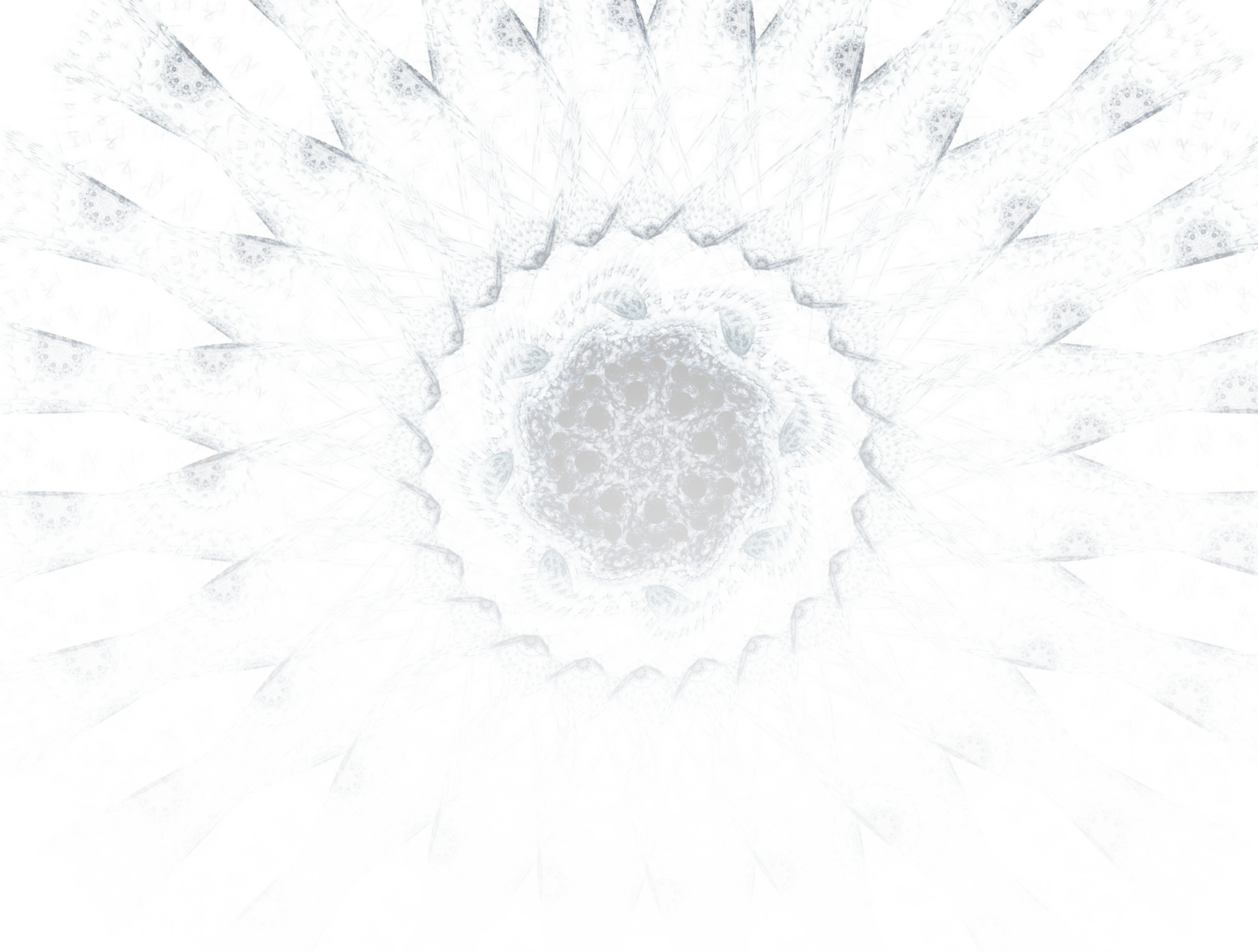
#### TEGRA® Basel III Trading Book

This solution provides metrics and quantitative analysis for risk and capital as per Basel III standards and in particular as per the Fundamental Review of the Trading Book. Uses pre-selected and pre-configured models for pricing financial instruments. The coverage of risk and capital metrics and various analyses is further supported by components that incorporate data intelligence to address regulatory requirements and reporting for specific jurisdictions.

#### TEGRA® Enterprise-Wide Basel III

This solution has a wider coverage than TEGRA® Basel III Trading Book solution, as it incorporates the whole bank's portfolio in the scope for purposes of analysis and measurement of risk at an enterprise-wide level. Covers calculation of capital requirements and risks-related metrics under Basel III as well as liquidity ratios. The coverage of metrics is mainly focused in Pillar I but includes quantitative elements for Pillar II & III, and enterprise-wide stress testing for regulatory requirements for specific jurisdictions.





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"TEGRA® platform was designed and built by Rhisco Group, a boutique firm specialized in risk and capital technology solutions, integration projects and strategic risk transformations."