



Risk Management

Product Suite



**Risk
Technology**
For your business



About



● The Organisation

Avati Consulting Solutions (Avati) is a niche domain specialist product and services company having expertise in risk management solutions for Banking and Financial services segment with special focus towards Middle East, Levant region and India. We offer RiskCube, an Integrated specialised Data Model platform enabling decision support and Regulatory Compliance for Risk Management.

Our team has experience in developing and managing major risk implementation programs covering BASEL III, IV compliance implementation, and related regulatory

reporting, and score cards, IFRS 9 ECL, Asset Liability and Liquidity Management, ICAAP, Pillar II, Credit Risk Rating Models, Portfolio Management and Optimisation, Risk Data Warehouse, and Integrated Reporting Data Marts.

We have managed end-to-end implementations for banks from the stage of data gap analysis right to the stage of regulatory reporting. Our team is intimately familiar with regulatory requirements of all principle global regulatory authorities including risk related implementation rules and reporting requirements and guidelines.

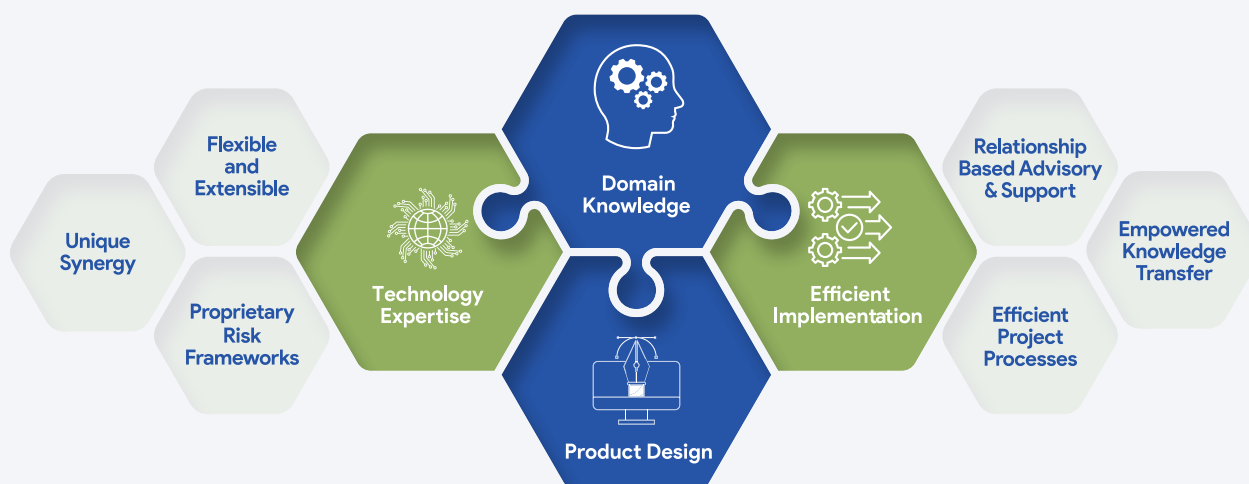
Our Unique

● Proposition

Our suite of Risk Management products addresses a wide canvas of Enterprise Risk Management solution like Credit, Market, Capital Assessment, IFRS 9 ECL and Portfolio Management, Asset Liability and Liquidity Management, Stress Testing, Market Risk, ICAAP, RAROC, Development and Validations of risk models and a host of other areas, all built on a common Risk Data Model. Domain Focus: We approach risk from a business perspective rather than technology or product perspective. This ensures responsiveness to changing risk and compliance landscape. Nimble Platform: Our

deep understanding of technology and risk domain enables our products to address virtually any risk related process and reporting requirements through advanced flexible and unified comprehensive data model, scalable and configurable business rule engines, user friendly interfaces and a stable low-maintenance data architecture. Unmatched Value Proposition: Our simplicity of approach, efficient implementation, knowledge transfer, overall client commitment makes our value proposition compelling and competitive.

Domain Focus | Unmatched Value Proposition



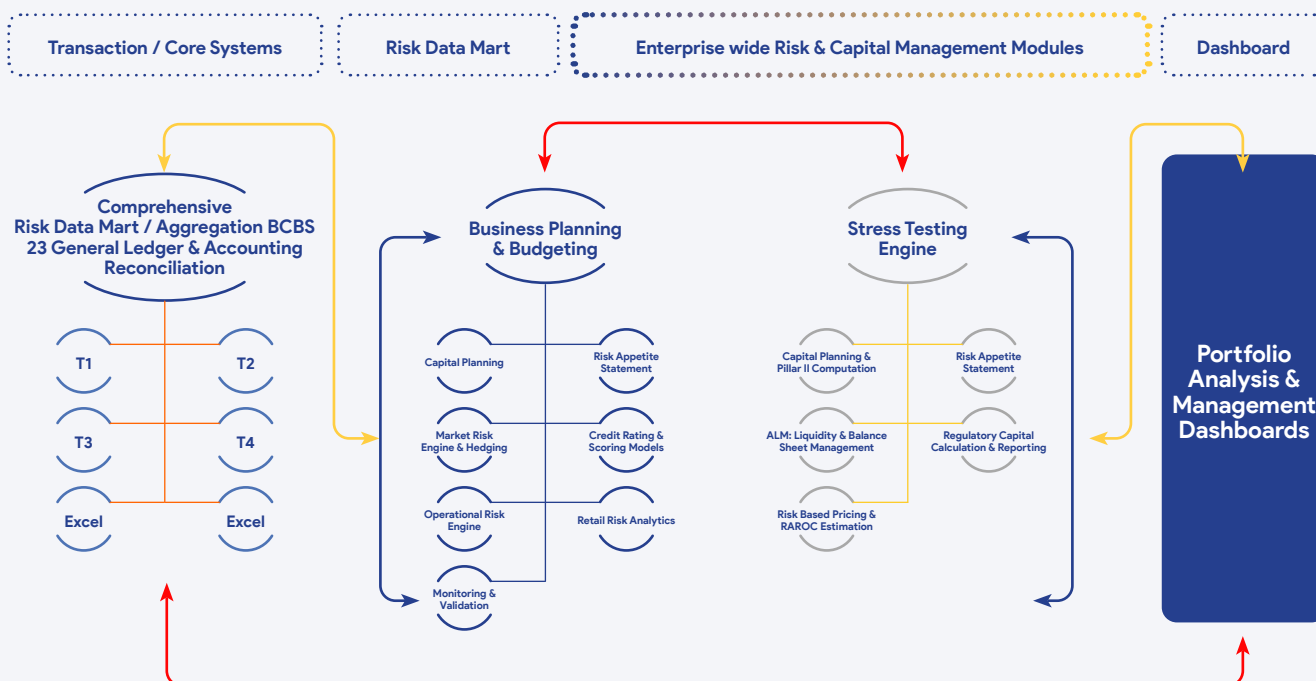
Enterprise Risk Management

Technology Landscape & Product Components

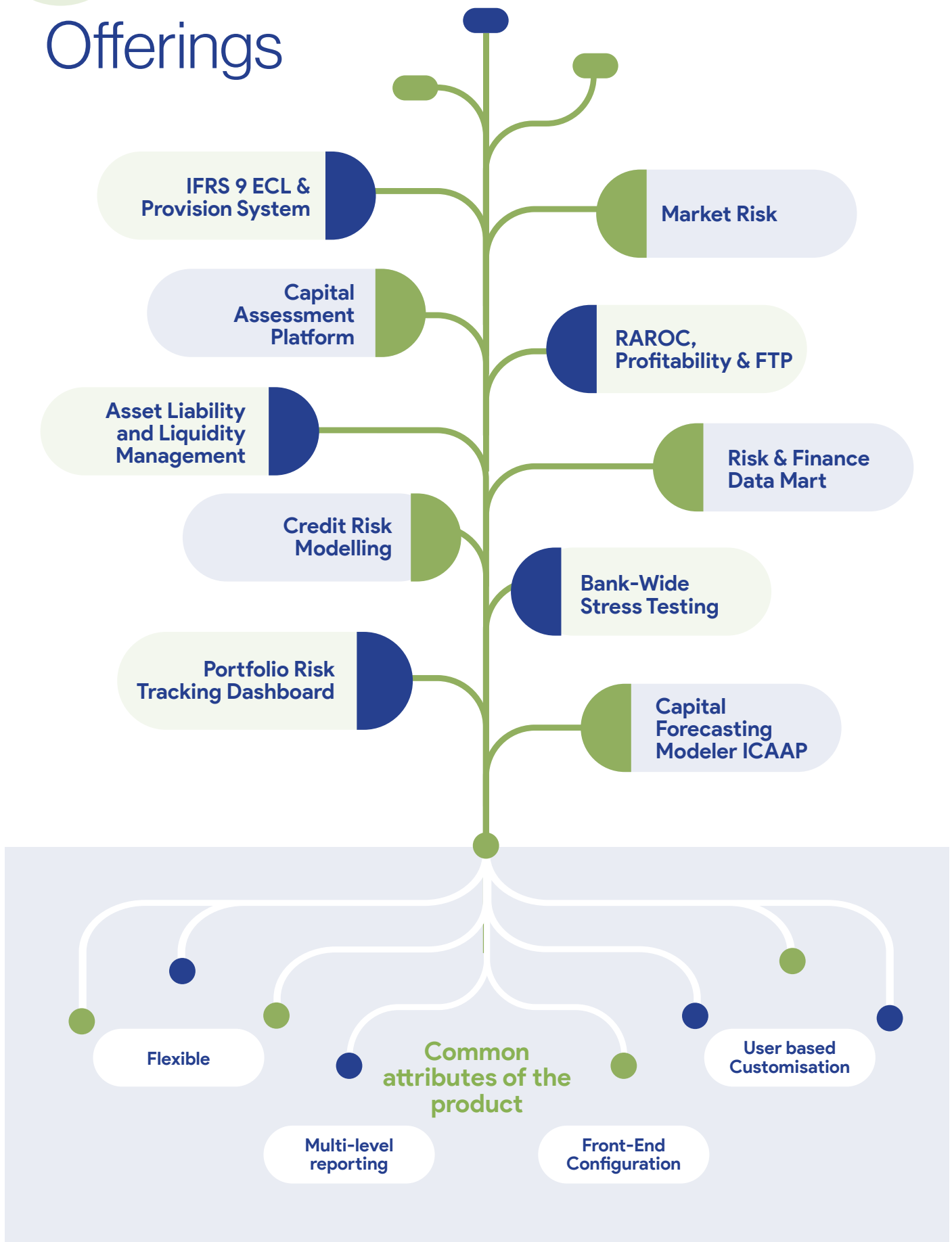
Our offerings include Products and Advisory covering a comprehensive range of Enterprise-wide Risk Management (ERM) concepts as represented below.



ERM Technology Landscape & Components

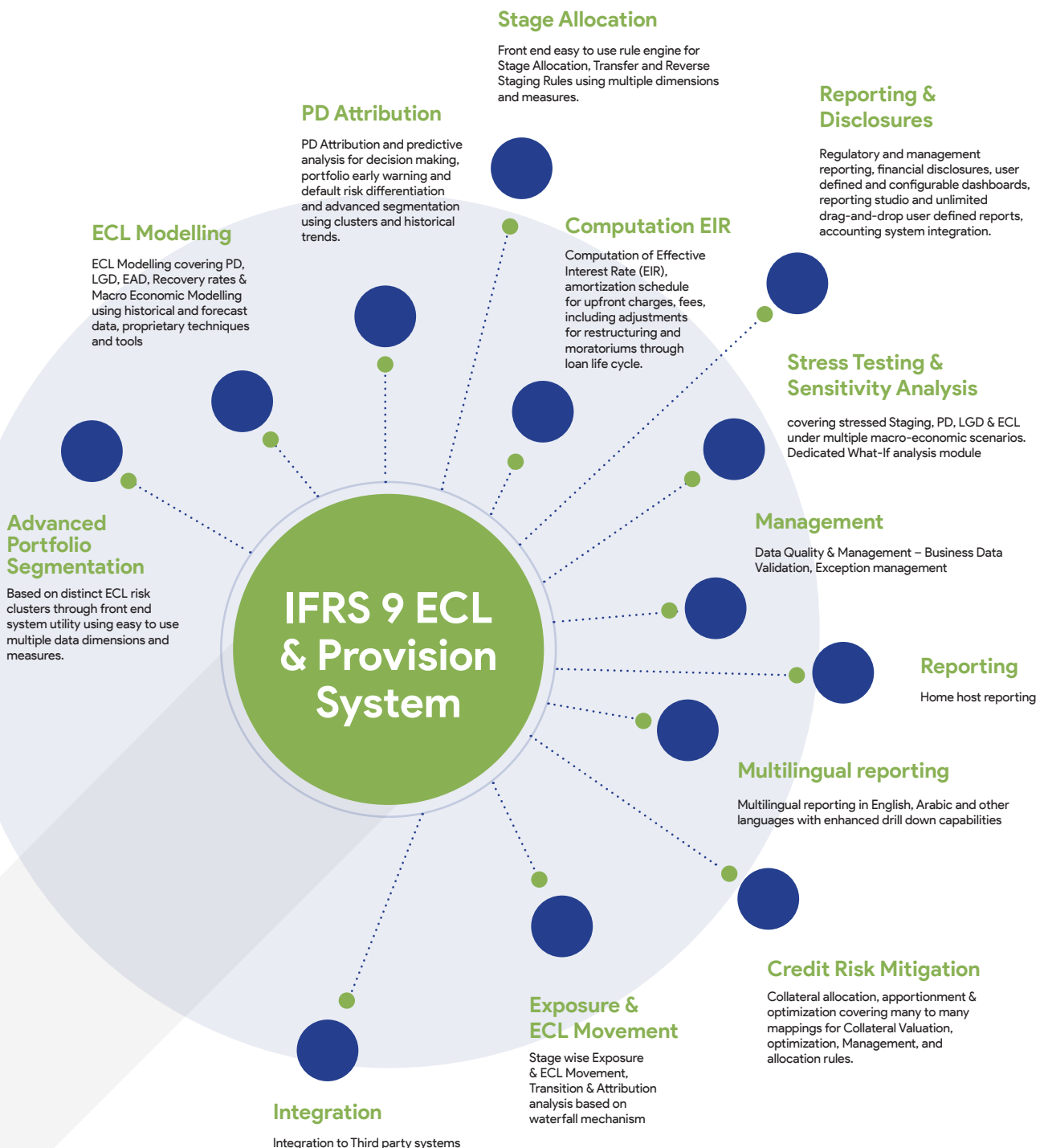


Product Offerings



IFRS 9 ECL & Provision System

Comprehensive, scalable web-based solution covering entire life cycle of Expected Credit Loss assessment for banking financial services entities covering classification, computation, ECL analytics, validation, movement, and reporting of Credit Loss (ECL) at standalone and consolidated group level.



Capital Assessment Platform



Standalone comprehensive and scalable web-based solution for deployment of Credit Rating and Scoring models for wholesale and retail banking portfolio. Our solution greatly enhances the objective capability of the bank to identify, evaluate, assess and manage counterparty and facility credit risk across multiple portfolios. Web based system which can be deployed across platform supporting wide user base. Can configure & host all types of credit models.

Regulatory and Economic Capital System

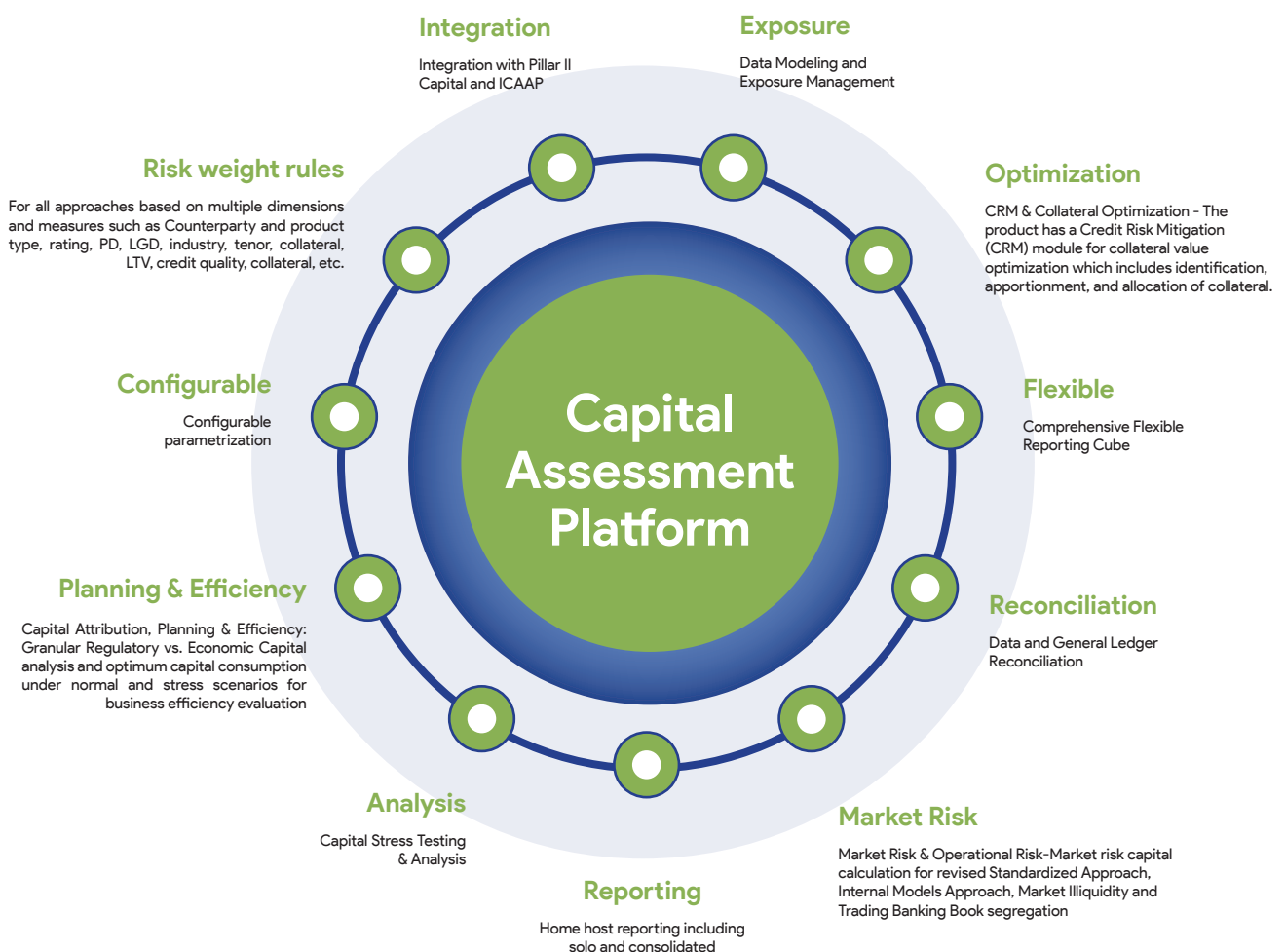
Covering Basel III & IV framework for Banks & Financial institutions aligned with local guidelines and global best practices for accurate risk identification and measurement. Covers Standardized and Advanced Approaches.

Capital Adequacy Ratio (CAR)

Covering Credit Risk, Market Risk & Operational Risk based on Basel III/IV framework and local regulatory guidelines including pillar I & III reporting

SACCR, CVA Leverage Ratio

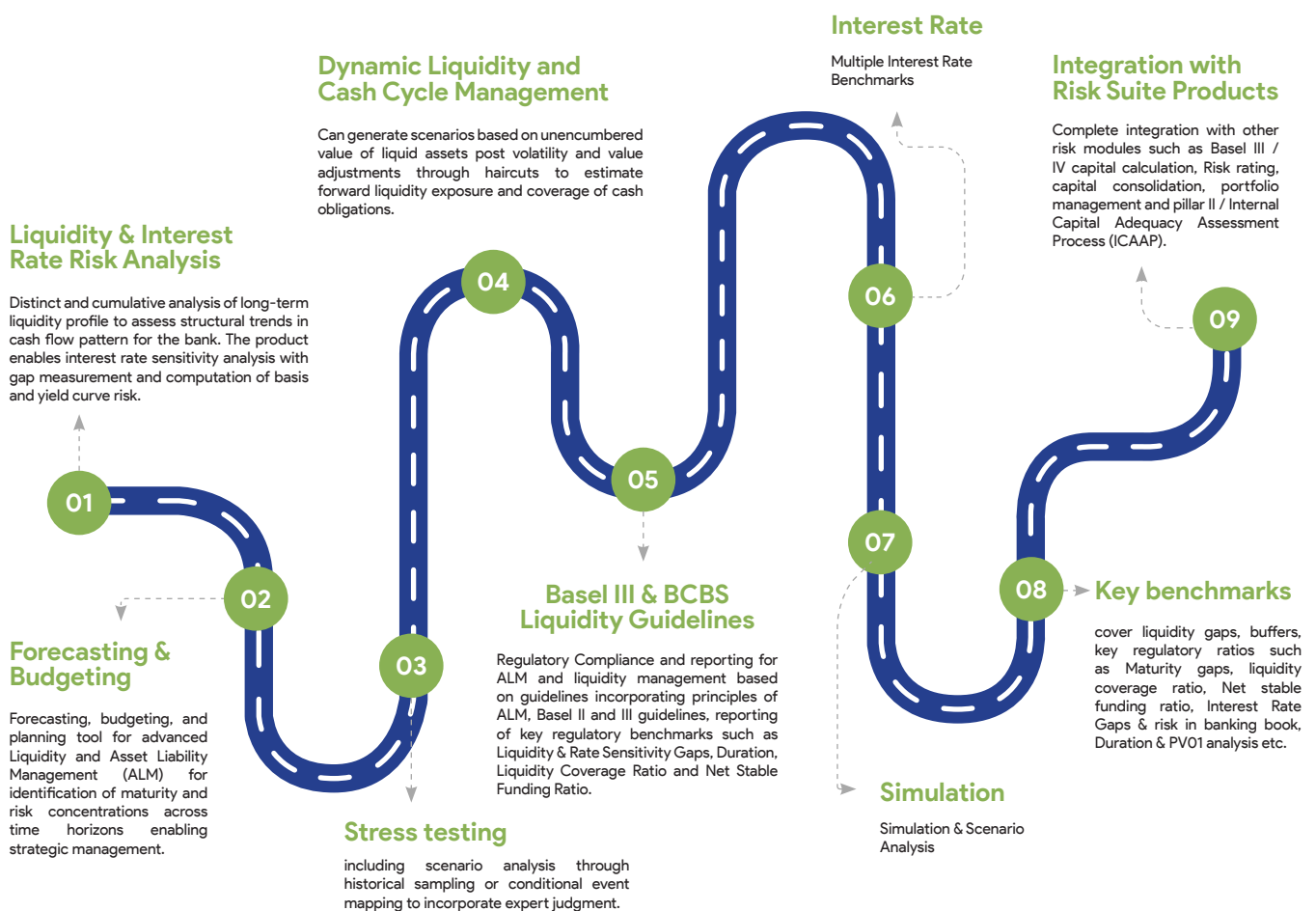
Compliant to all regulatory updates under Basel Committee guidelines covering Credit Valuation Adjustments (CVA), Standardized Approach Counterparty Credit Risk (SA-CCR), Leverage Ratio, Standardized Credit Risk Assessment Approach (SCRA) including all other Basel III Capital ratios.



Asset Liability & Liquidity Management



Enables bank to assess and forecast its overall asset liability profile covering Liquidity & Interest Rate risk management based on regulatory guidelines and internal management rules. The solution covers key frameworks such as cash flow-based Maturity Profile analysis, Liquidity Coverage Ratio, Net stable funding ratio, other liquidity ratios, interest rate gap analysis, PVBP / PV01, Duration, Net Interest impact and Expected Value of Equity under variety of static and dynamic liquidity and interest rate scenarios. The solution undertakes various analytical functions & reports for static and dynamic analysis.



Credit Risk Modelling



Development of Credit Risk Models & Scorecards for Financial Services Industry using internal / industry benchmark data. Includes monitoring and validation of credit models scorecards for wholesale & retail banking. Our Consulting Services and scalable, configurable platform enables users develop and deploy new wholesale and retail credit including standard / user defined statistical tests for periodic monitoring and structural validation, back testing, accuracy & information value analysis, model modification, predictive power tests.

Multi-Dimensional Credit Rating

Our solution greatly enhances the objective capability of the bank to identify, evaluate and manage obligor and facility credit risk across multiple portfolios by following a multi-dimensional credit rating and scoring for all business portfolio under Wholesale & Retail banking.

Customizable Business Rules

Capability to define & include risk drivers, parameters, complex transformation rules, weights, lookups at multiple levels as required by business rules governing the bank's credit decision making process for all wholesale & retail banking products.

Regulatory Compliant

Compliant to all regulatory updates under Basel Committee guidelines covering Credit Valuation Adjustments (CVA), Standardized Approach Counterparty Credit Risk (SA-CCR), Leverage Ratio, Standardized Credit Risk Assessment Approach (SCRA) including all other Basel III Capital ratios.

Nimble Platform & Easy Model Hosting

Standalone comprehensive and scalable web-based solution for credit rating / scoring wholesale and retail banking customers and facilities

Configurable

Configurable from the front end

Comprehensive Flexible Reporting Cube

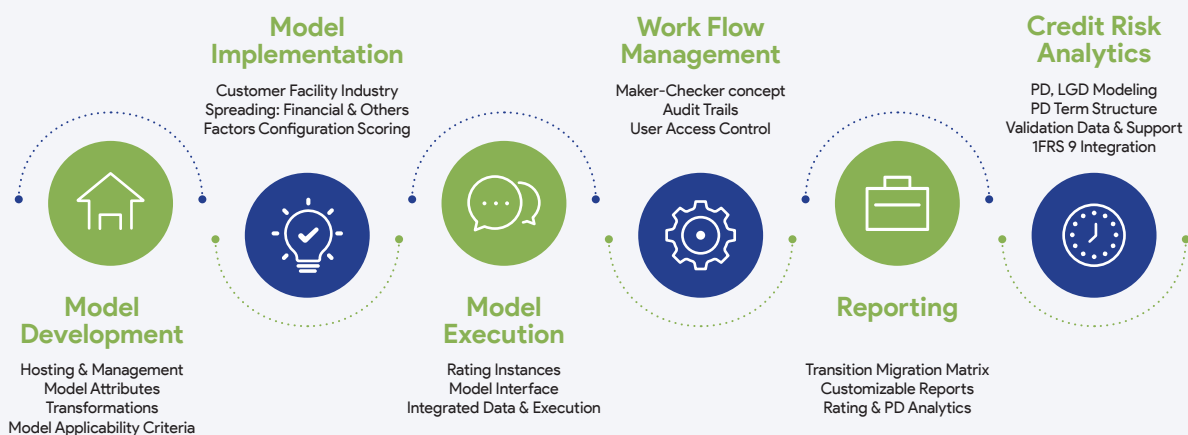
Pre-configured rules for model selection based on Model Applicability Criteria. Generation of audit trails, transition metrics and feature to generate customizable reports.

Risk Analytics

Platform supports complex credit risk modelling including development & implementation of PD, LGD, Expected Loss and IFRS 9 Models for implementation & reporting.

User friendly GUI

Menu Driven Interface with user friendly GUI



Portfolio Risk Tracking Dashboard

Early Warning System



Our product enables the bank to deploy a comprehensive consolidated risk dashboard which includes cube analysis of portfolio and borrower level across various dimensions and measures like counterparty, products, exposures, RWA, etc. Provides management of risk and capital-based view of the overall portfolio and all its Dimensions - counterparty, asset classes, products, industry, business segment, quality etc. and Measures - Exposures, Risk Weighted Assets, Regulatory and Economic Capital, Quality etc. Enables risk and business departments to set multiple, concurrent, and co-related limits across combination of portfolio dimensions and measures for efficient and effective real time portfolio management, identification of portfolio concentrations and associated decision making. Borrower level EWS enables risk and business department monitor risk exposures based on macro-economic, industry and borrower specific signals which will trigger mitigating pro- active actions.



EWS (Borrower Level) - Framework

Counterparty /Borrower Level

Understand
Corporate
Retail
FIs
Private Barlow

Counterparty /Borrower Level

Internal
DPD trends, LTV, Rating
Trends, Financial Ratios
External
Macro-Economic
Prices (Commodity)
Environmental

Counterparty /Borrower Level

Internal System
Rating System
Bloomberg, FX,
Government data
etc.

Counterparty /Borrower Level

CEO
Senior Management
Crecil Acirmin
Relationship Manager

Counterparty /Borrower Level

Mitigation plan
RAG indicators

Market Risk



A proprietary platform for market risk management including risk and return analytics for Equity, Fixed income, foreign exchange, Derivatives, and other underlying market risk elements. Capable of risk and return measurement, valuation, portfolio performance and market risk limit management.

Derivatives Portfolio Management

Dedicated module for derivatives management for all products: Futures, Forwards, FRAs, options, Swaptions, etc. for interest rate, FX, equity, and exotics. Covers functions like pricing & hedge effectiveness on prospective and retrospective basis. Analytics comprise Greeks for single trades, strategies, scenario analysis & stress testing, monitoring various limits such as Greeks, exposures, counterparties, and products.



Interest Rate Risk Management

Gap analysis, fixed income risk parameters like pricing, duration & gap exposure, basis & spread risk, PV01, Interest Rate VaR for sensitive portfolios.



Pricing of Market Risk Positions

Dedicated pricing module for fixed income products, Interest rate (IR) swaps, swaptions, caps-floors, FRAs, futures, structured notes, hybrids etc.



Market Risk Methodologies & Analytic

Calculate VaR at various levels/drill downs using either simulation, historic analysis, or parametric modelling



MIS & Reporting-Drill

downs available at currency, geography, product, factor, and sector levels. Reporting covers comprehensive limit and excess reporting across instrument & underlying



Market Risk Limit Monitoring

A Specific module dedicated to setting and management of various market risk limits such as Net & gross position limits, Stop-Loss, Value-at-risk, duration, PV01, exposure, product, counterparty, ratings, geography, Maturity gap limits and derivatives portfolio limits including volatility & liquidity limits.



Capital Forecasting Modeler ICAAP



The product allows the bank to address capital calculation for residual pillar I and additional pillar II risks. Key risks covered are Credit, Market, Operational risk, Interest Rate for Banking Book, Liquidity, Reputation, Strategic, Concentration, Residual, Settlement, Underwriting, Macro-economic and Commodity risk etc.

Integration of Business and Capital

Plan-A dedicated module allows the bank to incorporate annual business plan for formulating economic and regulatory capital budget covering all asset classes based on business strategy, risk appetite and target market criteria.

Flexible Quantitative / Qualitative Risk Modelling

Allows users to configure multiple models covering all risks - either qualitative, quantitative in nature or combination of both. The system allows business users easy configuration and management of complex risk calculation models.

Reporting

Comprehensive Flexible Reporting Cube

Stress Testing and Scenario Analysis

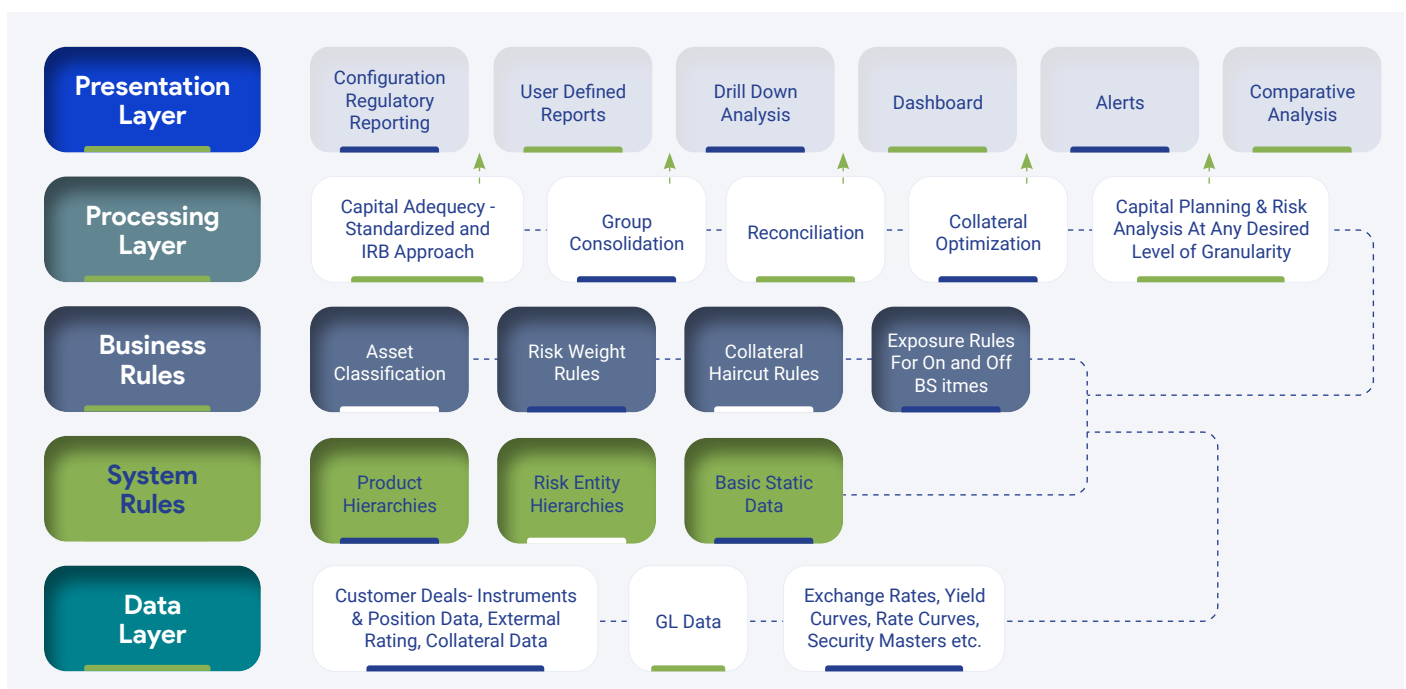
Allows conduct of sensitivity and scenario analysis on multiple risk variables and factors covering bank's current / prospective portfolio and risk profile covering overall balance sheet simulation, to measure impact on profitability and capital solvency.

Integrated Risk

Group-wide Integrated Risk Management

Supervisory Review Process under Pillar II

Provides detailed risk profile assessment in lines with Supervisory Review Process guidelines issued by local Regulator and international best practices.



Bank Wide Stress Testing



A key component of internal risk management architecture, our platform enables financial institutions to construct and implement comprehensive organization wide stress testing through balance sheet and risk simulation of all Basel II - Pillar I / Pillar II risks, and assessing simultaneous impact on measures such as capital, income & liquidity. Allows configuration and analysis covering multiple scenarios and sensitivities for existing portfolio including what if analysis

User Defined Risk Variables

such as credit, market, operational, liquidity etc. enabling granular risk identification & data modelling.

Multiple Risk Measures

to assess impact of shock on regulatory and economic capital, profitability, and liquidity.

Flexible Modelling

Extensive / flexible modelling platform that mapping risks variables, scenarios, measures.

Sensitivity & Scenario Analysis

Correlated shocks for assessment of portfolio concentrations, correlations, and simulation

Modeling Tool

Complex modeling tool for aggregating capital, ALM, balance sheet simulation (including off balance sheet) & credit rating.

Profitability

Assessment of all risks on profitability, capital and liquidity, amalgamating Basel II - Pillar I and Pillar II risk assessment

Exposures

Ability to identify and aggregate exposures at transaction / unit level.

Balance Sheet Simulation

Flexible platform enabling Balance Sheet simulation and forecasting for aggregation of risk and impact analysis.

Capital Management

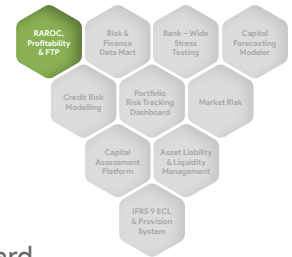
Aggregated and complementary risk perspective for capital management, as compared to regular risk management tools.

Correlated Risk

Identification and aggregation of correlated risks, and interactions between market, credit, and liquidity risk.

Bank Wide Stress Testing

RAROC, Profitability & FTP



This system module enables bank to deploy a comprehensive consolidated risk dashboard which includes cube analysis of portfolio across various dimensions and measures like counterparty, products, industries, exposures, WA etc. This solution incorporates user defined configurable reporting with superior drill down features, setting and monitoring of limits, trend analysis, alert management, dynamic bank wide Risk Appetite Tracking. Comes with built-in user defined reporting studio and management early warning dashboards.

Decision making

Accept / Reject decisions for the credit applications by establishing the acceptable RAROC threshold.

Loan pricing

Loan pricing-RAROC framework is also used by the banks for pricing of loans based on the desired economic value and for the shareholders of the bank.

Compare profitability across business segments

Compare profitability across business segments- RAROC can be used at corporate level to compare the profitability across the business segments and allocate the capital accordingly.

Management accounting

The FTP curve can be used for- Management accounting/profitability analysis, Deal pricing, Managing ALM.

Compensation of business units

As per the latest requirements of the Basel Committee, banks are required to link the compensation with the risk in the underlying portfolio. RAROC is used by the banks to link the compensation with the risk assumed by various business units.

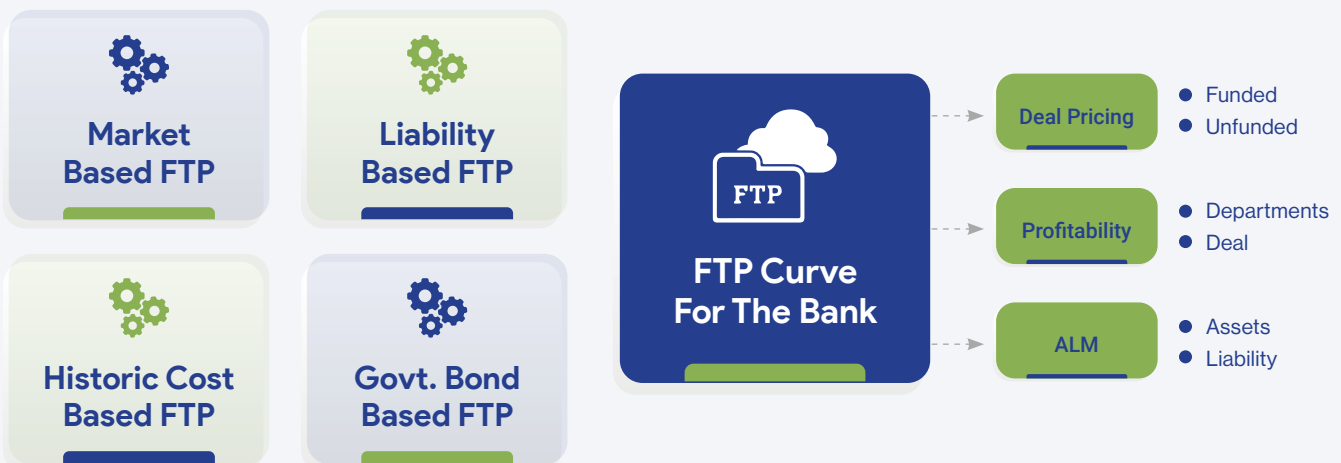
FTP Module

Our FTP Module can build FTP curve using -Market data (traded corporate bond yields and swap rates), government bond data, Liability market data (market deposit rates), Balance-sheet of the Bank (using historic cost). We can also use a blended approach.

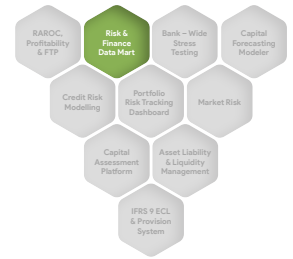
Allocated to transactions

The FTP curve built can be allocated to transactions based on- Currency, Interest rate type (fixed/floating), whether the deal is funded or unfunded, Contractual maturity, Prepayment assumptions and Disbursement assumptions.

FTP Framework



Risk and Finance Data Mart



Structured risk and finance Data Mart that pulls in data (both historical and current) from multiple sources to create a single point of data aggregation which is compliant with BCBS239. This shall include the following:

Unified data model

Provides a flexible extensible unified data model within the platform which will encompass all typical data attributes related to customer, products, GLs and deals (loans) which would be required for regulatory reporting and portfolio management.

Batch Processing of ETL

Provides batch processing of ETL as well as a UI to capture, analyse and monitor all data quality issues i.e., a single point to manage data quality, completeness, audit, and storage.

Data Warehouse

Provides a Data Warehouse and Business Intelligence environment that is traceable and reconcilable from source systems to data warehouse, and into the business intelligence analytics environment.

Logs

Provides activity and audit logs.

Builds integration

Builds integration with the bank source systems. This will involve data mapping exercises with the bank team to map source system data to the Avati RiskCube data model and provides the data extract specifications to the bank IT team. Designing and developing the transformations and load to ensure trustable data i.e., "single source of truth" in the data mart which will be the single reconciled data source for various risk related downstream applications as well as risk and finance management reporting.

Operational Reports

Implements standard and user defined operational reports identified at the start of the project in standard formats (including ability to email the reports to identified users).

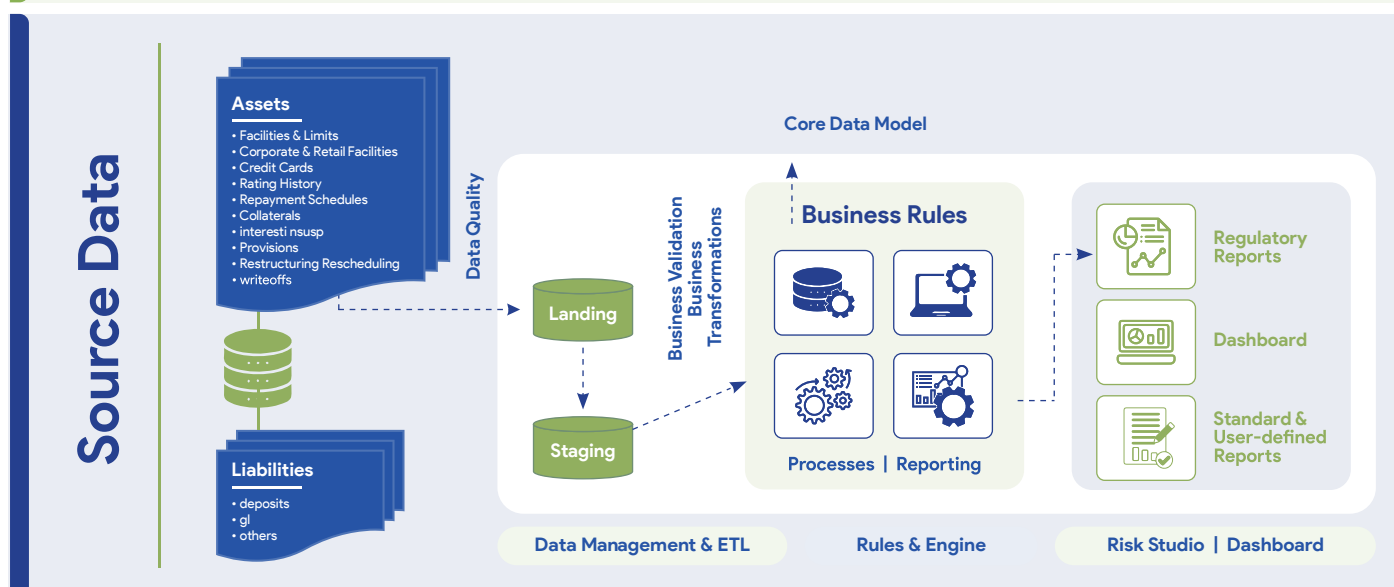
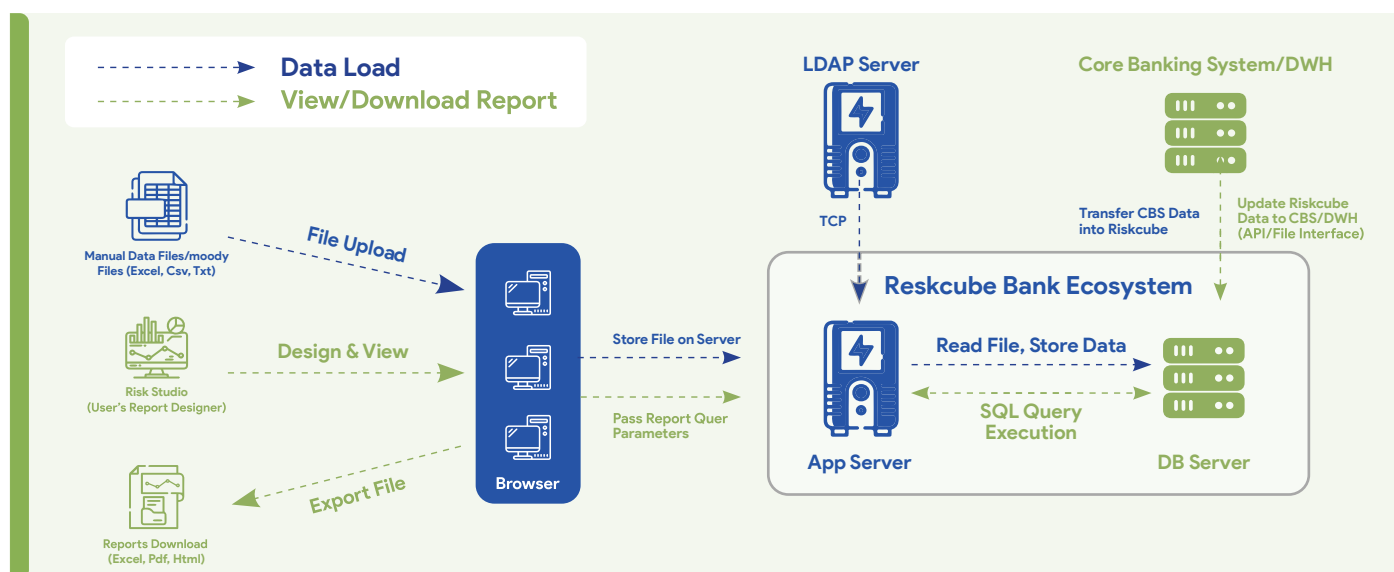
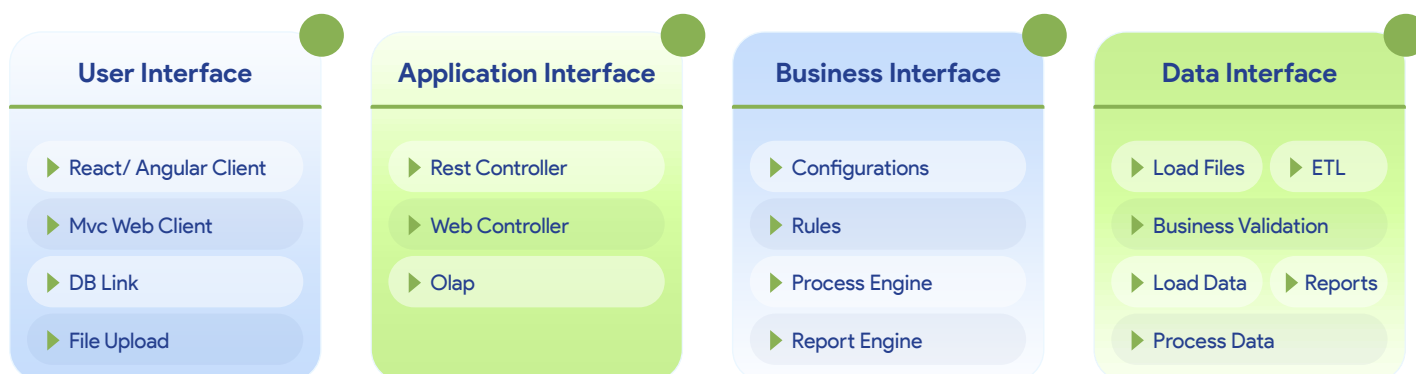
Administration Module

Provides an administration module which will support users / groups / role definitions and access control to these.



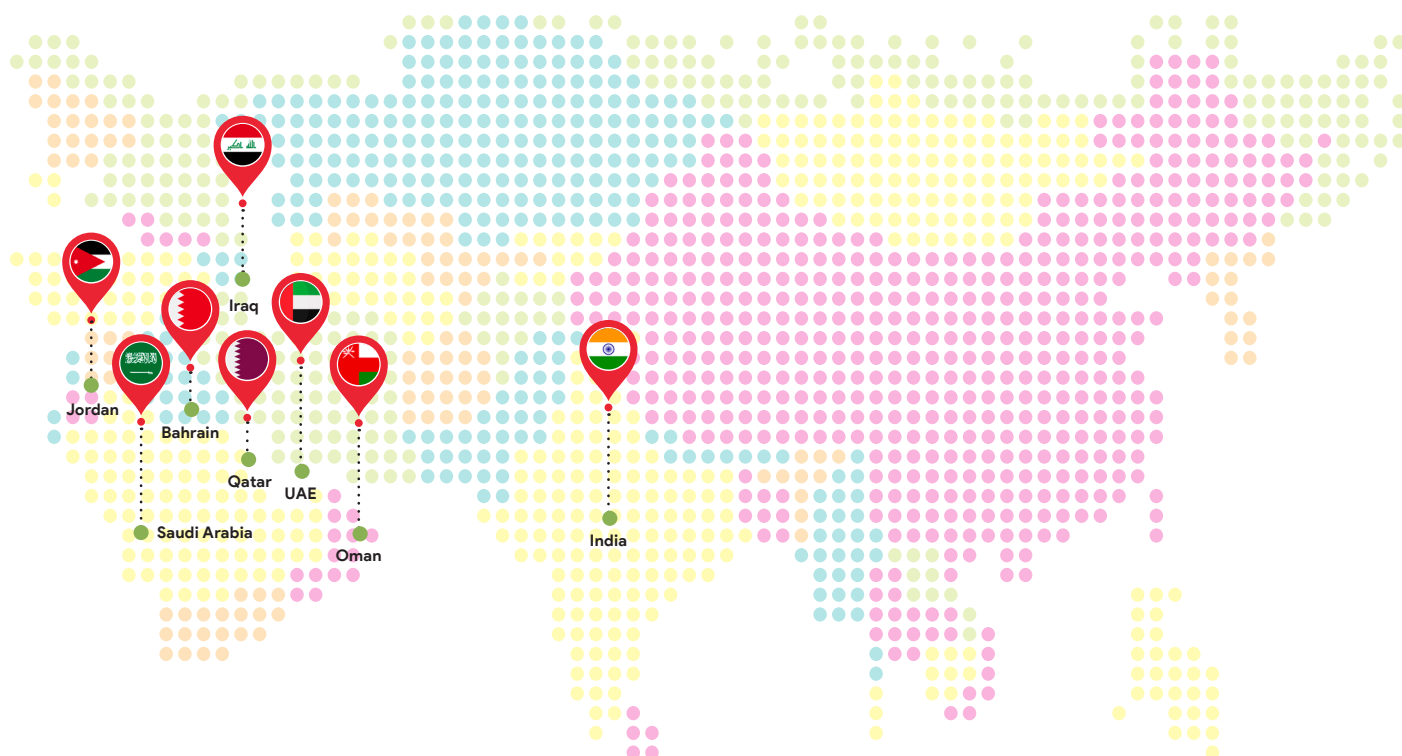
Technical / Logical Components

Our Risk Management Solutions are built on 3-tier browser-based architecture, using industry standard state of the art technology. Our approach enables our customers to focus on the business rather than on the technology, thus enabling the bank to create and sustain a competitive edge in the marketplace. The multiple solutions are logically architected to be integrated, yet independent.





Our Footprints Across The Globe



Synergise Risk Domain & Technology



Our Presence

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