

Mandate Framework and Investment Guidelines (Discretionary Mandate)

Value Proposition

By providing a standardized and fully governed mandate framework, the asset manager enables wealth managers to enforce consistent investment rules across asset classes and derivatives, reducing operational risk and accelerating mandate deployment. This service leverages the asset manager's core competencies in investment governance and risk budgeting, delivering measurable efficiency and compliance advantages.

Service Components

- **Mandate Catalog and Templates:** Standardized, parameterizable mandate templates for client segments, including unambiguous definitions (e.g., "equity quota," "net leverage," "target volatility").
- **Parameter Management:** Centralized maintenance and version control of all mandate parameters (limits, exclusions, reference indices, risk budgets, instrument classes) with approval workflows, four-eyes principle, and change logs.
- **Consistency Checks:** Automated validations to prevent contradictory mandate specifications (e.g., target volatility vs. maximum allocation to illiquid assets).
- **Change Management:** Formal change process with documented client approval, governance authorization, time-stamping, and audit trail.
- **Mandate Distribution to Systems:** Automated provisioning of mandate parameters to all downstream functions (portfolio construction, risk monitoring, order staging, compliance controls, reporting).
- **Exception Rules (Waivers):** Controlled, time-limited deviations from the mandate with documented rationale, responsible owner, expiration date, and automatic rollback after expiry.
- **Control and Reporting Function:** Traceable presentation of all mandate changes and approvals within a central audit trail for internal audit, compliance, and regulatory oversight.

Requirements

- **Mandate Agreement:** The wealth manager must conclude a written discretionary portfolio management contract with each end client, clearly specifying investment objectives, risk budgets, eligible instruments, restrictions, sustainability preferences, and benchmarks.
- **Data Integrity:** All mandate parameters must reside in a single source of truth, maintained under version control and audit-proof, and must be machine-readable for investment decisions, monitoring, and reporting.
- **Change Control:** Any modification to the mandate – such as adjustments to target risk, objectives, or ESG criteria – may occur only after documented client consent and formal governance approval.
- **Logical Consistency:** The mandate logic and target market definition must be aligned; contradictory specifications (e.g., risk class vs. allowed leverage) must be automatically identified and resolved before implementation.
- **Derivative Governance:** For complex instruments and derivatives, additional provisions must define leverage, collateral, liquidity requirements, and margin maintenance.
- **Data Responsibility:** All mandate-related data (benchmarks, limits, exceptions, ESG rules) must have clearly defined ownership, quality standards, and audit requirements.
- **System Consistency:** Mandate information must be synchronized and consistent across all systems, with no duplication or conflicting data states.

Second-Order Effects and Dependent Processes

- **Risk Chain and Liability:** Ambiguous or conflicting mandate parameters lead to mismanagement and increase liability exposure. A clean parameterization and governance framework significantly mitigates legal, operational, and reputational risks.
- **Data Governance:** Erroneous or outdated data sources propagate errors across dependent systems (e.g., risk engine, order routing, reporting). Rigorous data quality controls and data lineage management are imperative.
- **Product and Target Market Feedback:** Changes to mandates can impact product approvals, target market definitions, and distribution processes. Bidirectional synchronization with product governance is required.
- **Scalability:** Clean and versioned mandate templates are the foundation for industrialization and automation – enabling mass updates, segment-based rollouts, or rule-based mandate adjustments.
- **Compliance Monitoring:** Mandate changes must be continuously monitored, and deviations from approved parameters must be detected and reported by the system.

[1.A]



Portfolio Construction (Target Portfolio Design)

Value Proposition

By industrializing portfolio construction, the asset manager provides wealth managers with a governed and scalable investment design framework that ensures consistency, auditability, and regulatory compliance across mandates of any size. This enables wealth managers to deliver institution-grade portfolio quality without the need to maintain complex SAA/TAA models or internal optimization capabilities.

Service Components

- **Target Structure Derivation:** Derivation of target weights from strategic and tactical allocation (SAA/TAA), considering individual mandate parameters, restrictions, and risk budgets.
- **Constraint Validation:** Comprehensive pre-check of all limits, exclusions, and risk parameters before portfolio computation; automatic rejection in case of constraint breaches.
- **Portfolio Generation:** Calculation of the target allocation using approved instruments and current valuation data, ensuring consistent aggregation logic and rounding rules.
- **Result Validation:** Comparison of the computed structure against reference portfolios, risk targets, and tracking-error thresholds, with documentation and justification of deviations.
- **Versioning:** Storage of every generated target structure with a unique identifier, full parameter set, author and timestamp, and automated change log.
- **Approval Workflow:** Formal approval of each new or modified target structure by the defined governance entity prior to downstream system handover.
- **Interface Provisioning:** Automated distribution of the target structure to order staging, risk monitoring, performance attribution, and reporting systems.

Requirements

- **Target Structure:** Portfolio construction must translate strategic (SAA) and tactical (TAA) asset allocation directives into a concrete, executable target structure with verifiable weights per asset class, region, sector, and instrument.
- **Constraint Compliance:** All restrictions defined in the mandate – including risk budgets, concentration limits, ESG exclusions, liquidity, and diversification requirements – must be strictly observed.
- **Construction Methodology:** The methodological approach (e.g., heuristic, factor-based, or optimization-driven) must be documented, validated, and audit-capable.
- **Reproducibility:** Results must be deterministic; identical inputs must consistently yield identical target portfolios.
- **Version Control:** Each portfolio construction instance must be archivally stored with full input data, parameters, models used, and timestamps.
- **Model Change Approval:** Any modification to model parameters or optimization procedures requires formal governance approval as a model change.
- **Data Consistency:** All data sources, valuation methods, and parameters must be clearly identified and versioned to guarantee traceability and integrity.

Second-Order Effects and Dependent Processes

- **Data Dependency:** Faulty valuation, reference, or mapping data may produce systematic portfolio deviations, necessitating robust data-quality assurance.
- **Governance Implications:** Any change to methodology or parameters (e.g., optimization logic, risk model, ESG filters) constitutes a model change and requires a documented approval process.
- **Feedback to Reporting and Risk Analysis:** The target structure defines the baseline for subsequent performance attribution, ex-post risk analysis, and benchmark comparison; construction errors propagate through all dependent evaluations.
- **Operational Interdependency:** The portfolio construction process directly interacts with rebalancing, order generation, liquidity planning, and risk management; updates to the target structure immediately affect execution and operations.
- **Model Risk:** Insufficient model validation or inconsistent parameters can lead to faulty allocations and may be considered a governance breach under supervisory standards.

[2.A]



Portfolio Valuation (Risk Metrics and Target Alignment)

Value Proposition

Through standardized risk measurement and transparent reporting, the asset manager offers wealth managers a consistent and auditable view of portfolio risk and goal achievement. This enables institution-grade comparability, strengthens regulatory defensibility, and enhances client communication without requiring proprietary risk systems.

Service Components

- **Risk Metrics Calculation:** Automated computation of standardized risk measures for each target portfolio using current market data and defined model parameters.
- **Target Alignment:** Systematic comparison of calculated metrics against mandate objectives, risk budgets, and regulatory thresholds; automatic flagging and escalation in case of breaches.
- **Sensitivity and Stress Testing:** Simulation of defined market and liquidity scenarios (e.g., rate increases, volatility spikes, spread widening) to assess portfolio robustness and stability.
- **Scenario Analysis:** Examination of the portfolio's response to exogenous factors (e.g., ESG shocks, currency movements, sector rotation).
- **Documentation:** Audit-proof storage of all results, parameters, models, timestamps, and underlying data for full traceability.
- **Approval Workflow Integration:** Automated provisioning of valuation results for inclusion in the formal governance chain (e.g., investment committee, compliance review).

Requirements

- **Quantitative Assessment:** After each new construction or adjustment of a target portfolio, a quantitative evaluation must be performed against the defined risk and performance objectives.
- **Risk Metrics:** The evaluation must include at least volatility, value-at-risk (VaR), tracking error, beta, maximum drawdown, Sharpe ratio, and liquidity ratio.
- **Additional Measures:** Depending on the investment universe, further risk indicators (e.g., duration, convexity, concentration ratios, exposure analyses) may be required.
- **Model Documentation:** All models, risk measurement methods, and parameters (e.g., lookback windows, weighting functions, confidence levels) must be fully documented, tested, and consistently applied.
- **Model Validation:** Valuation procedures must be validated regularly to minimize model risk and prevent methodological drift.
- **Governance Integration:** Portfolio valuation results form an integral part of the approval decision for portfolio implementation.
- **Reproducibility:** All calculations must rely on consistent market and valuation data and yield reproducible results.

Second-Order Effects and Dependent Processes

- **Rebalancing Calibration:** Computed risk measures define thresholds for automatic or manual rebalancing triggers and directly impact portfolio adjustments.
- **Data Synchronization:** Discrepancies between valuation (mark-to-market) and accounting data can cause false risk alerts; regular reconciliations are required.
- **Regulatory Auditability:** Valuation logic – including model parameters, data sources, and computational methods – must withstand supervisory and internal audits (e.g., BaFin, internal audit).
- **Model Risk and Governance:** Insufficiently tested models or unclear parameter maintenance raise model risk and require a centralized validation framework.
- **Downstream Dependencies:** Valuation metrics feed into risk aggregation, limit monitoring, performance attribution, and reporting, directly influencing risk management and control processes.

[2.B]



Optimization (Target Weighting Under Constraints)

Value Proposition

By providing optimization-as-a-service, the asset manager enables wealth managers to derive compliant, efficient, and risk-adjusted target weights within complex constraint spaces. This eliminates implementation slippage, enhances execution discipline, and ensures a coherent investment process across all mandates.

Service Components

- **Optimization Model:** Configuration of the optimizer, including objective function, constraints, weight limits, short-selling rules, transaction restrictions, and rebalancing controls.
- **Constraint Management:** Handling of hard (binding) and soft (tolerance-based) constraints with prioritization logic and documented deviation rules; automatic logging of any breaches.
- **Cost Modeling:** Integration of transaction, slippage, and tax effects into the objective function to ensure a realistically executable weighting structure.
- **Result Validation:** Verification of optimization outputs for feasibility, liquidity, tradeability, and mandate compliance; validation via reference portfolios and plausibility metrics.
- **Versioning and Documentation:** Archival of all model parameters, input data, solution steps, and result portfolios with timestamps and authorship for audit purposes.
- **Approval Workflow:** Formal approval of optimization results within the defined governance process (investment committee, risk, or compliance review).
- **Auditability:** Provision of complete documentation of computational logic and decision lineage to ensure traceability of each weight to inputs and model parameters.

Requirements

- **Target Weights:** Optimization determines portfolio position weights to achieve the investment objectives – such as maximized expected return for a given risk or risk minimization for a target return – under all mandate constraints.
- **Optimization Method:** The chosen optimization approach (e.g., mean-variance, conditional VaR, robust optimization, or risk parity) must be transparent, documented, validated, and periodically reviewed.
- **Constraint Integration:** Cost, liquidity, and ESG constraints – including transaction costs, tax effects, and minimum liquidity thresholds – must be explicitly incorporated into the optimization logic.
- **Model Integrity:** Applied models must be methodologically consistent, numerically stable, and reproducible.
- **Data Governance:** All input data (expected returns, covariance matrices, liquidity parameters, ESG scores) must be uniquely referenced, version-controlled, and quality-assured.
- **Governance Approval:** Optimization results may only be implemented after formal approval by the investment committee or equivalent governance body.

Second-Order Effects and Dependent Processes

- **Model Risk:** Changes to optimization logic or parameter assumptions affect all mandates simultaneously and may cause systemic misalignment; therefore, a formal model change and validation process is mandatory.
- **Turnover Control:** The optimizer must actively minimize portfolio turnover and transaction costs; otherwise, net performance erosion and operational strain increase.
- **Market Data Dependency:** Unstable or delayed input data (e.g., faulty covariance estimates or expected returns) cause unreliable outcomes; data feeds and refresh cycles must be tightly synchronized.
- **Governance Integration:** Optimization outputs must be transparently communicated within the investment process; any methodological or parametric change must be approved and versioned.
- **Traceability:** For supervisory and audit purposes, a clear decision lineage and computational history must be maintained, allowing every target weight to be traced back to input data and model assumptions.

[2.C]



Derivatives Usage and Collateral/Margin Management

Value Proposition

The asset manager provides structured derivatives and collateral management capabilities that ensure risk transparency, regulatory compliance, and capital efficiency. Wealth managers benefit from professional overlay and margin governance without operational complexity or model risk exposure.

Service Components

- **Use Case Catalog:** Definition and documentation of permitted derivative strategies (e.g., hedging, overlay, exposure management) with parameter limits for notional, maturity, instrument type, and counterparty.
- **Pre-/Post-Trade Controls:** Automated limit, exposure, leverage, liquidity, and stress tests before and after execution, aligned with mandate and risk thresholds.
- **Collateral Processes:** Maintenance of eligible asset lists, haircuts, substitution rules, margin forecasting, daily margin reconciliation, and escalation workflows for shortfalls.
- **Valuation and PAA:** Daily valuation of open positions using market-consistent data; calculation of P&L attribution, sensitivities, and market value changes.
- **Documentation:** Comprehensive repository of ISDA/CSA agreements, netting arrangements, counterparty limits, EMIR reports, and margin documentation, integrated into regulatory reporting.
- **Governance:** Formal processes for model validation, limit approval, counterparty assessment, and collateral eligibility; periodic reporting to the risk committee.

Requirements

- **Mandate Compliance:** Derivatives may only be used within the approved mandate framework, with all strategies documented, approved, and continuously monitored.
- **Purpose Limitation:** Use is restricted to authorized objectives (e.g., hedging, overlay management, duration control, or risk-premium strategies) without generating undue leverage or liquidity risk.
- **Risk Control:** Exposure, leverage, and liquidity must be monitored continuously and managed within mandate parameters.
- **Margin Obligations:** Initial and variation margins must be met daily; eligible collateral must be permissible, high-quality, diversified, and segregated.
- **Model Governance:** Valuation assumptions (delta, vega, gamma, scenarios, haircuts) must be documented, validated regularly, and governance-approved.
- **Regulatory Compliance:** All derivative activities must comply with EMIR obligations (reporting, clearing, risk mitigation) and remain fully traceable.

Second-Order Effects and Dependent Processes

- **Liquidity Risk:** Margin spikes or collateral shortfalls may trigger unplanned liquidity outflows and forced sales; liquidity buffers and early-warning indicators are essential.
- **Operational Complexity:** Errors in collateral or margin workflows immediately affect trading capacity and regulatory compliance; automation and interface integrity are critical.
- **Model Risk:** Inadequately validated models or incorrect parameters can distort exposure assessments and undermine audit reliability.
- **Counterparty Dependence:** Over-concentration in a few clearing or OTC counterparties increases systemic and reputational exposure.
- **Regulatory Feedback:** EMIR, UCITS, and AIFMD requirements demand close coordination between risk, compliance, and operations.
- **System Integration:** Collateral and margin processes must be embedded in portfolio, booking, risk, and treasury systems to enable real-time exposure and liquidity management.

[3.A]



Cash Management (Liquidity Steering and Use of Funds)

Value Proposition

Industrialized cash steering minimizes settlement risk and opportunity costs while enforcing mandate-conform liquidity usage. Asset managers contribute proven execution discipline across money markets, FX, and collateral that is standardized and API-ready.

Service Components

- **Liquidity Monitoring:** Continuous determination and aggregation of available cash per mandate, account, currency, and custodian in real time or T+1; reconciliation to target and minimum levels.
- **Cash Forecasting:** Short- and medium-term projection of expected inflows/outflows (e.g., settlements, dividends, coupons, fees, client flows); integration with order and settlement data.
- **Cash Allocation:** Steering of surpluses/deficits within defined cash bands; automated allocation across mandates or sub-accounts under governance rules.
- **Authorization Workflow:** Multi-level approval of all payment instructions per internal authority matrix; technical access controls, limit checks, and full transaction logging.
- **Liquidity Optimization:** Automated investment of surpluses into eligible short-term money-market instruments; counterparty risk monitoring and assured recallability.
- **Documentation:** Complete audit-grade recording of cash movements, approvals, and forecasting assumptions with timestamp, user ID, and approval path.
- **Monitoring Integration:** Provision of cash data to risk management, limit monitoring, performance calculation, and reporting.

Requirements

- **Liquidity Sufficiency:** Sufficient liquidity must be available at all times to meet payment obligations, settlements, fees, and rebalancing.
- **Mandate-Conform Use of Cash:** Surpluses must be invested, parked, or reserved in line with mandate provisions and investment guidelines.
- **Shortfall Remediation:** Liquidity shortfalls must be identified and remedied immediately; minimum liquidity buffers per mandate must be respected.
- **Cash Flow Monitoring:** Payment flows must be monitored daily; unauthorized, erroneous, or implausible movements must be prevented via technical and organizational controls.
- **Auditability and Governance:** All cash-management processes must be auditable, transparent, and governance-compliant with defined responsibilities and escalation paths.
- **Controls and AML/CFT:** End-to-end controls, four-eyes principle, and AML/CFT safeguards must be in place to prevent money laundering and fraudulent transactions.

Second-Order Effects and Dependent Processes

- **Settlement Risk:** Missing or late liquidity causes settlement fails and impairs downstream processes (valuation, NAV, reporting).
- **Rate and Opportunity Management:** Non-invested or misallocated cash leads to opportunity costs and impacts performance and tracking error.
- **Compliance and Fraud Prevention:** Cash management is subject to heightened AML, CFT, and fraud-prevention requirements; automated surveillance is mandatory.
- **Systemic Dependency:** Delays or data errors in cash monitoring directly affect orders and rebalancing; tight synchronization with trading, accounting, and valuation systems is required.
- **Governance Feedback:** Recurrent shortfalls or structural surpluses must be analyzed by risk and investment committees and may lead to strategic allocation adjustments.

[4.A]



Limit and Risk Monitoring (Ongoing Portfolio Surveillance)

Value Proposition

A governed, multi-bank-capable limit and risk monitoring service industrializes exposure control and quantitative surveillance, cutting false positives and blind spots. The asset manager differentiates through limit design, measurement methodology, and data-quality controls rather than generic tooling.

Service Components

- **Exposure Control:** Calculation of net and gross exposures by asset class, region, issuer, currency, sector, and counterparty; routine comparison against mandate rules and risk budgets.
- **Risk-Metric Monitoring:** Continuous surveillance of volatility, VaR, beta, drawdown, tracking error, and liquidity ratio in real time or at defined intervals.
- **Limit Monitoring:** Automated checks for position, concentration, counterparty, and liquidity limits, linked to mandate data and compliance rules.
- **Correlation and Stress Module:** Simulation of shocks, spread changes, or factor rotations to anticipate potential breaches.
- **Alert Mechanism:** Thresholds, escalation logic, priority levels, and notification paths (tickets, email, dashboard alerts).
- **Review and Approval:** Formal review, classification, and closure of incidents with root cause, owner, actions, and completion status.
- **Reporting Integration:** Structured outputs for management, compliance, risk control, and supervisors, including trend and cause analysis.
- **Historization:** Storage of all limit definitions, threshold changes, and test logs for full traceability.

Requirements

- **Limit Adherence:** Ongoing monitoring must ensure compliance with all mandate, liquidity, concentration, and risk limits across the investment process.
- **Frequency and Triggers:** Checks must run on a defined schedule (e.g., daily) and be event-driven upon market moves, portfolio changes, or data updates.
- **Coverage Scope:** Monitoring must span single-position and aggregated portfolio views, including exposure, factor, and correlation analyses.
- **Breach Handling:** Any limit breach must be automatically detected, classified, escalated, and documented.
- **Deterministic Evidence:** Tests must be deterministic, audit-proof, and based on consistent valuation and market data sources.
- **Governance Ownership:** Roles for defining, monitoring, escalating, and adjusting limits must be clearly assigned.
- **Regulatory Fit:** The system must satisfy auditability, transparency, and data integrity per applicable regulatory standards.

Second-Order Effects and Dependent Processes

- **Real-Time Demands:** High frequency and event triggers require performant systems, redundant feeds, and robust compute.
- **Governance Feedback:** Repeated or systemic breaches must be analyzed strategically and may prompt mandate, optimization, or model changes.
- **Disclosure Duties:** All events and actions flow into regular management reporting, internal audit, and supervisory documentation.
- **Data-Quality Dependence:** Inaccurate or delayed data can create false alarms; plausibility checks and synchronization are required.
- **Pre/Post-Trade Consistency:** Findings must align with pre-trade checks and post-trade reconciliations; deviations require systematic assessment.
- **Systemic Escalation:** Portfolio-level breaches can aggregate to mandate or strategy-level impacts and must be reflected in risk aggregation.

[5.A]



Model/Implementation Deviation Monitoring

Value Proposition

A governed deviation-monitoring ensures that model portfolios and execution outcomes remain aligned, reducing tracking gaps and explanation risk. The asset manager leverages portfolio-design expertise and rebalancing heuristics to industrialize drift control across many mandates.

Service Components

- **Delta Engine:** Calculation of target–actual diffs across portfolio, strategy, and instrument; treatment of tolerance bands, valuation timestamps, FX effects, and mandate constraints; standardized metrics (absolute/relative deviation, tracking gap, delay impact).
- **Cause Attribution:** Rule-based tagging such as liquidity-unavailable, market-closed, order-min-size, pre-trade-block, manual-override, execution-delay, with hierarchy and priority logic for multi-cause events.
- **Alerting & Ticketing:** API events with priority, SLA targets, and escalation paths; automatic ticket creation for the wealth manager or operations; integration with workflow systems (ServiceNow, JIRA, compliance tools).
- **Historization & Analytics:** Storage of all deviation data as time series with mandate IDs and rule versions; analytics (trends, heatmaps, clustering of systematic frictions); drill-downs by client, strategy, instrument, and deviation type.
- **Governance & Transparency:** Documentation of rules, thresholds, and changes with governance approval; regular effectiveness reviews under the internal control framework.

Requirements

- **Deviation Detection:** Differences between modeled target weights or trade signals and the actually implemented structure must be detected, quantified, and cause-classified continuously (daily or intraday).
- **Granular Explainability:** The system must explain deviations at mandate, strategy, and instrument level, accounting for operational, liquidity, and regulatory constraints.
- **System Integration:** Results must be machine-readable for integration into portfolio management, risk, and reporting systems and audit-proof for governance and compliance.
- **Temporal/Data Coherence:** All deviation metrics must be time-aligned, source-consistent, and under version control.

Second-Order Effects and Dependent Processes

- **Quality Control:** Systematic deviation patterns directly inform optimizer tuning, TAA rules, and execution policies.
- **Trust Building:** Objective attribution increases transparency across advisor, wealth manager, and operations, reducing liability disputes.
- **Risk Management:** Early detection of persistent gaps prevents structural tracking errors and rule breaches.
- **Scale Effects:** Once integrated, the service enables cross-mandate monitoring of hundreds of portfolios without linear staffing.
- **Data Lineage:** Full traceability of inputs, system paths, and rule decisions is a prerequisite for audit and supervisory resilience.

[5.B]



Bidirectional Holdings and Valuation Attestation (Reconciliation Feed)

Value Proposition

Bidirectional, signed reconciliation reduces operational risk from data breaks between bank, advisor, and reporting, improving audit readiness. While not a primary buying driver, it is a pragmatic enabler that strengthens data quality without recasting the asset manager as back office.

Service Components

- **Reconciliation:** Structured data exchange via standardized interfaces; transmission of aggregated metrics (position values, cash, NAV, exposures) and hashed detail snapshots; deviation thresholds and tolerances to trigger automatic flags.
- **Match/Break Logic:** Automated matching of positions, valuations, and movements; classification of breaks by cause (timing delay, price source variance, corporate action, misposting, FX difference, cutoff mismatch); documentation and prioritization by materiality and risk.
- **Attestation Tokens:** Creation of signed, tamper-evident receipts per run with timestamp, hash, and checksum; storage in GRC systems and export for internal and external auditors.
- **Root-Cause Documentation:** Standard cause library with remediation guidance for process or data harmonization; automatic tagging of recurring causes and statistical detection of systemic weaknesses.

Requirements

- **Daily Reconciliation:** Positions, cash, and valuations must be reconciled daily between the advisor system (steering view) and the wealth manager's books and custody view.
- **Mutual Attestation:** Both parties must attest equality or difference of the aggregated states ("seen/accepted").
- **Privacy-Preserving Proof:** Comparisons must be based on hashed datasets to evidence content equality without exposing confidential details.
- **Audit-Ready Records:** Outcomes and attestations must be audit-proof, timestamped, and machine-readable.

Second-Order Effects and Dependent Processes

- **Audit Resilience:** Bilaterally attested logs increase audit efficiency and data integrity; external auditors can cryptographically validate equality.
- **Faster Remediation:** Systematic break typing accelerates operational and IT fix cycles.
- **Data Minimization & Security:** Hash-based comparisons preserve confidentiality and align with data-protection-by-design principles.
- **Continuity and Trust:** Automated attestation fosters mutual reliability between advisor and wealth manager, particularly in outsourced or hybrid models.

[5.C]



Asset-Class Enablement (Asset-Universe-as-a-Service)

Value Proposition

Curated, institution-grade universes and onboarding artifacts give wealth managers scalable access to niche asset classes without building research or valuation stacks. The asset manager supplies governed content and operational routines that are already standard in the market.

Service Components

- **Asset-class Adapters:** Provision of pre-calibrated universes, benchmarks, valuation logics, and model parameters per alternative asset class, including defined data sources, return surrogates, illiquidity indicators, ESG and valuation metrics, and a validated link to regulatory eligibility and mandate rules.
- **Exposure Guidelines:** Machine-checkable rule sets for eligibility, diversification, leverage, and liquidity per asset class, including minimum manager-quality criteria, reporting frequency, and transparency levels, plus technical evaluation of portfolio compatibility (e.g., UCITS vs. Spezial-AIF).
- **Simulation and Backtesting:** Quantitative models to simulate return/risk profiles, drawdowns, and correlations versus existing portfolios, using historical proxies or synthetic series for illiquid assets, with stress tests and liquidity adjustments aligned to regulatory standards.
- **Integration API:** Standardized interface delivering aggregated NAV proxies, volatilities, beta factors, duration equivalents, and illiquidity haircuts, compatible with internal risk engines, reporting systems, and optimizers, with optional delivery as a model data feed or allocation proposal package.

Requirements

- **Capability Gap:** Many wealth managers lack specialized models, data sources, and valuation methods for alternative asset classes such as private debt, infrastructure, impact investing, or hedge funds.
- **Portfolio Expectation:** End-clients expect strategically diversified portfolios with access to such segments where permissible and quantitatively underpinned.
- **Service Model:** A modular API-based service must deliver vetted allocation proposals, risk metrics, and data packages per asset class without requiring the wealth manager to operate its own research or valuation framework.
- **Regulatory Fit:** All delivered modules must be supervisory-consistent, traceable, and compatible with existing wealth-manager systems (risk, reporting, compliance).

Second-Order Effects and Dependent Processes

- **Product Expansion:** Enables wealth managers to add alternative asset classes without building internal research, valuation, or data-engineering capabilities.
- **Regulatory Relief:** The advisor assumes methodology governance, data validation, and model maintenance, providing supervisory-ready inputs to the wealth manager.
- **Scaling:** Additional mandate types or funds can be integrated immediately because modules are standardized and API-compatible.
- **Efficiency and Quality:** Unified valuation and risk approaches increase consistency, comparability, and governance transparency in multi-asset contexts.

[6.A]



Dynamic Risk and Stress-Test Framework (Scenarios)

Value Proposition

A governed scenario engine delivers rapid, consistent impact assessments across mandates for market, credit, and FX shocks. It replaces fragile ad-hoc tooling with audit-ready analytics aligned to established supervisory practice.

Service Components

- **Scenario Library:** Curated set of predefined macro, credit, FX, equity, and rates scenarios with full parametrization, including historical events (e.g., Lehman 2008, COVID 2020, UK gilt crisis 2022) and hypothetical shocks (e.g., +200 bp rates, oil +30%, EUR/USD -10%), each with defined shock vectors, correlations, path lengths, and temporal impact profiles.
- **API Computation:** Wealth managers submit portfolio or exposure data, the engine returns impact matrices with ΔNAV , ΔVaR , $\Delta Expected\ Shortfall$, duration shift, spread-widening effects, and, where relevant, liquidity or margin impacts, including parameter snapshot, calculation time, and confidence level.
- **Custom Scenario Builder:** Wealth managers can model idiosyncratic or regulatory scenarios and execute them on the engine; deterministic and stochastic variants, including multi-factor combinations, are supported; scenarios are versioned, stored, and reusable.
- **Reporting Interface:** Results are delivered via machine-readable endpoints for integration into risk, reporting, and GRC systems; supports mandate consolidation, aggregation by risk type, and export into regulatory templates (e.g., EBA ITS).

Requirements

- **Event Coverage:** Wealth managers must be able to quantify short-term portfolio impacts from sudden market events, geopolitical shocks, or parameter changes.
- **API Framework:** The advisor must provide an API-based stress-test framework that calculates static and dynamic scenarios using consistent models and parameters.
- **Standardization Goal:** The objective is standardized, automated risk assessment across all mandates without the wealth manager operating simulation infrastructure.
- **Auditability:** The system must be supervisory-testable, model-transparent, and reproducible, especially for EBA, ESMA, and BaFin requirements on risk-bearing capacity.

Second-Order Effects and Dependent Processes

- **Regulatory Relief:** Wealth managers can fulfill supervisory scenario requirements (e.g., BaFin circulars or EBA guidelines) without operating their own models.
- **Usage Scaling:** After one-time integration, arbitrarily many mandates and scenarios can be tested with identical methodology, yielding high scale economies at marginal operating cost.
- **Feedback Loop:** Early detection of risk concentrations and vulnerabilities enables proactive adjustments to allocations or limits.
- **Model Consistency:** Unified parameters and valuation logic prevent method breaks between advisor and wealth manager, which is critical for audit and internal review.

[6.B]



Cash Alpha & Short-Term Investment Service (Excess Liquidity Management)

Value Proposition

The asset manager industrializes excess-liquidity deployment with governed cash sweeps, standardized instruments, and daily execution hooks, delivering measurable yield uplift without shifting execution responsibility. This is current market practice and integrates cleanly via reports and APIs.

Service Components

- **Yield Curve Engine:** Dynamic derivation of recommended allocations along the term structure, incorporating maturity, rating, currency, liquidity, and mandate constraints. Incorporates current rate, swap, and repo curves with scenario overlays (e.g., "Rates +50 bps"). Produces duration-conform target allocations for the cash sleeve per mandate.
- **Product Feed:** Curated list of eligible money market instruments, funds, repos, and short-dated bonds with attributes on maturity, spread, ESG rating, issuer quality, and regulatory classification. All instruments are filtered for mandate and jurisdictional compliance. Optional data feed for integration into order systems or treasury modules.
- **Rebalancing Triggers:** Automated recommendations for reweights upon rate moves, cash flows, or threshold breaches. Supports threshold- and event-based logic ("Cash >5% AUM," "Yield spread change >25 bps") with prioritization and alerting API. Supplies action guidance ("Buy 3M repo," "Switch MMF A → B") including cost and tenor estimates.
- **Reporting Add-On:** Standardized performance, duration, and liquidity reports for the cash position. Includes attribution of interest income, roll-down effects, and FX impact, plus evidence of regulatory compliance (e.g., LCR, ESG). Integrates into wealth manager reporting or dashboards.

Requirements

- **Excess Liquidity:** Many mandates hold structurally surplus cash that must be invested in a return-optimized yet prudential manner.
- **Dynamic Conditions:** Daily adaptation to rate moves, curve dynamics, currency shifts, and regulatory constraints is required.
- **Proposals:** An API-based solution should generate and continuously refresh short-term investment proposals (money markets, repos, short bonds, time deposits) for delivery into wealth manager systems.
- **Decision Segregation:** Decision rights and execution remain with the wealth manager, while the advisor supplies data, methodology, and proposal logic.

Second-Order Effects and Dependent Processes

- **Return Uplift:** Systematic excess-liquidity management improves net returns without raising the risk profile.
- **Automation Level:** Full API integration enables seamless connectivity into order, treasury, and rebalancing systems, with real-time feedback.
- **Liability Neutrality:** The advisor acts as signal and methodology provider; legal responsibility remains with the wealth manager.
- **Governance Efficiency:** Standardized parameters, validated instruments, and auditable triggers enhance compliance transparency and auditability.

[6.C]



Currency Exposure & Hedging

Value Proposition

The asset manager provides a classic overlay mandate – exposure measurement, hedge design, rolling execution logic, and reporting – so wealth managers stabilize risk/return profiles without building FX quant or execution stacks. Standardized hedge ratios, roll cycles, and netted execution are well established and scalable.

Service Components

- **Exposure Analysis:** Determination of aggregated net exposures by currency, region, asset class, and counterparty. Calculation of gross and net FX positions, mapped to underlying instruments and benchmark currencies. Supports multi-level aggregation (mandate → strategy → total portfolio) with optional currency-level VaR sensitivities.
- **Hedge-Ratio Calculator:** Computation of optimal hedge ratios per currency pair based on expected rate differentials, implied vols, carry, and transaction costs. Simulation of alternative hedge regimes (“full,” “partial,” “dynamic”) with quantitative risk/return assessment. Output: recommended target ratio (as % of exposure) with documented rationale and parameters.
- **FX Signal Feed:** Daily or intraday recommendations (e.g., “hedge +5% EUR/USD,” “reduce GBP hedge by -10%”), each including rationale (carry, volatility, momentum, policy), validity, confidence, and timestamp. API provides trade types (spot, forward, NDF, swap) with methodology ID and audit trail.
- **Rolling Hedge Service:** Simulation, monitoring, and scheduling of FX forwards and swaps, including roll timing, carry costs, and hedge decay. Ensures consistent roll-forward without position overhangs or cash-flow distortions.
- **Reporting API:** Standard interface for performance attribution between underlying and FX hedge; displays hedge efficiency, slippage, and cost components. Includes complete compliance documentation: hedge-ratio history, parameters, and signal lineage. API-compatible with wealth manager risk reports, dashboards, and regulatory templates (SFDR, PRIIPs, MiFID II).

Requirements

- **FX Exposure:** Mandates with foreign-currency holdings are exposed to exchange-rate movements that directly affect return, risk, and regulatory metrics.
- **Continuous Monitoring:** Open FX exposures must be continuously monitored and assessed to maintain the target hedge ratio and minimize unwanted volatility.
- **API Delivery:** Via API, the advisor provides automated hedging analytics, optimization proposals, and reporting functions without taking over operational FX trading.
- **Transparency and Compliance:** The framework must be transparent, deterministic, and auditable, especially regarding MiFID II and ESMA requirements for hedging strategies and risk reporting.

Second-Order Effects and Dependent Processes

- **Risk Reduction:** Systematic monitoring and steering reduce FX-driven volatility and tracking error, particularly in globally diversified mandates.
- **Liability Neutrality:** The advisor delivers signals, rationales, and parameters; the wealth manager makes the execution decision – clean separation of advice and trading.
- **Differentiation:** Enables professional currency management without in-house FX quant or trading capabilities.
- **Data/Model Consistency:** Harmonized valuation between underlying and hedge prevents inconsistencies in performance and risk reports.

[6.D]



Mandate-Specific Drift & Deviation Monitoring (Drift Control)

Value Proposition

The asset manager provides mandate-aware drift surveillance with prioritization logic and event feeds, ensuring portfolio integrity and cost discipline at scale. This supports stewardship claims with auditable, deterministic controls.

Service Components

- **Drift Calculator:** Daily computation of relative and absolute deviations between live portfolio and model portfolio. Metrics include weighted tracking error (model-based performance deviation), sectoral drift (e.g., by asset class, region, factor, ESG exposure), and risk-profile divergence (e.g., duration, volatility, beta, VaR), calculated position-by-position using current valuations and model states.
- **Prioritization:** Automatic classification of drifts by materiality, mandate relevance, and correlation effects. Grading into tiers (“Low,” “Medium,” “Critical”) based on predefined percentage or risk bands, with consideration of portfolio size, client segment, compliance category, and operational relevance.
- **Event Triggers:** API-based emission of drift events as inputs to rebalancing, compliance, or governance processes. Events carry drift type, affected dimension, threshold, timestamp, and recommended action. Integrates into rebalancing engines, OMS, and monitoring systems via standardized interfaces.
- **Drift History:** Full time-series capture and analysis of deviations per client, portfolio, mandate, and model. Computation of trend and persistence metrics (e.g., average monthly drift, half-life of deviations). Supports graphics and dashboard integration for visualization of cumulative effects.

Requirements

- **Model Deviation:** Scaling, cash flows, and market moves create deviations over time between real client portfolios and the advisor’s model portfolio.
- **Mandate-Aware Monitoring:** The wealth manager requires automated, mandate-specific drift monitoring that incorporates model weights, mandate specifics, trading constraints, and tolerance bands.
- **Materiality Detection:** The objective is precise, prioritized identification of material deviations to trigger targeted rebalancing, risk, or compliance actions while avoiding micro-interventions.
- **Deterministic Integration:** The system must operate deterministically, be audit-proof and machine-readable, and integrate seamlessly with existing portfolio and compliance systems.

Second-Order Effects and Dependent Processes

- **Cost Control:** Prioritization and threshold logic avoid unnecessary micro-rebalancing, reducing transaction costs and turnover.
- **Portfolio Integrity:** Uniform drift detection ensures the intended risk profile and model coherence are preserved across all mandates.
- **Transparency:** The wealth manager can evidence sustained model adherence and risk consistency to supervisors, auditors, and clients.
- **Scalability:** The API enables cross-mandate monitoring for thousands of accounts in real time with consistent methodology and data.

[6.E]



Rebalancing (Ongoing Portfolio Adjustment)

Value Proposition

Standardized, rule-based rebalancing stabilizes risk profiles and reduces manual effort across tickets from €10k to €50m. It industrializes execution discipline and auditability without turning the asset manager into a software vendor.

Service Components

- **Trigger Logic:** Definition and parametrization of rebalancing triggers (time-based, event-driven, threshold breach, risk-metric deviation) including prioritization and escalation hierarchy.
- **Cost and Slippage Estimation:** Ex-ante estimation of trading costs, market impact, and slippage to assess economic viability, integrated into the decision workflow.
- **Order Generation:** Automatic derivation of orders or signals from updated target weights considering tradability, lot sizes, and liquidity.
- **Approval Workflow:** Rebalancings above defined thresholds (e.g., costs, risk budgets, deviation magnitude) require formal approval by the investment or risk committee with full documentation.
- **Post-rebalancing Control:** Verification of target vs. actual allocation after execution, analysis of deviations, and documentation of causes.
- **Versioning and Logging:** Archival of all decisions, inputs, parameters, cost assumptions, and execution details for auditability.

Requirements

- **Objective Compliance:** Rebalancing must maintain target structure, risk budgets, and mandate constraints over time.
- **Policy Definition:** Rules for triggers, frequency, tolerance bands, and cost control must be unambiguous, documented, and aligned with the mandate.
- **Trigger Taxonomy:** Mechanisms must distinguish time-based, event-driven, and threshold-based triggers and define a prioritization of trigger logics.
- **Process Logging:** Automatic and manual rebalancing must be clearly separated with full logging of rationale, timestamp, trigger, and accountable owner.
- **Traceability:** Each rebalancing decision must be traceable and refer back to underlying valuation and risk data.
- **Suitability Check:** Rebalancings that may affect target market or suitability must undergo prior regulatory review.

Second-Order Effects and Dependent Processes

- **System Load:** Concurrent or correlated rebalancings across many mandates create technical load peaks and market-impact risks; coordinated batching and prioritization are required.
- **Client Transparency:** Frequent adjustments increase communication and explanation needs; mechanisms for client notification and documentation of decision logic are necessary.
- **Regulatory Interfaces:** Rebalancings can trigger suitability and target-market checks or necessitate reassessment of appropriateness under MiFID II.
- **Operational Dependencies:** Rebalancing affects order management, settlement, and risk monitoring; tight integration with operations systems is essential.
- **Performance Attribution:** Frequency and quality of rebalancing directly affect risk and performance; uncoordinated or delayed adjustments cause tracking-error drift.

[6.F]

Goal Tracking & Transparency Report

Value Proposition

A standardized, audit-ready goal-tracking layer delivers objective evidence of mandate target attainment and elevates client reporting beyond pure performance figures. This strengthens the wealth manager's advisory quality while leveraging the asset manager's methodological and governance capabilities.

Service Components

- **Goal Definition:** Automated capture and structuring of mandate goals and restrictions in machine-readable form; mapping of quantitative targets such as risk budget, target return, drawdown limit, ESG targets, volatility bands, duration ranges, and liquidity ratios; integration with mandate-parameter synchronization for consistency across systems.
- **Goal Attainment:** Daily computation of deviations between actual performance and goal path, including risk breaches, cost impacts, and ESG drift; standardized metrics such as Goal Attainment Score, Risk Utilization Ratio, Target Deviation Index, and ESG Compliance Level; optional forecasting of goal probabilities over future periods.
- **Attribution Logic:** Quantitative decomposition of drivers of goal deviations – market, allocation decisions, timing, costs, or operational effects; presentation by drivers and dampeners with score contributions and empirical confidence intervals; consistent aggregation across periods and mandate groups for management and governance reports.
- **Transparency Report Feed:** Standardized reports and API endpoints delivering numerical scores, goal-attainment trends, metric comparisons, and compliance status; supports multidimensional views (return, risk, ESG, liquidity) with automatic flagging of goal breaches; formats compatible with wealth-manager reporting, client portals, and supervisory systems.

Requirements

- **Regulatory Evidence:** Supervisors require a quantitative, traceable demonstration of goal attainment over time, especially for objectives such as capital preservation, payout, risk budget, or sustainability level.
- **Centralized Computation:** The advisor can centrally perform these calculations and assessments, providing wealth managers with regular, audit-ready "goal achievement reports" via a standardized API.
- **Objectivity and Compliance:** Results must be objective, reproducible, and regulatory-compliant, notably with MiFID II Art. 25, SFDR, PRIIPs, and AIFMD requirements for target and risk reporting.
- **Process Separation:** The service acts as an independent analytics and transparency layer without operational intervention in the wealth manager's portfolio steering.

Second-Order Effects and Dependent Processes

- **Regulatory Support:** Enables structured fulfillment of disclosure obligations under MiFID II, SFDR, and AIFMD without redundant in-house calculations.
- **Client Value:** Improves transparency, explainability, and trust by objectively measuring and visually communicating goal attainment.
- **Scalability:** Once defined, goal systems and evaluation logics can be rolled out across mandates and institutions without manual customization.
- **Governance Integration:** The API becomes a measurable interface between product design, portfolio management, and reporting, reinforcing the institutional accountability chain.

[7.A]



Scaling Validation & Performance Attribution (Model vs. Mandate Attribution API)

Value Proposition

Model-vs-mandate attribution verifies scalability and implementation quality by cleanly separating allocation, selection, and interaction effects from execution and cashflow impacts. This provides defensible evidence for institutional governance and differentiates the asset manager from pure IT providers.

Service Components

- **Attribution Engine:** Computes performance differences (bps, percent, or monetary) between model and mandate outcomes; decomposes deviations into standardized classes – rounding bias (scaling effects, minimum trade sizes), timing drift (execution timestamps, cut-off differences), execution impact (price differences, slippage, trading costs), cashflow effects (subscriptions/redemptions, distributions), and model shift (new versions, parameter changes); assigns significance indicators and variance contributions to each component.
- **Benchmark Construction:** Simulates hypothetically “perfectly scaled” comparison portfolios as analytical controls; uses identical prices and timestamps to isolate pure execution or scaling effects; optional dynamic replication for rolling or intraday benchmarks.
- **Reporting API:** Provides machine-readable metric feeds per mandate, period, and attribution factor; supports aggregation by segments, models, or mandate types; output modules include bps difference matrices by cause and period, cumulative attribution over time, and outlier detection for significant deviations.
- **Audit Archive:** Stores all input parameters (valuation timestamps, model version, price feeds, weights) and computational paths; generates cryptographically secured audit tokens for each run; integrates with data-lineage frameworks and evidence packages

Requirements

- **Root-Cause Clarity:** For differentiated mandates, it must be precisely traceable which causes drive performance differences between model and mandate – particularly scaling, execution, timing, cashflows, and model versions.
- **Automated Analytics:** The advisor must supply automated attribution analyses via API that quantify, classify, and audit-proof document deviations.
- **Determinism and Transparency:** The logic must be deterministic, repeatable, and transparent to wealth-management and audit stakeholders.

Second-Order Effects and Dependent Processes

- **Regulatory Relief:** Demonstrates that performance differences are methodologically explainable, not hidden misallocations.
- **Wealth-manager Steering:** Delivers targeted insights into execution- or cashflow-driven inefficiencies in the wealth-management process.
- **Trust Building:** Transparent, objective attribution makes the advisor–wealth-manager cooperation measurable and robust; evidentiary support in audit scenarios becomes straightforward.

[7.B]

