Business Requirements Document (BRD) for Trade Operations Management System

When implementing the Trade Operations Management System (TOMS) project, the Business Requirements Document (BRD) must be deliberately structured to address the depth and complexity of modern trade processing infrastructure. Guided by frameworks such as those detailed in Howard Podeswa's the Business Analyst's Handbook, the BRD for TOMS should be engineered not just as a record of business needs but as a strategic living document aligned with real-time trade management, advanced system integration, and evolving compliance landscapes.

At its core, TOMS is envisioned as a robust, enterprise-scale platform for automating the full trade lifecycle—from trade capture and validation to matching, settlement, and reconciliation—across asset classes including equities, fixed income, and derivatives. The platform's architectural backbone supports seamless collaboration between front, middle, and back-office functions through Straight Through Processing (STP), significantly minimizing manual hand-offs and settlement failures.

The BRD must define precise functional and non-functional requirements that align with this objective. For instance, the Secure Login & User Access Management module must account for role-specific security policies, multi-factor authentication, and session governance, ensuring that traders, compliance officers, and administrators only access modules within their purview. These requirements are to be mapped against the system's Role-Based Access Control (RBAC) matrix and should detail authentication protocols, token management, and encryption standards.

As part of the Order Management & Trade Entry specification, the BRD should explain the capture of multi-asset orders with metadata tagging and pre-trade validations. This includes elaborating on the trade blotter's responsiveness, search algorithms, and rule-based alerts that enhance front-office efficiency. Integration specifics should be detailed for APIs enabling real-time trade submissions to exchanges and brokers via FIX protocols.

The Trade Validation & Matching section requires elaboration on the tolerance logic for T+0 and T+1 environments, as well as fallback mechanisms when auto-matching fails. These matching algorithms must interface with counterparty systems and broker feeds in real-time. Any discrepancies must trigger exception workflows that include maker-checker controls and override justifications.

Settlement processes within Settlement & Reconciliation must be outlined with instructions for Standard Settlement Instructions (SSI) generation and custodial integration flows. The BRD should capture dependencies with clearinghouses (e.g., NSCCL, Euroclear) and emphasize reconciliation logic that compares

internal and external trade, cash, and position data. Daily batch and intraday reconciliation strategies should be defined with thresholds for alerting and automatic locking.

In terms of STP & Workflow Automation, the BRD should encapsulate the full trade event lifecycle through configurable workflow engines. These workflows must dynamically adapt based on asset class, trade size, and risk categorization, automatically routing cases to the appropriate operational teams. Compliance and exception monitoring should be embedded within the workflow templates, integrated via APIs into the firm's regulatory reporting stack.

The Front, Middle, and Back Office Integration requirement extends beyond simple data flow and necessitates a unified data model across all operational touchpoints. The BRD should specify how trade status updates, validations, and reconciliations reflect in real time across these environments. Furthermore, technical mappings to internal systems like risk engines, general ledgers, and client onboarding platforms must be documented to ensure end-to-end traceability.

Each Business Use Case, such as equity, derivative, and fixed income trade flows, should be contextualized with user personas, data interactions, and system triggers. These narrative flows will help ensure traceable alignment between business operations and technical implementations.

From a technical standpoint, the BRD should detail the system's microservices-oriented technology stack, which includes Java (Spring Boot) for backend services, React and Flutter for responsive user interfaces, PostgreSQL and Redis for high-performance data management, and reporting tools like Power BI and JasperReports. Integration layers must be robustly defined with support for FIX and SWIFT standards, including sequence number handling, message acknowledgments, and failover policies.

The deployment strategy, supported on AWS using Kubernetes and Docker, demands specific documentation on scalability expectations, service mesh designs, container orchestration, and DevSecOps considerations. The BRD should also include provisions for TLS-based encryption, JWT token management, and API gateways with OAuth2 authorization.

In conclusion, the TOMS BRD must be envisioned not as a static document but as an adaptable and extensible knowledge asset. It should be version-controlled, modular, and structured for stakeholder-specific consumption. While business users may require a focus on operational efficiency and risk reduction, technical teams will rely on integration schemas, data flow diagrams, and security protocols. Through disciplined documentation, iterative reviews, and governance-friendly customization guidelines, the BRD will serve as a foundational element in delivering a compliant, scalable, and future-ready Trade Operations Management System.

Business Requirements Document (BRD)

Project No.: _____

Production Priority: ____

Target Date: _____

Approved by:

_____ _____

Name of user, department Date

_____ _____

Name of user, department Date

Prepared by:

_____ _____

Name of user, department Date

Filename: _____

Version No. : _____

Table of Contents

1. Document Revisions

Date	Version Number	Document Changes
21/11/2021	1.0	Initial Draft

2. Approvals

Role	Name	Title	Signature	Date
Project Sponsor				
Business Owner				
Project Manager				
System Architect				
Development Lead				
User Experience Lead				
Quality Lead				
Content Lead				

2.1 RACI Chart for This Document

In the context of the Trade Operations Management System (TOMS), the Business Requirements Document (BRD) is a central deliverable that outlines the functional, technical, and operational expectations of the trade lifecycle automation platform. Given the project's enterprise-scale and critical alignment with post-trade operations, the maintenance, updates, and governance of this document must follow a clearly defined RACI structure.

The RACI model ensures that all relevant stakeholders and project contributors are aligned on their roles with respect to this document's creation, validation, enhancement, and approval. It outlines who is Responsible for drafting the BRD, who is Accountable for ensuring its accuracy, who Supports the document's compilation, who is Consulted for expert insights, and who must be Informed of any updates. In addition, we include the Authorize role — designating the individual who has final authority to approve changes and sign off on the BRD.

For the TOMS project, where multiple teams such as front-office operations, system architecture, development, QA, and business leadership are actively involved, the RACI matrix ensures transparency and auditability in the document management process. Updates to the BRD must follow this matrix to maintain alignment between business goals, user expectations, technical feasibility, and compliance mandates.

This structure not only prevents conflicts or duplications of responsibility but also enhances version control, stakeholder trust, and documentation integrity throughout the project lifecycle.

The following describes the full list of codes used in the table:

Codes Used in RACI Chart

*	Authorize	Has ultimate signing authority for any changes to the document.
R	Responsible	Person or group primarily responsible for creating and editing the document.
A	Accountable	Person or group who ensures the accuracy and completeness of the document. Typically, this is the project manager.
S	Supports	Provides supporting services in the production of this document, such as technical writing or data analysis.
C	Consulted	Individuals or groups whose inputs are sought; typically, subject matter experts.
I	Informed	Those who need to be updated about changes to the document, usually stakeholders or team members affected by those changes.

2.2 RACI Chart

Name	Position	* (Authorize)	R (Responsible)	A (Accountable)	S (Supports)	C (Consulted)	I (Informed)
Rajesh Iyer	Project Sponsor	✓					✓
Anjali Mehta	Business Owner			✓		✓	✓
Vikram Deshpande	Project Manager		✓	✓			✓
Rina Narula	System Architect				✓	✓	
Deepak Arora	Development Lead				✓	✓	
Harshal Lathewala	Business Analyst		✓				

- Vikram The Program Director has final sign-off authority on the BRD and any subsequent changes, ensuring strategic alignment with business goals.
- The Business Analyst is responsible for driving requirement elicitation, stakeholder engagement, and drafting the document.
- The Product Owner is accountable for confirming that the document aligns with product vision, client expectations, and regulatory readiness.
- The Technical Architect supports API documentation, platform integration, and technical feasibility assessment.
- The Digital Experience Lead is kept informed about changes impacting front-end workflows and client experience across web and mobile platforms.

This structure enables controlled collaboration and clarity on who to contact, consult, or inform when any changes to this document are proposed, ensuring efficient change management and traceability.

All named individuals are kept informed of changes to the document to ensure project alignment and informed decision-making.

3. Introduction

3.1 Project Summary

The Trade Operations Management System (TOMS) is conceived as a high-performance, enterprise-grade financial platform designed to digitalize, automate, and monitor the complete lifecycle of trade operations. This system addresses the complex demands of global financial institutions operating in equities, derivatives, and fixed income markets by providing end-to-end support—from trade initiation and validation to settlement and reconciliation—within a unified and secure technology framework.

TOMS is intended to serve a dual objective. First, it enhances the institution's existing capital markets infrastructure by enabling seamless Straight Through Processing (STP) and reducing manual interventions. Second, it introduces operational agility by integrating front, middle, and back-office workflows and delivering real-time visibility into trade data, compliance statuses, and operational risk exposures. The system is built with scalability and regulatory adaptability in mind, enabling institutions to stay competitive in fast-evolving markets.

3.1.1 Objectives

The primary objective of this project is to transition fragmented, semi-manual trade processing workflows into an integrated, automated environment that ensures data consistency, operational transparency, and compliance readiness. Through the implementation of TOMS, trade operations teams will benefit from improved efficiency, lower settlement risk, and reduced exception handling. Traders and front-office personnel will be empowered with real-time order entry, enriched trade data, and faster confirmation cycles. Middle and back-office users will gain from streamlined validation, accurate matching, and seamless settlement coordination with custodians and clearinghouses.

The platform is also designed to deliver an elevated experience to operations managers by offering a centralized dashboard for monitoring trades, exceptions, and key performance indicators. Furthermore, the business owner or admin will be equipped with secure access to control user roles, configure business rules for pre-trade validation, and oversee the reconciliation process. With the support for real-time integration protocols such as FIX and SWIFT, along with RESTful APIs, the system ensures data synchronization across institutional partners and internal systems.

3.1.2 Background

Trade lifecycle management within financial institutions has traditionally been a fragmented ecosystem involving siloed departments, legacy platforms, and manual reconciliations. This lack of integration often leads to increased settlement risk, delayed confirmations, operational inefficiencies, and a lack of auditability in trade transactions.

In response to these challenges, the TOMS project was initiated to modernize and unify trade operations under a single, coherent digital architecture. With increased regulatory scrutiny, reduced settlement cycles (e.g., shift to T+1), and growing trading volumes, institutions require a solution that is both resilient and agile. TOMS addresses this by offering configurable workflow automation, compliance-driven validation checks, and full trade traceability from order initiation to final settlement. By shifting from static spreadsheets and legacy batch systems to a modern, cloud-native architecture, the organization aims to achieve process consistency, regulatory alignment, and measurable cost savings.

3.1.3 Business Drivers

The core business drivers behind the implementation of TOMS include operational efficiency, regulatory compliance, scalability, and client servicing excellence. In a landscape where financial institutions are under pressure to do more with less, the automation and real-time monitoring capabilities provided by TOMS significantly reduce overhead and manual processing errors.

Clients, internal stakeholders, and regulators increasingly demand real-time status updates, accurate trade reporting, and exception transparency. The ability to deliver these capabilities at scale is critical to maintaining competitive advantage and regulatory compliance. Additionally, the drive to adopt Straight Through Processing (STP) workflows reflects the industry-wide push toward reducing time-to-market, enhancing liquidity, and improving post-trade processing timelines.

The system also provides a foundational platform for future growth—supporting new asset classes, expanding to new geographies, and integrating emerging technologies such as blockchain-based settlements or AI-driven anomaly detection. Business owners, product leads, and compliance officers are aligned in their goal to deliver a robust, forward-looking trade management system that meets today's expectations while preparing for tomorrow's complexities.

3.2.1 In Scope Functionality

1. Front Office (Traders / Dealers)

- Secure Login & Role-based Dashboard
    - Login with trader credentials and view customized dashboard
    - Multi-factor authentication for secure access
- Order Initiation & Trade Entry
    - Place new trade orders across multiple asset classes (equities, derivatives, fixed income, FX)
    - Enter order details (instrument, quantity, price type, order type)
    - Access real-time trade blotter with advanced search, filtering, and live status updates
    - Edit or cancel open orders before execution
- Order Monitoring & Alerts
    - Receive real-time alerts for order status changes (executed, partially filled, rejected)
    - Notifications for compliance or risk rule violations
- Trade Enrichment
    - Auto-population of required trade metadata (trader ID, timestamps, asset attributes)
- Blotter Export & Reporting
    - Download or export trade and order history for analysis

2. Middle Office (Ops / Risk / Compliance)

- Trade Validation & Compliance Checks
    - Review trades for counterparty limits, regulatory compliance, and operational risk
    - Initiate or respond to discrepancy workflows for unmatched trades
- Approval Workflow
    - Maker-checker approval for sensitive or large-value trades
    - Audit trails for all approval actions
- Workflow Routing
    - Auto-assignment of trades to relevant teams based on trade attributes (asset class, value, counterparty)
- Exception Handling
    - Manage failed, incomplete, or disputed trades
    - Coordinate with back office for resolution

3. Back Office (Settlement / Reconciliation / Reporting)

- Settlement Instruction Generation
    - Generate and transmit settlement instructions (SSI) to custodians, clearinghouses, depositories (e.g., NSCCL, Euroclear)
    - Real-time updates on settlement status (pending, settled, failed)
- Trade & Cash Reconciliation
    - Daily reconciliation of trade records, positions, and cash flows with internal systems and external entities
- Break Management
    - Identify, investigate, and resolve breaks between internal books and external confirmations
- Regulatory & Compliance Reporting
    - Generate required reports for regulatory bodies (SEBI, ESMA, etc.)
    - Maintain detailed audit logs and trade history for compliance reviews
- Reference Data Management
    - Maintain and update static/reference data used for settlement (SSI, counterparty details,

instrument info)

4. Admin & Compliance

- User & Role Management
    - Manage user accounts, assign and modify roles/permissions
    - Configure access controls at module and action level
- System Configuration
    - Define trade rules, compliance checks, and operational limits
    - Configure settlement instructions and integration endpoints (exchanges, custodians)
- Monitoring & Audit
    - View audit logs for all user actions and system events
    - Generate compliance and regulatory reports

5. Technology & Integration

- System Integration
    - Connect with external exchanges, custodians, and clearinghouses via FIX/SWIFT/API
    - Integration with internal risk and compliance modules
    - Deploy on AWS cloud infrastructure using Docker & Kubernetes
- Security
    - Enforce OAuth2/JWT authentication and TLS encryption for all communications

3.2.2 Out of Scope Functionality

- Direct Client/Investor Self-Service Portal
  - No end-user trading or investment dashboard for retail clients; system is designed for institutional users
- Real-Time Market Data Streaming
  - No embedded market data ticker or real-time market feeds within TOMS UI.

- Algorithmic/Programmatic Trading
  - Automated or algo-trading bots not included in current scope
- Cash on Delivery or Offline Settlement Methods
  - Only standard electronic settlements supported
- Physical Certificate Handling
  - No processing of paper-based or physical securities/certificates
- Customizable Portfolio Analytics
  - Advanced customizable analytics or visualization modules are not part of this release
- Third-party CRM Integration
  - No out-of-the-box integration with third-party CRM systems

3.3 User Roles

In the Trade Operations Management System (TOMS), user roles are designed to reflect the unique operational responsibilities found within institutional trading environments. Each role is tailored to support the secure, efficient, and compliant execution of trading activities from trade initiation to post-trade processing. The platform's access management framework is rooted in role-based permissions, ensuring that users interact only with the features and data relevant to their function, thus minimizing operational risk and enhancing regulatory compliance.

Role	Description
Visitor / Auditor / External Reviewer	▪ View system dashboard with restricted, read-only access ▪ Search and view executed trades using filters (date, asset class, status) ▪ Access compliance and audit logs ▪ Download audit reports and trade history ▪ View limited regulatory or operational reports ▪ Contact system support ▪ No ability to initiate, modify, or approve any trade or configuration
Trader / Front Office User	▪ Secure login with role-based dashboard ▪ Initiate new trades across asset classes (equities, bonds, derivatives, FX) ▪ Edit, cancel, or monitor orders prior to execution ▪ Access real-time trade blotter with advanced filters ▪ Receive alerts on order status, risk, or compliance exceptions ▪ View portfolio, P&L summaries, and basic analytics ▪ Download trade statements ▪ Contact support for trade-related queries
Middle Office (Operations / Risk /	▪ Review and validate trades for counterparty limits and compliance ▪ Approve or reject trades as part of the maker-checker workflow

Compliance)	▪ Initiate or resolve discrepancy and exception workflows ▪ Monitor real-time status of all trades ▪ View and update operational notes on trades ▪ Access detailed audit trails and system logs ▪ Generate operational risk or compliance reports ▪ Communicate with front/back office for resolution
Back Office (Settlement / Reconciliation / Reporting)	▪ Generate and transmit settlement instructions to clearinghouses and custodians ▪ Monitor and update settlement status (pending, settled, failed) ▪ Perform daily cash and position reconciliation ▪ Manage break resolution workflows ▪ Produce and export regulatory, operational, and financial reports ▪ Maintain reference and static data for settlement ▪ Audit post-trade activities ▪ Contact support for settlement-related queries
Administrator / Owner	▪ Onboard and manage all users and assign or modify roles and permissions ▪ Manage master data (counterparties, instruments, settlement instructions) ▪ Configure risk and compliance rules ▪ Set system parameters and workflow logic ▪ Manage integrations with exchanges, custodians, and external systems ▪ Monitor system security and perform user audits ▪ Generate and manage system health, usage, and incident reports ▪ Contact support and manage helpdesk workflows

3.4 System Perspective

3.4.1 Assumptions

- The underlying IT infrastructure (servers, network, cloud, and security layers) required to deploy and operate TOMS is already in place at the client institution.
- All user roles (traders, operations, compliance, back-office, admin) are pre-identified, and a role-based access matrix has been defined for initial system setup.
- All counterparties, instrument masters, settlement instructions, and regulatory requirements are available and up-to-date prior to the system's launch.
- Trade and reference data integration endpoints with core systems, exchanges, and custodians are accessible and supported through standard protocols (FIX, SWIFT, REST APIs).
- The primary currency for trade settlement and reporting will be INR, and the system will initially support regulatory compliance for India-based institutions.

- Only standardized asset classes (equities, derivatives, fixed income) are in scope for trade capture and processing; complex, bespoke, or exotic products will not be processed in the initial release.

- Data privacy and compliance guidelines for the handling of sensitive trading and customer information are already established and will be adhered to throughout the project.

The development and implementation of TOMS assumes a mature operational environment with robust IT infrastructure, pre-defined user roles, standardized asset classes, and pre-existing integrations to core financial market entities. Regulatory and compliance frameworks are expected to be in place, focusing on Indian capital market standards, with the system primarily configured to handle trades in INR.

3.4.2 Constraints

- The scope of the project is limited to supporting trade operations for equities, derivatives, and fixed income only; support for new asset classes or markets will require future enhancements.

- Any additional features or modifications beyond what is defined in the requirements will impact the project's time and cost estimates, possibly requiring scope renegotiation.

- Platform-wide upgrades (such as Java, database, or cloud service updates) must align with enterprise IT schedules, which could affect testing, integration, and rollout timelines.

- The total budget allocated for the development and rollout of TOMS is fixed, with a strict delivery deadline of October 31st.

- User and admin training sessions must be scheduled in advance, and inadequate training may affect post-launch adoption and performance.

TOMS project delivery is bounded by defined budget and timeline constraints, a limited scope of asset classes, and dependency on enterprise IT change management processes. Changes to requirements, delays in system upgrades, or insufficient end-user training can impact overall project success and must be managed proactively.

3.4.3 Risks

- There is a risk of insufficient training for business and operational users, which may result in slow adoption, increased support requests, or operational errors during the initial system rollout.

- Delays in enterprise platform or infrastructure upgrades could cascade into project delivery slippage, especially for integration and testing phases.

- Potential changes in regulatory or compliance requirements during the project could require urgent system adjustments, impacting both timeline and cost.

- Limited availability of skilled technical resources or subject matter experts (SMEs) may affect

project progress, especially during critical phases of development or user acceptance testing (UAT).

The primary risks to TOMS implementation include gaps in user training, delays in IT platform readiness, evolving regulatory needs, and resource availability. These risks require continuous monitoring and mitigation strategies throughout the project lifecycle.

3.4.4 Issues

- Approval from internal and external auditors on the new system and processes is pending, which may delay system go-live.
- Securing executive sponsorship and senior management buy-in is essential, as resistance or lack of support could impact adoption and investment.
- Adequate and timely funding for the initiative remains a concern, with budget overages or cash flow gaps potentially threatening project continuity.
- Availability and allocation of experienced developer resources may be a bottleneck, particularly during peak development and deployment phases.

Key issues impacting the TOMS project relate to pending auditor sign-off, the need for senior management support, potential funding gaps, and developer resource constraints. Proactive engagement with stakeholders, budget tracking, and resource planning are critical to address these issues and maintain project momentum.

4. Business Process Overview

The Trade Operations Management System (TOMS) has been architected to streamline, automate, and monitor the end-to-end lifecycle of trades across a variety of asset classes—including equities, derivatives, and fixed income instruments. The current process is highly dependent on multiple business units and legacy systems, with considerable manual interventions, redundant data entry, and fragmented communication across front, middle, and back offices.

Current (Legacy) Process Overview

- Trade Initiation (Front Office):
    - Traders or dealers initiate trades using disparate trading terminals or manual order forms.
    - Orders are often communicated via email, voice calls, or legacy front-office trading applications.
    - Limited pre-trade validations or real-time compliance checks, increasing risk of order errors.
    - Trade details are re-entered into order management spreadsheets or multiple internal systems, leading to potential data inconsistencies.

- Trade Validation & Matching (Middle Office):
    - Middle office manually validates trades for accuracy, counterparty exposure, and regulatory compliance.
    - Trade matching is often performed using manual comparison with broker or counterparty statements.
    - Exceptions or unmatched trades are flagged and require extensive back-and-forth communication.
    - Manual logs and emails are used for tracking trade breaks or escalations.
- Settlement & Reconciliation (Back Office):
    - Settlement instructions are generated manually, typically by extracting trade data into templates.
    - Files are sent via email or FTP to clearinghouses, custodians, or depositories (e.g., NSCCL, Euroclear).
    - Reconciliation of trades, cash, and positions is performed using Excel or in-house reconciliation tools.
    - Regulatory and operational reports are manually compiled and sent to compliance and senior management.
- Challenges in Legacy Process:
    - High operational risk due to manual handoffs and data entry.
    - Increased chances of errors, delayed settlements, and regulatory breaches.
    - Poor visibility for management and compliance due to siloed data.
    - Slow response to exceptions and inefficiencies in resolving breaks.

Enhanced Process with TOMS

TOMS transforms these fragmented processes into a unified, automated workflow leveraging Straight Through Processing (STP), robust system integration, and advanced user access management. The new process eliminates many of the manual steps and enables real-time monitoring and exception management.

Key Steps in the Enhanced Process:

- Secure Login & Access Control:
    - All users access TOMS using multi-factor authentication, ensuring only authorized personnel can perform critical actions.

    - Role-based access restricts sensitive operations and provides audit trails for all user activity.

- Order Management & Trade Entry (Front Office):
    - Traders initiate orders directly within TOMS, selecting from standardized asset classes and instrument lists.
    - The system auto-populates key fields (e.g., trader ID, timestamps) and performs pre-trade risk and compliance checks in real time.
    - Orders are routed instantly to the middle office for validation via workflow automation.
- Trade Validation & Matching (Middle Office):
    - Automated trade validation includes real-time checks for regulatory compliance, exposure limits, and operational rules.
    - Integrated matching engine compares trades with broker or counterparty feeds, flagging exceptions for immediate resolution.
    - Middle office can approve, escalate, or reject trades directly within the platform, with all actions logged.
- Settlement & Reconciliation (Back Office):
    - Upon validation, the system generates settlement instructions (SSI) and sends them automatically to custodians and clearinghouses via secure integration (FIX, SWIFT).
    - Real-time updates are displayed for settlement status (pending, settled, failed).
    - Daily reconciliation of positions and cash is performed automatically, and exceptions are flagged for follow-up.
- Reporting & Compliance:
    - Regulatory, operational, and audit reports are generated automatically and can be accessed by authorized users.
    - System maintains a unified data model, providing a single source of truth for all trade and reference data.

4.1 Current Business Process (As-Is)

Currently, the process for trade operations across asset classes within many financial institutions remains fragmented and highly dependent on manual tasks and siloed systems. At each step of the trade lifecycle, business units and technology teams rely on legacy systems, spreadsheets, and ad hoc workflows to support day-to-day operations.

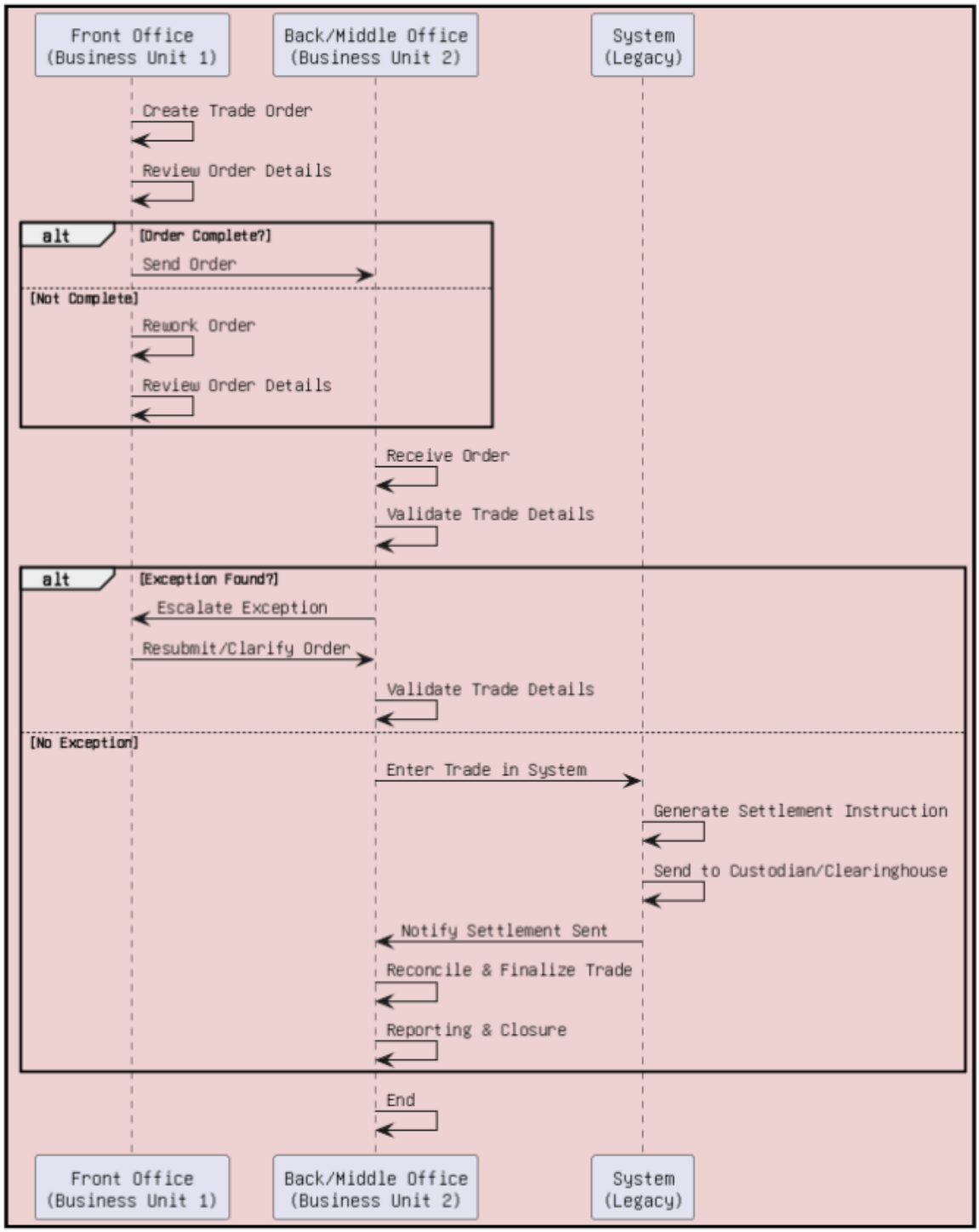
- Trade Initiation: Traders use front-office terminals or manually enter trade details into spreadsheets. Orders are submitted via email or basic electronic forms, often lacking pre-trade

compliance checks.

- Trade Validation & Matching: Operations and risk teams manually validate trade details, often comparing disparate data sources and performing manual counterparty checks. Trade matching is performed after the fact, using statements from brokers or custodians, with exceptions managed through email threads and phone calls.
- Settlement & Reconciliation: Back-office staff manually extract trade data, create settlement instructions, and transmit files to clearinghouses and custodians. Daily reconciliations are managed through spreadsheets and in-house tools, requiring significant manual intervention to resolve breaks.
- Reporting & Audit: Compliance and regulatory reports are compiled manually, often by aggregating data from multiple sources. Audit trails are incomplete or spread across disconnected systems, making traceability challenging.
- Support and Change Management: Any process improvement or change—such as adding new asset classes, integrating new counterparties, or updating compliance logic—requires coordination between IT and business, leading to longer lead times and higher operational risk.

The as-is process is characterized by manual workflows, redundant data entry, siloed communication across business units, and a lack of real-time visibility and traceability. These inefficiencies increase operational risk, delay settlements, and expose the organization to compliance gaps and costly exceptions.

AS_IS Process



4.2 Proposed Business Process (To-Be)

With the implementation of TOMS, the trade lifecycle process is unified and fully digitized, driving automation, compliance, and transparency across all business units and asset classes. The proposed business process is powered by straight-through processing (STP), standardized workflows, and robust system integrations.

Proposed Workflow:

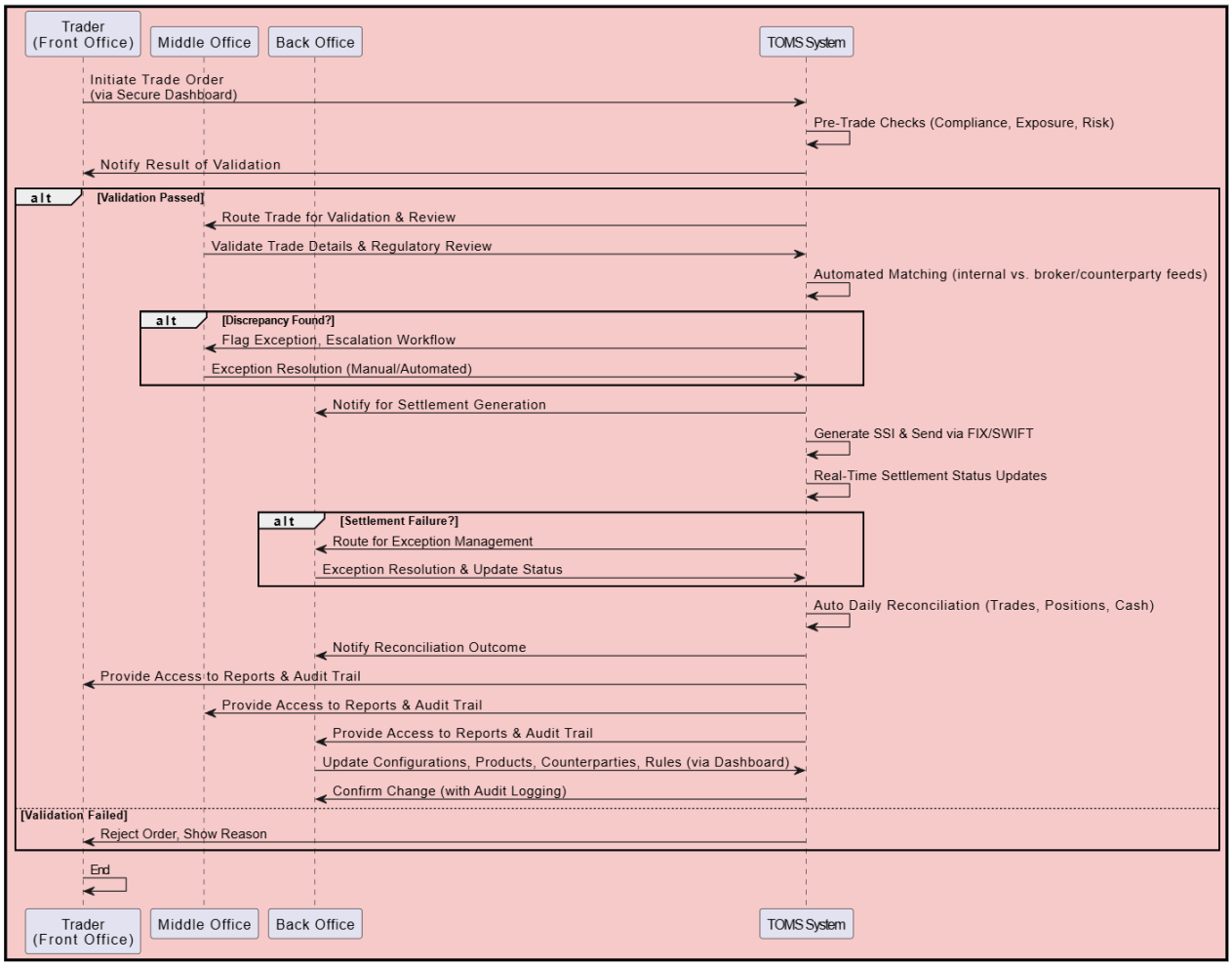
1. Trade Capture and Pre-Trade Validation:
    - Traders initiate orders directly in TOMS via a secure, role-based dashboard.
    - The system performs automatic pre-trade checks for compliance, exposure, and risk before the trade can proceed.
    - Trade details are enriched with standardized metadata and timestamps.
2. Trade Validation and Automated Matching:
    - TOMS routes trades to middle-office users for further validation and regulatory review.
    - Automated matching engine compares internal trades with external broker feeds, flagging any discrepancies for immediate resolution.
    - Exception management is handled within the platform, with built-in escalation and notification workflows.
3. Settlement and Real-Time Reconciliation:
    - Once validated, TOMS generates settlement instructions (SSI) and sends them to custodians/clearinghouses through secure APIs (FIX/SWIFT).
    - Settlement status is updated in real time, and any failed transactions are routed for exception management.
    - Daily reconciliation of trades, positions, and cash is fully automated, minimizing manual intervention.
4. Reporting and Continuous Audit:
    - TOMS automatically generates compliance, operational, and management reports, accessible on demand.
    - All actions are logged with detailed audit trails, supporting both internal controls and external regulatory reviews.
5. Change and Configuration Management:
    - System administrators can manage product, counterparty, and rule configurations through

a central dashboard.

- Version control, audit logging, and workflow approvals are built in, ensuring safe and compliant system updates.

The proposed TOMS process eliminates manual handoffs, delivers real-time visibility, and provides robust controls across the trade lifecycle. This results in faster settlement cycles, reduced operational risk, and enhanced compliance posture. With TOMS, process improvements and regulatory changes can be quickly deployed, enabling the business to adapt to market and compliance demands efficiently.

TO_BE Process



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5 Business Requirements

The requirements in this document are prioritized as follows:

Value	Rating	Description
1	Critical	This requirement is critical to the success of the project. The project will not be possible without this requirement.
2	High	This requirement is high priority, but the project can be implemented at a bare minimum without this requirement.
3	Medium	This requirement is somewhat important, as it provides some value but the project can proceed without it.
4	Low	This is a low priority requirement, or a “nice to have” feature, if time and cost allow it.
5	Future	This requirement is out of scope for this project, and has been included here for a possible future release.

5.1 Functional Requirements

Req#	Priority	Description	Rationale	Impacted Stakeholders
FR-001	1	Secure login with role-based access for traders, operations, compliance, and admins	Ensure authorized access, regulatory compliance, and data security	All Users
FR-	1	Multi-factor authentication	Enhance system security and	All Users

002		(MFA) and session management	prevent unauthorized access	
FR-003	1	Traders can initiate trade orders for multiple asset classes via unified dashboard	Streamline trade capture and reduce manual data entry	Traders (Front Office)
FR-004	1	Automated pre-trade validation (compliance, exposure, risk checks)	Reduce operational risk, prevent regulatory breaches	Traders, Compliance
FR-005	1	Real-time trade blotter with search, filters, and live order status tracking	Improve trade transparency and enable proactive monitoring	Traders, Operations
FR-006	1	System-enriched trade details (auto-fill trader ID, timestamps, instrument metadata)	Standardize data, minimize errors	Traders, Operations
FR-007	1	Automated routing of trades to middle office for validation and regulatory review	Enforce compliance and operational checks before trades reach settlement	Middle Office, Compliance
FR-008	1	Automated trade matching engine (internal vs. external feeds; T+0/T+1 logic)	Accelerate post-trade validation, reduce manual exceptions	Middle Office, Operations
FR-009	1	Exception management workflow with notification and escalation	Speed up resolution, reduce settlement delays	Operations, Compliance
FR-010	1	Settlement instruction (SSI) generation and integration with custodians/clearinghouses via FIX/SWIFT	Eliminate manual processing and enable STP	Back Office, Custodians
FR-011	1	Real-time settlement status updates (settled, pending, failed) and automated reconciliation	Enhance operational control and reduce risk of settlement breaks	Back Office
FR-012	1	Daily reconciliation of trades, positions, and cash balances	Ensure accounting accuracy and regulatory compliance	Back Office, Finance
FR-013	1	Automated and on-demand regulatory, operational, and	Facilitate compliance reviews and support management	Compliance, Management

		audit reporting	decision-making	
FR-014	2	Detailed audit trail logging for all user and system actions	Support regulatory investigations and internal audits	Audit, Compliance
FR-015	1	Maker-checker mechanism with role-based approvals and audit trail	Strengthen controls and reduce operational risk	Operations, Compliance
FR-016	2	Centralized dashboard for system administrators to manage products, counterparties, and rules	Enable flexible, compliant configuration management	Admin
FR-017	2	Version control and approval workflow for configuration and rule changes	Maintain system integrity, ensure auditability	Admin, IT, Compliance
FR-018	2	Notification and alert system for key events, exceptions, or breaches	Improve responsiveness and risk management	All Users
FR-019	3	Mobile dashboard access for real-time monitoring	Enhance operational flexibility and user convenience	Management, Traders
FR-020	3	Self-service password reset and user profile management	Reduce support overhead and enhance user experience	All Users
FR-021	1	Unified reference data management (products, instruments, counterparties, SSIs)	Ensure consistent data usage across trade lifecycle	Admin, Back Office
FR-022	2	Data import/export functionality for bulk trade uploads and reporting	Streamline onboarding and reporting, reduce manual input	Operations, Admin
FR-023	2	Integration with market data feeds (price, reference, static data)	Improve trade validation, risk assessment, and P&L calculation	Traders, Risk, Compliance
FR-024	2	Compliance rules engine for pre- and post-trade controls	Enable rapid response to changing regulatory requirements	Compliance, Admin
FR-025	2	Configurable STP workflow engine for trade lifecycle	Allow institution-specific process flows and approval	Operations, Admin

		events	hierarchies	
FR-026	3	Real-time dashboards and KPI analytics for management	Support operational oversight, performance review, and compliance	Management, Operations
FR-027	2	Advanced search and reporting on trades, positions, and exceptions	Increase transparency, support audits and investigations	All Users
FR-028	1	Automated end-of-day (EOD) and end-of-month (EOM) close processes	Streamline regulatory and financial close activities	Back Office, Finance
FR-029	2	Scheduled and ad-hoc report generation (PDF, Excel, CSV)	Meet regulatory, client, and audit requirements	Compliance, Management
FR-030	1	Integration with external exchanges, depositories, and clearinghouses via APIs	Enable real-time and batch STP, reduce operational friction	Operations, IT
FR-031	2	Automated break/exception identification and assignment	Minimize manual tracking and ensure prompt follow-up	Back Office, Operations
FR-032	2	Secure data archival and purging policies for compliance	Meet regulatory requirements on data retention and privacy	IT, Compliance
FR-033	3	Helpdesk integration and online user support	Improve user adoption, decrease downtime	All Users
FR-034	2	Real-time and historical P&L calculation per trader, desk, and book	Enable timely financial analysis and risk assessment	Traders, Management
FR-035	2	Bulk update and mass maintenance tools for static data and reference updates	Reduce admin workload and support large-scale onboarding	Admin, Back Office
FR-036	2	Scheduled and user-initiated backups	Safeguard business continuity and data integrity	IT, Admin
FR-037	1	Role-based access control matrix for fine-grained permission management	Enforce least-privilege principle and reduce unauthorized activity	Admin, Compliance
FR-038	2	Audit dashboard with filterable, exportable event	Support compliance reviews and operational monitoring	Audit, Admin

		logs		
FR-039	3	Integration with internal risk, treasury, or collateral management modules	Enable holistic risk and liquidity management	Risk, Treasury, Operations
FR-040	2	In-system workflow documentation and training resources	Accelerate onboarding and reduce user errors	All Users
FR-041	2	Multi-language and localization support	Support global deployment and diverse user base	All Users
FR-042	2	Secure API access for downstream reporting or custom client integrations	Enable data-driven digital partnerships	IT, Clients
FR-043	3	Automated user provisioning and de-provisioning	Accelerate onboarding/offboarding and enhance security	Admin, HR, IT
FR-044	2	Dashboard widgets and customizable user homepages	Improve workflow personalization and productivity	All Users
FR-045	3	Scheduled system health checks and alerting for critical failures	Ensure reliability, minimize outages	IT, Admin
FR-046	3	In-app guided tours and contextual help for new features	Increase user adoption and reduce support requests	All Users

5.2 Non-Functional Requirements

ID	Requirement
NFR-001	The TOMS platform shall support at least 500 concurrent users with no degradation in performance.
NFR-002	The system shall maintain 99.9% uptime (excluding scheduled maintenance), aligning with Level 2 enterprise SLAs.
NFR-003	Average response time for all user-initiated actions shall not exceed 2 seconds under

	normal operating loads.
NFR-004	All data transmissions shall be encrypted using TLS 1.2 or higher to ensure end-to-end security.
NFR-005	The system shall provide automated failover and disaster recovery capabilities to ensure business continuity.
NFR-006	All user actions and system events shall be logged and retained for a minimum of 7 years for audit compliance.
NFR-007	The TOMS platform shall integrate with enterprise identity management systems (e.g., LDAP, SSO).
NFR-008	All production data shall be backed up daily, with offsite storage and restore validation conducted monthly.
NFR-009	The platform shall support role-based access control, ensuring least-privilege permissions across all modules.
NFR-010	Scheduled batch jobs (e.g., EOD/EOM processes) shall complete within predefined business timelines (e.g., 1 hour).
NFR-011	The user interface shall be accessible and responsive on both web and mobile devices (React, Flutter support).
NFR-012	All deployments and configuration changes shall follow CI/CD best practices with rollback capabilities.
NFR-013	The system shall support multi-region deployment on AWS for regulatory and business continuity needs.
NFR-014	The TOMS platform shall accommodate future scalability to process a 2x increase in trade volumes year-on-year.
NFR-015	All sensitive data (PII, trade details, settlement instructions) shall be stored encrypted at rest (AES-256).
NFR-016	The platform shall provide real-time monitoring dashboards for system health, usage, and security alerts.
NFR-017	All integrations (FIX, SWIFT, REST) shall meet industry-standard security and throughput benchmarks.
NFR-018	The system shall generate user and exception alerts within 10 seconds of detection of relevant events.

NFR-019	The TOMS platform shall meet all applicable regulatory compliance requirements (e.g., SEBI, ESMA, GDPR).
NFR-020	All third-party components and libraries shall be updated for security vulnerabilities at least quarterly.

6. Appendices

6.1 List of Acronyms

Acronym	Full Form
API	Application Programming Interface
AWS	Amazon Web Services
BRD	Business Requirements Document
DB	Database
EOD	End of Day
EOM	End of Month
FIX	Financial Information Exchange (Protocol)
FX	Foreign Exchange
IT	Information Technology
JWT	JSON Web Token
KPI	Key Performance Indicator
MFA	Multi-Factor Authentication
NSCCL	National Securities Clearing Corporation Ltd
OTP	One-Time Password
P&L	Profit and Loss

Acronym	Full Form
PII	Personally Identifiable Information
REST	Representational State Transfer
RDS	Relational Database Service (AWS)
SSO	Single Sign-On
SSI	Standard Settlement Instructions
STP	Straight Through Processing
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TOMS	Trade Operations Management System
UI	User Interface

6.2 Glossary of Terms

Term	Definition
Asset Class	A group of financial instruments with similar characteristics, e.g., equities, fixed income, FX.
Blotter	A real-time log or list of trade orders and executions used by traders and operations.
Clearinghouse	An intermediary that validates and finalizes trades, ensuring proper settlement.
Compliance	Adherence to laws, regulations, and internal policies throughout the trade lifecycle.
Counterparty	The other party in a financial transaction (e.g., broker, dealer, clearing member).
Custodian	A financial institution that holds customers' securities for safekeeping.
Derivative	A financial instrument whose value is based on underlying assets, such as futures

Term	Definition
	or options.
Exception	An error or discrepancy in trade data, requiring manual review or escalation.
Maker-Checker	A dual-control workflow where one user initiates (maker) and another approves (checker) a process.
Matching Engine	Software that compares trade details between parties to identify and resolve discrepancies.
Order Management	The process of capturing, tracking, and executing buy/sell instructions for securities.
Reconciliation	The process of ensuring records between internal systems and external entities (e.g., custodians) agree.
Settlement	The actual exchange of securities and funds to finalize a trade.
STP	Automated end-to-end trade processing without manual intervention.
Trade Lifecycle	The sequence of steps from trade initiation to settlement and reporting.
Workflow Automation	Technology that routes tasks, approvals, and notifications automatically based on business rules.

6.3 Related Documents

Document Name	Description	Link / Reference
Business Requirements Document (BRD) - TOMS	Main requirements documentation for TOMS	[Internal SharePoint/Confluence location or link]
Solution Architecture Document	System and integration architecture for TOMS	[Architecture Repo or link]
Data Flow and Integration Mapping	Detailed data movement and integration points	[Integration Mapping Document]
User Roles and Access Matrix	Defines system user roles and permissions	[Access Matrix Sheet or link]

Document Name	Description	Link / Reference
Regulatory Compliance Checklist (SEBI/ESMA/GDPR)	Compliance obligations for system and process	[Compliance Document or external regulatory links]
User Acceptance Test (UAT) Plan	UAT scenarios, criteria, and sign-off documentation	[UAT Plan Document]
Standard Operating Procedures (SOPs)	Post-go-live operational guides for TOMS users	[SOP Document or Helpdesk Portal]
Trade Lifecycle Reference Guide	Process flow and exception handling in capital markets	[Reference Guide PDF/External Source]
Technology Stack Inventory	List of all technologies, tools, and frameworks used	[Tech Stack Doc or internal tool inventory]
Security Policy & Data Privacy Guidelines	Information security and PII handling requirements	[Security Policy Document]