Automation of Investment Process at National Bank of Georgia

Asya Surmalyan
Leading Specialist in Financial Markets Department

2023 Asian Regional Forum on Investment Management of Foreign Exchange Reserves
25-27 October, 2023
Bali, Indonesia

Content

- Why automated reserves management system is important?

- Reserves Management System Implementation – NBG experience

- Reserves Management System Description

- Current Projects

- Automated Testing

- Project high level phases

- Governance/System Management Division

- Importance of international cooperation/assistance

Why automated reserves management system is important?

- ❑ Limited list of eligible financial instruments:
    - ❑ Money Market deposits
    - ❑ US Government Bonds and T-Bills
    - ❑ Eurozone Countries Government Bonds and T-Bills
    - ❑ BIS securities (FIXBIS, MTI's)
    - ❑ FX spot operations
- ❑ High risks
    - ❑ Operational Risk
    - ❑ Low Process Efficiency
- ❑ Lost revenues
    - ❑ Buy and hold approach
    - ❑ One single portfolio
    - ❑ No benchmarks
    - ❑ Absolute return approach

Reserves Management System Implementation – NBG experience
Before Implementation

- ❑ Separate systems used in reserves management
    - ❑ Excel
    - ❑ SWIFT – Manual work
    - ❑ BARS accounting
- ❑ A lot of manual work and paper documents
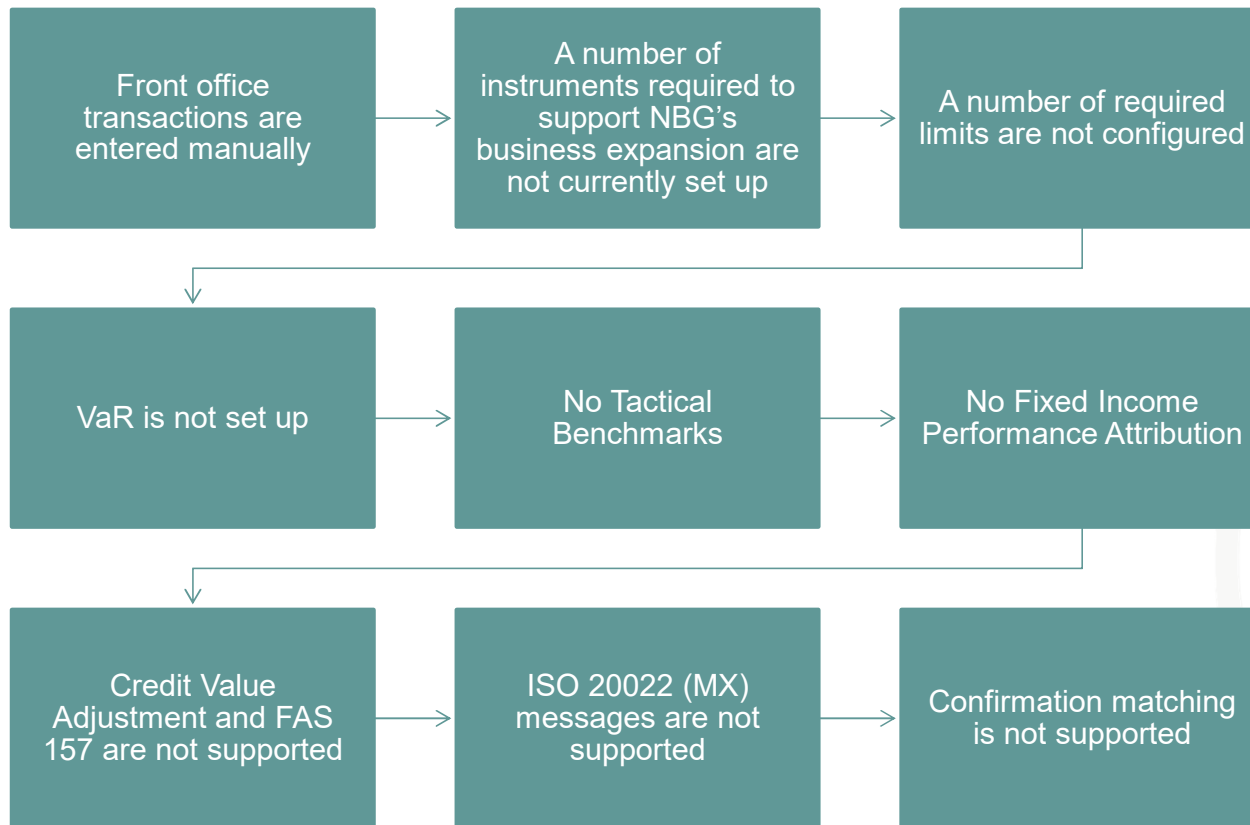- ❑ Limited number of instruments

Reserves Management System Implementation – NBG experience
First System-General Functional Requirements

- ❑ List of required financial instruments
- ❑ Pricing and analysis of the financial instruments
- ❑ Portfolio management functionality
- ❑ Credit risk analysis
- ❑ Performance attribution
- ❑ Transaction management (import, entry, trade tickets etc.)
- ❑ Cash flow forecasting and liquidity management
- ❑ Integration with SWIFT
- ❑ Generating Accounting Entries

Key challenges to current landscape – Wallstreet Suite v7.3

Observations:

Front office transactions are entered manually	A number of instruments required to support NBG's business expansion are not currently set up	A number of required limits are not configured
VaR is not set up	No Tactical Benchmarks	No Fixed Income Performance Attribution
Credit Value Adjustment and FAS 157 are not supported	ISO 20022 (MX) messages are not supported	Confirmation matching is not supported

Key differences and upgrades– Wallstreet Suite v7.4

- ❑ **Front Office**
  - ❑ Standard Wallstreet Suite Interfaces and ION gateways to external trading platforms
  - ❑ New Instruments
  - ❑ Additional key-figures
- ❑ **Middle Office**
  - ❑ Improvements in valuation & market data
  - ❑ Additional limits
  - ❑ Value-at-Risk
  - ❑ Tactical benchmarks
  - ❑ Fixed Income Performance Attribution

- ❑ **Back Office**
  - ❑ Cash Collateral
  - ❑ ION confirmation matching
  - ❑ Netting rules
  - ❑ FIN Message actions
  - ❑ Additional SWIFT messages
  - ❑ Support for CBPR+ ISO 20022
- ❑ **SMD**
  - ❑ Standard SDM flow in all SDM enabled editors
- ❑ **Accounting**
  - ❑ Credit Value Adjustment and FAS 157

System description
Business Coverage in Wallstreet Suite

Front Office
- ❑ Trade Simulation (Pre Trade Analysis)
- ❑ Trade Entry - Bloomberg
- ❑ Limit Checks
- ❑ Rate reasonability check
- ❑ Cash flow Analysis
- ❑ Positions/Holding Monitoring

Middle Office
- ❑ Positions Valuation
- ❑ Risk Figures Monitoring
- ❑ Real time Limit Monitoring
- ❑ Benchmark Management
- ❑ Performance Measurement

SMD
- ❑ Static Data Management (4 eyes principle)
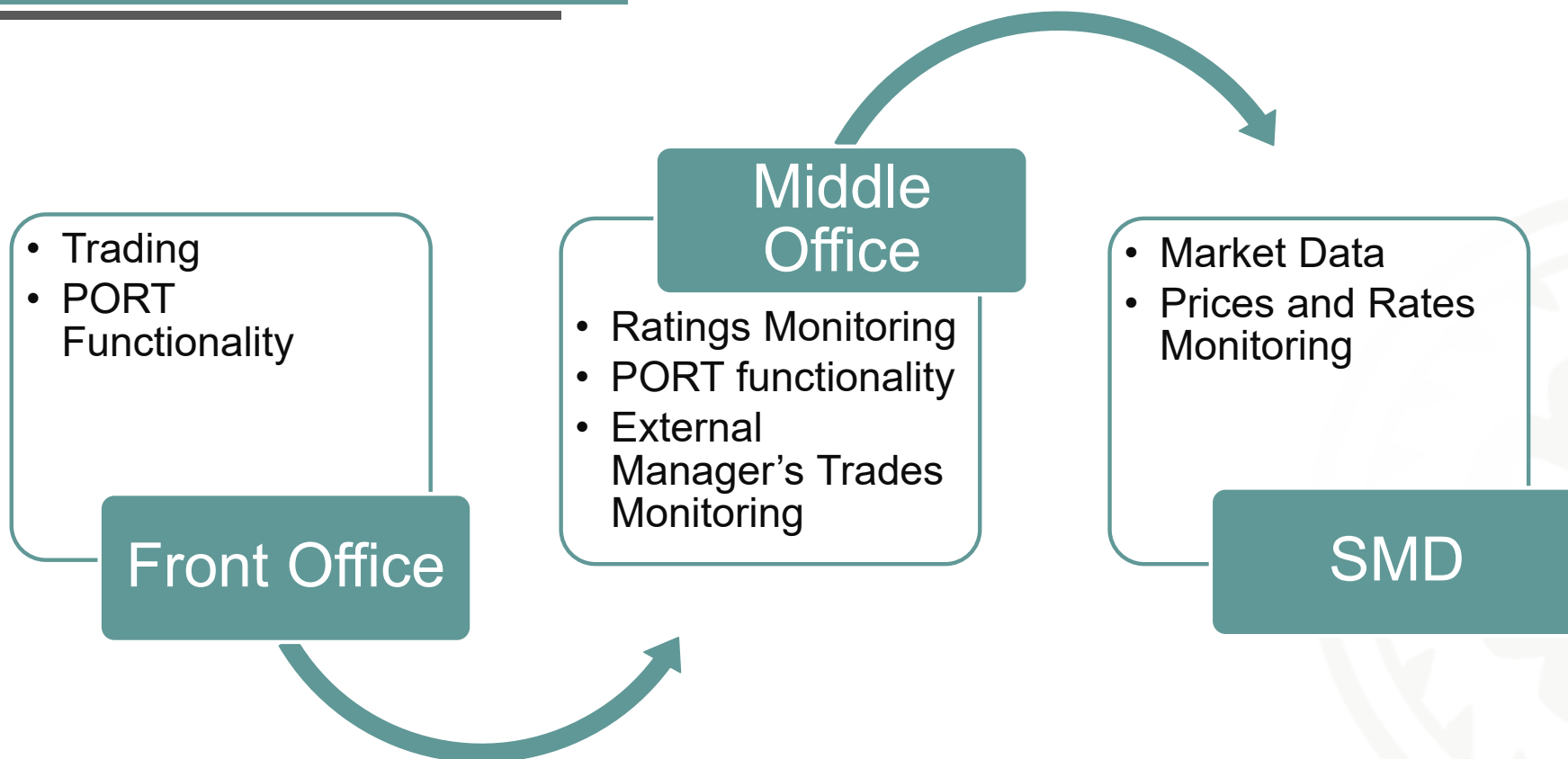- ❑ User management

Back Office
- ❑ Transaction Verification
- ❑ Confirmation Matching
- ❑ Reporting
- ❑ Cash Management
- ❑ Nostro account reconciliation
- ❑ Holding reconciliation

Accounting
- ❑ Generate Accounting Entries
- ❑ Accounting Static Data Management (4 eyes principle)
- ❑ Accounts Management
- ❑ Accounts Mapping

Functions by Units in Bloomberg

Front Office
- Trading
- PORT Functionality

Middle Office
- Ratings Monitoring
- PORT functionality
- External Manager's Trades Monitoring

SMD
- Market Data
- Prices and Rates Monitoring

SWIFT

Back Office
- ❑ Incoming and Outgoing Transactions in Foreign Currencies for NBG and Clients
- ❑ Corresponding Banking Relation Management
- ❑ Payment Controls

Payments Department
- ❑ Receives payments from State Treasury and Local Commercial Banks
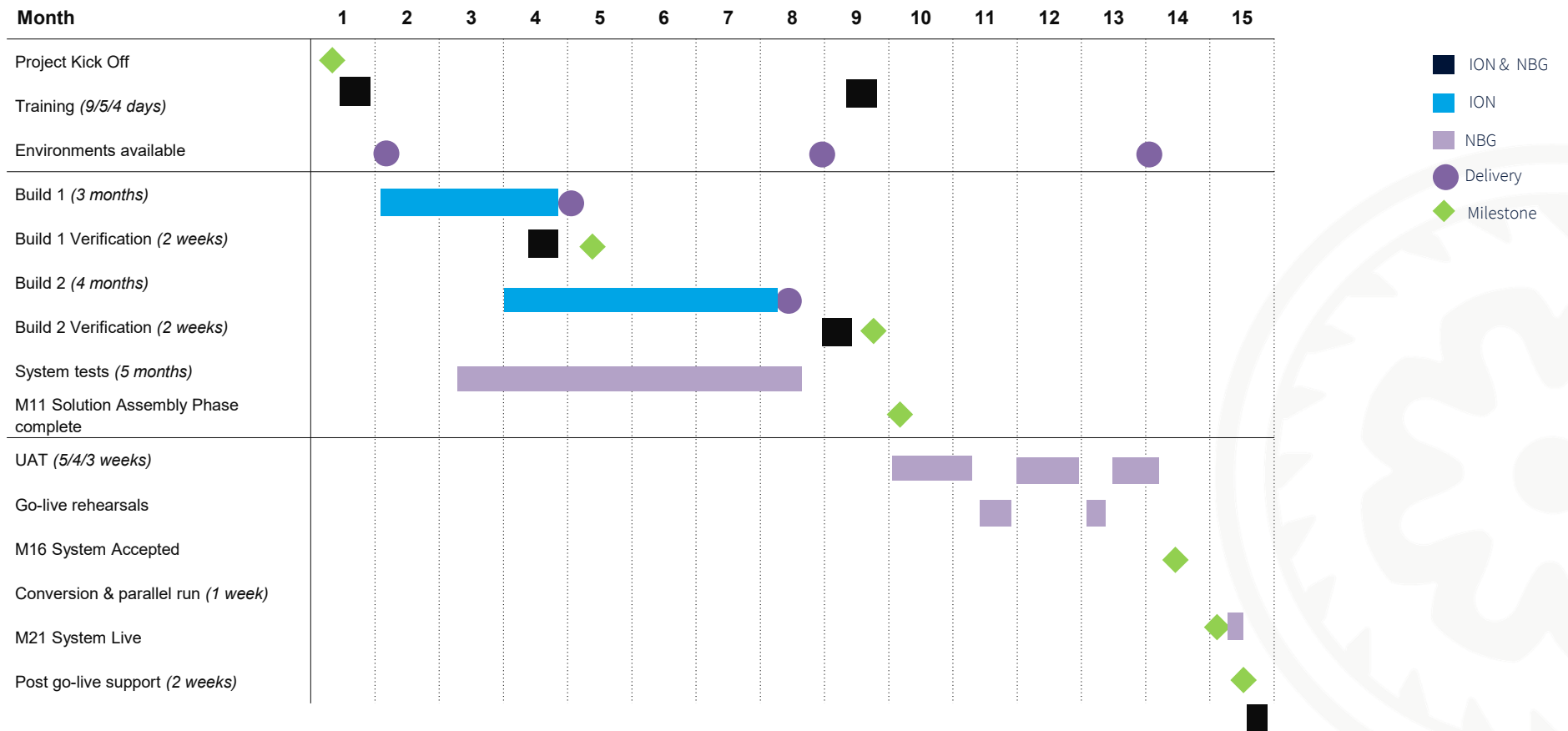- ❑ Generating and sending statements.

Ongoing Projects and Future Plans

❑ WSS Reserve Management System Upgrade
    ❑ Comprehensive Review of Back Office Operations
        ❑ ISO 20022 MX messages
        ❑ SWIFT SOAP Interface implementation
❑ Automatic testing using Omnifi Autotest by Skysparc
❑ Automatic AML screening system

Automated testing using OmniFI

❑ Customized reports to analyze the quality of data
❑ Web portal across the organization
❑ Scheduling reports
❑ Automated testing using AutoTest
    ❑ From initial deal entry and transaction processing to accounting and reporting
    ❑ Libraries of test cases
    ❑ Fast and efficient testing
    ❑ Reconciliation of Results of target system with expected results
❑ Automatically generates the documentation required for the test case executions
❑ Import Module
❑ Daily Reconciliation Module
    ❑ Synchronization across all internal and external systems and data sets
❑ SQL functionality

Project High Level Phases

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Project Kick Off															
Training *(9/5/4 days)*															
Environments available															
Build 1 *(3 months)*															
Build 1 Verification *(2 weeks)*															
Build 2 *(4 months)*															
Build 2 Verification *(2 weeks)*															
System tests *(5 months)*															
M11 Solution Assembly Phase complete															
UAT *(5/4/3 weeks)*															
Go-live rehearsals															
M16 System Accepted															
Conversion & parallel run *(1 week)*															
M21 System Live															
Post go-live support *(2 weeks)*															

Legend:
- ION & NBG
- ION
- NBG
- Delivery
- Milestone

Governance and New Division


```
                        ┌──────────────┐
                        │     FMD      │
                        └──────┬───────┘
   ┌──────────┬──────────┬─────┴──────┬──────────┐
┌──────┐  ┌──────┐   ┌──────┐   ┌──────────┐  ┌──────┐
│Front │  │Middle│   │ Back │   │ Monetary │  │ SMD  │
│Office│  │Office│   │Office│   │Operations│  │      │
└──────┘  └──────┘   └──────┘   └──────────┘  └──────┘
```
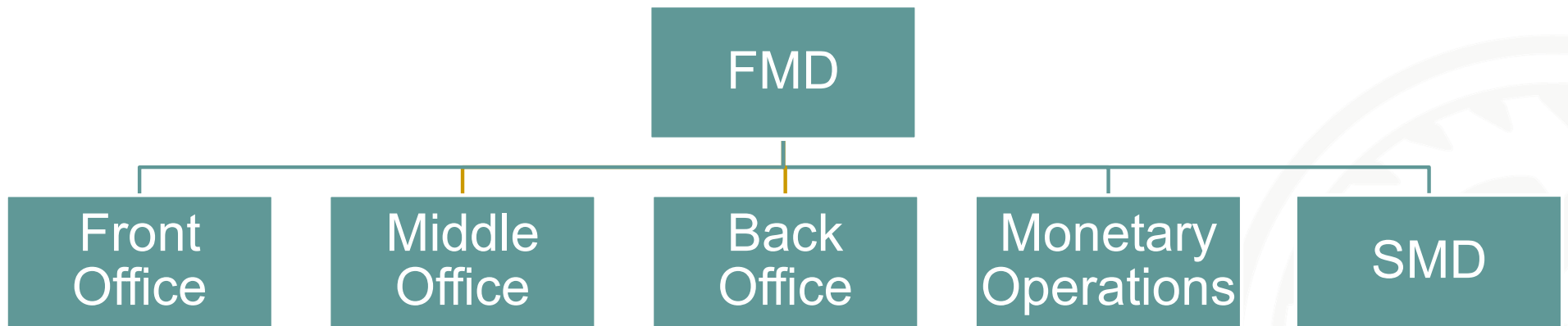
Investment and Settlement Systems Management and Development Division created in 2021

Investment and Settlement Systems Management and Development Division at a Glance

- ❏ Group of Business Analytics
- ❏ Hybrid knowledge of Business and IT
- ❏ Intermediary between Business and IT
- ❏ Static Data Management
- ❏ Testing of Critical Systems
- ❏ Updating/upgrading existing critical systems

Importance of international cooperation/assistance

- ❑ Great working relationship with other WSS users
- ❑ Bilateral knowledge sharing and collaboration during the implementation/upgrade
  - ❑ World Bank – RAMP Program
  - ❑ European Central Bank
  - ❑ Central Bank of Finland
  - ❑ Deutsche Bundesbank
  - ❑ Bank of Israel
  - ❑ De Nederlandsche Bank
  - ❑ Central Bank of Poland
  - ❑ Central Bank of Croatia
  - ❑ National Bank of Romania
  - ❑ National Bank of Tajikistan

Thank you!

Questions?