ECB OMG 2025 MERCK

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AI and Financial Innovation in Treasury and Finance – A Corporate Perspective

Agenda

1

We are Merck

Every day, our more than 62,000 employees work in 65 countries to make a positive difference to millions of people's lives by creating more joyful and sustainable ways to live.

key figures

Founded

1668

+62,000

Employees worldwide

65

Countries

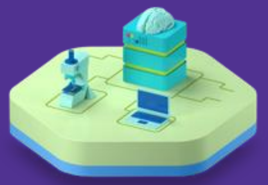
2.3

R&D (€ billion)

21.2

Sales (€ billion)
in 2024

expertise



Life Science

Healthcare

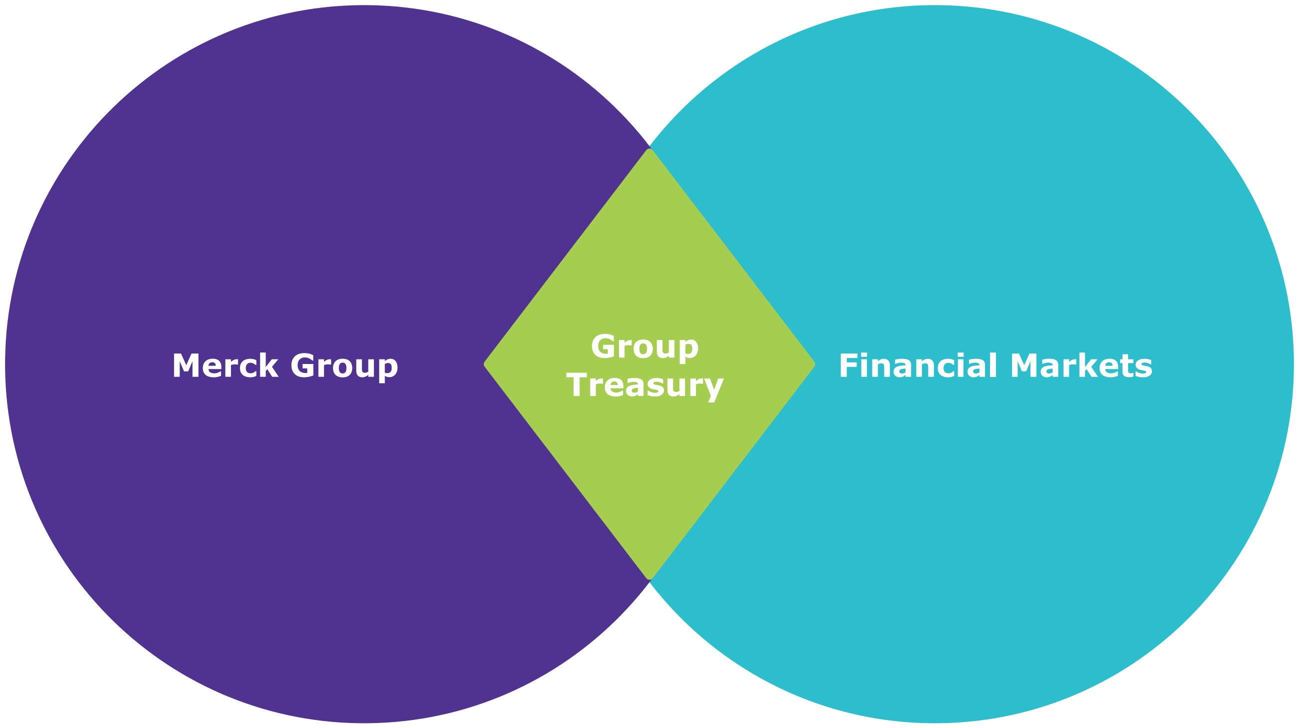
Electronics

2 Role of Treasury

Ensuring sufficient liquidity at all time

Safeguarding financial solvency for external growth

Limiting financial risks within sound economic framework



Digital bank as an interface

Governance and competence center

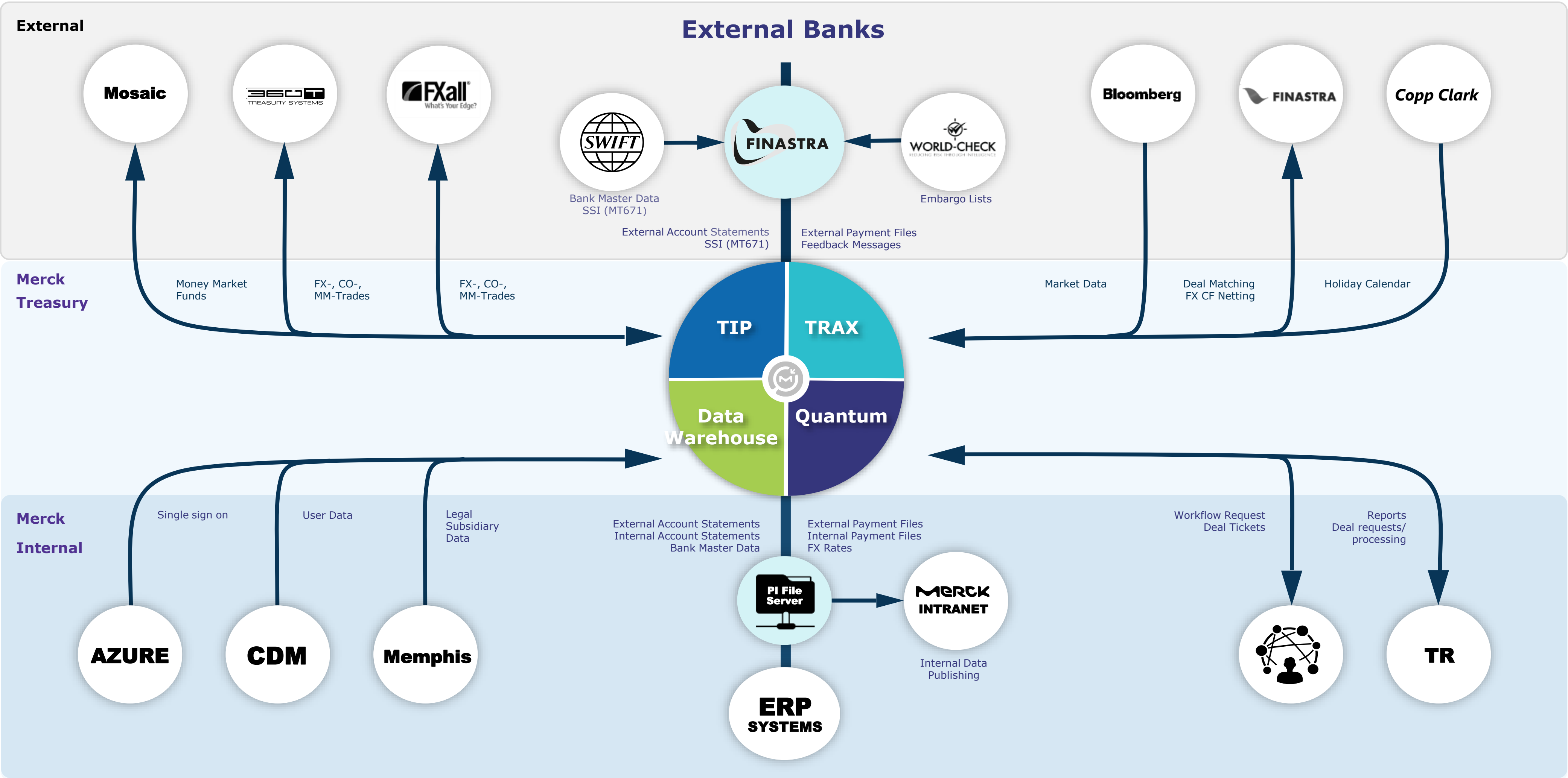
Group wide processes

2 Treasury Setup

- Group Treasury
  - Capital Markets
  - Cash & Risk Mgmt.
    - Cash Mgmt.
    - Risk Mgmt.
    - Technology & Digitalization
    - RTC APAC
    - RTC LATAM
  - Controlling & Reporting
  - Insurance

Treasury builds on reliable proven processes and embraces the new age of technology

2 Treasury System Landscape - MeTRiCs



2 Inhouse Bank – Transactions and Volumes

Merck Financial Services

2024	Payment Factory	Intercompany Clearing	Cash Pooling
Subsidiaries	279	298	261
Countries	60	67	41
Currencies	54	44	20
Accounts	395	1541	344
Transactions	676k	4,548k	62k
Amount	109b€	43b€	109b€

Financial Deals	
foreign exchange intern / extern	
Transactions	2,018 / 10,604
Amount	30 b€ /70 b€
money market intern / extern	
Transactions	466 / 54
Amount	72 b€ / 6 b€

Treasury core operations will remain unchanged but executed differently with more agility and reliability

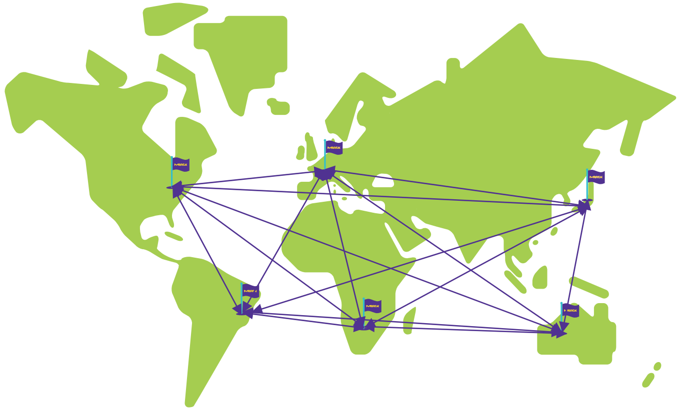
3 Intercompany Clearing

- Settlement of intercompany transactions is **centralized**
- **Sole clearing In-house Bank** of the Merck Group
- **Maintains intercompany accounts** with all subsidiaries
- Provides **same** service as external banks

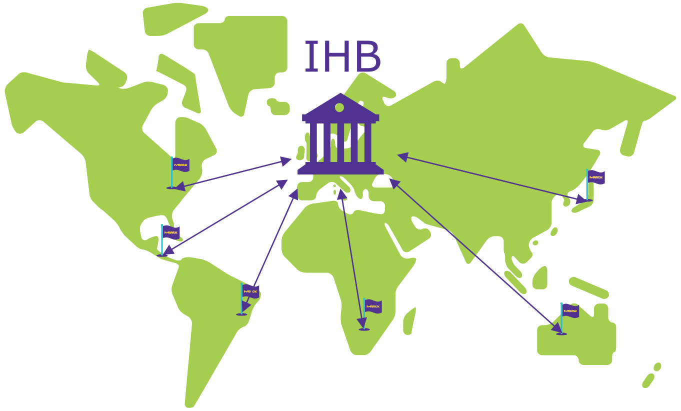
ICC facts & figures

- All Subsidiaries participating
- 44 currencies processed
- 1541 intercompany accounts
- 5m transactions p.a.
- 43bn EUR transaction volume p.a.

IC Clearing without IHB MFS



IC Clearing with IHB MFS

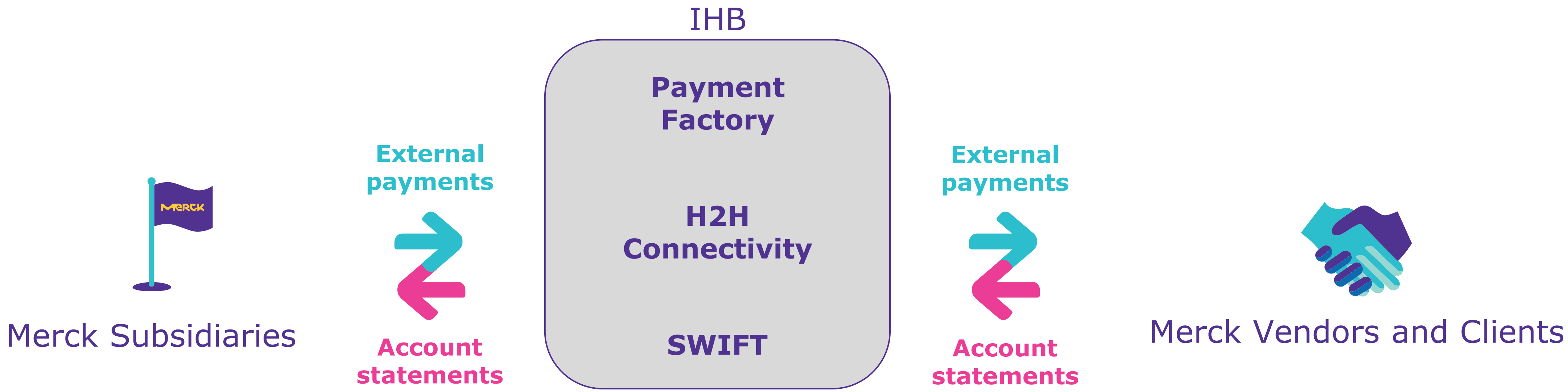


3 Payment Factory

- **Centralized settlement of external payments**
- Subsidiaries use **payment factory for all payments**
- **Embargo-screening** for all payments

PF facts & figures

- 279 Subsidiaries participating
- 50 currencies processed
- 670k transactions p.a.
- 109bn € transaction vol. p.a.

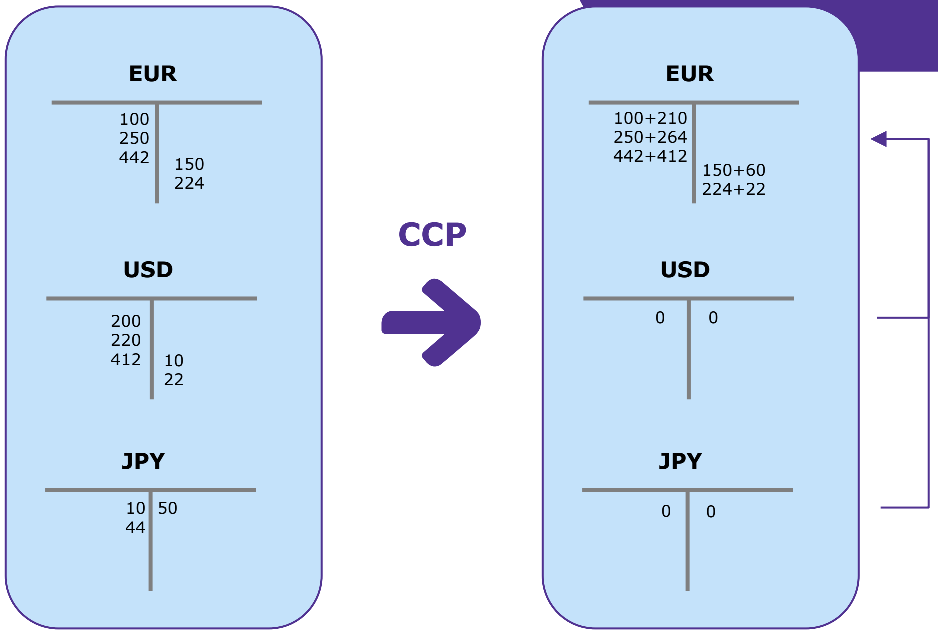


3 Centralized FX Management

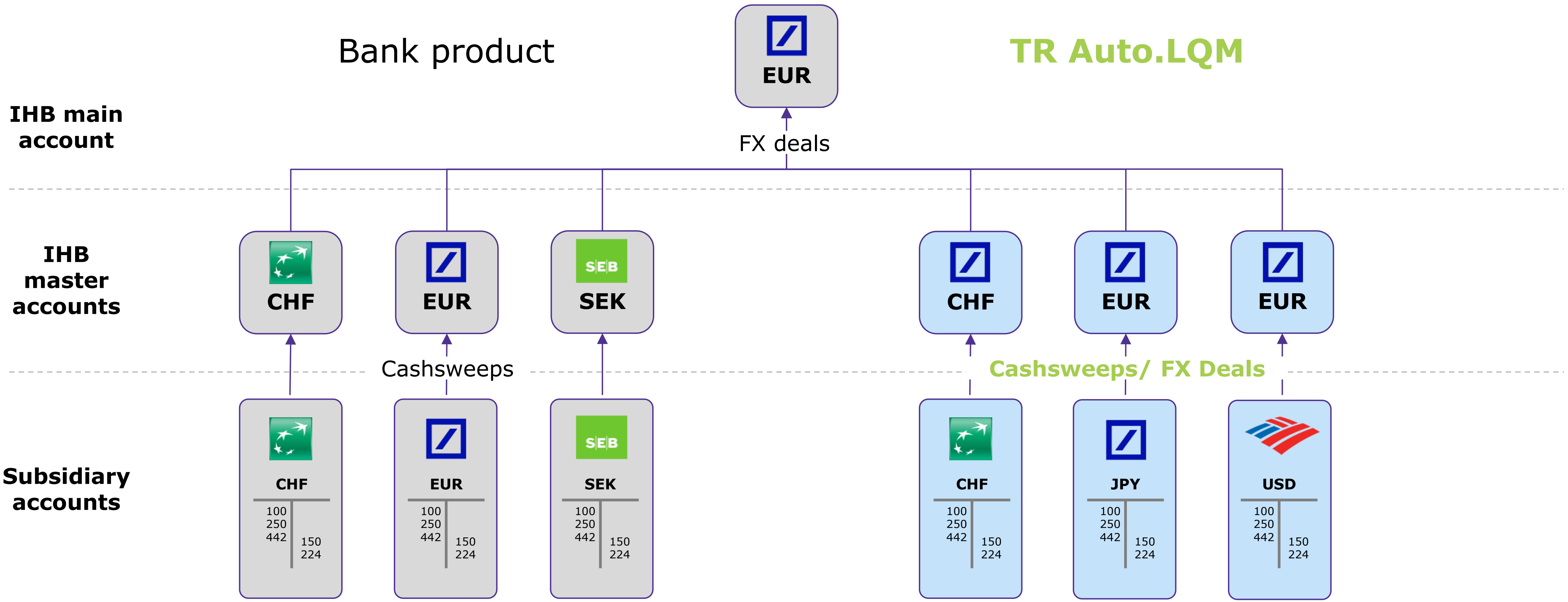
FX facts & figures

- 10.604 external FX deals
- 44 currencies
- 70bn EUR transaction vol. p.a.

- **FX exposure centrally managed**
- **Cross Currency Pooling (CCP)** as instrument to internally clear the subsidiaries' intercompany accounts from FX positions
- Centralized hedging of **locally booked FX** exposure
- Centralized hedging of **planned FX** exposures



3 Centralized FX and Liquidity Mgmt. – Bank Agnostic

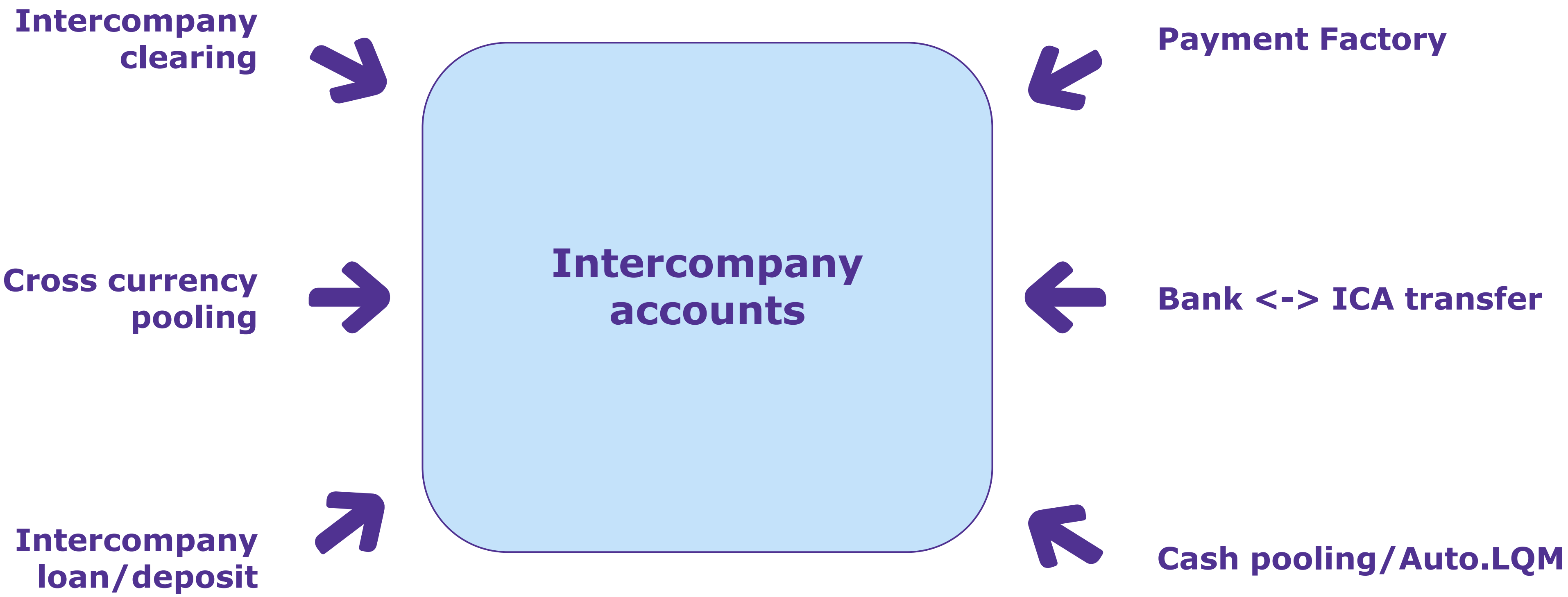


- **Automated** zero-balancing
- **Pooling structure** per bank and currency
- **Process owners are the banks**

- **Flexible liquidity mgmt.** by timing and amounts
- **Payment instructions** via MT101
- **Process owner is Treasury**

3 ICAs are the Basis for Seamless Operations

MFS holds **Intercompany Accounts (ICA) for each subsidiary**. Same significance as external bank accounts



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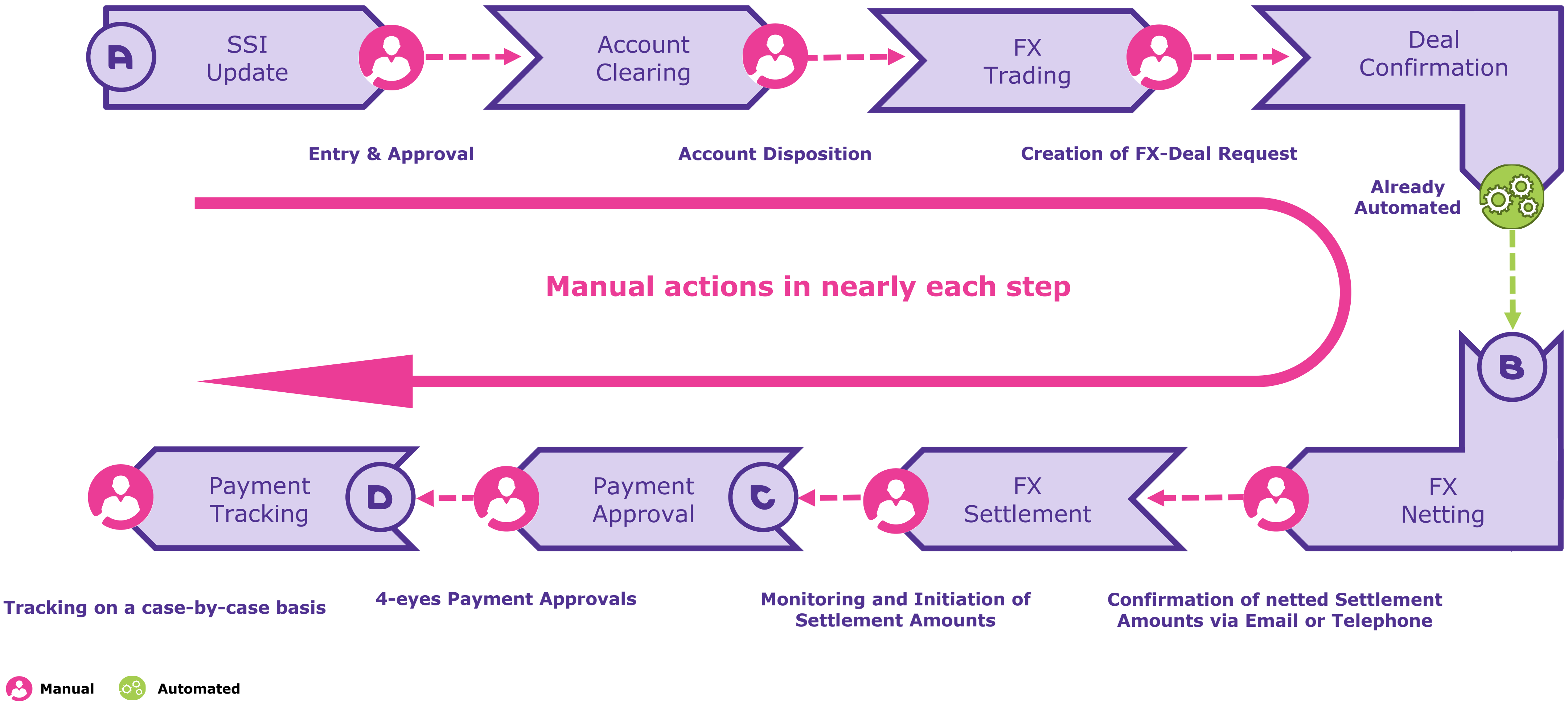
FX Deals
End-to-End
Process Automation

3 FX Deals – Legacy



3 FX Deals – Pain Points

A SSI Update

- Banks publish their SSIs as MT671 message via SWIFT
- Forwarded to Merck via Swift Service Bureau
- SSIs are imported automatically into Merck's TMS
- Final Approval by Treasury Employee

B FX Netting

- TMS creates automatically netted Cash Flows in SWIFT beauro netting module
- Banks confirm or reject Cash Flows
- Feedback messages from netting module into TMS
- Based on feedback TMS initiates automatically payments based on confirmed details

C Payment Approval

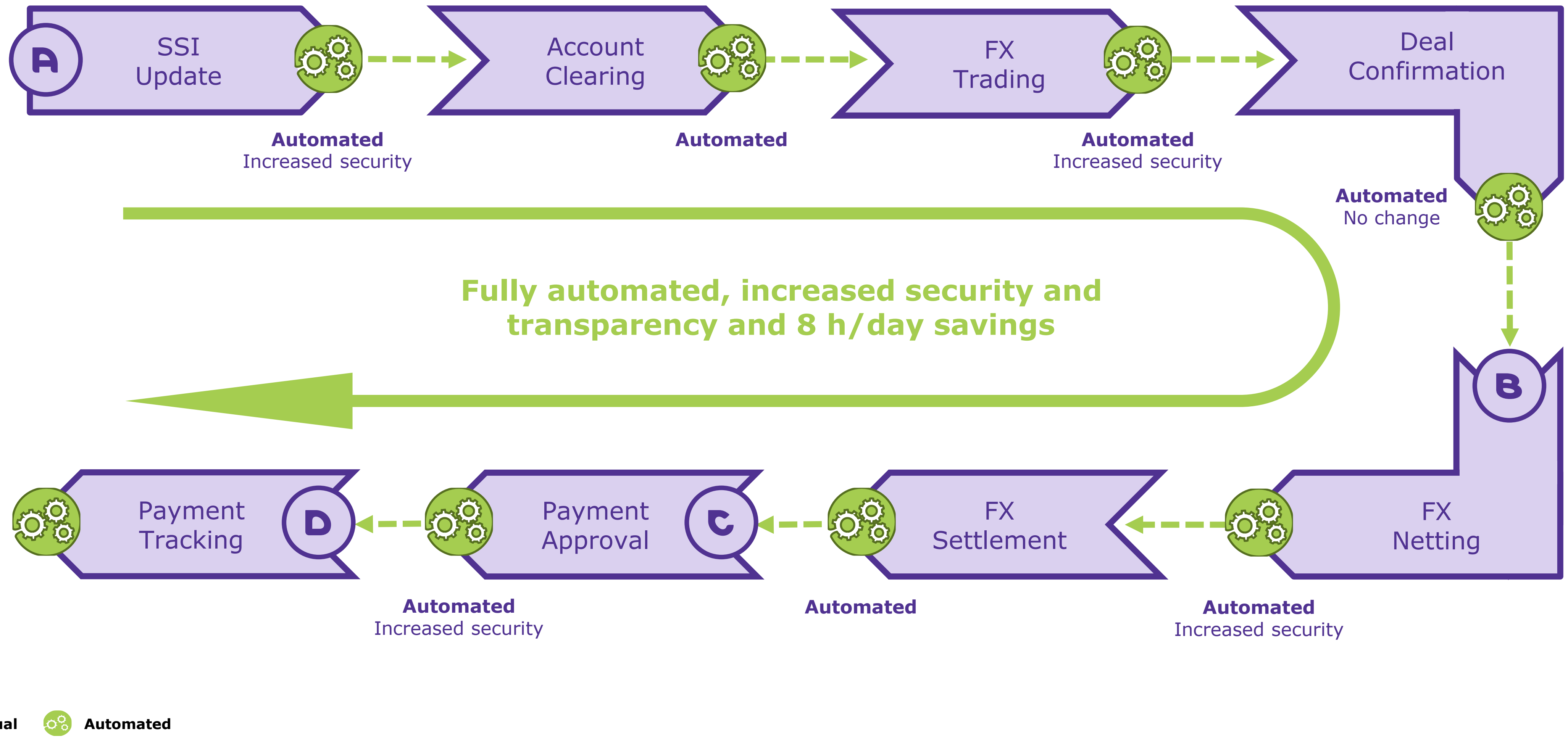
- Automatic notification to Treasury employees in case of issues
- Fraud prevention
  All payments screened against verified SSIs
- No payment approval needed due to automatic validations in previous process steps

D Payment Tracking

- Automatic monitoring and notifications to Treasury employees
- SWIFT g4C status confirmation (e.g. "creditor account credited")
- Additional bank fee and FX conversion details via SWIFT g4C

MERCK

3 FX Deals – Merck Standard



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AI is not intelligence in the true sense of the word - Today AI tools are powerful statistical programs and pattern recognition machines

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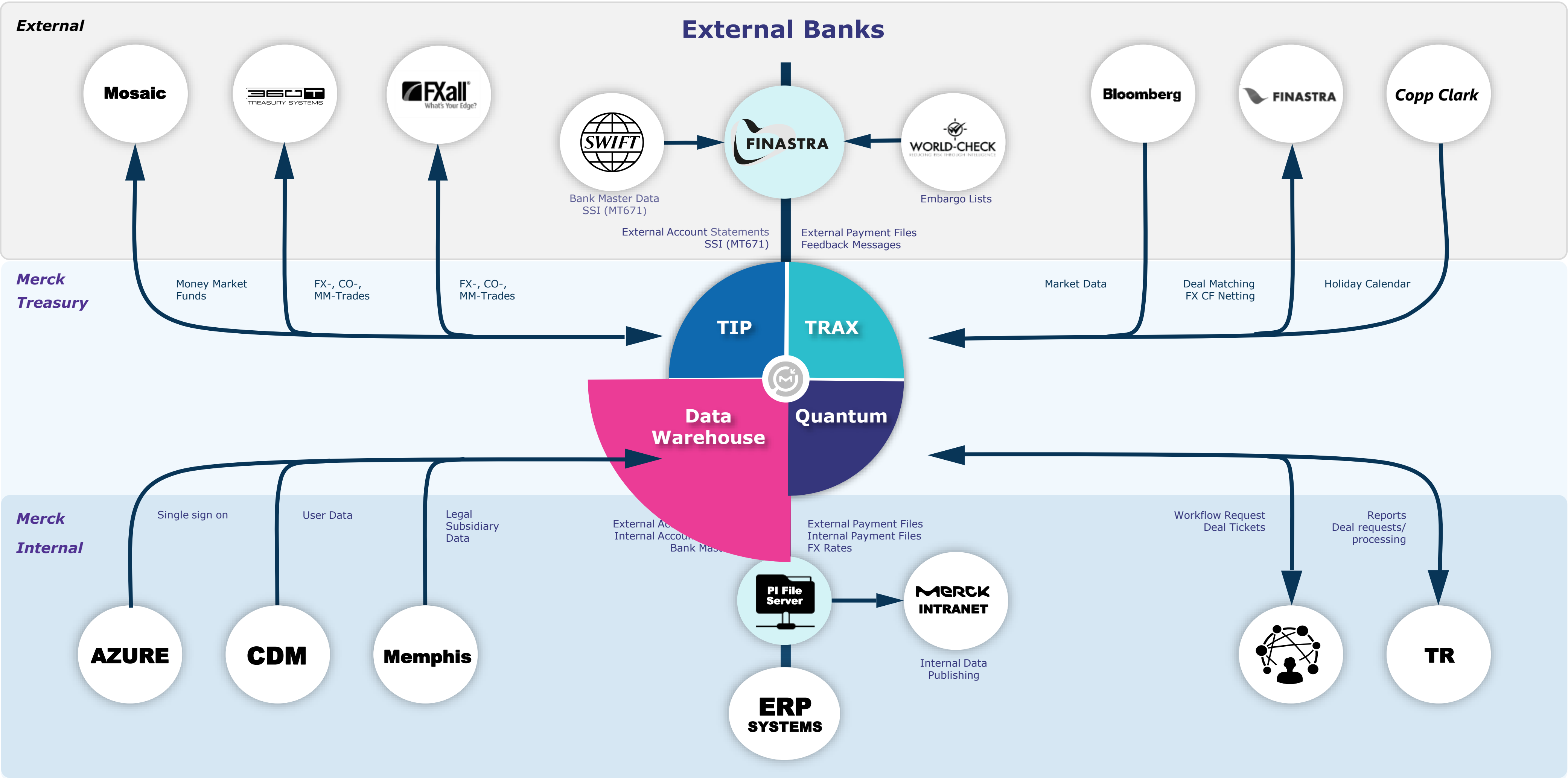
Treasury System Landscape - MeTRiCs



3 Data Warehouse Enabling Data Analytics Speed and Precision

External Sources

TIP

TRAX

Quantum

Data Warehouse

snowflake

aws

Azure

Structured and unstructured data from various sources, optimized for querying and analysis

Combine and analyse data from various records

One single source of truth

User

Power BI

tableau

python

3 Established Treasury Processes

Account Statement Details

Enriched bank statements of all Merck entities available enable several use cases

Bank Fees

Automated identification of country and bank specific patterns to monitor global bank fee

Currency Option Portfolio

Savings potential through increased transparency resulting from restructuring and monitoring of currency options

Bond Dashboard

Aggregation of relevant market information to gain transparency on pricing and potential windows for placements

MiCRA

Transparency on global bank accounts and monitoring of global liquidity

Miscellaneous Reports

Transparency manual payments, CAMT.086 coverage and remittance text analysis for man. payments

Auto FX Actuals Reporting

Fully-automated monthly cash actuals reporting eliminates manual work, increases transparency & monitoring capabilities

Identify automatic Currency Conversions

Identification of auto foreign currency translations initiated by banks

Optimize local Cash Balances

Transparency on local excess cash balances which are not included in Merck's cash pooling structure to optimize global cash balances

Trading Report

Improving the basis for fully automated hedging by including deep-drive sanity checks and further risk analyses measures

Share of Wallet

Monitoring of TR counterparties and their profit share as foundation for management discussions with e.g., global banks

RTC Dashboard

Several dashboards monitoring global liquidity and subsidiary payment behaviors

3 Innovation Outlook for Treasury

Topic	Treasury innovation milestone	Enabling factors
Real-time tracebility	Real-time tracibility is already available for cross-border payments with **SWIFT GPI**	Could be more efficient and cost effective with the support of **regulators and market participants**
Large language models	In use for **administrative support**, **preparing contracts**, amending guidelines, create training materials	LLMs may have major use cases in **transaction and statement analysis**, such as clustering transactions based on remittance information
API connections	Customised API connections, that **vary in format** depending on the transaction counterpart bank	**Harmonized framework for all API connections** with all global banks for payments and statements, enabling corporates to seamlessly exchange data with all banks under one standardized framework for fields and request types
Machine learning fraud detection	Simple models available, however, **not advanced enough** to overcome **data quality** issues	Enforcing **PSD3** and other similar directives in combination with more advanced corporate fraud detection tools
Tokanization and Digital Euro	Not in use yet	**Tokanized digital Euro** could be integrated in contracts to **secure payments** and **automate compliance checks** for corporates. Tokanization should also **lower transaction costs for corporates**