



IMPROVING DATA COLLECTION FOR DIGITAL FINANCIAL SERVICES SUPERVISION

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Denise Dias, Wilson Kamali,
Maciej Piechocki

June 27, 2018



Logistics

1. This is an audio broadcast. Attendee microphones will remain muted during the entire webinar session.
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Speakers



Denise Dias

CGAP



Wilson Kamali

National Bank of
Rwanda



Maciej Piechocki

BearingPoint

Agenda

1	Data challenges for digital financial services supervisors
2	SupTech solutions
3	Bank of Rwanda
4	Panel discussion
5	Q&A

Data challenges for digital financial services supervisors

CGAP research

Good DFS data is key



Effective digital financial services (DFS) supervision is essential for sustained, healthy financial inclusion



Data is at the core of financial supervision



Quality DFS data is central for effective DFS supervision

CGAP research on DFS data

Desk research

Leading emerging markets and developing economies (EMDE) where DFS for financial inclusion have achieved scale or are growing rapidly

Developed economies for comparison

EMDEs that have either or both agent regulations and e-money regulations

European Union (EU), because of its wealth of relevant material and the potential application of certain practices to DFS supervision in EMDEs

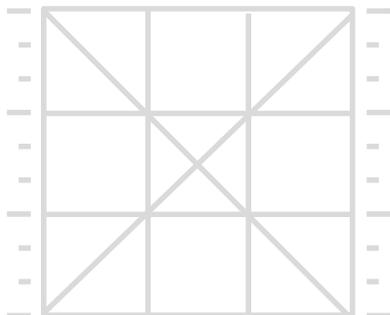
In-person or phone interviews

Primary responsibility for supervision of the institutions that offer DFS (central banks or supervisory authorities). In Mexico, Consar (pensions regulator) also included

Some DFS providers and providers of IT and consulting solutions

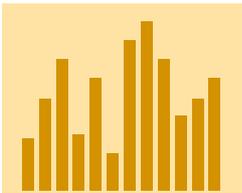


Types data collected by DFS supervisors



Quantitative and qualitative, financial and operational

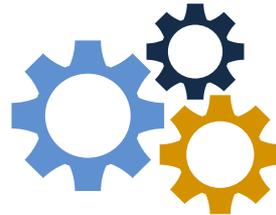
Periodic reporting of DFS data in the researched countries focuses on operational data

	FINANCIAL	OPERATIONAL
Quantitative 	Financial statements (balance sheet, cash flow, income statement) Financial ratios (capital adequacy ratio, liquidity ratio, and others)	<ul style="list-style-type: none"> • Volume and value of transactions • Number of transaction points (e.g., agents, ATM, point of sale) • Number of accounts and total balances • Losses from frauds, consumer compensations
Qualitative 	Explanations to financial statements	<ul style="list-style-type: none"> • Policies and procedures • Description of fraud and actions taken, actions taken on consumer complaints, IT systems, risk management practices, accounts of service disruptions

Types of DFS data collected



Financial data on e-money issuers

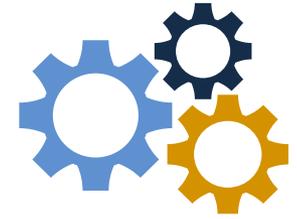


Operational data on e-money issuers and e-money operations

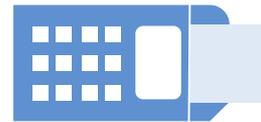


Risky and suspicious transactions

Types of operational data on e-money issuers



Number and types of accounts and clients



Transaction data



Data on e-money agents

Types of risk data and suspicious transactions

Almost all studied countries require statistics on suspicious transaction reports (STRs) and statistics and descriptions of:

- fraud
- data security breaches
- service disruptions

Only a few require reporting of volumes and values of failed and pending transactions, reversals

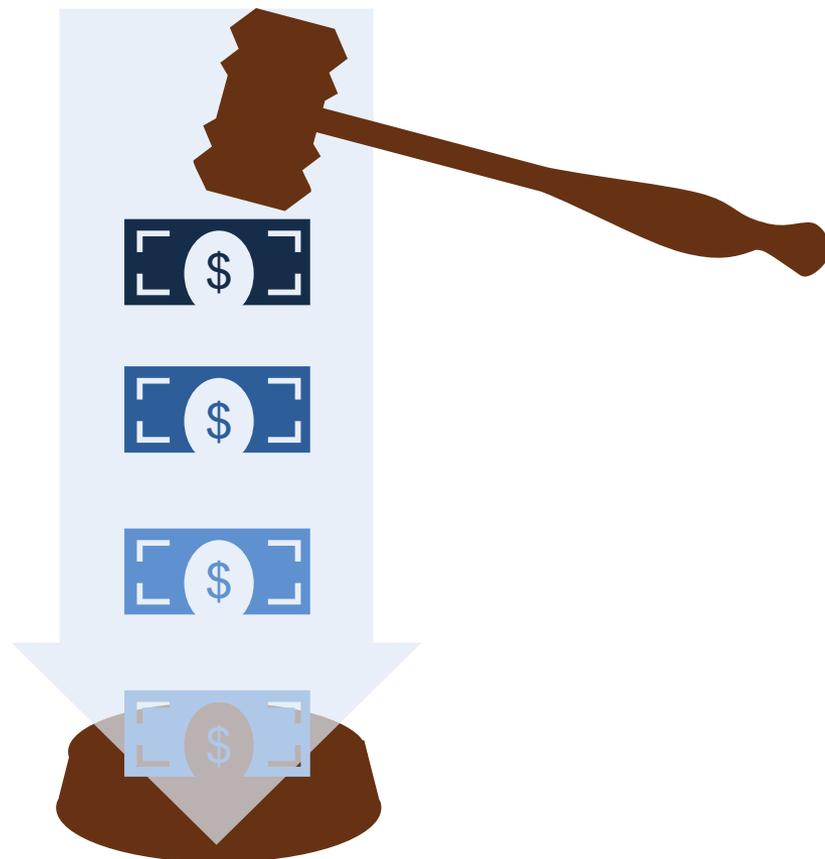


Important to limit compliance costs

Keeping compliance costs down is important for DFS in a financial inclusion context.

Relative cost of dedicating staff time to regulatory reporting can affect inclusive providers more.

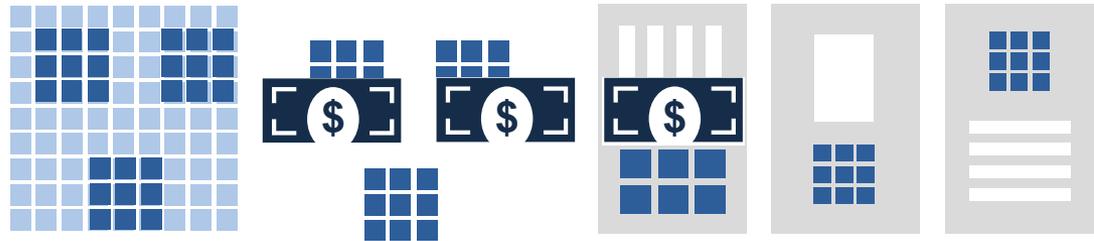
Some researched countries have lower or no reporting requirements for small nonbank e-money issuers.



Costs depend on data collection mechanisms



Regulatory reporting costs depends more on the **data collection mechanism** than on the amount of data.



Reporting a small amount of data that need to be aggregated and formatted into separate report templates can be more costly than reporting a larger quantity of granular data through an automated process that does not use report templates.

Findings on DFS data reporting/collection

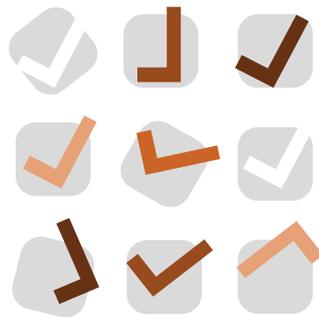
Transparency is greater in advanced economies

- Only a minority of countries publish report templates
 - Most EMDEs do not detail the reporting requirements in their websites
-

There is no single recipe for DFS report template that would work in multiple countries

- Broad DFS data categories do not vary much but sub-categories vary widely
 - Multiple combinations of sub-categories
 - Variation in key terms and concepts
 - Periodicity varies
-

Weaknesses in DFS data reporting



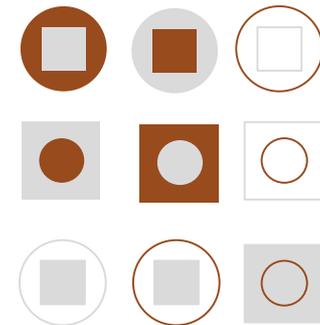
Inconsistencies

Unclear or inconsistent use of key terms within report templates and across report templates



Gaps

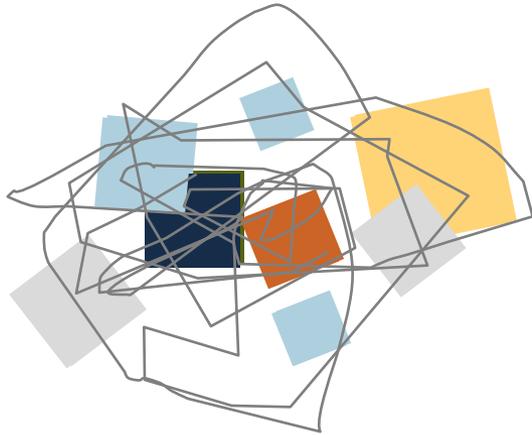
Gaps and inconsistency of consumer complaints reporting requirements across different types of institutions



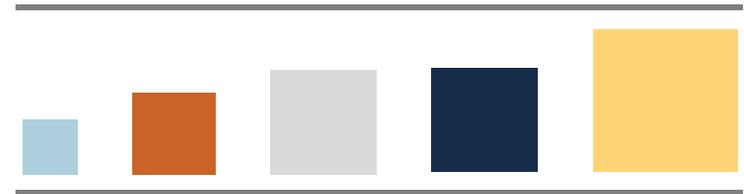
Duplications

Banks subject to detailed reporting on agents while nonbanks are not, when there is no single agent regulation

The process to create/change reporting requirements

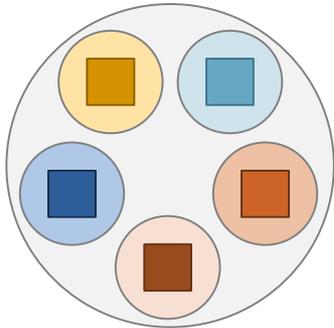


Informal and unstructured,
limited to the department
that requests the data

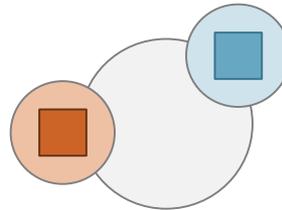


Formal, standardized procedures
that involve coordination
among multiple departments
and authorities and consultation
with the industry

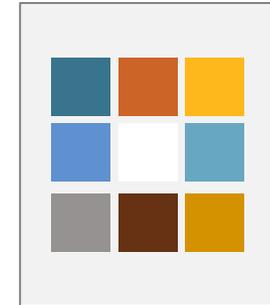
Centralized data collection



A unit that functions as a central data source for all other departments, being responsible for prioritizing and implementing all periodic electronic data collection, including DFS data



Act as the interface between different departments when creating/changing reporting requirements and when implementing improvements in the data collection mechanism



Keep a single catalog of all regulatory reports imposed on all types of institutions helps to avoid duplicate requirements, which could help in estimating the total reporting burden

Manual processes persist in reporting

- Multiple systems (e.g., product systems or modules, AML/CFT, customer care, core banking, mobile money, etc.).
- Systems that are incompatible with the system used by the compliance unit to fill in the report templates.
- Reporting formats that create difficulties given the IT architecture of an institution.
- Systems housed at different departments or outside the institution (e.g., AML/CFT, customer care).
- Gaps or errors in the automated aggregation and standardization of raw granular data.

Difficulties may also be caused by the system put in place by the supervisory authority, such as reporting portals.

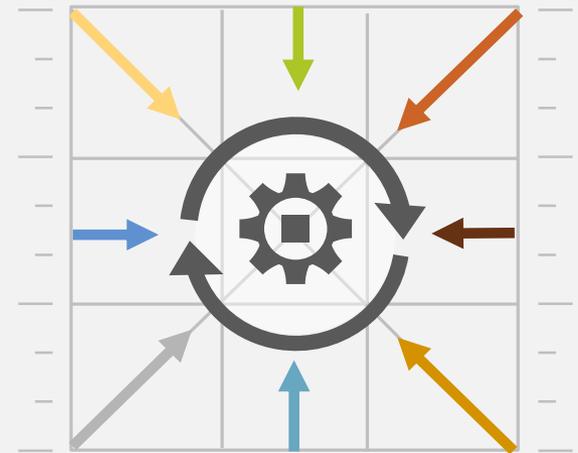
—Office of Financial Research 2015

Manual report submission management



Managing regulatory submissions is less time-consuming and more effective when using IT tools. In Europe, most supervisors keep automated controls of regulatory submissions

In studied EMDEs controls of submissions are mostly done manually using Excel spreadsheets.



Automating submission management involves developing IT systems to collect, store, and periodically update master data.

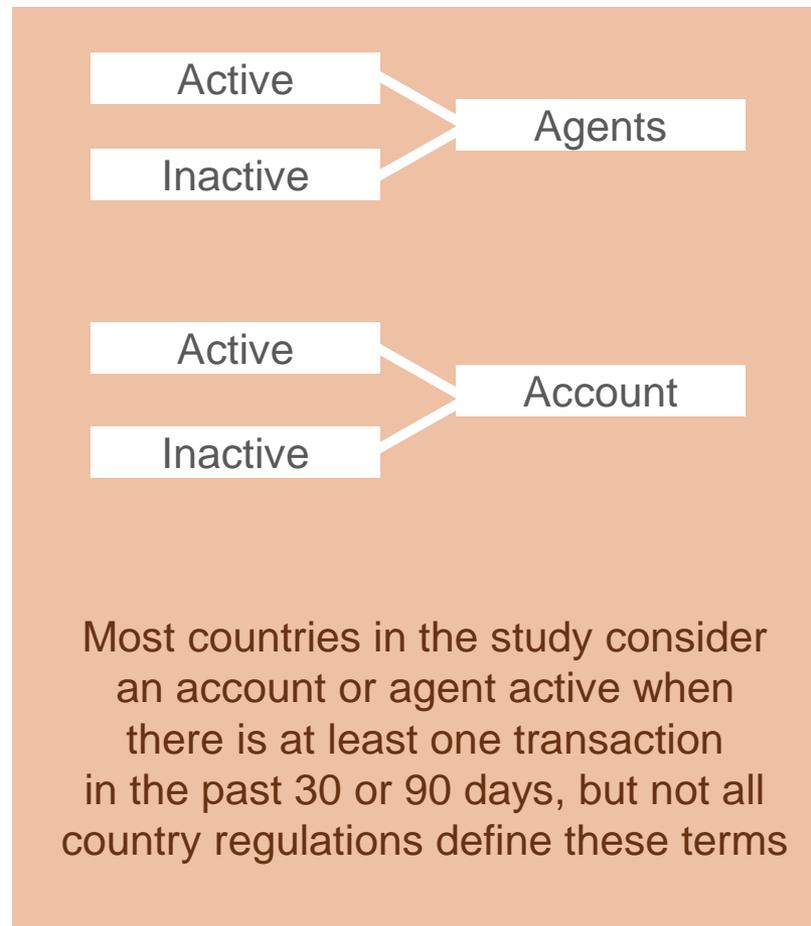
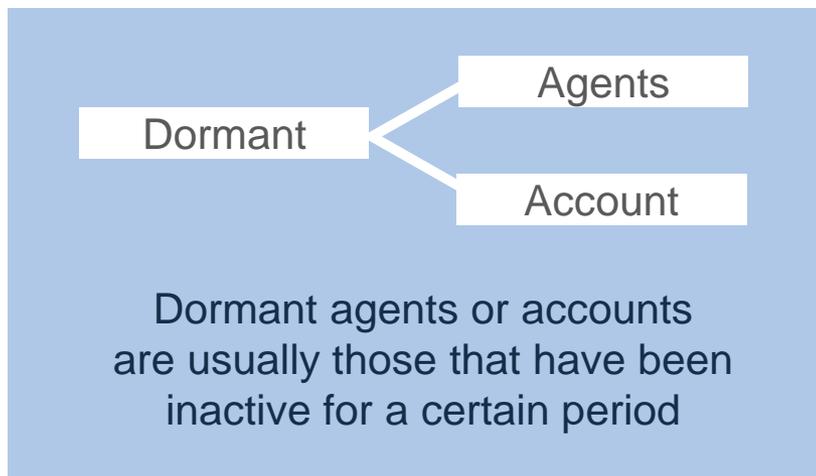
Lack of standardization

These words can mean different things for different institutions



Agent	Mobile wallet	Transaction types	Client types
Agent point	E-money account	Sorting transaction categories	Account types
Agent till	Mobile money account	Cash-in	Retail (final)
Transaction device	Location	Cash-out	Customer/ accounts
Cash point		Transfers	Wholesale (corporate) customers (includes agent and merchant accounts)
Super-agent			
Master agent			
Merchant			

Lack of standardization



Impact of observed weaknesses

The observed weaknesses can lead to:

- Inaccurate, delayed reported data
- Not comparable data across institutions
- More time spent by supervisor fixing data problems (“cleaning data”)
- Higher compliance costs

→Reduced effectiveness of DFS supervision



How to address weaknesses

Better planning and standardization.

Technology to reform collection mechanism.

Emerging supervisory approaches require better data



The higher the level of data granularity, frequency, and scope, the greater the need to reform the data collection mechanism.

RegTech and SupTech offers solutions for data reporting and collection.

Shift to granular data

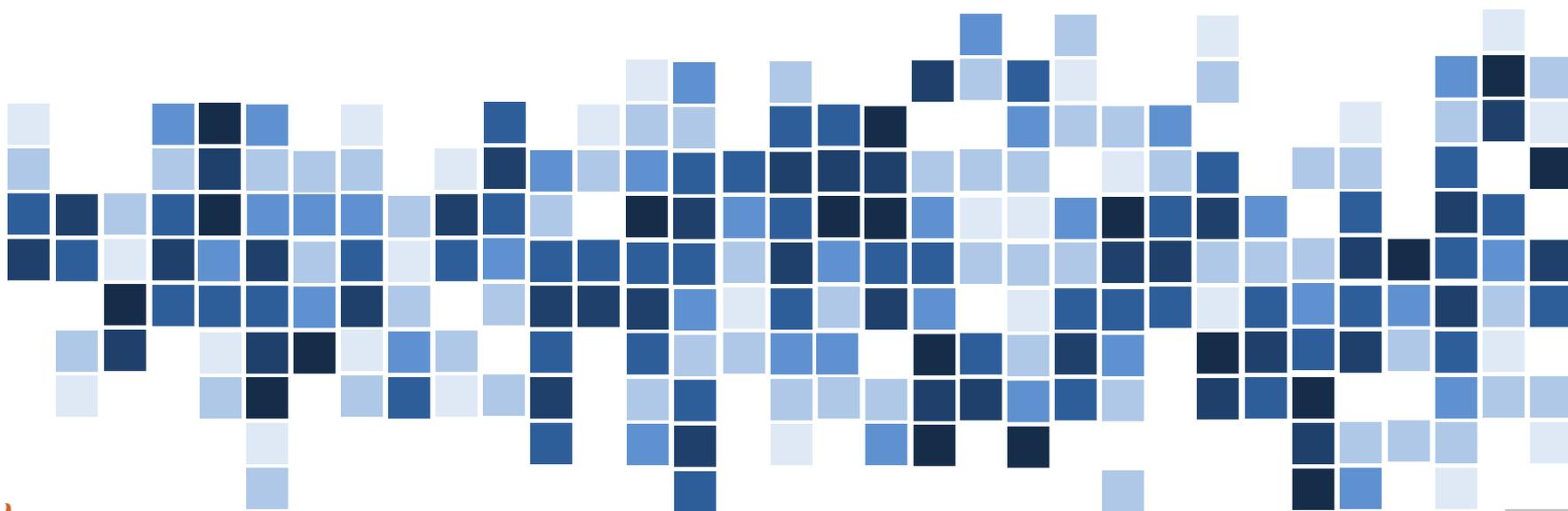
If adequate analytical skills and resources are available

Greater flexibility for richer supervisory insights

- Supervisors calculate any desired indicator
- Ensure calculations are correct and standardized
- Limitless number of analyses
 - Manipulating, combining
 - Finding relationships across data points
 - Not constrained by predefined indicators

Most of today's EMDE DFS supervisors not accustomed to granular data

Depending on the data collection mechanism, granular data could reduce compliance costs for institutions



Deciding about granularity

How would granularity impact compliance costs?



Is there legal impediment for collecting granular data?



Is there analytical capacity to standardize, validate, and analyze granular data?



What extra insights could granular data provide?



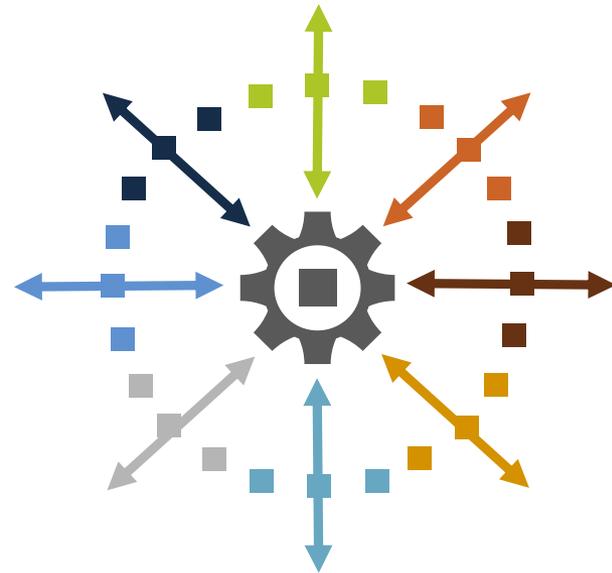
Would the supervisor be risking its reputation?

Would a reform of the data collection mechanism be required to avoid excessive compliance costs and ensure data quality?

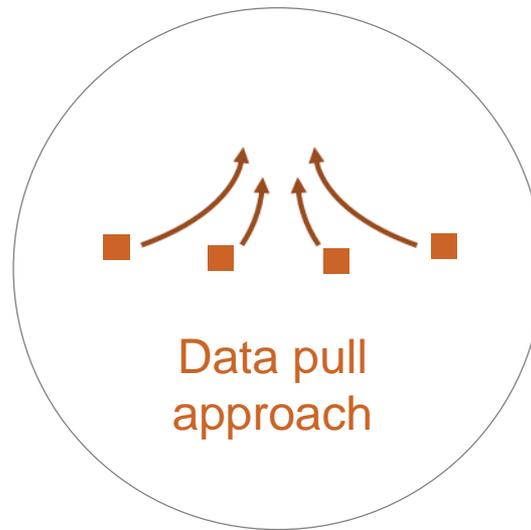


Types of data collection mechanisms

- Separate files (Excel, PDF, Word, TXT, etc.) that are sent electronically (email attachments, web portal, or another file transfer system) or provided in hard media (e.g., memory stick)
- Automated processes or a mix of automated and manual processes
- Input approach, in which sets of granular data are uploaded automatically by the institution into a database at or accessed by the supervisor.
- Pull approach, in which raw granular data are extracted (pulled) by the supervisor from the institution's IT systems.



New tech-fueled alternatives

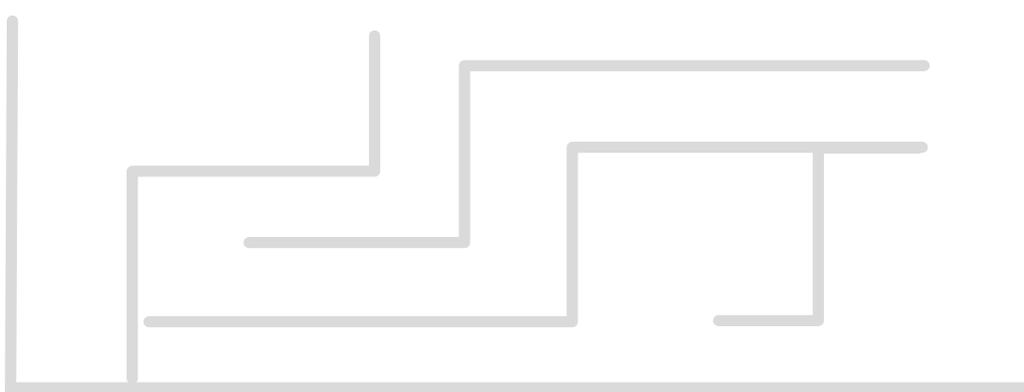


New data collection in EMDEs

EMDEs lack heavy legacy systems, practices, infrastructure, and fully developed regulatory and supervisory frameworks



Gradual steps taken by, and the approaches currently adopted in, advanced economies may not be necessary for EMDEs



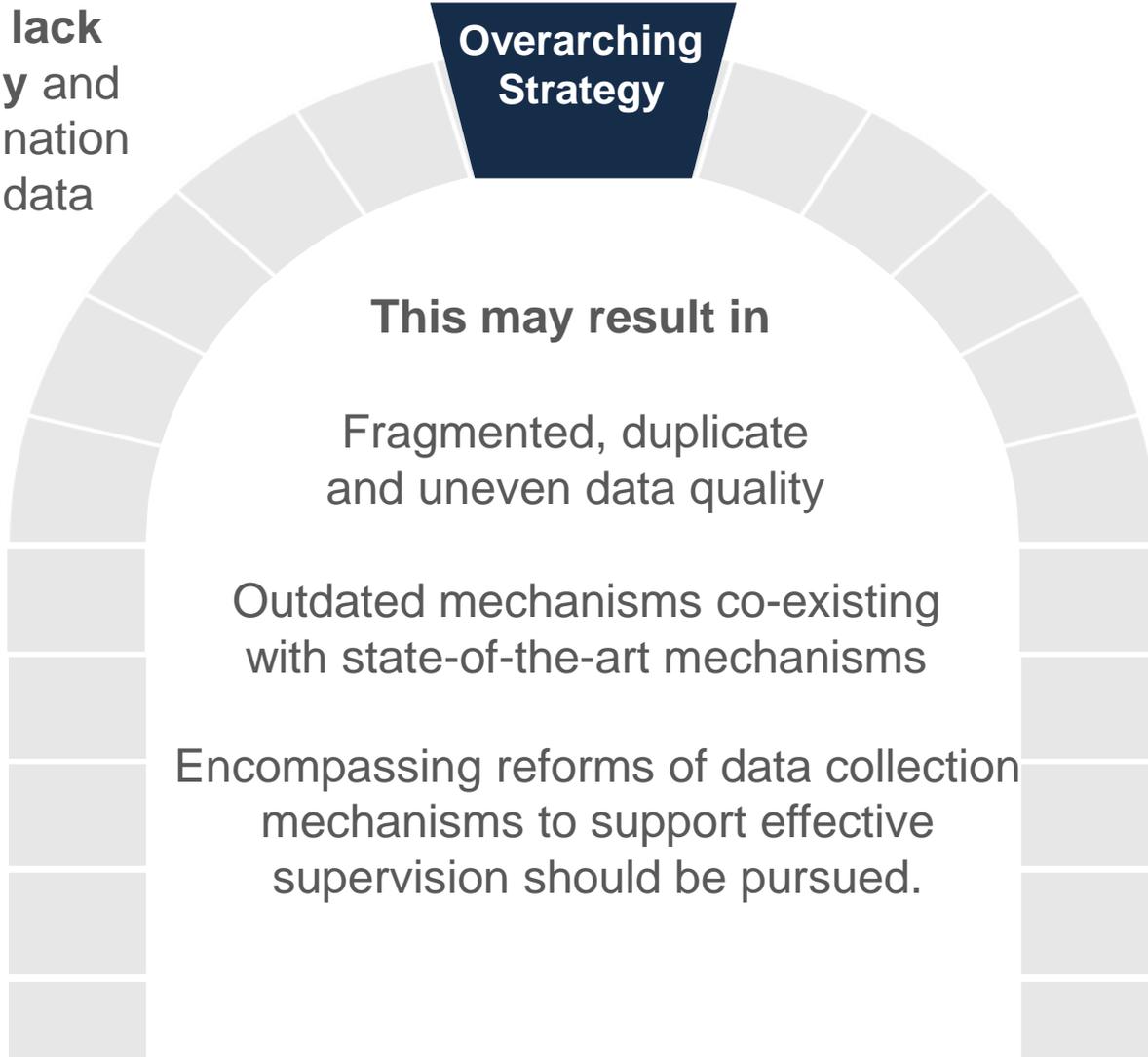
Hurdles to new solutions

Some RegTech and SupTech solutions rely on technologies that may not be well-understood, well-accepted, or legally permitted in certain EMDEs, such as cloud computing.



DFS data as part of wider strategy

Some EMDE authorities **lack an overarching strategy** and interdepartmental coordination for improving regulatory data beyond DFS data.



**Overarching
Strategy**

This may result in

Fragmented, duplicate
and uneven data quality

Outdated mechanisms co-existing
with state-of-the-art mechanisms

Encompassing reforms of data collection
mechanisms to support effective
supervision should be pursued.

Data collection and analytical capacity

Improving DFS or any data collection will bring limited benefit if there is no **adequate analytical capacity** at supervisory authorities to transform the data into supervisory intelligence.

Capacity may be lacking to map data needs in the first place, and to standardize data effectively.

SupTech Solutions

BearingPoint

Improving data collection for DFS supervision

Experiences with integrated approach for collection, processing, validation, analytics and dissemination of micro and aggregated data



We provide end-to-end solutions for all stakeholders along the regulatory value chain. From a single financial product to an individual organization, from a particular asset class to a market sector, in one country and across borders at the micro and macro level. We serve financial institutions, intermediary regulatory platforms, central banks, and supervisory authorities with our RegTech product suite.

BearingPoint®

BCBS 415: Sound Practices: Implications of FinTech developments for banks and bank supervisors #RegTech #SupTech

Revitalised or relegated? [#BaselCommittee](#) report looks at [#Fintech](#) effects on banks & bank supervisors <http://www.bis.org/bcbs/publ/d415.htm> ...

*“Regtech could address a wide array of requirements related to regulatory reporting, financial crime, operational risk (including cyber-security and fraud detection), consumer protection and data protection regulation. Examples in these domains include **BearingPoint’s Abacus solution** for compliance with the European supervisory reporting requirements...”*

“Banks will find it increasingly difficult to maintain their current operating models, given technological change and customer expectations.”

*Sound Practices: Implications of fintech developments for banks and bank supervisors
Basel Committee on Banking Supervision*

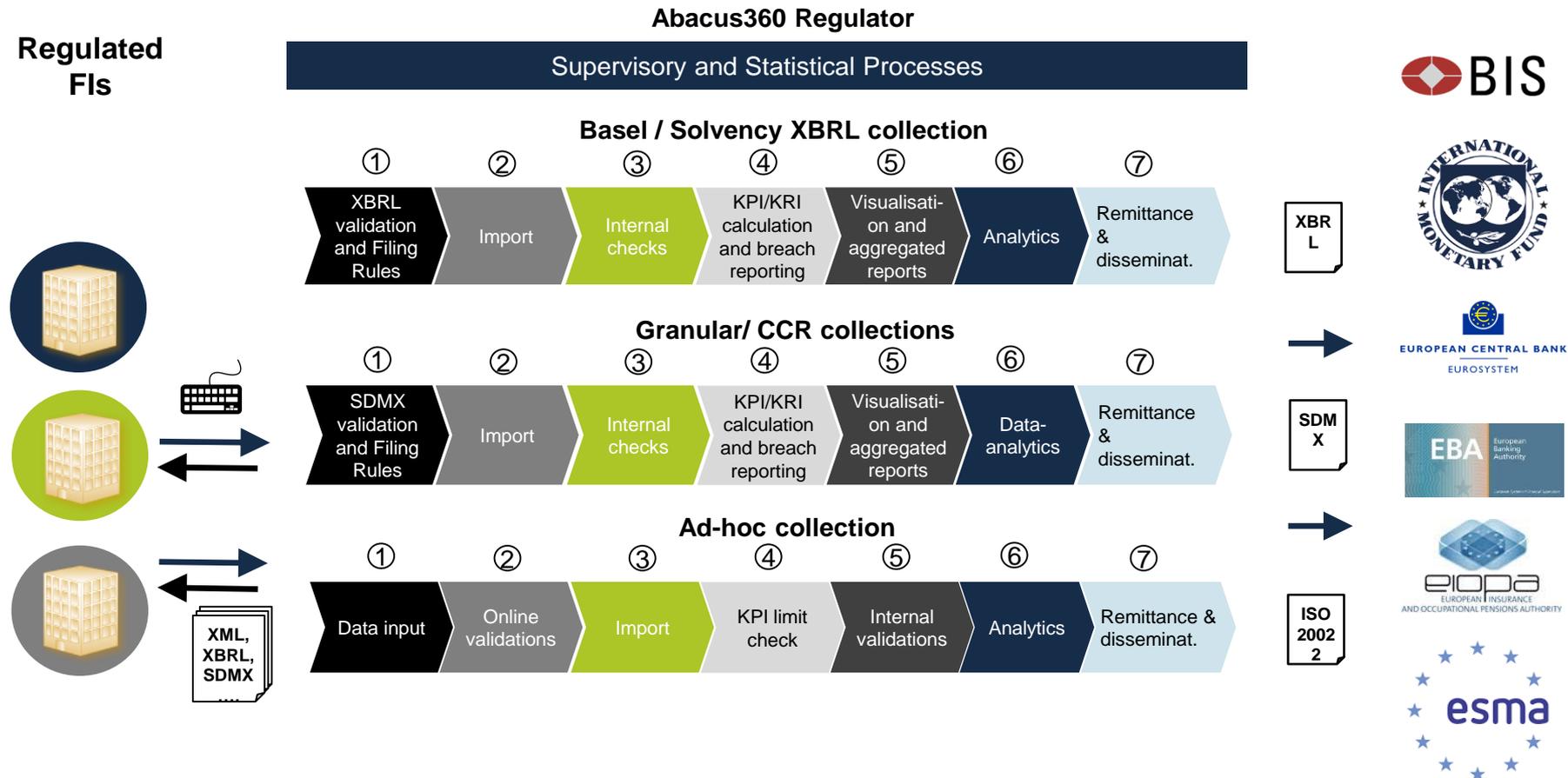
World Bank & G20 Global Partnership for Financial Inclusion (GPFI) quotes BearingPoint Institute and highlights the AuRep project in its report

#GPFI referencing our **#RegTech** & the AuRep project in the **#G20** report on Digital Financial Inclusion: Creating an Enabling Legal and Regulatory Framework

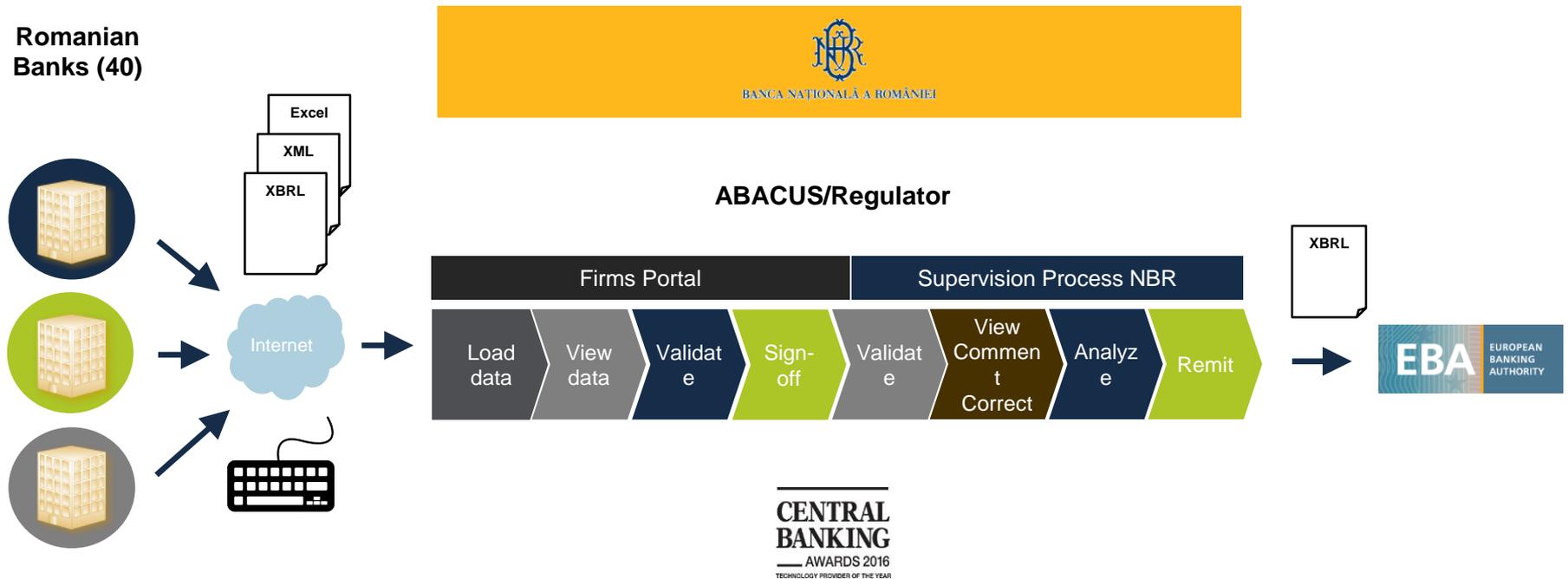
*AuRep project as notable exception for leveraging technology to build oversight capacity automating Regulatory Reporting and Supervision input-**based**” approach that enable regulators to capture more granular data on financial sector activity, including on activity by new market entrants, or related to new digitally-enabled delivery mechanisms or products, while reducing the reporting burden on regulated institutions.*

Abacus360 Regulator

Modular solution for data collection, risk-based supervision, regulatory analytics and dissemination



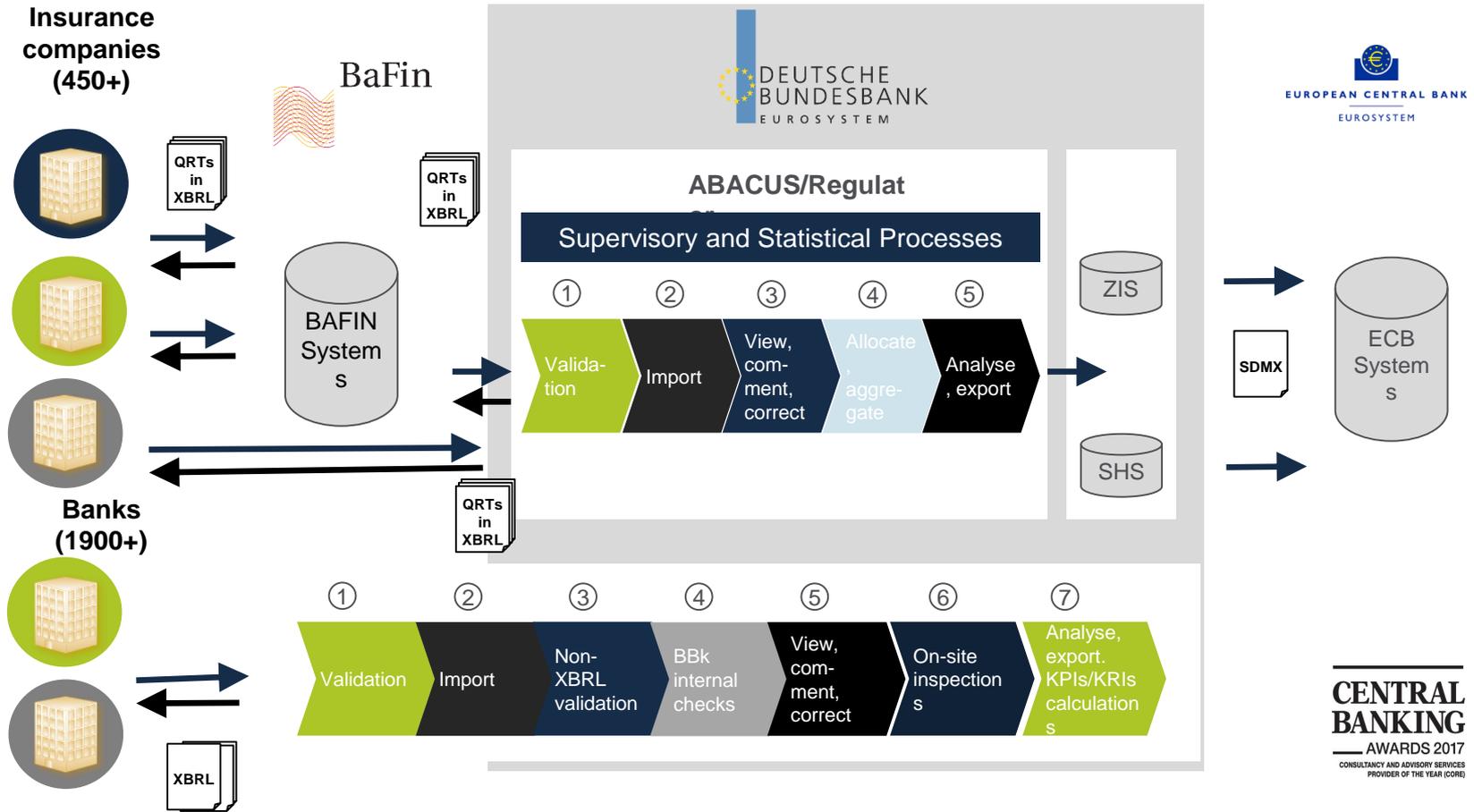
Portal architecture with highly secured collection, validation and distribution at the National Bank of Romania



"We managed to report with ABACUS/Regulator in July, and the data was good quality. Both sides were proud of the performance."

Simona Chiochiu, head of IT at the National Bank of Romania (December 2015)

ABACUS/Regulator for Solvency 2 and Basel III ICAAP collection, aggregation and distribution

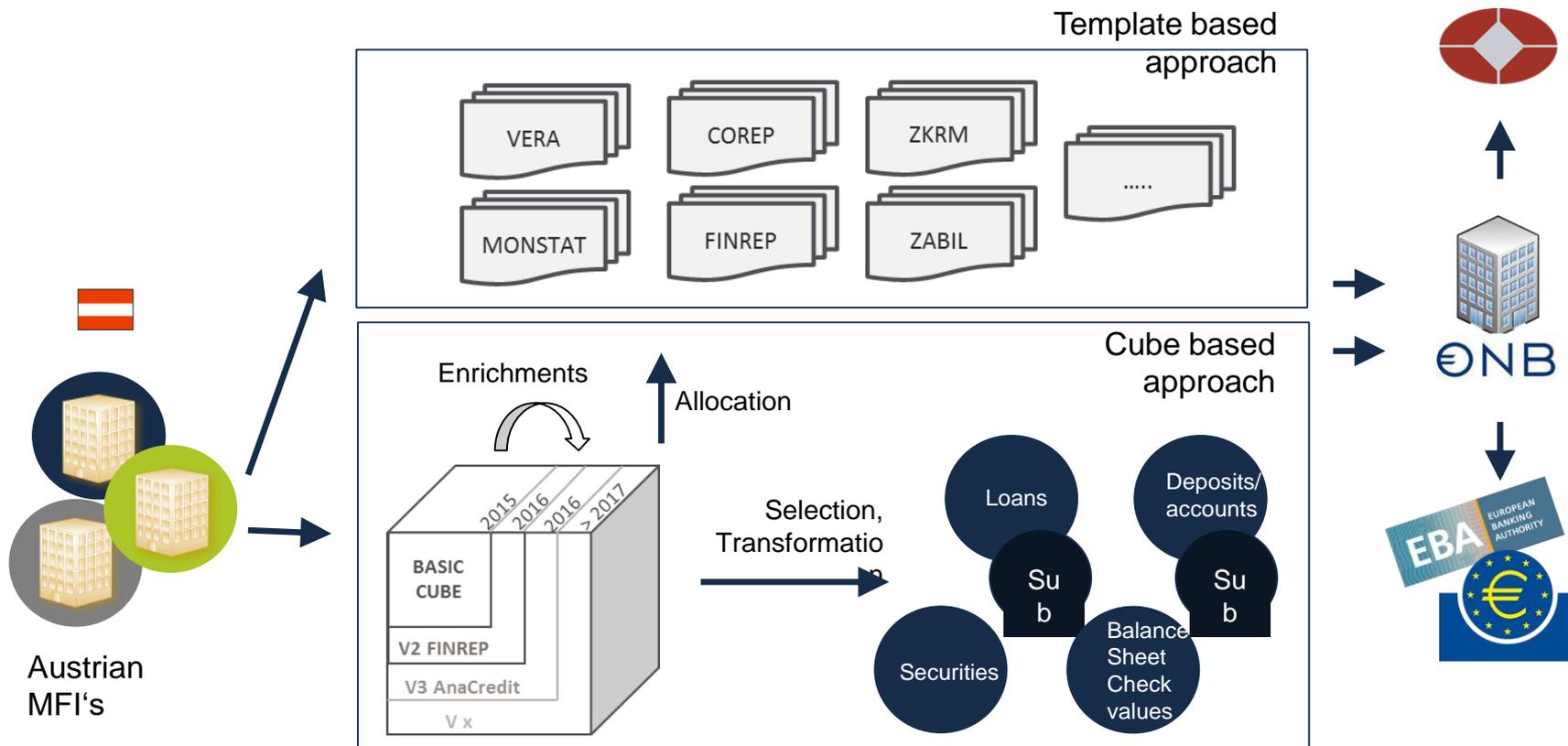


“They sent very good consultants from the beginning who really knew what our experts were talking about ... The goal was always very clear, and the way to reach the goal was very straightforward” major European Central Bank

Austrian regulatory data collection model

“The Austrian model ‘ensures consistent, and highly qualitative data, whilst ‘reducing the amount of checking we have to do... The big win for the banks is that they are not burdened with the problem of completing templates on many different topics’.”

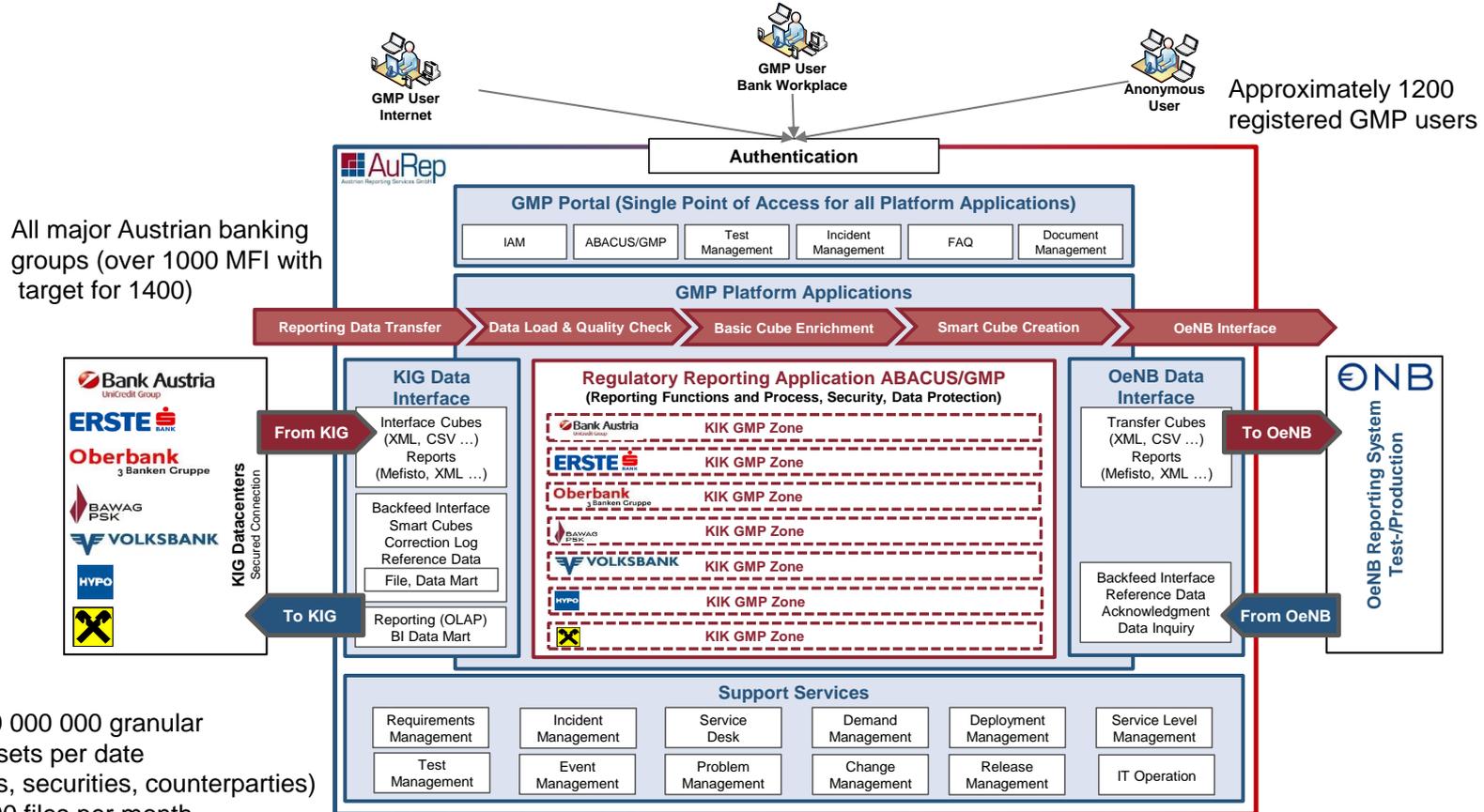
Johannes Turner, director of statistics at the National Bank of Austria (March 2015)



Largest regulatory data collection, aggregation and distribution factory worldwide

"ABACUS/GMP is still being rolled out, but the signs are positive so far. It works, it really works"
 Johannes Turner, director of statistics at the National Bank of Austria (December 2015)

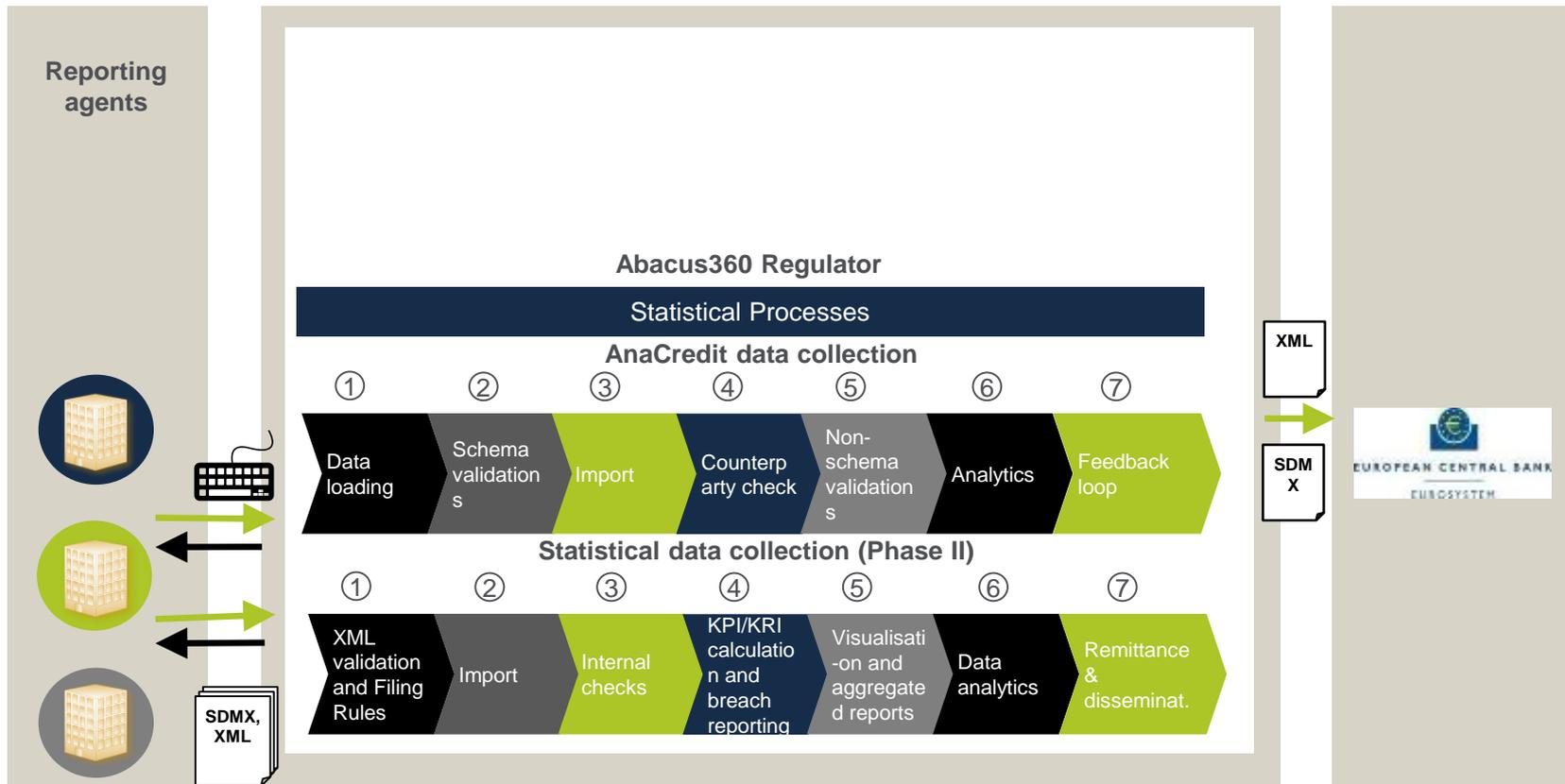
"... regulators still struggle with legacy systems, and the pace of reporting and monitoring modernization ... is often behind where it needs to be given the rate of growth with notable exceptions", G20 Global Partnership for Financial Inclusion



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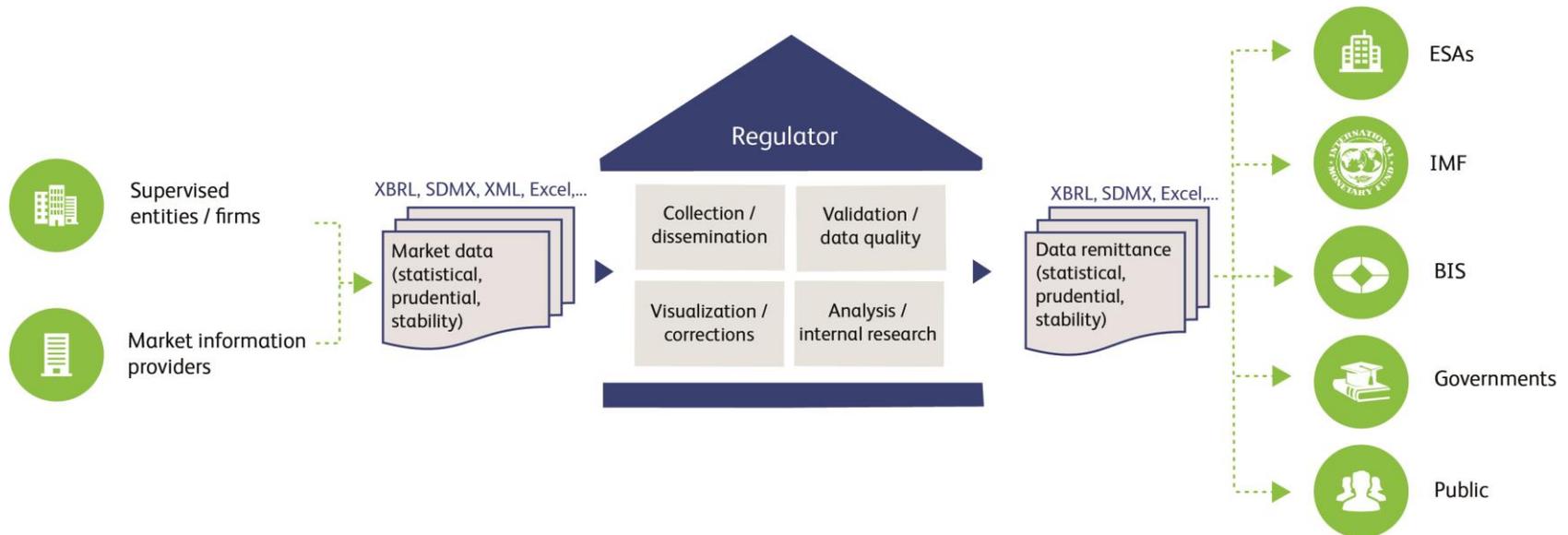
Abacus360 Regulator @ numerous regulators in Europe

Fully integrated solution for granular data collection and central credit register



Abacus360 Regulator

Integrated platform for collection, analysis and dissemination of supervisory and statistical data for central banks and regulatory authorities



BearingPoint®

Dr. Maciej Piechocki
Partner

BearingPoint
Speicherstraße 1
60327 Frankfurt

T +49 69 13022 6167
M +49 152 22860072

www.bearingpoint.com

maciej.piechocki@bearingpoint.com

<http://reg.tech>
#RegTech

National Bank of Rwanda

The new data collection system

Why an electronic data warehouse?

- Develop efficient and integrated data repository center
- Eliminate statistical inconsistencies
- Enable efficient data capture
- Enable efficient access to data and information
- Create environment for efficient data sharing
- Integrate data from multiple sources
- Develop centralized approach to data analysis and reporting
- Enable development and utilization of business intelligent tools and strategies

Addressed challenges of old reporting framework

Manual reporting (external stakeholders)

- Heavy resource requirements
- Time-consuming and inefficient
- High costs and information comes after reporting period

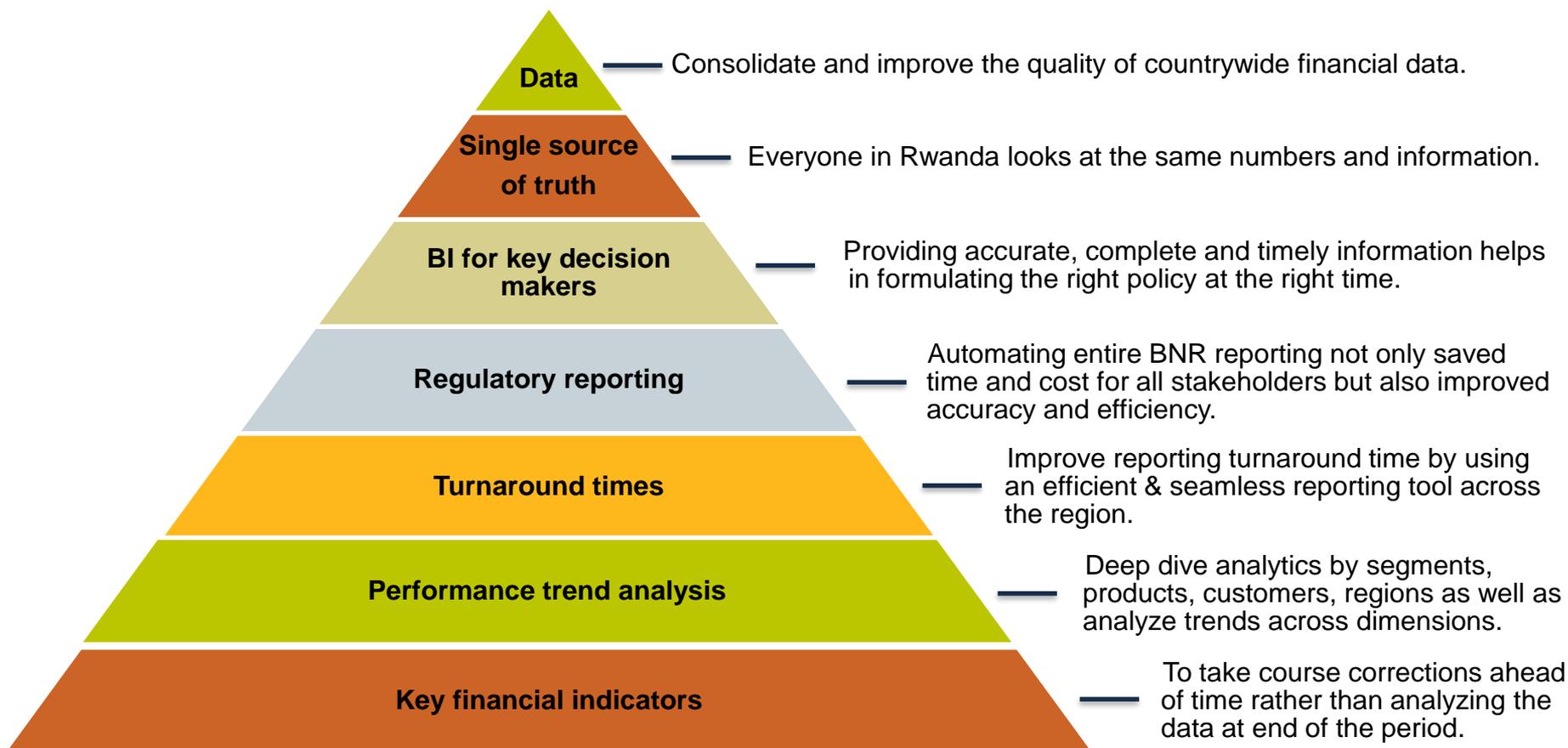
Data consolidation (NBR)

- Data spread across multiple systems
- Manual consolidation time consuming
- Data integrity issues

Regulatory reporting

- Central bank reporting manual and time-consuming
- High cost of errors, inaccuracies, audits, and compliance issues
- No audit trails in case of any manual reporting

Other benefits



Architecture

External Stakeholders



Banks
MFIs

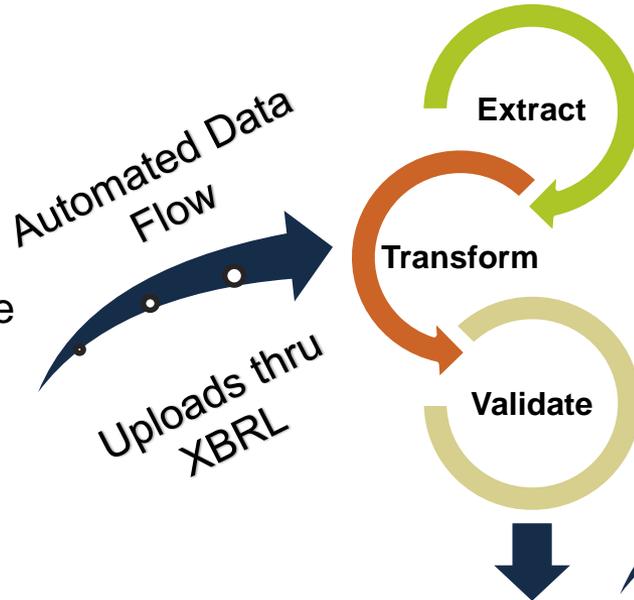


Insurance
FIs



MNOs
MTOs

Staging Area



Data Marts (HTML5)



Interactive
Dashboards



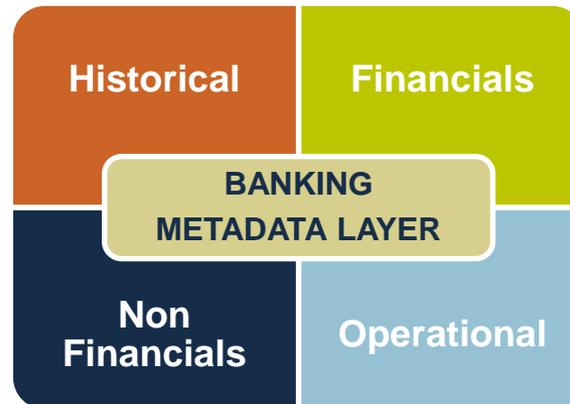
Report Suite



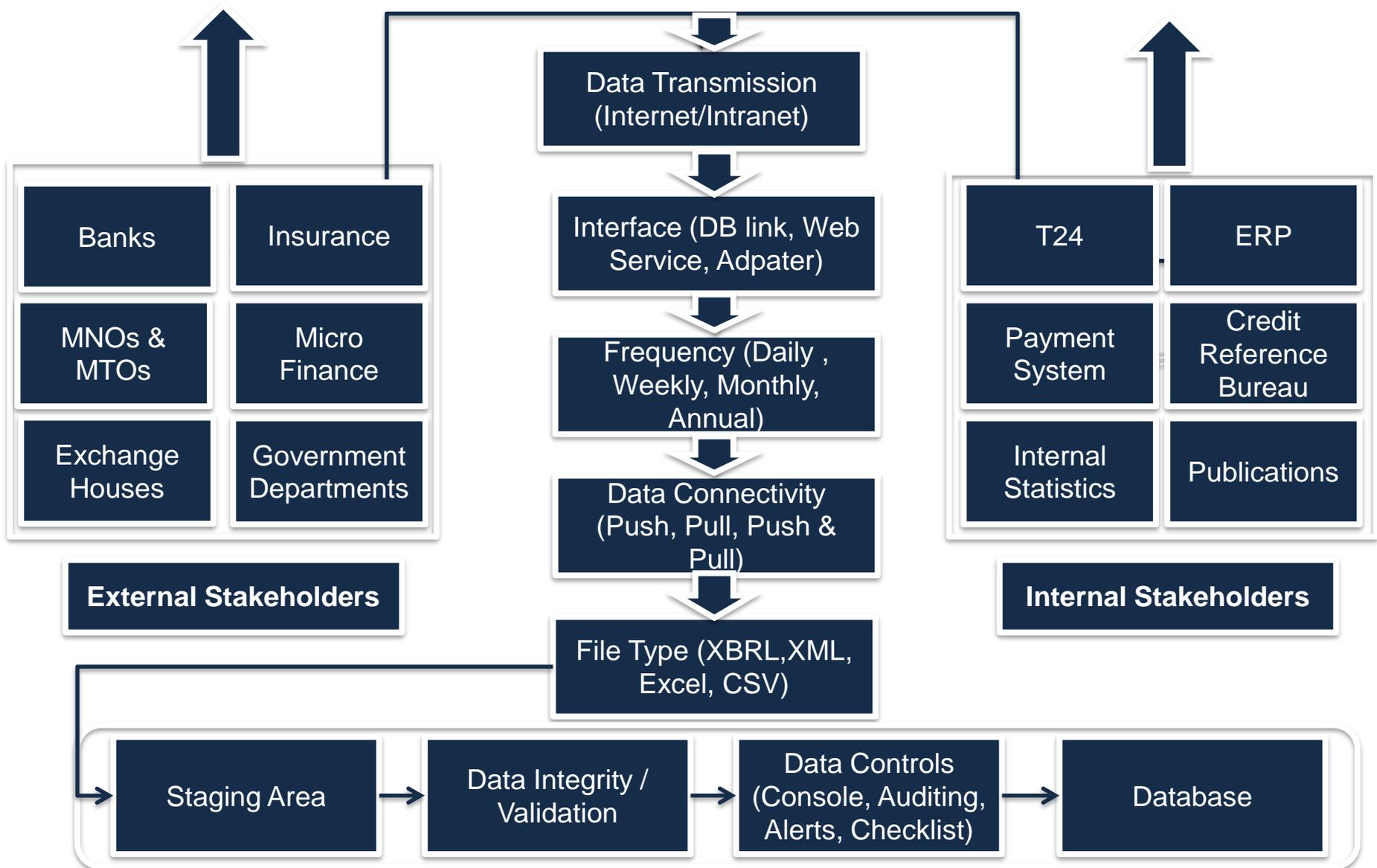
Catalogue



OLAP
Analytics



Data Flow ADF/Uploads Architecture and Components



Initial Requirements from External Stakeholders

- Name of core system
- Other applications
- Database type
- Network type
- Dedicated focal persons (here most institutions have nominated)

Type of Digital Financial Services Data

Sr No	Template_Name	Template_Description	Frequency	Template File Name
1	PAYAGENT	Payment Agent Info	Monthly	BNR Upload Format For MNO - Payment Agent v1.0.xlsx
2	NETWPERF	Network Performance	Monthly	BNR Upload Format For MNO - Operational Performance v1.0.xlsx
3	CHWAYFWD	Challenges WayForward	Monthly	BNR Upload Format For MNO - Challenges WayForward v1.0.xlsx
4	MNOCONPR	MNO - Consumer Protection	Monthly	BNR Upload Format For MNO - Consumer Protection v1.0.xlsx
5	MNOCUSACT	MNO - Cust Acct Summary	Monthly	BNR Upload Format For MNO - Cust Acct Summary v1.0.xlsx
6	MNOFRMGT	MNO - Fraud Management	Monthly	BNR Upload Format For MNO - Fraud Management v1.0.xlsx
7	MNOSUBGEN	MNO - Subscriber Gender Age	Monthly	BNR Upload Format For MNO - Subscriber Gender Age v1.0.xlsx
8	MNOTXN	MNO - Transactions	Monthly	BNR Upload Format For MNO - Transactions v1.0.xlsx
9	MNOTRUST	MNO - Trust & E-Platform Account	Daily	BNR Upload Format For MNO - Trust & E-Platform Account v1.0.xlsx

What's Next

Current status

- All MNOs now connected and data pulled on a daily or monthly basis.

Challenges

- Gaps in business processes leading to not capturing most important customer information (e.g., sender or receiver location).
- MIS gaps missing some important fields for KYC (e.g., gender).
- Initially poor coordination and ownership caused delays in implementation.

Next steps

- Data validation before complete cut off of manual reporting (by Dec 2018).
- MNOs to update core systems in order to capture KYC requirements.
- MNOs to automate business processes (e.g., complaint and fraud handling and management).

Thank you

To learn more, please visit
www.cgap.org

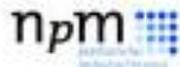


THE GOVERNMENT
OF THE GRAND DUCHY OF LUXEMBOURG

BILL & MELINDA
GATES foundation



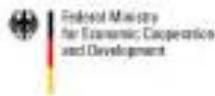
AGENZIA ITALIANA
PER LA COOPERAZIONE
ALLO SVILUPPO



Global Affairs
Canada



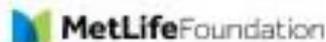
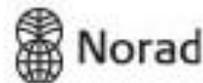
KUICA Korea International
Cooperation Agency



Ministry of Foreign Affairs of the
New Zealand



Australian Government
Department of Foreign Affairs and Trade



AUßERWÄRTIGEN ANGELEGENHEITEN
MINISTERIUM
Ministry of Foreign Affairs of Germany

