Session 1: The information model of the *Banco de Portugal*

João Cadete de Matos
Director, Statistics Department

II Meeting of the Financial Information Forum of Latin American and Caribbean Central Banks
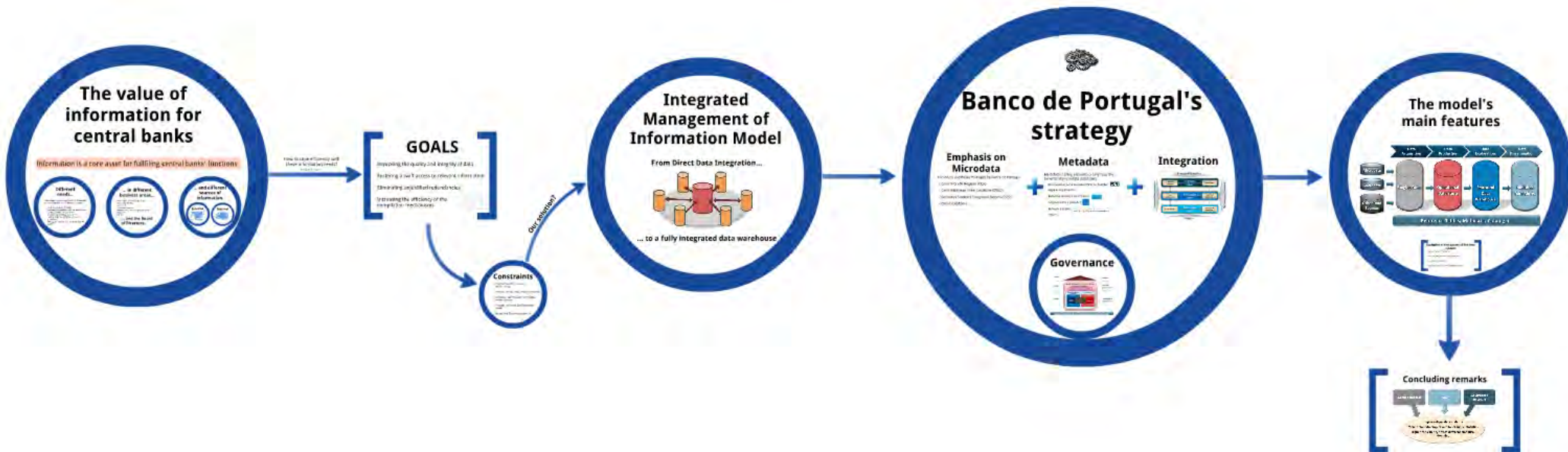
Lisbon, 4 - 7 May 2016

The information model of Banco de Portugal

1. The value of information for central banks

2. Integrated management of information

3. Banco de Portugal's strategy

4. The model's main features

5. Concluding remarks

The information model of the Banco de Portugal

The value of information for central banks

Information is a core asset for fullfiling central banks' functions

Different needs...

Information is necessary for the fulfillment of several central banks' functions, inter alia:

- Maintaining price stability
- Assuring the stability of the financial sector
- Acting as lender of last resort
- Supervising banking institutions
- Issuing and managing the currency in circulation
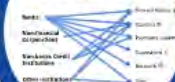- Managing the country's external reserve assets

... in different business areas...

- Banking Prudential Supervision
- Financial Stability
- Research
- Payment Systems
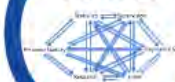- Markets and Reserve Management
- Statistics
- Other

... and the Board of Directors...

... and different sources of information.

External

Internal

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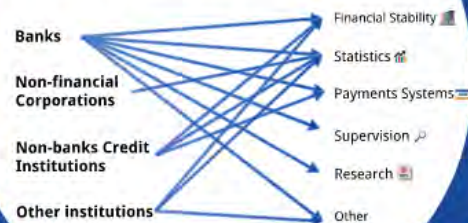- Managing the country's external reserve assets

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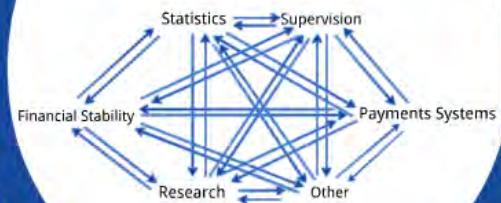- Markets and Reserve Management
- Statistics
- Other

... and the Board of Directors...

... and different sources of information.

External

Banks
Non-financial Corporations
Non-banks Credit Institutions
Other institutions

Financial Stability
Statistics
Payments Systems
Supervision
Research
Other

Internal

Statistics
Supervision
Financial Stability
Payments Systems
Research
Other

External

Banks

Non-financial
Corporations

Non-banks Credit
Institutions

Other institutions

Financial Stability 🏢

Statistics 📈

Payments Systems ▬

Supervision 🔍

Research 📊

Other

The value of information for central banks

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... and the Board of Directors...

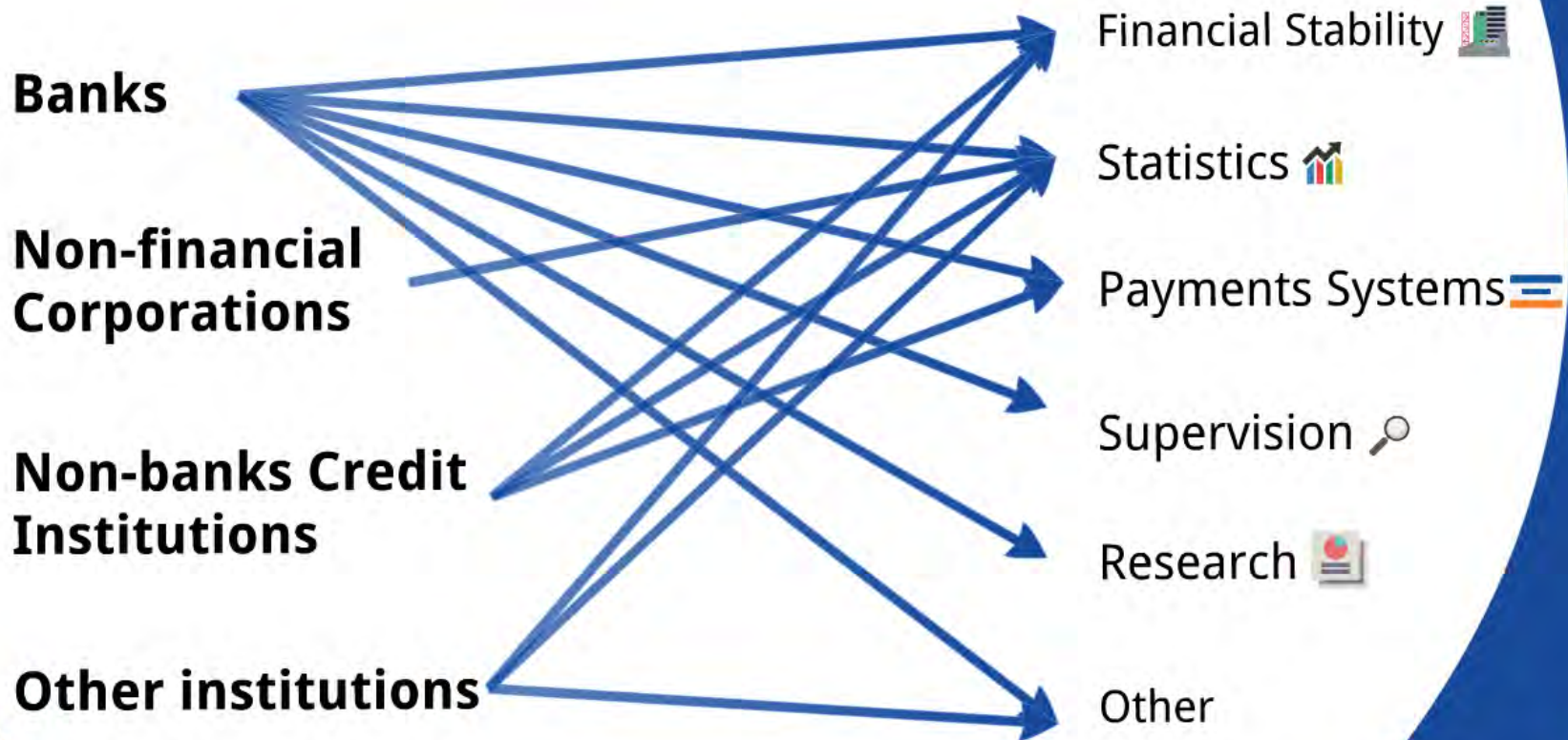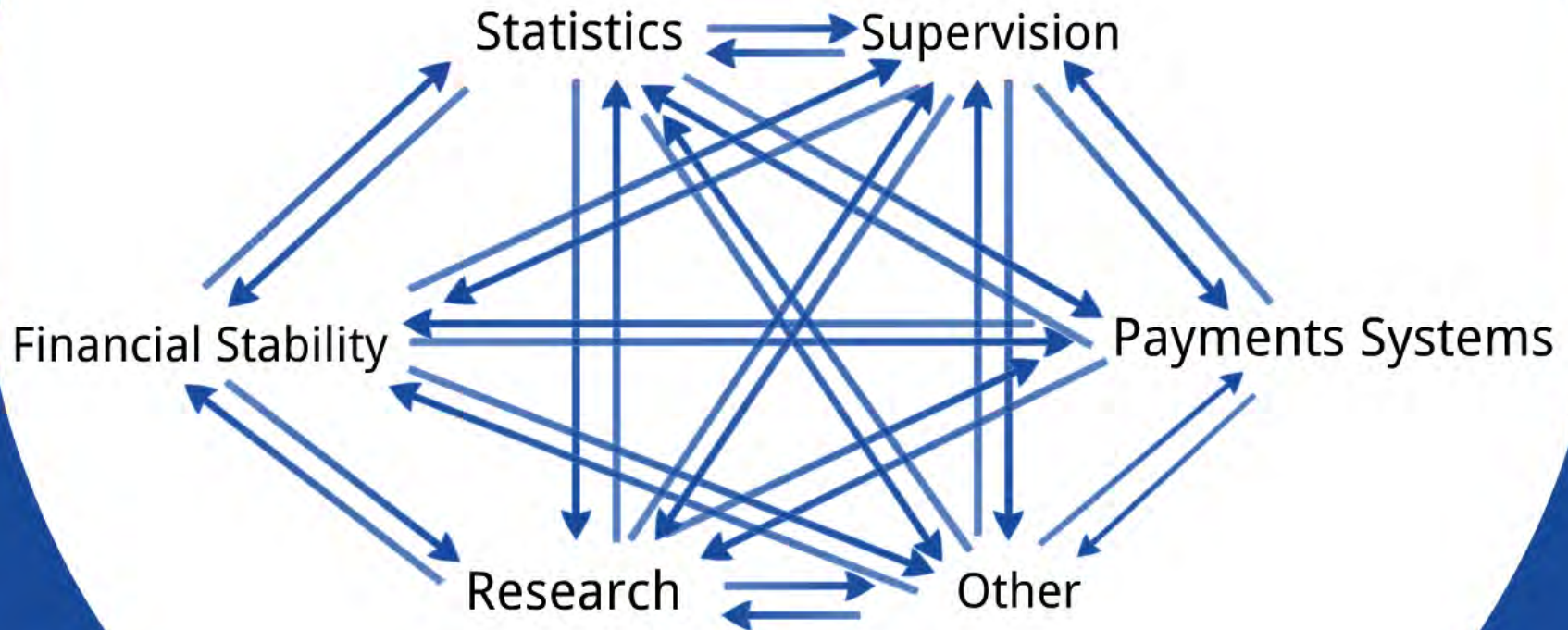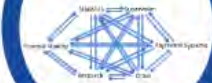## ... and different sources of information.

External

Internal

How to cope efficiently with these information needs?

Taking into account…

GOALS

Improving the quality and integrity of data

Fostering a swift access to relevant information

Eliminating unjustified redundancies

Increasing the efficiency of the compilation mechanisms

Constraints

- Ensuring the strict protection of confidenciality

- Meeting tight reporting deadlines flawlessly

- Attracting, retaining and training skilled human resources

- The traditional stovepipe information model

- Dealing with IT tools development

Our solution?

Integrated Management of Information Model
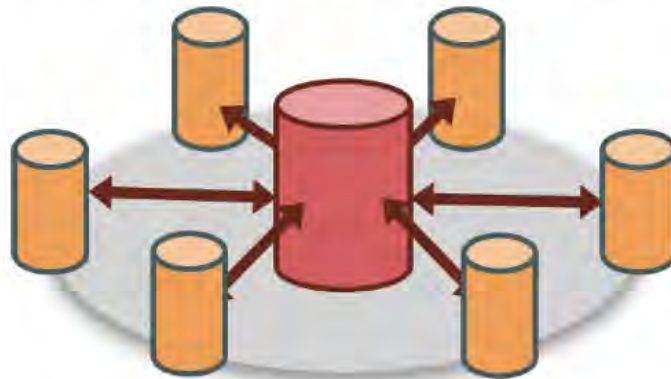
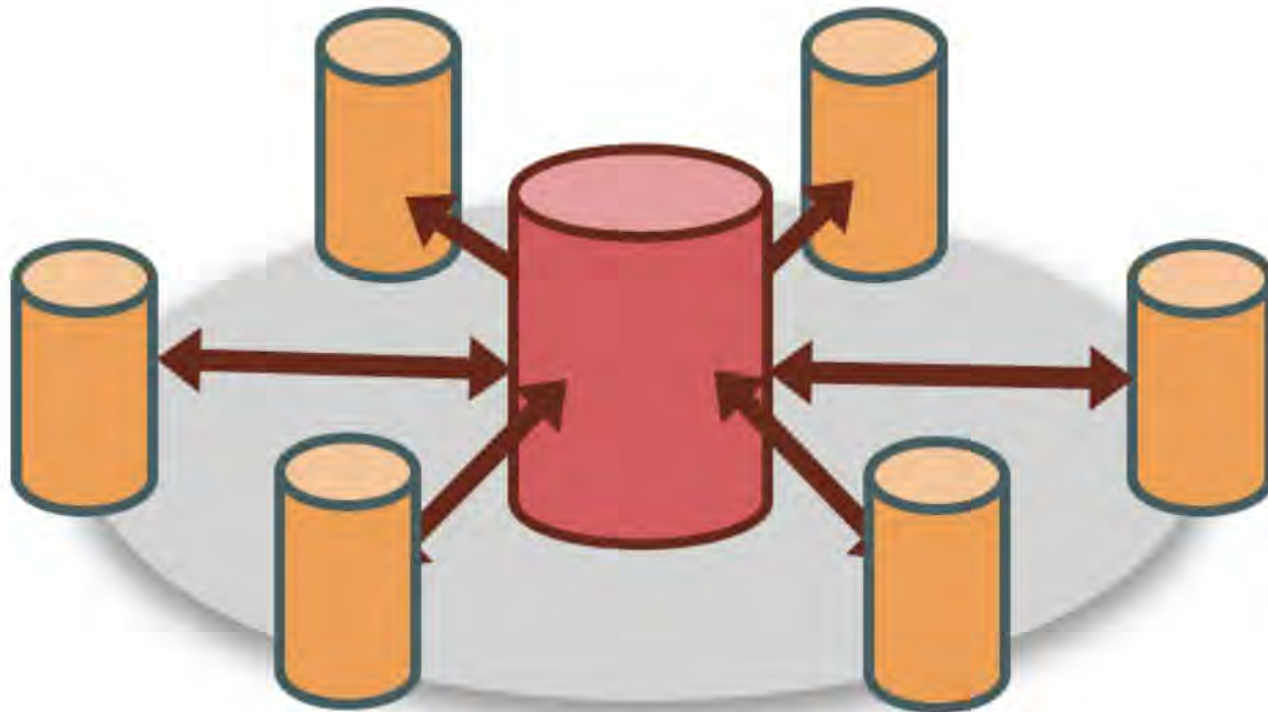**From Direct Data Integration...**

... to a fully integrated data warehouse

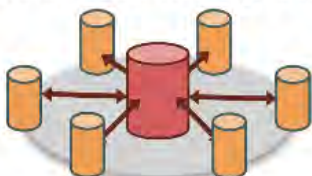# Information Model

From Direct Data Integration...

... to a fully integrated data warehouse

Banco de Portugal's strategy

Emphasis on Microdata

Microdata databases managed by Banco de Portugal

- Central Credit Register (CCR)
- Central Balance Sheet Database (CBSD)
- Securities Statistics Integrated System (SSIS)
- Other databases

Metadata

Metadata is a key element to fully reap the benefits of microdata databases

International Securities Identification Number ISIN

Legal Entity Identifier LEI

Economic Activity Classification CAE

Corporate Fiscal Number

Reference Tables

Other

Integration

Strategical Objectives
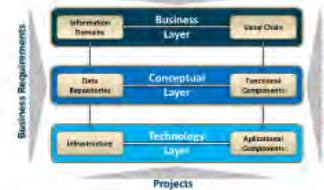
Information Domains — Business Layer — Value Chain

Data Repositories — Conceptual Layer — Functional Components

Infrastructure — Technology Layer — Aplicational Components

Business Requirements — Technological Evolution

Projects

Governance

Level 1 — Board — Decision

Level 2 — Strategic Coordination

Level 3 — Operational Coordination

Emphasis on Microdata

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Session 2. Sources and uses of information

Paula Casimiro
The road to integrate microdatabases

Emphasis on Microdata

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CCR

- 50 € reporting threshold
- 194 participating institutions
- 15 different types of loans
- 440 thousand corporations registered
- 7.4 million private individuals registered
- 20 million records reported per month

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CBSD

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SSIS

Issuances:
Stocks and flows relative to securities issued by resident entities, on a security-by-security and issuer-by-issuer basis

Holdings:
Stocks and flows relating to securities held by residents and non-residents, reported on an investor-by-investor and security-by-security framework
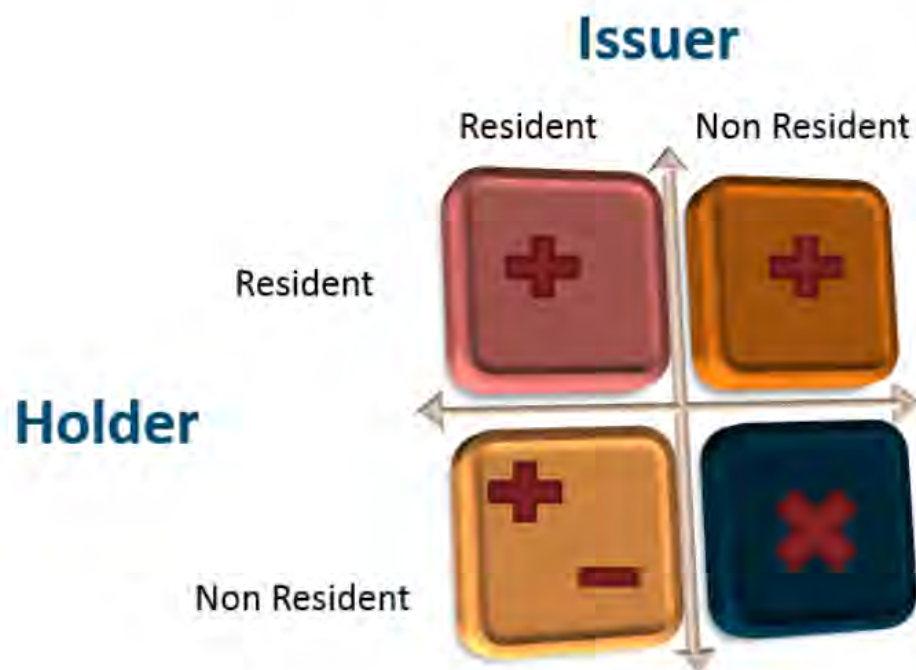
Banco de Portugal's strategy
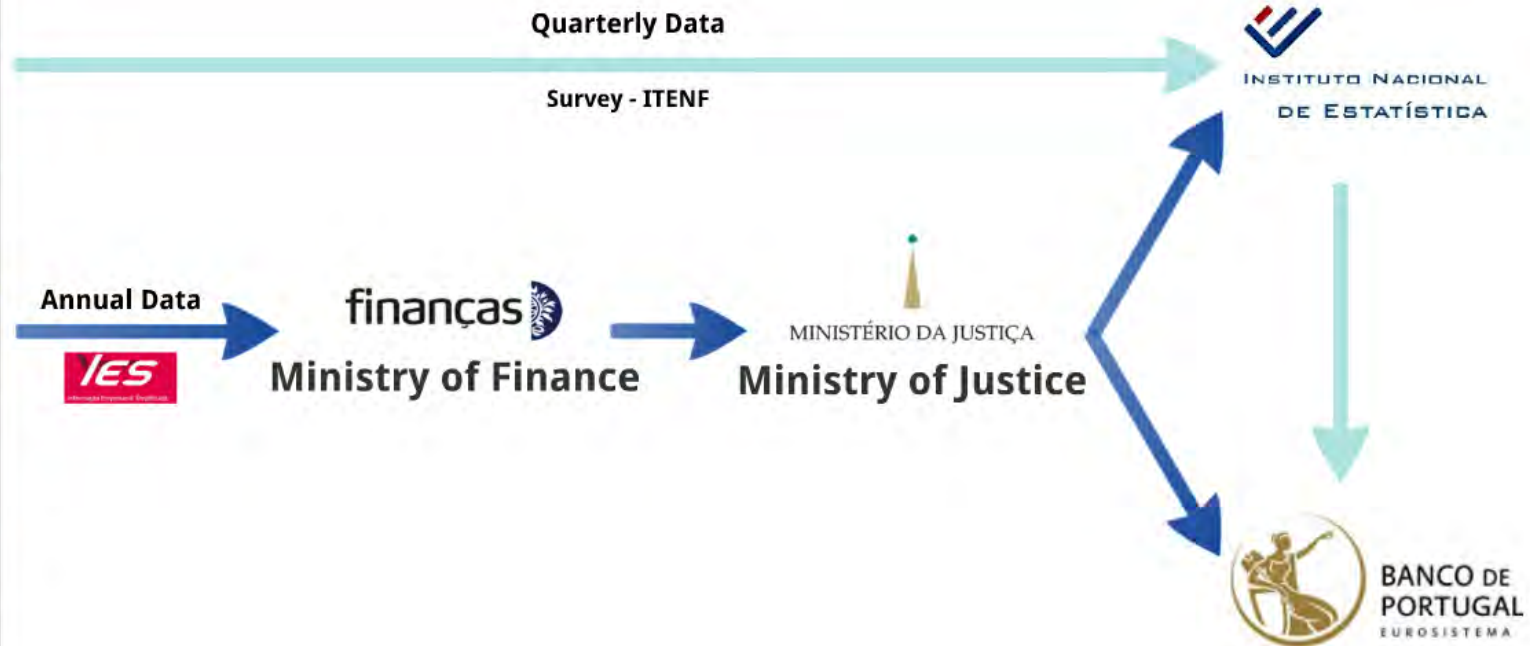
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Economic Activity Classification **SICAE**

Corporate Fiscal Number **NIF.PT**

Reference Tables *SPAI-Informação de Referência do BP*
SPAI - Bank of Portugal's reference information

Other

Session 3. Financial information management: standards, initiatives and best practices

Luís Morais Sarmento

The importance of business identifiers for economic and financial statistics

Metadata

Metadata is a key element to fully reap the benefits of microdata databases

International Securities Identification Number **ISIN**

Legal Entity Identifier LEI GLOBAL LEGAL ENTITY IDENTIFIER FOUNDATION

Economic Activity Classification SICAE

Corporate Fiscal Number NIF.PT

Reference Tables SPAI-Informação de Referência do BP
SPAI - Bank of Portugal's reference information

Other

Integration
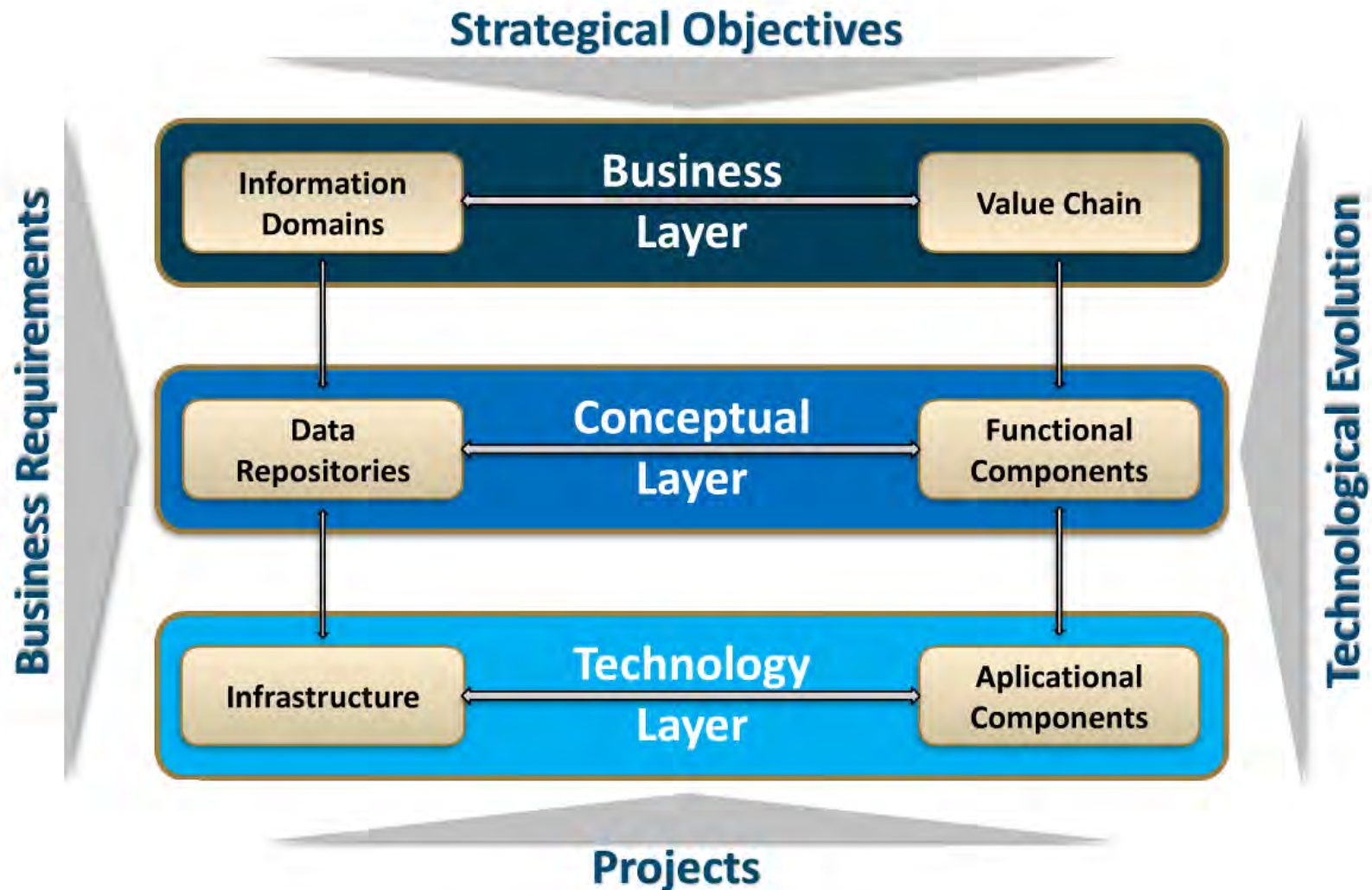
Special Session. Roundtable about the challenges in building national financial accounts

Filipa Lima

Challenges in building financial accounts

Governance

Level 1	Board	Decision
Level 2	Specialised Committee of Information and Technology Management / Strategic Management and Control	Strategic Coordination
Level 3	Integrated Management of Information — Statistics Department / Departments / IT Management — IT Department	Operational Coordination
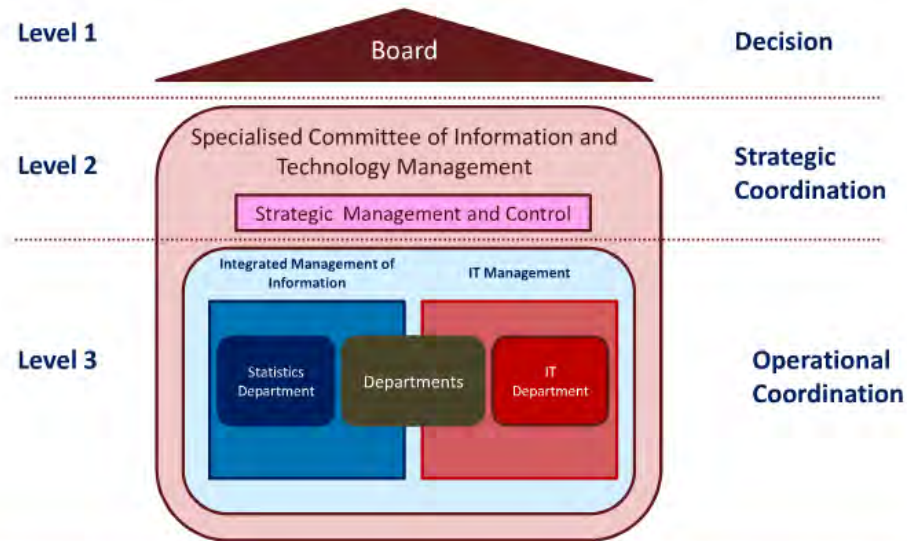
The Statistics Department is in charge of the operational management of information

Major tasks underlying the role of "operational management of information"

Coordinating and monitoring the processes of collecting quantitative information from external entities	Ensuring a central point of contact with external entities on the reporting of quantitative information	Monitoring the interaction and timely reporting of information to and from external entities
Analysing the changing needs of quantitative information identified by other departments	Ensuring the quality of information, defining indicators of its use and ensuring its relevance and auditability	Working in close cooperation with the IT department

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Working in close cooperation with the IT department

The model's main features
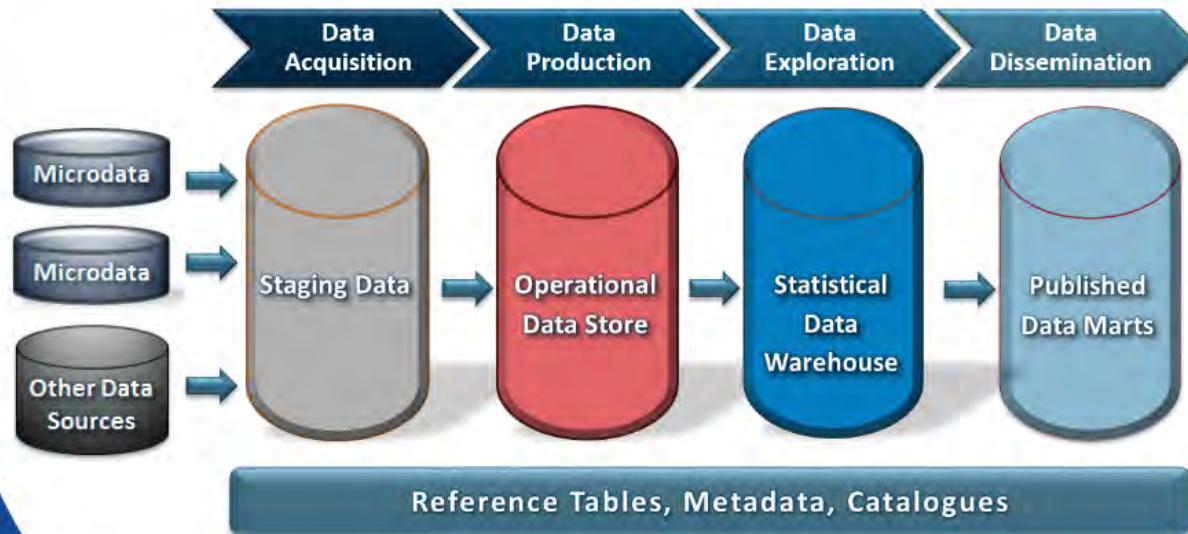
Data Acquisition → Data Production → Data Exploration → Data Dissemination

Microdata → Staging Data → Operational Data Store → Statistical Data Warehouse → Published Data Marts

Microdata

Other Data Sources

Reference Tables, Metadata, Catalogues

Examples of the sucess of the new system
- New statistical products
- Changeover to BPM6 and ESA 2010
- Adherence to SDDS+
- Self-service Business Intelligence (BI)

main features

| Data Acquisition | Data Production | Data Exploration | Data Dissemination |

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Data Dissemination

Session 4. Dissemination of Information

Luís Teles Dias

Boosting the accessibility to central banks' statistics

The model's main features

Data Acquisition → Data Production → Data Exploration → Data Dissemination

Microdata →
Microdata →
Other Data Sources →

Staging Data → Operational Data Store → Statistical Data Warehouse → Published Data Marts

Reference Tables, Metadata, Catalogues

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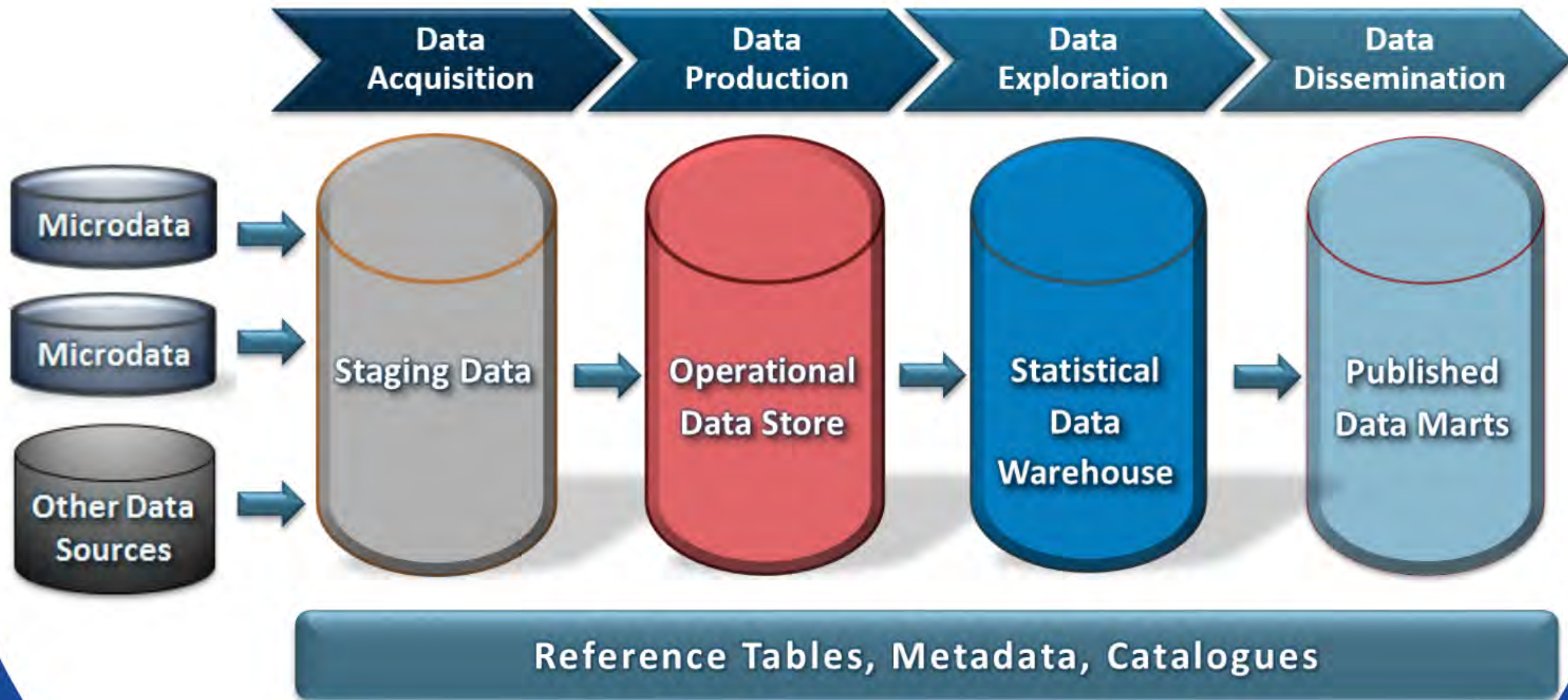
Examples of the sucess of the new system

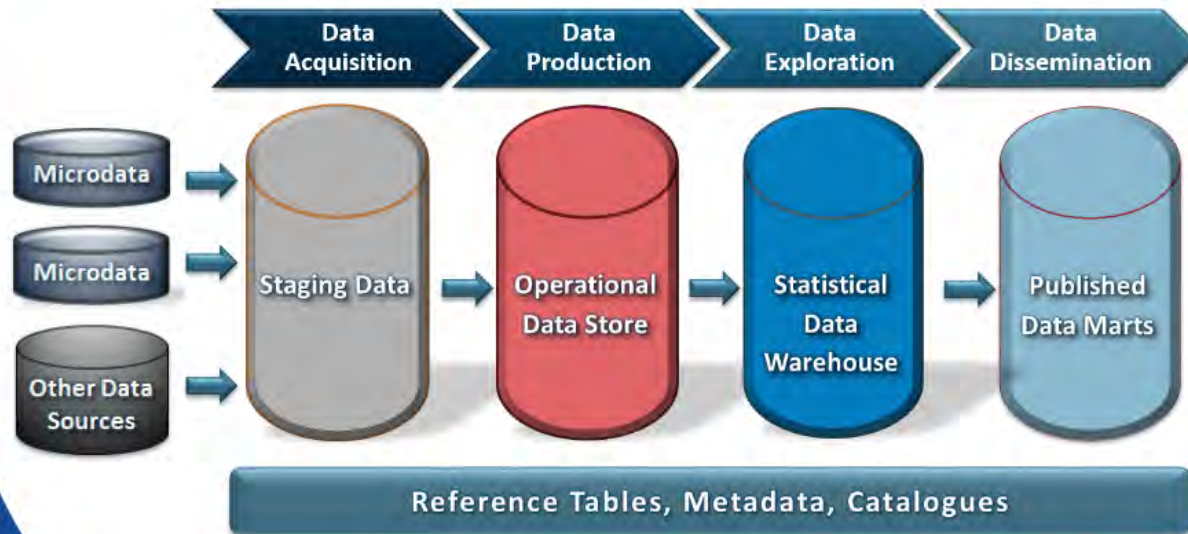- New statistical products

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February 2012

New chapter of the Statistical Bulletin on non-financial sector indebtedness

- Monthly data @ T+45 days
- New chapter to the Statistical Bulletin

NON-FINANCIAL SECTOR

Non-financial public sector

- General government (GG)
  - GG entities except corporations
  - Public corporations included in the GG
- Public corporations not included in the GG

Public corporations

Non-financial private sector

- Private corporations
- Private individuals

✓ **Monthly data @ T+45 days**
✓ **New chapter to the Statistical Bulletin**

Central Balance Sheet database

Central Credit Register

Sector of activity

Size of company

Creditor sector

Securities database

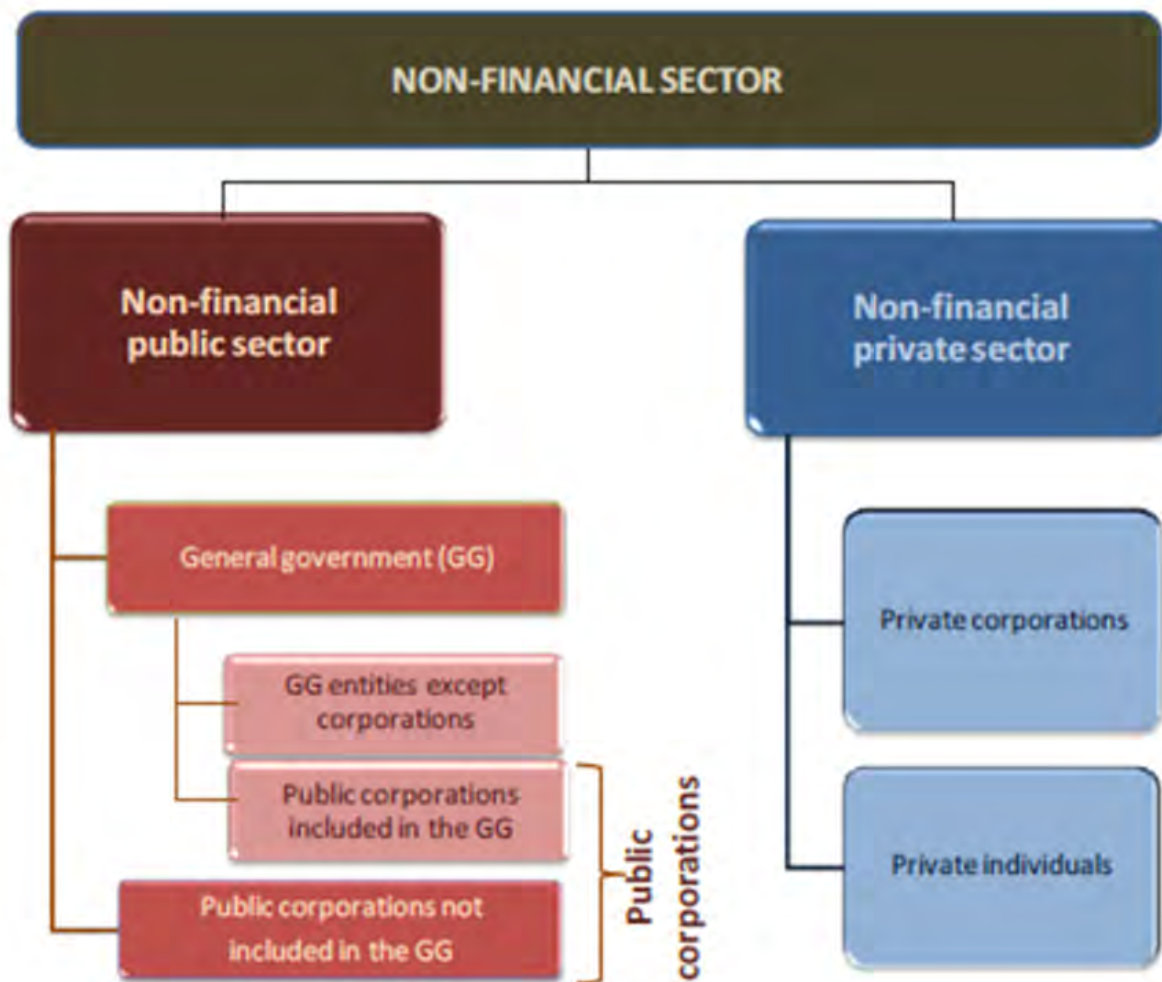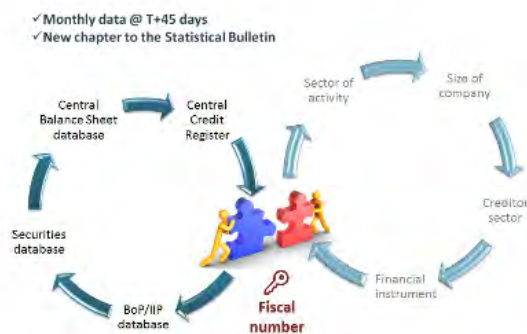Financial instrument

BoP/IIP database

Fiscal number

Examples of the sucess of the new system

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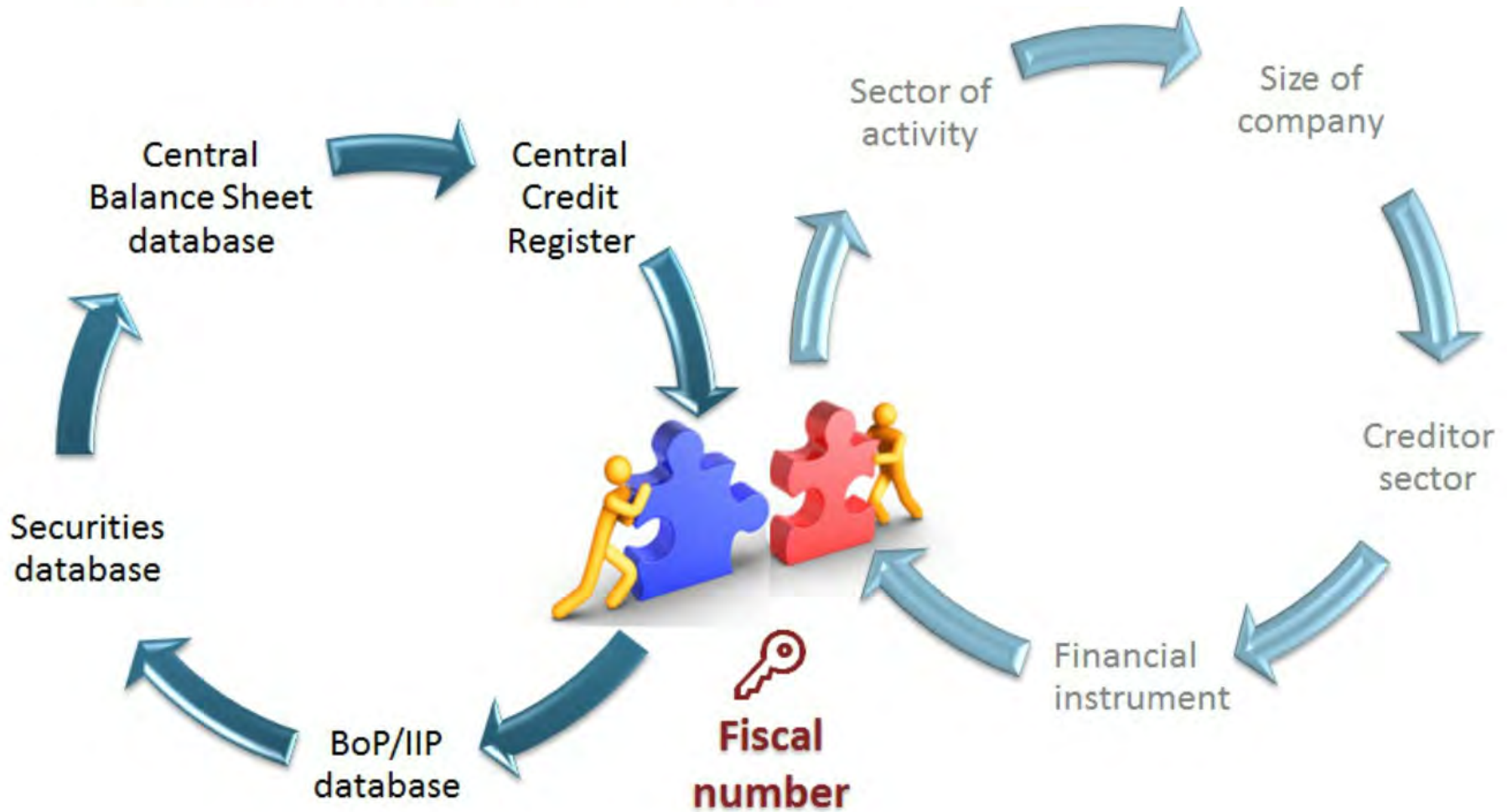- Adherence to SDDS+

- Self-service Business Intelligence (BI)

October 2014: New methodological manuals

European system
of accounts

ESA 2010

eurostat

Balance of
Payments and
International
Investment
Position Manual

Sixth Edition (BPM6)

STATISTICAL

PRESS RELEASE

BANCO DE PORTUGAL
EUROSYSTEM

No 11 • October 2014

Banco de Portugal releases new statistical series

Banco de Portugal publishes today new statistical series on the following domains:

- Statistics on non-monetary financial institutions, except insurance corporations and pension funds (Chapter B.8 of the Statistical Bulletin);

- Central Credit Register statistical information (Chapter B.9);

- Balance of payments and international investment position statistics (Chapter C);

- National financial accounts (Chapter F);

- Statistics on non-financial corporations from the Central Balance-Sheet Database[1] (Chapter G);

- Non-financial sector indebtedness (Chapter K).

The new series mainly result from the revision of international manuals – System of National Accounts (SNA2008), European System of National and Regional Accounts (ESA2010) and Balance of Payments and International Investment Position Manual (BPM6)[2].
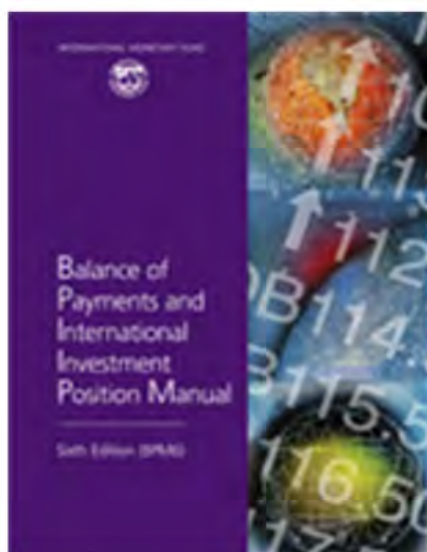
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November 2014: SDDS Plus adherence

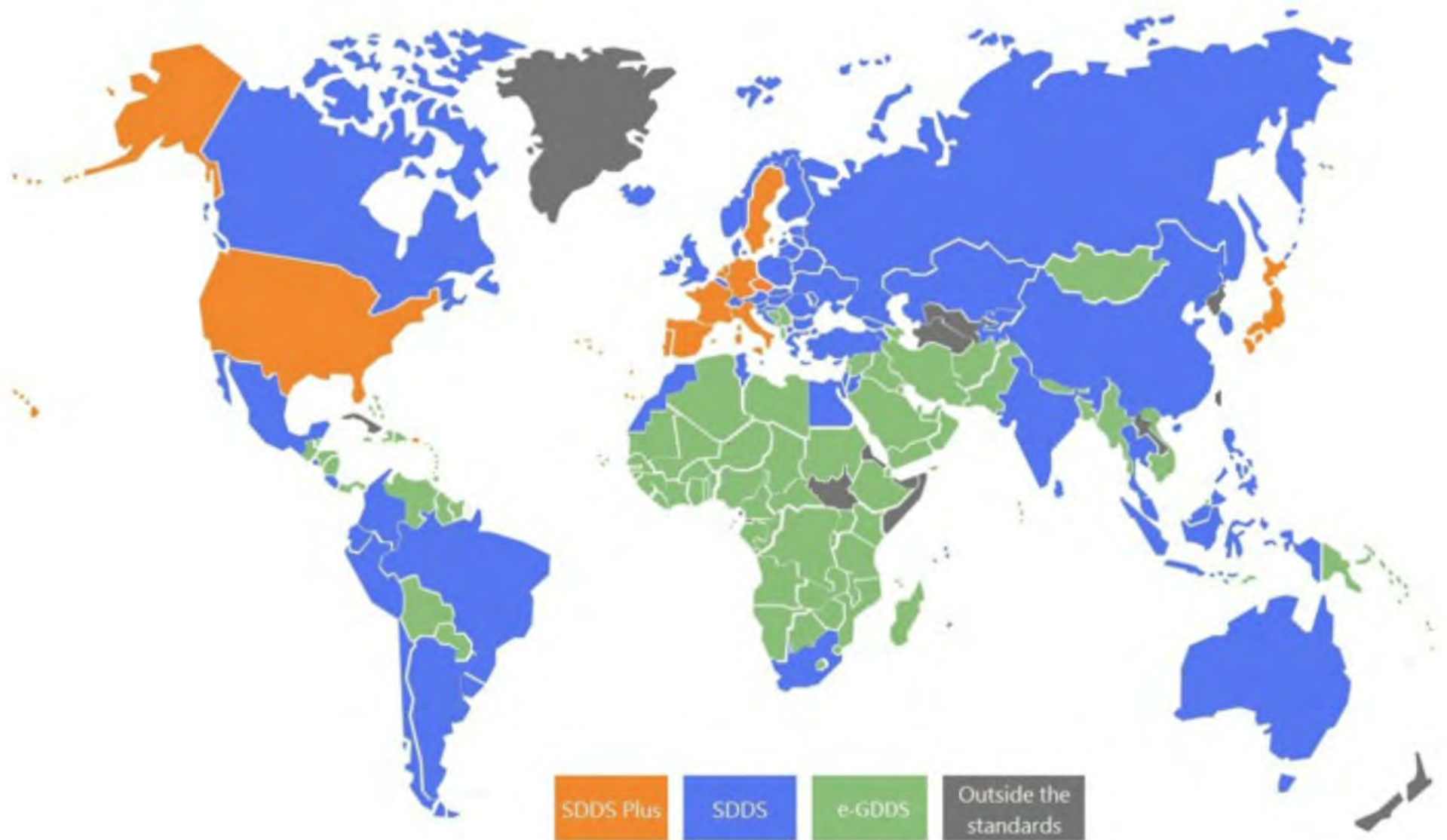# February 2015: SDDS Plus data transmission

International Monetary Fund

Portugal Adheres to the International Monetary Fund's Special Data Dissemination Standard Plus
Press Release No. 15/46
February 11, 2015

Portugal has completed the requirements for adherence to the International Monetary Fund's (IMF's) Special Data Dissemination Standard (SDDS) Plus—the highest tier of the Data Standards Initiatives.

Louis Marc Ducharme, Director of the IMF's Statistics Department, welcomed Portugal's adherence and noted that "the dissemination of the new data sets under the SDDS Plus will be invaluable in fostering a deeper understanding and assessment of the performance of Portugal's financial sector, the cross-border financial linkages of Portugal, and the vulnerabilities of the economy to shocks."

SDDS Plus	SDDS	e-GDDS	Outside the standards
10	64	110	
(5%)	(35%)	(60%)	

Source: http://dsbb.imf.org/Default.aspx

SDDS Plus - Reported categories
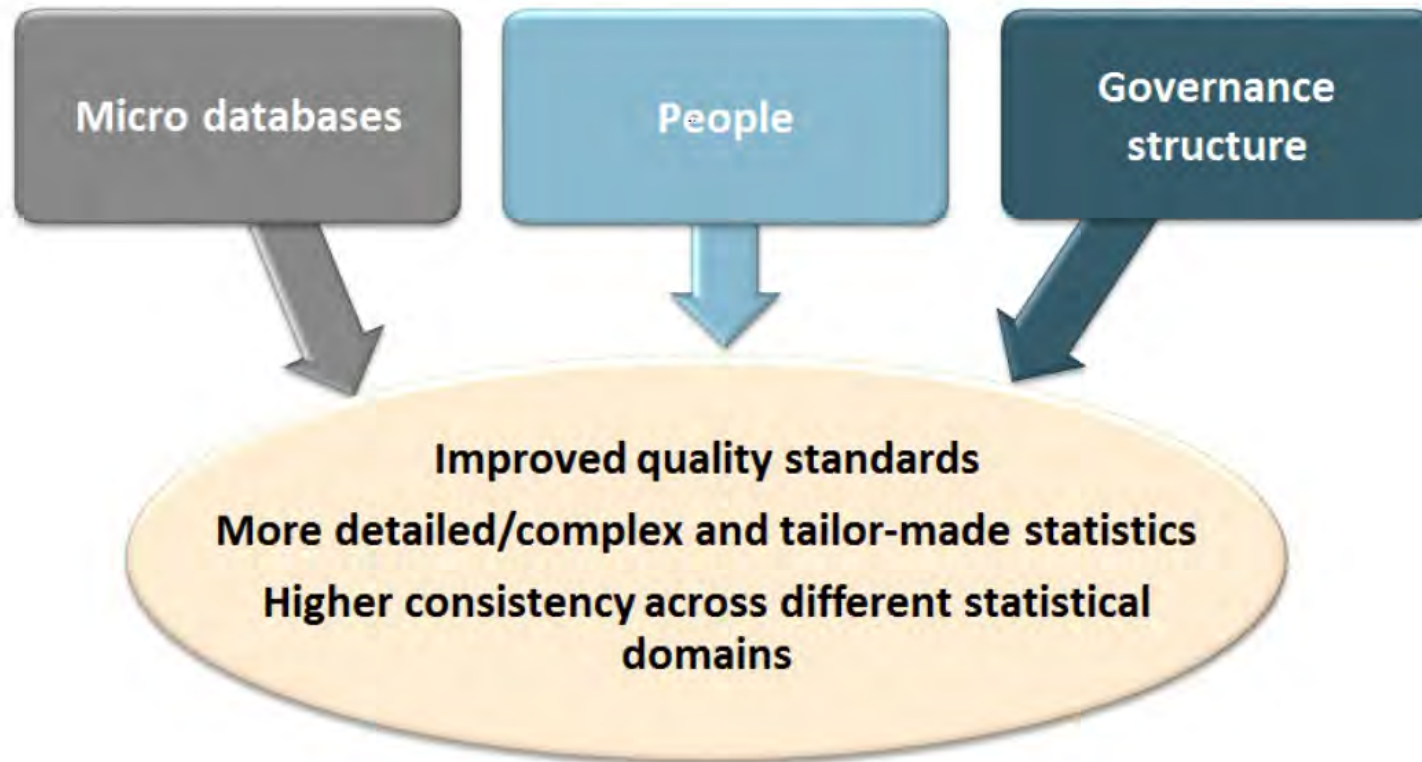# February 2015

| Categories: | 8 | 9 | 7 | | 6 |

Examples of the sucess of the new system

- New statistical products

- Changeover to BPM6 and ESA 2010

- Adherence to SDDS+

- Self-service Business Intelligence (BI)

Concluding remarks

Micro databases

People

Governance structure

Improved quality standards

More detailed/complex and tailor-made statistics

Higher consistency across different statistical domains

NOVA IMS
Information Management School

In partnership with:

BANCO DE PORTUGAL
EUROSYSTEM

With the support of:

EUROPEAN CENTRAL BANK
EUROSYSTEM

Irving Fisher Committee on Central Bank Statistics

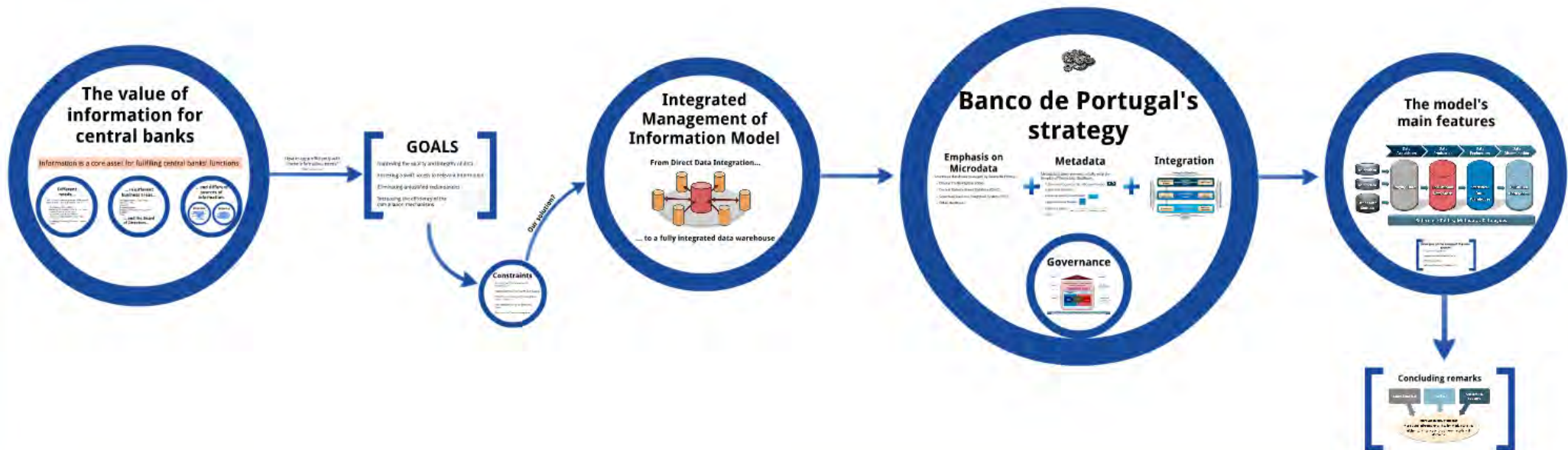**BANK FOR INTERNATIONAL SETTLEMENTS**

EMOS' Accreditation:

POSTGRADUATE PROGRAMME IN

Statistical Systems

specialisation in
Central Banks' Statistics

with access to
Master Degree Programme

The information model of the Banco de Portugal

Gracias por su atención

Thank you for your attention

João Cadete de Matos

jcmatos@bportugal.pt