BIS Pipeline

Bank for International Settlements Analytics

Enabling Advanced Insight into
Global Financial Stability through
Data Pipeline Automation

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Overview

BIS Pipeline
walkthrough

- **Opportunity** – background and problem

- **Solution** – purpose and approach

- **Architecture** – ecosystem and data flow

- **BIS Database Design** – Entity Relationship
  Diagram (ERD)

- **Non-Functionals** – Security, Data Integrity,
  Monitoring/Logging, and Scalability

- **Demo**

- **Wrap-up** – gaps and extensibility

Opportunity

Background and
problem statement

The **Bank for International Settlements (BIS)**

- international "bank for central banks" supporting worldwide monetary and financial cooperation

BIS publishes a "gold mine" of data

- statistics, rates, and metrics informing analysis of global financial stability and liquidity

- "domains" include banking, currency, debt, derivatives, credit, property, consumers, markets

Automation and data structure can **accelerate analytical leverage** of BIS information
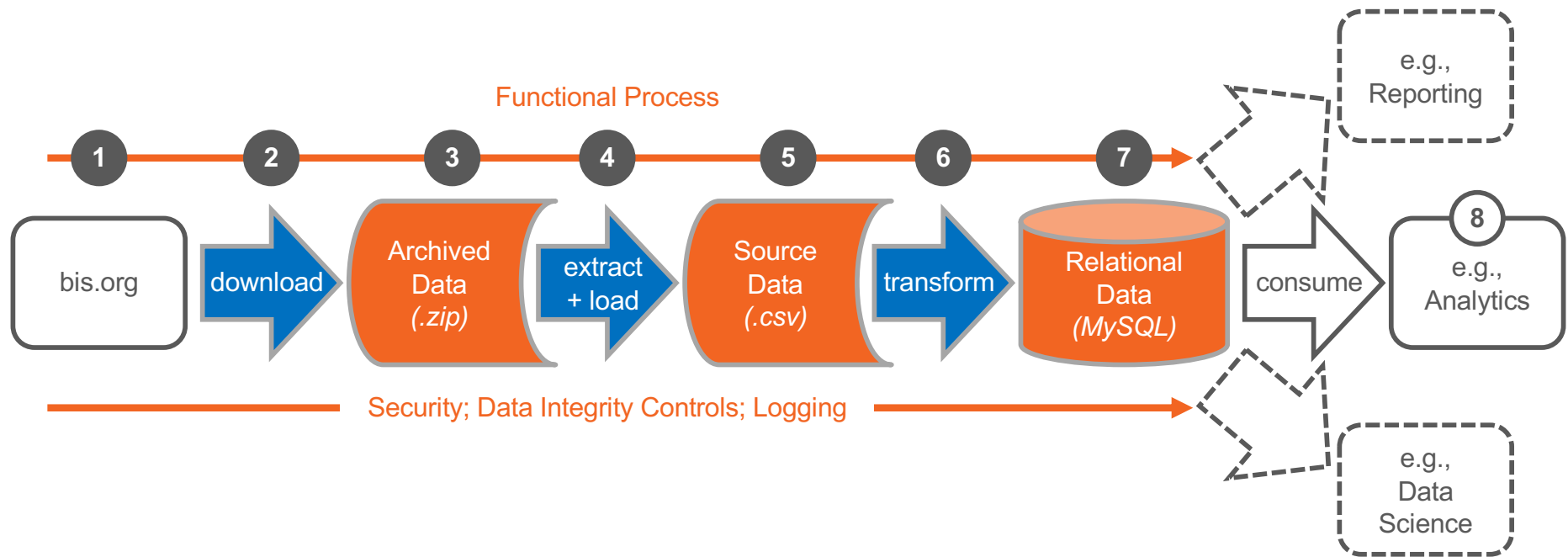
Solution

Purpose and approach

BIS Pipeline provides a **production-ready, automated data pipeline** to extract, load, transform, and persist select BIS datasets to a relational database for analytical "consumption"

Data surfaced through baseline BIS Pipeline **include US dollar exchange rates** (monthly, quarterly and annual)**, consumer prices,** and **policy rates** (monthly)

BIS Pipeline is **built on Python and MySQL** and **automated through Windows** (by default)

Architecture
Ecosystem and data flow

Functional Process

1 2 3 4 5 6 7

bis.org → **download** → Archived Data *(.zip)* → **extract + load** → Source Data *(.csv)* → **transform** → Relational Data *(MySQL)* → consume → e.g., Analytics (8)

e.g., Reporting

e.g., Data Science

Security; Data Integrity Controls; Logging

BIS Database Design
Entity Relationship Diagram (ERD)

Non-Functionals

Security, Data Integrity, Monitoring/Logging, and Scalability

[. . .]

Demo

Wrap-up

Gaps and extensibility

[. . .]

Thank you!