Irving Fisher Committee on
Central Bank Statistics

BANK FOR INTERNATIONAL SETTLEMENTS

Eighth IFC Conference on *"Statistical implications of the new financial landscape"*

Basel, 8–9 September 2016

From the business process to the stress test - EIOPA data governance concept[1]

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[1] This paper was prepared for the meeting. The views expressed are those of the author and do not necessarily reflect the views of the BIS, the IFC or the central banks and other institutions represented at the meeting.

From business process to stress-test

EIOPA Data Governance Concept

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Abstract

Implementing secure, trustful (high quality) and efficient data governance framework adaptable to permanently changing environment was recognised in 2011 by EIOPA as the strategic objective, enabling delivery upon its mandate defined in the founding regulation[1]. To deliver against this objective, the Authority decided to implement data governance concept based on the business process management approach. The case study presents strategic choices made to define the end-to-end data governance concept, which successfully passed its exam allowing for the fast-performing impact analyses across the insurance sector in EU in response to the unexpected BREXIT vote, basing on the data collected to the Central Repository a few days earlier.

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[1] EIOPA is part of a European System of Financial Supervisors that comprises three European Supervisory Authorities, one for the banking sector, one for the securities sector and one for the insurance and occupational pensions sector, as well as the European Systemic Risk Board. For more information, please see: https://eiopa.europa.eu/

1. Approach followed

The data governance concept was to provide a framework of plan and initiatives, to ensure that EIOPA derive strategic value from IT and data related investment in the short-term, mid-term, and long-term. Unlike tactical or project plans, which focus on detailed operational, day-to-day actions, strategic Data and IT planning involved making decisions about desired future outcomes, how to achieve these outcomes, how to measure them and evaluate their success.

EIOPA data governance concept was defined basing on recognition that it has to enable secure, trustful (high quality) and efficient framework adaptable to permanent changing environment. The business process management approach[2] was chosen to formulate the design and requirements for the implementation. With involvement of the key EIOPA business users and working groups composed of the subject matter experts of the National Competent Authorities (NCA), the core business process map was developed[3] providing sufficient information on the core processes consuming data to deliver upon EIOPA's mandate defined in its founding regulation. The EIOPA Data & IT Strategy report included definition of data assets to be provided to EIOPA as justified by the purpose of the specified need and identified via documented business process. This level of detail allowed for mapping of the EIOPA Business Strategy through the **business processes** defined for the whole enterprise, providing evidence for supply of a granular data to be re-used via various processes and for the extensive range of the EIOPA's deliverables.

To support the core business processes, the common rules and the processes enabling data collection and dissemination, viewed from an information technology aspect, were defined.

The EIOPA business processes description aimed to directly lead to corresponding functional and non-functional requirements, providing an overview of general rules, common processes and supportive mechanisms applicable to all domains of the EIOPA data collection and management. This approach still assists in the ongoing analysis of the processes and permanent conversion to functional and non-functional specifications and their implementations.

2. Conclusions underlying data and IT design

In this context, a range of strategic concerns had been explored leading to the conclusions justified case by case from business or technological perspective. Politically driven objectives or country reasoned positions were not included in the

[2] Business process management (BPM) is a systematic approach to making an organization's workflow more effective, more efficient and more capable of adapting to an ever-changing environment. A business process is an activity or set of activities that will accomplish a specific organizational goal. It treats the organisation as the one organism, where the business processes are standardised, reused and permanently improved with high awareness of the cross-functional dependencies and information (data) flows processed within the whole ecosystem.

[3] Business process mapping refers to activities involved in defining what a business entity does, who is responsible, to what standard a business process should be completed, and how the success of a business process can be determined.

justifications, however the concerns made were presented in the reports even if the justification provided with the opposite final conclusions.

The following leading conclusions were developed during the project:

1. EIOPA should maintain centralised, trustful and secure database.

There was a strong need justified by both IT Strategy and Data Specification reports, to maintain a centralised, trustful and secure database, providing with the scope of data needed to perform EIOPA tasks (all data assets were listed in the Data Definition annex).

The register should be the basic building block for the EIOPA database, meaning that all other data or information asked by EIOPA to NCA on an individual undertaking basis should be possible to interlink with the register.

EIOPA should be the information hub for supervisory data within the EU and it will be the keeper of the centralised database for insurance data;

2. EIOPA should collect non-aggregated data.

As stated in the defined EIOPA core processes there was an individual data need to perform particular EIOPA's tasks as described in EIOPA regulation. EIOPA would need firm level data in all its competence areas.

Following Board of Supervisors expectation expressed in March and June 2011 meetings, to assure consistency of reporting requirements across different EIOPA core processes, and to avoid reporting requests duplications, no additional structural requests for data from group supervisors was foreseen. This data need was to be covered by standard reporting based on EIOPA database.

It was underlined that EIOPA will not need a database solely for its own use, as the database covers reference data for the working of colleges, some of the content of the database had to be external facing to NCAs as well.

Furthermore, for future submissions of aggregates to ESRB on a timely basis individual firm level information would be needed from NCAs. After extensive consideration how EIOPA could conduct its tasks of supporting ESRB on the basis of non-firm identifiable (i.e. aggregates with dispersions etc.) information, this had been seen as unfeasible in terms of timing and quality unless EIOPA had been receiving firm level data.

3. Non-anonymised undertaking level data should be transmitted to EIOPA to support EIOPA core processes.

It should also be borne in mind that the report from the Joint Group on Data Requirements identified what data it was envisaged would be required by ESRB once harmonised reporting is in place. The requirements to break down data not only by country but **by sectors and types of undertaking**, and provide dispersion measures, means that this cannot be done without individual undertakings' data being analysed.

Transmission of individual data based on the Solvency II reports was considered cost efficient from the NCAs point of view. The collection costs of NCAs submitting aggregated or partial Solvency II data to EIOPA were considered to be higher as design, implementation and maintenance of additional aggregation and validation rules need to be applied.

Non in contradiction of the above, as for some core processes the need for data was more uncertain at this stage (e.g. policy area for updating SII, and for Pension area) the change management procedure should be introduced to permanently verify and update data requirements and specification.

4. Harmonise reporting data formats and data validation rules are necessary for efficient data management process.

Having in mind Board of Supervisors March 2011 decision on XBRL format and IT Strategy conclusions on data quality it was clear that all NCAs have to be in a position to accept submissions from undertakings in XBRL format. That XBRL format would include specified validations which the data has to satisfy to ensure the integrity of the data. Furthermore, it was recognised that many undertakings (not just small undertakings, although that tended to be the focus of attention) had no expertise in XBRL, hence the proposal to develop a supporting IT tool.

In terms of supervisory authorities, it was recognised in proposing XBRL that there would be a potential cost to NCAs in having to process data received in that format. However it explicitly did not rule out NCAs using existing interfaces or alternative data submission methods in addition to the capability to receive and process the harmonised XBRL files. In the discussions leading up to the paper, it was made clear that if NCAs did use alternative data interfaces, those interfaces should output the data in the harmonised format, and the data should be processed as if it was a direct submission of the harmonised data. This would ensure that the data would be of the same quality, no matter how undertakings actually provided it or how the NCA received it.

Another reason that using a consistent submission format was recommended was that it potentially would make data sharing with EIOPA more efficient/cost-effective (as this sharing could be automated once the data had passed the minimum standards and would go on the NCA's database).

The IT Strategy recommended that the use of XBRL as a mandatory technical standard for the exchange of data between Undertakings and NCAs and between NCAs and EIOPA should be approved. With this harmonisation, it was possible for EIOPA to develop a common tool, whose scope is restricted to harmonised reporting[4]. Even then, after EIOPA develops the tool for harmonised reporting, an NCA (at their own cost), should be able to separately extend the EIOPA tool to support national specifics and distribute the modified tool in the NCA domain. Additionally, with this harmonisation, it should also be possible for an NCA to develop a tool capable of supporting both harmonised and national specific reporting.

The detailed reasoning including of XBRL Taxonomy impact analysis was provided with the IT & Data Strategy Report.

5. EIOPA should start Central Repository implementation project.

It was decided that the database implementation project should start as soon as possible following principles and methodology foreseen in the EIOPA Data & IT Strategy.

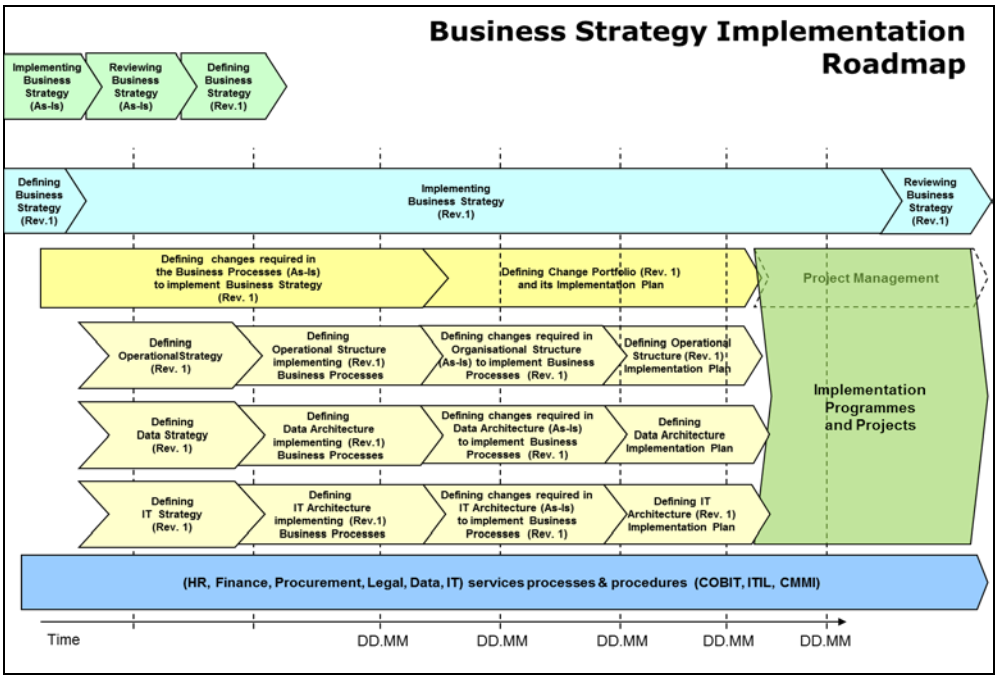
[4] The Tool for Undertaking has been already developed and released by EIOPA; up to date it is being used by the reporting agents.

3. Implementation project roadmap

The Box 1 illustrates the roadmap targeting with initiation of the Implementation Programme. It assumes regular cycle of the business processes analyses to identify and scope changes justified and accepted for implementation.

Box 1

Business Strategy Implementation Roadmap



4. Central Repository design

The Data Collection and Dissemination process defined at the earlier stage allowed for defining of data domains within the Central Repository leading to corresponding functional and non-functional requirements and presenting an overview of general rules, common processes and supportive mechanisms applicable to all domains of the EIOPA data collection and management. This approach is assisting in the permanent analysis of the processes and conversion to functional and non-functional specifications till today.

The IT & Data Strategy formulation process reviewed EIOPA's business processes map, and grouped these into the business capabilities requirement for IT & data enablement, as the following table sets out:

EIOPA business capabilities requirement for IT enablement	Table 1

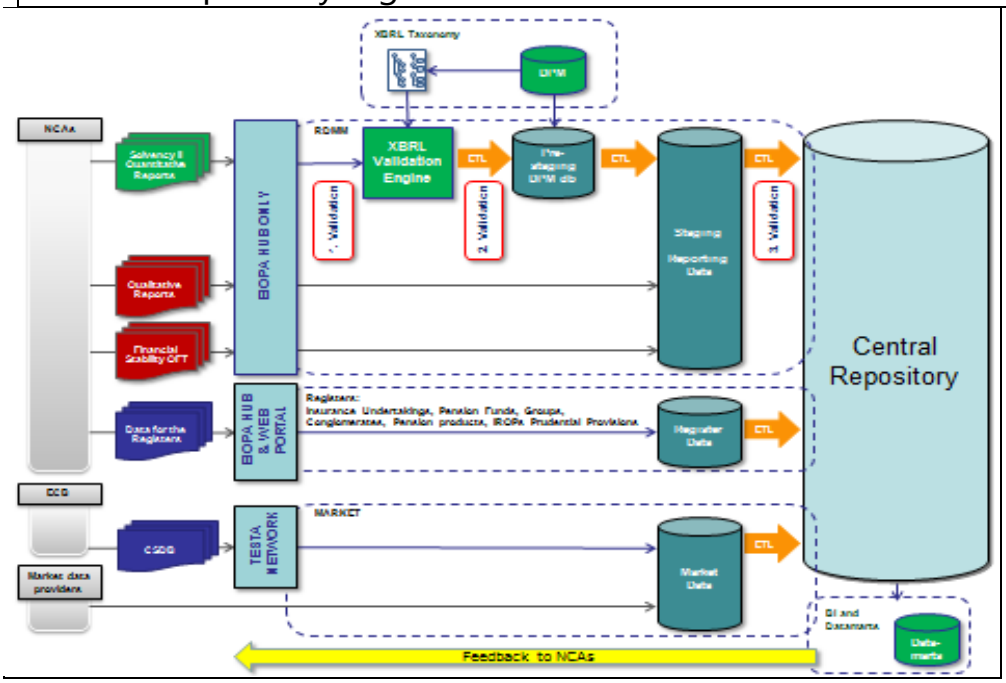
Business capabilities requiring IT enablement	Description
1. Collection and dissemination of econometric data	EIOPA needs to collect econometric data (financial instrument data, consumer trend data, etc.) from a number of sources. It should need to disseminate some of this data (e.g., financial instrument data to NCAs).
2. Collection and dissemination of legal entity data relating to approved financial institutions	EIOPA needs to collect legal entity data relating to approved financial institutions, to fulfil a range of EIOPA functions from supporting the operation of the register of approved financial institutions, enable group supervision, do micro and macro prudential assessments and interventions. EIOPA should need to disseminate some of this data to NSAs that supervise groups.
3. Collection and dissemination of supervisory reporting data relating to undertakings	EIOPA needs to collect supervisory reporting data relating to undertakings from NCAs to fulfil a range of EIOPA functions from micro and macro prudential regulation to enable efficient and convergent group supervision.
4. Enable group supervision	EIOPA needs to implement functions to ensure the consistent and coherent functioning of group supervision.
5. Policy making and support	EIOPA needs to develop IT applications systems to enable the making of policy and supporting the implementation and operation of policy.
6. Operation of register of approved financial institutions	EIOPA needs to develop IT applications systems to enable the operation of register of approved financial institutions its disclosure to the public, potentially in a manner to support customised search and retrieval.
7. Macro prudential regulation (assessments, reporting and interventions) - including financial stability	EIOPA needs to undertake and report on macro prudential assessments and make related in accordance with the EIOPA mandate, enabling EIOPA to discharge its micro prudential regulatory obligations to the ESRB, European Parliament, the Council, and the Commission. This should include assessments of trends, potential risks, and vulnerabilities, as well as monitoring and assessing market developments, system risks, consumer trends.
8. Micro prudential regulation (assessments and interventions) - including financial stability	EIOPA needs to undertake micro prudential assessments and make micro prudential interventions concerning the supervision of financial institutions, in emergencies, and in cases where there is a breach of law.
9. Public disclosure	EIOPA needs to disclose certain information to the public, in order to promote transparency, simplicity, and fairness in the market. This should potentially include reporting on consumer trends, reporting on new developments and progress concerning, inter alia, intra-group transactions, risk concentration, or the behaviour of diversification and concentration effects over time.

It was decided that the Data Collection and Dissemination process requires implementation by the Central Repository, which should have the three corresponding data domains (reference data domain (registers), reporting data

domain (incl. Solvency II collections), and market data domain) being supported during the whole data management cycle by collection and dissemination mechanisms and technologies automating the process.

Box 2

Central Repository logical architecture



5. Central Repository implementation

Moving to the implementation phase took place in the 2012/2013. The implementation projects (scoped into the Central Repository implementation programme) followed several phases, releasing required components of the envisaged IT architecture. The highly competent project management, dedicated business users, so the excellent IT experts' competences, were crucial for a success at this stage.

The first collections for the registers were performed in the 2013. In a course of the 2013-14 the Solvency II Preparatory Phase allowed for testing and improving of the collection mechanisms and first releases of the Central Repository. The EIOPA Guidelines mandating use of the LEI as the identifier came into force in the January 2015. In the 2015 analytical capabilities were further developed linking data collected via the Solvency II reports and cross-checking them against the Registers. In June 2016 the first regular submission of the Solvency II reports was received by the Central Repository. A few days later, an impact of the unexpected result of the BREXIT vote was analysed across the insurance sector in the EU.

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EIOPA Data Governance Concept

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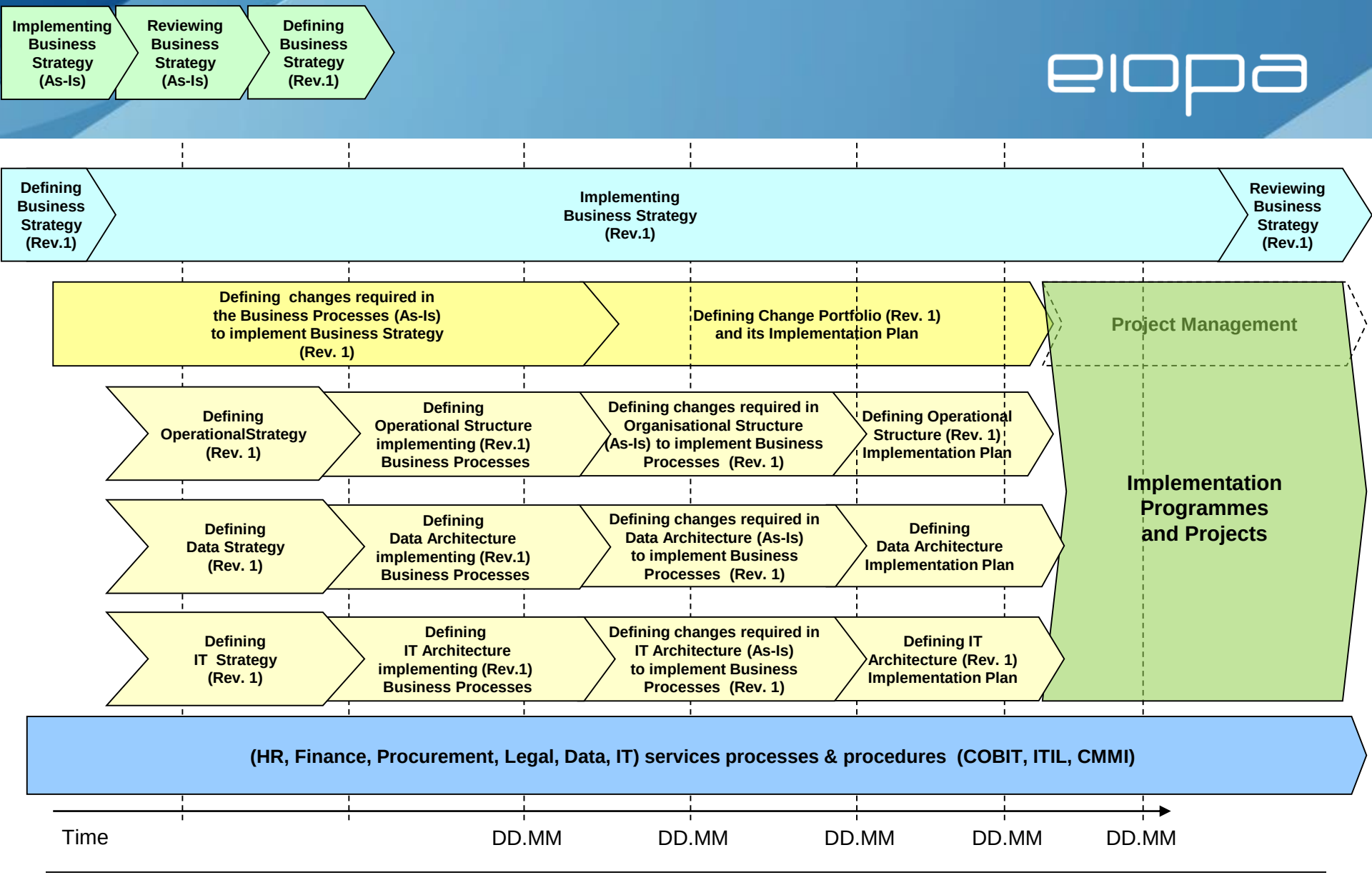
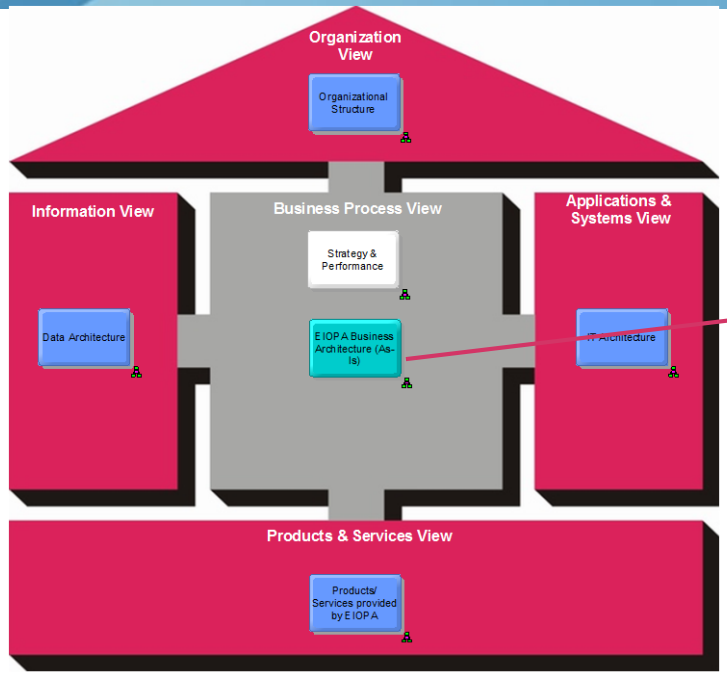
About EIOPA:

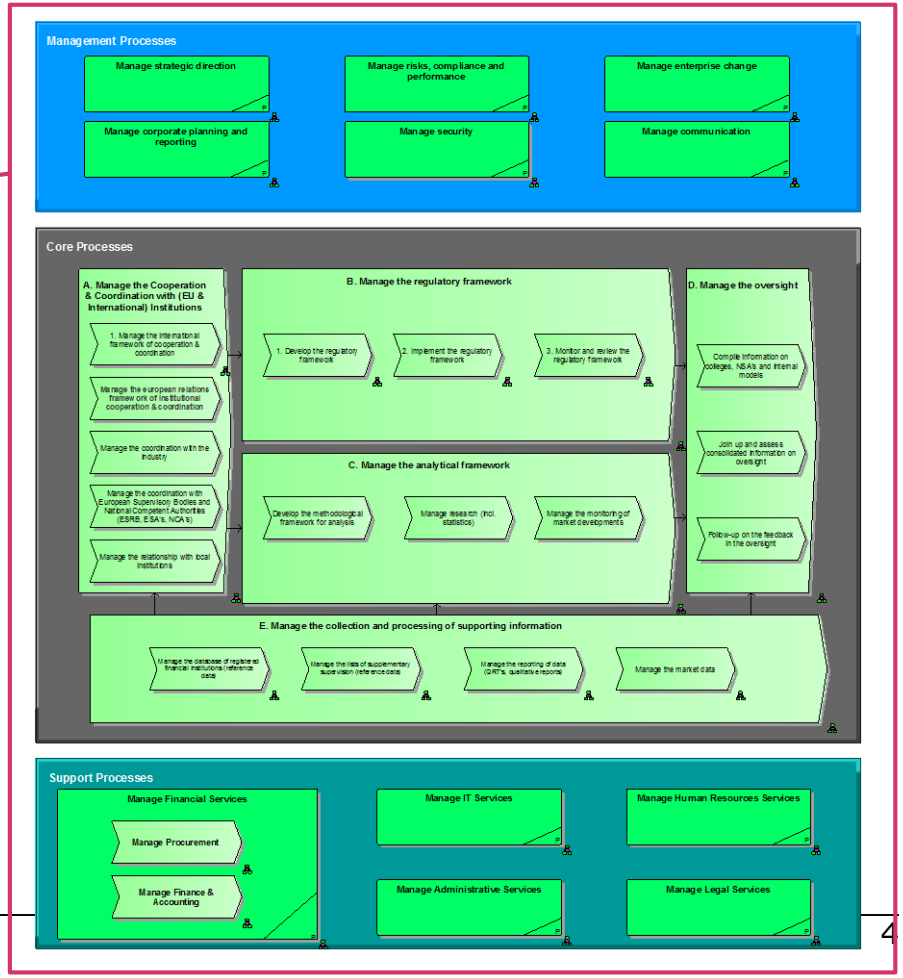
- EIOPA is part of a **European System of Financial Supervisors** that comprises three European Supervisory Authorities, one for the banking sector, one for the securities sector and one for the insurance and occupational pensions sector, as well as the ESRB.
- EIOPA's core responsibilities are to support the **stability** of the financial system, **transparency** of markets and financial products as well as the **protection** of policyholders, pension scheme members and beneficiaries.
- EIOPA is commissioned to monitor and identify **trends**, potential **risks** and vulnerabilities stemming from the micro-prudential level, across borders and across sectors.

Business Strategy Implementation Roadmap



EIOPA Architecture



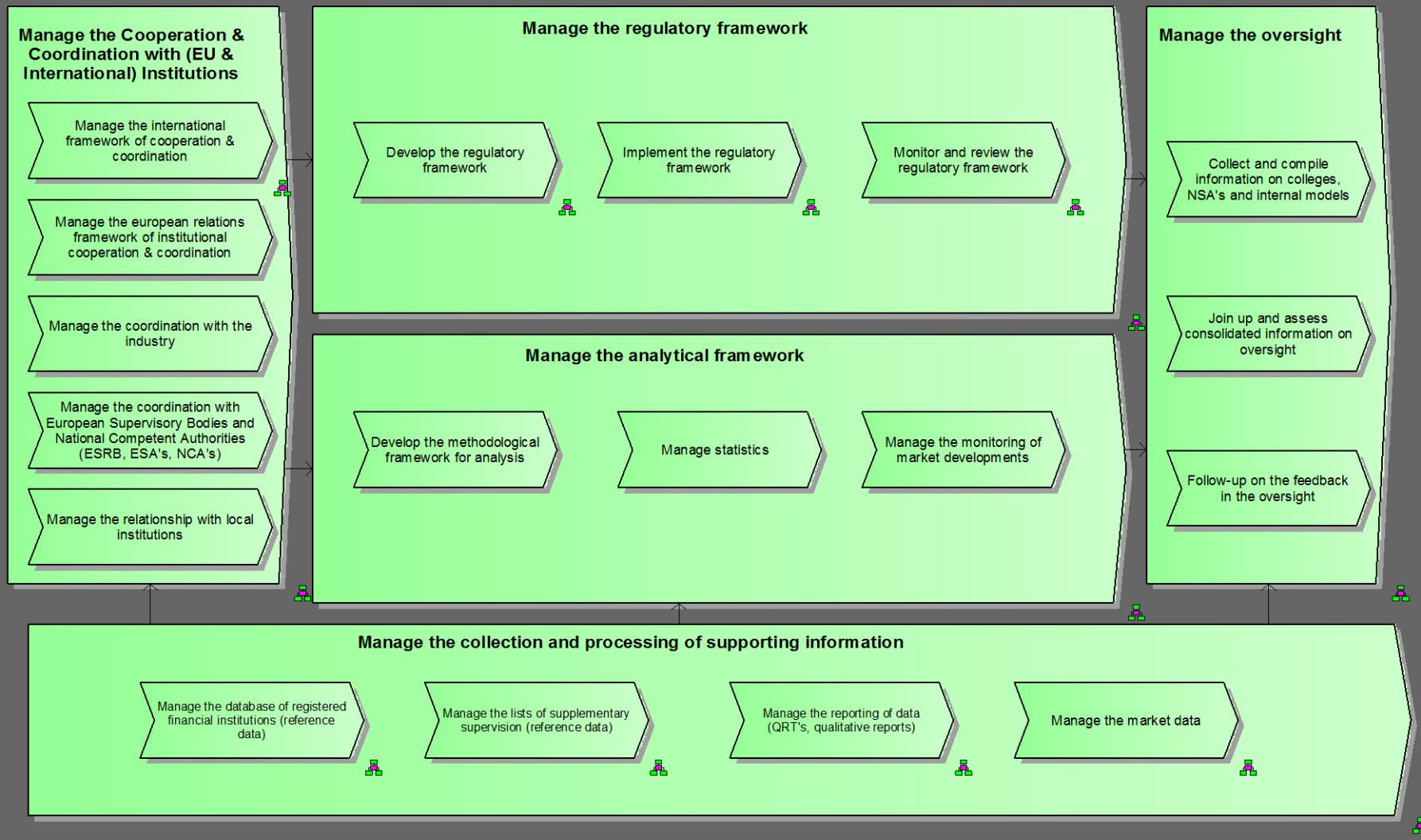


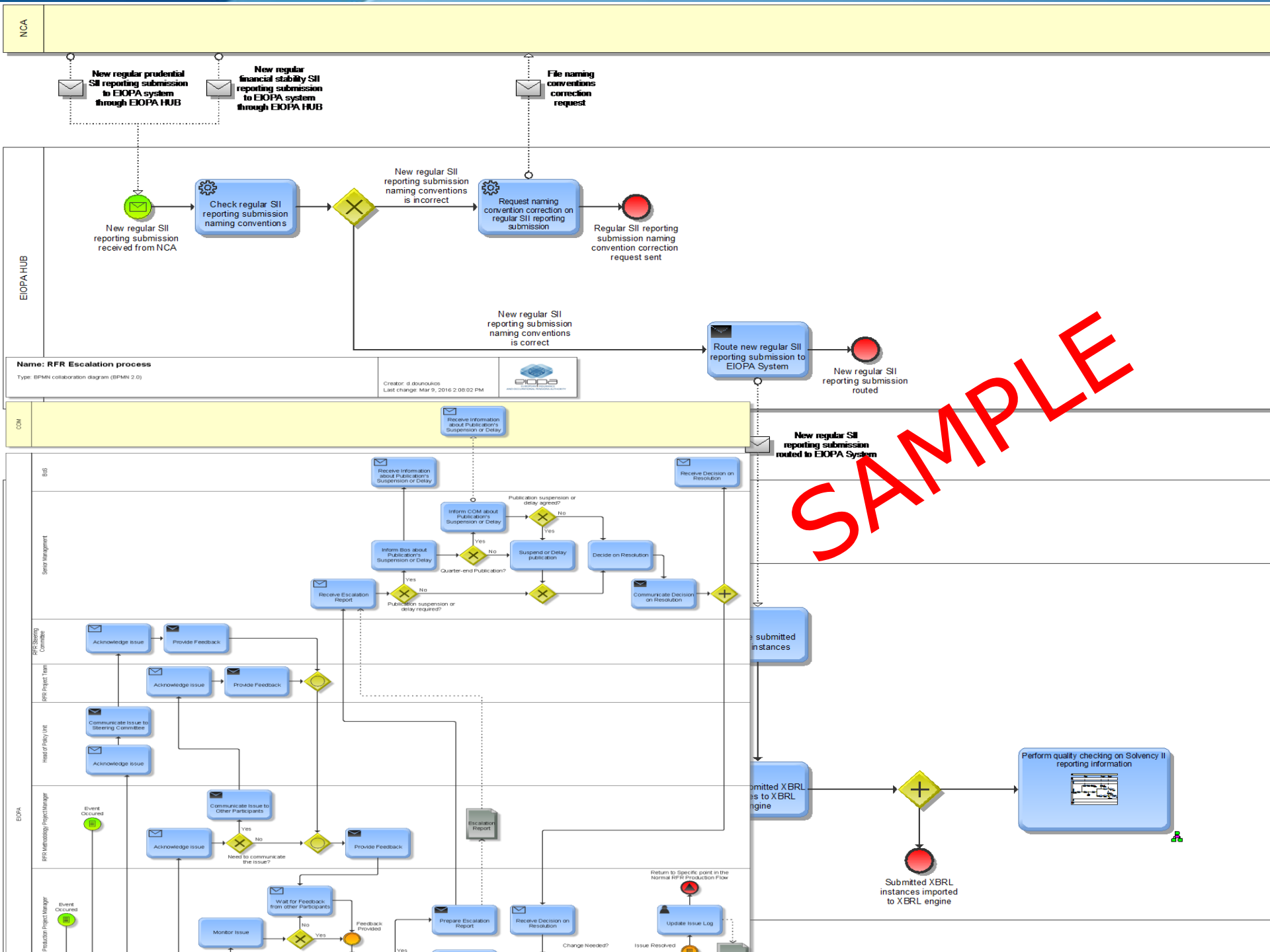
Processes are split into 3 different categories:

- Management Processes;
- Support Processes;
- Core-Business Processes

EIOPA Core Business Process Map

Core Processes




NCA
New regular prudential SII reporting submission to EIOPA system through EIOPA HUB
New regular financial stability SII reporting submission to EIOPA system through EIOPA HUB
File naming conventions correction request
EIOPA HUB
New regular SII reporting submission received from NCA
Check regular SII reporting submission naming conventions
New regular SII reporting submission naming conventions is incorrect
Request naming convention correction on regular SII reporting submission
Regular SII reporting submission naming convention correction request sent
New regular SII reporting submission naming conventions is correct
Route new regular SII reporting submission to EIOPA System
New regular SII reporting submission routed
Name: RFR Escalation process
Type: BPMN collaboration diagram (BPMN 2.0)
Creator: d dounoukos
Last change: Mar 9, 2016 2:08:02 PM
COM
Receive Information about Publication's Suspension or Delay
New regular SII reporting submission routed to EIOPA System
SAMPLE
BoS
Receive Information about Publication's Suspension or Delay
Receive Decision on Resolution
Senior Management
Inform COM about Publication's Suspension or Delay
Publication suspension or delay agreed?
Inform BoS about Publication's Suspension or Delay
Quarter-end Publication?
Suspend or Delay publication
Decide on Resolution
Receive Escalation Report
Publication suspension or delay required?
Communicate Decision on Resolution
RFR Steering Committee
Acknowledge issue
Provide Feedback
RFR Project Team
Acknowledge issue
Provide Feedback
Head of Policy Unit
Communicate Issue to Steering Committee
Acknowledge issue
RFR Methodology Project Manager
Event Occured
Communicate Issue to Other Participants
Acknowledge issue
Need to communicate the issue?
Provide Feedback
Escalation Report
Production Project Manager
Event Occured
Wait for Feedback from other Participants
Monitor Issue
Feedback Provided
Prepare Escalation Report
Receive Decision on Resolution
Change Needed?
Return to Specific point in the Normal RFR Production Flow
Update Issue Log
Issue Resolved
EIOPA
submitted instances
omitted XBRL es to XBRL ngine
Perform quality checking on Solvency II reporting information
Submitted XBRL instances imported to XBRL engine

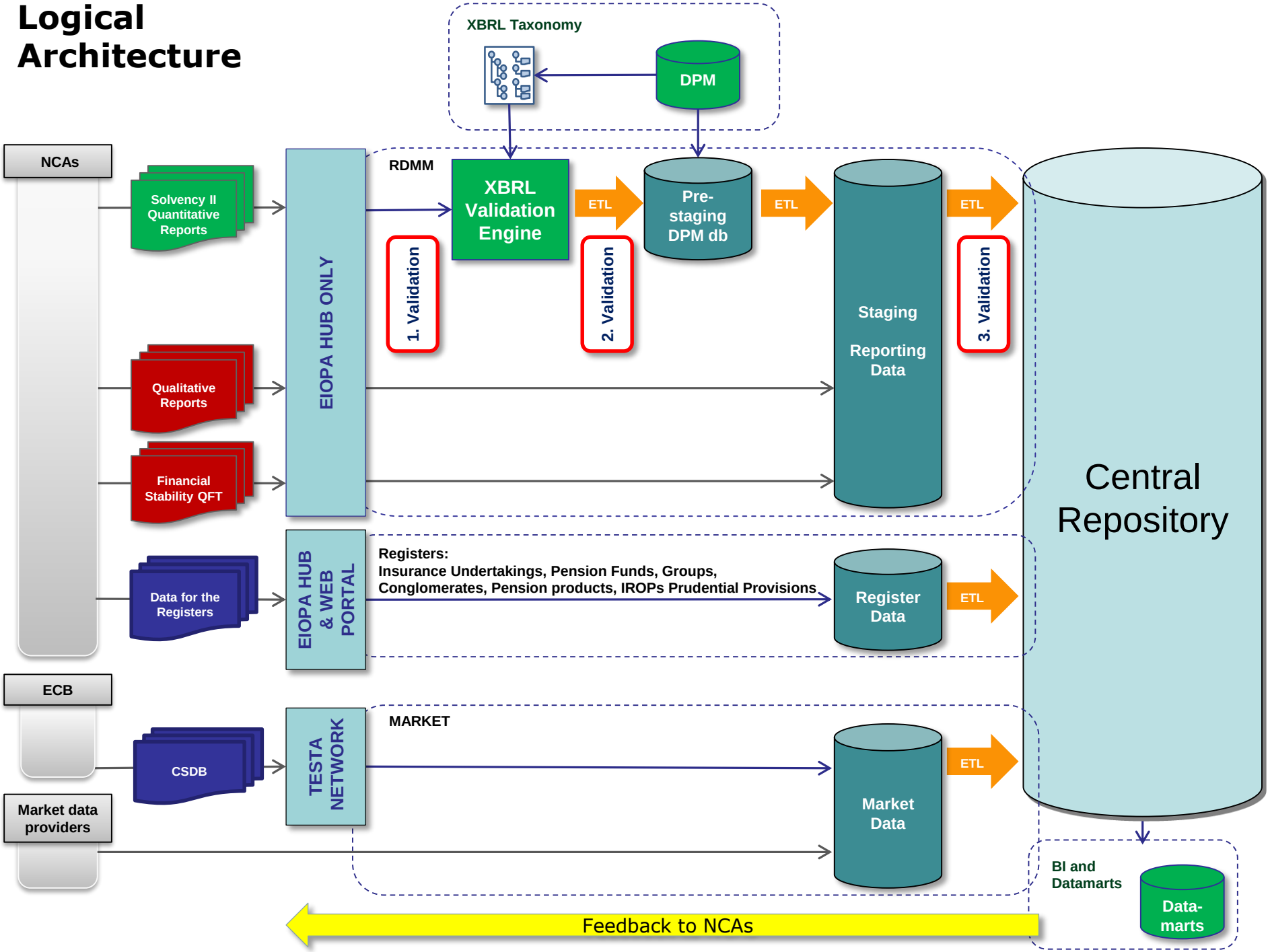
Strategic objective

- Implementing **secure**, **trustful** (high **quality**) and **efficient** data governance framework adaptable to permanently **changing environment** was recognised as the strategic objective, enabling delivery upon its mandate defined in the founding regulation.

Milestones
Definition phase

- **1 January 2011** **EIOPA founded**
- **October 2011** and EIOPA BoS approves HL Business Processes Map **Data & IT Strategy** based on the BPM
- **November 2012** Design phase of the concept finalised
- **September 2013** Central Repository Architecture and its first components released
- **March 2014** Finalisation of the **Data Justification** project: EIOPA BoS approves the full scope of the SII individual data to be forwarded by NCAs to EIOPA
- **September 2014** Guidelines mandating use of **LEI** in reporting to EIOPA adopted by the EIOPA BoS

Logical Architecture



Milestones
Implementation phase

- **Year 2015** - **Solvency II Preparatory Phase**;
  - **June 2015:**– Annual reporting by undertakings under the Solvency II Preparatory Phase with reference to 31/12/2014
  - **November 2015:** Quarterly reporting by undertakings under Solvency II Preparatory Phase with reference to 30/09/2015
- **1 January 2016 – Application of the Solvency II regime;**
  - **13 June 2016** – First prudential reporting by undertakings under Solvency II with reference to the first day of application

23 June 2016 – BREXIT vote

- **27 June 2016 –** Risk Update post UK referendum shared with EIOPA members, providing with: i. Market reactions, ii. Horizontal assessment of GBP exposures, iii. Insurance stress test, iv. Implications RFR

Questions?

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Thank you!

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