

Ecosystem Diagnose & Therapy

What needs to be done at which costs

Deloitte.

SIG

Software Improvement Group

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Deloitte Assessment:
What needs to be done?

SIG Assessment:
What is the most cost-effective approach?

Implementation



Information about the quality of the landscape



Regular monitoring during implementation



Product en Process Quality Monitoring (Achmea IT auditor, SIG)

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Before we start



Before getting down to the issue of identifying the need to adjust te current application landscape using an assessment of the agility of each application, we should answer the following questions:

1. What do we mean by data? Data quality?
2. Will data quality really be a challenge for insurers in order to reach Solvency II compliance?
3. What is the impact of data quality requirements on the current application landscape?

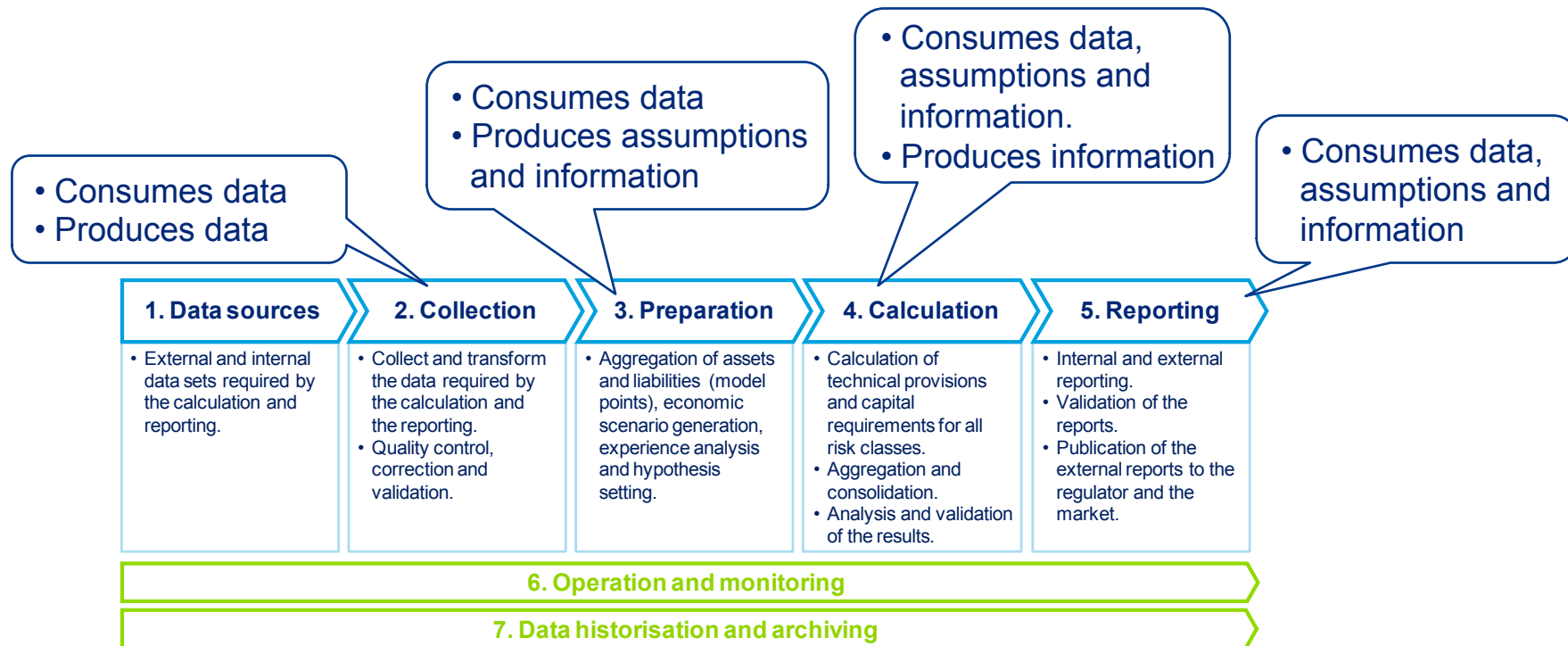
What do we mean by data? Data quality?

Data, information and assumptions are 3 different concepts



Based on our interpretation of the different consultation papers (mainly CP 43 and CP 56), we make the distinction between:

1. **Data:** Gross data collected from the source systems (e.g. policy data, asset data) and transformed data.
2. **Assumption:** Output of a process requiring the use of an expert judgment and that can be compared with experience (e.g. future lapse rate, calibration factors of the ESG)
3. **Information:** Output of a calculation process (e.g. economic scenarios, BE, SCR, etc.)

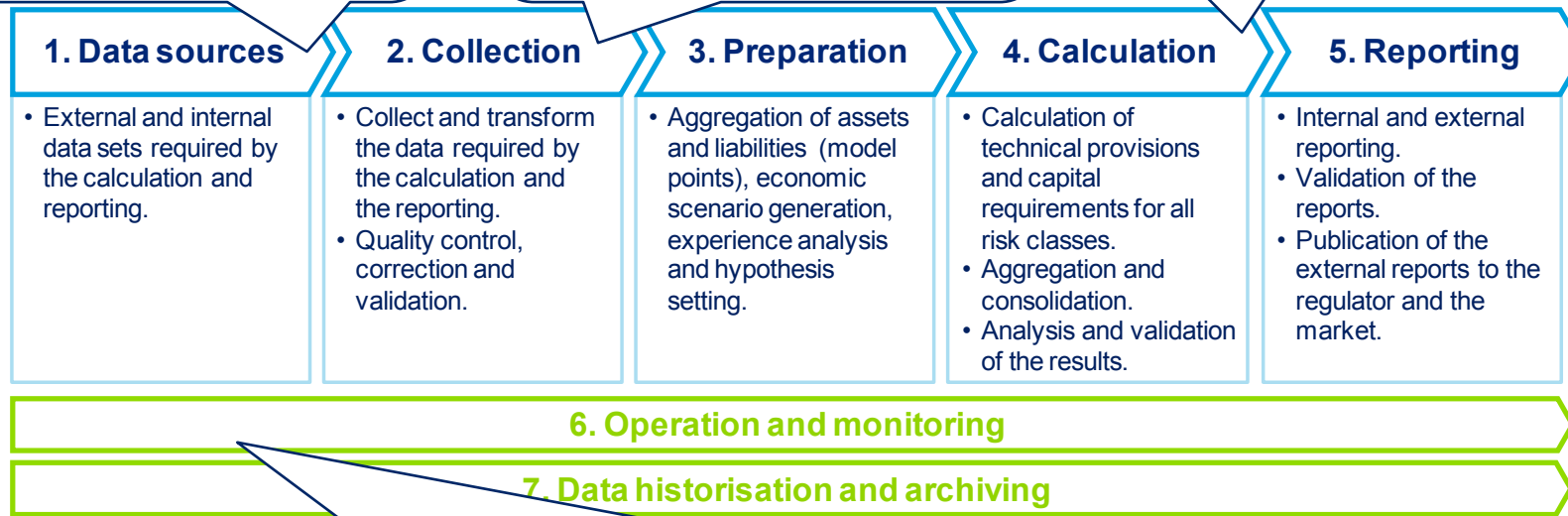


Will data management really be a challenge for insurers in order to reach Solvency II compliance?



The most common as-is situations we face today:

- Actuaries often use a mix of IT extracts from operational systems and various business managed EUC files
- The origin of some data is sometimes unknown.
- Many manual adjustments are performed
- Process is highly decentralized and involve many EUC tools
- Data quality checks are performed but on an informal basis .
- Inputs and outputs of actuarial engines are not systematically defined
- Traceability is not an automated functionality.



• Data is not stored in consistent sets making difficult the reuse of a given input set.

Flexibility and agility have often be privileged over control while Solvency II requires insurers to prove they perfectly control what flows into their model.

Data Quality Management

What is Data Quality ?



The aim of Data Quality Management is to support the predictability of results and reports produced by the Solvency II process by assuming quality of input data.



What Data Quality Management is used for

- Data Quality refers to the **degree of excellence** of data used for a specific business need,
- Data Quality represents the state of **completeness, validity, consistency, timeliness and accuracy** that makes data appropriate for a specific use,
- Data Quality management also refers the **processes and technologies** involved in ensuring the conformance of data values to business requirements and acceptance criteria.

- A wider set of data needs to be available for the risk management models (more data than only needed for financial reporting, age, work, etc for an insurance policy can be needed)
- Materiality levels for integrity of data is lower than for financial reporting: each model needs to be build to understand the risk of a product, price the product competitively and with the right risk/performance ratio. Model validation will require the use of data with the right quality level

Data Quality Management

What does the directive require from Data Quality Management ?



Scope of the requirement	Description of the requirement
<p>Technical provisions</p>	<p>Implement processes, procedures and responsibilities to ensure the appropriateness, completeness and accuracy of data. This also applies to data used to set a particular assumption (CP 43).</p>

Accuracy

Accuracy means that a high level of confidence can be placed on the data. Data is considered to be **accurate** if it is **free from material mistakes, errors and omissions**; if the recording of information is adequate, performed in a timely manner and is **kept consistent over time**.

Example:

- Age at entry is a numerical value between 0 and 120
- Variation of averages or totals (e.g. sum assured, duration in force, reserve, premium, etc.) per LoB/sub-portfolio within threshold

Completeness

Data is considered to be **complete** if it has **sufficient granularity** to allow the identification of trends and the full understanding of the behavior of the underlying risks **and if sufficient historical information** is available. **All material information** shall be taken into account and reflected in the data set.

Example:

- For all concerned data, one year of complete historical information more than last year (without merger impact or transfers between LOBs at a point in time)

Appropriateness

Data is considered to be **appropriate** if it is **suitable for the intended purpose** (e.g. the valuation of technical provisions, setting of assumptions) and **relevant to the portfolio of risks being analyzed** (i.e. directly relates to the underlying risk drivers).

Example:

- All fields are defined as mandatory or optional
- New products have been taken into account in the data dictionary and all relevant fields are defined: validated by expert

Data Quality Management

What does the directive require from Data Quality Management ?

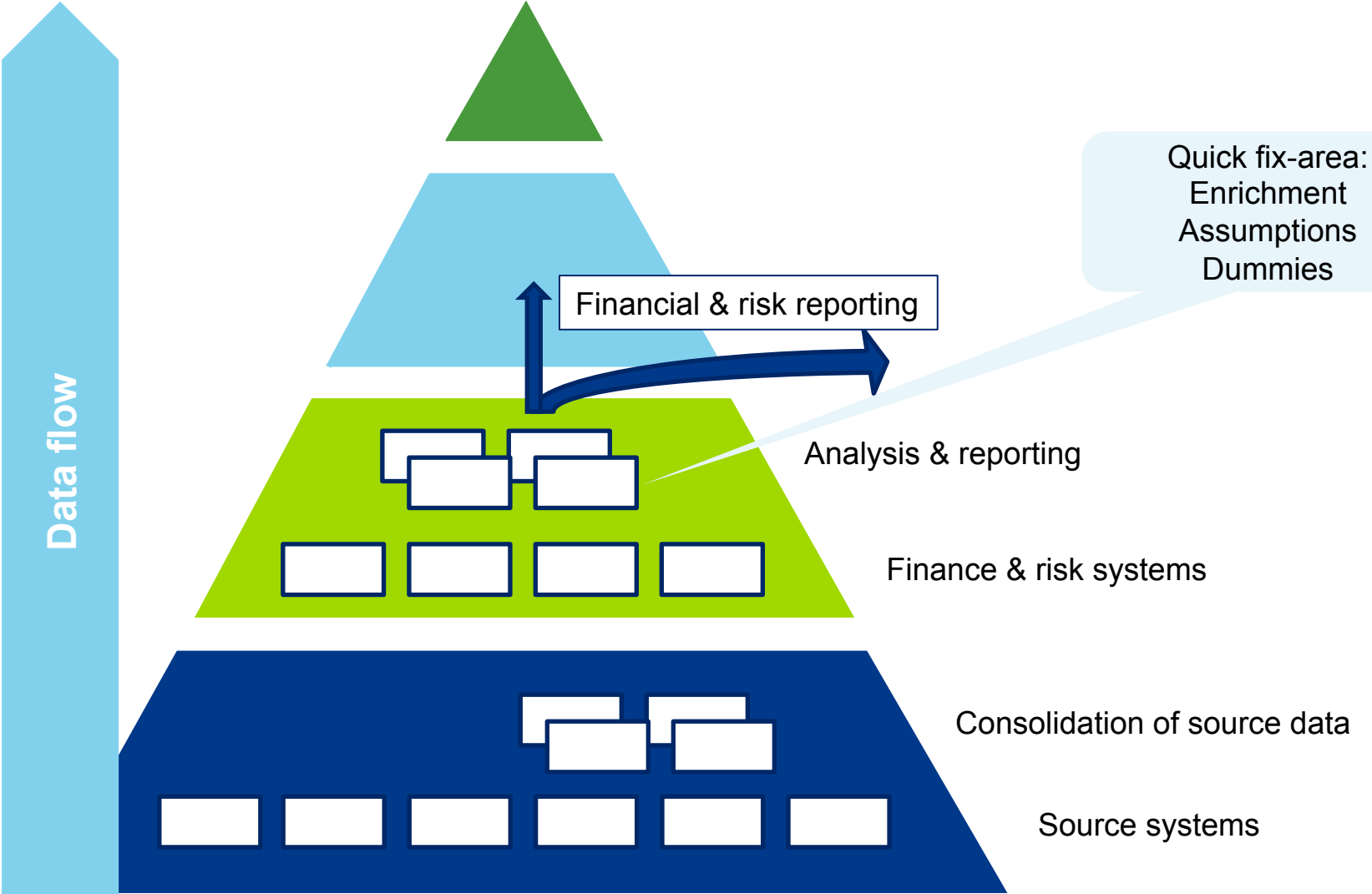


Scope of the requirement	Description of the requirement
Technical provisions	Establish policies on data quality (<i>CP 43</i>).
	Assess and monitor the quality of the data (<i>CP 43</i>).
	Correct any material data quality issue identified (<i>CP 43</i>).
	Regularly assess the performance of IT systems and of the channels used to collect, store, transmit and process data (<i>CP 43</i>).
Internal model	Meet quality requirements to any data used to operate, validate and develop the internal model monitor data quality periodically (<i>CP 56</i>).



We need to establish policies and define indicators to assess the quality of data.

Data flow and current place of intervention

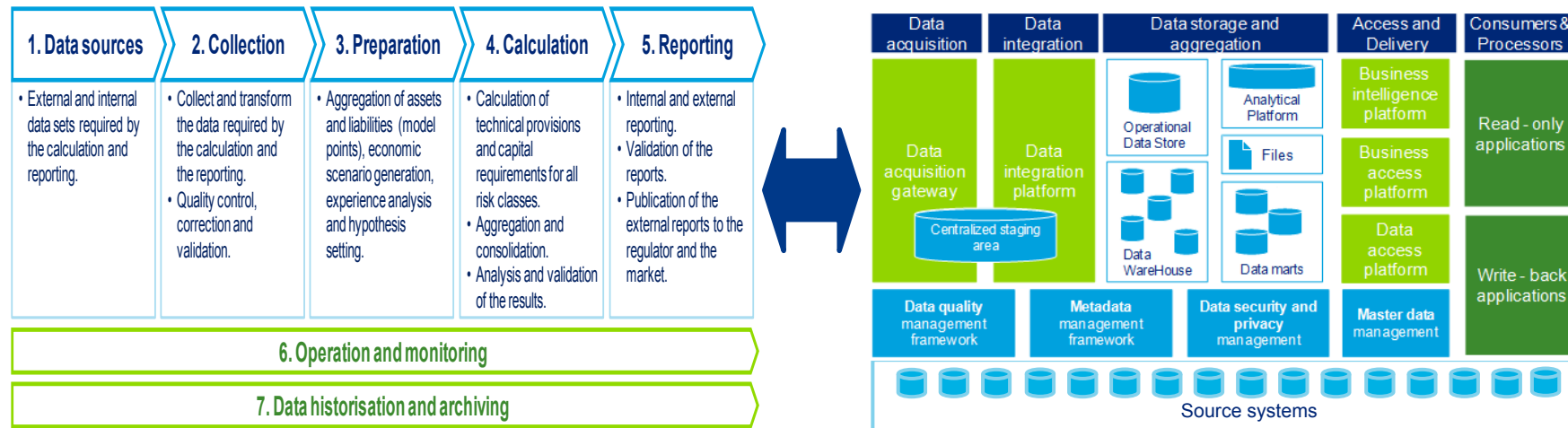


Structural improvement of data quality

Focus on the logical components



- Not all logical components are to be used in the context of Solvency II,
- In addition, different components are used for each step of the process and if a component is used during several sub-processes, a different approach might be adopted for each sub-process.



As a consequence, different levels of maturity can be adopted depending on the step of the Solvency II process or the risk type: Minimum compliance, Best in class, Typical trade-off.

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