



EUROPEAN CENTRAL BANK

BANKING SUPERVISION

# Data Quality Tools and products

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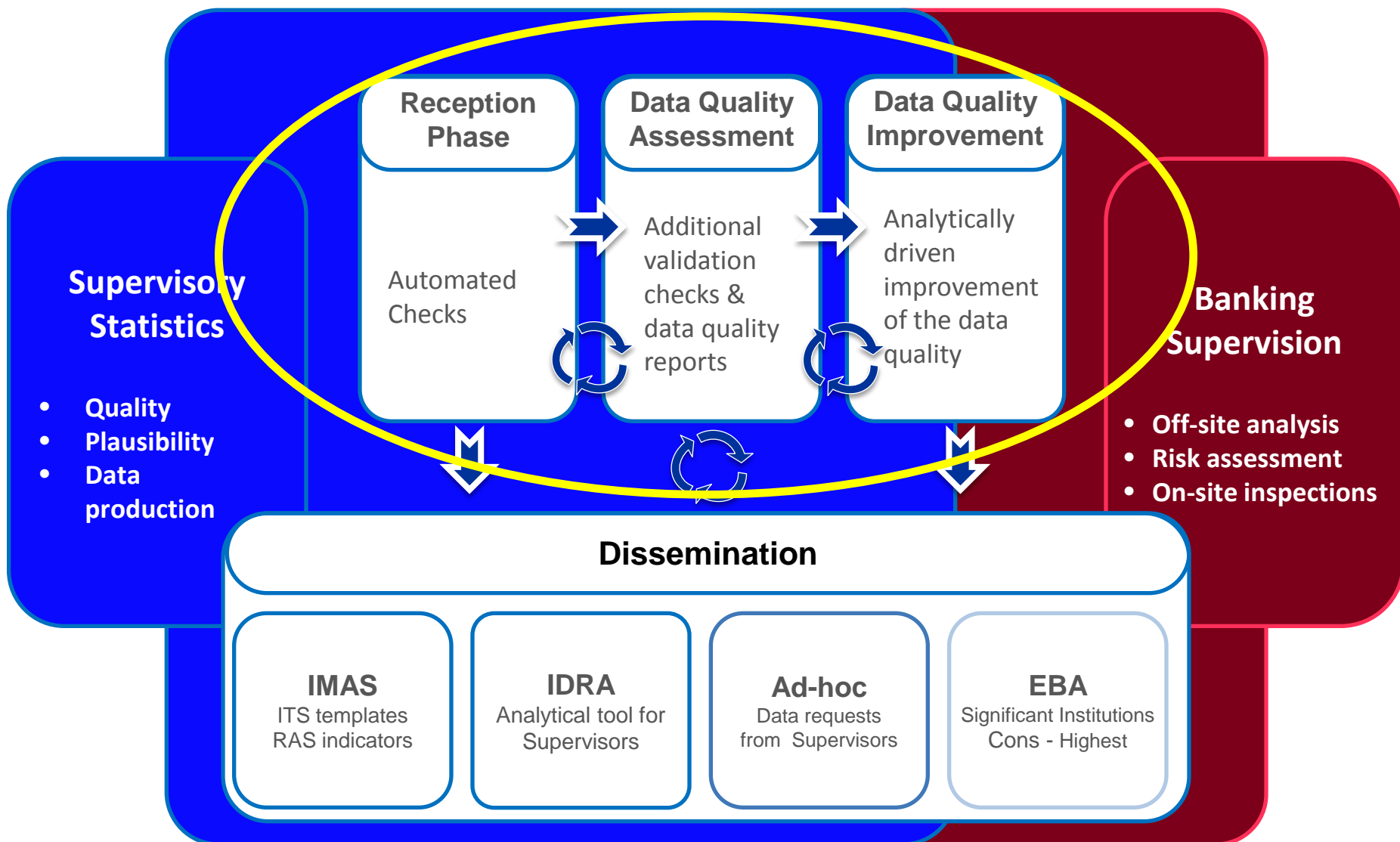
Supervisory Statistics Division

Supervisory Reporting Conference

28<sup>th</sup> November 2016

*European Central Bank, Frankfurt*

## SUBA Processes: Overview of data reception & validation



## Data Quality products and processes

In production

### Set of tables on data quality

- Produced 3 times per reference period
- Shared with WG SUP & SSM

In process

### Individual dashboard per institution

- With a rating of that institution

In production

### Traffic light system (R-A-G) for a selection of data points

- Based on failed validation rules
- For data points used in RAS scores

In production

### Data Quality Assessment Report

- Produced for each reference period
- Shared with WG SUP & SSM
- For information to the SB

In process

### Immediate data quality scores

- Based on internal consistency of data

In production

### Thematic analysis of certain areas of the ITS

- Together with volunteers from EGDQ
- Resulting in additional data quality checks

In production

### Individual bank reports

- Based on the DQ dimensions

In production

### Tracking Tool

- Process for ad-hoc issues

## Several stakeholders making use of Data Quality Assessment Report...

### Report

- Is prepared on a quarterly basis,
- Describes main findings of data quality assessment,
- Based on set of tables,

### Data Quality indicators on:

- Punctuality
- Accuracy
- Stability
- Completeness
- Plausibility

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## Data Quality Tables

- **These tables provide the first basic approach to the assessment of data quality.**
- Produced 3 times per quarterly reference date:
  - Cut-off = deadline
  - Cut-off = 1 week after deadline
  - Cut-off = 1 month after deadline
- Produced for ~140 significant “highest” institutions.
- Shared with SSM and NCAs.
- Largely automated, although room for improvement.

### Table 1 (and 2) – Punctuality

- Overview of submissions received (by module type), incl. delays, failing VRs.

### Table 3 – Stability

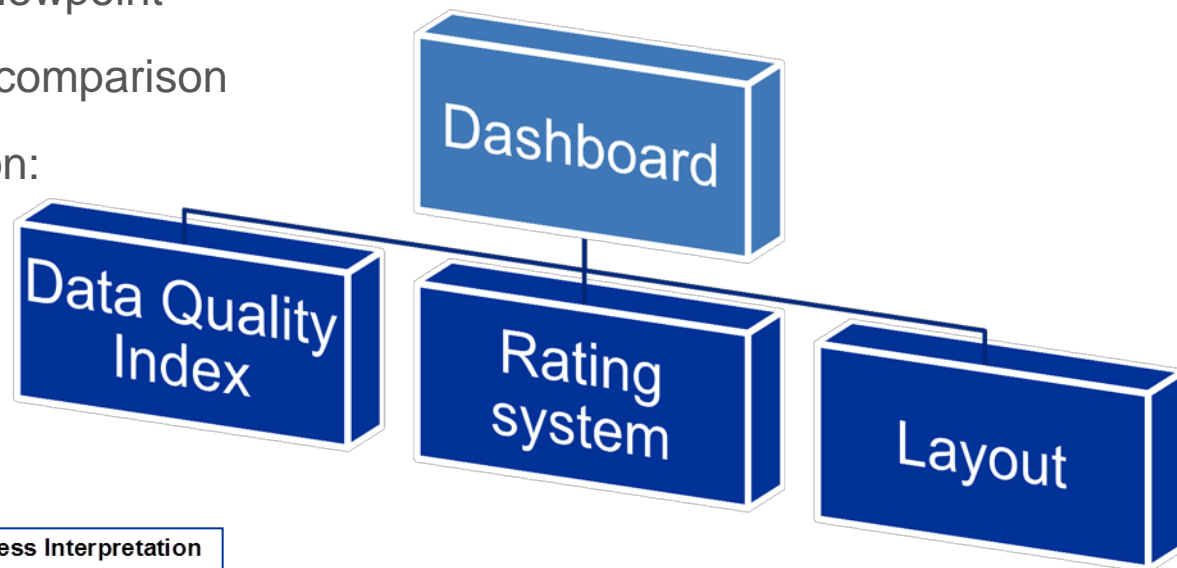
- Analysis of certain data points & dimensions (e.g. currencies, countries)

### Table 4 – Completeness & Consistency

- Analysis of completeness of modules received and consistency of reported data points over time

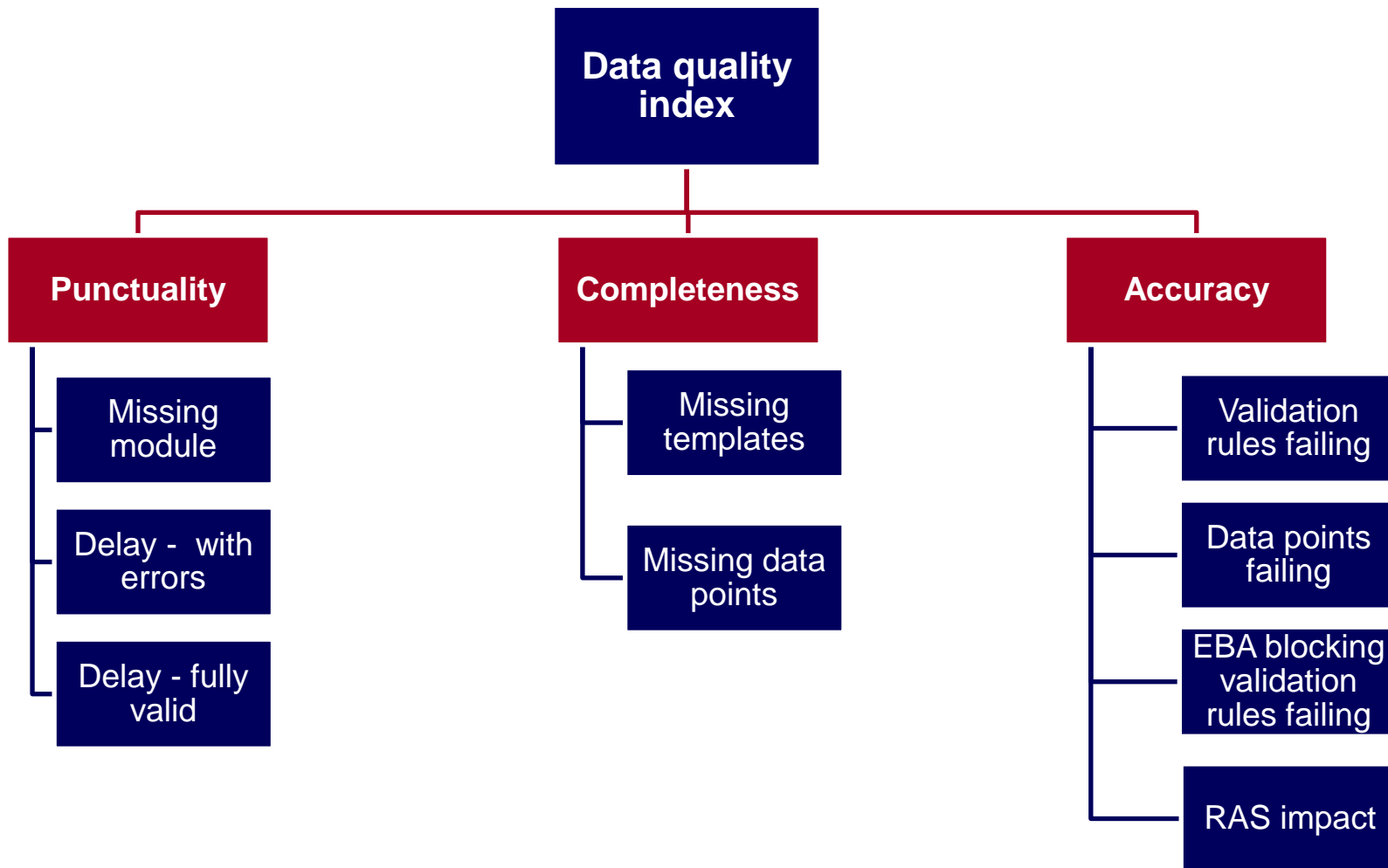
## Data Quality Individual dashboard

- A one-two page/s document summarising the most important indicators in terms of data quality; assessing and rating data quality performance
- Focus on significant institution (*first step*)
- Analysis per entity and per reference period
- Historical performance viewpoint
- Individual & Peer group comparison
- Data Quality indicators on:
  - Punctuality
  - Completeness
  - Accuracy
  - Plausibility
- *Data Quality Index*
  - *Rating scale:*

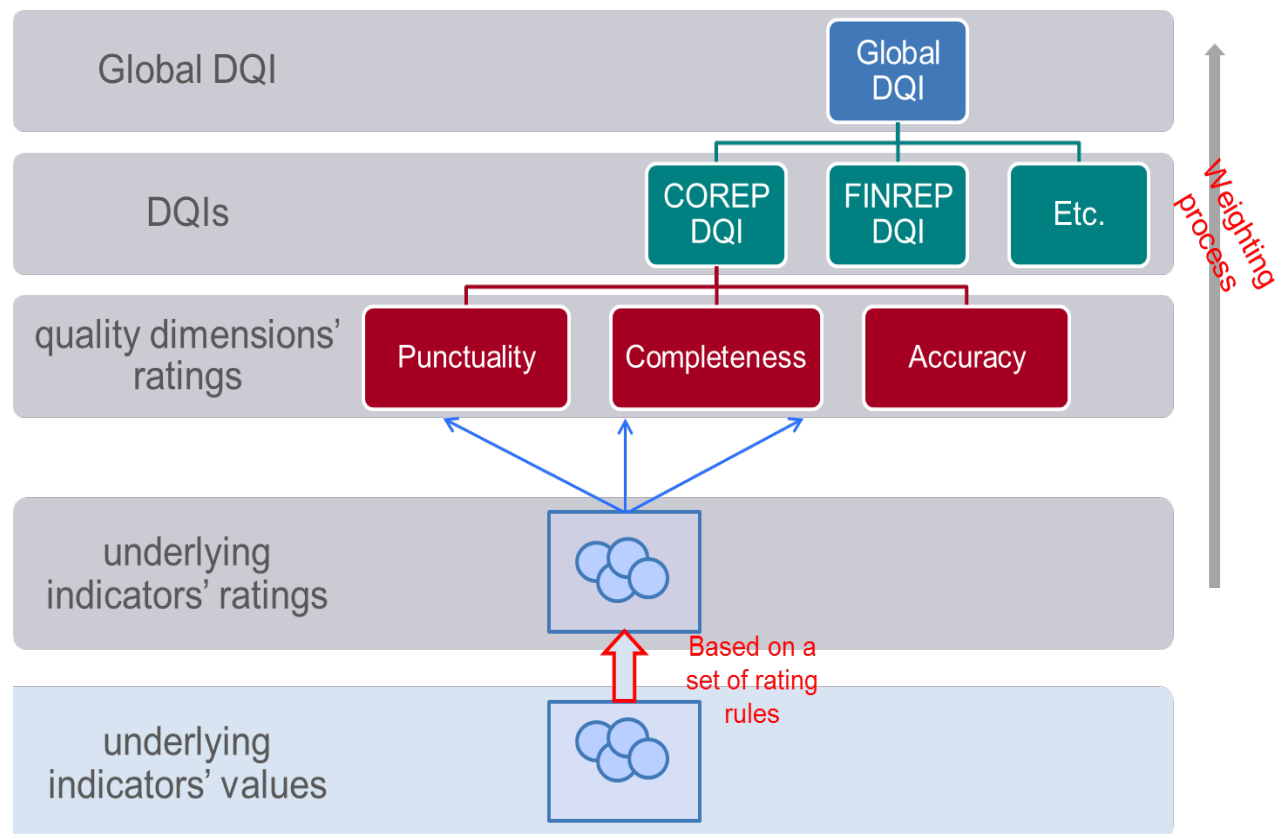


Rating	Business Interpretation
4	Very bad/Missing
3	Bad
2	Weak
1	Good

# Data Quality indicators



## Rating process and scale



Rating	Business Interpretation
4	Very bad/Missing
3	Bad
2	Weak
1	Good

The rating system constitutes the mechanics behind the composite Data Quality Index (DQI). It comprises a set of rating and weighting rules which govern accordingly, the way an underlying indicator's value will be rated and the way higher level ratings will be computed based on lower level ratings.



## Traffic Light System for Selected Data Points

- Based on the validation rules failed for a set of data points, a traffic light system (R-A-G) is defined for each institution.
- Data points are those used to compute RAS indicators by SSM.
- Data points are grouped **by risk category** (i.e. category to which the indicator belongs)
  - Capital adequacy, Credit Risk, Interest Rate Risk, Liquidity Risk, Market Risk, Operational Risk & Profitability Risk.
- Produced quarterly for ~140 significant “highest” institutions.
- Shared with SSM.

# Immediate Data Quality Scores

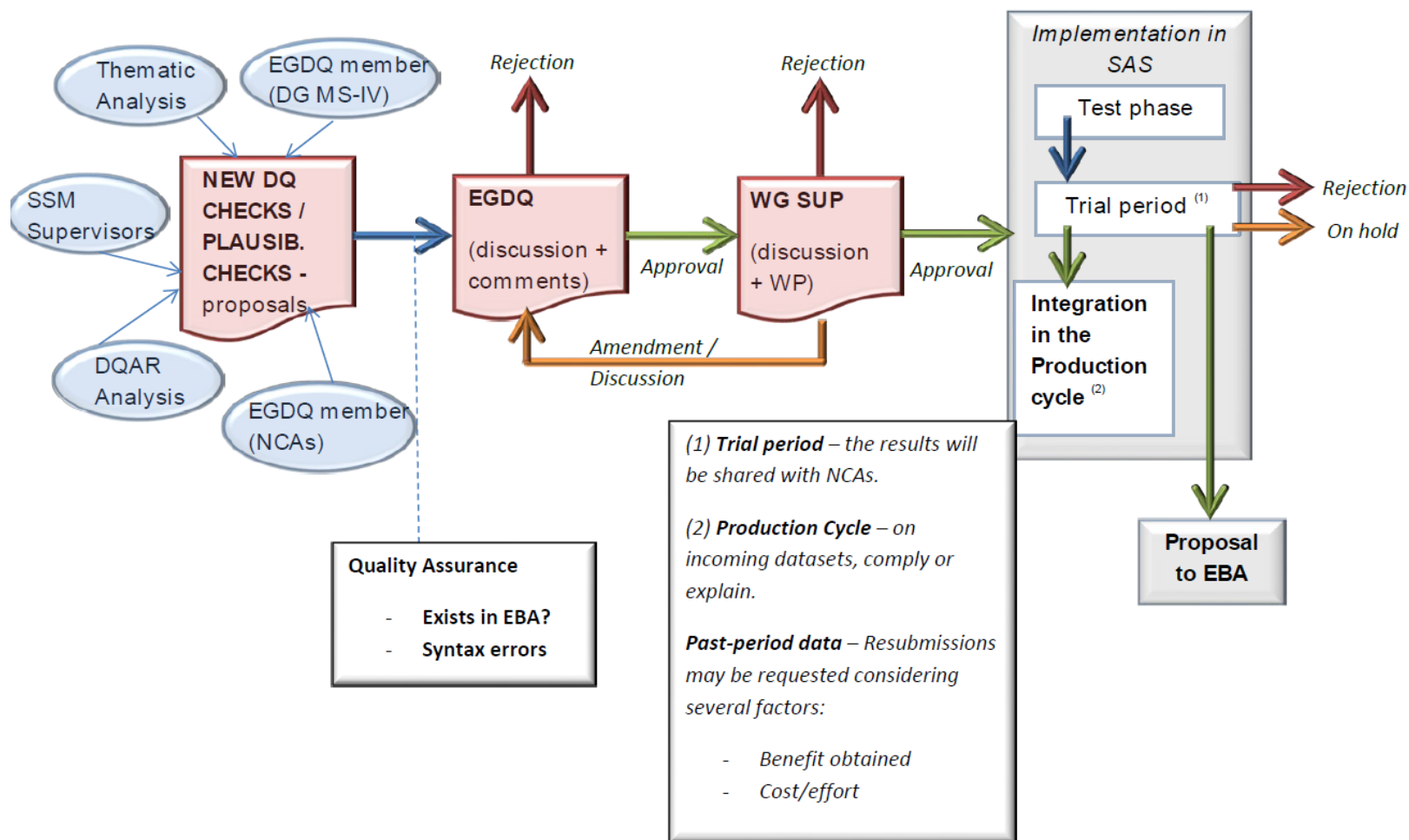
- **Based on a set of internal consistency checks of the supervisory data, each module reported to the ECB will be allocated a score.**
- Scores will range between 0 to 4:
  - 0: missing or rejected module
  - 1: unacceptable quality
  - 2: serious concerns
  - 3: some concerns
  - 4: no concerns
- It will serve as a first alert for those managing the production of the data.
- Score to be allocated automatically, allowing for possibility to assess data quality for all institutions: SIs and LSIs.
- Internal consistency checks are currently under development.
  - Some examples:
    - PDs cannot be higher than 100%.
    - Capital ratios after Pillar II adjustments cannot be zero.
    - Sign convention for impairment shall be maintained.

## Data Quality Assessment in the Steady State

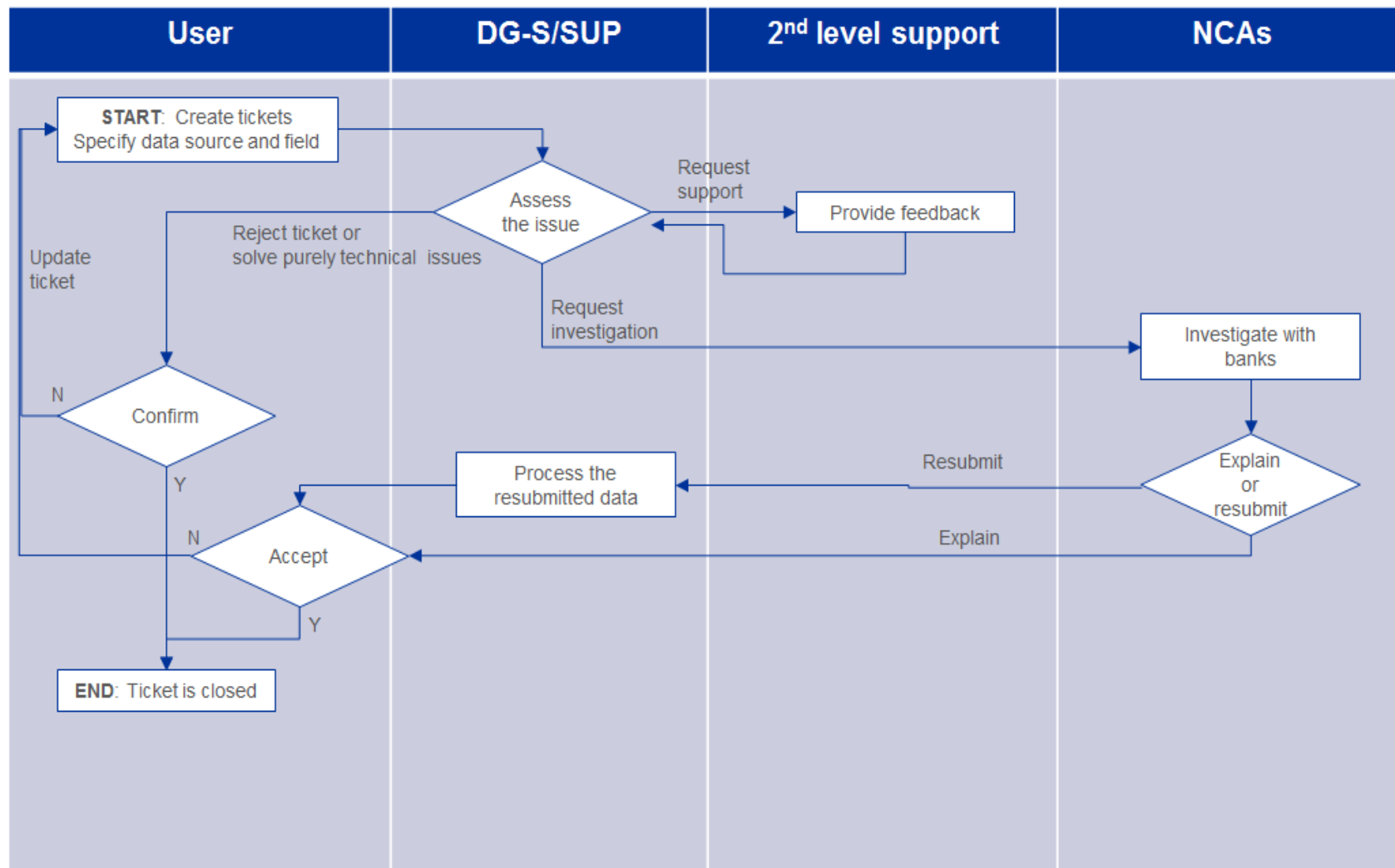


- Further work needed to automate the production of these reports as far as possible.
- Pivotal role of the Expert Group on Data Quality in the definition of the different deliverables for data quality.

## Additional DQ Checks – overview of the process



## Tracking Tool – process for ad-hoc DQ issues




## BCBS 239 – Individual Reports

Including ITS and STE data

### Data Quality indicators on:

- Punctuality
- Accuracy
- Stability
- Completeness
- Plausibility

ECB-CONFIDENTIAL



DG-S/Supervisory Statistics

ECB-CONFIDENTIAL

Data Quality Overview:

Supervisory Statistics  
Data Quality Team: [SDS\\_DQT@ecb.europa.eu](mailto:SDS_DQT@ecb.europa.eu)  
Contacts:  
Patrick Hogan, Head of Section  
Asterios Paschos, Research Analyst

Data Quality Overview: BNP Paribas

09 June 2016

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## Breaches Report

European Central Bank, DG-Statistics, Supervisory Statistics Division  
[ECB\\_Supervisory.statistics@ecb.europa.eu](mailto:ECB_Supervisory.statistics@ecb.europa.eu)



### Dashboard on breaches for

Name		Reference Period		COREP Reported	YES
LEI		Remittance Date		LE Reported	YES
Country		Thresholds	Phased in (2016)		
Significance	SI	Approaches for:	Waivers:		
Accounting framework	IFRS	Credit risk	SA	Own Funds Reporting	NO
Scope	CONS	Market risk	SA	LE Reporting	NO
Entity type	CI - INT/BOT	Operational risk	TSA	Leverage Reporting	NO

List of Ratios	Threshold	Value	Distance to Threshold	Comments
<b>1. CAPITAL</b>				
1.1 CET 1 Capital Ratio	4.50%	10.00%	5.50%	
1.2 Additional Tier 1		0.00%		
1.3 Tier 1 Capital Ratio	6.00%	10.00%	4.00%	
1.4 Tier 2		2.00%		
1.5 Total Regulatory Capital	8.00%	12.00%	4.00%	
1.6 Minimum common equity plus capital Conservation Buffer	5.125%	10.00%	4.88%	
1.7 Minimum Total Capital plus capital Conservation Buffer	8.625%	12.00%	3.38%	
1.8 Systemic Buffer				
1.9 Total CET 1 Requirements				N/A
1.10 Total Capital Requirements				
<b>2. LEVERAGE</b>				
2.1 Leverage (transitional - month 3)	3.00%	3.85%	0.85%	
2.2 Leverage (fully - month 3)	3.00%	3.85%	0.85%	
2.3 Leverage (transitional 1 - 3 months)	3.00%	3.85%	0.85%	
2.4 Leverage (fully 1-3 months)	3.00%	3.85%	0.85%	
<b>3. LARGE EXPOSURES</b>				
3.1 Total value of Large Exposures	800.00%	628.42%	171.58%	
3.2 List of Individual Large Exposures				
<i>Bank A</i>	25.00%	25.00%	0.00%	#N/A

## CONCLUSION

- The SSM benefits from the **services** of the DG-S-SUP and extensively relies on its tools, products and IT infrastructure.
- The SSM is taking into high consideration the **importance of data quality**
  - Monitors evolution of failing validation rules undermining reliability of supervisory assessment;
  - Submits a Data Quality Report on a quarterly basis to its Supervisory Board;
  - Ensures JSTs use the Data Quality tracking tool to raise data quality issues and make sure they are addressed.
  - ECB has operationalised the process related to EBA Q&A Tool.



Many  
thanks for  
your  
attention

